

# The Busy Periphery

## Urban Systems of the Balkan and Danube Provinces (2nd – 3rd c. AD)

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ARCHAEOPRESS ROMAN ARCHAEOLOGY 61



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Archaeopress Publishing Ltd  
Summertown Pavilion  
18-24 Middle Way  
Summertown  
Oxford OX2 7LG

[www.archaeopress.com](http://www.archaeopress.com)

ISBN 978-1-78969-349-2

ISBN [978-1-78969-350-8](#) (e-Pdf)

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Printed in England by Oxuniprint, Oxford

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# Acknowledgements

This study has been carried out within the framework of the ERC Advanced Project 'An Empire of 2,000 Cities: urban networks and economic integration in the Roman Empire' (ERC grant agreement no. 324148). Although this book is the product of an independent research, the main guidelines that helped me find my way through this vast field of study were defined in close collaboration with the project's coordinator and my mentor, Prof. Luuk de Ligt. Through all stages of this research he has been a constant source of encouragement and positive criticism. Without his comments and advice, the economic aspects of the urban geography would have been largely lost from sight. Equally fundamental was his insistence on the usefulness of the historical record for the reconstruction of the urban geography, a fact that I, as an archaeologist, often tended to forget. This study would not have been possible, or would have taken a very different course, was it not for Luuk's invaluable knowledge of the ancient world.

I am also greatly indebted to the second project coordinator, Prof. John Bintliff. His scholarly experience and mastery of the subject of geographic theories and concepts have deeply influenced the final product of this research. Particularly useful was his suggestion to look beyond the temporal and spatial horizons of the present study. John took great care to read critically earlier versions of this manuscript and effectively acted as a second supervisor.

It should not be forgotten that this entire endeavour was a team effort. I have benefited greatly from the discussions I had with the other members of the ERC group in Leiden. Their friendliness and support have contributed to a productive and relaxing atmosphere. On the technical side, my thanks are due to Bart Noordervliet who designed and maintained the project's database and taught me how to query it. Many thanks are also due to the staff of the University Library in Leiden and the library of the Macedonian Academy of Arts and Sciences in Skopje where I have conducted most of my research. Rosemary Robson, who proof-read the manuscript, has greatly improved the language of this book.

Reconstructing ancient geographies can be a mechanical and arduous job. Throughout this project's duration and during the preparation of the final manuscript I have found the much-needed relief and inspiration in the circle of my small family. It is impossible to find the right words to express my gratitude to my wife and daughter for their unwavering love and support.



# Chapter I

## Introduction

### The place of the study in current scholarship of ancient urbanism

The following study aims to reconstruct the urban geography of the Balkan and the Danubian provinces of the Roman Empire at the time of the Severan dynasty, with a particular emphasis on the quantitative properties of the regional urban systems and the urban hierarchy.<sup>1</sup> Although distinguished by its ambitious scope, this book is part of a relatively recent wave of studies focused on the regional urban hierarchies in the Roman Empire.<sup>2</sup> The undiminished interest in this topic is in part related to the perceived relevance of urbanism to the character of the ancient economy. In the context of the rekindled debate about the structure and performance of the ancient economy, it is only too natural that the town – the basic cell of the Classical Mediterranean societies – has remained in the focus of scholarly attention.<sup>3</sup> The most recent wave of studies in ancient urbanism also coincides with a revival of interest in a number of concepts and methods from the field of Economic Geography, such as new versions of Rank-size analysis.<sup>4</sup> In some quarters there was, and still is, an unconcealed optimism that the application of these techniques can make an important contribution to the understanding of the town's role in the ancient economy, levels of economic integration and the nature of the economic relations existing between the different corners of the ancient world. A far more important departure from the earlier studies of ancient urbanism has been the shift in perspective. Urbanism is by no means a study topic recently introduced into the fields of Ancient History and Archaeology. It is a subject with a century-old tradition of theoretical considerations and empirical research. What sets this study apart from the older approaches to ancient urbanism is the

focus on the integral urban system rather than on an individual or group of towns. Until fairly recently, most theoretically informed studies of ancient urbanism were concerned primarily with the economic activities or the town-country relationship of individual towns.<sup>5</sup> These studies have been extremely valuable in expanding our understanding of the workings of individual or groups of towns, but their limited scope has meant that they could neither set the towns studied in a wider urban landscape nor could they make a profound contribution to the principal debates that have shaped the field of Ancient Economy. Virtually every town followed a distinct historical trajectory and had a specific economic orientation, so that the more that is known about a concrete town, the less can be said about the ancient or the Roman town in general.<sup>6</sup>

However, studies of urban systems do not aspire to unravel the essence of the town in a given time-period or area. Towns, or rather the network of towns and settlements, are only the means by which the geographical aspects of economic and administrative organization are studied. It is important to stress that the main assumption behind studies of this sort is that the urban system is not the simple sum of its constituent towns.<sup>7</sup> The integral urban system represents a qualitatively different entity. Its essence lies in the quantitative relationships between the towns rather than in the specific economic relations that bind the system together. Neither the identity nor the history of the individual towns is of major relevance, as the changing size and status of the individual towns does not necessarily impact on the shape of the integral system. This peculiarity of the urban systems contains at least two benefits for the study of ancient urbanism. One is conceptual and it has to do with the opening of a novel perspective on the study of ancient societies. Economic geographers have long since recognized the fact that the variable distributions of settlement-size directly reflect the unequal distribution of population, wealth and power.<sup>8</sup> A downside of this approach is that the properties of the urban hierarchy hide the

<sup>1</sup> The research for this monograph was carried out in the context of the ERC Advanced project 'An Empire of 2000 Cities' (ERC grant agreement num. 324148).

<sup>2</sup> Woolf 1997, 1-14; Tacoma 2006; Marzano 2011, 196-228; Hanson 2011, 229-275; De Ligt 2012; de Graaf 2012; Hanson 2016; De Ligt 2016, 17-51.

<sup>3</sup> Parkins ed. 1997; Temin 2006, 133-151; Mattingly, Salmon eds 2002; De Ligt, Northwood eds 2008; Lo Cascio, Malanima 2009, 391-411; Scheidel ed. 2012; Temin 2013.

<sup>4</sup> Krugman 1995 and 1996. For a good discussion of earlier versions of Rank-size analysis see Hodder, Hassal 1971, 391-407. Various older publications, such as Kunow 1988, 55-67 and Bekker-Nielsen 1989, have drawn some inspiration from Central-Place Theory. In our view, the last approach continues to be a useful tool for analysing town-country relationships.

<sup>5</sup> Jongman 1988, Engels 1990, Morley 1996.

<sup>6</sup> Finley 1977, 305-327.

<sup>7</sup> A starting position that already presupposes at least a basic level of integration between the individual towns, cf. De Vries 1984, Morley 1997, 41-56.

<sup>8</sup> Jefferson 1939, 226-232; Berry 1961, 573-588; Chorley, Haggett eds 1967.



general aspects of the political and economic relations in a given society. In theory, it should be possible to attain a better understanding of such relationships by focusing on micro-regions or by combining the results of investigations into individual towns, but so far, no synthesizing studies of this type seem to have been attempted. As we shall see farther down the road, success on this front is still not necessarily in sight. Economic historians and geographers of later periods are in a far more advantageous position than the ancient historian, as they can always check their inferences based on the settlement-size distributions against the volume of internal or external trade in a given territory or on other direct indicators of the level and modality of economic integration.<sup>9</sup> However, in the absence of alternative approaches to the study of the integral urban infrastructure, it is far from warranted to write this path of inquiry off. Its potential to cast light on the political economy of the ancient empires surely deserves to be tested.

The other benefit of the study of urban systems is purely pragmatic. This approach does not necessitate an intimate knowledge of the individual towns that constitute the system.<sup>10</sup> At the moment, detailed data about the history or the topography of every individual town in the Roman Empire is unavailable and, for a fairly large number of towns, it is unlikely that it will ever become available. Even if these data were existent, the sheer amount of information would present a formidable obstacle to any attempt at systematization and analysis.

When we commenced our investigations, we did not have a strong opinion about the levels of economic integration in the Roman Empire. Our principal goal was to present a detailed and structured survey of the urban geography of the study-region. In that sense, the following study is primarily empirical. Very little was known about the urban geography of the area at the onset of the project and only during the final stages of our research have we been in a position to formulate research questions in the form of testable hypotheses. Under these circumstances, we have often refrained from engaging directly in the mainstream debate about the character of the Roman economy. However, this neutral stance does not translate into a purely descriptive account of the urban system in the study-region. This would have run contrary to the underlining assumption informing this study, namely: that it is impossible to make sense of the data when seen in isolation from the social and economic realities that brought the system into existence.<sup>11</sup> Even if we

consciously avoided taking sides in the debates between the primitivists and modernists, the implications contained in the spatial or size distributions of the urban settlements for the economic infrastructure of the study-region are impossible to ignore.

The main point of difference between the present and related studies of the urban systems of Antiquity is in the accent place of the inquiry. In most scholarly studies devoted to the economic geography of the Roman Empire, the central question is the performance of the Roman economy – expressed in per capita levels of production and consumption – in comparison with the economies of earlier and later complex societies.<sup>12</sup> This will not be the central question of the present study, although it will inevitably touch upon this problem. We are rather more interested in the possible nature of the economic relations implied in the variable distribution and size of the urban settlements. There is nothing wrong in claiming that urbanization is a symptom of economic and demographic growth. In fact, this entire study rests on that premise. It simply adopts a slightly different perspective, looking at the variable developments within, rather than between, the systems. The idea is to chart the economic geography of the study-region rather than to compare the Roman town to its medieval or Oriental counterpart. There was nothing programmatic in this choice. It was a rational reaction to the large size and heterogeneity of the study-area. As we shall shortly see, the study-region is composed of contrasting geographies and its constituent parts developed along different historical trajectories. In such circumstances, intraregional comparison was the obvious way forward.

There is an additional reason to emphasize differential developments, not only in this particular study-region but in general. Urban growth in our study-area could not always be sustained from the resources available locally. Quite often the impulse came from outside and it was guided by political and strategic considerations. But at least a portion of the resources – grain, animal products, labour – needed to secure the excessive growth of certain towns was extracted from within the study-area. This would have been the most feasible mechanism to ensure the supply of sustenance to the oversized towns and it also seems to account for the absence or failure of urbanism in a number of fertile and well-connected micro-regions. Of course, our study-region was anything but a closed system and variable growth was dictated both by the unequal relations between the regions that constitute the study-area and their place and role in the global economic superstructure.

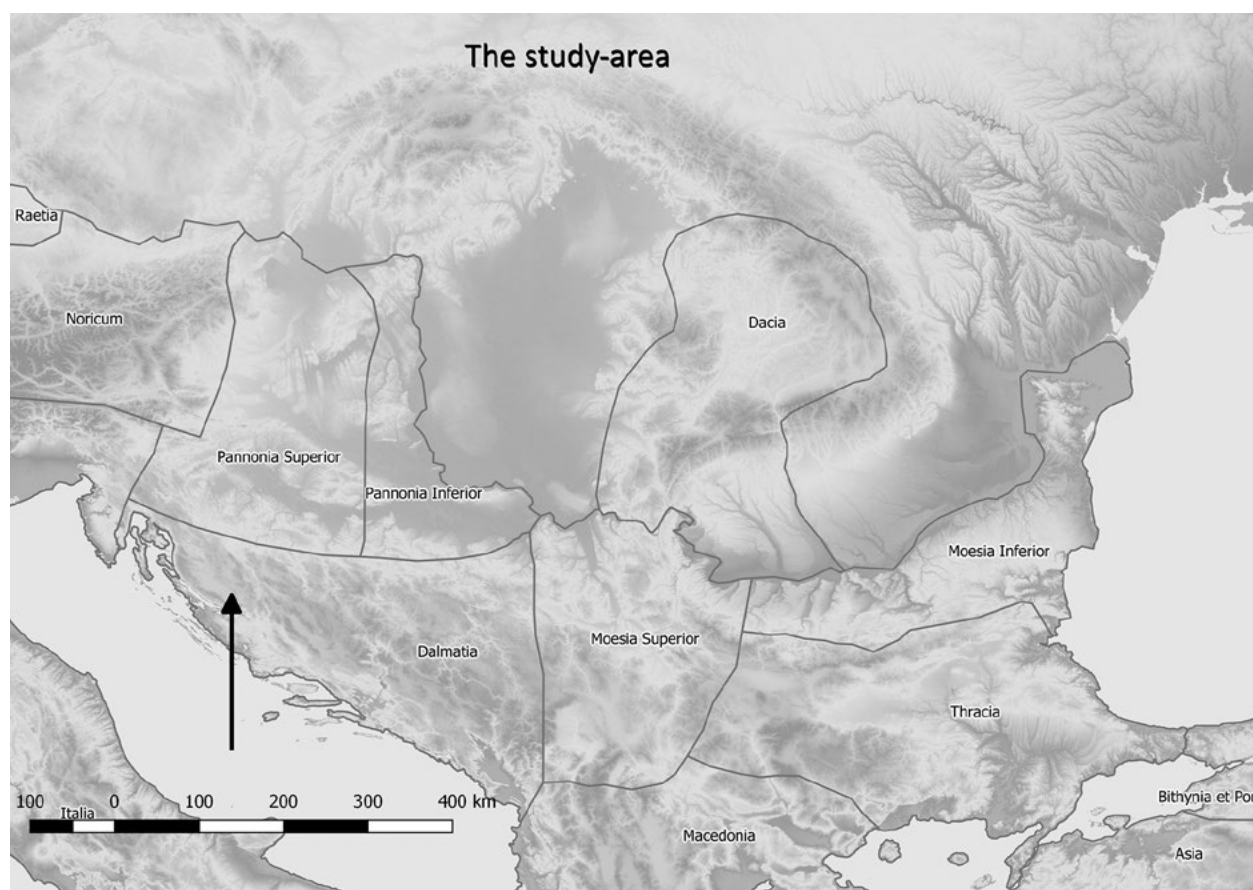
This study focus has also dictated that plenty of attention is paid to the spatial aspect of the urban

<sup>9</sup> Vapnarsky 1969, 584-595; Johnson 1980, 234-247.

<sup>10</sup> Tacoma 2006, 38; Hanson 2016, 7.

<sup>11</sup> Finley 1977, 305-327; Abrams, Wrigley eds 1978; Rich, Wallace-Hadrill eds 1991.

<sup>12</sup> Lo Cascio 2009, 87-106; Wilson 2011, 161-195; Hanson 2016, 100-103



Map I 1: The study-region.

systems under study. Hence the spatial dimension has invariably been kept in sight, regardless of whether the qualitative or quantitative properties of the system were being considered. The aim was to observe the distribution patterns of the various settlement categories, but we were equally interested in studying the general orientation of the urban network and its position in relation to the main power centres in the Mediterranean.<sup>13</sup> Existing studies dealing with the spatial arrangements of the different settlement categories or the place of the urban system in the wider urban network are relatively few.<sup>14</sup> The following study will hopefully demonstrate that the spatial dimension should be brought into the picture if the aim is to gain a better understanding of the urban system.

### The geographical and temporal scopes of the study

The limits of the study-region have only been partly drawn along the ancient political and administrative boundaries. It includes the entire Balkan Peninsula, with the exception of those parts that belong to modern

Greece and Turkey, the two Pannonian provinces and Dacia, in its limits after the Hadrianic retreat (Map I\_1). The small parts of modern Slovenia that belonged to Noricum have been omitted from the study-area, but the parts of Italy X that spread into Slovenia and Croatia are included. The study-area also encompasses the northern halves of Epirus, Macedonia and Thrace. The Greek colonies on the northern Pontic coast have been excluded from the analysis, although Roman troops were garrisoned there and they maintained close economic relations with the rest of the Pontic towns. Additional ambiguities arose about the precise limits of the Empire in the regions of Wallachia to the east of the Olt and in Banat, both in modern Romania but, even if the Roman army did have a permanent control of these strategically important corridors, they were neither urbanized nor did they host large garrison sites.

The limits of the study-area were chiefly determined by practical considerations, namely: the accessibility of the relevant literature and the language of the publications. With the exception of modern Romania and Albania, most of the study-area belongs to the ex-Yugoslav countries and Bulgaria. Thanks to this circumstance, a command of one or two south Slavic

<sup>13</sup> Hanson 2016, 46-47.

<sup>14</sup> Hanson 2011, 229-275, Hanson 2016.

languages would have been sufficient to gather the data for a very large segment of the study-area. On the other hand, the addition of the Greek and Turkish parts of Thrace and Macedonia would have demanded a mastery of two languages that do not only differ greatly from each other, but are also quite different from the rest of the Balkan languages. It would have also prolonged the whole process of data-acquisition, because archaeological publications from these countries are hard to come by in the university libraries of the Slavic speaking countries. This is equally true of the Ukrainian and Russian literature that pertains to the Greek colonies on the northern Black Sea coast.

This choice may have facilitated the gathering of data, but it surely complicated the interpretation of the results, especially because of the inclusion of regions with a Hellenistic urban tradition in a study-area that was predominantly Latin. It is not easy to predict what effects this disregard for the ancient political and administrative divisions might have on our final analyses. Following the authentic administrative arrangements is certainly the better alternative, because they usually respected the existing ethnic or socio-economic divisions in the Ancient World or at least roughly reflected the perspectives and notions of the ancients. However, the provincial divisions during the High Empire were primarily a result of strategic and military considerations dating back to the time of the conquest and these did not always coincide with the earlier political divisions. The history of the modifications of the provincial boundaries indicates that they often disregarded the regionalizing tendencies in the area. We can point to two examples from the northern and southern margins of our study-region. Although formally part of Italy X, geographically Emona remained closely attached to the Balkan Peninsula and Pannonia. Indeed, Ptolemy regarded it as a Pannonian city and, even after modern scholarship determined its true place in the administrative divisions of the Early Empire, it has continued to be seen as a Pannonian city.<sup>15</sup> Scupi, on the southern edge of our study-region, occupied a similarly ambiguous location. Despite the fact that administratively it belonged to Upper Moesia and the close involvement of its elites in the central parts of the Balkan Peninsula, culturally and economically it gravitated towards Macedonia and the Aegean.<sup>16</sup> This tendency was codified in Late Antiquity with the creation of the province of Dardania, carved out from the southern half of Upper Moesia. Regional entities were formed and dissolved by the fluctuating socio-economic relations and these were not always channelled within the static administrative boundaries.

Nonetheless, accepting the transient nature of the administrative divisions in Antiquity does not absolve us from the problem of system partitioning. Certain parts of the study-region – the Northern Adriatic or Upper Macedonia – comprise small segments of much wider urban systems and it is impossible to make sense of the urban geography of these areas if they are studied in isolation. This is not an insurmountable obstacle to the study of the chronology of the towns or their distribution in relation to agricultural resources, but it is pointless to study the urban hierarchy in areas that were parts of larger territorial units. Therefore, when examining the urban hierarchies in these parts of the study-region it will be necessary to look at the data for the towns in the neighbouring study-regions – where available – or leave them out of the analysis.

By any standard this is a vast study-region. It occupies an area of over 400,000 square kilometers, composed of a number of contrasting geographical zones. The geographical survey by the British Naval Intelligence in the early 20th century recognized at least forty distinct physical micro-regions, only in the territories of former Yugoslavia and Albania.<sup>17</sup> The study-region is much larger, extending from the Adriatic coast to the Carpathian range and from the foothills of the Julian Alps to the Aegean Basin. This evokes the picture of the striking contrasts between the karst uplands in Herzegovina and Montenegro and the alluvial plains along the big Pannonian rivers. Communication between the coastal zone and the interior was difficult, particularly across the Dinaric Alps, in the western half of the peninsula. Throughout the Balkan Peninsula and Dacia, the geomorphology has preconditioned easier movement along the longitudinal rather than along the latitudinal axis. Both the internal fragmentation and the ill-defined outer limits undermine the integrity of the study-area.

Does it make any sense to treat this huge area as a single analytical unit? In all likelihood, the Balkan and Danube provinces never became closely integrated enough to form a compact territorial block within the Roman Empire. The modern political fragmentation in the region pretty much reflects the same geographical constant. Precisely for this reason, it was decided to present the survey results by provinces. The rank-size analysis was likewise carried out by individual provinces. It made little sense to amalgamate the graphs of the individual provinces, because the area in question was never conceived of as an integral regional unit.<sup>18</sup> Even the customs zones – the largest fiscal units of the Empire – did not encompass the integral study-area, as Macedonia, Italy X and Dacia did not belong to

<sup>15</sup> Šašel-Kos 2003, 11-19.

<sup>16</sup> Mócsy 1970.

<sup>17</sup> The Naval Intelligence Division 1944a, 1945.

<sup>18</sup> Cf. Scheidel 2007, 38-86, referring to the urban system of the Roman Empire.



the Illyrian *portorium*, whereas Noricum and until the Severan period, Raetia, did.<sup>19</sup>

However, regardless of the disparate conditions and developments in the different corners of the study-region, it was deemed necessary to look at the area as a whole, if only as a convenient way of summarizing the results for the individual provinces. The closing sections of each chapter discuss the spatial distribution of the various quantitative and qualitative settlement categories in the study-region. This has led to the definition of distinct urban belts or zones that often transgressed the formal administrative boundaries. Focusing exclusively on the individual provinces, it is easy to lose sight of the global tendencies in the area. Such a step not only precludes all attempts to grasp the developments in the wider region, but it can also lead to misinterpretation of the evidence pertaining to the individual provinces. In the end, unless the area is looked at as a whole, it will be impossible to follow the goal underpinning this study and observe the horizontal stratification of the urban system.

Initially this was conceived of as a synchronic study, the primary aim being to achieve an understanding of the overall structure of the settlement network of the study-region in the period before the political crisis and structural reforms of the 3rd century. The initial assumption was that the urban network reached the highest level of complexity or at least still maintained a highly developed structure in most provinces of the Empire in the first decades of the 3rd century or about two generations after the end of the Antonine plague. This approach is both theoretically informed – the aim was to ‘capture the urban system at its height’ and pragmatic, generally speaking the early 3rd century is the phase best-represented in the archaeological record.

While the idea that the system reached its apogee at the time of the Severan dynasty is probably valid from a global perspective, there were considerable regional differences. Even if we limit the observation to our study-area, the divergences between the constituent regions are paramount. A superficial skimming of the sources will reveal that the regional developments in the area were far from synchronous. The Adriatic and Ionian coasts and Macedonia were incorporated into the Empire 150 years prior to the conquest of the interior of the Peninsula. By the end of the Julio-Claudian dynasty, the process of urbanization – or rather the re-organization of the existent pre-Roman urban systems – on the coast and in the south were nearly completed, while in the interior it only began with the Flavians. In Dacia, this process did not begin before the second quarter of the 2nd century. Meanwhile, for the towns of

coastal Dalmatia, the early 3rd century is usually seen as a period of decline or at least the beginning of their disintegration; for the towns of Pannonia, it was an era of prosperity, marked by the last wave of rebuilding and urban investment.<sup>20</sup> It is highly likely that for the towns of the Balkan interior, the zenith was reached only after the end of the High Empire, somewhere between the late third and the middle of the 4th century.<sup>21</sup>

This weakness, probably inherent in any study that adopts a very broad spatial scope, is unlikely to undermine our analysis in any fundamental way. The goal is to study the towns in a given region, the top-tier and skeleton of the settlement pattern. Once established, the urban geography of a certain area tends to change very slowly and only as a part of major transformations in the socio-economic and physical environment.<sup>22</sup> Even if the perceived late second-early third-century decline in coastal Dalmatia is accepted as a matter of fact, it is unlikely that the waning glory of these towns automatically cancelled their importance and function as administrative, religious and economic centres. Evidence of new constructions or lavish burials might be missing, but the towns probably retained much of their former appearance. Public buildings were repaired, even though their original function was changed.<sup>23</sup>

More to the point, the chronological resolution provided by the archaeological evidence – at least for our study-region – is such that a perfectly synchronic or diachronic approach is nearly impossible to achieve. Finer chronology, operating with intervals of half a century is available only in exceptional cases. These pertain to isolated buildings, hardly representative of the integral settlements and potentially misleading. Most commonly, the phases observed in the archaeological record span periods of one century or more and even these are limited to a relatively small percentage of the best researched sites. In the great majority of the cases, only the approximate time of the foundation and the abandonment of the towns can be established. Regardless of whether a synchronic or diachronic approach is adopted, the chances are that our tables and maps will not be really synchronous.

The history of urban construction in the study-region was not favorably inclined towards the preservation of the early phases of the Roman towns. Estimates of size that refer to the towns’ built-up areas in the Severan period are a tiny minority. We have only glimpses of the topography and appearance of Salona or Sirmium in

<sup>19</sup> De Laet 1949.

<sup>20</sup> Alföldy 1965, Wilkes, 1969; Mócsy 1974.

<sup>21</sup> Bintliff 1997, 1–38.

<sup>22</sup> Cf. the small number of abandoned towns in Hanson 2016, 48.

<sup>23</sup> Marin 2003, 11–65; argues that by the middle or the end of the 2nd century, the *Augusteum* in the colony of Narona was usurped by members of the local elite.



the first two centuries AD. In both cases, construction in the Late Roman period has almost completely obliterated the remains of the preceding urban phases.<sup>24</sup> The surviving fragments of the pre-fourth-century archaeology of these towns are too few to allow a full reconstruction of the Early Roman chronology. At the most, they hint at the minimum extent of the towns at the time of the High Empire. For now and for the near future, it will be illusory to seek a finer chronological resolution.

Even though the High Empire remains the main focus of the present study, it will be useful to look briefly at the situation during the period immediately preceding the Roman conquest and in Late Antiquity. We cannot afford to collect data for these periods systematically, but a study of the published settlement maps already provides us with a number of important insights. This might help in clarifying two important issues: what proportion of the settlement network was inherited from the pre-Roman period and the general direction of the changes brought about by the political and socio-economic transformations during the Late Empire.

### Defining the data-set

All studies of urban systems make explicit use of criteria to define their data-sets. Studies of Late Medieval and Modern urban geographies normally use population size thresholds of 5000 and 10,000 to draw the divide between the urban and rural sectors.<sup>25</sup> This approach is not readily applicable to earlier periods; not simply because of the absence of census data, but also because of the smaller size of the ancient settlements with an autonomous status.<sup>26</sup> One characteristic of our study-region is that functional size or centrality did not always translate into large settlement-size or monumentalization. In some cases, secondary agglomerations and even autonomous towns were no different from the average rural settlement in terms of size and appearance. Consequently, using population size thresholds as criteria for the attribution of urban status is likely to lead to an incomplete settlement map and to serious underestimates of the urban density in certain parts of the study-region. Following the juridical status of the settlements will provide only a slightly more accurate picture. The great intercity distances in certain parts of the study-area, alongside the scattered written evidence, suggest that town-like secondary agglomerations were an important, albeit barely visible element of the settlement network. We have therefore adopted a more flexible approach, including in the analysis all agglomerations larger than five ha and featuring stone architecture and all

settlements and communities known to have developed local institutions. But this tactic does not cancel out the fact that the size of the built-up area was not always a correlation of the settlement's centrality and, at the same time, it increases the chances of including ordinary rural settlements in the analysis.<sup>27</sup>

There is no middle-ground between these two options, although they are not mutually exclusive. The choice is either to work with a visibly shrunken urban network or run the risk of including rural settlements on the urban map. We find the latter scenario far less detrimental to the final results of this study. Whichever approach is adopted, it is questionable that it will be possible to reconstruct the integral settlement network, let alone modify its properties by the unconsidered addition of rural agglomerations. A handful of overwhelmingly rural settlements infiltrating the data-set are unlikely to have a major effect on the final interpretation, but the complete omission of the most predominant category in the settlement network – the secondary agglomerations – would surely lead to erroneous conclusions. For practical reasons, no attempt will be made to provide a full reconstruction of the settlement network in the study-area, but we shall try to extrapolate the approximate number of town-like secondary agglomerations that are likely to have existed during our study-period. We can only hope that our lists include most of the autonomous and a representative sample of the far more numerous non-autonomous settlements that are likely to have fulfilled various 'town-like' central-place functions.

This fuzziness of the limits of the data-set is a symptom of the conceptual difficulties surrounding the urban-rural divide. In ancient Rome, as in most complex societies of the Old World, there was an acute awareness of the differences between the urban and rural sectors. These were sometimes conceived of as two separate realms, set in opposition to each other. While urbanity epitomized the civilized way of life and higher values, the countryside stood for barbarity and untamed instincts. Alternatively, the former was identified with moral decay and vice, laziness and profligacy, while the latter with virtue, authentic values and productivity. The fact that this distinction was recognized by the ancients should have made it relatively easy to draw a line between these two settlement categories. Yet this differentiation is chiefly ideological; the sharp contrast projected between these two realms merely serves to conceal the intricate connections between town and countryside, connections that were difficult to recognize and incorporate into the value-system of the dominant classes.<sup>28</sup>

<sup>24</sup> Salona: Mardešić 2006, 81-90; Sirmium: Mirković 2004, 145-156.

<sup>25</sup> De Vries 1984, 21-22; Bairoch 1988.

<sup>26</sup> Scheidel 2007, 80; Bagnall 2009, 107-112; De Ligt 2012, 199-202.

<sup>27</sup> De Ligt 2016, 32, insisting on the distinction between the urban and settlement systems.

<sup>28</sup> Wallace-Hadrill 1991, 241-272.



Not only were town and country inseparable from an economic point of view, the category of official urban settlements was itself incongruent in the eyes of the ancient authors. Pausanias' oft-quoted account of ancient Panopeus offers a good illustration of the lack of correlation between the settlement's centrality and its size noted in the opening paragraph of this section.<sup>29</sup> But the differences between the individual self-governing towns are for the greater part pertinent to the differential developments among the settlements that belong in this category. For our present purposes, far more significant is the observation that urban functions can be appropriated by settlements that lack an official urban status. In these cases, neither the urban label - the juridical status - nor the urban functions are bound to certain size and formal settlement categories. Therein lies the principal difficulty of defining the urban and rural categories. Notionally the difference is one of scale and essence, but in practice there is a gradual transition rather than an insurmountable barrier between these two categories.<sup>30</sup> Empirical research is unnecessary to prove that certain functions qualified as urban in theory - market exchange, crafts, local institutions - are frequently encountered among communities whose size, physical appearance and agrarian focus place them unequivocally in the rural sector. Nor is the occupation in the agrarian sector an exclusive feature of the non-urban settlements.<sup>31</sup> The divide between the agrarian and non-agrarian sector is not co-terminous with the urban/rural divide. This was not the case in the Early Modern period and still less so in Antiquity, when land was the principal source of wealth.<sup>32</sup>

These observations imply that outside the category of self-governing towns, it is impossible to establish clear-cut criteria to distinguish between the urban and rural settlements in Antiquity. If we are to understand the organization of economic life outside the areas gravitating towards the autonomous towns, a widening of the set of parameters that define urbanity is required. In order to avoid possible misunderstandings, it is useful to devise a consistent terminology for the various categories of settlements that will be included in the analysis. The labels town and urban will be applied exclusively to the central places in the self-governing communities, while the settlement categories that display certain urban features or are involved in non-agrarian economies - ports of call, road-stations, mining colonies, garrison settlements - but lack an official urban status will be called secondary, town-like or non-agrarian agglomerations.

When discussing the chronology of settlements and their agricultural territories, we shall look briefly at the category of rural settlements, both isolated *villae* and farmsteads and rural agglomerations. The accent shall be placed on their chronology and spacing. The purpose of this excursion will be to compare the developments in the urban and rural sectors and to examine the patterns of exploitation in the countryside. Needless to say, the data from the Balkan countryside is extremely scant and of dubious accuracy, but it will still provide an important insight into the creation and workings of the urban segment of the settlement network.

### The studies of urbanization in the study-region

That the present study has no precedents is hardly a surprise in view of the novelty of the approach and the large size and heterogeneity of the study-area.<sup>33</sup> In fact, similarly designed studies are lacking even for the individual provinces. This circumstance hints at the likelihood that it has been conceptual as much as logistical limitations that set the contours of urban studies in our study-region. The traditional approaches to ancient urbanism are still predominant in national scholarships and, so far, no attempts have been made to study the integral urban systems. The studies of ancient urbanization, especially in the field of Classical Archaeology, have most commonly focused on the material aspects of urbanization, the histories of individual towns and the reconstruction of the historical geographies. As a result, nearly all of the existing regional monographs are essentially catalogues of the towns mentioned in the historical sources or known from archaeological research. Of course, this does not mean that the towns have been entirely under-theorized by the scholars who have worked in this region. The emergence and nature of the ancient towns have been important topics in the historiography of nearly all Balkan countries, at times giving rise to lively debates<sup>34</sup>. However, for the greater part, these have been theoretical schemes, occasionally supported by circumstantial evidence. They have not been the result of a systematic study of the geographical properties of the network, nor have they relied on a large body of archaeological or written evidence. The town has been seen in isolation from the rest of the urban and settlement network. When a comparison has been made between individual or groups of towns, the chief purpose was to look for formal and stylistic similarities. From this perspective, micro-locations of

<sup>29</sup> Pausanias X 4.1; after Finley 1977, 305.

<sup>30</sup> See Hanson 2016, 18-19, for a brief summary of the scholarly opinions.

<sup>31</sup> Whittaker 1995, 9-26; Lo Cascio 2009, 87-91.

<sup>32</sup> Abrams 1978, 9-33.

<sup>33</sup> For an alternative approach, see Diers 2018.

<sup>34</sup> See, for example, the debate between Cabanes and Papazoglou on the political institutions and nature of the Epirote or Macedonian towns: Papazoglou 1986a, 438-448; Cabanes 1988, 480-487; or the debates between Albanian and Yugoslav scholars concerning the emergence of the towns in the eastern Adriatic: Benac ed. 1975. Nankov 2015, 399-411, provides a brief summary of the approaches to urbanism in Bulgarian scholarship.



the the settlements are crucial to the understanding of the urban layout and topography, but have few implications for their economic orientation.

The town has had nonetheless a prominent role in most archaeological and historical monographs on the Roman provinces in the Balkan Peninsula and on the Danube. In their pioneering syntheses of the political and socio-economic developments in Dalmatia, Moesia Superior and the Pannonian provinces, both Wilkes and Mócsy dedicate separate sections to urbanism.<sup>35</sup> The paths to urbanization lay at the heart of the debates over the romanization of Dacia or the administration of Thrace.<sup>36</sup> In all of these studies, the town is primarily perceived as a vehicle for the dispersion of Roman law and culture. In other words, the process of urbanization is equated with the romanization of a given area. This approach is certainly not out of place. In this study, it shall be argued that one of the principal roles of the Roman town in the study-region was local administration and the collection of taxes. Yet, it is striking that only exceptionally has the town been related to the organization of economic life in the provinces, although this connection is implied in most studies of the economy. The sustainability of urbanism has likewise rarely been the focus of the discussion, despite the fact that most scholars have been aware of the differential developments within the individual provinces. Similarly, only one or two studies of the town-country relationship can be cited, although the view that the chief asset of the urban aristocracy was land property is widely accepted.<sup>37</sup>

There are only a few exceptions to this general trend. These scholarly efforts cannot be readily used as models for the present study, but they are extremely valuable in highlighting certain aspects of the urban system that are marginalized in the traditional approach. We are referring to the study of the road and urban network of Roman Pannonia, carried out several decades ago by the geographer Andrew Burghardt.<sup>38</sup> It stands apart from the typical treatise on Roman urbanization in the area because of its accent on the integral network of self-governing towns in Pannonia and its spatial aspects. On the basis of the distribution of the autonomous towns and their chronology, the author conceptualizes the evolution of the road and urban network in the northern half of the Pannonian provinces. The network is broken down into nodes and connecting segments, each being

assigned to a particular phase in the evolution of the system. It is therefore possible to differentiate between primary and secondary axes in the road-network, towns that functioned as bases for expansion, central communication nodes and primary objectives. Some of these concepts appear rather ill-defined – the author himself admits that one town could perform more than one role in the evolution of the urban network – but the study is nonetheless exemplary of the potential of spatial analysis.

Neither the individual towns nor the urban systems have fallen within the focus of the research done by Slobodan Dušanić.<sup>39</sup> This scholar has devoted much of his career to the study of Roman mining in the Balkan Peninsula and would therefore seem to have little to offer to our study of the urban systems. However, the studies of urbanism and the organization of mining under the High Empire converge on at least two major points. The mining areas belonged to the governmental sector of the economy and, consequently they represented a mechanism of control and exploitation alternative – although not exclusive of – to the municipalization of the tribal territories. The number and extent of these governmental districts help us understand the apparent gaps in the urban network of the peninsula. At the same time, there is a fair amount of evidence to suggest that the autonomous towns were instrumental in the exploitation of the mining regions. In most of the cases, the mining contractors were recruited from among the members of the urban aristocracy. Although the land in the mining districts belonged to the imperial patrimony, it formed a part of the economic base of some of the largest towns in our study-area.

### The sources

As already mentioned, these studies can only provide us with general directions for further research. We have had to look elsewhere for potential models for the present study. These are hard to come by in the fields of Classical Archaeology and Ancient History.<sup>40</sup> Inspiration was mostly drawn from studies of the urban systems of later historical periods, but these approaches had to be modified before they could be applied to the truncated body of data available for the Balkan provinces of the Roman Empire.<sup>41</sup>

Obviously the first step was to compile lists of autonomous towns and major agglomerated settlements for all provinces and regions that belong to our study-area. This soon proved to be a challenging task in itself. Most of the autonomous towns have produced

<sup>35</sup> Wilkes 1969, Mócsy 1974.

<sup>36</sup> Ardevan 1998; Hanson, Haynes eds 2004; Gerov ed. 1980; Velkov ed. 1980; Tačeva ed. 2004;

<sup>37</sup> I refer to the surveys in the hinterlands of Dyrrhachium and Apollonia, both published only as preliminary reports: Davis *et al.* 1988-2002; Davis *et al.* 2003, 41-119; see also the results of the Neothermal Dalmatia regional project, Chapman, Shiel, Batović eds 1996 or the British campaign at Nicopolis ad Istrum and its territory, Poulter ed. 1995, Poulter 2000, 346-358.

<sup>38</sup> Burghardt 1979, 1-20.

<sup>39</sup> Dušanić 1977a, 52-94; Dušanić 1989, 148-156.

<sup>40</sup> See fn. 2.

<sup>41</sup> Russel 1958, 1-152; Garner 1968, 303-360; De Vries 1984.



monumental remains and have been identified with a particular archaeological site. However, a small number of official towns and the great majority of the secondary agglomerations are yet to be located. The meagre material remains from these settlements have either been lost or are impossible to distinguish from those of average rural settlements. It is therefore necessary to combine historical and archaeological data to arrive at a satisfactory reconstruction of the regional settlement network. Obviously, settlements known only from the historical sources are of limited value, as they cannot be subjected to most of the analytical procedures applied in this study. Nevertheless, the bare facts of their existence are indispensable, especially to the study of the administrative divisions in the provinces or approximating the number of secondary agglomerations.

Because the primary goal was to study the chronology and quantitative properties of the urban system, the bulk of the research was focused on the archaeological publications.<sup>42</sup> Probably the most arduous segment of this research was the collection and study of the relevant literature scattered across dozens of journals and hundreds of monographs and conference proceedings. We were particularly hampered by the fragmented political map of the study-area, encompassing partly or fully no less than 12 modern countries. These are essentially 12 national archaeologies, whose agendas rarely coincide. Predictably, the result was a highly incongruent body of published material. While certain towns and corners of the study-area have been the subject of systematic research for over a century, others have attracted little more than a brief traveller's note. The intensity of research was chiefly determined by the accessibility and attraction of the archaeological site, but quite often the biases are systematic, dictated by the different historiographical agendas in the region.<sup>43</sup>

In nearly all countries that constitute our study-area, there is a relatively long-standing tradition of research in the fields of Classical Archaeology and, especially, Ancient History. In most of the cases the historical and epigraphic sources pertaining to the territories of the individual countries had been systematized and edited by the second half of the last century.<sup>44</sup> This study was also greatly helped by various older monographs on the towns in certain regions and provinces, the earliest of which were published at roughly the same time.<sup>45</sup> These monographs offer ready lists of

autonomous towns and major garrison settlements, together with the relevant historical references and the known histories of the individual towns. At that time, systematic archaeological research was only beginning to spread in most of the modern countries in our study-area, with the exception of modern-day Austria, Hungary, Slovenia and parts of Croatia and Romania. Nonetheless, Archaeology quickly followed suit, so that most of our study-area is covered by the *Tabula Imperii Romani* series, even if the entries for the individual sites are too brief and indeterminate.<sup>46</sup> By the beginning of this century, the first archaeological monographs on the towns of individual provinces have begun to appear in the provinces with the longest-standing history of research. The three volumes on the towns of Noricum and Pannonia are exemplary of this strand of studies and they present an invaluable source for the northern half of our study-area.<sup>47</sup>

Unfortunately, there is a lack of volumes of similar quality for the towns in the other provinces. The archaeological research on the individual towns lags behind the research carried out in Roman Pannonia. In some provinces there are autonomous towns, *municipia* or *poleis*, that have been the subject of neither systematic excavations nor modern surveys. Nonetheless, by the end of the last or the beginning of this century, for nearly all countries that belong to our study-area there appeared an archaeological monograph that covers the period of Roman antiquity and includes exhaustive sections on the urban settlements.<sup>48</sup>

The past one or two decades have seen the publications of a number of atlases and gazetteers of the ancient world, most of which are in digital form and freely accessible. Worhty of particular note are the Digital Atlas of the Greek and Roman World or the Pleiades data-base, preceded by the Barrington Atlas.<sup>49</sup> These compendia are especially useful because they provide rough co-ordinates for each entry in the data-base, while the digital format offers a clear overview of the spatial distribution of the individual entries. The downside of these atlases is that they place a great variety of features on the same map. Hence towns, minor sites and settlements, quarries, mines, geographical features and even uncertain labels taken from the ancient sources are often lumped together. It requires a great effort to purge these maps of non-residential sites and toponyms, before they can be used as source material. Many of the co-ordinates, even for towns whose locations are well

<sup>42</sup> For a full bibliography of the Danube and adjacent regions see Wilkes 2005, 124-225.

<sup>43</sup> Up until the 1990s, archaeologists in Albania and Romania were particularly interested in the periods preceding the Roman conquest, often at the expense of the studies of the Roman period, Bejko, Hodges eds 2006; Oltean 2007.

<sup>44</sup> Daicoviciu 1943; Mócsy 1959, Gerov 1997, 3-84, 211-314; Wilkes 1969; Papazoglou ed. 1999.

<sup>45</sup> Papazoglou 1988a; Velkov ed. 1979; Mirković 1968; Tudor 1978.

<sup>46</sup> Tudor ed. 1965; Daicoviciu, Condurachi eds 1969; Soproni ed. 1968; Šašel ed. 1976; Oliva ed. 1986.

<sup>47</sup> Šašel-Kos, Scherrer eds 2002-2004.

<sup>48</sup> Lengyel, Radan eds 1980; Branga 1980; Islami *et al.* 1985; Tačeva 1987; Bojanovski 1988, Suceveanu, Barnea 1991; Mikulčić 1999; Mirković 2007.

<sup>49</sup> Talbert ed. 2000; <https://darmc.harvard.edu/>; <https://pleiades.stoa.org/>



established in the literature, are incorrect. Likewise, the data for the status, character or the chronology of the individual sites are often problematic. Despite all their disadvantages, these gazetteers represent a solid base for all future studies of the urban and settlement network in the area.

Equally useful are the Heidelberg and Clauss-Slaby online epigraphic databases.<sup>50</sup> Together with the corpora of inscriptions found on the territory of the modern countries, they are an indispensable source for the study of the civic institutions, public buildings and, above all, for the reconstruction of the urban territories.

Nevertheless, the bulk of the information for the archaeology of the individual towns and especially, the secondary agglomerations and rural settlements has come from monographs and papers published in archaeological periodicals. This was certainly not the easiest way of obtaining the relevant data, but it promised a more detailed and critical insight into the archaeology of the individual settlements and micro-regions than simply acquiring the information given in the site-gazetteers and compendia mentioned in the preceding paragraphs.<sup>51</sup> For a number of sites and regions, the information had to be gathered from brief, preliminary reports. Full publications are unavailable and it is unlikely that they will appear in the near future.

The sheer size and heterogeneity of the study-area simply precludes a full and up-to-date coverage of all towns and major agglomerations that have received scholarly attention. We are aware that certain details have been missed or misinterpreted, while others have been deliberately ignored, even though the published materials provide accurate information. The data are almost entirely taken from publications and, unless available in published form, they do not take into account the results of on-going research projects. It is certain that regional experts will have a lot to add and correct in our data-set. It would be an illusion to strive for data purged of all inaccuracies and uncertainties, especially when dealing with such a far-flung study-area and with a subject-matter that in many aspects remains poorly researched. In the closing section to this chapter and the opening sections of the following chapters, we shall explain the measures taken in response to the ambiguities inherent in the archaeological record. Throughout this study comfort has been taken in the belief that the potential inaccuracies relating to individual towns are unlikely to have a major effect on the wider regional patterns.

<sup>50</sup> <http://edh-www.adw.uni-heidelberg.de/home>; <http://www.manfr-edclaus.de/>

<sup>51</sup> Cf. Hanson 2016.

## The study outline

The present study will focus on a few basic parameters of the settlement network. These include the chronology and genesis of the settlements, the size of their built-up areas, their agricultural and administrative territories. This relatively narrow choice was dictated by the highly variable degree of research on the individual towns and settlements. It was a necessary prerequisite if we were to achieve a coherent coverage of the entire urban system. The data needed to account for these parameters consisted essentially of the settlement's founding date and abandonment, its location and size-estimate. In fact, even the last information was in some cases derived from the settlement's micro-location, alongside the reconstruction of the agricultural and administrative territories. This approach guaranteed a more or less even coverage of all corners of our study-area, including the most isolated and poorly researched towns and micro-regions. Obviously, the other aspects of the settlements under scrutiny – layout and topography, population structure or local institutions – are equally relevant, but for the great majority of the settlements in our study-area, these data are unavailable.<sup>52</sup>

The settlements' founding dates or sizes seem to be the first things one wants to learn when commencing archaeological research at a given site. Yet, we were often surprised to discover how little was known about these basic parameters. The margin of error was particularly great for the quantitative parameters for the size of settlements and their territorial extents. It was therefore necessary to work with size-ranges rather than with specific figures and we also felt compelled to insert a category of uncertain settlements when discussing the settlements' chronology and genesis.<sup>53</sup> Unquestionably this approach safeguarded against the acceptance of erroneous size-estimates, but it complicated the interpretation of the results. Unless the margin of error was inconsequentially small, it necessitated separate discussions of the minimum and maximum estimates, the conservative and optimistic scenarios.

The data collected for each of the parameters included in this study require critical consideration. The method of data-collection and the limitation of the data-set are discussed in greater detail at the beginning of every chapter. There, we also turn to the relevance of these data. At this point, only the study-parameters are listed as an introduction to the outline of the study.

<sup>52</sup> The data collected for these aspects of the urban settlements are stored in the data-base of the 'Empire of 2000 Cities' project, but they are not systematically discussed in the present study. The data-base will become publicly available after the completion of the project.

<sup>53</sup> Cf. Hansen 2006.

Chapter Two presents the chronology of the settlements that were included in this study. The basic distinction is between the settlements founded prior to and after the Roman conquest. This examination will not only help us establish the horizontal stratigraphy of the urban system, but will also shed light on the consequences of the conquest for the existing settlement patterns in the study-area. The nature of the changes initiated by the incorporation of the region will already contain hints of the possible roles of the constituent sub-units in the political economy of the High Empire. In certain areas, most of the existing settlement network was retained, in others, entirely new networks were created. The relevance of the settlements' chronology will be ubiquitous throughout this study. As we shall see, the settlements' micro-locations, territorial size and built-up area were often closely related to their founding dates.

In Chapter Three we discuss the genesis of the newly-founded segment of the settlement network. The chief dividing line for the settlements founded after the conquest lies between the garrison and civilian settlements. In this chapter we shall attempt to establish the respective extents of the military and civilian sectors. This ratio will indicate the original considerations that determined the layout of the newly founded segment of the settlement network. A further distinction shall be made between the autonomous towns and subordinate central places. Discussing the latter category of settlements, we briefly revisit the question of the outer limits of the data-set. As explained in this chapter, the goal is not to draw the elusive line that separates the urban and rural sectors, but to study the distribution of urban functions across different formal and quantitative categories. A mention has already been made of the fact that most of the subordinate central places were formally and demographically indistinct from the ordinary villages. Fully aware that it is impossible to identify every potential secondary agglomeration in the study-area, we nonetheless try to project their approximate number.

The categorizations introduced in Chapters Two and Three have an important spatial aspect. The closing sections of both chapters will focus on the distribution of the individual chronological or formal categories. It is of particular importance to check if these categories are evenly spread or tend to cluster in certain corners of the study-area. These maps will provide us with an additional indication of the degree of integration in the urban system. They will point to the zones of old and new settlements, the military and civilian sector and the empty spots on the settlement map.

The variable size of the settlements is the subject of Chapter Four. It has to be acknowledged that the settlement system of the High Empire had a formal

hierarchy that was not reflected consistently in the settlement size-distributions. In this chapter we shall study the distribution of the settlements by size-range and correlate the emergent size-categories to the formal settlement categories and their chronology. In line with the principal focus of this study, particular attention will be devoted to the differential growth of the settlements, both within and across the various settlement categories. For the study of the size-distributions we shall rely chiefly on the technique known as Rank-size analysis.<sup>54</sup> Although by their nature, the rank-size graphs order the settlements along a continuum, the clustering of the individual points can indicate distinct size-categories. Finally, we shall look at the graphs for the individual provinces and the study-area as a whole in relation to the general types of rank-size distributions and their socio-economic implications.

Chapter Five is a survey of the settlements' micro-locations. The basic premise of this analysis is that the siting of the settlement was determined chiefly by the strategic and economic considerations of its founders. These are implicated in the position of the settlement in relation to the natural resources. The most viable non-descriptive way of analysing the settlements' micro-locations was to estimate the amount of arable land available within the area enclosed by a set-catchment radius. Obviously, this index does not give much idea about the specific economies of the individual settlements, but it should differentiate between the settlements whose primary concern was agricultural production and those focused on other types of resources. Having estimated the size of the settlements, this examination will detect those settlements that outgrew their immediate surroundings by a greater margin. These settlements are more likely to have featured a stronger non-agricultural sector and depended on an agricultural base that extended beyond their immediate hinterlands. To determine which settlements were too large for the agricultural potential of their surroundings, we have devised a simple method of projecting the local urbanization rates in the settlement territories.

The simplest solution to the problem of the oversized settlements was to assign them large administrative territories, extending their agricultural territories and providing them with a larger tax pool. In order to account for this factor, Chapter Six is dedicated to the study of the territorial extents of the autonomous towns. In this chapter we shall present the reader with the lists of autonomous towns and state-run districts in the provinces in our study-area. The territorial reconstructions are based on Thiessen polygons in

<sup>54</sup> Berry 1961, 573-574; Garner 1968, 303-360; for applications in archaeology see Johnson 1980, 234; Savage 1997, 233-244.



combination with the distribution of the epigraphic material and the physical geography. In addition to correlating the settlement's size and rank with their territorial extents, we shall try to estimate the respective shares of the autonomous and governmental sectors in the administration of the provinces. This will represent an important contribution to the study of the economic geography of the study-region. The autonomous and state-run districts coincide with the areas that were primarily tax-exporting and those exploited for their natural resources or man-power. These arrangements had a profound impact on the differential developments in the individual Balkan provinces.

Because of the outline of the study – each parameter being analysed separately for every individual province – it is not readily digestible as a whole. Throughout this work, heavy emphasis will be placed on explaining the relevance of the individual parameters and the methods for their study and critical interpretation. In the concluding chapter, we shall try to improve the congruence of this study by presenting a concise overview of the evolution of the urban network and highlight its specifics. This section will distil the main points of the research, drawing the attention to the close interplay between the basic parameters of the settlement network.

### A thought on agency

The underlining approach of this study acknowledges the plurality of forces that shaped the settlement systems. Hence, we shall attempt to delineate a number of relevant factors: the chronology and genesis of the settlements – the historical context of their foundation –, the physical geography and population density, the settlement topography and the potential role of the settlements studied in the administration and exploitation of the study-region. The risk of drifting into determinism is large when interpreting causal relations, unless the complexity of historical reality is born in mind. Indubitably, there is nothing wrong in recognizing the plurality of factors, but this fact makes it easier to lose sight of the parts of the puzzle that are possibly missing. Virtually all of the factors singled out in the present study can be qualified as 'objective' or, at least, unrelated to the dominant ideology of the time-period studied or the mechanisms of entitlement and denial. One might think that the latter aspect should have been a fundamental theme in a study that seeks to understand the patterns of differential developments in the study-region. In view of the importance attributed to the juridical status of the settlements in the final analysis, this omission looms even larger. What were the possible effects of the often whimsical and unjust interventions of the central government in the spread of privileges and obligations on the structure and

rationale of the urban system? Was not the distribution of settlement size and its supposed correlates – wealth and prosperity – at least partly dependent on the subjective views and inclinations of those in power? Closely related to this neglected factor is the propensity of the Roman authorities to openly support and stimulate urbanization. Were not the expectations of active participation and conspicuous consumption in the public sphere – deeply encoded in the cultural matrix of Classical Rome – one of the crucial factors of urban growth in the territories of the Roman colonies, the most Romanized segments of the study-region? Is it sensible to ignore or underappreciate these factors in a study devoted to urban systems and urbanization?

Whether the focus is on the evolution of a historical phenomenon or its properties at a given point of time, the issue of agency – the concerns and inclinations of the conscious actors that participate in the historical reality studied –<sup>55</sup> is inevitably vested into the integral picture. Therefore, the pressing question is not whether the factor of agency is accounted for – it has to be –, but the place it is assigned in the explanation of the patterns ensuing from the analysis. The truth is, one of the main conclusions of this study is that the great majority of the urban and urban-like settlements were newly founded and formed a part of a minimalist imperialist strategy: control of key traffic-nodes and strategic natural resources, arable land, pastures and minerals. This does not necessarily imply that the Romans followed a consistent strategy of urbanization. Most likely they did not, but the lack of a rational, long-term plan cannot question the relevance of the patterns observed or the genuine concern of the authorities to secure the borders of the Empire and the flow of taxes and resources. It is oversimplified to think of motives and designs of historical agents as the ultimate determinants. Agency, whether that of individuals or Empires, is always shaped by a long series of exogenous and endogenous factors that are often far more tangible to the Archaeologist or Ancient Historian than the intents and actions of individuals or groups. In tune with this view, in the present study, the agency of the Roman conquerors shall be inevitably pushed into the background, as an impersonal but all-pervasive driving force. This is not to say that agency shall be thrown out of the picture. Quite on the contrary, much effort shall be devoted to project the differences between the settlement patterns in the pre- and post-Roman periods onto the variable geostrategic interest of the Romans and the Ancient and Medieval monarchies. Our expectations are that the genesis and composition of the urban system will reflect, among other things, the strategic and administrative concerns of the town-

<sup>55</sup> Definitions of agency abound in the theoretical literature, see, Dobres and Robb eds 2000; and this is not a minor problem with this concept.



founders. The question of centrally-planned versus spontaneous development shall be one of the central topics in Chapter III. In the end, it is absurd to discuss historical processes or events without referring – explicitly or implicitly – to conscious agents.

But the problem might lay elsewhere. It is possible that too much emphasis is placed on the impersonal side of the agency of Roman authorities, not in the sense that it was all-powerful and unfailing, but that it disregards some of the mechanisms by which Emperors and governors intervened in the affairs of individual towns and communities. Would have not this unpredictable practice erased much of the rationale of the urban system? It is a well-known fact that, under the Roman Empire, individual communities could hope to upgrade their juridical status or protect their autonomy by petitioning the provincial governor or the Roman Emperor.<sup>56</sup> In theory, this should have placed the towns and communities that could afford to approach the authorities – had an influential patron in Rome or enough money to hire a solicitor – in a more favourable position than the neighbouring towns and communities. Could not this selective access to the good will of the authorities have been one of the chief causes of differential developments among the towns and settlements in the study-region? This is by all means a reasonable supposition, but it leaves us disarmed in our quest to understand or at least model the structure and functioning of the urban systems. We may merely acknowledge the possibility that, for example, some of the small towns had acquired or retained their status

mostly thanks to their connections in Rome but, in the absence of positive evidence, the explanation that these towns managed to survive while others failed because of their location in the regional road-network or higher agricultural productivity of their territories is equally convincing. Because much of the data used in this study is strictly speaking geographical, it is unsurprising that the accent shall be put on systemic factors rather than on individual acts and decisions. We would not like to underestimate the importance of idiosyncratic factors in the evolution of the urban network, but they are intractable from the corpus of evidence brought together for the purposes of this study. More to the point, it is sensible to assume that the Emperor's intention or favour could not always override the factors of economic geography. In this study, a far greater importance shall be assigned to the conscious decision of most Emperors to support the growth and sustainability of certain segments of the urban network than the possible motives of individual Emperors. If the aim is to look into the examples of urban growth propelled solely by the arbitrary allotment of privileges, it is best to consider the cases in which urban size was incommensurate to the range and volume of local economic activities (see Chapter V). In view of the nature of the evidence, the possibility that it was decisions of individual Emperors that shaped the urban hierarchy cannot overwhelm the observation that certain categories of towns and settlements were consistently bigger and better represented in the archaeological and historical record than others.

<sup>56</sup> Eck 2000, 195-213.

## Chapter II

# The Genesis of the Roman Settlement Network in the Balkan Provinces and on the Danube.

### Settlement Chronology

#### Introduction: the problem, its relevance and nature

As elaborated in the Introduction, the main goal of this study is the charting of the horizontal stratigraphy of the settlement map of the study-area: the distribution of size-categories, as well as the micro-locational and functional variations or the changing density of the network. Therefore, it is difficult to lose sight of one feature that manifests itself so blatantly in a number of aspects, cutting a sharp divide along the longitudinal, north-south axis of our study region. As its counterpart on an Empire-wide level, the settlement system in the Balkan provinces was a composite phenomenon. One portion was inherited from the urban or proto-urban societies encountered by the Late Republic, while the other portion was an entirely new undertaking, foreign to the lands conquered during the first century and a half of the Empire. The differences between these two 'urbanisms' are not superficial. Their reflections can be found in the size and micro-location of the settlements, their micro-topography and layout, the intercity distances and in the settlement patterns in their hinterlands. This differentiation is also echoed in the social and ethnic composition of the population, the physical appearance of the settlements and the local institutions; aspects that go beyond the scope of this study. Indeed, in view of these differences, it is all the more surprising to discover that the system functioned under the aegis of the Roman Empire over a period of at least three or four centuries. It seems that in both segments of the network, settlements performed a similar range of functions, regardless of the differences caused by divergent history and traditions. Undeniably, it is possible to observe certain adjustments, particularly in the older, pre-Roman segment of the network that sometimes proved too dense for Roman standards of urbanization. But overall the two components worked in harmony, introducing only minor changes in the fabric and the way of life in the old central places.

While this dichotomy is obvious even to those superficially familiar with the subject of Roman urbanism, it has merely been acknowledged on a very general level.<sup>57</sup> Perhaps this is because most studies have focused on smaller regions, on provinces in which urbanism had been fully introduced by the Hellenistic

period or on provinces in which ancient Mediterranean urbanism was non-existent prior to the conquest.<sup>58</sup> The combined Balkan and Danube provinces is one of those regions of the Empire in which the Roman and pre-Roman urban traditions met and were bound to complement each other. This circumstance allows us to chart the line of demarcation between the two zones and to study their differences in greater detail.

Ideally it should be possible to study the transformation of the settlement maps that plotted the course of the Roman conquest on a wider regional scale.<sup>59</sup> This is certainly a very promising line of inquiry but, given the size of the study area and the quality of the data, especially those relating to the towns and settlements of the pre-Roman era, this would be an uphill task. At best it is possible to study the changes in the settlement pattern only in a few better researched regions. We have therefore set a more realistic goal, asking how much of the settlement network of the High Empire was inherited from the pre-conquest period. As with all datasets with a spatial quality, this can be expressed in two different ways: histograms showing the chronological profile of the urban and town-like agglomerations in the study-area and, thematic maps, revealing the spatial distribution of the different chronological categories of settlements. We shall begin by looking at the percentage of Roman settlements with and without direct continuity from the pre-conquest period, by individual provinces and overall. These data will then be mapped and the emergent patterns discussed.

On the surface this seems like a fairly simple research exercise, but in fact it was complicated by various practical difficulties and conceptual ambiguities that must be examined first. Although to many, it may appear as a rather basic point to enquire into, the question of continuity, much like the question of size, requires a well-thought-out and dedicated research programme. Unfortunately, the majority of the settlement sites included in this analysis have only seen rescue excavations under very difficult conditions or been subjected to brief, uncoordinated clearance campaigns. Often the imposing remains of later periods, particularly Late Antiquity, have prevented

<sup>57</sup> Pounds 1969, 135-157; Woolf 1997, 1.

<sup>58</sup> Laurence, Esmond-Cleary, Sears 2011; Hanson 2011, 229-275.

<sup>59</sup> Alcock 1993, is a good example, albeit limited to a single province.





researchers from reaching the lower archaeological strata. At a number of sites, the thickness of the archaeological layers combined with high water table has had an identical effect. The opposite is true in the rarer instances in which the humbler archaeological traces from the Roman period were deposited on top of monumental, pre-conquest remains. Only at the sites that have been subjected to decades of systematic research or in which modern survey techniques have been applied can we hope to find a secure answer to this question. With these few exceptions, the issue of continuity will have to remain basically unresolved, although a careful weighing of the available evidence might help us to arrive at more intelligent conjectures.

In certain cases, these technical problems have been inadvertently compounded by modern scholarship. Conclusions based on a misinterpreted fragment from the ancient sources or born out of a sheer subjective conviction can sometimes assume the status of widely accepted facts. Often the result of an uncritical and automatic repetition in the relevant literature, these views have grown so powerful that they largely shape the reading of the newly discovered archaeological facts. It is not uncommon to encounter studies in which small quantities of residual material or conservative artefact categories have been taken as definitive proof of the existence of an earlier settlement. Finds of coinage dating to the pre-conquest period have likewise been used to support the continuity theses. Certainly, the evidence of residual finds has to be taken seriously, but only in circumstances in which a small area of the site has been excavated or in cases in which excavations have failed to reach virgin soil over large sections of the site.

The problem arises largely from the decision to operate with only two active categories: settlements with and without a pre-conquest phase. The factual reality is often far more nuanced and we feel compelled to explain under what circumstances a given settlement is defined as a pre-Roman or a green-field foundation. This is particularly apparent in cases in which it is argued that the newly established Roman settlement is the direct successor of a nearby pre-conquest settlement. Sometimes this argument is absolutely sound, for instance, when a new Roman agglomeration was founded at the foot of an earlier hill-top settlement, the latter being incorporated into the new urban tissue as a citadel or a sacred precinct. But we cannot accept the presence of any site category – for example, a fortified hillock or burial mounds – found within a radius of two to three km from the Roman settlement as a sure proof of demographic or toponymical continuity.<sup>60</sup> The chances of finding an earlier site

within a radius of three km of most Roman settlements are quite high, especially if all settlement categories, including the smallest hamlets or hill-forts are taken into account. This path might well lead us to the absurd conclusion that all, or nearly all, agglomerations from the Roman period have grown out of settlements established in the pre-conquest era. In fact, even a clear toponymical or demographic relationship was to exist between the Roman agglomeration and the pre-Roman central place, the lack of topical continuity or at least an immediate spatial relatedness must be given a priority. It can be argued that in these examples the toponymical continuity only serves to underscore the breach with the earlier tradition. Perhaps the most telling is the example of Sarmizegetusa. Although the Roman colony shamelessly inherited the name of the former Dacian capital, it was founded over 40 km to the west of the presumed location of Dacian Sarmizegetusa, the former capital and its wider hinterland having been left deserted and gradually falling into ruins.<sup>61</sup>

Continuity will be recognized only when a Roman agglomeration overlays or is in an immediate spatial relation to a pre-Roman central place. This excludes not only those cases in which the predecessor of the Roman settlement has been sought among the prehistoric sites in its hinterland, but also those scenarios in which a scatter of pre-conquest finds, unrelated to architectural features or to distinct archaeological layers has been interpreted as evidence of continuity. We are interested in examining the continuity of central places or large agglomerations and we must not be baffled when a small, pre-conquest hamlet or farmstead happens to precede the wave of Roman colonialism and urbanization. Unless appearing in larger quantities and over a larger portion of the excavated area, loose finds dated to the pre-Roman period will not be acknowledged as evidence of direct continuity.

This standpoint can be criticized on the grounds that it automatically excludes all settlement agglomerations that depart from the standards of the Classical Graeco-Roman urbanism from consideration and hence reinforces the view that continuity is to be found only in the narrow coastal zone of the Adriatic and the Black Sea, exposed to Greek influences centuries prior to the Roman conquest. It is true that this type of urbanism was unknown to the peoples who inhabited the Danube Valley or the Balkan interior, but the Thracian, Dacian and Dalmatian tribes had developed settlement hierarchies and their own central places. Although it is evident that these were not urban settlements in the Classical sense of the term, it cannot be denied that they were settlements of a higher rank, performing at least some of the functions exercised by the Classical Graeco-Roman town. The Liburnian hill-forts or the

<sup>60</sup> See, for instance, Gömöri 2003, 81-92, for the Late La Tène finds in the environs of Roman Scarbantia in Pannonia Superior.

<sup>61</sup> Oltean 2007.

*oppida* in Upper Macedonia or Illyria were hardly more urban than the Dalmatian or the Dacian strongholds and yet, for some reason, many of the former were successfully transformed into Roman towns, while only a few or none of the latter were incorporated into the new settlement network. It would be difficult to come up with a general explanation for this pattern. In most cases it cannot be related to the character of the specific political relations at the time of the conquest or in its aftermath, although this factor sometimes certainly did play a significant role. As will be shown, the degree of continuity is among the highest on the territories ruled by some of the fiercest opponents of Rome in the region, such as Illyria or Macedonia.

The other challenge posed by the task of determining what proportion of the settlement map of the Early Empire was directly inherited from the pre-Roman period is more theoretical and its implications reach far beyond the topic discussed in this chapter. Before meaningful statistics can be arrived at, the first essential step is to decide which settlement categories will be included in the analysis. Obviously, the town is the main subject of this research. However, as in many other complex societies, the urban-rural dichotomy cannot be readily applied to the period of the Roman Empire. In the introductory chapter it has been shown that, unless we are willing to limit the analysis to the autonomous central places, it will be necessary to adopt a broader, functional definition of the town. In order to account for these ambiguous settlement categories, our primary source for the reconstruction of the regional settlement maps has been the archaeological record. A use has also been made of the historical and epigraphic evidence, but these sources have been supplementary to the archaeology. Every site dating to the period of the High Empire that has exhibited the basic features of an agglomerated settlement larger than five ha - a larger cluster of residential buildings, streets or a settlement focus - or for which the epigraphic sources have attested to the presence of formal institutions has been included in the analysis. This approach is likely to lead to the inclusion of a small number of settlements that by all criteria belong to the rural sector. On the basis of the data available in publications, it is often impossible to decide if a settlement was a true agglomeration or a cluster of farms, let alone to decide if it belonged to the rural or the urban sector.

Taking a less jaundiced view, the number of archaeologically or historically attested settlements that fall in-between these abstract categories is too small to exert a major effect on our final statistics. This is hardly surprising given their limited extent and physical appearance. Obviously, this does not mean that these settlements were an insignificant segment in the integral network. In order to avoid the false impression that their true number was small, they have been

lumped into the category of uncertain entries, in which they join settlements whose foundation date remains controversial. Towards the end of this chapter, we shall turn briefly to the problem of continuity from the pre-Roman period in the rural sector. For some provinces in our study-region, the published data do allow us to venture briefly into this problem. Rather unexpectedly, the results of this enquiry only serve to underline the sharp discontinuity between the pre-Roman and Roman periods throughout most of the study-region.

### Upper Macedonia and Epirus

This region covers the northern parts of the Roman provinces of Macedonia and Epirus, those falling outside the territory of modern Greece. It stretches over not more than 40,000 sq. kilometres and, in terms of size, it is somewhat smaller than the provinces that entirely fall within the limits of the study-region. Urbanism was introduced into this region centuries prior to the Roman conquest. With the exception of the mountainous sections of the country, by the end of the 3rd century BC, both the Illyrian and Macedonian kingdoms came to include - and rely upon - a number of semi-autonomous urban centres.<sup>62</sup> Although some episodes referred to in the historical record might suggest that relations between the towns and the central government were troubled, it would be unfair to describe the system as dysfunctional.<sup>63</sup> The Hellenistic dynasts who inherited the empire of Alexander the Great actively sought to encourage urbanism in an attempt to share at least a part of the burden of ruling a large territorial state.<sup>64</sup> This is most plainly indicated by the relatively quick transition of the regional settlement network from the Hellenistic monarchies to the Roman Republic. (Figure II\_1, Table II\_1) The new conqueror deemed the introduction of radical changes in the existing network unnecessary.

About 70% of the towns and settlements in the area that continued to exist during the High Empire had already been founded by the Hellenistic period, at least half a century prior to the Roman conquest. 31 out of 43 agglomerations that existed under the High Empire show continuity from the pre-Roman period, only five were new foundations.<sup>65</sup> Nevertheless these

<sup>62</sup> The character of the autonomy of these sites is controversial, cf. Ceka 1983, 135-192; Papazoglou 1988a; Cabanes 1988, 480-487.

<sup>63</sup> The episode of the defection of the Macedonian garrison in Lynchnidos during the First Roman-Macedonian war is exemplary of this 'separatistic' tendency, Livy XXVII, 32, 9; Bitrakova-Grozdanova 1989.

<sup>64</sup> Cabanes 1976.

<sup>65</sup> The catalogue of sites includes settlements that were probably abandoned soon after the Roman conquest, e.g. Symize in the Korça Basin or the one near Tremnik - the site of the town Antigonea according to some, Mikulčić 1983, 111-135 - in the Middle Vardar Valley. Neapolis is identified with the hill-top settlement near Stari Grad that predates the Roman conquest. The list is far from exhaustive, but it includes all official towns and major agglomerations.

Table II 1: List of towns and settlements in Upper Macedonia and Northern Epirus, their chronology and status.

| Name ancient and modern      | Pre-Roman phase | Status     | Name ancient and modern   | Pre-Roman phase | Status     |
|------------------------------|-----------------|------------|---------------------------|-----------------|------------|
| Hadrianopolis_Gjirokastra    | Y (uncertain)   | Autonomous | Heraclea Lyncestis        | Y               | Autonomous |
| Foinike_Finiq                | Y               | Autonomous | Eudaristos_Drenovo        | Y               | Autonomous |
| Orikum_Pasha Limani          | Y (abandoned)   | Uncertain  | Styberra_Čepigovo         | Y               | Autonomous |
| Ad Scampisae_Elbasan         | N               | Secondary  | Stobi_Gradsko             | Y               | Autonomous |
| Onchesmos_Saranda            | N (uncertain)   | Secondary  | Neapolis-Kale, Stari Grad | Y (uncertain)   | Uncertain  |
| Unknown_Symize               | Y (abandoned)   | Uncertain  | Dostonei-Kale, Kalen      | Y (uncertain)   | Uncertain  |
| Byllis_Hekal                 | Y               | Autonomous | Ceramaie_Prilep           | Y               | Secondary  |
| Apolonia_Fier                | Y               | Autonomous | Unknown-Perivol, Vitliste | N               | Secondary  |
| Buthrotum_Butrint            | Y               | Autonomous | Lychnidis_Ohrid           | Y               | Autonomous |
| Dimalë_Krotinë               | Y               | Autonomous | Alkomena_Bučim            | Y               | Secondary  |
| Antipatrea_Berat             | Y (uncertain)   | Autonomous | Astraion_Šopur            | Y               | Autonomous |
| Dyrrhachium_Durres           | Y               | Autonomous | Pelagonia_Mojno           | Y (uncertain)   | Autonomous |
| Albanopolis_Krujë            | Y               | Autonomous | Neine_Ilindentsi          | N               | Autonomous |
| Amantia_Sevaster             | Y               | Autonomous | Unknown_Sandanski         | Y (uncertain)   | Autonomous |
| Unknown-Capari, Krupiste     | Y (abandoned)   | Uncertain  | Unknown_Kožuh             | Y               | Autonomous |
| Argos-Vidin Grad, Vodovrati  | Y               | Autonomous | Allantes_Unknown          | Y (uncertain)   | Uncertain  |
| Eidomene-Isar, Marvinci      | Y               | Autonomous | Castra/Parembola_Dolenci  | N               | Secondary  |
| Antigonea-Gradiste, Negotino | Y               | Autonomous | Zgurbita_Zgropolci        | Y               | Secondary  |
| Unknown-Gradiste, Tremnik    | Y (abandoned)   | Uncertain  | Doberos_Unknown           | Y               | Autonomous |
| Stenae-Demir Kapija          | Y               | Secondary  | Tauriana_Dojran           | N               | Secondary  |
| Europos_Unknown              | Y               | Autonomous | Unknown_Suvodol           | Y               | Uncertain  |
|                              |                 |            | Unknown_Golem Grad        | Y               | Secondary  |

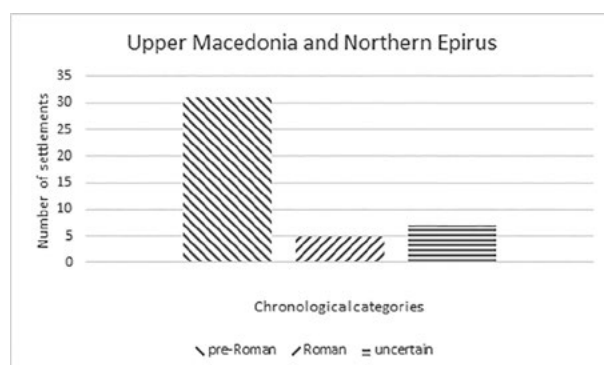


Figure II 1: The chronological profile of the major agglomerations in Upper Macedonia and Northern Epirus.

figures do require some comment, as the small group of newly-founded settlements includes sites in which the phases dating to the High Empire are obscured by the remains of the Late Antique period. A good example is the road-side vicus of Ad Scampsia that had developed into a bishopric by the 4th century AD, the

Late Antique fortified town completely obliterating the traces of the earlier settlement.<sup>66</sup> It is therefore impossible to characterize this agglomeration in the time period that is the focus of this study. The rest of the settlements that belong to this group pose a closely related challenge. All of these sites were included in the group of newly founded settlements, chiefly because of their micro-locations. Nearly all central places from the Hellenistic period occupied hill-tops, whereas these settlements occupied low-lying sites. Moreover, they do not have structural remains from the pre-Roman period and, should it be proven that they were occupied in the Hellenistic period, it is unlikely that they qualified as central places. They continued to function as subordinate settlements at least until Late Antiquity.<sup>67</sup>

<sup>66</sup> Cerova 1997, 285-304.

<sup>67</sup> In addition to Ad Scampsia, this group of road-stations includes Castra-Parembola and possibly Tauriana. Neine was a polis, while the anonymous settlement near Vitolište has an unknown status.

It is possible that the share of the pre-Roman segment of the network was even higher than 70%, as among the group of uncertain sites are settlements that have not been located but that could very well pre-date the Roman conquest. I am referring primarily to Pelagonia, a town that became a district capital immediately after the battle of Pydna. Opinions are divided about the location of Pelagonia, but the Hellenistic period is represented at all candidate sites.<sup>68</sup> Both the historical and archaeological sources suggest that Pelagonia was a pre-Roman town, although indisputable evidence has yet to be found.<sup>69</sup> The obscure communities of the Dostonei or the Allantes present us with a similar dilemma, although admittedly the evidence for these communities is extremely scarce.<sup>70</sup> In a couple of cases, there is even some archaeological evidence for pre-Roman occupation – Hadrianopolis and Onchesmos – although insufficient to claim a direct continuity from the Hellenistic period.<sup>71</sup> Understandably, only future archaeological research can finally settle the issue of the founding dates of these settlements. We should nonetheless point out the possibility that over one-half of the settlements classed as uncertain could also date to the pre-Roman period, increasing the percentage of this chronological category to almost 90% of the settlement network of Roman Macedonia.

There are not too many possible explanations for this tendency in the urban development of the province. The settlement network inherited from the Hellenistic monarchies offered a sufficient coverage and there was neither room nor need for new foundations. At the time, the Romans saw this part of the Balkan Peninsula merely as a stepping-stone in their conquest of the Aegean and Asia Minor. As long as the existing urban communities provided the infrastructure necessary for the levying of taxes, the garrisoning and transport of troops and supplies and the maintenance of internal order, the founding of new towns or the construction of permanent legionary camps was unnecessary.

However, this does not mean that the conquest of this region proceeded without significant changes to the existent map of major agglomerations. The graph on Figure 2.1 illustrates only one side of the process. If the number of high-ranking settlements in the Hellenistic and Roman periods in the south of Illyria

<sup>68</sup> Papazoglou 1974, 271-297; Papazoglou 1988a, 276-292; for the possible location, Mikulčić 1999, 83-84.

<sup>69</sup> There is a confused reference in Strabo VII, 8-9 to a tri-*polis* in this region at the time of the Roman conquest. If this datum is really about the region Pelagonia, Papazoglou 1988a, 282, is it not possible that the eponymous centre of this area was newly-established? I thank Professor Nade Proeva for this insightful remark.

<sup>70</sup> Mikulčić 1999, 90, 91; Papazoglou 1988a, 174-185. It is possible that the Allantes were located outside the study area, in Lower Macedonia; see Karambinis forthcoming. This author studied the part of Roman Macedonia that belongs to modern Greece.

<sup>71</sup> Hadrianopolis: Perna, Çondi 2011, 365-385; Perna, Çondi eds 2012; Onchesmos: Lako 1986, 279-281.

and in northern Epirus are compared, the decline in the number of central places becomes obvious. The possible differences in the urban standards and the nature of the central place under the Hellenistic monarchies and the High Empire can do very little to diminish this observation. (Table II\_2)

Table II 2: The number of sites with monumental remains in Old Illyria during the Hellenistic and Roman periods.<sup>72</sup>

| Hellenistic (all fortified sites) | Roman (all major agglomerations) | Hellenistic (towns) | Roman (official towns) |
|-----------------------------------|----------------------------------|---------------------|------------------------|
| 45                                | 14                               | 35                  | 11                     |

The two columns on the left compare the number of all fortified settlements or sites with monumental remains in the two periods. The second pair of columns is filtered for sites with a putatively non-residential function and sites that were possibly abandoned by the end of the 2nd century AD. Both ways the contraction is more than apparent and it has been observed by a number of authors working on this region. In a recent article, S. Shpuza has claimed that of the 134 sites with Hellenistic remains, the Roman period is attested only at 64.<sup>73</sup> Unfortunately the author does not specify which site-categories are actually compared nor does he try to estimate the number of newly founded sites. In our case, the ratio is closer to three to one. Similar figures can be expected for the towns of Upper Macedonia, although the urban settlements in this region from the Hellenistic period have not been as thoroughly studied as those in modern Albania. (Table II\_3)

Table II 3: The number of archaeologically and historically attested towns in Upper Macedonia and pre-Roman Paeonia during the Hellenistic and the Roman period.

| Hellenistic (Archaeological sources) | Roman (Archaeological sources) | Hellenistic (Historical sources) | Roman (Historical sources) |
|--------------------------------------|--------------------------------|----------------------------------|----------------------------|
| 32                                   | 21                             | 25                               | 21                         |

In the eastern parts of the province, the main difficulty in weighing the degree of centralization introduced by the Roman conquest is the uncertainty surrounding the nature and function of the Hellenistic *oppida*. The monumental ashlar walls that characterized the hill-

<sup>72</sup> The distinction between towns and lower-order settlements is even more elusive for the Hellenistic than for the Roman period. For the purposes of the present analysis, we include all hill-top settlements defended by massive ashlar walls, but we distinguish between larger agglomerations featuring other public buildings or mentioned as *poleis* in the written sources – isolated in the third column from the left – and minor forts, possibly with a predominantly military function – lumped together with the ‘towns’ in the first column from the left. It is useful to draw attention to the level of sophistication of these walls. Their construction required a highly skilled labour force, special construction tools and a command of sizeable resources. They have therefore been used as a secure attribute of the high-ranking settlements in northern Epirus and southern Illyria.

<sup>73</sup> Shpuza 2009, 484.





forts in Illyria and Epirus and have been taken as sure indicators of the settlements' high rank are rarely encountered in Upper Macedonia, in which most of the Hellenistic *oppida* were difficult to distinguish from the Iron Age strongholds. Nonetheless, if the number of *oppida* with an ascertained Hellenistic phase and the number of major agglomerated settlements that were occupied during the Roman period, excluding the road-stations and sites that were possibly abandoned, are compared the decline is less drastic than that evidenced in Illyria. However, the contraction cannot be dismissed as insignificant. During the Late Republic and High Empire, the number of major agglomerated settlements decreased by about 30% from those in the preceding era. A similar decline in the number of towns and town-like agglomerations has been observed in Lower Macedonia.<sup>74</sup> Whereas in the western part of the province only between one half and one third of the high-ranking settlements have survived the conquest, in the east, the number of towns has decreased by between 20 and 30%.

Turning briefly to the written sources, there is actually an explicit testimony that Upper Macedonia had been more urbanized in the pre-conquest period than it had been during the Late Republic.<sup>75</sup> However, when we compare the number of settlements mentioned by the authors referring to the Hellenistic period - Livy or Strabo - with the number of towns and *civitates* mentioned by Pliny or on inscriptions from the Roman period the decrease is far less dramatic. (Table II\_3, the pair of columns on the right)<sup>76</sup> This skew between the archaeological and historical records can be partly explained by the spread of the epigraphic habit during the period of the High Empire. The epigraphic monuments shed light on a number of entities that are archaeologically invisible, *civitates* that most probably lacked a recognizable urban centre.<sup>77</sup> The decline becomes even more apparent once this category is excluded from the list. At least four communities from the period of the High Empire are attested solely on inscriptions, leaving behind no significant archaeological remains<sup>78</sup>. Nonetheless, the differences between the two historical regions of the province should not be underestimated. Despite the potential incongruities in our sources, the fact that two out of

three newly attested settlements in Roman Macedonia belong to the east of the province inspires some confidence in the accuracy of the figures presented above.<sup>79</sup> This is also corroborated by developments in Lower Macedonia.<sup>80</sup> Prior to the Roman conquest, the western and eastern half of the Roman province belonged to two different kingdoms and urban developments followed different paths.

More differential developments can be observed within the group of securely attested *poleis*. Although technically speaking nearly all of the pre-Roman towns were self-governing communities with their own territory and laws, by the time of Caesar and Augustus some of these urban centres had been promoted to Roman colonies or *municipia*. Again there are differences between the western and eastern halves of the province, with no fewer than three colonies in Epirus and Illyria - Dyrrhachium, Bylis and Butrint - and only one *municipium* in Upper Macedonia, Stobi.<sup>81</sup> It is unclear how much weight should be given to this difference, especially in view of the fact that a number of towns in the east of the province were home to influential and sizeable communities of Roman citizens - Heraclea Lyncestis, Styberra, Neine, Pelagonia - but the *poleis* in which they lived remained peregrine communities. For the purposes of this chapter, these 'romanized' towns are still treated as pre-Roman urban settlements, but the fact that they were 'romanized' at a certain point of time must be acknowledged. Their status as Roman colonies expanded the horizons of local economic development. It allowed them to engage in a series of economic enterprises that were legally inaccessible to the majority of the peregrine communities.<sup>82</sup> As will be shown in Chapter Four, five of these settlements ranked among the ten largest towns in the province. It is no wonder that local economic progress reflected in the construction of public monuments was largely confined to the towns that included substantial communities of Roman citizens.<sup>83</sup> In the northern half of Roman Macedonia and Epirus about 30% of all official towns were either constituted under Roman law or included larger communities of Roman citizens.

### The northern Adriatic and Dalmatia

This region includes the territory of the Roman province Dalmatia and the easternmost parts of Italy X, those

<sup>74</sup> Karambinis forthcoming.

<sup>75</sup> Strabo 7 7.9, Papazoglou 1988a, 442; Greece after the conquest was seen in a similar light, Alcock 1993; Karambinis 2018, 269-339.

<sup>76</sup> Papazoglou 1988a, 444-465. Table 2.2 excludes the uncertain place-names mentioned in Livy and Polybius as well as the Late Roman sources.

<sup>77</sup> For the non-urban *civitates*, *politeiai* or *koina* of Upper Macedonia, see Papazoglou 1988a. The terminology is confusing, some scholars assigning a much wider meaning for the word *koinon*, Hammond 1991, 183-192; Nigdelis, Souris 1997, 55-63.

<sup>78</sup> Dostonei, Mikulčić 1999, 90-91, has attempted to locate their central place, but the arguments are not very convincing; Allantes, Geneati, Euxini, the latter two known solely from a boundary inscription, Papazoglou ed. 1999, num. 162.

<sup>79</sup> See footnote 77.

<sup>80</sup> Karambinis forthcoming.

<sup>81</sup> Stobi: Papazoglou 1986b, 213-238; Dyrrhachion: Cabanes, Drini eds 1995; Buthrotum and Bylis: Anamali, Ceka, Deniaux eds 2007. More colonies were founded in Lower Macedonia, and this has to do with the fact that Upper Macedonia would have been far less attractive than its fertile neighbour from an agrarian point of view.

<sup>82</sup> Sherwin-White 1980.

<sup>83</sup> A similar trend has been observed in Lower Macedonia, with only a few free *poleis* showing evidence of public buildings or urban growth, Karambinis forthcoming.





belonging to modern Slovenia and Croatia. It is a much larger territorial unit than the part of Roman Macedonia discussed in the preceding section, stretching over the entire western half of the Balkan Peninsula and including the eastern Adriatic littoral. It measures over 100,000 sq. km or twice the size of the part of Roman Macedonia included in this study and is the largest territorial unit in our study-area. Throughout history, the geographical specifics of the region have dictated a sharp dichotomy between the continental parts of the province and the narrow coastal zone. In conjunction with its large territory, this circumstance has resulted in a much more colourful pre-conquest history than in Epirus or Macedonia. Apart from the Greek colonies on the islands and their *emporion* on the coast, the region was occupied by the Illyrian kingdom in the south and the ‘proto-urban’ societies of the Histri, Iapodes and Liburni in the north. The interior was dominated by the large tribal alliances of the Delmatae<sup>84</sup>. As a consequence of this kaleidoscope of social formations, the degree of urbanization in the area varied greatly at the time of the Roman conquest. Hence, the share of the Roman and pre-Roman segments of the network presents a more balanced picture compared to those in Roman Macedonia, while the paths to urbanization were far more complex.

Table II 4: List of towns and settlements in the northern Adriatic, their chronology and status.

| Name ancient and modern | Pre-Roman phase | Status     |
|-------------------------|-----------------|------------|
| Albona_Labin            | Y               | Autonomous |
| Apsarus_Osor            | Y               | Autonomous |
| Arba_Rab                | Y               | Autonomous |
| Argyrintum_Stari Grad   | N               | Uncertain  |
| Unknown_Pag             | N               | Secondary  |
| Crexus_Cres             | N (uncertain)   | Uncertain  |
| Curriculum_Krk          | Y               | Autonomous |
| Emona_Ljubljana         | Y               | Autonomous |
| Flanona_Plomin          | Y               | Autonomous |
| Fulfinium_Omišalj       | N (uncertain)   | Autonomous |
| Lopsica_Sv. Juraj       | Y               | Autonomous |
| Nauportus_Vrhnika       | N               | Secondary  |
| Nesactium_Valtura       | Y               | Autonomous |
| Ortopla_Stinica         | Y (uncertain)   | Uncertain  |
| Parentium_Poreč         | Y               | Autonomous |
| Pola_Pula               | Y               | Autonomous |
| Senia_Senj              | Y               | Autonomous |
| Tarsatica_Rijeka        | N               | Uncertain  |
| Vegium_Karlobag         | Y (uncertain)   | Uncertain  |

<sup>84</sup> Wilkes 1969; Dzino 2010. It is questionable if there were any essential differences between the levels of socio-economic complexity of these societies prior to the Roman involvement in the region. The only certainty is that the urban development in the regions dominated by the Iapodes and Delmatae would take a different path than in the coastal areas after the Roman conquest.

| Name ancient and modern | Pre-Roman phase | Status    |
|-------------------------|-----------------|-----------|
| Piquentium_Buzet        | Y               | Secondary |
| Aegida_Koper            | Y (uncertain)   | Secondary |

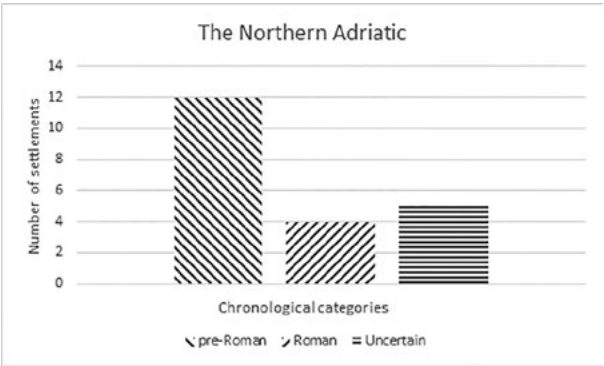


Figure II 2: The chronological profile of the major agglomerations in the northern Adriatic.

We shall focus separately on the small part of Italy X that pertains to our study-region, the Istrian Peninsula, the Orca Pass and the Upper Sava Basin, plus Kvarner Bay in the northern Adriatic. The latter region already belongs to Dalmatia, but geographically it is closely connected to the Istrian Peninsula. Some of the Liburnian communities in this area enjoyed the *ius Italicum* and, from that perspective, their position was equal to the inhabitants of the Italian communities on the Istrian Peninsula. Following the administrative border between Italy and Dalmatia along the river Raša would have left us with only a handful of settlements on the western Istrian coast and in the Upper Sava Valley. The other option was to join the Istrian Peninsula and the Alpine passes to Dalmatia, but this would have obscured the specific place of the northern Adriatic in the history of conquest and urbanization of the wider area.

From a purely geographical point of view, the northern Adriatic and the coasts of Epirus and Illyria played a similar role in the history of Roman expansion on the Balkan Peninsula. They were the gates through which the Roman army and traders entered the study-area. With the exception of Liburnia, peacefully absorbed by Rome, the conquest of the Istrian Peninsula and the mountain passes between the Apennines and the Balkan Peninsula was preceded by a series of punitive campaigns and wars of conquest.<sup>85</sup> Despite the violent nature of Rome’s expansion, much of the old settlement network survived the wars intact and was successfully integrated into the new settlement system. At least 60% of the settlements from the Roman period trace their roots to the pre-conquest era. (Figure II\_2, Table II\_4)

<sup>85</sup> The Istrian Peninsula: Jurkić 1987, 65-80; the Liburni and Iapodes: Wilkes 1969, 32-36; Dzino 2010, 44-79.

This is the very minimum. All of the five settlements classed uncertain in the figure above might also date to the pre-Roman period.<sup>86</sup> Indisputable archaeological evidence for continuity is lacking, but the fact that these settlements are mentioned alongside the rest of the Liburnian *oppida* in Pliny's list seems to suggest that they all had a similar background.<sup>87</sup> Adding these five settlements to the list of pre-Roman towns would increase their share in the settlement network from the Roman period to nearly 80%. As in Epirus and Macedonia, the prevalent tendency was to preserve and incorporate the existing settlement network.

The handful of newly founded settlements comprised about 20% of the total number of conurbations from the Roman period. Naturally, if future research at sites such as Fulfinum or Vegium proves that these were new foundations, the ratio between the two segments of the network could change considerably. Archaeological research on at least four sites has failed to discover remains from the pre-Roman period. These, include Argyruntum and Tarsatica, *oppida* that were also included in Pliny's description of the Dalmatian coast.<sup>88</sup> Hence, caution is advisable before claiming a pre-Roman origin for all of the *oppida* mentioned by Pliny. The region continued to attract Roman settlers, not only in the colonies on the western Istrian coast but also in the area of the Kvarner Bay.<sup>89</sup>

As we shall see in Chapter Three, the other two settlements founded after the Roman conquest were not autonomous towns and are characterized by relatively humble archaeological remains. It is impossible to be sure how many more sites of a similar character were founded by the Romans. Although the Late Roman sources mention a series of establishments on the western Istrian coast, we cannot state with certainty that these were nucleated settlements in the period of the High Empire.<sup>90</sup>

Regardless of the uncertainties surrounding the founding date of some of the high-ranking settlements in the region, the persistence of the pre-Roman settlement network must be acknowledged. Moreover, it is possible to be fully confident that the category of pre-Roman sites includes the largest and most important settlements in the area. With a few exceptions, the new foundations in the northern Adriatic were comprised

exclusively of small agglomerations, road-side *vici* and minor port-towns. All self-governing towns, including Emona located deep in the interior, were established at or near the sites of existing settlements.<sup>91</sup>

Unfortunately, we lack detailed data about the settlement pattern in this particular area during the century prior to the Roman conquest.<sup>92</sup> Some regions are simply under-researched and for the micro-regions for which data are available, caution is necessary because the category of pre-Roman *oppida* could include sites abandoned centuries prior to the arrival of the Romans. Unlike in Epirus and Illyria, in which the construction technique is an infallible indicator of the Hellenistic age and the high rank of the conurbation, the technique of constructing hill-top settlements in the northern Adriatic evolved slowly in the centuries prior to the Roman conquest. As elsewhere in the Balkan interior, the true nature and function of these hill-forts remain problematic and were most probably extremely varied.<sup>93</sup> Therefore, in addition to the sites that were abandoned long before the Roman conquest, these estimates might easily include fortified sites that were not settled permanently, for example, tribal *refugia*. Nevertheless, when taken at their face value, the data do suggest developments along the same lines as in other regions, featuring a high degree of urbanization in the pre-conquest period. For example, in the area of modern Gorski Kotari in Croatia, historically a part of Liburnia, only five out of 18 *oppida* survived the Roman conquest.<sup>94</sup> On the island of Rab or ancient Arba, only one out of five prehistoric centres retained its autonomous status and urban layout in the period of the High Empire.<sup>95</sup> Judging by the better researched *oppida* in the hinterland of Tergeste, the process of abandonment of the old hill-top settlements was gradual, the last *oppida* had been abandoned no later than the middle of the 2nd century AD.<sup>96</sup> It is unclear if this tendency towards centralization was actually introduced or alternatively caused by the expansion of Rome. Indeed, it is possible that in this case we are merely observing the final stages of a long process, that begun many centuries prior to the Roman conquest.<sup>97</sup>

As anticipated at the beginning of this section, the number of newly founded settlements rises when we look at the chronology of the settlements in Dalmatia. (Figure II\_3, Table II\_5) They were composed of at least nine self-governing towns and no fewer than seven secondary agglomerations or a minimum of

<sup>86</sup> These are Crexus, Fulfinum, Ortopla, Vegium and Aegida. See *infra* for references to the individual towns.

<sup>87</sup> Pliny HN 3.140.

<sup>88</sup> Argyruntum: Dubolnić 2007, 1-58; Tarsatica: Blečić 2001, 65-122; the author is indecisive, but recent rescue excavations have failed to locate pre-Roman layers at the site of the Late Roman fort, while the micro-location is hardly typical of the Iron Age *oppida*; Višnjić 2010, 457-461.

<sup>89</sup> Alföldy 1965; Medini 1978, 67-85; Starac 2006, 107-114

<sup>90</sup> Piranum, Silbo, Siparis, Humagum, Ruginium; Tassaix 2011, 431-440.

<sup>91</sup> Emona: Vičić 2003, 21-45; Gaspari 2010.

<sup>92</sup> Slapšak 2003, 243-257; Buršić-Matijašić 2007; Buršić-Matijašić 2011, 63-76.

<sup>93</sup> Chapman, Shiel, Batović eds 1996.

<sup>94</sup> Dubolnić 2007, 1-58.

<sup>95</sup> Vrkljan-Lipovac, Šiljeg 2012, 5-34.

<sup>96</sup> Slapšak 2003, 254-257.

<sup>97</sup> Brusić 2010, 241-249, has suggested that the decline in the number of fortified sites can be traced throughout the first millennium BC.



Table II 5: List of towns and settlements in Dalmatia, their chronology and status.

| Name ancient and modern   | Pre-Roman     | Status     | Name ancient and modern | Pre-Roman     | Status     | Name ancient and modern | Pre-Roman     | Status     |
|---------------------------|---------------|------------|-------------------------|---------------|------------|-------------------------|---------------|------------|
| Agruvium_Kotor            | N (uncertain) | Autonomous | Haedum_Breza            | Y (abandoned) | Secondary  | Unknown_Drenovik        | N (uncertain) | Secondary  |
| Malvesiatum_Skelane       | N             | Autonomous | Iader_Zadar             | Y             | Autonomous | Unknown_Kacuni          | N (uncertain) | Secondary  |
| Setovia_Sinj              | Y (abandoned) | Uncertain  | Issa Vis                | Y             | Autonomous | Unknown_Vinjani         | N (uncertain) | Secondary  |
| Aenona_Nin                | Y             | Autonomous | Unknown_Kolovrat        | N             | Secondary  | Unknown_Višnjica        | N (uncertain) | Secondary  |
| Aequum_Čitluk             | N             | Autonomous | Leusaba_Mrkonjić Grad   | N (uncertain) | Secondary  | Unknown_Vojlavica       | N (uncertain) | Secondary  |
| Aquae S_Ilidja            | N             | Secondary  | Metulum_Ogulin          | Y             | Autonomous | Promona_Promina         | Y (abandoned) | Secondary  |
| Ansium_Obrovac            | Y             | Uncertain  | Monetium_Brinje         | Y             | Uncertain  | Unknown_Ustikolina      | N             | Secondary  |
| Arausa_Vodice             | Y             | Secondary  | Narona Metkovic         | Y             | Autonomous | Varvaria_Bribir         | Y             | Autonomous |
| Arupium_Otočac            | Y             | Autonomous | Nedinum_Nedin           | Y             | Autonomous | Unknown_Velečevo        | N (uncertain) | Secondary  |
| Asseria_Benkovac          | Y             | Autonomous | Novae_Runovici          | N             | Autonomous | Pharos_Stari Grad       | Y (abandoned) | Secondary  |
| Avendo_Kompolje           | Y             | Uncertain  | Oulcinium_Ulcinj        | Y             | Autonomous | Alveria_Bjelina         | Y             | Autonomous |
| Baloie_Sipovo             | N             | Autonomous | Pardua_Gradac           | N (uncertain) | Secondary  | Andetrium_G. Muć        | Y             | Garrison   |
| Unknown_Beretinova        | Y             | Secondary  | Raetinium_Bihac         | Y             | Autonomous | Splonum_unknown         | N (uncertain) | Autonomous |
| Bistue Nova_Bugojno       | N             | Autonomous | Rhizinium_Rizanj        | Y             | Autonomous | Bigeste_Humac           | N             | Garrison   |
| Bistue Vetus_Tomislavgrad | N             | Autonomous | Rider_Danilo            | Y             | Autonomous | Tragurion_Trogir        | Y (abandoned) | Secondary  |
| Blandona_Kakma            | Y             | Uncertain  | Col. Ris... Rogatica    | N (uncertain) | Uncertain  | Epetion_Strobeč         | Y (abandoned) | Secondary  |
| Bouthoe_Budva             | Y             | Autonomous | Municipium S_Pljevlja   | N             | Autonomous | Unknown_Vrba            | Y (uncertain) | Secondary  |
| Burnum_Ivoševci           | N             | Autonomous | Salona_Solin            | Y             | Autonomous | Unknown_Crvenica        | Y (abandoned) | Secondary  |
| Castra_Banja Luka         | N             | Uncertain  | Salthua_Riječani        | Y             | Secondary  | Lissus_Ljesh            | Y             | Autonomous |
| Corinium_Karin            | Y             | Uncertain  | Salvium_Halapić         | N             | Autonomous | Oneum_Omiš              | N (uncertain) | Secondary  |
| Delminium_Pre-Rom_Borčani | Y (abandoned) | Uncertain  | Scadrone_Skradin        | Y             | Autonomous | Setovia_Sinj            | Y (abandoned) | Secondary  |
| Diluntum_Stolac           | N             | Autonomous | Sidrona_Medvigja        | Y             | Autonomous |                         |               |            |
| Unknown_Doboj             | N             | Garrison   | Scodra_Skadar           | Y             | Autonomous |                         |               |            |
| Doclea_Podgorica          | N             | Autonomous | Stanecli_Mali Mošunj    | N (uncertain) | Secondary  |                         |               |            |
| Domavia_Srebrenica        | N             | Secondary  | Magnum_Bajina Glavica   | Y             | Autonomous |                         |               |            |
| Epidaurum_Cavtat          | Y             | Autonomous | Tilurium_Gardun         | N             | Garrison   |                         |               |            |

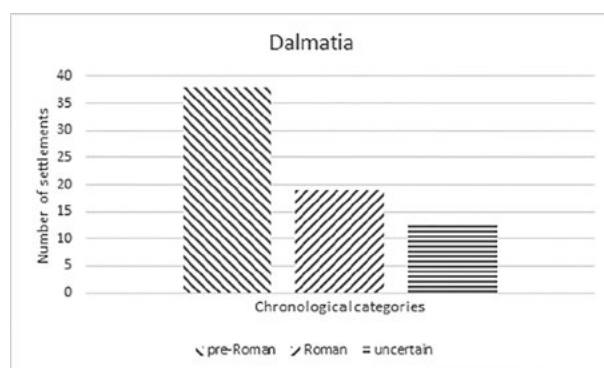


Figure II 3: The chronological profile of the major agglomerations in Roman Dalmatia.

27% of all settlements included in this analysis. This count does not include the few *municipia* that are still archaeologically unattested, and above all, the poorly researched secondary agglomerations in the interior of the province and most of the road-side settlements. It is highly probable that the majority of these settlements were created only after the founding of Roman Dalmatia. Given the extent of the road-network in Dalmatia, the settlements that developed next to road-stations must have been quite numerous, despite the fact that the mountainous character of the land probably meant that a certain portion of these sites was only occupied seasonally. If we suppose that all major stations along the five principal roads that ran across the province were accompanied by nucleated settlements, the number of new foundations could increase by over 50% and equal the number of pre-Roman conurbations.<sup>98</sup>

This prominence of the group of newly founded settlements is somewhat moderated by the fact that at least a dozen sites are known solely from descriptive accounts. In most of these cases, it is impossible to ascertain the true nature of the site during the Roman period. However, as in Roman Macedonia, the micro-locations and layout of most of these settlements, and above all, the absence of earlier archaeological remains, make it unlikely that they grew up at the sites of earlier central places. Because the majority of these sites were discovered by scholars studying the road-network of the Dalmatian interior, it is possible that they were actually road-side *vici* that were not mentioned in the Late Roman itineraries.<sup>99</sup> Hence, it is difficult to avoid

<sup>98</sup> The full bibliography on this topic can be found in Bojanovski 1974, that remains the principal source for the road network of continental Dalmatia. On the basis of this study, between two and four stations can be reckoned per road, however not all stations would have been inhabited permanently and along certain roads they were located in or near the official towns.

<sup>99</sup> For example, the settlements near modern Ustikoline, Drenovik, Velečevu: Bojanovski 1978, 51-125; Bojanovski 1987, 63-174; Bojanovski 1988, 208-209. Ustikoline, however, has also been related to the mining activities in the middle Drina, Škegro 2006, 149-173.

the conclusion that in the Dalmatian interior the breach with the pre-Roman tradition was as abrupt as on the Middle Danube. Outside the narrow coastal belt, nearly 100% of the major agglomerations from the Roman period were new foundations.

Nevertheless, mostly thanks to the high urban density in pre-Roman Liburnia, the pre-Roman segment of the settlement network prevailed. No fewer than 30 or nearly 43% of all settlements included in the analysis show continuity from the period prior to the Roman conquest. The number of settlements in this category could be slightly higher if the problematic examples like Setovia, Pharos or Haedum are added. In Figure II\_3 they are included in the graph pre-Roman, but the character of the Roman phase at these sites is extremely dubious and it is possible that these pre-Roman *oppida* were abandoned by the early 2nd century AD.<sup>100</sup> It is likely that some of the Greek colonies and *emporia* on the Adriatic coast experienced a similar fate after the Roman conquest, especially after the founding of the colony of Salona.<sup>101</sup> There have been claims that ancient Pharos was revived as an official town at an unknown point of time during the Principate, but little evidence to support this assertion has been found in the archaeological or epigraphic record.<sup>102</sup>

As in Italy X and Macedonia, the category of pre-Roman settlements comprises the largest and most important urban centres in the province, including the provincial capital Salona and the other three colonies on the Adriatic coast. Iader, Narona and Epidaurum were all located at the sites of earlier settlements.<sup>103</sup> Among the colonies, only Aequum and the poorly attested colony near modern Rogatica on the Drina were founded on virgin soil.<sup>104</sup> Although making up nearly one-third of all agglomerated settlements, in terms of wealth and importance, the newly founded towns lagged behind

Literally all data available in the literature come from I.Bojanovski's survey of the road-network in continental Dalmatia.

<sup>100</sup> The epigraphic evidence shows that a small garrison was stationed at Andetrium; the other two *oppida* were probably abandoned in the course of the 1st century AD; Andetrium: Bojanovski 1974, 131-132; Wilkes 2000, 327-341; Setovia: Bojanovski 1974, 130; Haedum: Bojanovski 1974, 184; Bojanovski 1988, 52.

<sup>101</sup> These are Tragurium and Epetium. Polyb. 32.9.1-2; Plin. HN 3.141-142. Suić 1976: 17-18, has seen both outposts as seats of separate *praefectures* in the territory of Salona, but this assumption is not supported by the archaeological evidence dating mostly to the period of Late Antiquity, Kovačić 1994, 51-69; Babić 2016, 291-303. Epetium: Faber 1983, 17-37; Ugarković, Neuhauser 2013, 55-58.

<sup>102</sup> Zaninović 1989, 35-49; is the main proponent of this theory. For the archaeological remains, see Jeličić-Radonić 2000, 77-82; Gaffney 2006, 89-106.

<sup>103</sup> Salona: Cambi 1991; Narona: Cambi 1978, 57-66; Epidaurum: Glavičić 2008, 43-62. See also Wilkes 2003, 233-241.

<sup>104</sup> Aequum: Suić 1976, 153-154, 238. Most scholars see a sixth Roman colony in the Middle Drina Valley, near modern Rogatica, Alföldy 1965, 149; Bojanovski 1988, 169-175, Mesihović 2009, 55-72. Far more convincing is the opinion expressed by Vittinghoff 1977, 18-19, who has argued that the settlement in question is Risinium on the coast rather than a new colony in the interior of Dalmatia.



the old coastal centres. Even were we to focus solely on the official towns in the interior, their archaeological and epigraphic legacy is still rather humble compared to the older coastal towns.

Despite the conscious efforts to urbanize the Dalmatian interior during the period of the High Empire, the deeply rooted contrast between the coastal zone and the continental parts of the province persisted. In this respect Dalmatia seems to defy the overall pattern that characterizes our study-region. As will be shown in a later chapter, the new foundations usually surpassed the older pre-Roman towns in status, wealth and size. In the case of Dalmatia, this divergence can probably be attributed to their isolated position of the interior, but was also affected by the special character and function of some of the newly founded settlements. Finally, in Dalmatia, as else where, wealth and prosperity were closely related to the juridical status of the population. Four out of five, possibly six, colonies are located on the coast and belong to the zone of pre-Roman urbanism. At this point, we need to make a finer distinction between the pre-Roman *poleis* that continued to exist as Roman colonies undergoing only minor changes in the urban topography and the coastal colonies in Dalmatia. Viewed from this angle, coastal Dalmatia differs from the Istrian Peninsula or Epirus, in which the Roman phase often respected the earlier urban grid. On the Dalmatian coast, as in some of the towns of Upper Macedonia, the construction that took place after the Roman conquest virtually erased the remains of the earlier phases at these sites. Consequently, although technically speaking the major Roman towns of Dalmatia display a topical continuity from the pre-Roman period, they were new centres of gravity in the region. The rank and status of the predecessors of the Roman towns on the Dalmatian coast are unknown, but it is possible that, prior to the Roman conquest, they differed little from the average *oppidum* in the continental part of the province. In fact, according to the conventional view, at least two of the colonies on the Dalmatian coast – Salona and Naronia – were founded on the sites of Hellenistic *emporia*.<sup>105</sup> In other words, the new urban centres in the region emerged on the periphery of the earlier urban network. While the old Greek colonies on the Adriatic islands were abandoned or fell into decline, the towns that grew on the sites of their former *emporia* emerged as the most important players in the new urban geography of the province.<sup>106</sup> Taking this stand-point, Dalmatia does not depart from the overall pattern of urbanization in our study-area under the High Empire. Unless they were colonized or granted a municipal status, urban development was

sluggish or so slow as to be imperceptible in the great majority of the old *poleis* in our study-region.

Outside the coastal zone, partly urbanized prior to the Roman conquest, the decrease in the number of sites between the Hellenistic and Roman periods is even more striking than in the northern Adriatic or in Roman Macedonia. In the few systematically researched regions, the Roman conquest introduced a radical reorganization of the regional settlement patterns. Surveys in the core of the Dalmatian tribal territory – the Duvanjsko Plateau – have demonstrated that only three or four out of forty-two fortifications show traces of a continuous occupation into the period of the High Empire.<sup>107</sup> As in other mountainous regions of the western Balkans, the Roman conquest brought an end to the highly developed fortification networks, usually enclosing geographically well-defined plateaus or high river-plains.<sup>108</sup> These settlement patterns had served the political interests and ideologies of the small introvert polities that dotted the wider region in the centuries prior to the Roman conquest. The Roman Empire had absolutely no interest in preserving these highly fragmented constellations.

### The Pannonias

Both Pannonia Superior and Pannonia Inferior fall entirely within the limits of the study-region. When combined, the two provinces roughly equal Dalmatia in size. It was therefore surprising to discover about 50 – including problematic sites – agglomerated settlements in Inferior and only 30 in Superior. Although its territory is almost twice as large, the number of conurbations in Pannonia Superior is only three quarters of the number of agglomerated settlements in northern Macedonia. Together, the two Pannonian provinces boast only a slightly greater number of agglomerated settlements than Dalmatia, mostly as a consequence of the dense network of auxiliary forts in Pannonia Inferior. The exclusion of the road-stations from the list – with the exception of the *Limes* Road, on which auxiliary forts or the adjacent *vici* performed this function – is not enough to explain this disparity, because most road-stations have also been excluded from the lists of towns and town-like secondary agglomerations of Macedonia and Dalmatia. As for the latter two, the figures include a small group of sites whose character and chronology are not fully clear.

Once we leave the belt of provinces gravitating towards the Adriatic and Aegean, the figures that display the continuity of settlement prior to and after the Roman conquest are completely reversed. In the case of Pannonia Inferior, 33 out of 50 agglomerated settlements

<sup>105</sup> Salona: Cambi 1991, 11-15; Naronia: Cambi 1978, 60; Marin 2003, 11-12.

<sup>106</sup> For the Greek colonies off the Dalmatian coast and their *emporia* in the Roman period, see Wilkes 1969, 38-39, 229-230; Suić 1996, 269-282; Dzino 2010, 117-136.

<sup>107</sup> Benac 1985.

<sup>108</sup> For parallel processes in Epirus, see Cabanes 1976.



Table II 6: List of towns and settlements in Pannonia Inferior, their chronology and status.

| Name ancient and modern | Pre-Roman phase | Status     | Name ancient and modern | Pre-Roman phase | Status     |
|-------------------------|-----------------|------------|-------------------------|-----------------|------------|
| Acumincum_Slankamen     | Y               | Garrison   | Sremska Mitrovica       | N               | Autonomous |
| Ad Militare_Batina      | N               | Garrison   | Solva_Esztergom         | Y               | Garrison   |
| Ad Saldum_Podgajci      | N (uncertain)   | Secondary  | Sopianae_Pecs           | N               | Secondary  |
| Ad Statuas_Vardomb      | N               | Garrison   | Unknown_Svileuva        | N (uncertain)   | Secondary  |
| Alisca_Ocseny           | N               | Garrison   | Teutoburgium            | N               | Garrison   |
| Alta Ripa_Tolna         | N               | Garrison   | Tricciana_Sagvar        | N               | Uncertain  |
| Altinum_Kölked          | N               | Garrison   | Ulcisia Castra          | N               | Garrison   |
| Annamatia_Baracs        | N               | Garrison   | Volgum_Unknown          | N (uncertain)   | Autonomous |
| Aquincum_Budapest       | N               | Garrison   | Unknown_Albertfalva     | N (abandoned)   | Garrison   |
| Basante_Zupanja         | N (uncertain)   | Secondary  | Unknown_Janja           | N (uncertain)   | Secondary  |
| Bassiana_Petrovci       | N               | Autonomous | Unknown_Mehovina        | N (uncertain)   | Secondary  |
| Brigetio_Szőny          | N               | Garrison   | Unknown_Petkovac        | N (uncertain)   | Secondary  |
| Burgenae_Novi Banovci   | Y               | Garrison   | Unknown_Sabac           | N (uncertain)   | Secondary  |
| Campona_Nagytétény      | N               | Garrison   | Spodent_Usce            | N               | Autonomous |
| Cibale_Vinkovsi         | Y               | Autonomous | Unknown_Obarska         | N (uncertain)   | Secondary  |
| Cirpi_Dunabogdány       | N               | Garrison   | Vetus Salina_Adony      | N               | Garrison   |
| Cornacum_Sotin          | N               | Garrison   | Mursa_Osijek            | Y               | Autonomous |
| Crumerum_Nyergesújfalu  | N               | Garrison   | Marsonia_Slavonski Brod | N               | Garrison   |
| Cuccium_Ilok            | N (uncertain)   | Garrison   | Ad Azaum_Almásfüzitő    | N               | Garrison   |
| Gorsium_Tác             | N               | Uncertain  | Ad Novas_Zmajevac       | N               | Garrison   |
| Intercisa_Dunaujvaros   | N               | Garrison   | Taurunum_Zemun          | N               | Garrison   |
| Iovia_Alsoheteny        | N               | Uncertain  | Ad Statuas_Acs          | N               | Garrison   |
| Lugio_Dunaszekcső       | Y               | Garrison   | Ad Mures_Acs            | N               | Garrison   |
| Lussonium_Paks          | N               | Garrison   | Unknown_Viziváros       | N               | Garrison   |
| Matrica_Százhalmabatta  | N               | Garrison   | Ritium_Surduk           | Y               | Garrison   |
| Bononia_Banoštor        | N (uncertain)   | Garrison   |                         |                 |            |

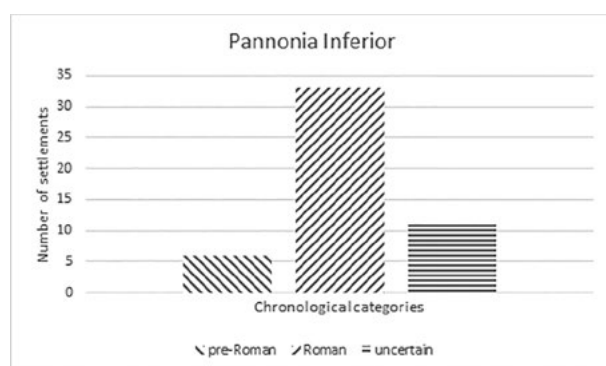


Figure II 4: The chronological profile of the major agglomerations in Pannonia Inferior.

or over 65% have been securely determined as new foundations. (Figure II\_4, Table II\_6) This percentage is almost certainly an underestimate as poorly researched sites have been treated as uncertain entries, while the majority of the historically attested road-stations are excluded from the total. In most of these cases, it is not the founding date that is problematic, but the character of the settlements at the time of the High Empire. If these sites were non-agrarian settlements rather than *villae* or ordinary villages during the period of the High Empire, the category of urban and urban-like sites founded after the Roman conquest represents slightly over 90% of all conurbations included in this analysis. In a complete contrast to the developments in ancient Illyria, Macedonia or coastal Dalmatia, the Romans created an entirely new settlement network in the Pannonian provinces. The pre-existing settlement pattern was almost entirely disregarded, albeit the

names of the old ethnic units were often preserved in the newly established administrative nomenclature.<sup>109</sup>

This striking fact has been observed by a number of scholars working in the two provinces.<sup>110</sup> Various explanations have been offered for the complete absence of continuity in the settlement locations, ranging from the nature of the native societies in the region and the lack of permanent central places, to the severe demographic decline in the area related to the Dacian invasions in the mid-1st century BC and the subsequent wars of conquest.<sup>111</sup> We shall return to this issue towards the end of this chapter. For the moment, it is important to point out that the total discontinuity thesis was supported almost exclusively by the evidence coming from the Trans-Pannonian section of the *Limes*. The only site showing traces of continuity in this area is the auxiliary fort of Solva, near modern Esztergom and possibly Lugio, near modern Dunaszekcső.<sup>112</sup> Recently, the belated research on the Roman frontier in the southern half of the province has offered a somewhat different picture. Here orientation surveys and limited test-pit excavations have revealed the presence of material dating to the Late La Tène period at the sites of at least three auxiliary forts on the Danube *Limes*.<sup>113</sup> But continuity has also been attested at some of the civilian settlements in the southern part of the province. Rescue excavations in Cibala have revealed that the Roman town was surrounded by three Late La Tène agglomerations, in some of which occupation continued into the Roman period.<sup>114</sup> In neighbouring Mursa, the pre-Roman *oppidum* was integrated into the urban tissue of the second century *municipium*.<sup>115</sup> In fact, the urban genesis of Mursa presents a close parallel to the developments in the vicinity of the auxiliary forts on the Danube *Limes*. The current hypothesis is that the town developed from an earlier *oppidum*, guarded by an auxiliary fort in the late 1st-early 2nd century AD.<sup>116</sup>

In total, we only have five or possibly six sites, or only about ten percent, with a direct continuity between

the two periods. Nevertheless, this fact hints at a more complex scenario of conquest and urbanization of the area. These divergences from the prevalent pattern should not be simply dismissed or ignored, especially because they are limited mostly to the southern part of the province. Similar developments will also be observed along a short section of the Lower Danube *Limes*. It is tempting to relate them to special logistical considerations or the political relations between the Roman Empire and the native societies on the Middle Danube at the time of the conquest. The *oppida* of loyal tribes could have offered a ready-made base for the newly arrived troops, while the close surveillance of the native communities must have been of crucial importance, at least in the period immediately following the final pacification of the province. However, the validity of this hypothesis depends entirely on the chronology of Roman occupation of this section of the Danube *Limes*. At the majority of the excavated sites on the Middle Danube north of the Drava, permanent Roman occupation does not predate the Flavian period.<sup>117</sup> Given that the auxiliary forts south of the Drava were also established only in the second half of the 1st century AD, the idea that continuity in occupation on these sites was necessitated by the pressing security and logistical concerns in the early days of the occupation will have to be discarded. Yet importantly, the defence of the frontier was not the only possible role assigned to the army in this part of the province. It was also responsible for the maintenance of internal order and administration and its permanent presence in the areas occupied by predominantly peregrine communities is fully understandable. In this context, the earliest Roman occupation at Solva should be mentioned. This is one of the rare sites to the north of the Drava showing continuity from the pre-Roman period and has been dated to the reign of Claudius or perhaps even as early as Tiberius and there are also indications that the forts in the south of the province were occupied by the middle of the 1st century AD.<sup>118</sup>

Despite local variations, the Late La Tène *oppida* in the region of the Middle Danube were not integrated into the settlement network of the High Empire.<sup>119</sup> It is a strategy completely opposite to that adopted a century to a century and a half earlier during the conquest of the Adriatic coast and Macedonia, in which a maximum use was made of the existing urban infrastructure. Obviously, the absence of an adequate pre-Roman urban infrastructure at the majority of these sites might have encouraged discontinuity, although this still does not

<sup>109</sup> For the *civitates* of Pannonia see Dušanić 1967, 67-81; Mócsy 1974, 53-79; Fitz 1980b, 141-159; Dzino 2010, Table Two, 165-167; Colombo 2010, 171-202.

<sup>110</sup> Burghardt 1979, 1-20; Gabler 1991, 51-73.

<sup>111</sup> The much-quoted passage from App. *Ill.* 4.22 or Dio, 49.37.1, stressing the rural character of the Pannonian tribes Domić-Kunić 2012, 29-69; for the impact of the Dacian invasion on the Carpathian Basin, I follow, Mócsy 1974, 19.

<sup>112</sup> Bónis 1971, 33-39; Gabler 1991, 51-73; the micro-topography of this site has been lost under the monumental castle from the Medieval period; Lugio: Gabler 1991, 55.

<sup>113</sup> Accumincum, Rittium and Burgenae. Dimitrijević 1959, 379-381; Pinterović 1968, 55-82; Piletić 1989, 79-101; given the poor technical documentation included in the publications, a certain reserve is warranted especially for Rittium and Burgenae. The reader is given no idea about the exact layout and micro-locations of these Roman forts.

<sup>114</sup> Iskra-Janošić 2004, 169-195.

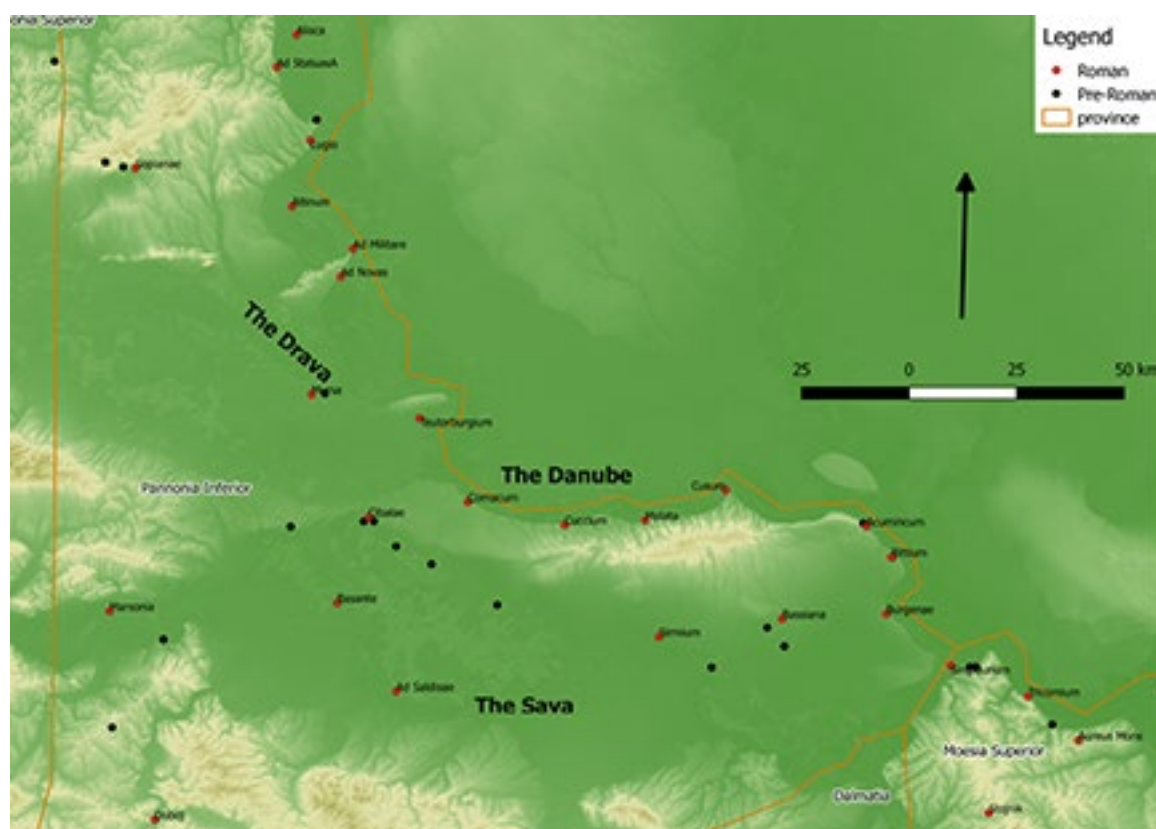
<sup>115</sup> Pinterović 1978; Filipović 2004, 157-168.

<sup>116</sup> Filipović 2004, Figure 1.

<sup>117</sup> Gabler 1971, 83-91; Fitz 1980a, 125-140; Gabler 1999, 75-86.

<sup>118</sup> Solva: Gabler 1999, Figure 1; Cuccium: Rendić-Miočević 2009, 79-103; although the fort has been dated to the late 1st-early 2nd century, there is evidence of earlier military equipment from this site; Cornacum: Leleković, Ilkić 2011, 299-306; *sigillata* dated to the early to mid-1st century AD.

<sup>119</sup> Gabler 1991, 52.



Map II 1: The Sava-Danube Interfluvium; La Tène and Roman period settlements

explain the almost complete neglect of the pre-Roman settlement geography. Proper urban centres were probably non-existent, but the societies that inhabited the Middle and Lower Danube, as well as the Dacian and Balkan interior did possess their own central places and were gradually evolving into complex, proto-state societies by the time of the Roman conquest.<sup>120</sup> The problem is certainly not one-sided and, apart from purely practical or ideological considerations, the changing imperialistic strategies between the periods of the Late Republic and High Empire, during which direct rule was gradually replacing the semi-autonomous client kingdoms, has to be taken into account.

As in most other provinces in our study-region the category of native, nucleated settlements that featured monumental earthen ramparts or occupied strategic locations dwindled drastically after the Roman conquest. This is clearly evident even in the area of the Sava-Drava interfluvium, in which we encounter a fairly high degree of continuity from the pre-Roman period. (Map II\_1) The few Late La Tène settlements on the Lower Sava that have seen more extensive excavation campaigns show signs of a gradual abandonment during the 1st century AD.<sup>121</sup> Even at sites at which the

destruction layers date to the time of the conquest, there is sound evidence of reoccupation by the early decades of the 1st century AD. However, life in these settlements never returned to the pre-conquest level. By the time the Danube *Limes* was stabilized under the Flavian dynasty, most of the *oppida* from the area of the Lower Sava were situated in the territories of the official Roman towns of Sirmium and Cibalae and had either been abandoned or had lost the character of a nucleated settlement. A similar situation has been documented in the case of the Eraviscan *oppidum* on Mount Gellert, located only a few kilometres to the south of the legionary camp of Aquincum.<sup>122</sup> In contrast to its role in certain parts of Epirus or Macedonia, the Roman army was not directly responsible for the demise of the old settlements. They simply failed to integrate into the new socio-economic reality caused by the Roman conquest.

The chronological profile of the Roman settlements in Pannonia Superior is almost identical to that of Inferior. (Figure II\_5, Table II\_7) 21 out of the 30 agglomerated settlements included in this study are green-field foundations. This amounts to over 70% of the total number of agglomerated settlements but,

<sup>120</sup> For the complex settlement hierarchy among the eastern Celts and the Dacians, see Guštin, Jevtić eds 2011; Lockyear 2004, 33–74.

<sup>121</sup> Majnarić-Pandić 1984, 23–34.

<sup>122</sup> Pető 1979, 271–285; Szabó, Guillaumet, Cserményi 1994, 107–126; Ottományi 2005, 67–131.

Table II 7: List of towns and settlements in Pannonia Superior, their chronology and status.

| Name ancient and modern        | Pre-Roman phase | Status     | Name ancient and modern     | Pre-Roman phase | Status     |
|--------------------------------|-----------------|------------|-----------------------------|-----------------|------------|
| Ad Praetorium_Suvaja           | N (uncertain)   | Uncertain  | Servitium_Bosanska Gradiska | N (uncertain)   | Uncertain  |
| Aequinoctium_Fischamend        | N               | Garrison   | Unknown_Blagaj              | N               | Secondary  |
| Ala Nova_Schwechat             | N               | Garrison   | Unknown_Strigova            | N (uncertain)   | Uncertain  |
| Andautonia_Šćitarjevo          | N               | Autonomous | Unknown_Skugric             | N (uncertain)   | Uncertain  |
| Aqua Iasae_Varaždinske Toplice | N               | Secondary  | Quadrata_Topusko            | N (uncertain)   | Uncertain  |
| Aqua Balisae_Daruvar           | Y (uncertain)   | Autonomous | Unknown_Strebersdorf        | N               | Secondary  |
| Arrabona_Győr                  | N               | Garrison   | Ad Flexum_Mosomagyarovar    | N               | Garrison   |
| Carnuntum_Petronell            | N               | Garrison   | Ad Fines_Unknown            | N (uncertain)   | Uncertain  |
| Gerulata_Rusovce               | N               | Garrison   | Faust (inianum)_unknown     | N (uncertain)   | Autonomous |
| Halicanum_Sveti Martin         | N               | Autonomous | Unknown_Ljubija             | N (uncertain)   | Secondary  |
| Iovia_Ludbreg                  | N               | Uncertain  |                             |                 |            |
| Unknown_Klosterneuburg         | N               | Garrison   |                             |                 |            |
| Mogentiana_Túskevár            | N               | Autonomous |                             |                 |            |
| Vindobona_Wien                 | N               | Garrison   |                             |                 |            |
| Mursella_Kisárpás              | N               | Autonomous |                             |                 |            |
| Neviodunum_Drnovo              | N               | Autonomous |                             |                 |            |
| Poetovio_Ptuj                  | Y               | Autonomous |                             |                 |            |
| Quadrata_Lebeny                | N               | Garrison   |                             |                 |            |
| Sala_Zalalövő                  | N (abandoned)   | Autonomous |                             |                 |            |
| Savaria_Szombathely            | N               | Autonomous |                             |                 |            |
| Scarbantia_Sopron              | N               | Autonomous |                             |                 |            |
| Sisicia_Sisak                  | Y               | Autonomous |                             |                 |            |

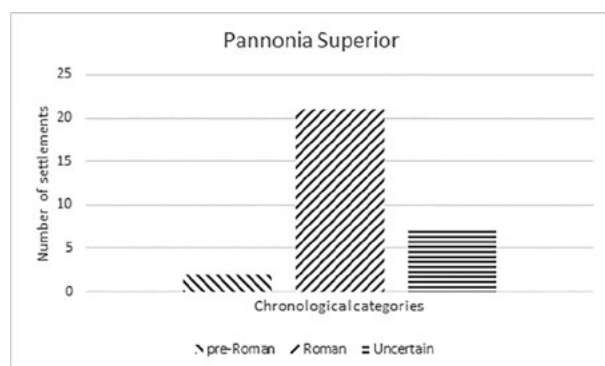


Figure II 5: The chronological profile of the major agglomerations in Pannonia Superior.

as in Pannonia Inferior, it is exclusive of the majority of the road-stations and a small group of settlements known only from extensive surveys. Pannonia Superior had a much more developed road network than Inferior and it can be safely posited that along the section of the Amber Road between Poetovio and Carnuntum and on the two Diagonal Roads alone, there were at least ten to 12 *mansiones* that might have attracted civilian settlements.<sup>123</sup> It is also important to recall that the inter-regional road along the old Drava *Limes* was conspicuously devoid of major urban foundations during the High Empire.<sup>124</sup> It is likely that the sparse

<sup>123</sup> For a recently discovered station with an adjacent agglomerated settlement on the Amber Road near modern Nemescsó, see Groh, Kiss, Sedlmayer 2010, 401-424.

<sup>124</sup> Gračanin 2010, 9-69. At least 15 stations are recorded in the Pleiades Database along the Drava Road in the section between Poetovio and Mursa and, judging by the distances between these stations, it is possible that a few are missing. Ptol. *Geog.* 8.15.3, mentions at least 11 settlements in the interior of Pannonia Superior that cannot be identified with any of the settlements included in this study.



urban network along this important inter-regional road was complemented by a number of town-like foundations that have been entered in the historical record as road-stations. The chances are that most sites belonging to this settlement category were founded after the Roman conquest and hence the true share of the newly founded agglomerations was probably much higher, including well over 90% of all corporate communities in Pannonia Superior during the period of the High Empire.

As in Pannonia Inferior, a small number of settlements included in the list present exceptions to the prevalent pattern. In the case of Superior, continuity has been ascertained at two, possibly three settlements that, again, amount to about ten percent of the total number of entries. However, in contrast to Pannonia Inferior, these are not garrison settlements clustered along a short section of the *Limes*. In Superior, rather surprisingly, continuity has been attested at sites that became important civilian centres in the province during the period of the High Empire. Siscia and Poetovio, the two towns that were founded next to pre-Roman *oppida*, were among the largest civilian settlements in Pannonia Superior. Both towns were founded as colonies and Poetovio, one of the largest agglomerations in our study-area, became the financial capital of the province and the centre of the Illyrian customs district. It is unfortunate that in neither of these cases has the extent and character of the pre-Roman settlement yet been determined, but the fact that a strong La Tène presence has been claimed by nearly all researchers who have worked at these sites makes it rather difficult to question their continuity.<sup>125</sup> In fact, in the case of Siscia, the presence of a Late La Tène settlement in the immediate vicinity or on the site of the later Roman colony is explicitly testified to in the historical record.<sup>126</sup> Consequently, both Siscia and Poetovio join Emona in Italy X as colonies founded on or close to the sites of pre-Roman *oppida*. It seems that these settlements occupied locations that were strategically too important to be abandoned.<sup>127</sup>

Looking at the rest of the pre-Roman central places in the region, it has to be assumed that they were either completely abandoned or degraded to rural, sub-corporate communities. This development is exemplified by the cases of Velem-Szentvid and Heinberg, Late La Tène *oppida* on the Amber Road that were abandoned soon after the Roman conquest,

and by the establishment of the new garrison and civilian outposts along this important corridor.<sup>128</sup> More examples have been found in the Raba Valley.<sup>129</sup> It is impossible to define the transformation between the two time periods in terms of contraction or expansion in the number of central places, but it is obvious that the urban geography of the region was thoroughly redrawn. The *civitates* mentioned by Pliny the Elder did retain the old tribal names, but their central places were new foundations that looked nothing like the old Iron Age settlements.

### The Moesias

The two Moesian provinces, were like the Pannonias, located beyond the northern frontiers of the old Hellenistic kingdoms that dominated the south of the study-area. The peoples who inhabited this part of the Balkan Peninsula had had a reduced range of contacts with the Hellenistic world, limited to military campaigns and poorly understood trade relations. There is very little evidence of autonomous proto-urban developments in the pre-Roman period and the few settlements that did begin to show some signs of urbanization were abandoned long before the Roman conquest.<sup>130</sup> None of these proto-urban settlements was reoccupied after the incorporation of the area at the beginning of the High Empire. One possible cause of the divergent developments in the Balkan interior and the coastal zone might have simply been the lack of urban infrastructure in the former area. In this context, it should be borne in mind that the regions along the Lower Danube were conquered at roughly the same time as Pannonia, during the reign of Augustus, 150 years after the conquest of the Illyrian kingdom and Macedon and at least half a century after the Romans established a secure foothold on the Dalmatian coast. The driving forces and mechanisms of expansion during these time periods were not necessarily identical. These facts must be taken into account if we are to understand the almost complete absence of continuity in settlements and native institutions in the provinces along the Danube.

The two provinces are of average size, Moesia Superior occupied about 67,000 sq. kilometres, while Inferior was somewhat smaller occupying some 57,000 sq. kilometres. Although unaffected by the processes of pre-Roman urbanization along the Black Sea coast and in the south of the peninsula, the total number of agglomerated settlements from the Roman period is comparable to that encountered in Dalmatia and

<sup>125</sup> Poetovio: Horvat *et al.* 2003, 153-189; Horvat, Vičič 2010; Siscia: Lolić 2003, 131-152. The continuity thesis for Aquae Balisae has not been substantiated by archaeological evidence, Schejbal 2004, 99-129.

<sup>126</sup> App. *Ill.* 22; Dio 49.37, 3-4. Hoti 1992, 133-163; the archaeological finds, however, do not suggest a full overlap between the two settlements, Lolić 2003, 138-141.

<sup>127</sup> Celeia, the Norican *municipium*, completes this group of pre-Roman *oppida* on the roads linking Italy and the Danube; Lazar 2002, 71-101.

<sup>128</sup> Szabó, Guillaumet, Cserményi 1994, 107-126; Kandler, Humer, Zabehlicky 2004, 11-66.

<sup>129</sup> Károlyi 1985, 391-419; see Bónis 1971, 33-39; Gabler 1991, 51-73, for brief overviews of this process.

<sup>130</sup> For example, the *oppidum* at Krševica, over 300 km to the north of the bay of Thessaloniki, Popović 2007, 411-417.



Table II 8: List of towns and settlements in Moesia Superior, their chronology and status.

| Name ancient and modern                | Pre-Roman phase | Status     | Name ancient and modern                 | Pre-Roman phase | Status     |
|----------------------------------------|-----------------|------------|-----------------------------------------|-----------------|------------|
| Ad Herculem_Glasinac                   | N (uncertain)   | Secondary  | Unknown_Stojnik                         | N (uncertain)   | Secondary  |
| Almus_Lom                              | N               | Uncertain  | Taliata_Veliki Gradac                   | N               | Garrison   |
| Aquae_Prahovo                          | N (uncertain)   | Uncertain  | Timacum Minus_Ravna                     | N               | Garrison   |
| Aureus Mons_Seona                      | N (uncertain)   | Uncertain  | Transdierna_Tekija                      | N (abandoned)   | Uncertain  |
| Bononia_Vidin                          | N               | Secondary  | Tricornium_Ritopek                      | Y (uncertain)   | Uncertain  |
| Combustica_Kladorup                    | N               | Secondary  | Ulpiana_Gračanica                       | N               | Autonomous |
| Cuppa_Golubac                          | N               | Garrison   | Unknown_Drsnik                          | N               | Secondary  |
| Diana_Karataš                          | N               | Garrison   | Viminacium_Kostolac                     | N               | Garrison   |
| Dortikum_Vărv                          | N               | Uncertain  | <i>Municipium Celegerorum</i> _Ivanjica | N (uncertain)   | Autonomous |
| Hammeum_Prokuplje                      | N               | Secondary  | Egeta_Brza Palanka                      | N               | Garrison   |
| Horreum Margi_Čuprija                  | N               | Uncertain  | <i>Municipium Aelianum</i> _unknown     | N (uncertain)   | Autonomous |
| M.Municipium_Kalište                   | N               | Secondary  | Pontes_Kostol                           | N               | Garrison   |
| Lederata_Ram                           | N               | Garrison   | Singidunum_Belgrade                     | N               | Garrison   |
| Margum_Orašje                          | Y               | Autonomous | Unknown_Pojejena de Sus                 | N               | Garrison   |
| <i>Municipium Dardanorum</i> _Sočanica | N               | Autonomous |                                         |                 |            |
| Naissus_Nis                            | N               | Garrison   |                                         |                 |            |
| Novae_Čezava                           | N               | Garrison   |                                         |                 |            |
| Pincus_Pecka                           | N               | Garrison   |                                         |                 |            |
| Ratiaria_Arčar                         | N               | Autonomous |                                         |                 |            |
| Remesiana_Bela Palanka                 | N               | Secondary  |                                         |                 |            |
| Scupi_Skopje                           | N               | Autonomous |                                         |                 |            |

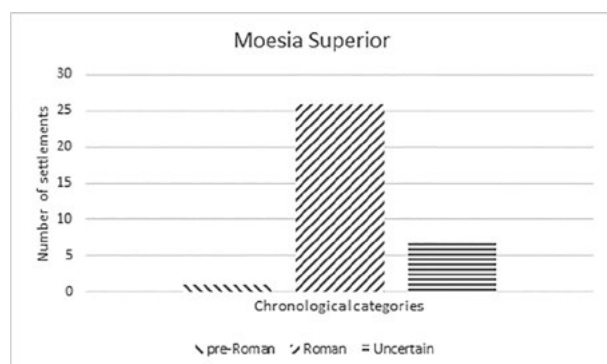


Figure II 6: The chronological profile of the major agglomerations in Moesia Superior.

northern Macedonia. This has also been observed in the case of Pannonia Inferior and it has to be related to the dense network of auxiliary *vici* along the Lower Danube.

In the case of Moesia Superior, the discontinuity between the two periods is even more pronounced than in the Pannonian provinces. (Figure II\_6, Table II\_8) The

relatively limited archaeological research has so far failed to reveal any traces of a pre-conquest phase in 26 out of 34 settlements from the period of the High Empire. This amounts to almost 80% of the settlements included in this study, more than in any other province in our study area with the exception of Dacia. This is the minimum estimate. It is likely that most of the uncertain sites also post-date the Roman conquest. The systematic excavations at a small number of road-stations have shown that these agglomerations were founded centuries after the Roman conquest.<sup>131</sup> These examples suggest it is unlikely that the rest of the road-stations along the Lissus - Ratiaria and Viminacium - Scupi roads were built at the sites of earlier settlements. The majority of these sites bear Roman names and they are not mentioned in the sources referring to the pre-Roman period.<sup>132</sup> The settlements that survived the conquest must have been confined to the periphery

<sup>131</sup> *Mansio Idumum* and *mansio Municipium*: Vasić, Milošević 2000; Timacum Maius: Petrović, Filipović 2008, 47-58; possibly Remesiana: Petrović ed. 1979, 51-57. For the Late Roman date of a number of road-stations, see the next chapter.

<sup>132</sup> Mirković 2007, 12-17.

Table II 9: List of towns and settlements in Moesia Inferior, their chronology and status.

| Name ancient and modern | Pre-Roman phase | Status     | Name ancient and modern      | Pre-Roman phase | Status     | Name ancient and modern | Pre-Roman phase | Status    |
|-------------------------|-----------------|------------|------------------------------|-----------------|------------|-------------------------|-----------------|-----------|
| Abritus_Razgrad         | N               | Garrison   | Nicopolis ad Istrum_Nikyup   | N               | Autonomous | Utus_Vit                | N               | Secondary |
| Aegyssus_Tulcea         | Y (uncertain)   | Garrison   | Nigrinianis_Dolno Ryahovo    | N               | Garrison   | Variana_Lyaskovec       | N               | Uncertain |
| Altinum_Oltina          | N               | Garrison   | Novae_Stâklen                | N               | Garrison   | Unknown_Barbosi         | Y               | Garrison  |
| Appiaria_Ryahovo        | N               | Garrison   | Noviodunum_Isaccea           | N               | Garrison   | Libida_Slava Rusa       | N               | Secondary |
| Argamum_Jurilovca       | Y               | Uncertain  | Odessos_Varna                | Y               | Autonomous | Bizone_Kavarna          | Y (abandoned)   | Secondary |
| Arrubium_Mâcin          | N               | Garrison   | Oescus_Gigen                 | N               | Autonomous |                         |                 |           |
| Augusta_Hârlets         | N               | Uncertain  | Piretensium_Unknown          | N (uncertain)   | Secondary  |                         |                 |           |
| Axiopolis_Cernavoda     | Y (uncertain)   | Garrison   | Salsovia_Mahmudia            | N (uncertain)   | Garrison   |                         |                 |           |
| Beroe_Piatra            | N               | Garrison   | Sexaguinta Prista_Ruse       | Y (uncertain)   | Garrison   |                         |                 |           |
| Calatis_Mangalia        | Y               | Autonomous | Unknown_Snyagovo             | N               | Uncertain  |                         |                 |           |
| Camistrum_Kozloduj      | N (uncertain)   | Garrison   | Sostra_Lomec                 | N               | Secondary  |                         |                 |           |
| Capidava_Topalul        | N               | Garrison   | Sacidava_Dunăreni            | N               | Garrison   |                         |                 |           |
| Carsium_Hârșova         | N               | Garrison   | Tautiommis_Krividol          | N (uncertain)   | Secondary  |                         |                 |           |
| Cimbrianis_Canlia       | N               | Garrison   | Tirizis_Kaliakra             | Y (abandoned)   | Uncertain  |                         |                 |           |
| Cius_Gârliciu           | N               | Garrison   | Tomis_Constanța              | Y               | Autonomous |                         |                 |           |
| Dimum_Belene            | Y (uncertain)   | Secondary  | Transmarisca_Tutrakan        | Y (uncertain)   | Garrison   |                         |                 |           |
| Dinogetia_Garvân        | N               | Garrison   | Trimamium_Mechka             | N               | Garrison   |                         |                 |           |
| Dionysopolis_Balchik    | Y               | Autonomous | Troesmis_Iglața              | N               | Autonomous |                         |                 |           |
| Durostorum_Silistra     | N               | Garrison   | Tropaeum Trajani_Adam Cilisi | N (uncertain)   | Autonomous |                         |                 |           |
| Halmyris_Murighiol      | Y               | Garrison   | Trullensium_Kunino           | N (uncertain)   | Secondary  |                         |                 |           |
| Histria_Istria          | Y               | Autonomous | Ulmetum_Pantelimon           | N               | Secondary  |                         |                 |           |
| Kinton_Nova Cherna      | N (uncertain)   | Garrison   | Unknown_Mezdra               | N               | Secondary  |                         |                 |           |
| Marcianopolis_Devnya    | N               | Autonomous | Unknown, Luncavița           | N               | Garrison   |                         |                 |           |
| Montana_Montana         | N               | Uncertain  | Unknown_Snyagovo             | N (uncertain)   | Secondary  |                         |                 |           |

of the Roman network, away from the main roads.<sup>133</sup> However, even this suggestion still awaits confirmation by archaeological research. At the few excavated mining settlements that belong to the peripheral segment of the settlement network, there are no remains of a pre-conquest phase, although there are traces of prehistoric

mining in these areas.<sup>134</sup> The case of Moesia Superior only reinforces the impression that, as in the rest of the Danube provinces, the Roman conquest ushered in a radically different settlement pattern and hierarchy.

<sup>133</sup> Cf. Mladenović 2012, 24; for the process by which garrison sites attracted the native population, thereby changing the settlement geography of the province.

<sup>134</sup> *Municipium* DD: Čerškov 1970; Ulpiana: Parović-Pešikan 1981, 57-73; the fort near Stojnik: Mirković, Dušanić eds 1976, 111-117. Prehistoric mining in the area of the Moesian mines: Čerškov 1969; for the role of the native communities in Roman mining, see Dušanić 1989, 148-156; cf. Domergue 1990; Hirt 2010.



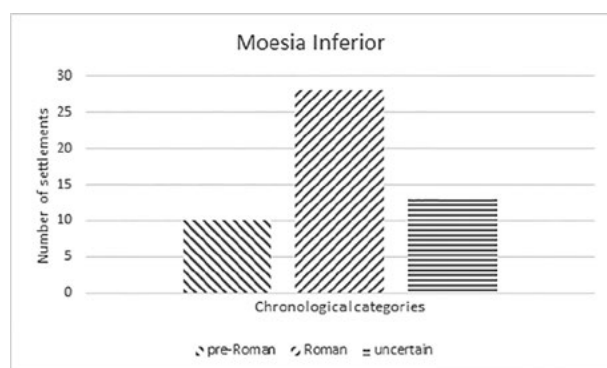


Figure II 7: The chronological profile of the major agglomerations in Moesia Inferior.

In fact, the only evidence of continuity from the Late La Tène period comes from the Danube Valley, the most urbanized segment of the provincial territory. Even there it has been documented only in one, possibly two agglomerations from the Roman period. These are Margum, a civilian, self-governing town located between the two legionary camps of Singidunum and Viminacium and possibly Tricornium, a smaller garrison settlement located 30 km to the west, on the same section of the Danube *Limes*.<sup>135</sup> They amount to negligible five percent of the settlement network in the Roman province and their survival into the period of the High Empire can hardly be taken as indicative of a conscious policy of urbanization, or even of purely logistical considerations dating to the time of the conquest. However, we shall see that both sites are located just across the border with Pannonia Inferior, close to an area in which continuity has been attested at a number of Late La Tène sites.

The fate of the native settlements after the Roman conquest remains unknown. The two Late La Tène *necropoleis*, located only a couple of kilometres to the east of the legionary base of Singidunum, were apparently abandoned shortly after the Roman conquest and certainly by the time the first permanent legionary camps were established under the Flavian emperors.<sup>136</sup> This parallels the developments attested in the hinterlands of Sirmium and Aquincum in Pannonia Inferior. As in Pannonia, the native settlements were abandoned in the course of the 1st century AD, the population either moving into the newly established agglomerations or retreating into the more remote sections of their hinterlands.<sup>137</sup> They did not have much choice as, at least in the cases of Singidunum

and Viminacium, the close proximity of the legionary camps indicates that that their land would have been expropriated by the military. To the south, in the basin of the South Morava, archaeological research has likewise proven that a number of prehistoric forts were abandoned by the time of the Roman conquest.<sup>138</sup> The historical sources referring to the time before the conquest list the names of a few strongholds of the people who inhabited this region, the Dardanians, but none of these toponyms appears in the sources from the period of the High Empire and none has been identified on the ground.<sup>139</sup>

In view of the chronological profile of its urban and urban-like settlements, Moesia Inferior differs slightly from the rest of the frontier provinces. (Figure II\_7, Table II\_9) At least 28 out of 51 agglomerated settlements, or about 56%, were founded after the conquest of the region and the creation of the province. The real percentage might have been higher because the settlements with uncertain chronology represent almost one-quarter of all agglomerated settlements in Moesia Inferior. One group consists of civilian and auxiliary *vici* whose exact location and character have yet to be determined.<sup>140</sup> Because there are no mentions of earlier remains at the putative sites of these settlements, the chances are that they also date to the period after the conquest. Far more problematic are the sites at which a pre-Roman phase has been supposed solely on the basis of isolated finds.<sup>141</sup> Even in the case of systematically excavated settlements, such as Tropaeum Traiani, one is reluctant to accept the interpretation of the settlement's stratigraphy.<sup>142</sup> Although it is prudent to remain sceptical about the date of these settlements, I am inclined to assign them to the group of newly founded sites. If future research confirms my intuitions, the number of new foundations in Moesia Inferior is likely to exceed 70% of all major agglomerations in this province.

Turning to the written sources, their percentage rises still higher. Because of their specialized function, the *stationes* and *emporia* along the main roads in the province must be taken into account. However, these were not always recorded in the itineraries and it is rather difficult to arrive at a safe estimate. Only six stations are mentioned in the itineraries on the roads between Oescus and Philippopolis, Durostorum and Odessa and Melita and Odessa.<sup>143</sup> At least some of these

<sup>135</sup> Margum: Ivanišević, Bugarski 2012, 239-255; Roman Tricornium has yet to be located, although it has been associated to the prehistoric settlement near modern Ritopek: Mirković 1968, 95-97; Mirković, Dušanić eds 1976.

<sup>136</sup> Todorović 1974.

<sup>137</sup> Jovanović 2008, 117-135.

<sup>138</sup> Although in this case, most of the chronology of the hill-top settlements is problematic, Petrović 1976; Fidanovski 1984, 35-43; Mirković 2007, 12-13.

<sup>139</sup> Papazoglou 1969.

<sup>140</sup> E.g. Camistrum: Gudea 2005, 411; Tautiomosis: Nikolov 1967, 216-235; Binev 2003, 160-182.

<sup>141</sup> E.g. Dimum: Mitova-Džonova 2003, 39-55; Axiopolis: Suceveanu, Barnea 1993, 159-179; Gudea 2005, 446.

<sup>142</sup> Barnea, Barnea et al. 1979.

<sup>143</sup> Data are taken from <http://omnesviae.org/>; the Pleiades Database

*mansiones*, such as Melta and Sostra on the Oescus-Philippopolis road, attracted permanent civilian settlements.<sup>144</sup> The true number of road-stations that were transformed into small agglomerations was certainly higher, although it should not be overestimated as this category partly overlaps with the categories of *vici* and *emporia*. The fact that some of the excavated road-stations in the region date only to the Late Roman period should also be pointed out.

*Emporium Piretensium*, the only known *emporium* in Moesia Inferior prior to the late 3rd century, has not yet been identified with a specific archaeological site but, given its Latin name and the fact that it was a dependency of Nicopolis ad Istrum – a city founded in the early 2nd century by Emperor Trajan, – it was most probably a new foundation.<sup>145</sup> There are no mentions of other *emporia* in Moesia Inferior in the Severan period. If more settlements of this type did exist, the chances are that they also belonged to the group of new foundations.

Adding the historically recorded road-stations and *emporia* to the list of newly founded settlements in Moesia Inferior will increase their number by at least 25%. However, it is possible that even this is not the final figure. Moesia Inferior boasts the highest number of epigraphically attested *vici* in the study-area.<sup>146</sup> The majority of these sites remain unidentified. Only a few have been studied by means of extensive surveys and the absence of a pre-conquest phase has not been securely demonstrated. Nevertheless, judging by the fact that a number of these settlements had Latin names and local institutions, they were most likely new foundations.<sup>147</sup> Far more controversial are their size and socio-economic profile. There have been claims that some of these sites stretched over dozens of hectares, but this has not been satisfactorily documented.<sup>148</sup> Unless it is proven that these settlements differed substantially from the average village, it is better to discard them from the analysis. Nonetheless, if all *vici* that had annually elected magistrates or public buildings are added, the share of the newly founded

segment of the settlement network will rise to almost 90%.

Despite the predominance of the newly founded sites, a sizeable segment of the settlement network of Moesia Inferior was inherited from the pre-conquest period. A Hellenistic phase has been proven at at least ten settlements and it is possible that another two or three will be added to the list after future archaeological research.<sup>149</sup> This amounts to about one-quarter of the settlements included in the analysis and it is visibly higher than the share of the pre-Roman settlements in Moesia Superior or Pannonia Superior. The great majority of these older settlements are the Greek colonies on the western Black Sea coast or their *emporia*. They were incorporated into the Late Republic after the wars with Mithridates and were later added to Moesia Inferior, although they retained a higher degree of autonomy than the new foundations in the interior.<sup>150</sup> Settlement continuity has also been confirmed at Byzone, Argamum and possibly Halmyra, but the character of some of these settlements under the High Empire remains vague.<sup>151</sup>

As on the Adriatic coast, it is possible to observe a slight de-urbanization in comparison to the pre-Roman period. Two, possibly three, of the old Greek foundations declined during the Late Republic and Early Empire. These include Byzone, a town that according to the written testimonies suffered damage in an earthquake prior to the Roman conquest and was re-established as an autonomous town only in Late Antiquity, Tirizis and Karen Limen.<sup>152</sup> However this tendency is somewhat negated by the written sources from the Roman period that mention a number of hitherto unattested ports of call on the western Black Sea coast.<sup>153</sup> Like the great majority of road-stations, they remain archaeologically invisible and one can only speculate about their origins.

Having run through the chronology of the settlements in the western part of the peninsula, the survival of the Greek colonies on the Black Sea coast in the Roman period is hardly a surprise. It was rather intriguing, however, to discover continuity on a number of sites

and Madžarov 2009.

<sup>144</sup> For Melta the evidence is mostly epigraphic CIL VI 2736, Gerov 1997, 23. The remains of the *mansio* and parts of the adjoining settlement at Sostra are clearly visible on Google Earth, Madžarov 2009, 201–215.

<sup>145</sup> Zawadzki 1964, 531–538; Gerov 1980, 204–208.

<sup>146</sup> Velkov ed. 1979, 286–296; Gerov 1980, 319–348; Doruțiu-Boilă ed. 1980; Poulter 1980, 729–744; Suceveanu, Barnea 1991, 45–46, 51; Avram 2007, 91–109.

<sup>147</sup> Doruțiu-Boilă ed. 1980, num. 21, 117; Petculescu 2006, 31–41; on the other hand, Suceveanu, Barnea 1991, argue that the names of most of these *vici* are native.

<sup>148</sup> For example, Snyagovo: Torbatov 2007, 46–56; *vicus Trullensium*, from which the epigraphic evidence suggests local officials and craftsmen, CIL III 14409, 14412, 3; Gerov 1997, 84–85; Velkov 1958, 557–565.

<sup>149</sup> The problematic entries are Axiopolis, Dimum: see fn. 141; Transmarisca: Velkov ed. 1980, 49–54; Gudea 2005, 429; and Aegyssus: Gudea 2005, num. 52; Petculescu 2006, 35. The last mentioned is also among the settlements mentioned in Ovid's letters, *Ex Pont.* 1.8, 13. Suceveanu, Barnea 1991, 23–26, 47; and this seems to be the main argument in support of the continuity of settlement at Aegyssus.

<sup>150</sup> Pippidi ed. 1975, 159–171; Velkov ed. 1979, 307–308; Grammenos, Petropoulos eds 2007.

<sup>151</sup> Byzone: Mihailov ed. 1970, 35–37; Argamum: Suceveanu, Barnea 1991, 47; Avram 2006, 59–67; Halmyris: Suceveanu, Angelescu 1988, 145–150; Suceveanu, Barnea 1991, 47.

<sup>152</sup> Byzone: Strabo 7.6.1; Pliny *HN* 4.11.44; Mihailov ed. 1970, 35; Mirčev, Tončeva, Dimitrov 1962, 21–109; Tirizis: Strabo *Geography* VII 6.1, Mihailov ed. 1970, 42–44; Balkanska 1980, 27–45; Karon Limen: Pomponius Mela, 2, 22, Mihailov ed. 1970.29–31;

<sup>153</sup> For example, Erite or Aristaeum, Pliny *Hist. Nat.* IV 11.45, Mihailov ed. 1970, 253–254.





Map II 2: The chronology of the settlements on the Lower Danube

on the Danube frontier. In the case of Halmyris, it has been proven that the first auxiliary fort was built on top of a settlement of the Getae after the end of the first Dacian Campaign, and this was certainly the case for Barboși and possibly Aegyssus.<sup>154</sup> Topical continuity has also been claimed for Dimum, Sexaginta Prista, Transmarisca and Axiopolis, but only on the basis of isolated finds.<sup>155</sup> To this group we might even add Troesmis mentioned by Ovid at the beginning of the 1st century AD, although archaeological research has yet to discover pre-conquest phases at this site.<sup>156</sup> As on the Middle Danube, the forts with securely attested pre-Roman phases in Moesia Inferior are concentrated on a relatively short section of the Danube *Limes*, stretching between the last major bend in the river and the Black Sea. (Map II\_2) Understandably, if we accept the pre-Roman date of Dimum, Sexaginta Prista or Transmarisca, a second cluster will emerge in the area between the mouths of the rivers Olt and Argeș. Although these examples are by no means entirely

exceptional, the fact remains that the majority of the auxiliary forts were new foundations.

It is not easy to come up with an explanation for the departure from the predominant pattern in the frontier zone. At present we know too little about the history and topography of these settlements to address the problem. One possible explanation lies in the importance of these *oppida* to the control of the river traffic on the Danube. The fact that in its lower course the river can only be crossed at a limited number of points is also a possible factor.<sup>157</sup> The Roman army surely made full use of the existing river-ports and bridge-heads, even prior to the full incorporation of the area in the Empire under Claudius. If this assumption is correct, it implies that the settlement network in this region was highly developed on the eve of the Roman conquest, leaving little room for new foundations. However, paradoxically, the evidence coming from other Getic *oppida* on both banks of the Danube suggests the abandonment or at least severe contraction at most of these sites.<sup>158</sup> Only the narrow *Limes* zone was exempted from this trend, stressing the importance of

<sup>154</sup> Halmyris: Zahariade 1997, 128-136; Aegyssus: Nuțu, Costea 2010, 147-162; Barboși: Țentea, Oltean 2009, 1515-1523.

<sup>155</sup> For Dimum and Axiopolis, see. fn. 141, for Transmarisca fn. 149; Sexaginta Prista was a pit-sanctuary, but not a settlement: Stančev 2003, 56-62; Hawthorne, Varbanov, Dragoev 2011, 59-83.

<sup>156</sup> Ovid *Ex Pont.* 4.9.79; Suceveanu, Barnea 1993, 164; for the latest archaeological research at this site, see, Alexandrescu, Gugl 2014, 289-306.

<sup>157</sup> Suceveanu, Barnea 1991, 19-21; Sarnowski 2007, 15-22.

<sup>158</sup> Babeș 1975, 125-136; Conovici 1980, 43-54; Turcu 1981, 65-87; a similar break has been observed in the hinterlands of the Pontic colonies; Avram 1991, 103-137; Avram 2006, 59-67.



this segment of the Danube Valley many decades prior to the final establishment of the *Limes*.

If future research confirms the pre-Roman phase at some of these garrison settlements, it will change our perception of the origin of the settlement network in Moesia Inferior dramatically. The share between the two chronological groups will be better balanced than that projected in this study. Perhaps most striking of all is the difference that will emerge between the Middle and Lower Danube *Limes*, both created at roughly the same time. For the moment we remain sceptical about this possibility, accepting the continuity only along short sections of the *Limes*.

## Thrace

Like Macedonia, only the northern part of Roman Thrace is included in this study. This is the part of the Roman province that lies in the territory of modern Bulgaria. Hence, a number of very important and large towns have been left out of the analysis. As most of these were ancient Greek colonies, the adjustment will probably reduce the true share of settlements with a pre-conquest phase. The northern frontier of Thrace was modified several times in the course of the 2nd century AD.<sup>159</sup> In this study we follow the border-line established under Septimius Severus, roughly coinciding with the central ridge of the Haemus Mountains. To some extent, this modification will balance the exclusion of the Greek colonies on the northern coast of the Sea of Marmara, because it leaves out of consideration two new foundations that belonged to Thrace during the 2nd century AD.

The part of Roman Thrace included in this analysis extended over an area of 65,000 sq. kilometres. This is very close to the size of the Pannonias and Moesias, although in its entirety Thrace was considerably larger, approaching or even exceeding Roman Dalmatia in size. Moving to the south of the Haemus Mountains, we return to an area that maintained close contacts with the Mediterranean world for centuries prior to the arrival of Rome. Urbanizing impulses had been sent out by the Greek colonies on the northern Aegean coast and in the Propontis and, commencing from the Hellenistic period, from ancient Macedonia.<sup>160</sup> Nonetheless, the interior of the country remained desperately under-urbanized compared to Illyria and Macedonia. Apart from a few key-points along the major roads in the interior - Seuthopolis, Pistiros, Cabyle - the urbanism of the pre-Roman period was limited to the narrow coastal belt.<sup>161</sup> There was a close resemblance between Thrace, Dalmatia and Moesia Inferior. In all three provinces

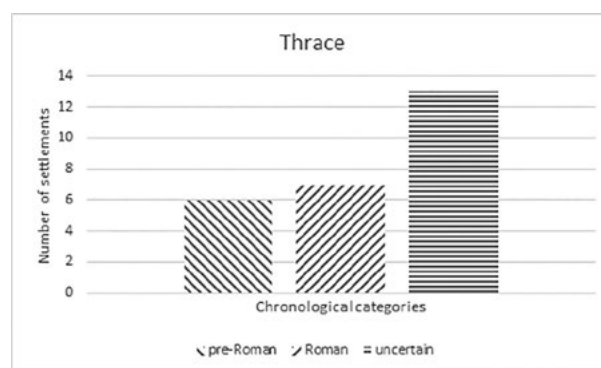


Figure II 8: The chronological profile of the major agglomerations in Thrace.

the coastal areas were poorly integrated with their interiors, despite the archaeologically and historically attested political and economic contacts between the two zones.

Thrace became a Roman province only in AD 45, several decades after the conquest and final pacification of the Pannonias and Moesias. In the preceding century, the area had been governed by a client kingdom.<sup>162</sup> This arrangement was maintained as long as the kingdom was politically stable and guaranteed security on the land routes between Asia Minor and the Balkan interior. In this respect the region differed from the Danube provinces and, despite the low rate of urbanization, a higher degree of settlement continuity was visible in Roman Thrace. Thrace was situated on the main inter-continental corridor between Europe and Asia Minor and its geostrategic role was reminiscent of Epirus and Macedonia, but the internal conditions in the centuries prior to the Roman conquest differed decisively between the provinces along the Via Egnatia.

Perhaps the most striking feature of Figure II\_8 is the relatively small number of entries. (for the individual entries see, Table II\_10) Only 26 towns and town-like subordinate settlements from the period of the High Empire were located in the northern part of Roman Thrace. Moreover, it is likely that this is an overestimate, because the list includes at least eight sites whose status at the time of the High Empire has not been clearly established and four or five *emporía* or road-stations that were not necessarily larger than the average *vicus* in Roman Thrace. This is a blunt indicator of the predominantly rural character of the province during the period of the High Empire. Outside the small category of self-governing towns, there are no clearly perceptible urbanizing tendencies. Whether compared to the frontier provinces on the Danube or the demilitarized provinces in the western Balkans, the

<sup>159</sup> Gerov 1998, 437-467; Tačeva ed. 2004, 58-78.

<sup>160</sup> Velkov ed. 1979, 168-175; Valeva, Nankov, Graninger eds 2015.

<sup>161</sup> Fol 1965, 309-317; Velkov ed. 1982; Bouzek 2005, 1-7.

<sup>162</sup> Gerov 1997, 3-84; Velkov 1981, 473-483.

Table II 10: List of towns and settlements in Thrace, their chronology and status.

| Name ancient and modern      | Pre-Roman phase | Status     | Name ancient and modern | Pre-Roman phase | Status     |
|------------------------------|-----------------|------------|-------------------------|-----------------|------------|
| Anchialos_Anchial            | Y (uncertain)   | Autonomous | Scaptopara_Blagoevgrad  | N (uncertain)   | Uncertain  |
| Apollonia_Sozopol            | Y               | Autonomous | Serdica_Sofia           | Y (uncertain)   | Autonomous |
| Augusta Traiana_Stara Zagora | N               | Autonomous | Spinopara_Konjavo       | N (uncertain)   | Uncertain  |
| Bessapara_Pazardjik          | N (uncertain)   | Uncertain  | Sportela_Rila           | N (uncertain)   | Uncertain  |
| Byzie_Vize                   | Y               | Autonomous | Templum Iovis_Obzor     | Y               | Secondary  |
| Cabyle_Yambol                | Y               | Garrison   | Unknown_Malko Tarnovo   | N (uncertain)   | Uncertain  |
| Cilis_Cherna Gora            | N (uncertain)   | Secondary  | Tonzos_Sliven           | N (uncertain)   | Uncertain  |
| Deultum_Debelt               | N               | Autonomous |                         |                 |            |
| Diocletianopolis_Hisarya     | N               | Secondary  |                         |                 |            |
| Discoduratera_Slavejkovo     | N               | Secondary  |                         |                 |            |
| Germania_Sapareva Banya      | N               | Garrison   |                         |                 |            |
| Unknown_Pernik               | Y (abandoned)   | Uncertain  |                         |                 |            |
| Longinopara_unknown          | Y (uncertain)   | Uncertain  |                         |                 |            |
| Mesembria_Nesebâr            | Y               | Apollonia  |                         |                 |            |
| Nicopolis ad Nestum_Gârmén   | N               | Autonomous |                         |                 |            |
| Parembolē_Belozem            | N (uncertain)   | Secondary  |                         |                 |            |
| Pautalia_Kyustendil          | Y (uncertain)   | Autonomous |                         |                 |            |
| Philippopolis_Plovdiv        | Y               | Autonomous |                         |                 |            |
| Pizus_unknown                | N               | Secondary  |                         |                 |            |

degree of urbanization in Roman Thrace is surprisingly low. Given the abundant fertility of the land along the Maritza and Toundja and its role in the trans-continental road-network,<sup>163</sup> it is unlikely that this was a simple side-effect of the omission of the highly urbanized coastal zone.

Archaeological research has confirmed a continuous occupation at six settlements or slightly less than one-quarter of all agglomerations included in the analysis. Their number could increase to eight if we take the scattered residual remains from Serdica and Pautalia in the northwest of the province as a definitive proof for a pre-conquest urban phase.<sup>164</sup> Continuity has also been claimed for the port station of Templum Iovis, known from Late Roman itineraries and identified with Naulochos mentioned by Strabo as an *emporium* of Messembria.<sup>165</sup> Finally in two cases, Anchialos and Augusta Trajana, the prevalent view is that the Roman towns were located in the immediate vicinity of the

pre-Roman urban settlements, thereby implying a quasi-topical continuity. It has to be stressed that in neither of these cases has the Hellenistic settlement been identified or researched.<sup>166</sup> It is possible that the hill-top settlement near modern Pernik also belonged to this group, but the remains from the Roman period at this site have been interpreted as the vestiges of a villa or farmstead.<sup>167</sup>

It is difficult to evaluate the impact of the annexation of the kingdom by Rome on the existing settlement patterns in Thrace. Traditionally, Bulgarian scholarship has observed an urban decline in the 3rd and 2nd century BC, relating it to the Celtic invasions and 'the general political and economic crisis of the Hellenistic world', rather than to the arrival of the Romans.<sup>168</sup> Indeed some of the pre-Roman urban or proto-urban centres, like Seuthopolis or the *emporium* of Pistyros, were abandoned long before the Roman legions

<sup>163</sup> The Naval Intelligence Division 1920a, 28.

<sup>164</sup> Pautalia: Spasov, Vandova, 2002, 171-177; Serdica: Stančeva 1966, 230-235; the pre-Roman layers at Serdica have lately been disputed; Ivanov 2012, 76-81.

<sup>165</sup> Strabo 7.6.1; Mihailov ed. 1970, 252-253; Venedikov *et al.* 1969.

<sup>166</sup> Augusta Trajana: Nikolov 1987, 96-107; in this case, the only indication of a pre-Roman origin is the Late Antique name of the town, Beroe, relating it to the colonizing activities of Philip II; Velkov ed. 1979, 203-211; Tačeva 1987, 129-147. Anchialus: Stojanov 1993, 17-25.

<sup>167</sup> Čangova *et al.* 1981.

<sup>168</sup> Velkov ed. 1979, 211-217; Mihailov 1979, 263-271.

advanced into Thrace.<sup>169</sup> As in Dalmatia and in other parts of our study-area, it seems that the number of pre-Roman *oppida* was many times higher than the number of settlements established after the conquest. However, neither the chronology nor the precise character of these settlements is fully understood.<sup>170</sup>

The number of settlements founded after the Roman conquest is slightly higher than those dating to the pre-conquest period. At least seven major settlements were founded after the annexation of the Thracian kingdom, including a Roman colony at Deultum.<sup>171</sup> These include the problematic case of Augusta Trajana, as well as Diocletianopolis and Germania that were possible Late Roman foundations.<sup>172</sup> However, as in the rest of the provinces in our study-region, the number of new foundations must have been much higher. The limited archaeological research at the supposed sites of road-stations has often revealed nucleated civilian settlements, such as Scretisca, Burgaraca, Sub-Radices or Cilis, located along the main road between Naissus and Byzantion and on the road between Oescus and Philippopolis.<sup>173</sup> About a dozen and a half road-stations have been recorded in the itineraries on the Diagonal Road alone, on the section between *mansio Turres* and Hadrianopolis, and their number will probably increase to a couple of dozens if the roads between Philippopolis and Anchialus and Oescus and Philippopolis are included.<sup>174</sup> A note of caution is necessary however, as in some cases, the archaeological remains do not predate the Late Roman period, as at Scretisca for example. But even if only half of these establishments developed into permanent settlements under the High Empire, it will still increase the number of new foundations by about 150%.

Discussing the chronology of the settlement pattern in Moesia Inferior, it was pointed out that a considerable proportion of the rural settlements were also founded after the conquest of the region. This category is even more prominent in Thrace than in Moesia Inferior, the former including over half of the rural settlements mentioned in the epigraphic record of the Eastern Balkans.<sup>175</sup> None of these communities can be qualified as urban or urban-like. In contrast to Moesia Inferior, the great majority of the Thracian *komai* are mentioned only indirectly, as the places of origin of veteran

soldiers or in official decrees issued by the provincial government.<sup>176</sup> Epigraphic evidence of local magistrates is lacking, while their names are purely Thracian. Thousands of these small hamlets can be postulated in Roman Thrace alone, sheer numbers making it technically impossible to include this segment of the settlement network in the analysis. Finally, the character of the data related to the supposed sites of some of these rural settlements does not allow us to decide if they were newly founded or if they had been in existence at the time of the Roman conquest.

Because of the uncertain chronology of so many of its large, autonomous towns, it is prudent to refrain from jumping to conclusions about the formation of the settlement map of Roman Thrace. Four out of six pre-Roman settlements were autonomous towns that inherited their status from the pre-conquest era. However, most of these towns were Greek colonies that essentially belonged to a different urban system. Although numerically superior, the list of newly founded settlements includes at least three or four sites that were either not autonomous towns or grew in importance only in the Late Roman period. Nevertheless, even if we exclude the towns whose founding dates are uncertain, the Roman period introduced at least 30-40% of the urban map of the province. Whether the newly founded settlements were still merely a complement to the existing urban network or the predominant element in the new urban map of Roman Thrace can only be decided by future research on the towns in western Thrace.

## Dacia

Although officially made up of three separate provinces, Dacia shall be treated as a single territorial unit. With a few exceptions, all of the larger civilian settlements were located in *Dacia Apulensis*, the central and largest part of the region. The other two provinces represented little more than military zones, buffers between the *Barbaricum* and the urbanized core of the province. Their combined territories cover roughly 95,000 sq. kilometres, approaching the size of Dalmatia. This was the last province in this study-region that was incorporated into the Empire. It was also the first province evacuated, as early as the second half of the 3rd century, and therefore it offers a much clearer insight into the original pattern of urbanization than the rest of the provinces in which the Late Roman period introduced significant alterations in the topography of individual towns and in the overall settlement pattern.

<sup>169</sup> Dimitrov, Chichikova 1978; Bouzek, Domaradzki, Archibald eds 1996.

<sup>170</sup> Panayotov 1978, 306-314; Milanov 1980, 195-197; Milčev 1980, 343-364; Bouzek, Domaradzka eds 2005.

<sup>171</sup> Gerov 1980, 83-92.

<sup>172</sup> Diocletianopolis: Madžarov 1993; Germania: Stajkova-Aleksandrova, Stajkova 2003, 202-214. For Augusta Trajana see fn. 166.

<sup>173</sup> Scretisca: Božilova 1987, 76-81; Dinčev 2008, 123-133; Burgaraca: Gerov 1998, 78-80; Madžarov 2009, 201-215.

<sup>174</sup> The data are taken from [www.omnesviae.org](http://www.omnesviae.org) and the Pleiades Database; Mihailov ed. 1961; Mihailov ed. 1964.

<sup>175</sup> Martemianov 2012, 40-52.

<sup>176</sup> Recently Mihailescu-Bîrliba, Răileanu 2014, 193-205, have collected a number of examples from the territory of Nicopolis ad Istrum and elsewhere in Thrace.

The pace of settlement foundation in Dacia is mind-boggling: between 62 and 76 newly founded settlements – including garrison sites – were established within a single century! The fact is even more astonishing set against the known historical background of the Roman conquest.<sup>177</sup> Although apparently not uncontroversial, all historical and archaeological evidence supports the view that the conquest of Dacia was a ruthless and systematic campaign of extermination.<sup>178</sup> In no other province in this part of the Empire did the war of conquest leave such a powerful impact on the ethnic and social composition of the urban population. Despite the disruption, when it comes to the discontinuity in the settlement patterns between the pre-Roman and Roman periods, Dacia does not differ substantially from the rest of the Danube provinces. It merely offers a more extreme manifestation of the general tendency observed in the regions along the Danube.

Virtually all major agglomerated settlements in Roman Dacia were established after the conquest of the province. (Figure II\_9, Table II\_11) The list of settlements contains ten or 11 self-governing towns; the rest being *vici* that developed around auxiliary forts and road-side settlements – hence, the very high number of settlements in comparison to some of the demilitarized provinces. Comparatively speaking, Dacia boasts a satisfactory degree of research on both the urban centres and especially on the auxiliary forts. Although until recently, scholars were still hesitant about the possible Dacian origins of Apulum or Napoca, recent excavations have shown that all major towns in Roman Dacia are green-field foundations, dating back to the reigns of Trajan and Hadrian.<sup>179</sup> No earlier levels have been found and, therefore, it would seem that the continuity thesis has largely been based on the toponyms or the persistence of certain artefact types, like Dacian hand-made pottery, into the Roman period. Although concrete evidence is often lacking, the same can be assumed for the auxiliary camps. In a large number of cases, the earliest earth-and-timber levels have been reached and there has been no mention of earlier, pre-Roman layers.<sup>180</sup>

The group of uncertain entries – 14 or nearly 20% of the total – includes road-stations and mining camps, known only from historical sources, and the supposed sites of auxiliary forts, whose remains cannot be located or that were possibly abandoned. Although it can be safely assumed that most sites of the latter category did not have a pre-conquest phase, the discovery of a handful of auxiliary forts at the sites of pre-Roman

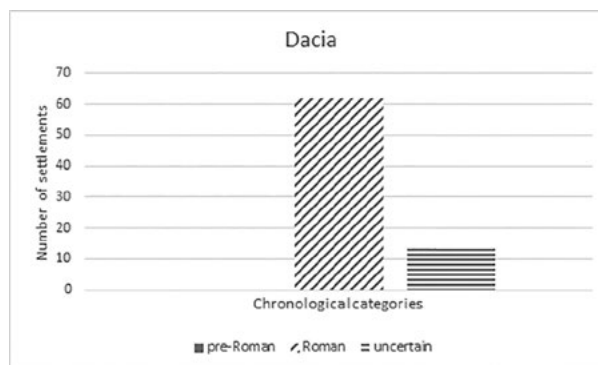


Figure II 9: The chronological profile of the major agglomerations in Dacia.

*oppida* on the Middle and Lower Danube sends out some warning signals that such developments are not inconceivable.<sup>181</sup> On the basis of what is known from the rest of the provinces in the study-region, the same can be assumed for most of the road-stations and mining camps in Roman Dacia.

The Dacian experience poses a weighty argument against the claims that the lack of continuity in the central places in the provinces along the Danube is the result of the somewhat simplified view that the native societies lacked the necessary degree of complexity and urbanization. Nobody will deny that pre-conquest Dacia was a proto-state society with developed institutions and priestly and warrior classes.<sup>182</sup> The settlement hierarchy of pre-conquest Dacia was anything but simple. At least four different settlement types have been recognized by archaeologists working in this region, all existing contemporaneously during the two centuries prior to the Roman conquest.<sup>183</sup> These range from small, open hamlets to fortified hilltop settlements, sometimes surrounded by monumental walls that are no less sophisticated than those of the Hellenistic foundations in Epirus or Illyria. In addition, there is a clear evidence for specialized, industrial activities at some of these sites, the smelting of iron-ore in particular.<sup>184</sup> Finally, the literary evidence points unambiguously to the presence of a Dacian capital, a supra-regional centre at Sarmizegetusa Regia.

The new provincial government retained none of the old Dacian central places. Not only were the dozen hill-forts and settlements built on terraces in the

<sup>177</sup> Hanson, Haynes eds 2004; Strobel 2006, 105-114; Oltean 2007.

<sup>178</sup> Ruscu 2004, 76-87; provides a concise examination of the epigraphic, historical and archaeological evidence. For a more moderate view, see, Nemeti 2006, 86-98.

<sup>179</sup> Diaconescu 2004, 87-142.

<sup>180</sup> Gudea 1997.

<sup>181</sup> For example, this claim has been made for Sucidava, in which indeed, the micro-topographic unit occupied by the Late Roman fort does have the appearance of a typical *oppidum* of the Getae, but the archaeological period dating to the Late La Tène is scarce and no evidence has been provided for the location of the camp under the High Empire; Tudor 1965.

<sup>182</sup> Crişan 1978; Daicovicu ed. 1981; Oltean 2007, 47-53.

<sup>183</sup> Lockyear 2004, 33-74.

<sup>184</sup> Moga 1981, 103-116; Oltean 2007, 60-118.

Table II 11: List of towns and settlements in Dacia, their chronology and status.

| Name ancient and modern     | Pre-Rom          | Status     | Name ancient and modern   | Pre-Rom          | Status   | Name ancient and modern      | Pre-Rom          | Status     |
|-----------------------------|------------------|------------|---------------------------|------------------|----------|------------------------------|------------------|------------|
| Bulci_Bulci                 | N<br>(abandoned) | Garrison   | Unknown_Sărăteni          | N                | Garrison | Unknown_Gilău                | N                | Garrison   |
| Cenad-Cenad                 | N<br>(abandoned) | Garrison   | Unknown_Odorheiul         | N                | Garrison | Unknown_Gherla               | N                | Garrison   |
| Translederata_St. Palanka   | N<br>(abandoned) | Garrison   | Unknown_Inlăceni          | N                | Garrison | Germisara_Cigmău             | N                | Garrison   |
| Arcidava_Varadia            | N                | Garrison   | Unknown_Sănpaul           | N<br>(abandoned) | Garrison | Unknown_Orastioara           | N                | Garrison   |
| Unknown_Vrșac               | N<br>(abandoned) | Garrison   | Unknown_Olteni            | N                | Garrison | Salinae_Razboieni            | N                | Garrison   |
| Aizizis_Farliuga            | N<br>(abandoned) | Garrison   | Angustia_Bretcu           | N                | Garrison | Apulum_Alba Iulia            | N                | Garrison   |
| Dierna_Orsova               | N                | Autonomous | Unknown_Boroșneu          | N                | Garrison | Potaissa_Turda               | N                | Garrison   |
| Praetorium I_Mehadia        | N                | Garrison   | Cumidava_Rasnov           | N                | Garrison | Drobeta_Turnu Severin        | N                | Garrison   |
| Ad Pannonios_Teregovia      | N                | Garrison   | Unknown_Hoghiz            | N                | Garrison | Napoca_Cluj                  | N                | Autonomous |
| Tibiscum_Jupa               | N                | Garrison   | Unknown_Cincșor           | N                | Garrison | Ampelum_Zlatna               | N                | Autonomous |
| Sarmizegetusa_Sarmizegetusa | N                | Autonomous | Unknown_Feldioara         | N                | Garrison | Castellum Artum_Unknown      | N<br>(uncertain) | Uncertain  |
| Micia_Vețel                 | N                | Garrison   | Caput Stenarum_Boița      | N                | Garrison | Vicus Pirustarum_unknown     | N<br>(uncertain) | Uncertain  |
| Resculum_Bologa             | N                | Garrison   | Unknown_Slăveni           | N                | Garrison | Unknown_Comălau              | N                | Garrison   |
| Bucium_Bucium               | N                | Garrison   | Romula_Resca              | N                | Garrison | Optatiana_Sutor              | N                | Garrison   |
| Largiana_Romanasi           | N                | Garrison   | Acidava_Enosești          | N                | Garrison | Sucidava_Celei               | N                | Secondary  |
| Certiae_Romita              | N                | Garrison   | Rusidava_Dragasheni       | N<br>(abandoned) | Garrison | Unknown_Islaz                | N                | Garrison   |
| Porolissum_Moigrad          | N                | Garrison   | Buridava_Stolniceni       | N                | Garrison | Alburnus Maior_Rosia Montana | N<br>(uncertain) | Uncertain  |
| Unknown_Tihău               | N                | Garrison   | Castra Trajana_Sombatești | N                | Garrison | Ad Mediam_Baile              | N<br>(uncertain) | Uncertain  |
| Samum_Casieu                | N                | Garrison   | Unknown_Rădăcinești       | N                | Garrison | Pelendava_Craiova            | N                | Uncertain  |
| Unknown_Ilișua              | N                | Garrison   | Arutela_Bivolari          | N                | Garrison | Unknown_Rățari               | N                | Garrison   |
| Unknown_Orheiul Bistriței   | N                | Garrison   | Unknown_Tițești           | N<br>(abandoned) | Garrison | Unknown_Catunele             | N<br>(uncertain) | Garrison   |
| Unknown_Brancovenești       | N                | Garrison   | Praetorium II_Copaceni    | N                | Garrison | Unknown_Bumbești             | N                | Garrison   |
| Unknown_Călugăreni          | N                | Garrison   | Pons Vetus_Cainenii       | N                | Garrison |                              |                  |            |
| Unknown_Cămpulung           | N                | Garrison   |                           |                  |          |                              |                  |            |
| Unknown_Săpata de Jos       | N                | Garrison   |                           |                  |          |                              |                  |            |
| Unknown_Urluieni            | N                | Garrison   |                           |                  |          |                              |                  |            |
| Unknown_Baneasa             | N<br>(uncertain) | Garrison   |                           |                  |          |                              |                  |            |
| Unknown_Micăsasa            | N                | Secondary  |                           |                  |          |                              |                  |            |
| Unknown_Cristești           | N                | Uncertain  |                           |                  |          |                              |                  |            |
| Unknown_Sighișoara          | N                | Secondary  |                           |                  |          |                              |                  |            |



Oraştie Mountains abandoned, this entire region was simply relinquished. In fact, there is very little evidence of any kind of settlement in this area after the demise of the Dacian kingdom. Evidence of the systematic and thorough-going destruction of temples and sanctuaries is plentiful and it certainly points to a policy of methodical eradication of everything that could be associated with the Dacian past. Nevertheless, it is difficult to explain why the pragmatic Roman conqueror avoided the area so determinedly, despite the fact it was known to be rich in iron-ore and other resources.<sup>185</sup> Apart from sheer ideological reasons, the difficult terrain and its remoteness from the main corridor along the Mureş, were probably also major deterrents.

The programmatic interest of Romanian archaeologists in the Classical Dacian period was rewarded by the discovery of a number of traditional rural settlements that survived the Roman conquest.<sup>186</sup> These findings offered undeniable evidence that the Roman conquest did not result in a complete genocide of the Dacian people. The Dacian peasants continued to live as they had done for centuries before, in small farmsteads or hamlets, but the social elite, the Dacian aristocracy, was definitely removed and it played no role in the formation of the new provincial aristocracy. However, the case studies from the rural sectors of Moesia Inferior and Thrace demonstrate that it would be wrong to imagine the rural sector as completely static, undisturbed by the conquest and subsequent colonization. In Dacia, the epigraphic evidence has so far only revealed a few names of possible *vici*, and it is possible that these refer to the special-purpose settlements in the mining districts of the province rather than to purely agrarian settlements.<sup>187</sup> In order to consider the degree of continuity in the Dacian countryside, it is necessary to turn to the archaeological evidence. Fortunately, a relatively large number of rural settlements in Dacia have been subjected to some form of archaeological research, including excavations. This allows us to look into their origins, size and structure.<sup>188</sup>

Table II 12: The number of old and newly founded rural settlements in Dacia.

| Roman | Pre-Roman | Uncertain |
|-------|-----------|-----------|
| 12    | 7         | 37        |

<sup>185</sup> Oltean 2007, 101-07.  
<sup>186</sup> Glodariu 1981; Oltean 2007, 143-150.  
<sup>187</sup> CIL III 8060; AE 2012: 1237.  
<sup>188</sup> Most of the data come from Protase 1980b, 43-85, complemented by Gudea 2009, 187-319. The main trouble with these sources is the confused criteria used to distinguish traditional hamlets and villages from Roman *villae*. Table II\_12 includes only those settlements in which the archaeological evidence indicates the existence of an agglomerated settlement with traditional houses with sunken floors. For a synthesis, see Oltean 2007, 143-150.

According to some estimates, the total number of rural sites in Roman Dacia, including *villae*, is between 700 and 800. Of these, 226 have been defined as rural agglomerations or hamlets and villages.<sup>189</sup> Their true number is probably much higher but, even if we assume that there were twice as many rural settlements in Roman Dacia, our sample of 56 settlements is random and fairly representative. Unsurprisingly most of these sites have been subjected only to unsystematic studies of the surface material and their chronology is uncertain. However, where excavations have been carried out, the results echo the situation in the rural sector of Moesia Inferior. In fact, at the majority of the excavated sites, there is no evidence of pre-Roman layers. Furthermore, the number of sites that continued from the pre-Roman period includes problematic cases, possibly abandoned soon after the conquest or with a Middle La Tène but without a Classical Dacian phase. Therefore, although the level of change in life-style and material culture in the Dacian countryside remains debatable,<sup>190</sup> a considerable proportion of the rural settlements show no evidence of a topical continuity. This certainly does not challenge the thesis of an overall demographic continuity, but it does point to significant population movements within the borders of the province in the aftermath of the Roman conquest.<sup>191</sup> Seen in the context of the radical changes in the urban geography of the province and the accompanying redistribution of the acquired territory between the Roman colonists, the army and imperial government, these developments are readily understandable.

Conclusions: the overall distribution and the spatial aspect

From the totals, it is clear that the Roman period had by far the greater share in the creation of the settlement network in the study-region. (Figure II\_10) 205 out of 400 agglomerations included in this analysis were certainly founded after the Roman conquest. Their numbers will rise if we allow that at least half of the sites classed as uncertain also lacked a pre-conquest phase; a reasonable assumption in view of the fact that the majority of the uncertain sites are made up of auxiliary *vici* and road-stations. These categories of special-purpose sites were unknown to the native societies in our study-region. Although this fact does not exclude topical continuity, it is obvious that the central places of the pre-Roman societies occupied very different types of micro-locations to those normally associated with a Roman auxiliary fort or a road-station. It is impossible to be too certain about the group of poorly documented settlement-sites encountered in the countryside or in

<sup>189</sup> Gudea 2009, 197-199.  
<sup>190</sup> In contrast to earlier scholars, Gudea 2009, 194-196, has stressed the high degree of romanization in the Dacian countryside.  
<sup>191</sup> Protase 1980b, 82-83, has arrived at a similar conclusion.

the mining districts, but it is symptomatic that at none of these sites do the archaeological reports refer to earlier phases. In this context it is interesting to mention that, despite the overall prevalence of the newly founded settlements, over half of the autonomous towns in the study-area were still inherited from the pre-Roman period. This figure demonstrates that most of the newly founded segment of the settlement network consisted of subordinate central places. As we shall see below, however, this is an estimate that requires a more explicit elucidation.

Only a very small number of uncertain sites are likely to join the category of pre-Roman foundations. These are those at which the earlier phase has been attested only by individual finds or at which it is unclear if the settlement truly continued to exist after the Roman conquest. Consequently, it is possible that over two thirds of the total number of agglomerated settlements were founded after the Roman conquest, not taking into account all major road-stations attested in the itineraries. It is difficult to arrive at a more precise estimate, not because of the vexed chronology of these site-categories, but because of their uncertain nature during the period of the High Empire. The chief difference is made by the road-stations or military outposts that experienced urban growth only in the period of Late Antiquity. If these sites grew into real agglomerations only under the Late Empire, the percentage of the newly-founded settlements will decrease to slightly over 50%. But this dilemma is more relevant to the degree of urbanization in the period of the High Empire than to the issue of continuity from the pre-conquest period.

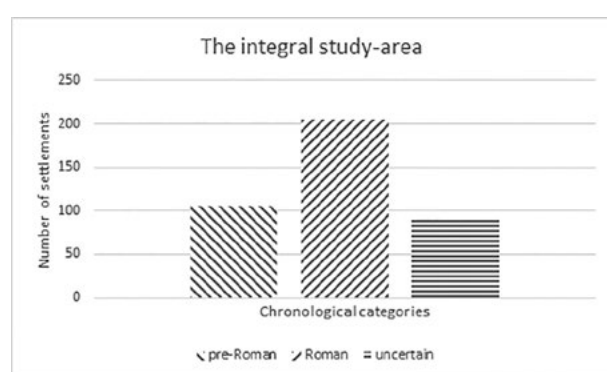


Figure II 10: The chronological profile of all Roman settlements in the study-region.

Less than 30% of the settlements included in this analysis were inherited from the pre-conquest period, even if we add the problematic cases to the count. Although a minority, they represent a substantial proportion of the total number of settlements included in the analysis. In fact, this percentage will rise if the

analysis is limited to the autonomous towns. However, seen from a different angle, Figure II\_10 overestimates the input from the pre-Roman period. The majority of the Roman towns inherited merely the location of their predecessors. Nothing or very little is known about the topography of these settlements during the Hellenistic period. Almost nothing survives of Hellenistic Salona or Iader, and only very small segments of the topography of Stobi and Philippopolis can be dated to the Hellenistic period. Nearly all public monuments, the private houses and much of the infrastructure were constructed during the period of the High Empire. This is probably true of over half of the sites dating to the pre-conquest period. The Roman character of these towns can hardly be questioned, even when much of the population, the name and institutions survived the period of conquest and incorporation. Only at a small number of sites in the northern Adriatic, in southern Illyria, northern Epirus and Macedonia do we find the Roman town continuing its existence in the discarded shell of its Hellenistic predecessor. These towns amount to no more than 7 or 8 percent of the total number of agglomerated settlements during the period of the High Empire.

The chronological profile of the Roman settlements in the provinces of our study-region reveals only one aspect of the issue. Indubitably, it has helped us determine the proportion of the settlement network founded after the conquest of the area, but it does not say anything about their spatial distribution. From the very outset of this study, it has been clear that the new foundations are not evenly distributed across the study-region, but we had only a vague idea of the extent and distribution of the two segments of the network. It is now possible to draw a more concrete boundary between the two zones and examine the areas in which the two chronological groups are interspersed. It has to be borne in mind that the stages of conquest of the region will contribute to a better understanding of the evolution of the entire network.

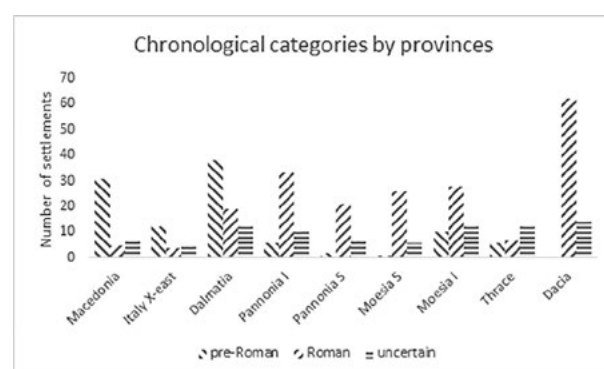
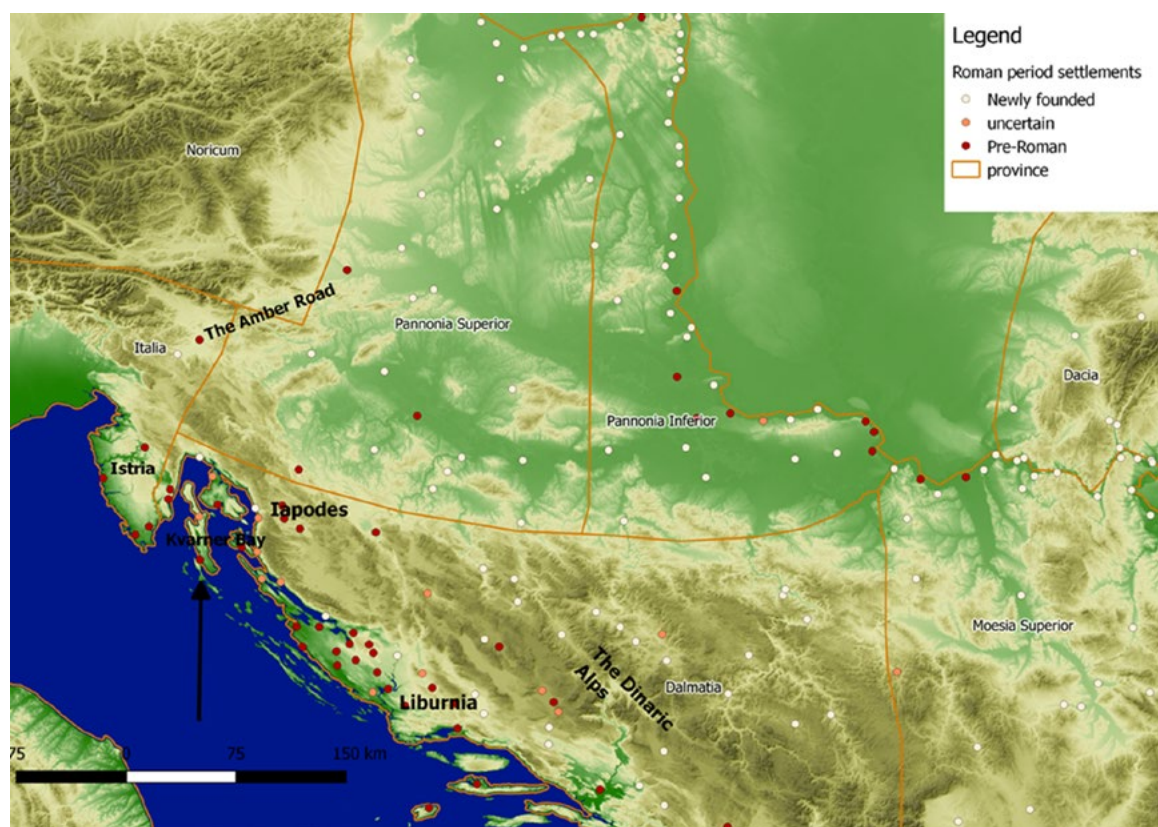


Figure II 11: The chronological profile of the Roman settlements by provinces.



Map II 3: The chronology of the towns and settlements in the northwest Balkans.

The zone of pre-Roman settlement largely coincides with the western coast of the Balkan Peninsula and the northern Aegean. (Figure II\_11) These are the parts of the Roman provinces of Macedonia, and Italy X included in our study-region and the coastal section of Dalmatia. Nearly 80% of all settlements with a pre-conquest phase are limited to the western and southern peripheries of the study-region. These are the towns in which the first communities of Roman citizens were established after the final conquest and pacification of the region.<sup>192</sup> The high urban density inherited from the pre-conquest period made the construction of military forts or new civilian colonies unnecessary. However, the development was not uniform in the zone of pre-Roman settlement and, by the time of the High Empire, some of the old towns had been granted a Latin charter.

In the north, the line that separates the zone of old and new settlement is primarily a physical and climatic one. It basically coincides with the main ridge of the Dinaric Alps that acted as both a political and ethnic frontier. (Map II\_3) The areas beyond the coastal zone, with the possible exception of that of the Iapodes on the Amber Road, underwent profound changes in their settlement pattern after the Roman conquest. In the south, the

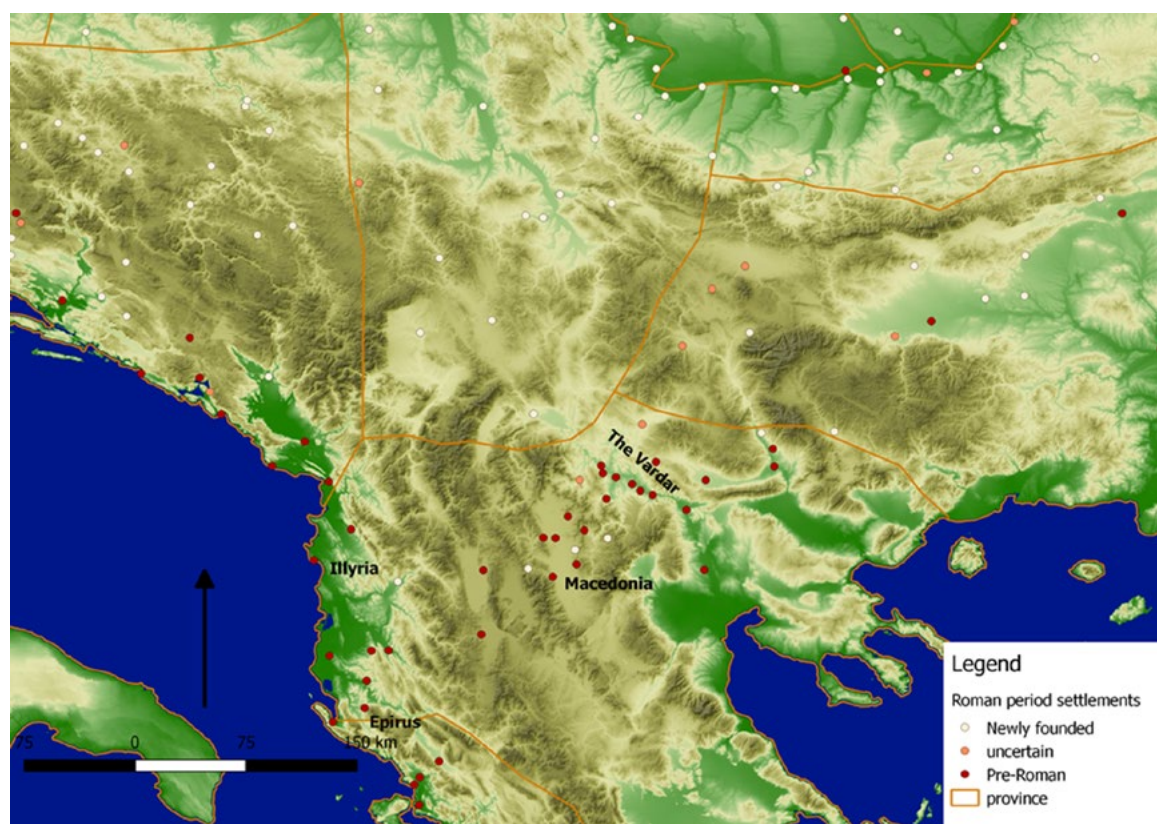
border was principally political and it roughly followed the western and northern frontiers of the Illyrian and Macedonian kingdoms. (Map II\_4) On the western and northern peripheries of these kingdoms – the areas in which the sovereignty of the monarchs was challenged by the neighbouring polities – urbanization failed to take hold and they remained thinly urbanized throughout the Principate.<sup>193</sup> Only in the core of the two kingdoms do we see real continuity in the urban network.

A fairly wide under-urbanized belt can also be observed along the contact zone between the two segments of the settlement network along the northern and western peripheries of the ancient Macedonian and Illyrian kingdoms. (Map II\_4) Here the distances between the peripheral settlements in the zone of pre-Roman urbanism and the nearest newly founded settlements are rarely less than 80 km. In contrast to this, the distances between neighbouring settlements in the central parts of the zone of pre-Roman urbanism do not exceed 30-40 km and, in some micro-regions, they drop to as few as ten to 15 kilometres. With the exception of

<sup>192</sup> Wilkes 1969, 36, 57, 192-219.

<sup>193</sup> Papazoglou 1969, provides a detailed account of the wars between the Macedonian kingdom and the Dardanians and the Dardanian incursions into the Roman province of Macedonia.





Map II 4: The chronology of the towns and settlements in the southern Balkans.

the Istrian Peninsula and the Kvarner Bay area, in the northern half of the pre-Roman urban belt this lacuna is barely evident. (Map II\_3) Along the Dalmatian coast, the new foundations were often located close to the coastal zone, separated by distances no greater than 30 km. (Map II\_5) The possible continuity at some agglomerated settlements in the interior of Dalmatia blurs the line of demarcation between the two zones even more.<sup>194</sup>

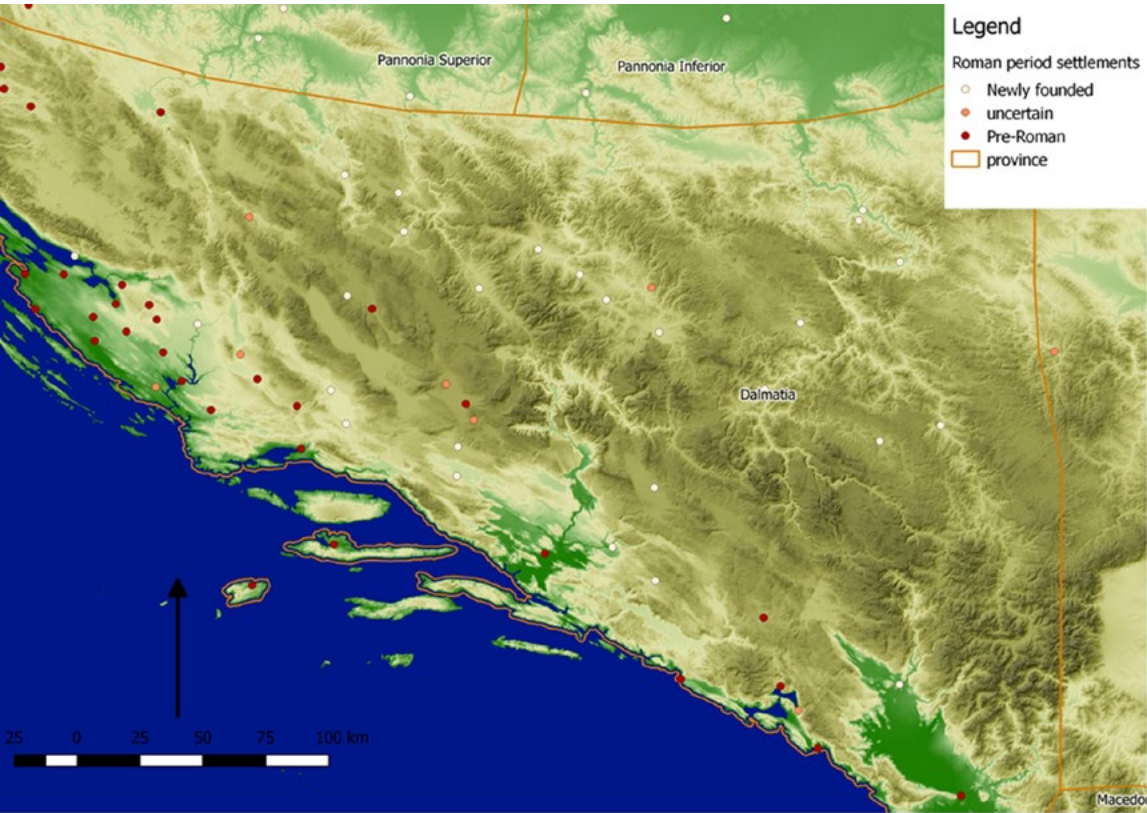
Only about 15% of the pre-Roman towns that were integrated into the Roman settlement network are located in the eastern half of the peninsula. They are limited to the Black Sea coast and the central parts of continental Thrace. (Map II\_6) Although geographically it belongs to the belt of pre-Roman settlement, Thrace differs decisively from the highly urbanized provinces in the west of the peninsula and, two centuries after the incorporation of the area into the Empire, it still remained relatively under-urbanized. In contrast to the intercity distances in the belt of pre-Roman urbanism in the western Balkan provinces, the Thracian

settlements are spaced at distances of more than 70-80 kilometres. The remaining pre-Roman settlements in the eastern half of the peninsula were made up of the string of Greek colonies on the Black Sea coast. With inter-city distances of less than 50 kilometres, they conform more closely to the pre-Roman standard of urbanization. (Map II\_7) Although the western Black Sea coast was not as isolated from the interior as the eastern Adriatic, the interiors of Thrace and especially of Moesia Inferior, remained predominantly rural in the Early Roman period. The reduced impact of the Greek colonies is reflected in the relatively short distances that separated them from the newly founded settlements in the interior.<sup>195</sup> This same factor, in conjunction with the Dinaric Alps, was the underlying reason behind the short intercity distances along the edges of the two zones in the western Balkans.

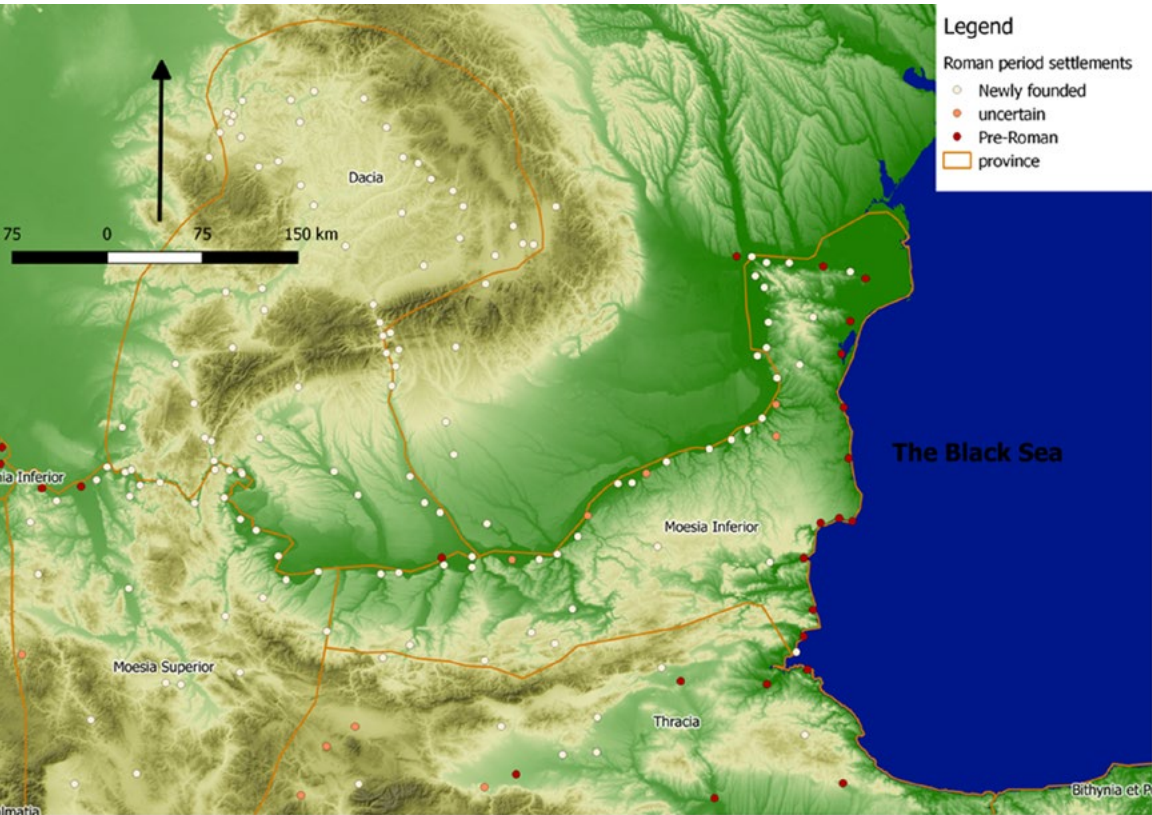
We have seen that only a segment of the pre-conquest settlement network survived the Roman conquest and this was especially evident in the western Balkan provinces. There was an apparent contraction in the number of major fortified settlements in all highly urbanized areas along the eastern Adriatic and in Upper Macedonia in the period between the conquest of the region and the High Empire. If the maps of settlements

<sup>194</sup> Bižić-Drechsler 1975, 167-168; Bižić-Drechsler 1986, 107-127; Bojanovski 1974, 184. It is possible that at least in some of these *oppida* the Roman period was actually a phase of gradual abandonment, cf. the better researched *oppida* in Pannonia, often showing continuous occupation throughout the 1st century AD; Jovanović, Jovanović 1988; Majnarić-Pandić 1984, 23-34.

<sup>195</sup> Gerov 1998, 450-451; Velkov ed. 1979, 304.

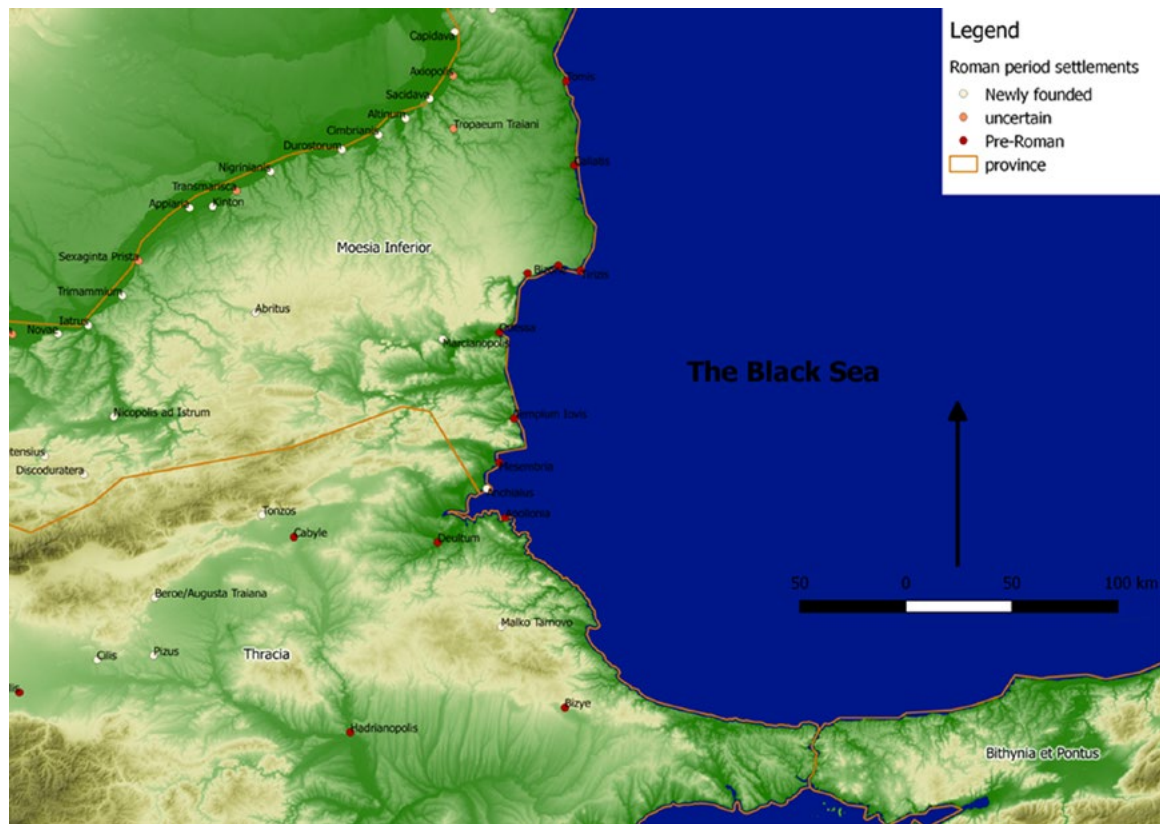


Map II 5: The chronology of the towns and settlements on the central Dalmatian coast.



Map II 6: The chronology of the settlements in the eastern Balkans.





Map II 7: The chronology of the settlements on the western Black Sea coast.

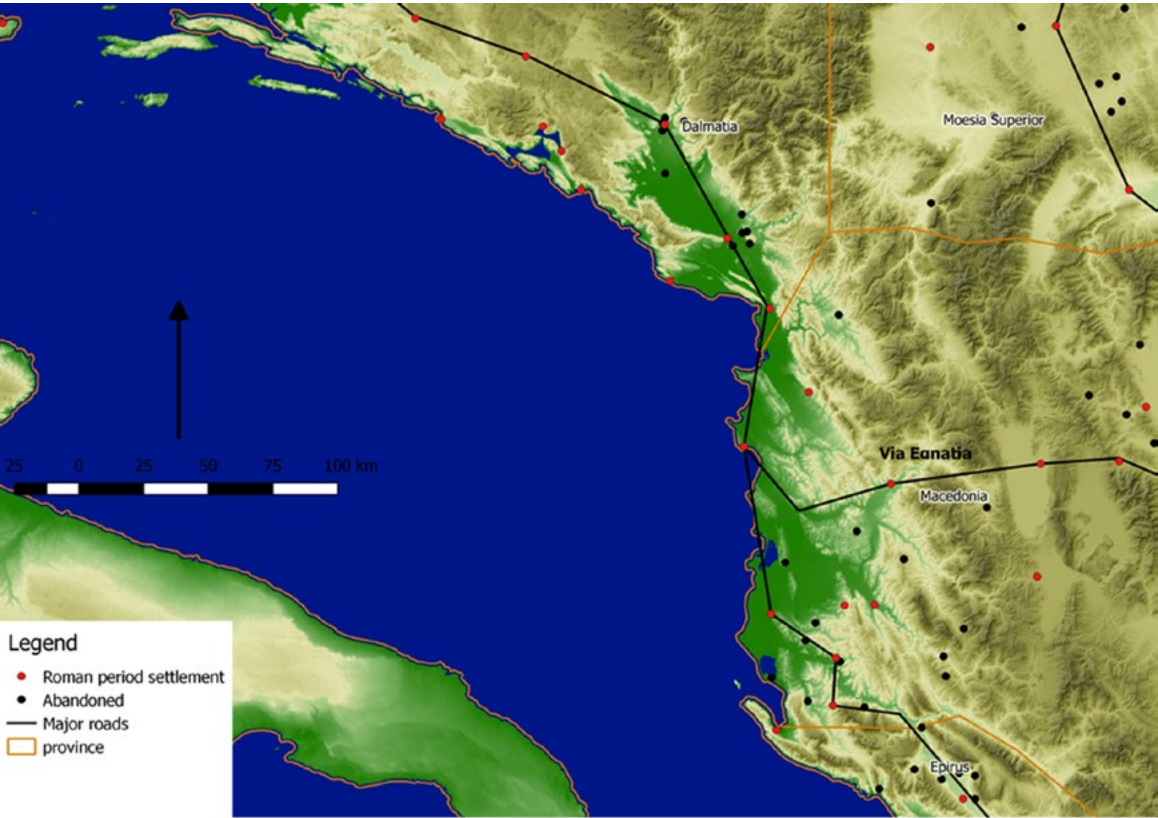
with monumental remains – city-walls, temples, urban residences – from the Hellenistic and Roman Imperial periods are compared, a fairly strongly defined and widespread pattern can be observed. Whether we look at the developments in Illyria, Macedon or Liburnia, there is a prevalent tendency towards de-urbanization in the regions off the main interregional roads. The proto-urban centres that developed on the high alluvial plains in northern Epirus and Macedonia or those located in the secondary synclines in Liburnia were either abandoned or were slowly declining. (Maps II\_8, II\_9) On the other hand, the towns that became Roman colonies and *municipia* or that attracted sizeable communities of Roman citizens are nearly always located near good natural ports or at major crossroads in the interior.<sup>196</sup> Even along the major highways, like the Via Egnatia or the road along the Vardar Valley, linking the Aegean to the Middle Danube, the network of high-ranking settlements grew sparser under the High Empire, as some of the earlier strongholds were replaced by road-stations. In general, what we see is a transformation of a series of inward-looking, regional systems into a sparse corridor pattern, with central places distributed at considerable distances along

the main lines of communication; hence perhaps, the high degree of investment in the development of the road-network in the later Principate. It is a tendency paralleled in other instances of imperial expansion, wherever small regional units were incorporated into a large territorial state.<sup>197</sup>

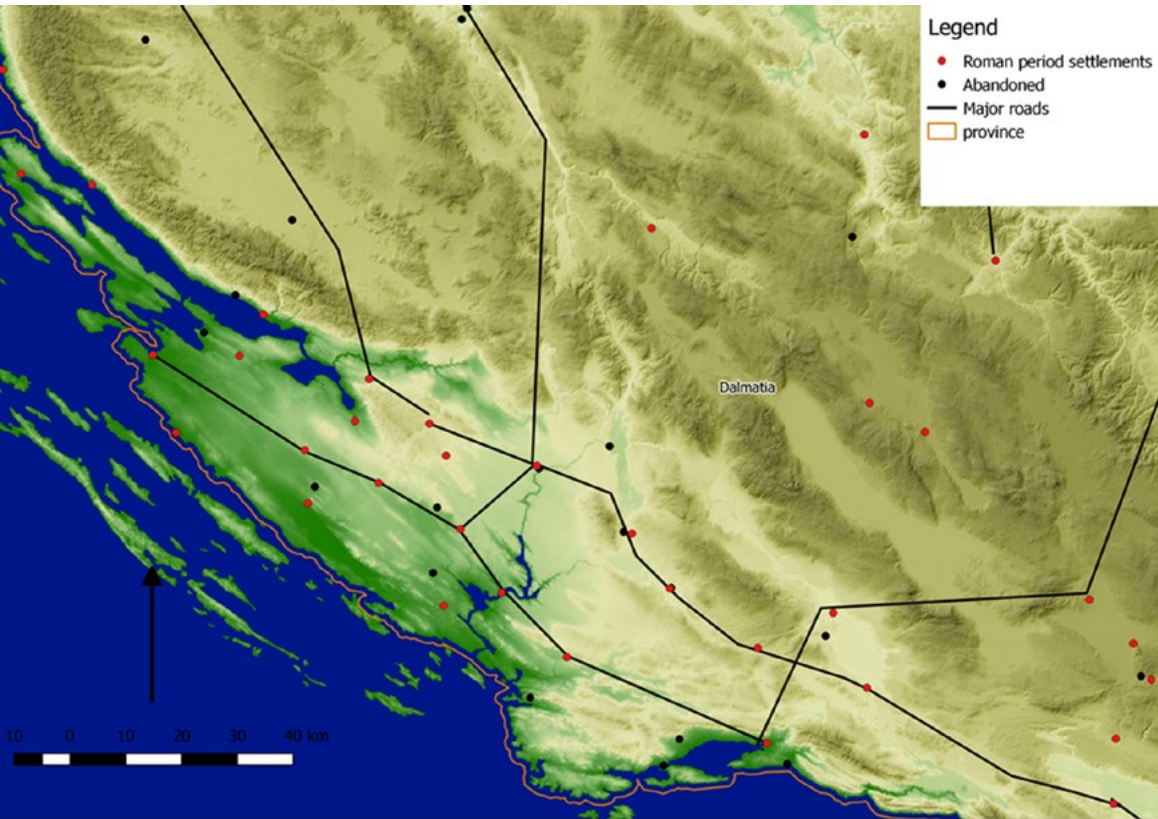
It is unclear if the Roman conquest was the sole external factor that contributed to the urban contraction. Indeed, in some regions of our study-area, it has been observed that the process of progressive decline in the number of strongholds spans the entire first millennium BC. Unfortunately, nearly all case studies fail to specify precisely which settlement categories have been included in these analyses. Most commonly, one is presented with the total number of sites dating to a certain time period and this is a rather poor basis for the understanding of the actual processes of dispersal or centralization. However, even if the Roman period was only the final stage in a long-term process of centralization, it cannot be claimed that the trajectories of regional urban development were unaffected by the act of political incorporation into the Empire.

<sup>196</sup> Cf. the distribution of Roman colonies in Lower Macedonia, Karambinis forthcoming.

<sup>197</sup> Burghard 1979, 1-20.

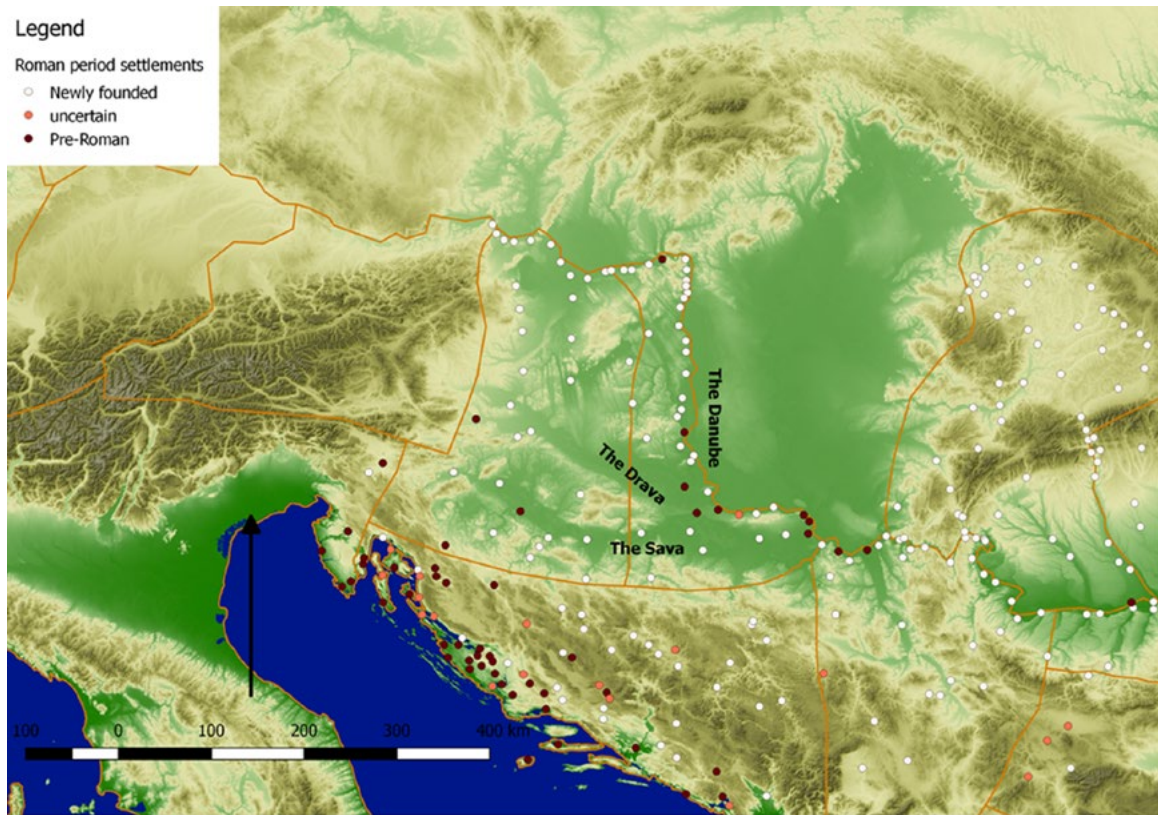


Map II 8: Roman and pre-Roman (abandoned) settlements in Illyria and Epirus.



Map II 9: Roman and pre-Roman (abandoned) settlements in Liburnia.





Map II 10: The chronology of settlements in Pannonia and Dalmatia.

Less than five percent of the pre-Roman settlement network falls outside the narrow coastal zone of the study-region. These include two clusters of auxiliary *vici* on the Danube *Limes*: one in Pannonia Inferior, between the mouths of the Sava and Drava, the other on the Lower Danube, principally concentrated on the northern frontier of the Late Roman province of Scythia Minor. (Map II\_10, II\_6) In addition, continuity has been observed at a small number of settlements scattered in the Pannonian interior and possibly in Dalmatia. (Map II\_10) In all of these cases, the continuity is merely topical, perhaps partly demographic. These sites were radically transformed during the period of the High Empire and very little survives of the pre-conquest phase. Nonetheless, in contrast to the rest of the Balkan interior and the lands along the Danube, for some reason the pre-Roman geography in these particular micro-regions was respected.

It is impossible to offer a general explanation. Some of the isolated examples on the Lower Danube are particularly perplexing and it is not beyond the bounds of probability that future research will either reveal other settlements with pre-Roman phases in these micro-regions or refute the claims of pre-Roman origins. It is likely that the continuity attested at a few sites in the Dalmatian interior was actually a phase

of gradual abandonment, similar to that evidenced in the pre-Roman *oppida* in Pannonia. But when it comes to the small clusters of pre-Roman settlements in the southern parts of Pannonia Superior and Pannonia Inferior or in Scythia Minor, it is tempting to see a relict surviving from the time of the final conquest of the area. The historical sources that inform us about the Roman conquest of Pannonia indicate that, at least in some cases, the Romans garrisoned their troops near or inside the strongholds of the native populations.<sup>198</sup> This was also true in Epirus, Illyria and Macedonia. Where available, maximum use was made of the existing infrastructure. The control of the key communication nodes was crucial in the aftermath of the wars of conquest, and not just for purely military reasons. The few towns in inland Thrace or Pannonia – Philippopolis, Siscia, Cabyle, Poetovio – that show continuity from the previous era occupy highly strategic locations. The fact that these sites had originally been occupied by the natives only serves to underline their strategic importance and also perhaps the growing complexity

<sup>198</sup> Siscia in southern Pannonia is the best-documented example: App. *Ill.* 22-24; Hoti 1992, 137, 140; Šašel-Kos 2005; Dzino 2010, 111. After the quelling of this rebellion, the IX Hispanica was garrisoned in Siscia, Lolić 2003, 133-135. See Suceveanu, Barnea 1991, 23-24, for parallels from the Black Sea littoral.

of the Balkan tribal societies on the eve of the Roman conquest.

The relatively large concentration of Roman settlements with pre-Roman remains in the area between the lower courses of the Drava and Sava in Pannonia Inferior must be seen in a similar light. The pre-Roman settlement pattern in this area differs little from that attested in the other micro-regions in the northern Balkans and Pannonia. The only distinctive aspect of these settlements is that they were located in a strategically sensitive area, in which a number of regional and inter-regional roads joined the Danube corridor. The importance of the area between the lower courses of the Sava and Danube only expanded once it had become a part of the Roman Empire. A similar explanation can be offered for the second cluster of auxiliary forts that occupied pre-Roman *oppida* on the Lower Danube. Nearly all of the sites that show continuity from the pre-Roman period are located in the vicinity of good river-ports or bridge-heads. These points were crucial to the normal flow of the river traffic and the control of movement across the river.

Perhaps the fact that at least some of the peoples who inhabited these regions were Roman allies at the time of the conquest would also have contributed to the continuous occupation of the pre-Roman *oppida*.<sup>199</sup> This situation provided the Romans with ready-made military bases and secure supply lines. However, this thesis is undermined by the late chronology of some of the auxiliary forts, especially those on the Lower Danube.<sup>200</sup> It is conceivable that, at the time of the conquest and the subsequent pacification of the province, the campaigning units were temporarily garrisoned in the existing settlements. But it is far more difficult to account for the continuous occupation of these sites - or their re-occupation - decades after the final incorporation of the province.

Generally speaking, whether the focus falls on the belt of pre-conquest settlements or on the tiny enclaves or individual examples dispersed across the zone of newly founded settlements, it seems that one of the crucial criteria for the survival of the pre-conquest town was its situation and role in the road-network of the wider region. The small, micro-regional centres, even those with developed infrastructure and rich hinterlands, were abandoned or declined unless they happened to be located on the large inter-regional arteries that linked the Adriatic with Central Europe, the Aegean or the Black Sea.<sup>201</sup> In certain cases, even a favourable location

was not enough and true continuity is discovered only at sites located at the crossing of at least two major interregional roads. Siscia, Poetovio, Mursa, Margum and the unknown fort at Barboși are all situated at highly important crossroads.

The newly founded component of the Roman urban network was not entirely confined to the Balkan interior and the Danube provinces. Nearly ten percent of all new foundations are located in the western Balkan provinces or in Thrace, to the south of the Haemus Mountains. (Maps II\_10 and II\_6) Excluding those Thracian towns whose chronology is not entirely clear, only about a dozen of the new foundations in this zone were self-governing towns. Apart from the towns along the Dalmatian *Limes* and in continental Thrace, the group also includes the newly founded *politeiai* in Upper Macedonia. Although historically these areas belonged to the zone of old settlement, they were sparsely urbanized at the time of the conquest and, judging by the properties of the settlement system in these regions, they were indistinguishable from the zone of new urbanism. There are no major enclaves of newly founded settlements in the zone of pre-Roman urbanism and this is yet another indicator of the relative impact of the two phases on the urbanization of the area. Despite the local departures from the prevalent pattern, both the old and newly-founded segment in the network formed continuous, clearly delimited zones.

The bulk of the new foundations in the zone of pre-Roman settlement are represented by the secondary town-like settlements that grew around road-stations, *emporia* and port-towns and these only reinforce the pattern established by the selective integration of the pre-Roman settlement network. Like the pre-Roman towns that survived the Roman conquest and flourished under the High Empire, they can be found along the major provincial roads. Their distribution is therefore fairly even and does not show signs of major clustering. The relatively large inter-city distances along certain sections of the major continental arteries opened room for the development of secondary central places around these newly established facilities. However, in the next chapter, we shall see that these developments were rather limited and late.

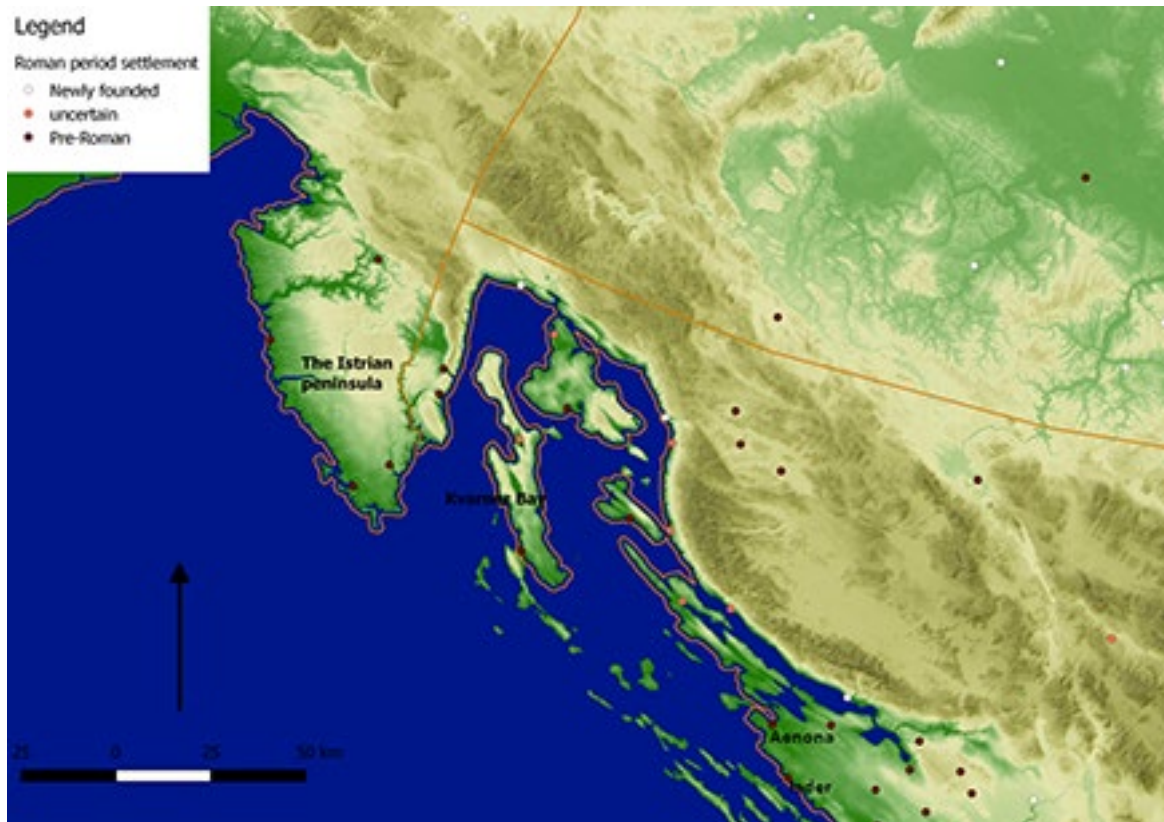
The emergence of new agglomerations around harbours, particularly prominent in the northern Adriatic and on the Epirote coast, also deserves a special mention. This trend certainly indicates the intensification of maritime traffic across the Adriatic. (Map II\_11) In the northern Adriatic, these coastal settlements regularly appear in regions featuring a very high density of Roman *villae* and must have been related to the increase in specialized agricultural production destined for export. It is unfortunate that there is very little positive evidence

<sup>199</sup> The Getae: Gerov 1997; Velkov 1981, 473-475; Suceveanu, Barnea 1991, 25-28; the Scordisci: Dio, 54.31.3; Suet. *Tib.*9; Dzino 2010, 128-129.

<sup>200</sup> Suceveanu, Barnea 1991, 25; Gudea 2005, 440-464, suggests an even later date for this segment of the Moesian *Limes*.

<sup>201</sup> Cf. Hanson 2011, 229-275.





Map II 11: The chronology of settlements in the northern Adriatic.

of the genesis of some of these settlements. The few systematically studied examples suggest spontaneous, organic growth.<sup>202</sup> The genesis of these settlements was simulated by the presence of natural harbours, a resource that was crucial to the development and the economic integration of the northern Adriatic islands or the small coastal plains of northern Epirus. Both regions were isolated from the main continental roads and offered a very limited range of natural resources. These developments were not paralleled on the Black Sea coast.(Map II\_7) The simpler geography of the western Pontic shoreline, offering fewer natural harbours, was surely a restraining factor, but we would also like to point out the peripheral location of the Black Sea to Italy. The fortunes of this region improved considerably after the establishment of the new imperial capital on the Bosphorus, underlining the importance of the wider urban constellation to the local and regional developments.<sup>203</sup>

The patterns emerging from this survey are relatively simple and to some extent not unexpected. The pre-Roman segment of the settlement network was limited to the Adriatic and Black Sea coasts, extending into

the interior only in areas that had been dominated by fully developed state societies, namely: the Illyrian and Macedonian kingdoms or Liburnia and some of Thrace. Outside the zones of Greek colonization and beyond the territories controlled by the Hellenistic dynasts, the urbanism of the High Empire was a new phenomenon. Most of the central places of the tribes who inhabited the interior of the Balkan Peninsula and the plains along the Danube and Transylvania were abandoned or were gradually demoted to the status of *vici* or even isolated farms. A number of factors must have contributed to these divergent developments. The absence of a proper urban infrastructure in the pre-Roman period was certainly an important determinant, as it must be presumed to have conditioned the differential in timing of the conquest of the coastal areas and Macedon and the Balkan Interior. Certain segments of the zone of pre-Roman settlement were conquered centuries before Rome ever set foot in the Balkan interior. The mechanisms and goals of successive economic and military expansions must have evolved considerably in the period between the Roman-Macedonian wars and the conquest of Pannonia.<sup>204</sup> At the same time, we have to acknowledge the differences between the Greek and Hellenistic *poleis* and tribal *oppida*, even if both

<sup>202</sup> Kurilić 2008, 368-369; Lako 1986, 279-281.

<sup>203</sup> For a similar observation on Roman urbanism on the southern Black Sea coast, see Hanson 2011, 229-275.

<sup>204</sup> Dzino 2010.

settlement-types did perform a range of overlapping functions. While the former presented self-governing units with an autonomous sector of production, the latter were little more than strongholds of the tribal

or regional leaders. Given this circumstance, the fate of the tribal *oppida* and strongholds was far more sensitive to changes in the political environment.

## Chapter III

# The Genesis of the Roman Urban Network in the Balkan Provinces and on the Danube. Newly Founded Settlements

### Introduction: the basic categories of newly founded settlements

Having roughly estimated the percentage of settlements dating to the pre-conquest era, the next logical step is to the question of the genesis of the newly founded settlements. Although this issue cannot be approached without a thorough knowledge of the onomastic profile of the urban population, a subject that goes beyond the limits of the present study, some basic distinctions can be made even on the basis of the topography of the settlements combined with the scant information preserved in the historical and epigraphic record. These inferences can then be complemented with the insights provided by important studies in the social and ethnic composition of the urban population in the Balkan provinces.<sup>205</sup>

To distinguish between civilian settlements and those that grew up next to a garrison site would seem to be a straightforward exercise. It is an obvious difference in an area in which over 30% of the agglomerated settlements, including the largest towns, were attached to an army camp. Both strategic and logistical considerations determined the locations of these settlements and their economies revolved primarily around the needs of the garrisoned units. In fact, garrison settlements are better understood as inseparable demographic components of the army camp; the ties that bound the two were not limited only to the economic sphere.<sup>206</sup> Apart from the demand for a wide range of services – that sheds a strong urban tinge at all garrison settlements – the presence of the army units necessitated the establishment of civilian communities that, besides the expected craftsmen, small-scale merchants and specialists of all kinds, included the partners and families of the serving soldiers. This is the key feature that sets the garrison settlements apart from the rest of the settlement categories. It is no accident that these settlements were originally nameless and had no official status. They were pragmatically named after the legion stationed

in the camp, a telling detail of the relationship between the two settlement components. The civilian settlement literally belonged to the military unit.<sup>207</sup> As will be shown later in this study, there was a municipal development among these settlements, but this was not universal and occurred under specific conditions.

On the other hand, civilian settlements – including veteran colonies – are most easily distinguished by the absence of a contemporary, adjoining military camp. Even in these cases, the impact of the Roman army on the economy of the frontier provinces should not be underestimated and the category of civilian settlements can appear somewhat vague. Although positive evidence of intensive intra-provincial trade is still relatively scarce, the numerous army contingents permanently stationed on the Danube and Dacian *Limes* undoubtedly represented a significant market that would certainly have attracted the attention of the urban elite in the frontier provinces.<sup>208</sup> Judging by their locations, 30-40 km behind the Danube *Limes*, towns like Cibalae or Nicopolis ad Istrum were in an ideal position to supply at least some of the needs of the frontier garrisons. In addition, a considerable proportion of their population, the upper classes in particular, was recruited from the army veterans who had served on the *Limes*.<sup>209</sup> On this premise, it can be argued that they performed a function analogous to that of the garrison settlements, moderating the difference between these two categories. But, although profiting from the proximity of the *Limes* – as most provinces in our study-region – these towns developed independently and their economies were not entirely reliant on the demands of the military. In contrast to the garrison settlements, the civilian establishments were separate communities, demographically independent of the army units.

Earlier, scholars have claimed an even greater involvement of the Roman army in the urbanization of the Balkan Peninsula and the Danube provinces. A number of important towns possibly did grow up at the sites of former army camps, as the civilian population profited from the infrastructure left behind by the

<sup>205</sup> Dalmatia: Alföldy 1969; Pannonia: Mócsy 1959; Pannonia, Moesia Superior: Mócsy 1970, 1974; Moesia Inferior: Gerov 1997, 1998; Pippidi 1975; Doruțiu-Boilă 1980b, 281-287; Tačeva ed. 2004; Suceveanu, Barnea 1991; Thrace: Gren 1941; Gerov 1980, 273-283; Mihailov 1979, 263-271; Dacia: Macrea 1969; Balla 1975, 139-143; Russu 1980; Ardevan 1998; Ruscu 2004, 76-87.

<sup>206</sup> Vittinghoff 1971, 299-317; Mócsy 1974, 139-147.

<sup>207</sup> Vittinghoff 1971, 299; Bérard 1992, 75-105.

<sup>208</sup> See Chapter Six for specific examples in the light of the epigraphic evidence.

<sup>209</sup> Gerov 1997, 105-117; Poulter 1999, 1-54; Iskra-Janošić 2004, 169-195.



army.<sup>210</sup> However, these hypotheses have been seriously challenged in more recent studies but, even if they prove correct, they will hardly alter the civilian character of these foundations. With the exception of the possibility that their location was chosen for primarily strategic reasons, the fact that these towns were built by military engineers is not relevant to their subsequent economic development and history.

Our third major category of newly founded Roman agglomerations is the most difficult to define and often the most prudent step seemed to be to drop it from the analysis altogether. However, on reflection, this seemed to be premature. A sizeable minority of secondary agglomerations does not really fit into either of these two basic categories. The majority of these are smaller settlements that rarely entered the historical record. They evolved around special-purpose facilities; sometimes sponsored directly by the provincial government, sometimes emerging spontaneously. These include the larger road-stations and port facilities, hot springs and sanctuaries, mining areas and quarries. In the previous chapter, it was demonstrated that in certain provinces in our study-area these were the only settlement categories founded under the High Empire. By their nature, they are clearly a sub-category of civilian foundations, distinguished by their modest archaeological remains and their lack of official status, but also by their highly specialized economies and their slightly later date. This definition is apparently complicated by the fact that these resources were often kept under the watchful eye of the army, and consequently usually stationed in their immediate vicinity. This circumstance brings them closer to the category of garrison settlements. However, like the possible presence of pre-Roman hamlets at the sites of Roman towns or the likely involvement of the military in the construction of civilian agglomerations, these are purely terminological problems. Unless the presence of a large auxiliary unit can be definitely proven, sites like road-stations or sanctuaries guarded by small military detachments will not be counted as garrison settlements. The presence of the military in these cases was demographically insignificant and it had no effect on the local economy. It merely highlights the importance of the natural resource that attracted permanent settlers to these sites. This settlement category is well-established in some of the western provinces of the Roman Empire. In the scholarly literature they are known as 'secondary agglomerations' or 'small towns',

differing from both the first-order civilian foundations and the purely agricultural village or hamlet.<sup>211</sup>

Perhaps it would have been safer simply to limit the analysis to the autonomous towns. This would have spared us a great deal of trouble trying to disentangle the true nucleated agglomerations from facilities with no permanent inhabitants or from the category of farmsteads, hamlets and small villages solely on the basis of poorly illustrated survey reports. However, the downside of this approach is that it ignores a considerable segment of the integral network. Given the sparseness of the urban network in most provinces in our study-area, it is conceivable that the limited urban coverage was compensated for by an unknown number of secondary agglomerations that provided the outlying countryside with a range of market and religious services. With the exception of a small number of individual case studies, there have been no major syntheses compiled of the secondary agglomerations in the Balkan and Danube provinces. Hence the ubiquity, importance and the possible role of the secondary agglomerations in the urban system of the area have not been paid the attention they deserve. As explained in the introductory chapter, the minimum criteria for the inclusion of certain sites in the analysis was the size threshold of five ha and/or epigraphic evidence of local magistrates or public buildings. Left with no other tangible indicators, we have had to revert to arbitrary criteria, like the five-ha cut-off point that would soon prove both untenable and misleading. Nonetheless, we maintain that the study of this 'grey-sector' can lead to a fuller understanding of the urban network in the area. It is unlikely that it will ever be possible to reconstruct the integral settlement hierarchy of the High Empire completely, but we shall attempt to give a rough projection of the number of agglomerations that fell in between the rural-urban divide.

Two site-categories lie at the heart of the issue. One is more specific and it includes the road-stations and port-facilities, often mentioned in the Late Roman itineraries. Whenever subjected to more detailed archaeological research, road-stations have revealed traces of small, agglomerated communities.<sup>212</sup> The most common model consists of an unplanned agglomeration attached to a *mansio*, although this is found only in the most important and monumental representatives of the group.<sup>213</sup> Even in these cases, the combined areas of the *mansio* and the adjacent civilian settlement rarely extend over more than five hectares. However, these were corporate communities, and their population regularly included skilled craftsmen, merchants and inn-keepers. They are therefore included in the non-

<sup>210</sup> This circumstance might explain the very rapid emergence of some of these towns. The case of Emona is discussed by Plesničar-Gec, 1978, 103-109; Gaspari 2010; Šašel-Kos 2012, 79-104; for Sarmizegetusa, see, Diaconescu 2004, 89-103; Piso ed. 2006. The cases of Oescus and Troesmis in Moesia Inferior are less ambiguous: Alexandrescu, Grabherr, Gugl, Kainrath 2015, 11-20.

<sup>211</sup> Cf. Burnham, Wachter 1990; Rorison 2001.

<sup>212</sup> See for e.g. Dinčev 2008, 123-133; Vasić, Milošević 2000.

<sup>213</sup> Ivanov 1980, 205-206.



agrarian segment of the settlement pattern, even though they never attained an autonomous status. Apart from the social composition of these communities, there is evidence indicating that they performed a certain range of services characteristic of central places: local markets and tax collecting.<sup>214</sup> A number of these centres were transformed into bishoprics in Late Antiquity and they are referred to in the sources from this period as *civitates*.<sup>215</sup> It is difficult to estimate their true number, but it has to be noted that not every station had an adjacent civilian agglomeration. Smaller *mutationes*, posts in mountainous areas and along local roads, probably did not attract civilian settlers. It is possible that, in the more remote areas, these facilities were actually attached to existing villa estates or traditional rural settlements, causing an even greater blurring of the distinction between the traditional village and special-purpose sites.<sup>216</sup> Herein lies the chief difficulty in determining what proportion of these secondary centres were special-purpose foundations and what proportion had been recruited from the existing rural settlements or *villae*. The root of the problem is that our approach rests on the assumption that there was more or less a clear distinction between the urban and rural sectors; the rub is that these categories are bound to overlap even in modern societies. The overall impression – based on the scant archaeological remains and the low frequency of references to this settlement category in the written sources – is that this segment of the settlement network was mostly made-up of the existing *villae* and hamlets. We shall see that this role was not necessarily advantageous and this might have been the reason for their inconspicuousness in the archaeological and historical records of the region.

In Chapter Two, we encountered a small group of sites most commonly defined as larger rural settlements; sometimes even as centres of micro-regions.<sup>217</sup> Is it not possible that these sites actually represent a small segment of the elusive group of secondary agglomerations? Unfortunately, a common feature to all sites that belong to this group is that they are poorly researched. As these have been usually documented only by traditional survey techniques or more rarely, test-pit excavations, it is impossible to be certain about their true nature and extent. Therefore, in most of the cases, they are included in the category of

uncertain settlements. For the majority of these sites, it is their location or the epigraphic material rather than the archaeological remains that have set them apart from the average village. Later in this chapter, when discussing the spatial distribution of the basic categories of Roman foundations, we shall indeed find them located either near rare natural resources, like thermal springs, in regions rich in mineral deposits or in the more remote corners of our study-area. We believe that there is a crucial difference here between quasi-industrial settlements, specialized in the tapping of natural resources and the rural communities in mountainous areas that did perhaps grow in importance and entered the epigraphic record. We have already touched upon this problem when discussing the numerous *vici* and *komai* in the provinces in the eastern half of the peninsula. There are many reasons to doubt the urban character of these sites, but the fact that they are regularly included in the archaeological literature about the respective provinces obliges us to take them into account. Of course, in contrast to the road-stations or port-towns, the near random distribution of this site-category does not allow us to extrapolate their approximate number.

This general introduction has been primarily necessitated by the very broad and basic categories employed in the main text. When using them for analytical purposes there is always the risk of creating distinctions that are artificial or simply irrelevant. We can only hope that we have, however roughly, clarified the criteria by which a settlement is classed as garrison or civilian, autonomous or secondary. In order to avoid detailed presentations of the archaeological or epigraphic evidence pertaining to individual towns in the main text, the controversial cases will be briefly discussed in footnotes.

### Upper Macedonia and Epirus

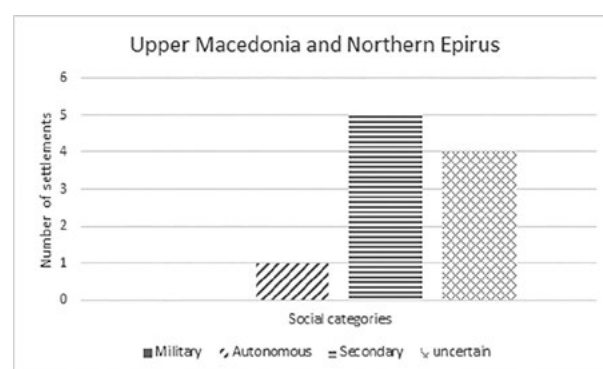


Figure III 1: The basic formal categories of the newly founded settlements in Upper Macedonia and Northern Epirus.

To the small number of newly founded settlements for which it was possible to collect some data, we have

<sup>214</sup> Suceveanu, Barnea 1993, 159; Vasić, Milošević 2000, 134-135. These authors follow Van Berchem's thesis of the role of *mansiones* as points for the collection of the military tax from the time of the Severans. Although this thesis has been criticized, the fact remains that some of these road-stations almost certainly functioned as the *emporia* of the neighbouring towns.

<sup>215</sup> See, for example, Remesiana in Moesia Superior, Mirković 2007, 69.

<sup>216</sup> For private estates functioning as periodic markets, see De Ligt 1993.

<sup>217</sup> Perhaps the most representative were the *politeiai* in Roman Macedonia, Mikulčić 1999, 90-93.

added a few of the settlements whose founding date was uncertain. (Figure III\_1, Table II\_1) This group includes the sites whose origins are unclear, but that appear in the written sources after the Roman conquest. These are Hadrianopolis, Onchesmos, Pelagonia, the Dostonei and Allantes. If future research proves that Neapolis was not located near Stari Grad in the Middle Babuna Valley – a site occupied throughout Antiquity – it too could join the group.<sup>218</sup> With the exception of Hadrianopolis, none of these sites has produced substantial archaeological remains datable to the period of the High Empire. In fact, even in the case of this town, recent research has proven that it belongs to the group of towns originating in the Hellenistic period.<sup>219</sup> It was the character of these settlements that prompted us to reconsider the possibility that these were newly founded settlements. Most of these were self-governing communities and, if it is proven that they were founded after the Roman conquest, this discovery will require a slight rethinking of the urban developments in Roman Macedonia.

There are no remains of permanent military outposts in Roman Macedonia. Throughout the period of the High Empire, Macedonia remained a *provincia inermis*, the only fully demilitarized province in the study-area. Apart from the construction of the main inter-regional corridor, the Via Egnatia, in the middle of the 2nd century BC, the Roman presence in this region is almost imperceptible until the reign of Augustus.<sup>220</sup> The numerous troops that took part in the eastern campaigns or the civil wars in the period of the Late Republic must have been stationed in or near the existing urban settlements. By the time the Roman legions began constructing permanent camps, Macedonia was well behind the state frontier and, until the period of Late Antiquity, there are no traces of a military presence in this province. The possible garrison sites of the legions that conquered Moesia, the V Macedonica and the IV Scythica, continue to baffle modern scholarship.<sup>221</sup>

Only one autonomous town was definitely founded after the conquest of Macedonia, but even in this particular case the chronology is not entirely clear. The site identified with the *polis* of Neine, mentioned in a few inscriptions from the Middle Struma, has not yet had any archaeological excavations or systematic surveys.<sup>222</sup> It has been added to the group of newly

founded settlements because firstly, the scholars that studied this site do not refer to finds dating to the pre-Roman period and secondly, the micro-location of the site suggests that it was not a central place in the Hellenistic period. Finally, Neine is not among the settlements mentioned in Strabo in his description of the Strymon valley, as it was then known.<sup>223</sup> The epigraphic monuments associated with this site do not predate the Flavian period.<sup>224</sup>

The remaining settlements securely dated after the conquest of Macedonia are almost exclusively road-stations. As has been demonstrated in the preceding chapter, the number of these establishments is potentially much higher than the few examples included in our tables. Adding this category to the list of newly founded settlements could result in a complete reversal of the figures presented in the previous chapter. However, this exercise is not as straightforward as it seems. Only a small number of possible road-stations have been identified in this region and more thorough-going research has been carried out at no more than two or three sites. The information referring to these regions preserved in the Late Roman itineraries is often contradictory and the identification of the individual road-stations, especially those in the eastern half of the province, is highly controversial.<sup>225</sup> Pertinently, many important regional roads are not included in the Late Roman itineraries.<sup>226</sup> In a nutshell, there is no solid base to project the possible number of road-side *vici*.

More to the point, not all road-stations were necessarily new foundations. In the case of Roman Macedonia, they were often attached to the old strongholds and *poleis* or the latter had simply been degraded to road-stations. Hence, even in this segment of the settlement network of Roman Macedonia, there is some evidence for topical continuity. At least three settlements, Ceramie, Zgurbita and Stenae, that were probably little more than road-side *vici* in the Roman period, had a Hellenistic predecessor, possibly of a higher rank.<sup>227</sup> Nonetheless, if it is assumed that all the *mansiones* mentioned in the Late Roman itineraries – but not the *mutationes* – attracted small civilian settlements, their number could theoretically rise to nine or ten, excluding the cases in which a Hellenistic *oppidum* continued as a road-station. It is important to reiterate that this settlement category is essentially different from the category of autonomous towns. It was only the social composition of the communities and their specialized function that differentiated them from an ordinary *vicus*.

<sup>218</sup> Papazoglou 1988a, 289–291, 312–313; for the location of the central places of these people I follow Mikulčić 1999, 91–93, 187–188.

<sup>219</sup> Perna, Çondi 2011, 365–385.

<sup>220</sup> Papazoglou 1980, 302–36; Shpuza 2009, 481–502.

<sup>221</sup> Mirković 1977, 171–178; Gerov 1980, 147–167; Dušanić 1983, 13–21.

<sup>222</sup> Velkov 1963, 141–156; Nikolov 1970, 284–293; the autonomous status of this settlement is supported by a few official dedications: IG Bul: 2247–2251; Gerasimova-Tomova 1980, 19–26; Angelov 2003, 138–142. Admittedly, the name of the town is slightly unusual because, in the epigraphy of Upper Macedonia, most of the autonomous communities are commonly designated by their ethnonyms; cf. Papazoglou ed. 1999.

<sup>223</sup> Strabo 7.36; Gerov 1980, 67–75.

<sup>224</sup> Velkov 1963, 145–156.

<sup>225</sup> Georgievski 1991, 117–134.

<sup>226</sup> Mikulčić 1999, 223–236.

<sup>227</sup> Ceramie: Šašel ed. 1976, 130; Papazoglou 1988a; Mikulčić 1999, 86–89; Zgurbita: Mikulčić 1999, 152–154; Stenae: Mikulčić 1999, 176–182.

It is equally important to stress that, at the few sites that have been properly researched and are included in the list of newly founded settlements, the main phase dates to the period of Late Antiquity rather than the High Empire.<sup>228</sup> This seems to imply that an unknown proportion of the road infrastructure described in the itineraries was not created before the beginning of the 4th century. This is not to suggest that the High Empire lacked sophisticated and developed road infrastructure. It is nevertheless possible that the modes of road maintenance changed between the two periods; the High Empire tending to rely on the existing rural settlements or *villae* rather than on facilities built specifically for that purpose.

The settlements that emerged near port-facilities had a parallel function in the settlement network and, at least in some cases, these two settlement categories had similar geneses. Unfortunately, the paucity of the archaeological evidence is a stumbling-block to making more general observations. Pliny refers to a few ports of call on the coast of Epirus – *castellum* Chimera, *oppidum* Aulon, also possibly an *oppidum* called Meandria – but these settlements have not been identified archaeologically.<sup>229</sup> The only settlement for which there is some tangible archaeological evidence is Onchesmos, omitted in Pliny, but mentioned by Ptolemy.<sup>230</sup> The archaeological excavations at this site have revealed that, in the period of the High Empire, the settlement basically consisted of a number of elite residences that clustered around the port-facility. Onchesmos developed true urban characteristics only in Late Antiquity, when a basilica and city walls were built.<sup>231</sup> In this respect, the urban genesis of this town is highly reminiscent of the urban genesis of Ad Scampsa, both towns becoming bishoprics in Late Antiquity.<sup>232</sup> However, as Onchesmos is also mentioned by Strabo and there are scattered finds that pre-date the Roman conquest, it is not entirely clear if this settlement belongs to the group of newly founded sites.<sup>233</sup>

It is worthwhile to pay brief attention to the group of settlements with an uncertain date. They represent about 40% of the potentially newly founded sites and depart from the prevalent pattern in which all or most of the new foundations were secondary agglomerations. In the previous chapter, it was argued that, although decisive evidence was lacking, there are serious indications that at least some of these settlements – Hadrianopolis and Pelagonia in particular – were founded prior to the Roman conquest. Both

Hadrianopolis and Pelagonia were autonomous towns at the time of the High Empire and together with Neine indicate that there were changes to the urban network of the Hellenistic period.

A post-conquest date is likelier for the Dostonei and the Allantes, two communities that were introduced into the epigraphic record only in the period of the High Empire.<sup>234</sup> The anonymous agglomeration near modern Vitolište on the Moriovo Plateau could also join the group, although the possibility that this was a unique example of a mining settlement in this part of Roman Macedonia should not be excluded.<sup>235</sup> The centres of these communities have not been located and their nature is controversial. Some scholars have interpreted them as rural *koina* that did not constitute self-governing units, while others have claimed that these were self-governing communities, constituted after the Roman conquest to improve the sparse urban infrastructure in the mountainous parts of Upper Macedonia.<sup>236</sup> The latter view postulates important additions to the existing urban system of the province. Indeed, as we shall see in Chapter VI, the autonomous status of these communities could explain the apparent gaps in the urban coverage of the province. That they are nearly impossible to trace in the archaeological and written records seems to suggest that these were not urban-based communities.

A common characteristic of all newly founded settlements in Roman Macedonia, including the self-governing communities whose founding date remains undetermined, is that they have left very few traces in the archaeological or written records. This absence is not necessarily related to the lack of systematic research at the majority of these sites. With the exception of Hadrianopolis, replacing the Hellenistic city of Antigonea as the main centre of the fertile Dropul Basin, the rest of the autonomous settlements and communities are located in the periphery of the urban network. Regardless of its exact location, the bulk of the territory of Pelagonia consisted of mountainous terrain, while the territory of Neine was limited by the proximity of the provincial border with Thrace. If these towns were symptomatic of the policy of urbanization of the economically marginal regions of the province, their presence is difficult to reconcile with the archaeologically attested decline in the smaller *poleis* of ancient Illyria and Macedon. It is possible that this incongruence is another indicator of the differential

<sup>228</sup> For Ad Scampsa see fn. 66 in the previous chapter, Castra-Prembole: Šašel ed. 1976, 35.

<sup>229</sup> Pliny NH 4.4, 14.

<sup>230</sup> Ptol. Geog. 3.13.42; Lako et al. 2014, 613-625.

<sup>231</sup> Lako 1986, 279-281; Lako et al. 2014, 613.

<sup>232</sup> Hier. Synec. 652, 3.

<sup>233</sup> Strabo 7.7.5; Lako et al. 2014, 613.

<sup>234</sup> See fn. 70 in Chapter Two.

<sup>235</sup> Mikulčić 1999, 91-92, associates it with the central place of the Geneati or the Euxini, peoples known solely from the epigraphic sources in the area; the evidence of mining activities in this region is discussed by Keramitčiev 1976, 89-104; Keramitčiev 1978, 67-81.

<sup>236</sup> Papazoglou 1988a, 1; the debate is summarized succinctly in Nigdelis, Souris 1997, 55-56.

developments in the western and eastern halves of the province.

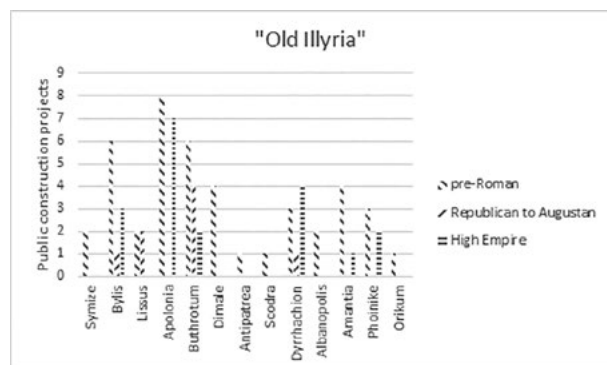


Figure III 2: The number of large construction projects in the old towns of Illyria and Epirus (the western half of Roman Macedonia).

It seems that in many of the old towns in Upper Macedonia and Epirus, the period of the High Empire saw very little public construction. There was an undeniable strong urban development in the area under the High Empire, but it was limited to a small number of existing settlements. In this respect too, the impression is that there was an important difference between Epirus and Macedonia, the western and eastern parts of the Early Roman province. Whereas in northern Epirus and southern Illyria it can be demonstrated that the majority of the big infrastructural projects were inherited from the pre-Roman period, in Macedonia the Roman period introduced radical changes to the physical make-up of the most important towns.

Figures III\_2 and III\_3 compare the number of public constructions in the two historical parts of the Roman province, Illyria and Epirus and Upper Macedonia and Paeonia. In the western half of the province, over 60% of the monumental buildings and infrastructure had been constructed prior to the Roman conquest. Even in the towns that became colonies under Augustus – Bylis or Buthrotum – most of the public buildings were inherited from the Hellenistic period. The only exception is Dyrrhachium, but this is related to the local taphonomic realities rather than to the difference in the intensity of construction between the two periods.<sup>237</sup> The opposite is true of the east of the province, Upper Macedonia and Paeonia, in which, with the exception of Lychnidos, in most of the Hellenistic towns the surviving monumental remains do not predate the Roman Imperial period.

<sup>237</sup> Because of the site-formation processes, the Antique layers at Dyrrhachium are buried under several metres of Medieval and post Medieval deposits; Santoro, Monti 2011, 491-495.

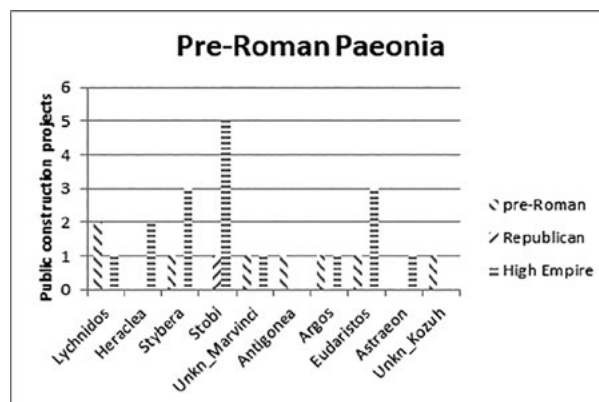


Figure III 3: The number of large construction projects in the old towns of Upper Macedonia and pre-Roman Paeonia (the eastern part of the province).

This is another indication of the divergent developments between the two principal components of Roman Macedonia. It is no accident that Epirus was constituted as a separate province in the later Principate, the provincial borders roughly coinciding with the western border of ancient Macedon.<sup>238</sup> Nonetheless, looking at the average town in Upper Macedonia, the Roman period introduced hardly any radical changes, at least in the general urban appearance. On the surface, towns such as Argos and Antigonea on the Vardar or Neapolis changed little throughout the entire period of Antiquity, although, admittedly, research on these urban centres has only begun.

### The northern Adriatic and Dalmatia

After the founding of Aquileia in the early decades of the 2nd century BC and, especially after the creation of the province Cisalpine Gaul, the eastern part of Italy X was added to the territory of the colony. Only the coastal zone and the Istrian Peninsula were excluded from the territory of Aquileia. The very small size of the region in question, its mountainous character and the high density of pre-Roman proto-urban settlements left little room for new urban foundations in the area between the Gulf of Trieste and the watershed of the Sava Basin. The main trends on the settlement map of this part of the Adriatic can be observed only at the very edge of the area, on the Istrian Peninsula and in the Upper Sava Basin.

As in Macedonia, the Roman army did not build permanent camps in this part of the Empire. Istria and its mountainous hinterland had been conquered in the course of the 2nd century BC and it did not require permanent military units under the Empire.<sup>239</sup> The militarization of the region with the creation of the *Praetentura Italiae et Alpium* was but a brief episode

<sup>238</sup> Islami *et al.* 1985, 209-264; Shpuza 2009, 488-493.

<sup>239</sup> Jurkić 1987, 65-80; Dzino 2010, 59-60.



during the Marcomannic Wars that left hardly any trace on the settlement map and economy of the region.<sup>240</sup>

The profile of the newly founded settlements in this region is not as clear as in Roman Macedonia. This is partly attributable to the uncertain chronology of a number of official towns and partly to the unknown status of two of the settlements founded after the Roman conquest. Both groups were lumped together in the category of uncertain settlements in Figure III\_4. (see also Table II\_4) The two settlements for which the archaeological evidence suggests a post-conquest date were both secondary agglomerations. Nauportus was a historically attested *emporium* of Aquileia and archaeological research at this site has confirmed that the outpost was founded in the course of the 1st century BC.<sup>241</sup> The anonymous settlement on Čaška Bay on the island of Pag was not an autonomous town and the archaeological excavations at this site suggest that Čaška was not even a nucleated settlement, but a group of residences built around a port-facility.<sup>242</sup> In view of its genesis, this settlement is strongly reminiscent of the small port-towns of Epirus.

There is hardly any archaeological evidence to suggest that either Argyruntum or Tarsatica were built at the sites of earlier settlements.<sup>243</sup> Nonetheless, the possibility that, like Emona or Salona, the pre-Roman predecessors of these towns were located on some of the hill-top sites in their surroundings should not be excluded. The vague juridical status of these communities is another reason to place them in the category of uncertain settlements. If both Tarsatica and Argyruntum were secondary agglomerations, they will only add to the small group of new foundations associated with major roads and ports of call. Obviously, a different conclusion will have to be drawn should it be proven in the future that both settlements were autonomous towns.

The remaining sites classed as uncertain in Figure III\_4, Crexus, Orthopla and Vegium, were most likely self-governing communities, but it is possible that their central places were located at the sites of earlier settlements.<sup>244</sup> Continuity was the prevalent tendency

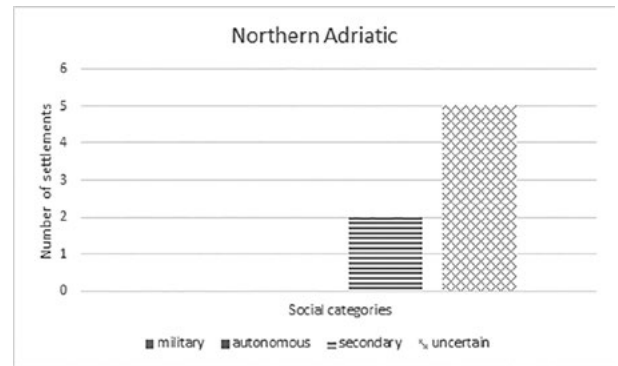


Figure III 4: The basic formal categories of newly founded settlements in the northern Adriatic.

in this part of the study-area. As in other highly urbanized regions, the Romans founded their colonies in the existing towns, and the autonomous status of the remaining communities was respected. Many of the scholars who have studied this region seem to favour the continuity thesis although, too often, the claim is based on sporadic finds rather than securely attested archaeological layers.<sup>245</sup> The fact remains that in none of these four cases can we point to the site of the pre-Roman settlement.

There is another reason to tread cautiously when it comes to the founding dates or the status of these settlements. The epigraphic corpus from the majority of the ancient towns on the eastern Adriatic coasts indicates that a significant proportion of the dominant class was made up of settlers of Italian origin.<sup>246</sup> In comparison to Epirus and Macedonia, the Italian element was much stronger in this area and it is possible that in the less urbanized regions – like the western shore of the Kvarner Bay where most of our problematic cases are located – their arrival resulted in a new wave of urbanization. After all, the great majority of the settlers were representatives of the trading families based in northern Italy and the emergence of new port-towns would have been of enormous help to them in their role as mediators between the mountainous hinterland of Liburnia and Italy.<sup>247</sup> Nevertheless, the socio-economic profile of the leading classes in these towns cannot be taken as a proxy for their foundation dates. The Italian element is strongly represented in all

<sup>240</sup> Šašel 1974, 225-233.

<sup>241</sup> Nauportus: Strabo 7.5.2; Horvat ed. 1990. A more recent archaeological and palaeo-environmental study of this site has discovered only isolated finds from the Late La Tène, Horvat *et al.* 2016, 177-258.

<sup>242</sup> The autonomous status of the settlement on the island of Pag depends on the highly problematic identification of this site with ancient Cissa, Suić 1992, 11-35; Ilakovac 1998, 69-82. For the archaeological remains, see Kurilić 2008, 368-369.

<sup>243</sup> See Chapter Two, fn. 88.

<sup>244</sup> The evidence for the autonomous character of these settlements is discussed in Chapter Six. For the archaeological data for Crexus, see: Blečić 2005, 263-264; Fulfinum: Čaušević-Bully 2007, 290-292; Čaušević-Bully 2008, 334-335; Senia: Glavičić 1982, 63-90; Orthopla: Miholjek, Stojčević 2012, 143-174; Vegium: Zaninović 1984, 29-40.

<sup>245</sup> For example, Blečić 2006, 76; or Glavičić 1984, 7-28, for Senia, that might also be a candidate to join this group of settlements.

<sup>246</sup> Alföldy 1965, 72-76; Medini 1978, 67-85.

<sup>247</sup> A similar genesis has been suggested for Argyruntum, Dubolnić 2007, 15. See Jurišić 2006, 175-192, for the increase in the number of shipwrecks in the northern Adriatic during the Late Republic and the Early Empire.

major coastal towns in Dalmatia, regardless of the time of their foundation.<sup>248</sup>

Even if we leave out the problematic settlements, it is possible that the list of new foundations is far from complete. As in the case of Epirus and Macedonia, we have excluded the road-stations that were mentioned in the itineraries, but whose archaeological remains have not yet been located. It might be thought that most of these establishments were newly founded – forming a part of an infrastructure that did not predate the Roman conquest – but empirical evidence from the south of the peninsula has shown that topical continuity was possible even in this segment of the settlement network. Moreover, the mountainous character of the terrain that separated Italy from Pannonia and Dalmatia probably precluded the development of stable civilian settlements near the stations on the high mountain passes, for instance, at In Alpe Iulia or Ad Titulos. However, even if we allow the presence of civilian settlements only along the low-land sections of the roads, they will still amount to a sizeable group, potentially increasing the number of new foundations by nearly 100%.

When assessing the changes in the settlement pattern after the Roman conquest, it should be remembered that in most of the micro-regions of the northern Adriatic, and especially on the islands and the Istrian Peninsula, there was a considerable investment in the countryside. The severe drop in the number of *gradina* sites dating to the pre-conquest period was compensated for by a large number of elaborate villa complexes, especially along the coast.<sup>249</sup> In contrast to Roman Macedonia, that remained predominantly peregrine, the Istrian Peninsula, and possibly parts of Liburnia, were included in the tenth region of Italy. The local communities were exempted from land taxes and the incentive to invest in the countryside would have been much greater than in Inner Dalmatia or Macedonia.<sup>250</sup>

In view of the strategic importance of this corner of the study-area, the maintenance of the existing settlement network was a rational decision. Although poor in natural resources, control of this area was crucial to the security of Italy and future expansion in the Balkan Peninsula and the Danube. The representatives of the large trading families from northern Italy or Etruria, who formed the back-bone of the urban elite at the time of the High Empire, either settled in some of the existing urban settlements or established their settlements in the immediate vicinity of the earlier central places. The new establishments in the northern

Adriatic were limited to secondary agglomerations, stations on the roads that led into the Balkan interior and minor port-towns that emerged in the wake of the increased demand in Aquileia.<sup>251</sup>

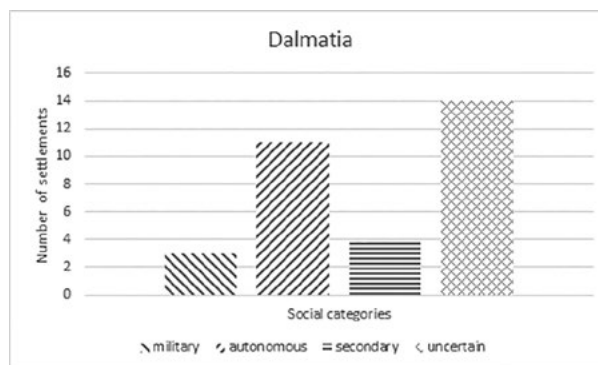


Figure III 5: The basic formal categories of newly founded settlements in Dalmatia.

In comparison to Macedonia and the northern Adriatic, the new foundations in Dalmatia were more numerous and they include settlements of varying rank and character. At least 27% of all agglomerated settlements included in this study were founded after the conquest. It should be reiterated that the list excludes the majority of the road-stations, unless it has been proven they expanded into larger agglomerations, as well as the poorly researched sites. In the previous chapter it has been demonstrated that the urbanisation of Dalmatia under the High Empire was largely a new phenomenon, especially in the interior in which there was very little continuity, either topical or toponymical, from the pre-conquest period.

Three, possibly four, of the newly founded settlements in the province can be defined as garrison settlements. (Figure III\_5, Table II\_5) These include the anonymous fort near Dobož on the Bosna, the former legionary camp Tilurium, in which auxiliary units had replaced the legion by the late first century AD, the supposed auxiliary fort near modern Humac to the north of Narona and possibly the outpost known from the itineraries as Castra, located in modern Banja Luka on the Middle Vrbas.<sup>252</sup> This last site is classed as uncertain, as the only indication of a military presence is its ancient name.<sup>253</sup> Andetrium, the former Dalmatian

<sup>251</sup> Matijašić 1998.

<sup>252</sup> Dobož: Čremošnik 1984, 23-84; Tilurium: Sanader, Tončinić 2005, 685-688; Sanader, Tončinić 2010, 33-52; Bigeste: Zaninović 1976, 169-184; Bojanovski 1988, 116-128; Castra: Bojanovski 1988, 300-303. For the army in Roman Dalmatia, see Wilkes 2000, 327-341. Recent studies have brought to light another potential auxiliary fort to the north of Magnum, but its date and longevity are yet to be determined, Glavaš 2014, 63-74.

<sup>253</sup> Some scholars have suggested that both Castra and the unnamed fort near Dobož belonged to Pannonia Superior rather than to Dalmatia, Bojanovski 1988, 325-326. This possibility hardly changes

<sup>248</sup> Alföldy 1969; Wilkes 1969.

<sup>249</sup> Matijašić 1982, 53-64; Škegro 2006, 149-173; Begović-Dvoržak, Schränk-Dvoržak 2004, 65-91; Tassaux 2011, 434-436.

<sup>250</sup> On the controversies surrounding the status of Liburnia see Vittinghoff 1977, 3-51; Čače 1993: 1-35; Starac 2006.107-114.

*oppidum*, also garrisoned smaller army units but, as in the case of Tilurium, the nature and extent of the civilian settlement are unclear.<sup>254</sup> Moreover, if Andetrium did continue as a garrison site into the High Empire, it will qualify primarily as a pre-Roman settlement. Although at a first sight surprising, the presence of a small number of garrison settlements in a demilitarized province, located far from the *Limes*, is not an exception in our study-area.<sup>255</sup> It should be stressed that, in contrast to the provinces on the Danube, the military segment of the urban network of Dalmatia played a rather ephemeral role in the overall urban constellation.

Unlike the provinces discussed in the preceding sections, in which the new foundations were predominantly composed of secondary agglomerations, almost one-half of all newly founded settlements in Dalmatia were autonomous towns; the great majority of them founded as civilian rather than as garrison settlements.<sup>256</sup> The only exception is Burnum, a former legionary camp that was granted a municipal status in the early 2nd century.<sup>257</sup> In some cases, these towns are eponymous of the communities that inhabited their territories, for example, Burnum, Delminium and Doclea. This implies that at least a part of the urban population was recruited from the native communities. This assertion is further substantiated by the onomastic formulae that appear in inscriptions.<sup>258</sup> However, most of the epigraphically attested part of the population had Italic or Oriental origins. In comparison to the Roman foundations in the northern Adriatic, the towns in continental Dalmatia were at least 50 years younger and the members of their leading classes were recruited from a different population base to those in the towns on the Adriatic coast or along the Amber Road, including legionary veterans from the eastern provinces and the native communities.<sup>259</sup>

As argued in the previous chapter, although numerically significant in every aspect, the new foundations in Dalmatia were overshadowed by the pre-Roman coastal settlements. Any mention of the colonies and *municipia* of the Dalmatian interior outside their respective territories is very sporadic. Their epigraphic legacy is tiny and the archaeological remains so scanty they

barely allow us to relate these settlements to specific sites. In this respect, the patterns of urban developments in Roman Dalmatia are similar to those attested in Macedonia: in both provinces the most successful urban settlements grew from the communities of Roman citizens stationed in the pre-existing towns and *oppida*. Although these settlements traced their roots back to the pre-Roman period, their urban fabric and their role in the integral urban network were completely changed after the Roman conquest. In this sense, these towns were as Roman as the green-field foundations in the continental part of the province.

Having pointed out the meagre traces of the self-governing towns in the Dalmatian interior, it is hardly surprising that the category of secondary agglomerations is even more elusive. However, thanks to the series of extensive surveys along the Roman roads in the interior of Dalmatia, we know of a relatively large number of subordinate settlements from this province.<sup>260</sup> Over one-half of the group of newly founded settlements, including most of the uncertain cases, can be assigned to this category. However, only three or four settlements in this group display certain urban characteristics, like densely built-up areas or remains of public architecture, and were definitely founded after the conquest. For the rest, we only have descriptive accounts, often stressing their large size. On the basis of their location and certain artefact categories, at least five have been interpreted as mining colonies and seven as road-side *vici*.<sup>261</sup> In some cases – Stanecli, Leusaba – there is evidence of ore-smelting at the supposed sites of the road-stations.<sup>262</sup> Because most of these sites are so poorly researched, they are classed uncertain in Figure III\_5. It is interesting to note that, of the three settlements for which we have more tangible archaeological evidence, two – Domavia and the unnamed settlement at modern Kolovrat – clearly belong to the group of mining settlements and only one – Aquae S. – is a positively identified road-station and spa-town.<sup>263</sup>

There can be no doubt that the true number of secondary agglomerations was much higher. Half of the entries that belong to the group of uncertain settlements – the anonymous Roman agglomerations near modern Velečevo, Vinjani, the road-station of

their role and position in the broader regional network.

<sup>254</sup> Bojanovski 1974, 131-132.

<sup>255</sup> In one of her later studies, I. Čremošnik has pointed out yet another garrison settlement near modern Šipovo, but without adducing any evidence, Čremošnik 1990, 355-364. In this study we have followed Bojanovski 1974, 347-369, who saw an autonomous civilian settlement called Baloie at this site.

<sup>256</sup> This prominence of the autonomous towns among the category of newly founded settlements is caused primarily by the large number of secondary agglomerations whose chronology is uncertain, but were most likely new foundations, see Chapter II.

<sup>257</sup> Alföldy 1965, 87-88; Campedelli 2011, 33-64.

<sup>258</sup> Alföldy 1965, 121.

<sup>259</sup> Ferjanić 2002.

<sup>260</sup> Bojanovski 1974; Bojanovski 1977, 83-151; Bojanovski 1978, 51-125. See Chapter Two, fn. 98.

<sup>261</sup> Road-side *vici*: Stanecli, Leusaba, Aquae S., the unnamed settlements near modern Drenovik, Vinjani, Velečevo and possibly Ustikoline, see the preceding footnote. Mining settlements: Domavia, the agglomerations near modern Višnjica, Kolovrat, Kačuni and Vojlavica.

<sup>262</sup> Bojanovski 1974, 105, 179-182.

<sup>263</sup> Aquae S.: Pašalić, 1959, 113-136; Bojanovski 1988, 144-154; the mining colony near modern Kolovrat: Cermanović-Kuzmanović 1981, 103-107; Loma 2002, 143-179; Domavia: Wilkes 1969, 377-378; Bojanovski 1988: 193-203.



Pardua- will join the group of secondary agglomeration, if future research proves that these are agglomerated settlements rather than clusters of farms.<sup>264</sup> One fact is certain, a large number of settlements of similar rank still await discovery. The absence of monumental remains and fortifications has made them invisible to the traditional techniques of field survey. Nevertheless, their inconspicuousness in the archaeological record is an important tale-tell sign. The situation is almost identical to that encountered in Macedonia, and the road-stations and mining colonies would have been hardly more elaborate than those in the other provinces of the study-area. The fact that these settlements have failed to produce monumental remains or to enter the historical and epigraphic record must be taken as an accurate indicator of their status and wealth. Economic prosperity epitomized by urban development was inseparable from juridical status in this part of the Roman Empire and, as often happened, the presence of scarce natural resources was not necessarily beneficial to the local communities. More to the point of the present chapter, apart from their specialized functions, we cannot be sure if these settlements were essentially different from the average village in the Dalmatian interior. It is possible that at least some of our secondary agglomerations belonged to the rural sector.

In the case of Dalmatia, it can be argued that the relative prominence of the secondary settlements is an actual index of the feeble impact of the autonomous towns on the economy and demography of the province. The pre-existing urban infrastructure was obviously deemed inadequate, but the newly established network of autonomous towns likewise did not have the capacity to provide essential services to the more remote parts of the province. When discussing the spatial distribution of the basic categories of Roman settlements, we shall see that other inhibiting factors were the large state-owned districts in the central and eastern parts of the province, famed for their riches in gold, silver and lead.<sup>265</sup>

### The Pannonias

As in the rest of the provinces on the Danube frontier, urbanism in the two Pannonias was distinctly marked by the large number of army contingents. Four permanent legionary camps and at least 32 auxiliary forts guarded the Pannonian sector on the Middle Danube.<sup>266</sup> This adds up to a minimum of 40,000 soldiers on active duty, on its own a significant demographic factor. As argued in the Introduction, these communities were not self-sufficient and it is likely that the population figure

directly linked to the military sector was much higher. The majority of the settlements that grew up around the military bases in these provinces were not urban in the strict sense of the word. Undeniably, this categorization has been chiefly determined by the old legal principle that separated the military from the civilian sphere.<sup>267</sup> By the early 2nd century AD, the Romans had found a formula to grant official statuses to the largest and most successful among these communities without violating the ancient rule of civic foundations.<sup>268</sup> In the end, the great majority of the garrison settlements were never granted an official town charter. However, although on paper these communities failed to reach an urban status, in other aspects – especially size and physical appearance – they were more urban than many of the official towns in the demilitarized provinces of the Balkan interior.

As shall be demonstrated, there are significant differences between the urban profiles of the individual Danube provinces. In the case of Pannonia, these differences were recognized by the division of the province at the beginning of the 2nd century AD.<sup>269</sup> It is therefore worthwhile taking a brief look at each province separately.

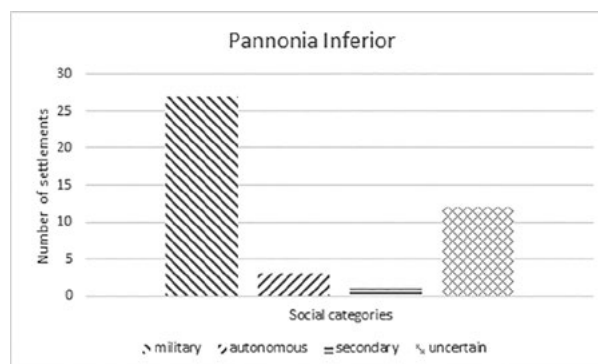


Figure III 6: The basic formal categories of newly founded settlements in Pannonia Inferior.

Second only to Dacia, Pannonia Inferior was the most militarized province in our study area. 27 out of 43 settlements, or almost 65% of the newly founded agglomerations, can be classed as garrison settlements. (Figure III 6, Table II 6) This count excludes the auxiliary forts built on top of or near pre-Roman *oppida*, as well as the auxiliary fort near modern Albertfalva, possibly abandoned after the Marcomannic Wars.<sup>270</sup> Such a high percentage of garrison settlements is paralleled only in a few other provinces on the Danube *Limes*. At the end of this chapter, we shall see that

<sup>264</sup> For the archaeological remains at some of these sites, see Bojanovski 1974, 166; Bojanovski 1977, 83-151; Bojanovski 1988, 284-287.

<sup>265</sup> Cf. Mattingly 2006.

<sup>266</sup> Fitz 1980a, 125-140; Visy 2003.

<sup>267</sup> See, for instance, Mommsen 1873, 299-326, especially fn. 2.

<sup>268</sup> Vittinghoff 1971, 299-324; Mócsy 1974, 139-147.

<sup>269</sup> Mócsy 1974, 91-92.

<sup>270</sup> Gabler 1999, 75-86.



this was partly related to the geographical position of the province in relation to the *Barbaricum*. Like its Moesian counterpart, during most of the Principate, the territory of Pannonia Inferior was little more than a narrow military zone along the right bank of the Danube, measuring not more than 50 km at its widest. Obviously under these circumstances, the space and demographic potential necessary for the constitution of autonomous municipal entities were rather limited. This would change in AD 214, when its frontier with Pannonia Superior was drawn at least 50 km farther west.<sup>271</sup> However, urbanization in the juridical sense of the term, remained confined to the large garrison settlements on the frontier. By the Severan period, the two settlements that grew up near the legionary camps of Aquincum and Brigetio were granted town charters.<sup>272</sup> As this act did not cause perceptible changes in the layout or the socio-economic profile of these settlements, they too have been included in the list of garrison towns.

In the entire province there were no more than five newly founded civilian establishments. Four of these – Sirmium, Bassianae, Volgum and Spodentium – were autonomous towns, although the history of the latter two is problematic as they are yet to be located.<sup>273</sup> The only certain secondary settlement dated after the Roman conquest is Sopiana, granted civic status only after the period of the Tetrarchy.<sup>274</sup> It was most likely joined by Gorsium. The latter grew at the site of a former auxiliary camp, and some scholars believe that, by the 2nd century, it had become an autonomous town.<sup>275</sup> It is therefore assigned to the group of uncertain settlements. In view of the situation and role of this province on the Danube frontier, the relative scarcity of newly founded civilian settlements is hardly surprising. Whereas in the north it was the presence of the military that prevented the emergence of new autonomous settlements, in the south of the province the scope for new foundations was limited by the persistence of the pre-Roman *oppida* at Cibalae and Mursa. Both settlements had been granted an autonomous status by the early 2nd century, completing the municipalization of Pannonia Inferior.<sup>276</sup>

On the surface, it is more difficult to explain the near absence of secondary agglomerations in this province. If anything, the state of research in Pannonia Inferior,

especially in its northern half, is far more advanced compared to that in the Dalmatian interior. However, the evidence for small, quasi-urban communities is extremely scant. Most probably, the large group of settlements with an uncertain status and origin includes at least some secondary agglomerations but, on the account of the character of the data, it is impossible to decide if these were average sub-corporate communities that found their way into the archaeological literature by accident or special-purpose settlements that stood apart by virtue of their size and physical remains. Some of these sites, like those near Morović and Županja, have been identified as road-stations, but only on the basis of extensive surveys and topographic studies.<sup>277</sup> In short, unless more detailed field studies and excavations are carried out, it is impossible to be sure about the correct interpretation of these sites. The same is true of the Late Roman fortified settlements near modern Ságvár and Alsóhetény, normally identified with the stations of Tricciana and Iovia.<sup>278</sup> There is very little positive evidence of earlier phases at these sites, especially at Tricciana.<sup>279</sup>

Regardless of these uncertainties, it is clear that the number of secondary, civilian agglomerations was much higher than indicated in Figure III\_6. It would be unlikely that there had not been any spontaneous growth near the stations on the important inter-regional corridors along the lower courses of the Sava, Drava and Drina. Somewhat less attractive were the sections along the two diagonal roads that connected the Pannonian *Limes* with the interior of the province.<sup>280</sup> Ptolemy, writing in the middle of the 2nd century AD, mentions at least seven or eight settlements besides the known auxiliary forts on the Danube.<sup>281</sup> The locations of most of these sites cannot be determined but, as there is no evidence that they were autonomous towns, it can safely be surmised that they were secondary agglomerations. As in the other provinces in the study-area, the main dilemma is whether the government constructed or invested in settlements designed specifically to function as road-stations and local markets or whether it merely assigned these functions to the existing rural estates or villages.

Another possible reason for the near absence of secondary agglomerations in Pannonia Inferior is terminological. Although by layout and origin the agglomerations that developed near auxiliary camps belong to the category of garrison settlements, from

<sup>271</sup> Mócsy 1974, 198; Fitz 1989, 533-558.

<sup>272</sup> Mócsy 1974, 134-139, 217-227.

<sup>273</sup> Sirmium: Mirković 1971, 5-90; Bassianae: Milin 2004: 253-268; Volgum: Tóth 1986, 163-181; Spodentium: Crnobrnja 2011, 373-388; Sopdent is included in the list only on the condition that it was located at the site proposed by Crnobrnja.

<sup>274</sup> Gábor *et al.* 2004: 269-294.

<sup>275</sup> Fitz 2003, 197-207; Kovács 1999, 278-295, summarizes the debate about the autonomous status of Gorsium.

<sup>276</sup> Mócsy 1974, 118, 142-143; Iskra-Janošić 2004, 169-195; Filipović 2004, 157-168.

<sup>277</sup> Bojanovski 1984, 145-264.

<sup>278</sup> Tóth 1985, 121-136; Fitz 1989, 547-548, has proposed a different location for Iovia.

<sup>279</sup> In the case of Alsóhetény, earlier remains have been detected to the south and southeast of the fort, Tóth 1985, 126.

<sup>280</sup> Burghardt 1979, 3-4, Figure 5; Soproni 1980b, 207-217.

<sup>281</sup> Ptol. *Geog.* 8.16.6; Bojanovski 1984, 150-154; tried to identify these sites with some of the road-stations along the Sava Road.

a purely functional perspective they are secondary agglomerations. In addition to providing a range of specific services to the army units, they also functioned as road-stations, and probably markets, along the *Limes* Road. In a nutshell, it would seem that the preponderance of the military segment in the urban network in Pannonia Inferior restricted the development of both categories of civilian settlements. Not only did the garrison settlements consume the territorial and demographic potential of the province, they actually replaced a large proportion of the civilian settlements by providing a similar range of services.

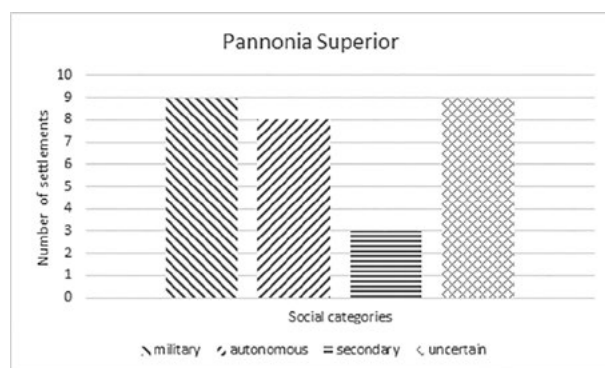


Figure III 7: The basic formal categories of newly founded settlements in Pannonia Superior.

Although Pannonia Superior was also a frontier province, the profile of the newly founded settlements in it differs quite sharply from that of its eastern neighbour. There are fewer garrison sites, representing slightly over 30% of the total number of agglomerated settlements. (Figure III\_7, Table II\_7) As our tables include only a proportion of the secondary civilian settlements founded after the Roman conquest, it is likely that the true share of the garrison settlements in the urban network of the province was even less significant. This is hardly surprising in view of the fact that the *Limes* in Pannonia Superior was less than three times longer than the *Limes* in Inferior. (Map III\_1).<sup>282</sup>

Although not as numerous as in some other frontier provinces, the garrison settlements in Pannonia Superior developed into the largest and most important agglomerations in the province. The provincial capital and two of the largest settlements in the province – Carnuntum and Vindobona – developed around permanent army camps on the northern Pannonian frontier. As in other frontier provinces, urban growth translated into monumentality and public construction was particularly strong on the *Limes*.

<sup>282</sup> This is essentially the Marcomannic front. For sectoring on the Pannonian *Limes* see Kreković 2001, 103-107.

However, in comparison to Dalmatia or Pannonia Inferior, the urban settlements in Pannonia Superior were more evenly spread. The number of newly founded civilian towns almost equals the number of garrison settlements and it is among the highest in the provinces of our study-area. In total, eight of the newly founded settlements had been granted an official town charter by the time of the Severan dynasty – excluding the garrison settlements that became autonomous towns – amounting to over 27% of the integral settlement network. It is true that the number of newly founded towns was slightly higher in Dalmatia, but this fact merely obscures the significant differences in the level of urbanization between the two provinces. With the exception of a few towns in the Trans-Pannonian half of the province – like the vaguely attested *municipia* of Mogentiana and Halicanum<sup>283</sup> – all Pannonian towns have left a very rich archaeological and epigraphic legacy. As we saw in the preceding section, the archaeological heritage of the newly founded towns in the Dalmatian interior is so insignificant the locations of a number of them remain controversial.

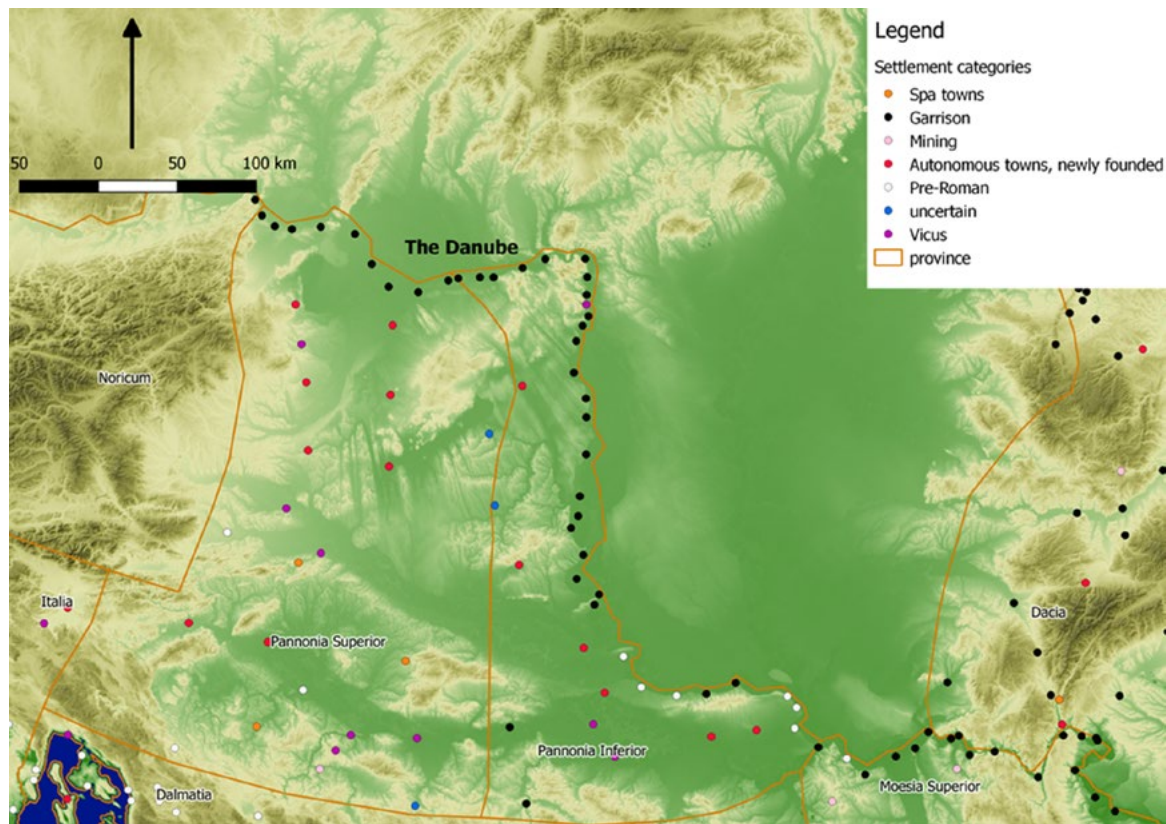
If for the moment we disregard the garrison settlements, that at least in the early phases of their existence were truly cosmopolitan communities, probably the most decisive element in the early genesis of the towns in Pannonia Superior was the settlers from Italy.<sup>284</sup> In this respect, Pannonia Superior resembles the situation on the Dalmatian coast, although the wave of colonizers reached the Pannonian interior several decades later. Communities of merchants, mostly freedmen from northern Italy or their descendants, occupied key nodes along the main interregional corridors traversing the province, in particular the road along the Sava and the Amber Road. It was these communities of Roman citizens that planted the seed of Roman urbanism in Pannonia. They were present in the oldest and most distinguished Pannonian towns: Poetovio, Savaria, Scarbantia and Siscia. In comparison, the input of veteran colonists was either far less important or has simply left very little traces in the epigraphic record.<sup>285</sup> In the case of Pannonia, the participation of the native communities was also far more significant than in some other provinces in the Balkan interior and a few of the autonomous towns can be plainly related to some of the tribes who inhabited this land at the time of the Roman conquest.<sup>286</sup> However, their presence does not diminish

<sup>283</sup> Mogentiana: Nagy 2004, 75-83; the humble, mostly Late Antique remains from Sv. Martin on the Mura, Tomičić 1979, 40-43; Lolić, Wiewegh 2012, 191-224, have been identified with the *municipium* Halicanum, known from an inscription found in Aquincum, Soproni 1979, 93-98.

<sup>284</sup> Šašel 1966, 117-137; Mócsy 1974, 74-78; Fitz 1980b, 141-159; Mócsy 1974, 197-222; see, most recently, Gregoratti 2013, 133-53; for a full bibliography on this topic.

<sup>285</sup> Ferjanić 2002, 46-48, 52-55.

<sup>286</sup> Mócsy 1974, 134-139; Andautonia, Neviodunum and Aquae Balisae surely belong to this group, but it is impossible to relate either Sala



Map III 1: Distribution of the Pannonian settlements by formal categories.

the influence of the Italian communities even in some of the peregrine capitals.<sup>287</sup>

Despite the strong wave of urbanization that swept over the provincial territory, large parts of Pannonia Superior remained under-urbanized. In view of the restricted size of the military sector in this province, an increased role in the category of subordinate central places might have been expected. These are indeed somewhat more prominent in comparison to those in Pannonia Inferior, but still only a handful of sites can be securely qualified as 'small towns'. When compared to the number of secondary agglomerations in Dalmatia, this sector in Pannonia Superior appears rather insignificant. There is a temptation to explain this difference by the clustering of the autonomous towns in coastal Dalmatia, leaving large sections of the interior of the province without self-governing towns. Furthermore, it has to be stressed that our figures for the secondary agglomerations are only partial and of limited significance. It is therefore possible that these differences merely reflect the divergent histories of archaeological research in the individual provinces.

On account of the large number of inscriptions and remains of monumental architecture, at least three sites can be classed as town-like secondary agglomerations. However, even this small group is not entirely unambiguous. It includes two healing sanctuaries – Aquae Iasae and the site of a Fortuna sanctuary near modern Topusko, identified with the station of Quadrata or Ad Fines – but the residential quarters at these sites have not been properly documented.<sup>288</sup> The third settlement is the mining vicus near modern Blagaj, in the iron-mining district close to the provincial frontier with Dalmatia.<sup>289</sup> This anonymous establishment in the north of Bosnia and Herzegovina consists of a metallurgical and a residential component and, like the rest of the known mining-establishments in Dalmatia, it was provided with baths. In its layout and micro-location, it is reminiscent of the road-side *vici*, although it has to be stressed that the majority of the buildings at this site can be dated only to the Late Roman period. Compared to the small towns that developed along the main provincial roads, this mining settlement on the Japra presents a rather humble appearance. This is attributable to the lowly social status of the mining

or Mursella to any of the known Pannonian *civitates*. Sala: Redö 2003, 191-235; Mursella: Szönyi 2004, 85-97.

<sup>287</sup> Andautonia: Nemeth-Ehrlich, Špalj 2003, 107-129; Neviodunum: Lovenjak ed. 1998.

<sup>288</sup> Aquae Iasae: Gorenc, Vikić 1979, 32-49; Lučić 2013, 185-255; Topusko: Šegvić 1996, 283-289; for the possible identification, see, Durman 1992, 117-133.

<sup>289</sup> Basler 1977, 121-216.



communities but, given the very limited amount of research, any comparison between the two groups of settlements must be exercised with due caution.

The other sites included in this analysis are open settlements that have often been described in the archaeological reports as major agglomerations. The reliability of these accounts is questionable.<sup>290</sup> Aware of the dispersed nature of rural settlements from the Roman period, these sites might easily belong to the rural sector, despite the impressive size-estimates given in the literature.<sup>291</sup> Compared to one of the rare examples of a well-studied *vicus* in Roman Pannonia – discovered near modern Strebersdorf – these settlements are true giants.<sup>292</sup> The fact that the latter settlement was located at the site of a former auxiliary camp on the Amber Road arouses even greater suspicions of the very large sizes attributed to the settlements south of the Sava. Because of the inadequate data, the supposed sites of some of the road-side *vici* along the Sava Road are also included in the group of uncertain settlements.

The number of newly founded secondary agglomerations in Pannonia Superior was certainly higher than suggested by our figures, although it is difficult to arrive at a more specific estimate. In a recent survey of the towns and settlements in the Croatian part of Pannonia, T. Lolić and Z. Wiewegh have listed forty-six sites.<sup>293</sup> In addition to the autonomous towns, the group consists almost entirely of stations along the Sava and Drava Roads and the road that links Siscia to the Amber Road. We cannot be sure about the character, or indeed even the very existence of these sites in the period of the High Empire, but the ratio of one autonomous town to eight or nine secondary agglomerations does not seem improbable.

### The Moesias

Of the 33 agglomerations possibly established after the Roman conquest of Moesia Superior, at least 12 were permanent settlements that developed adjacent to the sites of auxiliary or legionary camps. (Figure III\_8, Table II\_8) This amounts to slightly over one-third of the settlements included in this analysis, very close to the share of the army sector in Pannonia Superior. The fairly moderate percentage of military settlements in this frontier province should not come as a surprise in view of the fact that, after the conquest of Dacia, only a very short section of the northern Moesian frontier faced the *Barbaricum*. Earlier, scholars have

assumed that much of the military infrastructure in the Iron Gates built under the Flavians and Trajan lost its original purpose after the conquest of Dacia and was abandoned.<sup>294</sup> However, the large-scale rescue excavations in the area in the 1960s and 1970s brought to light second- and third-century phases at a number of auxiliary forts that had been active on the eve of Trajan's campaign.<sup>295</sup> Obviously, the maintenance of the road along the Danube and the navigability of the river were deemed crucial to the functioning of the Danube *Limes* and some of the military outposts were retained after the conquest of Dacia. In addition to logistical considerations, some of these sites also played a role in the export of the mining products from the region.<sup>296</sup> However, it is not always clear if they continued to exist as garrison settlements or were fully demilitarized. The number of garrison settlements could be slightly higher if we include the problematic examples – Dorticum, Aquae and Transdierna.<sup>297</sup> The group could also include the *civitas* known from the Late Roman sources as Aureus Mons.<sup>298</sup> Located on the *Limes*, it might be expected that this site was occupied by the military, but there is very little evidence to support this assumption.

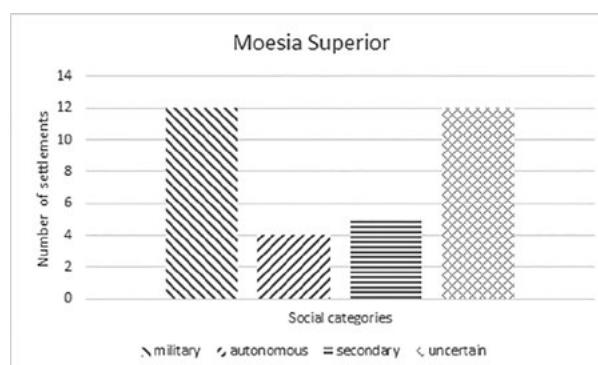


Figure III 8: The basic formal categories of newly founded settlements in Moesia Superior

As in the Pannonias and the other Danube provinces, some of the largest and most important urban settlements in Moesia Superior developed around military camps and, by the end of the 2nd century AD, some – Viminacium, and possibly Singidunum – were

<sup>290</sup> These are the unnamed settlements near modern Skurgić and Strigova, Bojanovski 1984, 235; 242; the area of the former site has been estimated at 30 ha, equalling the size of some of the autonomous towns in the province!

<sup>291</sup> Donev 2017, 79–94.

<sup>292</sup> Groh 2009, 175–187.

<sup>293</sup> Lolić, Wiewegh 2012, 191–224.

<sup>294</sup> Mirković 2007, 41–42; Mócsy 1970, 55–58, on the basis of the distribution of stamped military tiles, has assumed that certain forts in the Iron Gates area were continually occupied up to the reign of Aurelian.

<sup>295</sup> Vasić 1982–1983, 91–136; Vasić, Kondić 1986, 542–560; Wilkes 1998, 635–643.

<sup>296</sup> Werner 1986, 561–564; Dušanić 2004a, 247–270.

<sup>297</sup> Dorticum: Ivanov 2003c, 11–17; Wilkes 2005, 211; if there was a permanently stationed army unit at this site, it left very little or no epigraphic monuments; Aquae: Mirković 1968, 85–89; Jovanović 1996, 263–264; Transdierna: Cermanović-Kuzmanović 1982–1983, 337–343; Vasić, Kondić 1986, 544.

<sup>298</sup> Mirković 1968, 83–85; Wilkes 1998, 641; has nonetheless claimed that Aureus Mons was a Flavian auxiliary fort; possibly Trajanic in Wilkes 2005, 208.



granted an autonomous status.<sup>299</sup> In fact, the number of autonomous towns recruited among the garrison settlements almost equals the number of purely civilian foundations with an official town charter, further underlining the extent of the military sector in Moesia Superior. Nevertheless, the share of the civilian sector, more specifically the autonomous towns, should not be underestimated. By the time of the Late Principate, Moesia Superior boasted no fewer than six newly founded autonomous towns. This amounts to about 12% of all settlements in this province, slightly more than the number in Pannonia Inferior. The chances are that this percentage was higher because the group excludes two autonomous towns that are yet to be located. Both are known solely from isolated epigraphic testimonies and they have been kept in the graph 'uncertain' only for the sake of consistency.<sup>300</sup> If their names are anything to go by, it is likely that at least the *Municipium Aelianum* was founded after the Roman conquest of the area. Moreover, it certainly belonged to the group of mining *municipia* and, analogous to the *Municipium Dardanorum* and Ulpiana, it was not attached to a military fort. Finally, the group of autonomous towns unrelated to military camps might also be expanded by the addition of *Horreum Margi*.<sup>301</sup> The topography and chronology of this site is utterly confused, but its name and late promotion would seem to point towards yet another garrison settlement that became a *municipium* under the Severans.<sup>302</sup> Given the nature of the evidence from these sites, the number of civilian, autonomous towns could increase by at least 50%.

As to be expected, the secondary agglomerations make-up the most elusive category of newly founded civilian settlements. In fact, in Moesia Superior they are comparatively well represented on account of the auxiliary forts that were demilitarized after the conquest of Dacia, but probably continued to exist as civilian settlements. Most of these sites have been poorly researched, but any known archaeological material dates to the Late Roman period.<sup>303</sup> Only the epigraphic record and the necropolis finds in Bononia indicate that these settlements were occupied throughout the period of the High Empire. Almost all of these sites are located to the east of the Iron Gates and,

should it be proven that some of the auxiliary camps in the gorge were also demilitarized, the number of secondary agglomerations could rise. At least two sites in the interior of the province – Remesiana and the settlement near Drsnik in Metohija – also belong to this group. Remesiana was a road-station and possibly the centre of a separate district that became a town in the Late Roman period.<sup>304</sup> Some scholars have claimed that the settlement in Metohija was also an autonomous town. This claim is not supported by the epigraphic evidence and it is possible that this was yet another road-station on the road between Lissus and Ratiaria.<sup>305</sup>

The case of Remesiana once again underlines the importance of road-stations in the settlement map of the Balkan Peninsula and the Danube. Though positive evidence for the proliferation of these secondary agglomerations in the period of the High Empire is missing, the potential was evidently there. Indeed, the great majority of the group of settlements with uncertain status can be related to road-stations. At five of the sites in this group, the surface remains indicate the presence of small civilian agglomerations in the immediate vicinity of the supposed *mansiones*.<sup>306</sup> Unfortunately, the chronology of these remains is not entirely clear. In at least one case – a possible station on the road Naissus-Lissus, near modern Kuršumlja – the discovery of an Early Roman bath-house and a Late Roman basilica suggests that at least some of these sites were slowly being monumentalized.<sup>307</sup> In view of the importance of the roads that linked the Danube frontier with the Vardar Valley and the Aegean and the main east-west transversal linking the Adriatic and the Lower Danube, the potential for settlement growth along these corridors is unquestionable.<sup>308</sup> Of course, nothing guarantees that this potential was realized and the study of the non-agrarian settlements that developed near road-stations will surely be one of the most exciting study topics in the field of Roman archaeology of the Balkan Peninsula.

Because of its riches in precious metals, large sections of the territory of Moesia Superior had been expropriated by the central government and were constituted as

<sup>299</sup> Mirković 1968, 37-49; Mirković ed. 1986.

<sup>300</sup> These are the *municipium Celegerorum* and *Aelianum*; Mócsy 1970, 30, 36. For the connection between *Aelianum* and the mining district *Aelia Pincensia*, see Dušanić 1977a, 52-94 and Chapter Six.

<sup>301</sup> Petrović ed. 1979; for the archaeological remains, see Vasić, Kavajin-Mundrić, Popović 1989, 7-37.

<sup>302</sup> Petrović ed. 1979, 57.

<sup>303</sup> Bononia: Ivanov 2003a, 18-22; (second-century AD urns) Mitova-Džonova 1972, 203-210; Almus: Ivanov 2003b, 23-26; Almus is not included in the catalogue of auxiliary forts on the Lower Danube *Limes* compiled by Gudea 2005, 319-566; Combustica has been interpreted as yet another road-station. It is located off the Danube *Limes*, on the Ratiaria-Lissus Road. According to Atanasova-Georgieva 1986, 437-440, Bononia, Combustica and Dorticum were all secondary settlements in the territory of Ratiaria.

<sup>304</sup> Petrović ed. 1979, 51-57, 101-108; Dušanić 2004a, 258, sees Remesiana as a centre of a mining district. Mirković 2007, 69. In connection to the possible size and status of Remesiana, the interpretation of the *album* of AD 196, listing the recruits for the VII Claudia in Viminacium is also highly relevant, Mirković ed. 1986, num. 53.

<sup>305</sup> Čerškov 1969, 39-40; Mirdita 1975, 69-81; Mirković 2007, 70-71.

<sup>306</sup> Čerškov 1961, 123-131; Petrović ed. 1979, 20-29; Vasić, Milošević 2000.

<sup>307</sup> Petrović ed. 1979, 20-21.

<sup>308</sup> Recently rescue excavations along the modern highway between Belgrade and Thessaloniki have revealed another road-side *vicus* at the entrance to the Grdelički Gorge, showing evidence of metallurgical activities and other crafts. Typically, most of the finds date to the period of the Tetrarchy or later, Ivanišević, Stamenković, Jović 2016, 47-69.



separate fiscal districts by the reign of Trajan.<sup>309</sup> In this aspect Moesia Superior resembled Dalmatia but, unlike the latter province, the archaeological evidence for mining *vici* is extremely scant. Most of the sites associated with ore-extraction and smelting in the regions of present-day eastern Serbia, the Timok Valley and Mount Kosmaj in the northwest can only be dated to the Late Antique period.<sup>310</sup> Although epigraphically well attested, the archaeological remains from the supposed centre of the mining district in the area of Mount Kosmaj do not predate the period of the Tetrarchy. Furthermore, the inscriptions found in this region testify to the presence of an auxiliary unit after the Marcomannic Wars and it is possible that the central place belonged to the group of garrison settlements, like Timacus Minus in the Timok Valley.<sup>311</sup>

The dearth of archaeological remains in the mining districts of Moesia Superior and in the Central Balkans in general is understandable in view of the juridical status of this land. There would have been little incentive to make long-term investments on land that could neither be appropriated nor passed-on to future generations. Researchers studying the organization of mining in the Balkans during the period of the High Empire have pointed to the likely seasonal character of the work in the mines.<sup>312</sup> This implies that the exploitation of these regions did not require a particularly advanced infrastructure. If, for instance, the labour force was stationed in provisional camps, it was unlikely to leave any perceptible traces in the archaeological record. Often the most imposing remains encountered in the mining districts are the traces of the actual mining activities themselves: the mine shafts and spoil heaps along the auriferous rivers. However, in the case of Moesia Superior, the diminished prominence of the secondary agglomerations in the mining districts was preconditioned by the fact that our formal settlement classes are based primarily on the topography rather than the economic focus of the settlements. The centres of the Moesian mining districts were either regularly guarded by the army units or had become *municipia* by the Severan period, thereby leaving little room for non-military or subordinate agglomerations in these regions.

The newly founded segment of the settlement network in Moesia Inferior was far from uniform. In Figure III\_9 the list of newly founded settlements has been extended to include the sites with a predominant Late Roman phase and sites whose origins and status are

unclear but were possible Roman foundations. The effect of this is to increase the share of the secondary agglomerations. As in the case of Moesia Superior, the number of settlements with unclear chronology and character is worryingly high and inevitably complicates the interpretation of the data. (Table II\_9)

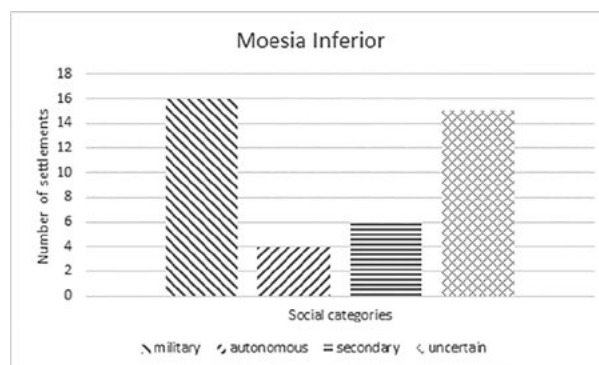


Figure III 9: The basic formal categories of newly founded settlements in Moesia Inferior.

No fewer than 16 sites with a securely established post-conquest date are garrison settlements. They make-up at least 35% of all new foundations in Moesia Inferior, a percentage only slightly higher than in Moesia and Pannonia Superior. In reality, the number of garrison settlements must have been higher. Almost one-half of the settlements classed as uncertain are problematic, not because of their status under the High Empire, but because of their ill-defined chronology. In the preceding chapter, we explained that there is not much evidence in support of a pre-Roman origin of these sites. Even if they did predate the Roman conquest, during the period of the High Empire they belonged to the military sector and are not readily distinguishable from the rest of the garrison settlements. Together with the garrison forts that occupied the sites of pre-Roman *oppida*, they will increase the number of garrison settlements by over 50%. This will raise their share in the settlement network of the province to nearly 60%, close to the estimates for Pannonia Inferior. In view of the length of the *Limes* in Moesia Inferior, this is a far more realistic assessment of the extent of the military sector in the province.<sup>313</sup>

As in the Middle Danube provinces, the largest conurbations in Moesia Inferior emerged near the army camps. By the Severan period, this trend had been recognized by the central government and the settlements that developed near the two legionary camps at Durostorum and Novae had become autonomous towns.<sup>314</sup> In Moesia Inferior, the municipal

<sup>309</sup> Dušanić 1977a, 52-94; see Chapter Six for a more extensive list of references to this topic.

<sup>310</sup> Dušanić 1990, 217-224; Petković 2009, 187-196.

<sup>311</sup> Mirković, Dušanić ed. 1976, 104-107. Timacus Minus: Petrović ed. 1995.

<sup>312</sup> Ørsted 1885, referring to iron-mining in Noricum; for a general perspective see, Knapp, Pigott, Herbert eds. 1998.

<sup>313</sup> Gudea 2005, 324.

<sup>314</sup> Gerov 1980, 113-118, 349-359; Doruțiu-Boilă 1978, 245-247; Ivanov 2003d, 75-86; Kolendo, Božilova eds 1997.

development on the Danube *Limes* was not limited entirely to the legionary towns and it is possible that certain degree of autonomy was granted to some of the major auxiliary camps, like Noviodunum or Capidava on the Scythian sector of the *Limes*.<sup>315</sup> In neither of these cases does the juridical status of the settlement change the fact that, formally, they belonged to the group of garrison settlements. Montana, the centre of a mining district, joins the group of ambiguous settlements qualified here as uncertain because there are no traces of a pre-fourth-century fort at this site, although the epigraphic evidence confirms the permanent presence of the army in the period of the Principate.<sup>316</sup>

At a few of the excavated sites located to the west of the legionary camp Novae, there is proof that the military occupation ended after the conquest of Dacia and the establishment of the new Dacian frontier on the River Olt. This is self-evident in the case of the Trajanic colony of Oescus and it has been ascertained in the cases of Dimum and possibly Utum.<sup>317</sup> Augusta and Variana are problematic but, in view of the developments to the east of Oescus and on the section of the Lower Danube that belongs to Moesia Superior, it is unlikely that the army continued to guard these points after the end of the Dacian campaigns.<sup>318</sup> Assuming that the army retreated from all of the garrison sites to the west of Novae, it would be safe to assume that they continued to exist as civilian, secondary agglomerations.

As in most provinces in our study-area, the impact of the army on the urbanization of Moesia Inferior was felt beyond the category of garrison settlements. Two of the official civilian foundations - Oescus and Troesmis - emerged at the sites of former legionary camps and were chiefly inhabited by army veterans.<sup>319</sup> Marcianopolis and Nicopolis ad Istrum, included in Moesia Inferior only towards the end of the 2nd

century AD, were also home to sizeable communities of army veterans.<sup>320</sup> Excluding the Greek colonies on the Black Sea coast, the autonomous towns founded in the continental part of the province represent only 12% of the settlements included in this analysis. In terms of the size of the civilian sector, Moesia Inferior was only slightly more urban than its Pannonian counterpart. In both provinces there was little room for urban development outside the aegis of the military.

The similarities in the composition of the settlement network between Pannonia and Moesia Inferior end there, as the latter province features a visibly higher number of newly founded secondary agglomerations. At least six of the settlements included in this analysis belong to this category, making up almost 15% of the settlement network. Admittedly, the group does include a few problematic examples, settlements that have not been located or in which the Early Roman phase is poorly attested. In the preceding chapter, when elaborating on the arguments in favour of a post-conquest date for these sites, we briefly touched upon the composition of this group. In addition to the abandoned auxiliary forts located in the western sector of the northern Moesian *Limes*, the group included the *emporium* Piretensium and a couple of *vici* on the Dobroudjan Plateau. The latter two settlements - Ulmetum and Libida - have been identified archaeologically, but in both cases the archaeological material dates principally to the period of Late Antiquity and their character and physical appearance at the time of the High Empire can only be surmised.<sup>321</sup>

In addition to the archaeologically confirmed settlements, the group of secondary agglomerations might be extended to include some *vici* that are attested only in the epigraphic record.<sup>322</sup> Both Moesia Inferior and Thrace are set apart from the rest of the provinces in our study-area because of the very large number of epigraphically attested *vici* and *komai*.<sup>323</sup> A recent study has counted not fewer than 90 rural settlements in these two provinces recorded in inscriptions and this must be the very minimum.<sup>324</sup> About one-third of these settlements were situated in Moesia Inferior and, in some cases, attempts have been made to identify them with specific archaeological sites.<sup>325</sup> If these were newly founded settlements, they will join the group of

<sup>315</sup> One final possibility is that they were granted a certain degree of autonomy, but administratively still belonged to the nearest autonomous town; Doruțiu-Boilă ed. 1980; Suceveanu, Barnea 1991, 35-37. See Chapter Six for further references to this topic.

<sup>316</sup> Aleksandrov 1994; Binev 2003, 160-182; See Chapter Six for a full bibliography on the status of Montana.

<sup>317</sup> Oescus: Gerov 1980, 1-21; Ivanov 1987, 7-60; Boyanov 2008, 69-76; Dimum: Kabakčieva, Lazarova 2015, 195-203; Utum: the remains of the camp are yet to be discovered, Gudea 2005, 416, num. I.10.

<sup>318</sup> The chief problem with these military forts is that they were re-occupied soon after the abandonment of Dacia, so that it is difficult to distinguish the earlier phases of the camp without a systematic on-site research. It should be mentioned that most of the auxiliary forts built prior to the conquest of Dacia were earth and timber constructions and, unless they were re-occupied in Late Antiquity, their remains are not easily detectible, cf. Regianum or Pedoniana, Gudea 2005, 411, 413, num. I.3, I.7. Augusta: judging by the plan of the fort, Ivanov 1980, Figure 212, the visible remains are almost certainly Late Roman; Ivanov 2003e, 27-29, points to finds pre-dating the Marcomannic Wars; Variana: Gudea 2005, 412, num. I.7.

<sup>319</sup> Oescus: Gerov 1980, 1-13; Boyanov 2008, 69-70; Troesmis: Aparaschivei 2006, 189-208; the latest archaeological research at this site suggests that the settlement mentioned by Ovid was not located at the site of the future legionary camp, Alexandrescu, Gugl 2016, 9-21.

<sup>320</sup> Gerov 1980, 289-312; Gerov 1997, 211-314; Poulter ed. 1995.

<sup>321</sup> Libida: Iacob, Ibba, Paraschiv, Teatini 2015, 559-573; Suceveanu, Barnea 1991, 81-82, argue that Libida was a *civitas* capital, but this is indicated nowhere in the written sources; Ulmetum: Suceveanu, Barnea 1991, 37-39; Petculescu 2006, 31-41; the site is explicitly attested as a *vicus* and, judging by the similarities in their micro-locations, it represents a much better parallel for Libida.

<sup>322</sup> Poulter 1980, 733-744; Petculescu 2006, 31-41.

<sup>323</sup> See fn. 146 in Chapter Two.

<sup>324</sup> Martemianov 2012, 40-52; the author claims that the list has been purged of *emporia*, uncertain names and possible doublets.

<sup>325</sup> Velkov 1958, 557-565; Putiers 1975, 60-73; Doruțiu-Boilă ed. 1980; Avram ed. 1999; Mihailescu-Bîrliba 2012, 91-98.



secondary agglomerations. However, the problem is that the terms *vicus* or *kome* could be used to refer to any average rural settlement. This will obviously invalidate both the statistics pertaining to the chronological profile of the urban network and in particular those pertaining to the genesis of the newly founded towns.

In view of the evidence of annually elected magistrates and public buildings, some of these settlements - Clementiana, Turris Muca, Quintianus, Trullensium and Petra - displayed at least some urban features.<sup>326</sup> The presence of a formal hierarchy is a distinguishing feature of corporate communities and in this respect the Moesian *vici* do qualify as town-like secondary agglomerations. However, this fact does not imply that the communities in question were focused on non-agrarian economies or that they were larger than the typical village in this region. The population of nearly all of these *vici* was made up of colonists, Roman citizens and peregrine settlers from Thrace. The emergence of a formal hierarchy is hardly surprising in these ethnically diverse communities, predominantly made up of colonists, but it is unclear if this feature makes them essentially different from the rest of the rural settlements. Nonetheless, if we include the dozen *vici* in the group of secondary agglomerations that boasted self-governing institutions, this category will immediately become the most predominant among the newly founded settlements.

Over three-quarters of the Moesian *vici* were located on the Dobroudja Plateau.<sup>327</sup> Actually it would have seemed more likely to have encountered them in the western part of the province that had a sparser network of autonomous towns. Perhaps the key to this problem should not be sought only in the regional urban constellation. The part of Moesia Inferior that was to become Scythia Minor in Late Antiquity was set apart from the rest of the province by the large number of Roman colonists in the countryside.<sup>328</sup> In an area dominated by the army and the Greek *poleis*, for the Roman colonists, the *vicus* was the most appropriate form of organizing communal life. Because of the proximity of the Greek colonies on the Black Sea coast, located at distances not greater than 50 km from the Danube *Limes*, there was simply not enough room for new urban foundations in this region.

<sup>326</sup> The examples are taken from Suceveanu, Barnea 1991, 41-43; Avram 2007, 104-109.

<sup>327</sup> Poulter 1980, 731.

<sup>328</sup> Doruțiu-Boilă ed. 1980, 281-287; Poulter 1980, 729-744; has rather persuasively argued that these *vici* were a result of a planned colonization of a depopulated area that formed the background to the Lower Danube *Limes*. Without a strong civilian sector in the adjacent regions, the supply of both recruits for the army and of other basic necessities would have posed serious logistical challenges. For a different interpretation, see, Alexandrescu, Suceveanu 1988, 163-173.

Thrace

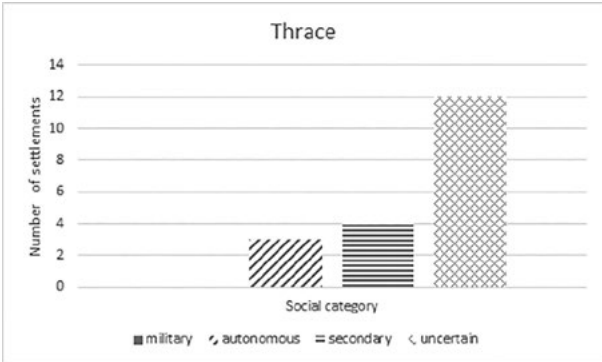


Figure III 10: The basic formal categories of newly founded settlements in Thrace.

Thrace was not a frontier province, hence the absence of garrison settlements in the period of the High Empire is hardly surprising. (Figure III\_10, Table II\_10) However, this observation is not entirely correct. Thrace had at least one, possibly two, garrison settlements during the period of the Principate, but they are not included in the list. The garrison settlement at Cabyle had developed at the site of the pre-Roman *polis*, while the archaeological remains of Germania do not predate the early 4th century.<sup>329</sup> Both sites have therefore been classed as uncertain. In contrast to the great majority of garrison settlements in our study-area, the period of the High Empire is poorly represented in the archaeological record from these two sites. If it were not for the epigraphic evidence, the presence of these army units might have easily escaped notice. In the case of Cabyle, it is possible that the auxiliary unit was stationed in the existing settlement. Indeed, the epigraphic evidence clearly indicates that the town had a functional *agora* in the middle of the 2nd century AD, at the same time as the *cohors* II Lucensium was garrisoned there, but there are no mentions of official magistrates or decrees issued by a local council.<sup>330</sup> Cabyle is therefore excluded from the list of autonomous towns.

Only three of the newly founded settlements in Thrace were autonomous towns, including the Roman colony of Deultum. This pattern is typical of the areas exposed to urbanizing influences long before the arrival of the Romans. However, we have seen that in relation to its large territory, Thrace was under-urbanized in the pre-Roman period and there was plenty of room for new urban foundations after the incorporation of the province in the middle of the 1st century AD. In the preceding chapter, it was pointed out that three of the

<sup>329</sup> Cabyle: Vekov ed. 1982; Germania: Stajkova-Aleksandrova, Stajkova 2003, 202-214.

<sup>330</sup> Vekov ed. 1982, 7-16; Vekov 1989, 247-256; Mihailov ed. 1997, 283-284. See chapter Six for the juridical status of this town.





autonomous towns of Roman Thrace – Serdica, Pautalia and Anchialus – have been classed as uncertain, because of the problematic chronology of these sites. If future research proves that these were new foundations, the number of newly founded autonomous towns will more than double. Even so, the autonomous towns remain the least numerous category in Roman Thrace.

Another indicator of the low degree of urbanization in pre-Roman and Roman Thrace is the ethnic composition of the epigraphically attested segment of the population in the newly founded settlements.<sup>331</sup> The prevailing element in nearly all of these settlements in Thrace were Hellenized settlers from Asia Minor and Syria. The importance of the Eastern component in the urban life of Roman Thrace is reflected not only in the onomastic profile of the urban population, but also in the arts and architecture, the local customs and institutions. In this context, it is interesting to mention that, in the rare cases when professions such as shop-keepers, inn-keepers, cooks or masons are recorded in inscriptions, the majority of their names indicate an Eastern or Greek origin.<sup>332</sup> Evidently specialized labour of this sort, essential to the normal functioning of all urban settlements, was not readily available in Early Roman Thrace.

At least six of the new foundations included in this analysis can be qualified as town-like secondary agglomerations. All settlements in this group grew up next to road-stations and, as we saw in the previous chapter, their true number was almost certainly higher. The small number of autonomous towns in northern Thrace would seem to leave enormous gaps in the urban network of the province. This paucity implies that the province was divided into very large administrative and fiscal units, the majority of which remained outside the market radius of the central place. Although, at this stage, it is clear that the material dates only to the period of Late Antiquity at the majority of the archaeologically researched road-stations, there are simply not too many alternative site-categories that could assume the function of lower-order central places.

For two of the settlements that belong this group – Pizos and Discoduratera – the epigraphic evidence leaves no doubts about their function and character. Like the *emporium* Piretensium in Moesia Inferior, they were market-places and road-stations, and certainly qualify as special-purpose communities. Discoduratera has been identified and partly researched.<sup>333</sup> It is striking that, in terms of topography, this settlement, located on the road between Augusta Trajana and Novae on the Danube, did closely resemble a large road-station, as it

consists of a walled *praesidium* and an adjacent civilian settlement.<sup>334</sup> Although the remains of this settlement have not been located, the founding act of the *emporium* of Pizos has been preserved, demonstrating that it was home to a community of at least 160 families at the time of its foundation in the first decade of the 3rd century AD.<sup>335</sup> Other possible examples are Cilis and Parembolē, stations on the Diagonal Road and possibly Tonzos on the road between Augusta Trajana and Marcianopolis, but these have been poorly attested.<sup>336</sup> Diocletianopolis, the last representative in this group, is like many other settlements in our study-area problematic because the predominant phase at this site dates to the Late Roman period.<sup>337</sup> Very little is known about this settlement in the period prior to its re-founding under Diocletian. However, the fact that the later town developed near a thermal spring points to a possible genesis from a healing sanctuary. In view of its location, Diocletianopolis was another potential road-side *vicus* on the road between Oescus and Philippopolis or an *emporium* on the northern fringes of the territory of Philippopolis. Adding the settlements with uncertain status to the group of secondary agglomerations, it will become the most numerous category of newly founded towns, even if it is assumed that Augusta Trajana, Serdica and Pautalia were all founded after the incorporation of Thrace in the Roman Empire.

Pizos was founded at the time of the Severan dynasty on the initiative of the provincial government. This is explicitly stated in the founding act, emphasizing the privileges granted to the founders of the *emporium*. It was created by a *synoecism* of the leading families from nine villages in the neighbourhood of the future *emporium*. Almost one century after the establishment of the urban network of Roman Thrace, the founding of town-like secondary agglomerations was still a centrally planned process. Even the emergence of small market towns was entirely dependent on government initiatives.<sup>338</sup>

The alternative model for the maintenance of the network of roads and markets is exemplified by the *kome* of Scaptopara and its unnamed neighbour in the Middle Struma Valley, close to the border with Macedonia. The

<sup>331</sup> Gerov 1997, 211-314; Tačeva-Hitova 1978, 81-88.

<sup>332</sup> Gerov 1998, 72-184; Ognenova-Marinova 1987, 173-176.

<sup>333</sup> Velkov ed. 1979, 307; Ivanov 1980, 205-206.

<sup>334</sup> The historical sources that mention this settlement are listed in Mihailov ed. 1958, 137. The road between Augusta Trajana and Novae is not recorded in the itineraries, but its existence has been ascertained by the archaeological remains, Madžarov 2009, 222.

<sup>335</sup> IG Bul 1960, the document has a long historiography. For a brief discussion of its significance and a full bibliography see Mihailov ed. 1964, 103-125; MacMullen 1970, 333-341; Gerov 1980, 319-348.

<sup>336</sup> Cilis: Mihailov ed. 1964, 108-125; Parembolē: Gerov 1958, 255-269; Mihailov ed. 1961, 245; Tonzos: Mihailov ed. 1997, 282-283

<sup>337</sup> Madžarov 1967, 113-142; Madžarov 1993.

<sup>338</sup> Obviously, these observations lose their validity if we accept the argument that Pizos was founded as a local base for the collection of the *annona militaris*; Van Berchem 1937, 117-202; Mihailov ed. 1964, 107, rightly stresses that this conclusion cannot be inferred from the founding decree.



two villages are recorded in a petition addressed to the Emperor Gordian III, in which they complain about the onerous demands made on them by the travelling state-officials and army officers.<sup>339</sup> In addition to the duty of providing lodging and transport for the representatives of the government, these communities were also put in charge of organizing the logistics for the fair held every autumn a short distance from the villages.

The Struma Valley was an important regional corridor, but it was less important than the Diagonal Road between the Middle Danube and Byzantium. This is reflected by its absence from the Late Roman itineraries. Evidently, under such conditions, the duties of road-maintenance, providing draught animals for travelling officials or the lodging of and storage for merchants were assigned to the nearest rural settlement.<sup>340</sup> Highly specialized establishments like *emporia* or road-stations were founded only along the main roads and, in some cases at least, they were sponsored directly by the provincial government. These two episodes from the history of the Thracian countryside provide a neat illustration of the difficulty in securing a functional network of road-stations and market-centres. The two documents also indicate that proximity to the main regional roads was not necessarily beneficial to the local communities nor did it automatically change their economic focus. The only surviving founding acts for the Thracian *emporia* suggest that these settlements did not emerge as a result of local initiatives. Hence, these examples are a warning against overestimating the number of secondary agglomerations in the provincial settlement network.

Of equal weight is the information pertaining to the size of these settlements. It is impossible to point to any trait that distinguishes Scaptopara or its neighbour from other Thracian villages. Even the annual market was not actually held in one of the two villages but in their vicinity. There were neither special facilities in these settlements nor formal institutions responsible for carrying out the tasks related to the *cursus publicus* or the annual fair. Hence, it is unlikely that Scaptopara outgrew the size of the average village in the region. The same will have been true of Pizos. Its population of 500-600 could have easily fitted into a settlement not larger than three to four ha. In this context, it is hardly surprising that most of these settlements have not been identified in the archaeological record. The functions expected to be performed by these road-side settlements did not necessarily change their status and economic orientation and, in the rare cases in

which this role was assigned to settlements founded specifically for that purpose, the special status did not translate into perceptible settlement expansion.

## Dacia

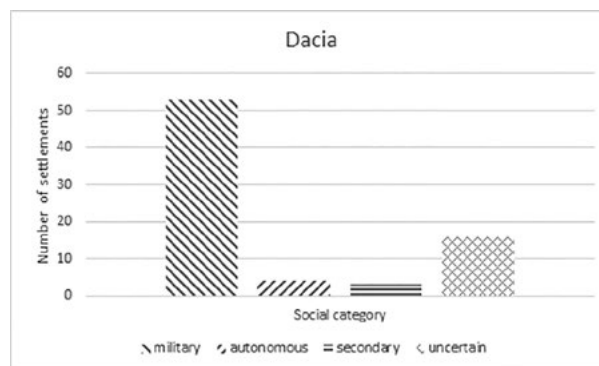


Figure III 11: The basic formal categories of new foundations in Dacia.

Like the rest of the frontier provinces, Dacia had a very large number of garrison settlements (Figure III 11). Given the length and organization of the Dacian *Limes*, the prominence of the military sector in this province was even more pronounced than in the rest of the Danube provinces. At least 53 or 71% of the total number of new foundations developed around army camps. The true figure is probably higher, as two-thirds of the settlements classed as uncertain are also possible garrison settlements. In most of these cases, the site of the auxiliary camp has been poorly researched and there is no positive evidence for the presence of a nearby civilian settlement. It is possible that some of these forts – Cristești, Titești, Catunele – had been abandoned by the middle of the 2nd century.<sup>341</sup> Furthermore, most of the smaller *castella* garrisoned by irregular units have also been classed as uncertain. The very limited size of some of these forts – often smaller than 0.5 ha – makes it unlikely that they would have attracted permanent civilian settlements. Because of their uncertain dates, the forts along the *Limes Transalutanus*, to the east of the Olt, have also been assigned to this category.<sup>342</sup>

Not only were the garrison settlements by far the most numerous non-agrarian settlement category, they also included some of the largest and wealthiest towns in Roman Dacia, like Apulum. As in other frontier provinces, some of these settlements had been granted an autonomous status by the end of the 2nd century AD. In fact, over half of the autonomous towns in the province continued to exist as garrison settlements until its final abandonment in the late 3rd century:

<sup>339</sup> IG Bul 2236; the monument is discussed by Mihailov ed. 1966, 207-220; Gerov 1980, 317-348; cf. Mitchel 1976, 106-131.

<sup>340</sup> A curious parallel comes from the period of the Ottoman Empire, under which rural communities were charged with the responsibilities for road maintenance and security in the mountainous sections of the network in exchange for free land ownership, Stojanovski 1974.

<sup>341</sup> Matei 2012, 109-122.

<sup>342</sup> Gudea 1997, 1-113; Visy 2009, 163-184; for *Limes Transalutanus* in particular, see Bogdan-Cătăniciu 2009, 195-203; Nemeth 2014, 28-36.

Apulum, Potaissa, Drobeta, Romula, Tibiscum and Porolissum.<sup>343</sup> The rub is that the fact that the great majority of the Dacian towns developed near legionary or auxiliary forts obscures the divergent developments within the category of garrison settlements. As we will shall in the next chapter, garrison settlements came in many shapes and sizes. Even within the most numerous category of auxiliary *vici*, some settlements were quickly distinguished by virtue of their location and role in the *Limes* and in the regional road network. Similar tendencies have been attested in Moesia Inferior, in which some of the auxiliary *vici* became centres of minor regions. These *vici* are poorly attested in the epigraphy of Roman Dacia, but the differences are evident in the archaeology of the individual settlements.<sup>344</sup> The low density of autonomous towns - including the garrison settlements that were granted an autonomous status - left plenty of room for quasi-urban developments along the protracted *Limes* of Dacia and some, like Micia, Ilishua or Resculum, clearly stood apart from the rest of the auxiliary *vici* in terms of size and monumentality.

Throughout its existence, Dacia remained an extreme example of a frontier province. Scholars have estimated that the military personnel in the late 2nd century AD numbered between 55,000 and 60,000.<sup>345</sup> The provincial administration and local government was largely in the hands of serving soldiers or veteran settlers, and the provisioning of the permanently stationed troops played an important role in the regional economy. Between the preponderant military and mining sectors, little room was left for purely civilian foundations with an autonomous status. Only four urban centres were founded as civilian towns or acquired that status. These include the financial capital of Roman Dacia, Ulpia Traiana. The other two official towns, Napoca and Dierna, were far more modest in size and appearance, although admittedly at both sites, current conditions do not allow more extensive archaeological research.<sup>346</sup>

The epigraphic evidence suggests the existence of a fourth civilian town in Roman Dacia, Ampelum, the centre of the gold-mining district in the west of the province.<sup>347</sup> Although such developments were not particularly common, they are not unknown. The case of Montana in Moesia Inferior or the *Municipium*

*Dardanorum* in Moesia Superior spring to mind.<sup>348</sup> The problem with Ampelum is that almost nothing survives of the actual urban centre, only the epigraphic evidence hinting at the existence of an *ordo Ampelensium* and the activity of a mining bureau.<sup>349</sup>

Similar difficulties surround the few settlements that can be classed as possible secondary agglomerations. Only three are certain: Sucidava on the Danube - possibly pre-Roman foundation and a centre of a self-governing unit by the Severan period - and Sigisroara and Micasasa in eastern Dacia.<sup>350</sup> The only common feature shared by all three settlements is their location on major traffic arteries, Sucidava on the Danube, Sigişoara and Micasasa on the Târnava, on the road that links the Mureş Valley to the eastern Dacian *Limes*. These settlements are not recorded in Late Roman itineraries, but their position on major natural thoroughfares is indisputable and their existence suggests the possibility of similar developments near some of the road-stations along the Mureş, Olt and Drobeta-Romula Roads.<sup>351</sup> Excluding the stations guarded by permanent army units, there were potentially at least a dozen other civilian subordinate settlements along the main roads in Roman Dacia. In addition, we shall have to reckon with an unknown number of civilian settlements that developed at the sites of former military camps.<sup>352</sup> It should be stressed that almost none of these settlements is clearly distinct from the typical rural agglomerations.<sup>353</sup>

The group of civilian subordinate settlements might be expanded with the *vici* and *castella* in the Dacian mining districts, but the archaeological remains of these settlements continue to evade all attempts at identification. They are known only from the epigraphic sources discovered in the mining district of Alburnus Maior, over 20 km to the north of the supposed site of Ampelum.<sup>354</sup> Only the names of these settlements survive in the inscriptions, usually altars commissioned by the respective community, or on wax-tablets retrieved from the mining shafts in Alburnus

<sup>343</sup> For a useful though outdated synthesis, Branga 1980; see now, Ardevan 1998; Carbó-García 2002, 115-138.

<sup>344</sup> Nemeti 2014; see the discussion in Chapter Six of this volume.

<sup>345</sup> Russu ed. 1975; Diaconescu 2004, 120-121; Cupea, Marcu 2006, 175-194.

<sup>346</sup> Roman Napoca is buried under modern Cluj, while the remains of Dierna and Ampelum have been entirely destroyed by modern industrial and infrastructural projects, Napoca: Daicoviciu 1977, 919-949; Diaconescu 2004, 117-120; Dierna: Russu ed. 1977; Branga 1980, 75-76.

<sup>347</sup> Branga 1980, 76-77; Russu, Floca, Wollman eds 1984; Ciobanu, 1998, 349-363.

<sup>348</sup> Dušanić 1977a, 52-94, stressing that the emergence of the *municipium* did not replace the mining district; for similar developments in third-century Dalmatia: Bojanovski 1982, 189-191; Škegro 1998, 89-117; Škegro 2006, 149-173. Hirt 2010, is more careful in placing the administrative centres of the mining districts in some of these settlements.

<sup>349</sup> Russu, Floca, Wollmann eds 1984, 280-283; Carbó-García 2002, 136-137; Hirt 2010.

<sup>350</sup> Sucidava: Tudor 1965; Sigisroara: Matei 2012, 114; Micasasa: Mitrofan 1990, 129-138.

<sup>351</sup> Fodorean 2013.

<sup>352</sup> Matei 2012, 114-117; with the exception of the problematic Banat section, the author recognizes only two possible cases of such developments. One of these is Sigişoara.

<sup>353</sup> Gudea 2009, 204-205, listing a few rural settlements much larger than the examples included in this study. It has to be pointed out though that both Micasasa and Sigişoara are exceptional in the number of inscriptions and architectural sculpture.

<sup>354</sup> Russu ed. 1975, 165-172; Mrozek 1977, 95-109; Ciongradi, Timofan, Bârcă, 2008, 249-266; Nemeti, Nemeti 2010, 109-133.



Maior. With the exception of the latter source, on which the term *vicus* is sometimes used to designate the settlements in the district, in the inscriptions, the name of the community is often preceded by the letter K. This initial has been interpreted as *k(astellum)*, but archaeological research in the area has so far failed to locate fortified strongholds from the period of the High Empire. The centres of the communities that commissioned these inscriptions can be related neither to an isolated building nor to an agglomerated settlement.<sup>355</sup> In the case of Alburnus Maior, most of the inscriptions come from hill-top sites, interpreted as open-air shrines, and from cemeteries. Although clearly implied in the written documents, the vestiges of the mining camps remain elusive.<sup>356</sup>

The mining districts in Dacia were colonized by Illyrian communities from central and southeast Dalmatia. Over one-third of the personal names preserved in the epigraphy of the mining district are Illyrian.<sup>357</sup> Often the name of the colonist is accompanied by a place of origin in Roman Dalmatia. The rest of the personal names suggest a Greek or Eastern origin or Romanized Greeks or Illyrians. In the towns, too, it is very difficult to find epigraphic evidence of the presence of native Dacians, unless it is assumed that they are veiled under the category of Romanized provincials.<sup>358</sup> The bulk of the urban population was made-up of colonists from Italy or the western provinces and a small percentage of Easterners. This only leaves the rural sector for the native population; indeed, the only tier in the settlement hierarchy in which we have found some degree of continuity from the pre-Roman period. However, in the previous chapter it was demonstrated that, even in the rural sector, a large percentage of the settlements were newly founded and, in some areas, there is a clear evidence of planned settlement of compact ethnic units of Norican or Celtic origin.<sup>359</sup>

The ethnic composition of the epigraphically attested part of the population of Roman Dacia is a striking testimony to the complete usurpation of the country's resources by the conquerors. Virtually all major settlements developed near garrison or industrial sites, whose urban population – soldiers, merchants, craftsmen and miners – consisted chiefly of colonists. The vast majority of the native population was confined to the rural sector, with few windows of opportunity – namely, army service – to join the ranks of the provincial elite or the urban-based segment of the population.

### Conclusions: the overall composition of the newly founded settlements and the spatial patterns

The number of newly founded settlements in Figure III\_12 is higher than the total number of settlements securely identified as Roman foundations in the preceding chapter. This is because the lists of newly founded settlements include sites of uncertain origin, but with a definite Roman or Late Roman phase and this category amounts to at least 50 settlements. In the preceding chapter we have explained that these were most likely green-field foundations, even though the degree of research on the majority of these settlements has been far from satisfactory.

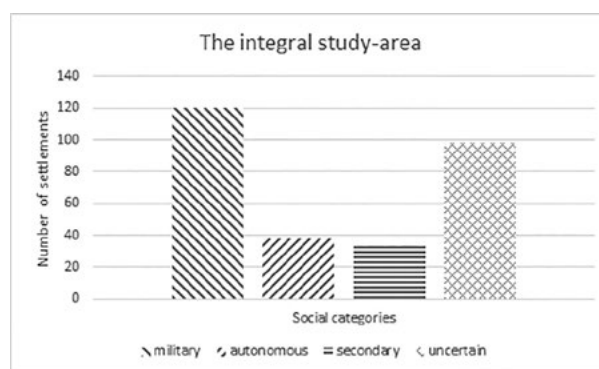


Figure III 12: The overall distribution of newly founded settlements by formal categories.

120 out of 289 newly established agglomerations developed and continued to exist next to the army camps throughout the period of the High Empire. They represent slightly over 40% of the newly founded segment of the network of non-agrarian agglomerations and almost one-third of all agglomerated settlements – Roman or pre-Roman – with an autonomous or subordinate status. It has to be stressed that the list is restrictive, as it excludes the settlements at which the army camp was abandoned, as well as the rare cases in which the Roman army installed a permanent garrison at a pre-existing civilian settlement. Even so, this figure is an undisputed testimony to the role and importance of the Roman army in the urbanization of the Balkan and Danube provinces. The fairly rapid unfolding of the process of settlement foundation becomes far more comprehensible in the light of the involvement of the military. Wherever good stratigraphic evidence is available, it demonstrates that the civilian settlements surrounding the forts developed at virtually the same pace as the army camp.<sup>360</sup> In Dacia, the foundations of the entire urban and settlement network were laid

<sup>355</sup> Hirt 2010; Nemeti, Nemeti, 2010, 109–112.

<sup>356</sup> Russu ed. 1975, 187–189; Mrozek 1977, 105–106.

<sup>357</sup> Russu ed. 1975, 184; Protase 1979, 449–450; Ciongradi, Timofan, Bârcă 2008, 251–254.

<sup>358</sup> Balla 1987, 67–70; Protase 1980b.

<sup>359</sup> Protase 1980b, 133–134; Gudea 2009, 187–319.

<sup>360</sup> Barkóczi ed. 1954 (Intercisa); Nagy 1971, 59–81; Máritý 1992, 65–73 (Aquincum); Kovács 1997, 425–427 (Maticia); Diaconescu 2004, 103–117 (Apulum); Szirmai 2005, 681–684 (Albertfalva); Kandler 2008, 90–108 (Carnuntum).



down in the first couple of decades of the 2nd century; the new provincial capital was established within five years of the final defeat of Decebalus!<sup>361</sup> Admittedly, Dacia is a rather exceptional case, but the evidence suggests that the great majority of the permanent camps on the Danube *Limes* were constructed during the few decades of the Flavian dynasty.<sup>362</sup> These are well-known facts but we cannot avoid repeating them, as they are truly the hallmark of Roman urbanism in our study-region. The establishment of the settlement network was a rapid and deliberate process, guided chiefly by military considerations.

It is all the more striking that the military component did not diminish with the municipal development in some of these communities. On the contrary, its role as the key economic and demographic pillar in the adjacent urban communities only grew in importance, reaching its zenith during the reign of the Severans.<sup>363</sup> Although the majority of the military settlements were not promoted to autonomous status, they included some of the most important demographic, administrative and economic centres in the frontier provinces. Indeed, in the next chapter, it will be demonstrated that some of the auxiliary *vici* on the Danube were as large as the small colonies and *municipia* in the Balkan interior. On the other hand, the autonomous military towns – amounting to between ten and 15% of all garrison settlements – have emerged as by far the largest conurbations in our study-area, many times the size of the newly founded autonomous towns in the interior.<sup>364</sup>

The entries securely determined as civilian settlements represent nearly 25% of the newly founded segment of the network. This figure includes both the autonomous towns and the subordinate town-like agglomerations. The former represent about 13, the latter 11% of all newly founded settlements. Even after the prevalence of the military segment in the settlement network on the peninsula has been acknowledged, the general impression is that the figure for the secondary civilian agglomerations is too low. This is not related to the classification criteria used in this study, but to the divergence of the conspicuousness of the individual settlement categories in the written and archaeological record. The imbalance is partly rectified once we turn to the category of settlements with an ill-determined status and date. Excepting the handful of possible auxiliary *vici* in Dacia and Moesia Inferior and the few problematic garrison settlements in Thrace, it is

likely that most of the sites classed here as uncertain also belonged to the civilian sector of the network, particularly to the group of subordinate settlements. This correction will increase the share of the civilian sector to about 51% of the integral settlement network. However, surely this estimate still falls short of the true number of civilian foundations, as it includes only epigraphically or archaeologically documented cases. It is almost impossible to make a guess at the number of unknown town-like settlements that developed alongside road-stations and port facilities, the micro-regional centres and mining settlements that failed to enter the historical record. We have seen that, just by adding the *mansiones* mentioned in the Late Roman itineraries, the number of the newly founded civilian settlements is likely to increase by at least 100% or about twice the number of garrison settlements. The key to the problem is the very small number of sites assigned to this category that have attracted scholarly attention, and hence it is very difficult to come up with more specific predictions.

It could be argued that the perspective adopted in this study is strongly biased towards the military segment of the urban constellation. Most garrison settlements were furnished with exquisitely constructed defence systems, paved roads and baths. It stands to reason that these relatively imposing features have a far better chance of surviving in the archaeological record than the humble dwellings that surrounded the *praesidia* or market-places along the major roads. In addition, garrison settlements tend to produce a rich epigraphic heritage and are also likely to have been recorded in the official documents. However, this is precisely the point of the comparison. Civilian settlements were certainly more numerous than those included in our lists, but the great majority have disappeared without leaving any clearly perceptible trace in the archaeological and historical record. As a consequence, even when historical or archaeological documentation is available, it is often impossible to decide if a given settlement is rural or quasi-urban, or if one is dealing with a true nucleated settlement or a name of a district. The numbers presented in Figure III\_12 do not pretend to reflect the true ratio between the different segments of the settlement network, but they are a faithful index of the level of urbanization across the different settlement categories.

The ratio of newly founded autonomous towns to subordinate agglomerations is likewise grossly inaccurate and for the same obvious reasons. Only by adding the civilian segment from the group of uncertain sites – about 60, excluding the sites of military camps but possibly including rural settlements – will the ratio of subordinate town-like settlements to autonomous towns increase to three to one. An identical ratio is predicted in one of the models proposed by Central

<sup>361</sup> Diaconescu 2004, 89–103; Piso ed. 2006.

<sup>362</sup> Pannonia: Fitz 1980a, 125–140; Gabler 1999, 75–86; Lower Moesia: Ivanov ed. 2003.

<sup>363</sup> Balla 1970, 61–69; Mócsy 1974, 213–265; Barkóczy 1980, 85–124; Póczy 1980, 239–274; Petolescu 2011, 83–109.

<sup>364</sup> This observation requires a comment, because the largest legionary towns were dual communities, forming two, physically separate agglomerations. See the next chapter.

Place Theory<sup>365</sup> - the so-called market principle - but, in our case, this could only be the minimum and, as we shall see below, their distribution was far from regular. Another way of predicting the number of missing subordinate settlements is to focus on the garrison settlements. As the divide between the autonomous and subordinate settlements cuts across the military and civilian sectors, we have every reason to believe that there are far fewer gaps in the network of garrison sites than in the civilian segment of the network. Excluding the small group of garrison settlements located outside the frontier zone, between one in four and one in five garrison settlements were granted an official urban status. Hence, after all, it is possible that we are not missing as many of the secondary agglomeration as was initially thought.

On the basis of the ratio of autonomous to secondary settlements in the military sector, we could also predict the total number of secondary agglomerations in our study-area, excluding the narrow belt of pre-Roman urbanism, in which the very short inter-city distances probably led to a different pattern of distribution among the low-ranking settlements. The total number of newly founded autonomous towns ranges between 60 and 70, depending on the criteria used to recognize local autonomy and pre-Roman origin. Given that the ratio of one to four or one to five continued into the civilian segment of the network - an assumption that needs to be proven by future research - there were between 250 and 350 newly founded secondary agglomerations in our study-area. Of these, we have been able to find concrete archaeological or written evidence for not more than 200, including the garrison settlements that never achieved an autonomous status and the settlements that potentially belong to the rural sector. The archaeological remains at the majority of these sites barely distinguish them from the mass of rural settlements and farming estates that dotted the countryside of the Peninsula in the period of the High Empire. This is the main factor that prevents us from arriving at a more precise estimate of the number of civilian secondary agglomerations. The indistinctiveness of these sites raises the question of the integrity of this settlement tier in the regional hierarchy. The province-based survey already gives the reader a general idea of the spatial distribution of the different categories of newly founded settlements under the High Empire. It is unnecessary to describe in great detail what has been clearly implied throughout this chapter. In general, the spread of the different categories of new foundations is zonal and this is nicely summarized in Figure III\_13. (Map III\_2) Outside the southern and western peripheral belts of the study-area - the regions that were conquered by Rome in the period of the Republic - the garrison settlements are by

far the most predominant element on the map of major agglomerated settlements. Nearly 90% of all garrison settlements are located along the Danube and on the Dacian *Limes*. (Map III\_3)

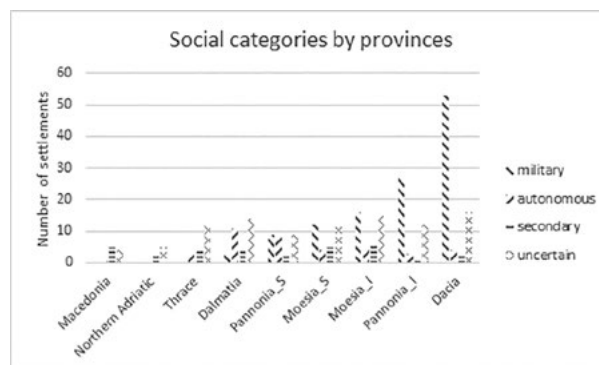


Figure III 13: The distribution of newly founded settlements across formal categories by provinces.

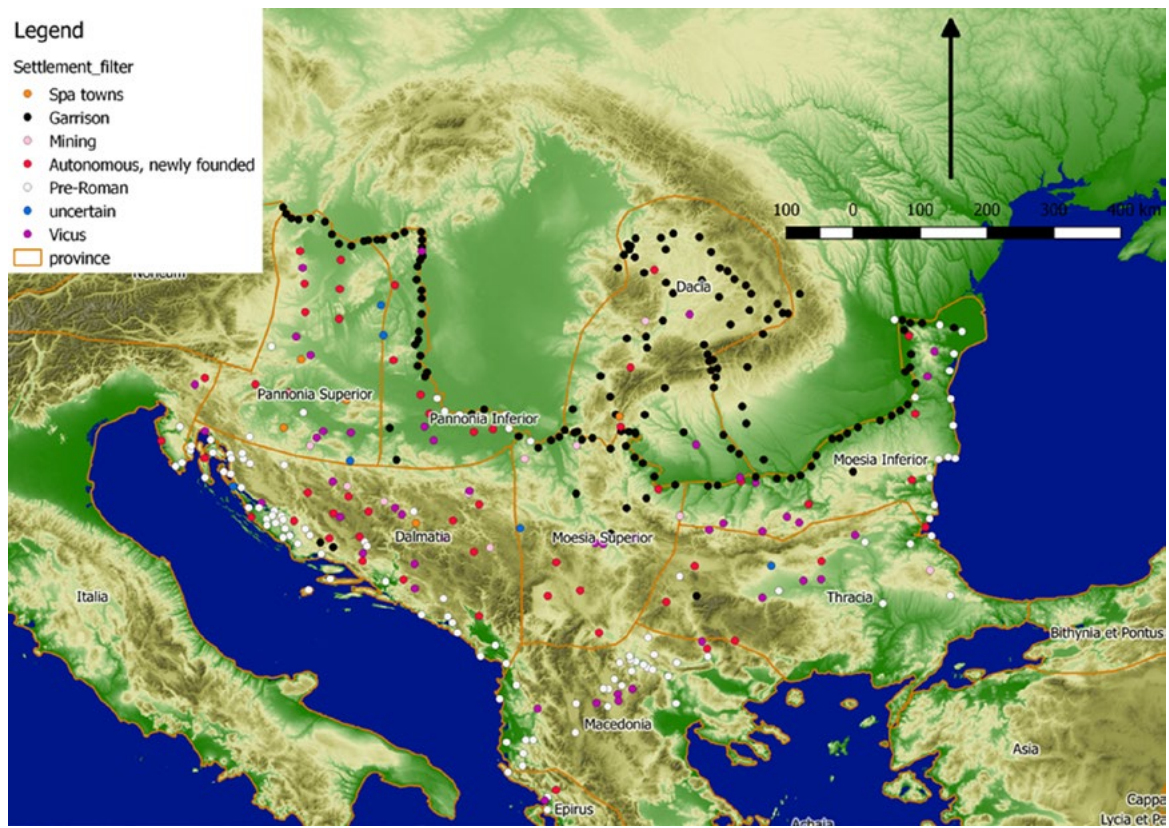
There are only a few isolated garrison towns in the Pannonian interior, Thrace and Dalmatia and along the major roads in Dacia and Moesia Superior. However, in view of their role in the regional settlement networks, a distinction has to be made between these isolated examples. Despite their small number in comparison to the frontier provinces, the garrison settlements in the interiors of Moesia Superior and in Dacia constituted the backbone of the settlement networks. In the northern half of Moesia Superior and in most of Dacia, purely civilian settlements were either a tiny minority or non-existent. (Map III\_4) On the other hand, the few garrison sites in Thrace and Dalmatia or Pannonia were of only marginal importance to the development of the settlement network in these two provinces. (Map III\_5)<sup>366</sup> The presence of the army in these demilitarized provinces has to be related to the need to control and police a population that had been only loosely integrated into Roman provincial society. These conditions are reflected in the distribution of the military towns along the major roads in the mountainous regions of the provinces, in the immediate vicinity of natural resources or near the old political and religious centres. Their persistence throughout the period of the High Empire, centuries after the final pacification of the two provinces, only serves to highlight the slow pace of Romanization in the Dalmatian and Thracian interior.

The rest of the 120 garrison settlements were located on the Danube and on the Dacian *Limes*. (Map III\_3) They form a narrow belt of very high settlement density that runs uninterruptedly from Klosterneuburg on the frontier between Noricum and Pannonia Superior to the mouth of the Danube and encircles the Dacian

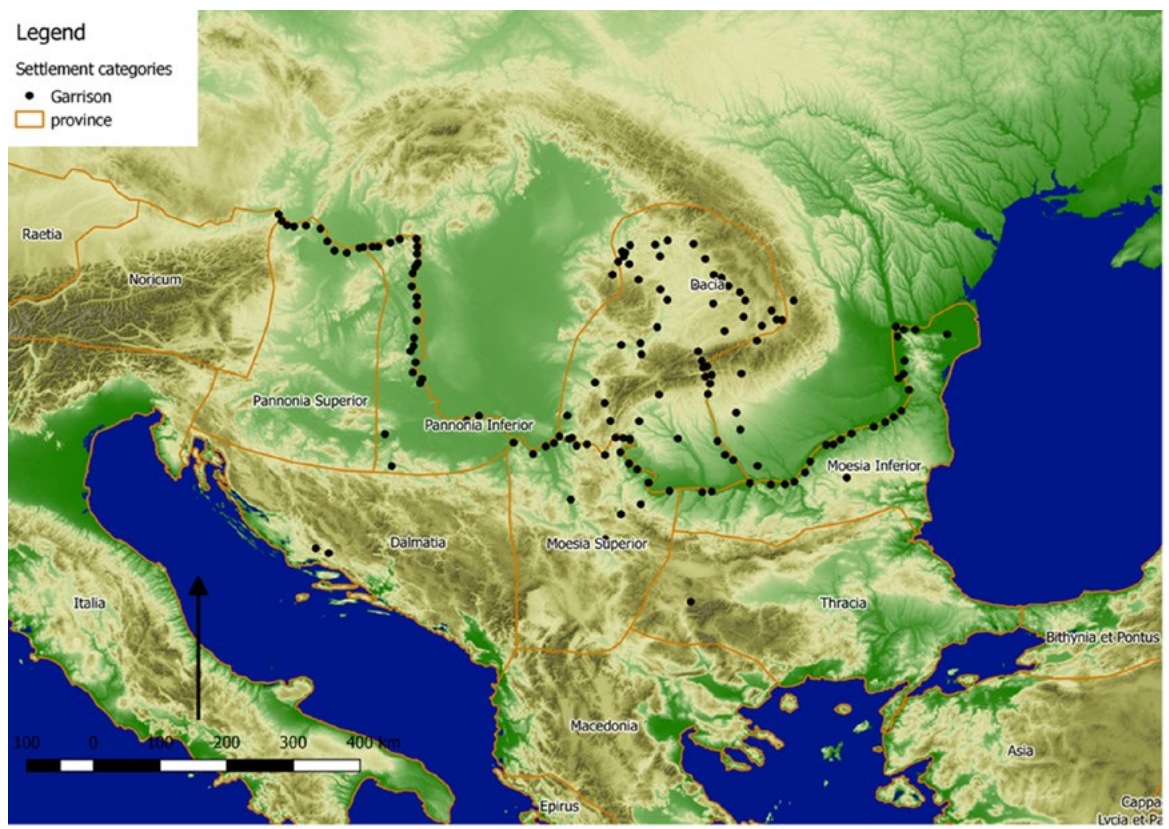
<sup>365</sup> Christaller 1966; Chorley, Haggett eds 1967.

<sup>366</sup> Marsonia in southern Pannonia might also belong to this group. Buzov, 2011, 355-374; Zaninović 2003, 443-449.



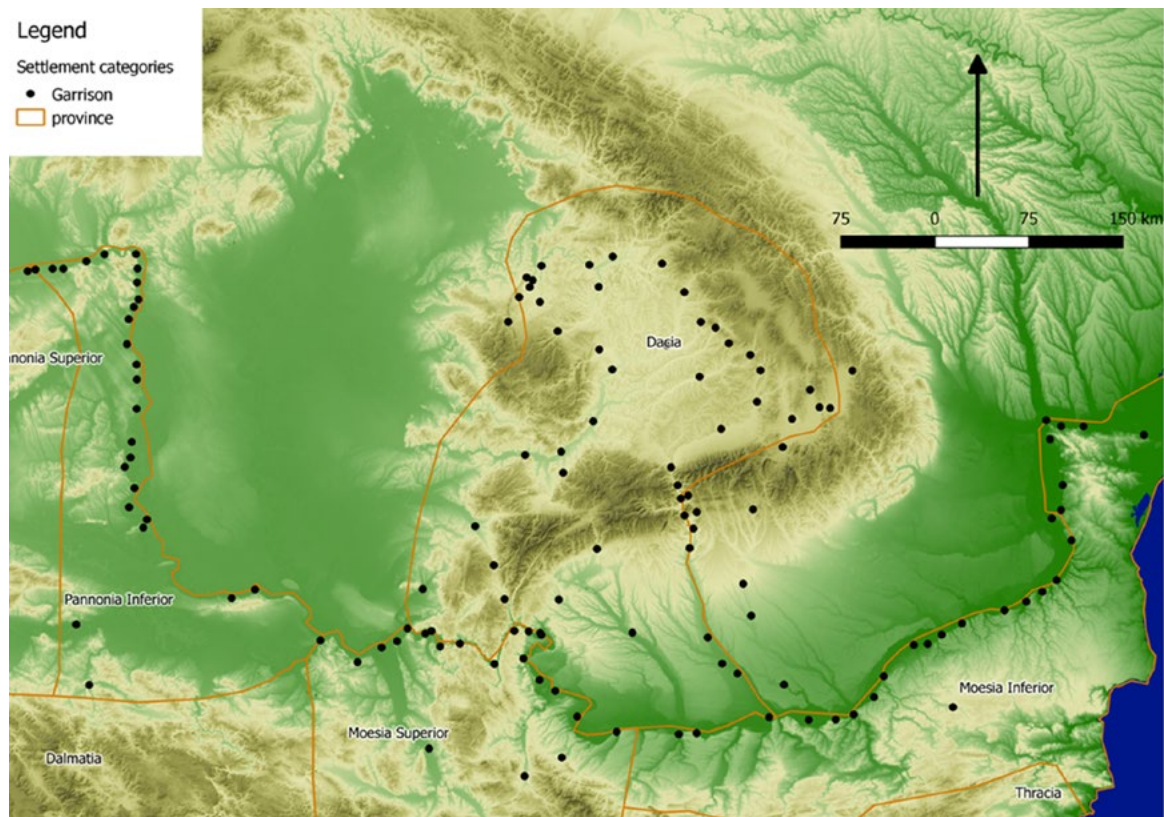


Map III 2: Distribution of the various formal categories of settlements in the study-region.



Map III 3: Distribution of the garrison settlements.



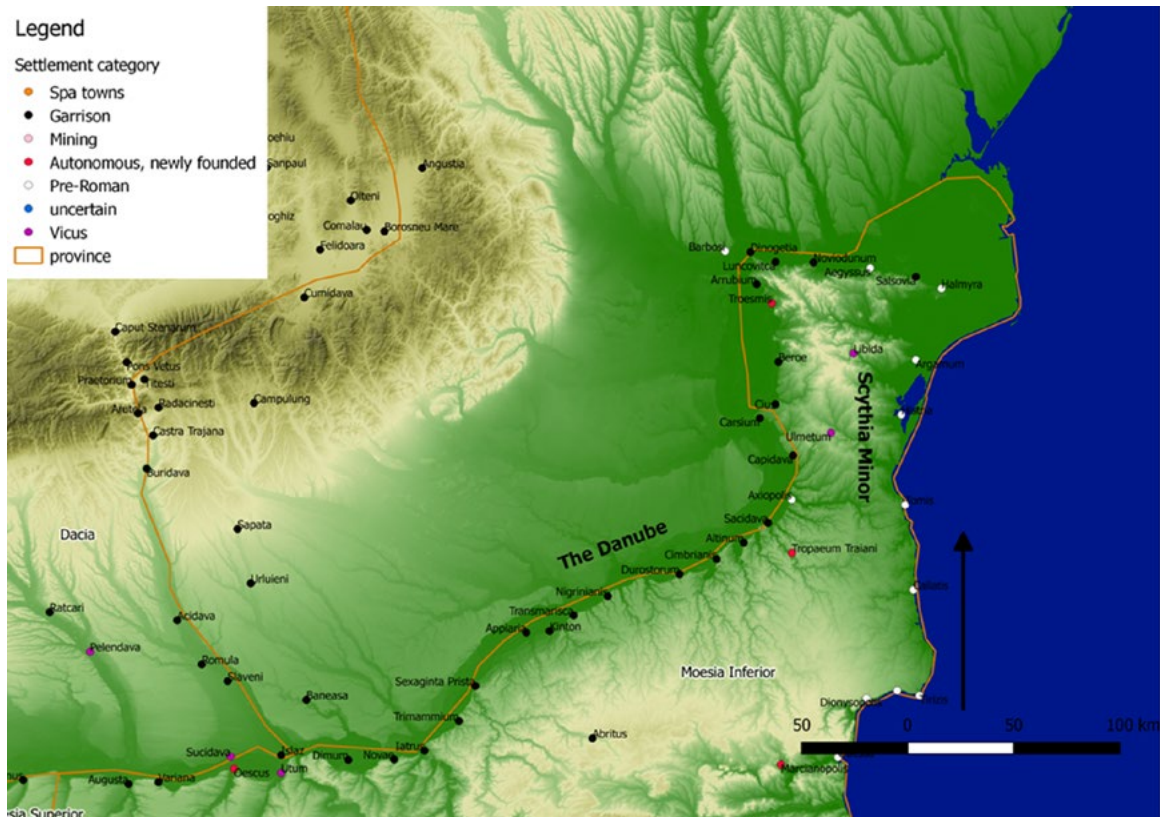


Map III 4: Distribution of the garrison settlements in Dacia and Moesia Superior.



Map III 5: Distribution of the garrison settlements in Dalmatia.





Map III 6: Distribution of the settlements by formal categories on the Lower Danube.

provinces on all three sides that face the *Barbaricum*. Civilian enclaves appear only on the Lower Danube in Moesia, and there they are limited to the sections that face Dacia Inferior or on the naturally protected sections of the *Limes* in Scythia Minor. (Map III\_6) Throughout the period of the High Empire, the Romans maintained the principle of separating the military from the civilian sector and, with the exception of Dacia and Dalmatia, in which we have encountered a sequence of alternating garrison and civilian settlements along the main provincial roads, these two settlement categories were kept in separate zones.<sup>367</sup>

This principle is plainly evident on the settlement maps of Moesia Superior and Pannonia Inferior. (Map III\_7, III\_1) In both provinces, the large civilian foundations are limited entirely to their southern halves. In Pannonia Inferior, they are clustered behind a short section of the *Limes* dominated by small auxiliary forts. The municipal developments near the legionary camps at Aquincum and Brigetio in the north probably drained away much of the demographic potential in that part of the province. In Moesia Superior, nearly

<sup>367</sup> It could be argued that this principle was negated by the promotion of some of the garrison settlements, but this practice became widespread only in the Severan period. All earlier examples of garrison settlements that became autonomous towns belong to the special category of double-towns, see fn. 406 in Chapter Four.

all autonomous civilian foundations belong to the southern, demilitarized half of the province. It is no accident that, by the time of Late Antiquity, these parts of Moesia and Pannonia would be constituted as separate provinces.<sup>368</sup> As we shall see in Chapter Six, these irregularities in the distribution of the civilian autonomous settlements were partly made good by the granting of autonomous status to the largest among the garrison settlements and the centres of mining districts. The settlements in the different formal categories performed a similar range of functions, providing the system with the necessary degree of coherence despite the apparent zonality.

The distribution of the garrison settlements within the frontier zone is not entirely isotopic. On the most basic level, the variable distribution of these sites across the individual provinces has been determined chiefly by the length of the *Limes* and the local conditions. Consequently, the share of the military sector in the settlement networks of the frontier provinces ranges from over 70% in Dacia, surrounded on three sides by the *Barbaricum*, to only about 35 and 30% in Moesia Superior and Pannonia Superior, provinces that faced shorter sections of the *Limes*. In Pannonia Inferior, - sharing a longer frontier with the *Barbaricum* - the

<sup>368</sup> Mócsy 1974, 266-267.



Map III 7: Distribution of the civilian and garrison settlements in Moesia Superior.

participation of the military sector increases to over 60%. A similar share has been projected for the garrison settlements in Moesia Inferior, although in this case clear evidence of a permanent military presence has been found in only one-third of the settlements included in this analysis. (Figure III\_13)

It is indeed difficult to overstate the impact of the Roman army in the shaping of the settlement network of our study area. Quite apart from the substantial military sector, it is impossible to avoid mentioning the potential input of the army in the geneses of a number of civilian settlements. Although the view that many of the civilian settlements in the Balkan interior grew at the sites of former military camps has been contested for certain towns – most notably, Sarmizegetusa and Emona<sup>369</sup> – no one doubts the military origin of towns such as Oescus, Troesmis or Burnum.<sup>370</sup> A similar genesis has been proposed for Scupi and Ratiaria, but in these cases there is very little positive evidence to support such claims.<sup>371</sup> Scholars have also pointed out the role of the army in the urban genesis of Siscia, Poetovio and

Mursa, all featuring continuity from the pre-conquest period.<sup>372</sup> This is not a very large category, but it includes some of the largest and most important civilian towns in our study-area. The fact that the army participated in the building of these towns is inconsequential to their socio-economic profile, but at least it is certain that logistical and strategic considerations were what that determined their micro-locations.

In order to get a better understanding of the importance of the military in the creation of the settlement map of our study-area, it is worthwhile casting a swift glance at the developments in the frontier zones prior to the establishment of the Danube *Limes*. One, possibly two, pre-Flavian *Limites* have been identified in the area between the Adriatic and the Danube. These are the so-called Dalmatian *Limes*, guarded by two legionary camps and three or four auxiliary camps in the period of the Julio-Claudian dynasty, and a less likely candidate, the Drava *Limes*, with two legionary camps at Poetovio and possibly at Mursa.<sup>373</sup> In the case of the Dalmatian *Limes* at least, it is clear that the army left

<sup>369</sup> Šašel-Kos 1995, 227–244; Diaconescu 2004, 89–93.

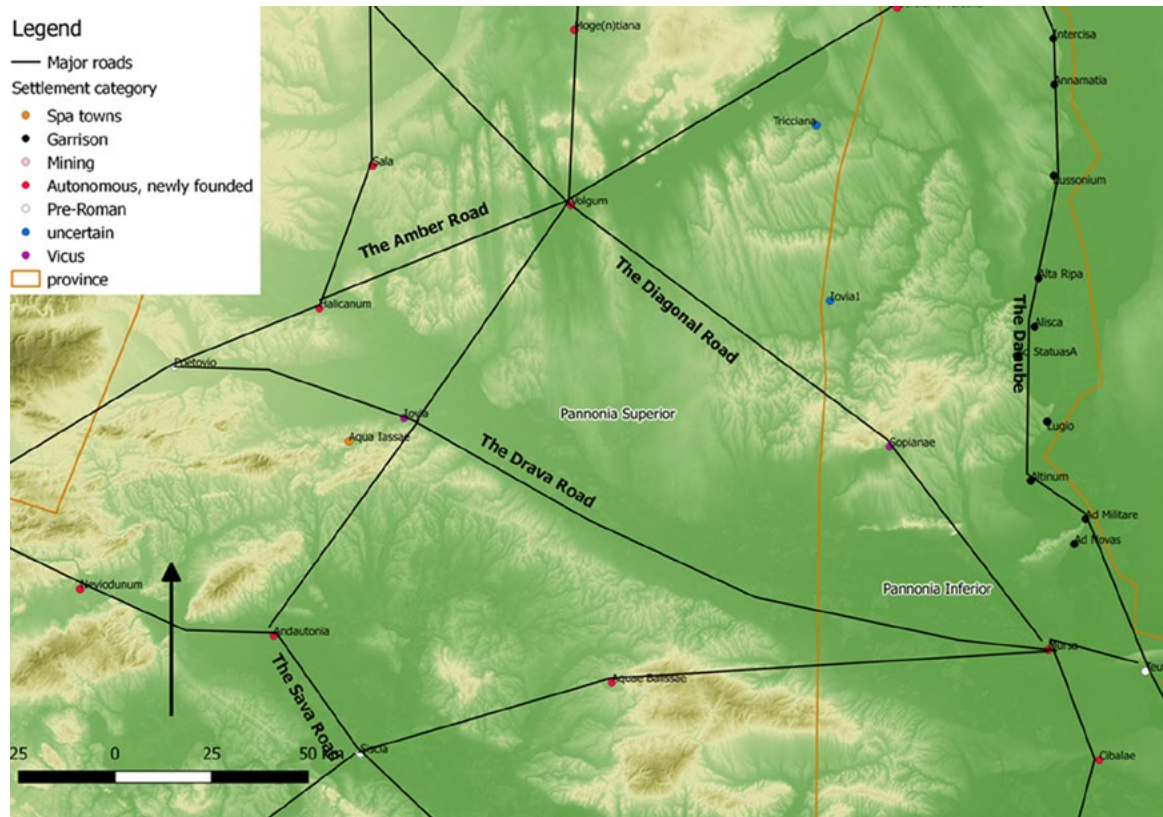
<sup>370</sup> For the cases of Oescus, Troesmis and Burnum, see Ivanov 1987, 7–60; Gerov 1980, 1–13; Aparaschivei 2006, 189–208; Campedelli 2011, 33–64.

<sup>371</sup> Mikulčić 1971, 463–484; Jovanova 2005, 153–161 (Scupi), Dimitrov 2014, 28–35, Ivanov ed. 2014. (Ratiaria).

<sup>372</sup> Lolić 2003, 131–152 (Siscia); Horvat 2003 153–189, (Poetovio); Pinterović 1978. (Mursa).

<sup>373</sup> Dalmatian *Limes*: Wilkes 2000, 327–341; Sanader 2002, 713–718; not everyone agrees with the existence of a true *Limes* in Dalmatia, Periša 2009, 507–517; the case for the Drava *Limes* is even weaker; Pinterović 1978; Fitz 1977, 543–556; Colombo 2010, 189–192.



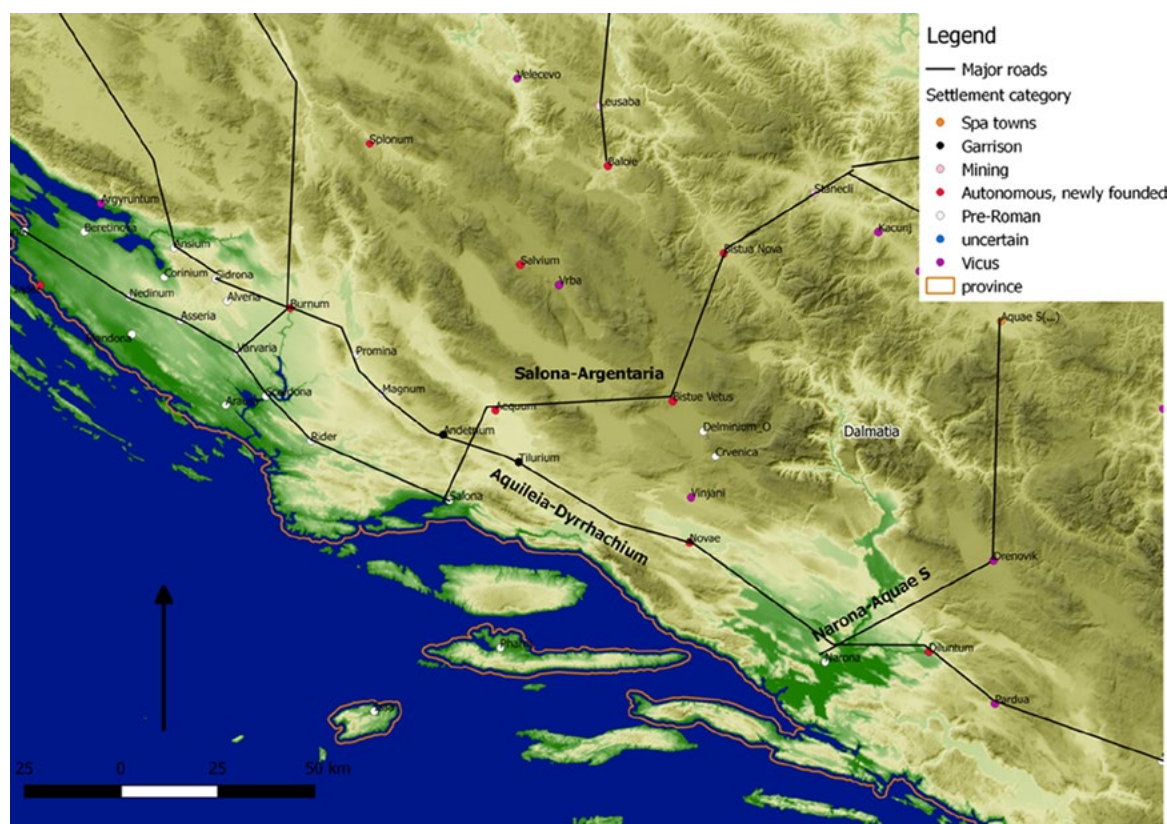


Map III 8: Settlement on the Drava Limes.

behind massive infrastructural achievements – roads, bridges and aqueducts – the essential prerequisites to urban growth. However, when we look at the later urban development along these axes, the density of urban settlements is rather disappointing. (Maps III\_8, III\_9) The 250 km long Drava Corridor between Poetovio and Mursa is literally devoid of major agglomerations. The former Dalmatian *Limes* featured a much higher density of civilian settlements, including two or three of the 11 new autonomous towns in the province, but these settlements were invariably small and exerted little significance beyond their respective micro-regions. The restricted urban developments along the former *Limites* in Dalmatia and Pannonia speak against assigning too much weight to the impact of the military infrastructure on the later urban developments in the provinces. The decisive factor in urban growth was the continuous presence of the army units and their immediate contribution to the economy and demography of the urban communities rather than their putative involvement in the act of town founding.

Apart from the preponderance of the category of garrison settlements, the only other distinctive feature of the settlement network in our study-area is the relatively small number of newly founded autonomous towns. This is hardly unexpected in view of the large

extent of the military and mining sectors and the survival of the pre-Roman urban network in Roman Macedonia and in the coastal regions. In a nutshell, these are the key factors that determined the variable distribution of the newly founded towns across the individual provinces. In the zone of pre-Roman urbanism, Epirus, Macedonia and the eastern Adriatic coast, the share of the newly founded autonomous towns was zero or close to zero. (Figure III\_13) It rises only slightly in the highly exposed frontier provinces Dacia, Moesia and Pannonia Inferior, ranging between five and ten of all newly founded settlements. Some of these provinces, most notably Pannonia and Moesia Inferior, had very limited space outside the frontier zone. (Map III\_3) Given its riches in precious metals, Moesia Superior should join this group, notwithstanding the fact that some of the mining districts had been municipalized by the Severan period. Because of the uncertain founding date for some of its towns, the position of Thrace is somewhat ambiguous in this respect. However, the comparatively small number of self-governing towns, alongside the significant input from the pre-Roman period, puts it closer to the frontier provinces. Only in Pannonia Superior and Dalmatia does the share of the newly founded autonomous towns reach nearly 30%, with the important distinction that the area of Dalmatia was almost twice as large as Pannonia Superior.

Map III 9: Settlement on the Dalmatian *Limes*.

A great number of scholars have observed a close correlation between the location of the urban centres and the major interregional roads that traverse the peninsula.<sup>374</sup> Indeed a superficial look at the map of the autonomous towns in the area reveals that nearly all newly founded civilian settlements were not only located on the major inter-regional thoroughfares, but they often developed at the crossings of at least two important natural corridors. (Map III\_10) This circumstance, coupled with the fact that the great majority of the towns were green-field foundations, once again emphasizes the planned, deliberate character of the process of urbanization and colonization in our study-region, both in the military and civilian sectors.<sup>375</sup> The entire network was fine-tuned to control the flow of goods and people, in some cases at the expense of the agricultural potential or defensive considerations.

The uneven distribution of the new civilian foundations emerges quite explicitly when it is compared to the density of garrison settlements in the frontier zone. The close spacing of auxiliary *vici* and garrison towns along the Danube *Limes* is truly impressive. With distances between two neighbouring forts rarely exceeding 30 km,

they approach the urban density in the pre-conquest segment of the network. As a result, a large number of the newly founded settlements in our study region appear in the periphery of the network, often lining the state-frontier. The security of the frontier is an obvious explanation for this development, although it can be argued that this is one of those widely accepted truths that conceal another important aspect of the Danube. Apart from being a convenient line of demarcation, this river is also a giant thoroughfare that links the eastern Alpine regions and the Carpathian Basin to the Black Sea and the Mediterranean.<sup>376</sup> Therefore, the same principle that influenced the distribution of the civilian establishments in the interior of the Empire also applies to the high concentration of garrison settlements along the Danube. Brought under the control of the Empire, the Danube Corridor became the single most important line of communication in this part of the Empire, stealing a considerable proportion of the urban-minded, civilian population away from the interior.<sup>377</sup>

<sup>376</sup> Whittaker 1994.

<sup>377</sup> Cf. Mócsy 1970, 17-18, claimed that the Diagonal Road between Singidunum and Byzantium was more important than the Danube Road. This claim is probably true, but only in the Late Roman period, with the slackening grip on the Danube and the founding of Constantinople.

<sup>374</sup> See bibliography.

<sup>375</sup> Cf. Burghardt 1979, 1-20.





Map III 10: Distribution of the newly-founded civilian settlements.

All well and good, but this positive correlation between the major civilian foundations and interregional corridors is not as strong as it might appear at a first sight. While not minimizing this aspect of the newly founded towns, it is impossible to escape the impression that a high regard for connectivity was not always decisive in the urbanization of the area. Long sections along the Sava and Drava Valleys and along the Diagonal Road between Naissus and Philippopolis are devoid of major agglomerations, despite the fact that these were relatively fertile areas that fell outside the zones of the military and pre-Roman urbanism. (Map III\_8, III\_11, III\_12)<sup>378</sup> Why was the same principle of urbanizing the zones of high connectivity not consistently applied throughout the studied region? When trying to explain this problem it seems as if we are faced with an insoluble conundrum. It is noteworthy that the rule of locating autonomous towns close to natural corridors was not replaced by a different principle in these areas. Major agglomerations were simply lacking in these well-connected and fertile regions.<sup>379</sup>

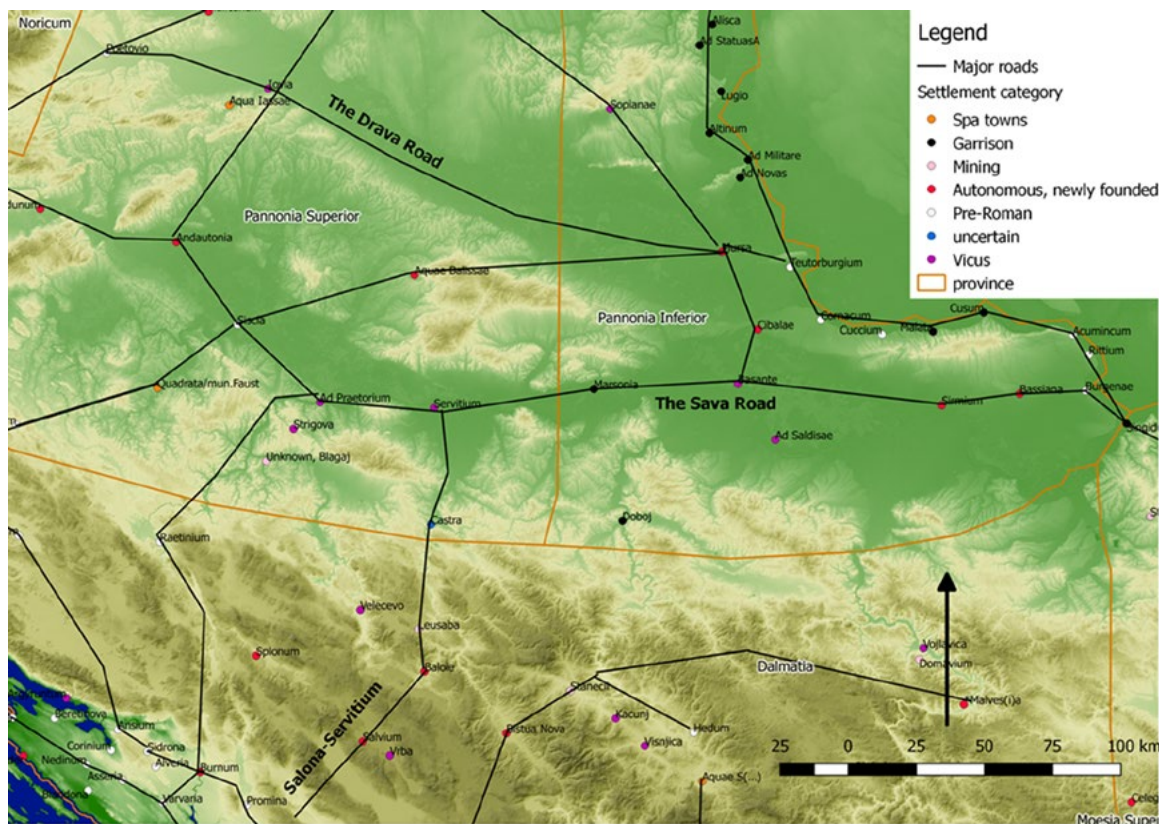
<sup>378</sup> However, it has to be stressed that, until the modern alterations of the river-beds, waterlogging might have presented a serious problem in these regions.

<sup>379</sup> Even rural settlements are scarce along the supposed trace of the Sava Road, see Bojanovski 1984, 145-264. A possible explanation might be sought in the juridical status of this land, but the evidence is thin. See Chapter Six.

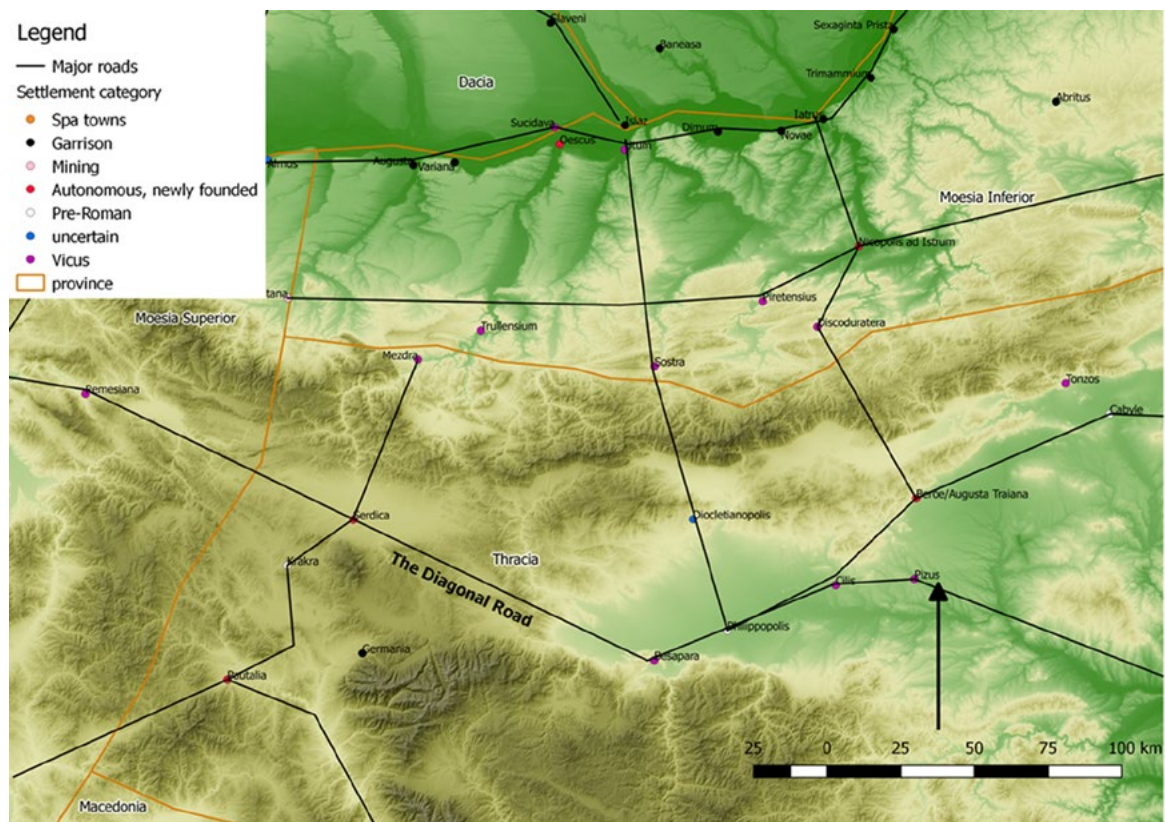
It is these large gaps in the urban network that have called our attention to the possible role of secondary agglomerations, especially the road-stations or road-side *vici*, as micro-regional centres. By virtue of their regular spacing, they appear to have been preordained to compensate for the patchy urban coverage. Undeniably, even road-stations are unevenly distributed, partly because we lack data of equal quality for all the major roads in this region and partly because of the variable population densities and environmental conditions. Overall, however, it is evident that the road-stations had the potential to function as a second tier of settlements, providing the rural population located beyond the normal outreach of the autonomous towns with market services.

In actual fact, there is very little positive evidence to support this model. Although over 50% of our secondary agglomerations can be related to a road-station or port facility, the bulk of the archaeological finds at a number of these sites do not predate the period of the Tetrarchy. Focusing solely on those sites that have been identified with the remains of agglomerated settlements does not reveal a clear pattern. In most of the provinces, the variations are slight and are very inconsistent. Thrace has more secondary agglomerations than Macedonia and the northern Adriatic, areas that are known to have had much higher urban densities, but Pannonia



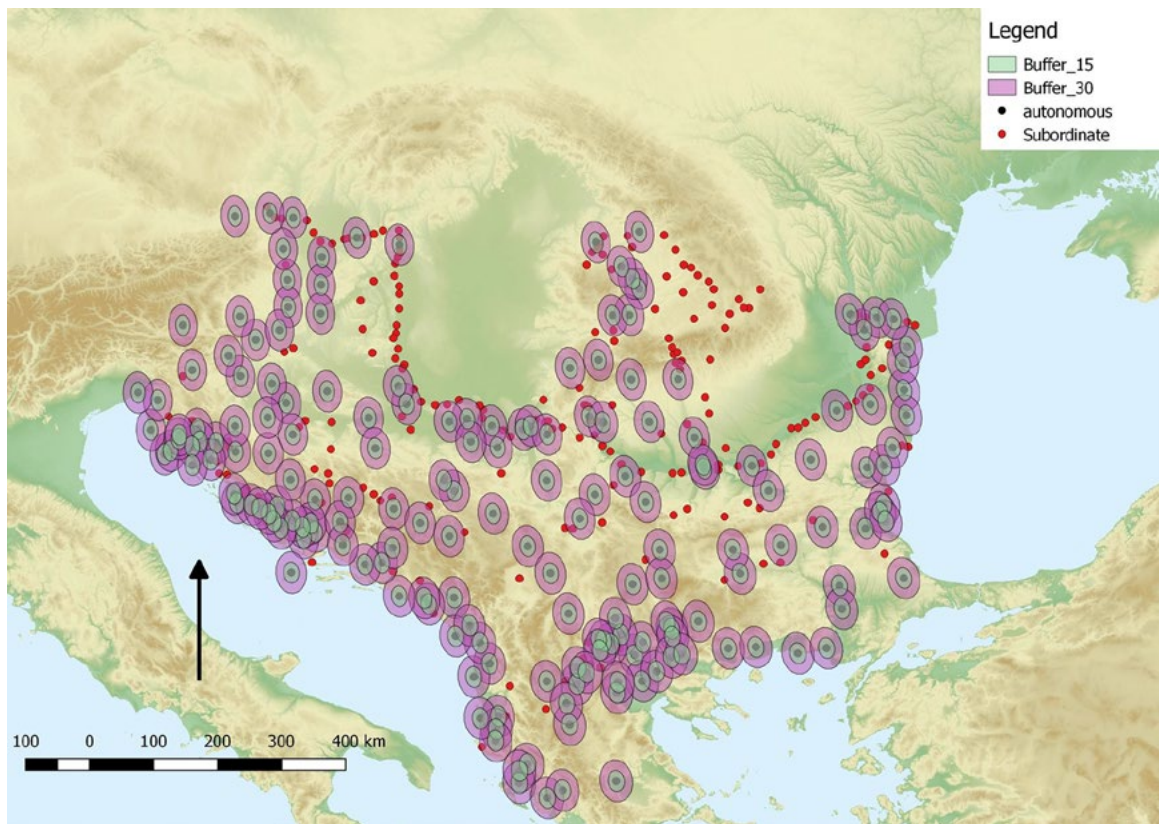


Map III 11: Settlements and roads in the Sava-Danube Interfluvium.



Map III 12: Settlements along the Diagonal Road in Thrace.





Map III 13: Distribution of the autonomous and subordinate central places.

Superior, one of the most urbanized provinces in the frontier zone had more secondary agglomerations than Pannonia Inferior. (Figure III\_13) Only Dalmatia stands apart by the visibly higher number of road-side *vici*, but this is probably a reflection of the character of our data-source, the fairly intensive surveys along the main roads in the province. Nevertheless, it is striking that, even within the borders of Roman Dalmatia, most of the evidence comes from the interior of the province. Over three-quarters of the sites qualified as large road-side *vici* are located either in the mining districts of central and eastern Bosnia or on the high plateaus in Herzegovina. If we exclude the couple of minor port-settlements, none of these sites can be located in the coastal zone. A second concentration of secondary agglomerations that probably served as road stations can be traced in the mountainous area that separated Thrace from Moesia Inferior from the Severan period. As we shall see in a later chapter, this area did not belong to the special fiscal districts, but it certainly lay in the periphery of the extensive urban territories of Roman Thrace.

It is also evident that the frequency of secondary agglomerations increases as distance from the urban centres grows. Only three or four out of almost 50 agglomerations that can be qualified as road-side *vici* or

port-towns fall within the 15-km buffer radius drawn around the autonomous towns. (Map III\_13)<sup>380</sup> Even when the buffer radii are increased to 30 km, nearly half of the road-side *vici* are still located outside them. Although we lack adequate data to examine these relations in greater details, it is difficult to ignore the negative correlation between urban density and the occurrence of secondary agglomerations. At present, we have no means of determining the reasons behind the sporadic nature of this tendency. It might depend equally on the amount of research done in particular regions of our study-area and on the variable socio-economic conditions.

With the exception of the settlements that emerged near road-stations, we lack adequate data to distinguish between the different types of secondary agglomerations. All that can be done is to point out the small number of sites that can be classified as spa-towns or mining colonies. Even in these cases, the formal distinctions are blurred by the occurrence of military forts near thermal springs and in the mining districts or, conversely, evidence of industrial activities at the sites of road-stations. In comparison with the broader settlement categories, their distribution exhibits a

<sup>380</sup> Cf. De Ligt 1993, 123-124.



Map III 14: Distribution of the mining vici and spa towns.

pronounced clustering, coinciding with the distribution of the natural resources around which their economies revolved. Far more important is the observation that the number of settlements that can be associated with these sectors is too low to offer a sufficiently broad base for an optimal exploitation of the thermal springs or mining areas. (Map III\_14) As evidenced by the epigraphic sources and the archaeological remains of mining activities, the small number of settlements that can be attributed to these sectors cannot be seen as an indication of low productivity. We suspect that it was the status of this land that inhibited urban growth. In most of the mining regions and at thermal springs the land belonged to the imperial government and could not be sold, privatized or passed on to posterity. Hence the inducement to make any investment even in private residences or workshops was certainly minimized in these areas.

It has to be stressed that these settlement categories were not evenly distributed across our study-area. An increased number of spa-towns is discernable in the urban territories of Pannonia Superior in comparison to the other provinces, while only certain mining districts show evidence of municipalization or secondary town-like settlements. In view of the small number of examples, it is not easy to interpret these

departures from the overriding patterns. However, at least in the case of the mining districts, these divergent developments can be related to the variable modes of administration in this sector, but the specifics of these relations remain poorly understood.<sup>381</sup>

Common to the great majority of secondary agglomerations in our study-area, whether road-stations, mining vici or spa towns, is the late chronology of the earliest monumental phases or the first epigraphic evidence of district procurators. In a great number of cases, these date only to the Severan and post-Severan periods and, quite often, only to the period of Late Antiquity.<sup>382</sup> At least in the case of the mining districts, these late developments have been related to the rise in production in the area.<sup>383</sup> But, as these are not limited to the mining sector, we would also like to point out that they coincide with the increased involvement of the central government in the exploitation of the mineral riches and the maintenance of the road-network. Once these sectors came under

<sup>381</sup> Hirt 2010.

<sup>382</sup> Domavia: Bojanovski 1988, 193-203; Srejšević 1965, 7-48; Kosmaj: Mirković, Dušanić eds 1976, 95-170; Dušanić 1990, 217-224; Remesiana: Petrović ed. 1979, 51-57; Timacum Minus: Petrović ed. 1995; Montana: Binev 2003, 160-182.

<sup>383</sup> Mladenović 2014, in press.



the direct control of the government, an intensification in the building activities along the main roads and in the metalliferous regions of our study-area is distinctly visible. The low proportion of privately-owned land in these regions, in conjunction with the short duration of the contracts during the Early Principate, had probably been the major disincentive to the urbanization of these regions. As demonstrated by the epigraphic evidence from the countryside of Roman Thrace, spontaneous urbanization in these sectors was in all likelihood exceptional. Where evidence of secondary agglomerations is available, it regularly points to the direct involvement of the provincial or central government.

Throughout this chapter we have been trying to de-emphasize the most obvious element in the newly founded segment of the settlement network in the study-area. The preponderance of the category of

garrison settlements has been relativized by the fact that only a small fraction of the secondary conurbations has been included in the analysis and, in this context, we have also drawn attention to the municipal developments in the military sector in the 2nd and early 3rd century AD. While the majority of these observations are both valid and important, they have failed to alter the general impression given by this survey of the genesis of the newly founded settlements. By far the largest proportion of the settlements, whether civilian or military that belong to this category emerged as planned foundations. Outside the categories of garrison settlements and autonomous towns, urban growth was rare and, until the period of Late Antiquity at least, fairly unpretentious. Although the road-side *vici*, the spa and mining towns certainly played a whole range of urban functions, the material aspects of urbanism never reached these communities nor were they demographically significant.

## Chapter IV

# Settlement Size Distribution

### Introduction: settlement size and the reconstructing of settlement hierarchies

In this chapter we shall turn to another aspect of the settlement geography and look at the distribution of the settlements across size categories. After all, size is seen by most urban geographers as the defining feature of towns, setting them apart from the rural sector of the settlement network.<sup>384</sup> In most societies in which the urban-rural dichotomy is present, the towns are much larger than the rural settlements in terms of population, area and the range of services offered.<sup>385</sup> This postulation is particularly relevant to our study-area, because of the difficulties involved in separating certain categories of subordinate central places, like road-stations or *emporia*, from the ordinary village. The findings of this chapter will demonstrate that size was not necessarily a defining feature of urbanism, although the concurrence of multiple urban functions did entail greater size.<sup>386</sup> This rather sensible and generally correct view that towns are always much larger than villages is undermined by two tendencies. On the one hand, the settlement categories that can be defined as quasi-urban - because of their involvement in non-agricultural economies - often failed to outgrow the average rural settlement while, on the other, archaeologists have pointed out the existence of very large villages whose extent is comparable to the average towns in the study-area. Both scenarios find some support in the empirical evidence and we cannot simply write them off.<sup>387</sup>

But what is the wider relevance of settlement size studies? In archaeology and related historical disciplines, settlement size has been used mainly as a proxy for population size.<sup>388</sup> The approximation it offers is not particularly accurate, but it is often the only clue we have for estimating population size. Despite all the difficulties of translating physical extent into population size, the two parameters are

undeniably closely related.<sup>389</sup> On a general level and in approximate terms, the size of the urban settlements reflects the degree of urbanization in a study-region, although this obviously requires an even more difficult projection of the total population size. The scope of this chapter is not large enough to explore this particular problem, although the predominant size-ranges already hint at the possible size of the urban population in the individual provinces in our study area. We shall revisit this issue in the chapter dealing with the micro-locations and agricultural potential of the settlements and their surroundings.

There is another good reason to study settlement-size distributions. Apart from estimating the proportion of the total population that lived in cities, the settlement-size distributions should also reflect the settlement hierarchy in a given region.<sup>390</sup> This will be the true focus of the present chapter. We shall try to understand the hierarchy of the urban system by looking at the distribution of the size-figures on a doubly logarithmic graph and by analysing their deviations from the rank-size rule. Despite the validity of the observation that the size of the built-up area is not determined solely by the juridical rank of the settlement or its centrality,<sup>391</sup> it is widely accepted that there is a strong positive correlation between population size and the range of services offered by a given settlement. One notable exception is the settlements that belong to the highest tier of the hierarchy. The increase in population size above a certain threshold had little or no effect on the range of services offered.<sup>392</sup> The same argument applies to the settlements in the lowest order: a narrower range of economic, administrative or religious services does not necessarily entail a reduced settlement size.<sup>393</sup> In both cases there is a risk of over-interpreting the quantitative data and assuming hierarchical complexities where there are none. It is likely that, on account of a series of other factors - ecological, micro-topographic, cultural or political -, the variation in settlement size will have always been greater than the real differences between the settlements in terms of formal administrative rank or functional size.

<sup>384</sup> See the bibliography collected in Hanson 2016.

<sup>385</sup> Haggett 1972; Fox 1977.

<sup>386</sup> For analogous problems in Mesoamerican urbanism, see Sanders, Webster 1988, 521-546.

<sup>387</sup> In fact, a very close parallel is found in the region of the Sava-Danube interfluvium, where modern settlements fully involved in agriculture are as large as the average towns in the area, The Naval Intelligence Division 1944b, 7-14. Cf. the far better-known case of the southern Italian agro-town, Blok 1969, 121-135.

<sup>388</sup> Hassan 1981; Morley 2011, 143-160.

<sup>389</sup> Wilson 2011, 161-195.

<sup>390</sup> Garner 1967, 303-360; Johnson 1977, 479-508; Pearson 1980.

<sup>391</sup> Garner 1967, 324.

<sup>392</sup> Johnson 1977, 495.

<sup>393</sup> Cf. Woolf 1997, 1-14.



Initially the plan was to study the settlement hierarchies by observing the distribution of the individual size figures across arbitrary size-ranges. This was going to be our main tool for the reconstruction of the settlement hierarchies. The rank-size analysis was expected to shed light on the nature and intensity of the vertical and horizontal relations binding the individual settlements. We soon discovered that the rank-size graphs were an equally handy tool for detecting discrete size-clusters. Most significantly, they do not require the introduction of predetermined, arbitrary size-ranges into the analysis. The groups of similarly sized settlements will always be placed next to each other on the logarithmic scale, forming either clusters of points or continuous chains. Because the end-results of the two approaches were often very similar, if not identical, it was decided to present the settlement hierarchy as observed on the rank-size graphs only.

The study area includes only parts of certain provinces – Macedonia and Thrace – and a small part of Italy X. This circumstance prevents us from studying the integral settlement hierarchy in these provinces. Because Rank-Size analysis draws the profile of the settlement hierarchy on the basis of internal criteria, the study of segments of urban systems will inevitably result in distorted settlement hierarchies.<sup>394</sup> Whereas the parts of Macedonia and Thrace included in this study are relatively large and – thanks to a coming study of the towns in the Greek parts of Macedonia and Thrace<sup>395</sup> – it is possible to get an idea of the integral settlement system, it makes no sense to examine the hierarchical ordering of the dozen and a half settlements in the small part of the northern Adriatic that belonged to Italy X.

Settlement size is not merely a crude indicator of the population size or a settlement's rank. The extent of the built-up areas can also be read as an index of regional wealth expressed in urban investment and development. It is a sensible assumption that the extent of a conurbation is directly related to the capacity and readiness of the elites to invest in urban residences and public buildings.<sup>396</sup> Large towns would have been unlikely to have emerged in the economically backward sections of our study-area or in regions oriented entirely towards the export of their natural resources. Undeniably, there are many other factors that influence settlement size and it would be difficult to pass a fair judgement about the prosperity or the economic role of the regions that constitute our study-area solely on the basis of this parameter. To cite an obvious example, the small size of the towns in a given region could be compensated for either by the short intercity distances

or increased investment in rural estates. It is evident that these variable patterns were pre-determined by a number of other factors that cannot be subsumed under the vague concepts of wealth or the regional rates of urbanisation. Nonetheless, a certain level of economic prosperity and emancipation from the bonds of the pre-urban tribal societies were the basic prerequisites for the emergence of large towns and complex hierarchical societies. Seen from this perspective, the variable size distribution in the study-area must have been at least partly sensitive to the regional differences in wealth and economic prosperity. That the Roman towns of the Pannonian provinces were larger than the towns in Dalmatia was chiefly determined by the contrasting environmental conditions in these two regions. But the agency of other factors should not be ignored: large towns were often absent even in the more fertile parts of the Dalmatian interior and they were found only in certain parts of the Pannonian provinces.

Viewed as a correlate of aggregate or per-capita growth, settlement size is less indicative of the hierarchical ordering of the settlements than the differential growth within and across formal ranks. The hierarchies defined on the basis of the settlement-size distribution do not override the formal hierarchy of the system determined by the variable distribution of juridical status. Their principal value lies in pointing out the areas in which settlement size transgresses the boundaries between the juridical categories.<sup>397</sup> The main purpose of correlating the settlement distribution by size categories with their juridical status is to identify patterns of differential development, not to construe an alternative settlement hierarchy.

After analysing the quantitative properties of the urban network by individual provinces and historical regions, we turn to the spatial distribution of the different size-categories. Maintaining the structure of the previous two chapters, we shall attempt to synthesize this large corpus of data by observing the overall spatial distribution of the various size-categories. In all likelihood, the results will be ambiguous and it would be too much to hope to propose a general answer to the question why certain size-categories tend to cluster in certain sections of the study-area. Even so, we shall try to come up with a number of hypothetical explanations that are not grounded in purely environmental or socio-economic determinism. Neither the natural riches nor the juridical or fiscal status were necessarily conducive to urban growth, although the weight of these factors is undeniable. The place of the settlements in the wider regional constellation or their chronology and socio-economic make-up discussed in the previous chapters are equally influential factors. Later in the text, we shall

<sup>394</sup> Johnson 1980, 234-247.

<sup>395</sup> Karambinis forthcoming.

<sup>396</sup> Abrams, Wrigley eds 1978; Morley 2011, 150.

<sup>397</sup> For an analogous distribution of wealth across social orders in Classical Antiquity, see, Finley 1973.



see that the topography and size of the settlements are often closely related to the processes that led to their foundation.

So far, we have spoken about settlement size as a straightforward concept, readily accessible in the relevant archaeological literature. Unfortunately, this expectation could not be farther from the truth. Mostly because of the difficult objective circumstances – the continuity of urban settlement at the sites of the towns from the High Empire and the limited research resources of the countries that belong to the study-area – the physical extent of the settlements can only rarely be read from the published plans. Even at sites that have escaped later urban or industrial development, it is very difficult to establish the changing size of the built-up area at fixed points of time. The best one can hope for are static snapshots covering periods of two or three centuries, but even this is rarely on the cards. In most cases, one has to be content with size-ranges rather than with specific, but misleading figures. Indeed, even if the archaeological remains had survived in ideal conditions and even if they had been subjected to the most rigorous and sophisticated research programme, the chances are that it will still be impossible to ascertain if all identified buildings were actually used at the same time. This chance is precluded by the low chronological resolution inherent in the archaeological record. The majority of the archaeological finds cannot be dated within time-spans shorter than one century. In addition, all permanently occupied sites feature a peripheral belt of an ambiguous nature and function – derelict buildings, rubbish heaps, garden sheds – confusing the outer limit of the settlements.<sup>398</sup> Therefore, attributing concrete size-figures is methodologically problematic. Hence the adoption of alternative estimates for the minimum and maximum extent of the settlements is methodologically and theoretically more justifiable than insisting on particular figures, even if it complicates the subsequent data analysis.<sup>399</sup>

Even this measure is hardly a rescue from the problem of finding reliable evidence of the settlement size in the published literature. In fact, it can be argued that it only doubles the existing difficulties. Nearly one-half of the settlements included in this analysis – this group obviously excludes the sites with uncertain locations – lack even the most basic co-ordinates to determine their extents during the period under study. This literally means that for nearly 50% of the settlements, the maximum extent of the built-up area is based on intelligent guesswork or parallels from better researched examples that belong to the same or similar settlement categories. Turning to the individual provinces we come across a number of

highly problematic examples but, in order to illustrate the problem, it might be useful to mention the most difficult scenarios.

In some parts of our study area, like the inner Balkan provinces, the last period of large urban expansion dates only to the early 4th century AD, effectively concealing the remains of earlier periods. As we have seen in the preceding chapters, it is often very challenging to determine whether a certain settlement existed prior to AD 300, let alone estimate its approximate extent in its earlier form. Equally problematic are the towns that belong to the belt of pre-Roman urbanism, situated in the south of the study-area and along the Adriatic and Black Sea coasts. Given the peculiarities of their topography – almost all pre-Roman conurbations in our study-area are fortified hill-top settlements – it is often unclear if the settlement had continued to exist within the old urban core or if it had been moved to the foot of the hill.<sup>400</sup> In cases where the spread of the settlement outside the pre-Roman walled perimeter is archaeologically attested, it still remains open to question if the former urban core formed a part of the built-up area of the new settlement or if it was entirely marginalized and abandoned. Either way, the effect on the size-estimate can be considerable. Similar problems surround the sites that belong to the categories of garrison settlements or subordinate central places that emerged near road-stations or hot springs and sanctuaries. In all of these cases, the size-estimates are complicated by the composite nature of the settlement topography. Common to these settlement-categories is the fact that they are made up of at least two separate architectural components, only one of which was truly monumentalized and is hence archaeologically tangible. As this is usually the smaller component of the agglomeration – the fort, the *praetorium*, the citadel – the difference between the estimates for the minimum and maximum extents of the built-up areas are often manifold. While it is possible to project the size of the smaller components on the basis of comparative evidence – auxiliary forts and road-stations tend to cluster within a limited size-range – there are absolutely no indications that would help us estimate the extent of the extramural component of each of these settlements individually.

One possible way forward was to simply omit all settlements for which size-related data are missing from the analysis. However, this would severely undermine the representativeness of the entire dataset, as this problem occurs most commonly at the garrison settlements or road-stations. Consequently, an

<sup>398</sup> Bintliff 2000, 200–215.

<sup>399</sup> Cf. Hansen 2006.

<sup>400</sup> Phoinike in Epirus is probably the best example. The assessment of its standing and importance in the Roman period is entirely dependent on the nature of the agglomeration at the foot of the Hellenistic town, De Maria 2012, 27–53.



Table IV 1: The ratios of built-up to walled areas – in hectares  
– for a sample of 40 garrison settlements.

| Name, ancient and modern   | Min size | Max size | Ratio |
|----------------------------|----------|----------|-------|
| Gerullata_Rusovce          | 3.50     | 12.00    | 3.4   |
| Unknown_Klosterneuburg     | 2.00     | 6.00     | 3     |
| Unknown_Strebersdorf       | 1.50     | 4.50     | 3     |
| Viminacium_Kostolac        | 17.00    | 77.00    | 4.5   |
| Diana_Karatas              | 2.00     | 6.00     | 3     |
| Novae-Cezava               | 2.00     | 4.50     | 2.25  |
| Timacus_Minus_Ravna        | 1.50     | 4.50     | 3     |
| Aquincum_Buda              | 21.00    | 157.00   | 7.4   |
| Brigetio_Szony             | 23.00    | 130.00   | 5.6   |
| Intercisa_Dunaujvaros      | 3.50     | 14.00    | 4     |
| Matrica_Szazhalombatta     | 2.50     | 12.50    | 5     |
| Cornacum_Sotin             | 2.00     | 12.00    | 6     |
| Ulcisia_Castra_Szentendre  | 3.00     | 12.00    | 4     |
| Unknown_Albertfalva        | 4.00     | 12.00    | 3     |
| Unknown_Vizivaros          | 2.50     | 10.00    | 4     |
| Annamatia_Baracs           | 2.00     | 9.00     | 4.5   |
| Lugio_Dunaszekco           | 1.50     | 4.50     | 3     |
| Troesmis_Turcoaia          | 16.50    | 40.00    | 2.4   |
| Noviodunum_Issacea         | 4.00     | 15.00    | 3.75  |
| Unknown_Barbosi            | 5.00     | 15.00    | 3     |
| Nigrinianis_Malk_Preslavec | 2.00     | 12.00    | 6     |
| Augusta_Harlec             | 2.50     | 10.00    | 4     |
| Cius_Garliciu              | 2.00     | 8.50     | 4.25  |
| Sacidava_Dunăreni          | 2.00     | 8.00     | 4     |
| Cimbriana_Canlia           | 2.00     | 6.00     | 3     |
| Singidunum_Belgrade        | 15.50    | 75.00    | 4.8   |
| Capidava_Capidava          | 1.50     | 4.50     | 3     |
| Beroe_Piatra               | 1.00     | 4.00     | 4     |
| Sostra_Lomec               | 1.00     | 3.00     | 3     |
| Apulum_Alba_Iulia          | 22.00    | 100.00   | 4.5   |
| Porolissum_Moigrad         | 6.50     | 27.00    | 4.1   |
| Micia_Vetel                | 6.80     | 21.00    | 3.1   |
| Tibiscum_Jupa              | 5.00     | 25.00    | 5     |
| Unknown_Germissara         | 3.50     | 12.00    | 3.4   |
| Samum_Casieu               | 2.70     | 7.00     | 2.6   |
| Cumidava_Rasnov            | 1.50     | 7.00     | 4.6   |
| Unknown_Odorheiul_Secuiesc | 1.50     | 4.50     | 3     |
| Unknown_Feldioara          | 1.50     | 4.50     | 3     |
| Carnuntum_Petronell        | 20.00    | 140.00   |       |
| Vindobona_Wien             | 18.50    | 105.00   |       |

alternative and seemingly less damaging solution was to project the likely extent of the extra-mural settlement on the basis of comparative evidence from the better researched sites.<sup>401</sup> Indeed, looking at the list of garrison settlements at which the extent of the extramural component has been determined by archaeological research or at which the local topography has limited the spread of the agglomeration, in over 80% of the entries the total built-up area is three to four times the size of the walled areas. (Table IV\_1) The regularity is striking and it is unrelated to the geographical or administrative divisions. The few exceptions are represented by the legionary camps and their *canabae* on the Middle Danube, with built-up areas five to seven times the size of the legionary fort. The list includes around forty settlements, amounting to nearly one-third of all garrison settlements in our study-area. It is a substantial sample that inspires confidence in our hypothetical projections for the extra-mural components of the garrison sites.

One general feature of the layout of the majority of the auxiliary and road-side *vici* in the area during the High Empire was a so-called ribbon development, with houses and shops arranged sprung out along the main local and regional roads. The best documented examples come from the auxiliary forts in Dacia and Pannonia, in which the civilian settlement is spread along the roads that radiate from the camp.<sup>402</sup> This elongated layout can be problematic when trying to estimate the extent of the built-up areas by plotting find-spots or by non-systematic surface surveys. It is easy to get a false impression that the settlements under scrutiny spread over a very extensive area, when in fact the built-up area was limited to not more than 50 meter-wide tracts on either sides of the road. It is therefore highly probable that the available sizes for the built-up areas included in Table IV\_1 are somewhat inflated and that the ratio between the built-up and walled areas was rarely higher than three to one.

The disadvantages of this procedure are evident. It bluntly assumes a uniform pattern, discounting the possibilities of differential developments among the auxiliary *vici*. In the preceding chapter, it was mentioned that some of these settlements had become centres of separate administrative districts by the late 2nd century AD.<sup>403</sup> Are not we deliberately obscuring the possible variations in size and ranking by automatically assigning a similar size to a large group of settlements? The relatively small expanse of the size of the fortified areas ensures that the projected built-up areas at the majority of these sites will range between seven and 15 ha. But we are not sure that this argument is convincing

<sup>401</sup> Cf. Russel 1958, 3–152.

<sup>402</sup> Szirmai 2005, 681–684; Oltean 2007; Groh 2009, 59–64.

<sup>403</sup> Mócsy 1980, 365–377; see Chapter Six.



enough to exclude all poorly studied examples from the analysis. The group is not only too large, it is highly concentrated and the omission of these settlements from the analysis will severely restrict the data-set for the frontier provinces. At the same time, the number of garrison settlements whose extent is likely to be underestimated by this formula cannot be particularly large. On the basis of the epigraphic record, the geographical location and the archaeology it is possible to predict which of the auxiliary forts on the Danube are likely to show exceptional developments.

This discussion does not exhaust all the problems that arise from the phenomenon of composite settlements. An additional peculiarity in some of the provinces in our study-area is the so-called 'double towns'.<sup>404</sup> Generally speaking, this term has been used for all towns that united communities of variable juridical status<sup>405</sup> but, for the purposes of this chapter, we are interested only in those examples in which this dichotomy is reflected in the layout of the settlements. This choice narrows the group to a few settlements on the Danube frontier. Their limited number will not affect the overall picture, but the possible variations in size are considerable. In the course of the 2nd century, or soon after the founding of the legionary camps on the Middle Danube, civilian agglomerations that quickly grew into *municipia* developed near some of these garrison settlements and, by the time of the Severan dynasty, many had become honorary colonies.<sup>406</sup> Are we to treat these civilian agglomerations as separate towns or as components of the garrison settlements? Obviously, the decision will have considerable implications, both for the final list of towns and especially for their size. Administratively, the legionary camp with its *canabae* and the civilian settlement were two separate entities.<sup>407</sup> The epigraphic evidence shows that the *canabae legionis* retained their integrity and institutions even after the adjacent civilian settlement had been granted an official town-charter.<sup>408</sup> The two agglomerations were physically discrete, each with its own necropolis, temples and monumental buildings. Nonetheless, the close socio-economic connections between the two override the apparent parallelisms in the physical fabric and administrative constitution. The two communities bore the same name and often the same persons held offices in the *canabae* and in the civilian settlement.<sup>409</sup> Judging by the very

short distance between the two agglomerations – the *municipium* was always located at a distance of about 2.2 km from the centre of the legionary camp<sup>410</sup> – the separation between the two agglomerations was purely formal. It was necessitated by technical considerations – the garrisoned units needed a small piece of land around the camp for drills, pasturage for the horses and draught animals – and the incompatibility of the presence of the army with municipal development.<sup>411</sup> It is unlikely that these technical and legal concerns hampered the integrative forces between the two agglomerations. The demographic and economic bonds between the two must have been very strong. Indeed, earlier scholars believed that, by the late 3rd century, the *municipia* had merged with the garrison settlements, transferring their name and civic status to the former legionary camp.<sup>412</sup>

In the preceding chapters, these double towns have been treated as single settlements, although it would have been equally plausible to see them as two separate towns. It is a difficult choice, as the arguments on both sides are equally strong. In view of the far-reaching consequences of the decision to recognize one or two separate towns in these cases, it was decided to consider the implications of both scenarios. In order to avoid further complications in the data-set, the civilian settlements are treated as separate entities when the minimum size-estimates are analysed. According to this scenario, the minimum size of the garrison settlement equals the combined areas of the legionary fort and *canabae*. In the alternative scenario, the two conurbations are merged into a single entry, the maximum size equalling the combined areas of the fort, the *canabae* and civilian settlement.

The phenomenon of double towns baffled researchers throughout much of the 20th century.<sup>413</sup> By the middle of the century, it became very popular among the scholarly communities who worked in the frontier provinces. But, in reality, solid archaeological evidence for the existence of double towns on the Danube frontier has so far come only from Pannonia and Dacia. These are Vindobona and Carnuntum in Pannonia Superior,

<sup>404</sup> Vittinghoff 1971, 299-318; Mócsy 1974; Piso 1991, 131-169; for a more recent summary see Doneus, Gugl, Doneus 2013.

<sup>405</sup> Dušanić 1971, 241-259.

<sup>406</sup> Mócsy 1974, 139-147, 217-227; Kandler, Humer, Zabehlicky 2004, 11-66.

<sup>407</sup> Vittinghoff 1971, 305; for individual examples, see, Aparaschivei 2006, 189-208 (Troesmis); Diaconescu 2004, 87-142 (Apulum).

<sup>408</sup> Note the example of Viminacium – even though not a double town – at which the *canabae* are still mentioned in inscriptions decades after the granting of the municipal status, Mirković, 2007; Apulum: CIL III 1093, Piso ed. 2001.

<sup>409</sup> Mócsy 1980, 365-376; IDR III/5: 14, IDR III/5 258, Piso ed. 2001; Aparaschivei 2006, 191-192; Doneus, Gugl, Doneus 2013, 186-187.

<sup>410</sup> Doneus, Gugl, Doneus 2013, 176-178.

<sup>411</sup> Von Petrikovits 1979, 229-242; Piso 1991, 137-138; Bérard 1992, 75-105. The army camp was originally the antipode of the Roman town but, by the late Principate, these principles had been gradually abandoned, Mommsen 1873, 299-326; Vittinghoff 1968, 132-142.

<sup>412</sup> Mócsy 1974, 217. In fact, in most of the civilian towns that emerged near legionary camps there is evidence of a continuous occupation into the 4th century. Although the evidence definitely points to decline and contraction, this is not easily qualified in more specific terms. Most importantly, the Late Antique development in these towns was not identical. Aquincum: Zsidi 1999, 585-592; Láng 2013, 231-250, with earlier literature; Carnuntum: Kandler, Humer, Zabehlicky 2004, 35-49; Kandler 2008, 90-108; and Vindobona: Mader 2004, 67-74; Kronberger *et al.* 2005, 9-33.

<sup>413</sup> Piso 1991, 137-141; Doneus, Gugl, Doneus 2013, 175-188, provide historiographic accounts of this topic.

Brigetio and Aquincum in Pannonia Inferior and Apulum in Dacia Apulensis. Nonetheless, seduced by the distinctiveness of this model and the extraordinary opportunity of discovering new urban settlements, archaeologists working on other sections of the Danube frontier have stubbornly looked for the presence of civilian settlements near the rest of the legionary camps on the Danube. Twin towns have been sought near Viminacium, Oescus, Novae, Durostorum and Troesmis, often at sites of a very dubious character.<sup>414</sup> To be sure, some of these sites, like the settlements at Ostrite Mogili near Novae and Ostrovo near Durostorum seem to have been fairly large and they do conform to the *leugma* rule, but this does not automatically make them urban settlements.<sup>415</sup> It merely demonstrates the strength of the gravitational pull of the military towns. The double towns of the Danube provinces are a text-book example of the dangers involved in the rigid application of empirically tested models. Disregarding the fact that the chances of discovering archaeological remains at distances of 2.2 km from the legionary camps on the busy *Limes* Road are quite high, researchers have seen possible traces of urban agglomerations even at sites that can be objectively interpreted only as clusters of farmsteads or isolated workshops. This is a typical example of a model growing so influential that it leads to crude misinterpretations or even outright discounting of the archaeological evidence. It is clear that the double towns were a peculiarity of the Middle Danube provinces. Evidence of similar developments in the Moesias is lacking and we cannot accept the claims that similar patterns that existed elsewhere on the Danube are still awaiting discovery. The absence of double towns on the Moesian section of the Middle Danube and on the Lower Danube must be accepted as a matter of fact and as an important point of difference between the frontier provinces.<sup>416</sup>

Settlement size is normally considered a fairly straightforward and theoretically unproblematic concept. But anyone who has been involved in determining the extents of archaeological sites knows that this is a particularly demanding research goal and, in many circumstances, it is technically unachievable. In order to have a more coherent discussion of the actual size-distribution by provinces, it was deemed useful to present the major problems surrounding the study

of settlement size in the study-area. Only the general difficulties were discussed, those pertaining to the more numerous settlement categories or to the largest settlements whose size might have an effect on the entire size-frequency trend. In reality, the size-figures for the great majority of the settlements included in this study are far from ascertained and none can be taken as a definitive. However, we believe that the uncertainties surrounding the individual size-figures are not an insurmountable hindrance to the study of the settlement system. After decades and centuries of organized archaeological research and intensive construction projects, the chances of discovering a hitherto unknown urban agglomeration of a very large size are minimal. Surprises are always possible, but these are more likely to appear in the middle and especially the lowest tier of the settlement hierarchy, in which changes in the data for individual settlements are unlikely to influence the overall picture.

### Upper Macedonia and Epirus

As we have seen in Chapter Two, Roman Macedonia was created in a zone of high urban density. In the Hellenistic period the regions that constituted the new province were either governed by stable monarchies or were organized into *koina* of autonomous communities.<sup>417</sup> Regardless of these political divergences, the *oppidum* played a key role in the military control and administration of these countries. When analysing the settlement hierarchy of Roman Macedonia, we are basically looking at the Hellenistic urban network or rather its vestiges. Many of the small *oppida* and strongholds that were the landmark of the region during its period of political independence were abandoned after the arrival of the Romans and there is no evidence that they were replaced by correspondingly ranked settlements. The towns whose size is shown on Figure IV\_1 were part of the upper and middle tiers of the pre-Roman settlement hierarchy. However, this statement is true only for the western half of the province, the southern half of the Illyrian kingdom and northern Epirus. There were very few modifications in the pre-Roman settlement map of these countries or in the appearance of individual settlements. But, in the eastern half of the province, the continuity was merely topographical. Stobi, Styberra or Heraclea Lyncestis were thoroughly reconstructed in the Roman period.<sup>418</sup> In pre-Roman Paeonia, Upper Macedonia and the small part of western Thrace included in the Roman province, the Roman conquest introduced a new settlement hierarchy, albeit within the limits of the existing urban constellation.

<sup>414</sup> Piso 1991, 142-151; Doneus, Gugl, Doneus 2013, 179-182, list a number of examples of double towns, but evidently, the phenomenon was not universal. That not all legionary forts had adjacent civilian towns has no effect on the *Leugma* Rule. Civilian establishments certainly tended to appear at a distance of 1.5 miles from the legionary camps, but these were not necessarily urban settlements. See for e.g. the case of Durostorum in Moesia Inferior; Donevski 2009, 105-130; Boyanov 2010, 53-59; for Novae and the Lower Danube in general, see Tomas 2017.

<sup>415</sup> They are nonetheless included in the maximum size-estimates for these legionary towns.

<sup>416</sup> The model has most recently been rejected in the case of Troesmis, Alexandresu, Grabherr, Gugl, Kainrath 2015, 251-257.

<sup>417</sup> Cabanes 1976; Ceka 1985, 119-162; Papazoglou 1988a; Roisman and Worthington eds 2010.

<sup>418</sup> Stobi: Mano-Zissi 1973, 185-223.



That there were a few perceptible changes in the urban fabric of the majority of the towns in this region has a negative effect on the reliability of the size-figures. For over half of the settlements included in this analysis, the size estimates refer to the walled areas, regularly dating to the Hellenistic period. The extent of the fortified area is by itself not the best indicator of the settlement size,<sup>419</sup> but its reliability for the Roman period is further undermined by the possibility that it introduced a new settlement core outside the Hellenistic city walls. However, although in theory this circumstance does present a serious problem, the evidence available suggests that we can have confidence in our size-figures. In many of the Hellenistic towns there are Roman phases within the walled area, indicating that the old perimeter of the settlement was respected.<sup>420</sup> So far, evidence of urbanization outside the walled perimeter has been very limited.<sup>421</sup>

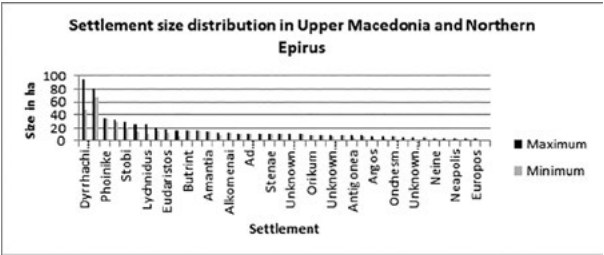


Figure IV 1: Maximum and minimum size-estimates for the major agglomerations in Upper Macedonia and northern Epirus.

For most of the settlements that retained their old city walls there are no major differences between the minimum and maximum values, the only size reference being the walled area (Figure IV 1). Considerable oscillations between the maximum and minimum figures are characteristic of the settlements in which the Early Roman core was obscured by the developments in the Late Roman or later periods and, in most of the cases, these coincide with the major urban centres in the province: Dyrrhachium, Lychnidos, Heraclea Lyncestis or Stobi. At the other end of the spectrum, a discrepancy of a similar scale can be observed in the case of the few settlements that emerged near road-stations. In none of these cases is

<sup>419</sup> Researchers who have studied the typological and technological development of fortifications in the Greek world have observed that, in the Hellenistic period, longer perimeters were preferred, even if this made it impossible to man the fortification lines; Winter 1971. But, even though the size of the walled areas does not represent a very secure basis for precise demographic reconstruction, in the absence of other data, it remains a useful proxy for population size, Hansen 2006.  
<sup>420</sup> Phoinike: De Maria 2012, 36–38; Dimale: Dautaj 1972, 149–157; Fenn, Heinzelmann, Klenner, Muka 2010; Lychnidos: Bitrakova-Grozdanva 2009, 23–37; Idomena: Sokolovska 1986.  
<sup>421</sup> See for example, the case of Phoinike, Shpuza 2005, 219–222; at which the evidence for the lower town remains inconclusive.

the extent of the settlement archaeologically recorded. Overall, however, these fluctuations in the size of the individual settlements have a limited impact on the regional hierarchy.

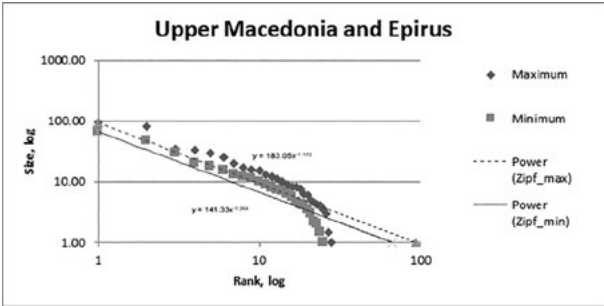


Figure IV 2: Ranks-size graphs for the maximum and minimum size-estimates for the settlements in Upper Macedonia and Northern Epirus.

Figure IV\_2 plots the maximum and minimum size-figures, alongside the power trend-lines for both scenarios. Despite the considerable differences between the two estimates, the two curves are almost parallel. Only at the beginning and at the end of the chains are there major divergences and these cases have been identified in the opening paragraphs. Both the maximum and minimum estimates produce slightly concave shapes and in both scenarios the tails of the series fall below the power trend-lines. Subtle differences between the two curves can certainly be observed, but their significance can be questioned. They can easily be attributed to the differences between the minimum and maximum size for the largest settlements that, by definition, determine the position of the power trend-lines.<sup>422</sup> If the maximum extents are accepted, the second largest settlement is too close to the first-ranking settlement, but in the middle part of the chain the decline is more gradual and the resulting trend is less concave. In fact, with the third ranking settlement, the graph for the maximum figures almost returns to the power trend-line. According to the minimum size-figures, the second largest settlement is still larger than that predicted by Zipf's Law, but it nearly joins the group of settlements placed in the middle segment of the graph. There is less variation in the sizes of the individual settlements falling within the medium ranges, and this produces the slight bulge in the middle segment of the lower curve.

Because of the relatively small differences between the sizes of individual settlements, the contours of the settlement hierarchy are difficult to spot in the rank-size graphs. Nonetheless, it is possible to observe three

<sup>422</sup> Cf. Falconer, Savage 1995, 37–58; who maintain that the size of the low-ranking settlements, including rural sites, can be equally influential.



separate groups. Over two-thirds of all settlements in this part of the province form a continuous chain in the middle and low segments of the graphs. This is the base of the settlement hierarchy, made up of the settlements whose extent was less than 15 ha according to the minimum, and less than 20 ha according to the maximum estimate. Two separate clusters are visible in the upper segments of the curves. On the graph of the minimum estimates these are composed of the first-ranking settlement and those ranked second to sixth that measure 67 and between 48 and 15 ha.<sup>423</sup> On the graph showing the distribution of the maximum size estimates, the second tier is limited to the settlements ranked third to seventh, with built-up areas ranging between 35 and 20 ha, while the second-ranking settlement is closer to the first- than to the third-ranking settlement. This ambiguous position of the second-ranking settlement is not an exclusive feature of the settlement system of Roman Macedonia. In a number of provinces in our study-area, the first hierarchical tier includes two or more settlements and, in some cases, it is difficult to decide if there was more than one settlement at the top of the hierarchy. Finally, it is possible to make a further distinction among the settlements that form the base of the settlement hierarchy, although its relevance is not entirely clear. Both graphs descend below the trend-lines for the power-law, commencing with the settlements that measure less than five ha. From roughly the same point, the gradient of the trend-lines increases, producing the slanted tail at the lower end of the series. It has been pointed out that the breach in the series marks the elusive urban-rural divide.<sup>424</sup> The five-ha threshold is indeed a plausible minimum size for an urban or urban-like settlement but, for the reasons outlined in the introductory chapter, we remain sceptical about the usefulness of applying simple cut-off points to distinguish between the urban and rural sectors. The question of the integrity of this group of settlements has to remain open. The possibility that they belong to the third tier of the settlement hierarchy cannot be excluded although, in the case of Macedonia, it is hard to escape the impression that nearly all of these size-figures are either not very reliable or refer to settlements with an uncertain status.

The settlement hierarchy in the part of Roman Macedonia included in this study was fairly simple. Excluding the group of settlements that measured fewer than five hectares, the survey revealed three principal size-categories. The lowest tier of the hierarchy is made

up almost entirely of the old pre-Roman *oppida* that managed to survive the Roman conquest and continued to function as micro-regional centres. The few newly founded towns also belong to this group; a fact that underscores the urban saturation of the area by the time of the Roman conquest. The Romans decided to invest in the existing settlement constellation, but only in some of its segments. These settlements of their choice came to constitute the second tier of the hierarchy: the centres of major regional units and the main hubs in the regional road-network. The towns that belong to this group were inherited from the pre-Roman period, but they underwent dramatic growth during the High Empire or were promoted to colonies and *municipia*. The two Greek colonies in the area were left at the top of the settlement hierarchy. Because of their locations and their role in the political economy of the Late Republic, these port-towns had a much greater outreach than the regional centres of the interior and, by the Hellenistic period, this was already reflected in the much larger size of these settlements.

Economic geographers have long-since observed that concave patterns are often the result of the arbitrary boundary definition of the settlement systems under scrutiny.<sup>425</sup> In this particular case, not only is the Roman province composed of historically separate regional units, but we also have to do without the large, demographically advanced Aegean part of the province. It is indeed symptomatic that the second-tier settlements are evenly distributed across the historical sub-regions of the province: Bylis in the south of Illyria, Lychnidos on the border between Macedon and Illyria, Heraclea Lyncestis in Upper Macedonia, Stobi in pre-Roman Paeonia and so forth. This is the group of settlements that diverges most dramatically from the power trend-line and embodies the entrenched regionalism of the urban system. The economic perspectives of these towns did not reach beyond the regional boundaries, leaving little room for differential growth.

The integrity of settlement systems has been singled out as the most common cause of concave rank-size graphs.<sup>426</sup> This is because the boundaries of past systems – be it territorial polities, culture groups or geographical regions – can only be defined loosely. The problem is hardly trivial. On the contrary, it undermines one of the basic premises of Rank-Size analysis: the properties of the urban systems are studied from within. The shape of the graph and the contours of the settlement hierarchy are determined by the extreme size-figures, and if the size-spectrum is limited to a small segment of the system or if the size-frequency is increased by

<sup>423</sup> Interestingly enough, this ordering of the provincial towns might be a more faithful reflection of the settlement hierarchy at the time of the High Empire, with Apollonia probably lagging behind Dyrrhachium. See Cabanes, Drini eds 1995. According to the conservative estimate however, Dyrrhachium and not Apollonia is the second-ranking settlement.

<sup>424</sup> Pearson 1980, 455; Marzano 2011, 206.

<sup>425</sup> Berry 1961, 573-587; Vapnarsky 1969, 584-594; Johnson 1980, 234-247.

<sup>426</sup> Johnson 1980, 234-247.



the inclusion of segments of different systems, the resulting hierarchy will be of little historical relevance.

Roman Macedonia is an ideal case-study to examine the effects of system-pooling. This province consisted of at least four historically separate regions and these are only partly covered in the part of Roman Macedonia included in this study. If this was the chief cause of the concavity of the rank-size graph, what will happen if the analysis is limited to pre-Roman Macedonia, including the towns of Lower Macedonia and pre-Roman Paeonia?<sup>427</sup>

The two data-sets are not of the same format. For the towns of Upper Macedonia and pre-Roman Paeonia we have used concrete maximum and minimum figures, whereas the towns of Lower Macedonia are distributed into arbitrary size-ranges. To eliminate this incompatibility, the terminal points of the size-ranges have been translated into minimum and maximum figures. Five hectares is the minimum size-figure for the towns in Lower Macedonia, whereas the minimum estimates for the towns in Upper Macedonia are as low as two or three hectares. Predictably, most of the small towns and town-like agglomerations of Upper Macedonia will fall in the lower end of the graph. Was the same approach applied to the towns of Lower Macedonia, the tail of the graph would have certainly been longer. Nonetheless, these deficiencies do not question the legitimacy of the analysis that follows.

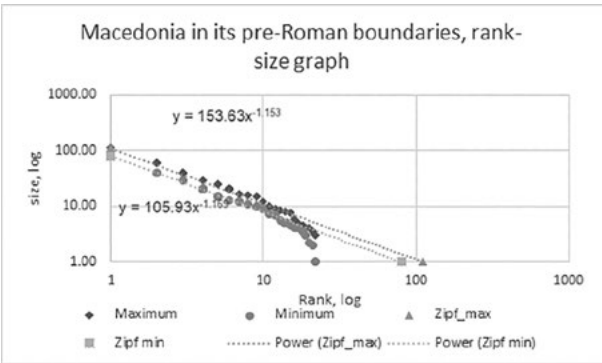


Figure IV 3: Ranks-size graphs for the maximum and minimum size-estimates for the settlements in the Macedonian part of the Roman province.

Expectedly, nearly all towns in Upper Macedonia are shifted to the lower tiers in the settlement hierarchy of the united, Macedonian part of the Roman province. Only three of the 26 towns and settlements in Upper Macedonia are in the top-20, none in the top-ten. Even

<sup>427</sup> I wish to express my gratitude to my friend and colleague Michalis Karambinis for allowing me to preview the size-figures for the towns of Lower Macedonia, Karambinis forthcoming; a joint article about the urban systems of Roman Macedonia will hopefully appear in the near future.

some of the towns that pretended to join the second-order settlements are pushed into the lowest tier of the settlement hierarchy when analyzed together with the towns of Lower Macedonia. However, although over two-thirds of the settlements in this graph are missing in Figure IV\_2 and the size-figures are radically changed, the tripartite hierarchy observed in the urban system of the parts of Roman Macedonia included in this study persists. One town, the provincial capital Thessaloniki with a size-estimate of 110 ha, stands alone at the top of the hierarchy. The second-largest settlement, measuring 60 ha, is closer to the third- than to the first-ranking settlement and, together with the settlements ranked third through sixth – measuring between 20 and 40 ha –, they form the second-order settlements. All settlements measuring less than 20 ha form a continuous chain in the lower half of the graph and constitute the third-order settlements. Even the problematic fourth tier in the settlement hierarchy is visible in the slanted tale of the graph. Starting from the settlements that measure between five and 7.5 ha, the slope of the gradient increases and the graph descends below the trendline for the rank-size rule.

Thus, although an essentially different settlement system is analyzed in Figure IV\_3, there are striking similarities between the settlement hierarchies of the Macedonian part of the Roman province and the part analyzed in this study. This is because the largest settlement from Lower Macedonia has found an approximate equivalent in Dyrrhachium, while the second-order settlements from Southern Illyria and Northern Epirus have been replaced by the colonies and the seat of the provincial assembly in Lower Macedonia. The second-tier settlements belong to a higher size-category, but in both graphs, they tend to cluster in the size-ranges above 20 ha and they are set apart from the most dominant size-category measuring less than 20 ha. We will shortly see that most urban systems in the study-area tend to break down into three- or four-tiered hierarchies, but a theoretical explanation for this tendency is yet to be found.

The most striking difference between the two graphs is their relation to the trendline for the rank-size rule. The rank-size graphs for the settlements in the part of Roman Macedonia included in this study are for the greater part positioned above the trendline for the rank-size rule, whereas the Roman towns in the Macedonian part of the province follow the rank-size rule closely, except for the settlements that belong to the lowest tier of the settlement hierarchy. This change seems to confirm the thesis that relates the concavity of the rank-size graphs to the problem of system partitioning or the pooling-in of parts of different settlement systems. The towns analyzed in Figure IV\_3 had been united under the Macedonian dynasts centuries prior to the Roman conquest. On the other hand, the Roman



province of Macedonia was a newly-formed entity, without precedents in the history of this region. The disintegrative forces prevailed and, by the time of Late Antiquity, the western part of Roman Macedonia had been constituted as a separate province.

In the field of Economic Geography, city-size frequencies that follow a log-normal distribution are usually associated with advanced economies.<sup>428</sup> This outcome is seemingly problematic, for although not much is known about the intensity of the economic relations between the constituent parts of the Macedonian Kingdom, a highly integrated economy is not the first thing that springs to mind when this polity is mentioned. The Roman conquest of Macedonia was accompanied by a systematic plunder of the country, followed by a period of chronic instability and it has been suggested that the eastern campaign of Alexander the Great triggered a wave of immigration that drained the demographic potential of the heartland of ancient Macedon, centuries before the arrival of Rome.<sup>429</sup> It is possible that the size-distributions follow a log-normal pattern by pure chance, although we would like to point out that the urban system in this region was established centuries prior to the High Empire and log-normal trends have been empirically attested among economically underdeveloped societies with a long urban tradition.<sup>430</sup> Compared to the settlement systems in the northern Balkan and Danube provinces, the settlement map of Roman Macedonia was a few centuries older, providing the time-depth necessary for the emergence of a settlement system with a lower size-frequency. More to the point, the supposed poor economic performance does not necessarily imply a total absence of economic integration. The measures taken in the aftermath of Pydna – the ban on trade between the four Macedonian districts, the closing of mines – are a plain testimony to a functional regional economy in the pre-conquest period. The rank-size graphs indicate that Roman Macedonia did not achieve this level of integration.

### Dalmatia

Reliable size estimates are absent for over 40% of the archaeologically attested settlements in Dalmatia. The situation is particularly critical in the Dalmatian interior, in which the majority of the agglomerated settlements have been poorly studied and even the location of many of the autonomous towns is still debated.<sup>431</sup> The sad fact is that, in many cases, the

latest publications on individual towns date back to the early 20th century – Delminium, Doclea, Aequum and others.<sup>432</sup> These pioneering projects were never resumed after World War II. Therefore, it is no wonder that the size-estimates for a large number of settlements are little more than guesses based on local topographical conditions and the incidental discoveries of archaeological material. The size-estimates for most of the secondary agglomerations – representing about one-third of all newly founded settlements – are based on impressions gathered during unsystematic field-walking. If we are to include this province in our analysis, there is no alternative but to accept these data, but exercising all the due caution. And, when the data are unreliable, all we can do is widen the margin of error and allow for larger differences between the minimum and maximum estimates (Figure IV 4).

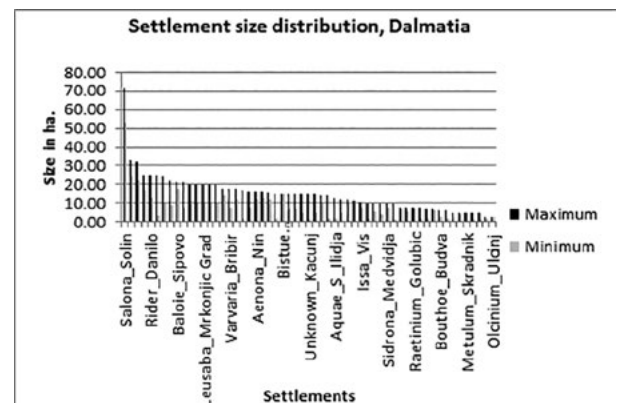


Figure IV 4: Maximum and minimum size-estimates for the major agglomerations in Dalmatia.

Admittedly, our knowledge of the settlements in the coastal zone of the province is somewhat better, but here we face a different problem, one characteristic of all regions that belong to the belt of pre-Roman urbanism. Some of the strongholds of the tribes who inhabited the Roman province survived the period of conquest and incorporation and continued to function as centres of autonomous peregrine or Latin communities under the High Empire. Only in a small number of cases do we know if these communities continued to occupy the sites of the old *oppida* – as was the case in Liburnia – and if a lower town developed at the foot of the hill or if both continued to develop as parts of the same agglomeration.<sup>433</sup> We have seen that

<sup>428</sup> Johnson 1977, 496; Krugman 1996, 399-418.

<sup>429</sup> Millet 2010, 472-504.

<sup>430</sup> Berry 1961, 575.

<sup>431</sup> Cf. the location of the *municipium Delminium*: Bojanovski 1974, 233-244; Škegro 1999-2000, 395-403; Balolo: a *municipium* according to Bojanovski 1974, 347-369; a military camp, according to Čremošnik 1990, 355-364.

<sup>432</sup> Delminium: Patsch 1904, 307-365, taken from Bojanovski 1974, 233-234; Doclea: Sticotti 1913, taken from Cermanović-Kuzmanović, Velimirović-Žižić, Srejski 1975; Aequum: Mišura 1921; taken from Wilkes 1969, 239; Bojanovski 1974, 56-59.

<sup>433</sup> The Latin *municipium* of Rider in central Dalmatia is probably the most illustrative example. In this case, the presence of the lower town has been accepted as a matter of fact although, lately, the finds at the foot of the old *oppidum* have been interpreted as the remains of an isolated sub-urban villa! Pedišić 1999-2000, 521-527.

this situation amounts to the same effect, the difference between the minimum – in most cases coinciding with the walled area of the pre-Roman town – and maximum estimates becomes manifold.

Notwithstanding the dearth of adequate data from the interior of the province, it is impossible to escape the impression that many of the Dalmatian agglomerations were never graced by imposing archaeological remains. The fact that so often the exact location of the towns known from the written sources is disputed or their identification is based on data from the itineraries rather than the archaeological evidence is particularly striking. In many of these cases it is impossible to exclude the possibility that the subjects being dealt with were 'non-urbanized' or polycentric *municipia* or *civitates*.<sup>434</sup> Had there been typical urban agglomerations at the centres of the regions of inner Dalmatia, they would have been discovered by now, if not by modern archaeological research, then by the many decades of modern urban and infrastructural developments. The uncertainties surrounding the size-figures for Dalmatia are also indicative of the relatively small size and humble character of the agglomerations in this province.

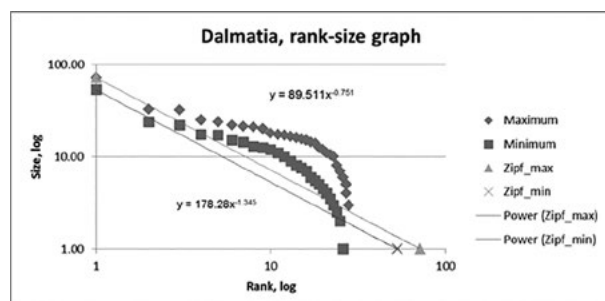


Figure IV 5: Rank-size graphs for the maximum and minimum size-estimates for the settlements in Dalmatia.

Despite the large discrepancies between the maximum and minimum estimates, the curves representing the distribution of these sets of figures run roughly parallel to each other (Figure IV 5). The gap between the two trend-lines is steady in the upper thirds of the curves, then it gradually begins to widen, reaching its maximum in the middle sections. The differences between the two graphs begin to decrease at the lower end of the size-spectrum. As in the case of Upper Macedonia and Epirus, the trend-line for the maximum figures has a lower co-efficient, the bulge in the middle section of the curve being slightly less pronounced than on the trend-line for the minimum figures. This must be related to the lower frequency of medium-sized settlements implicated by the optimistic size estimate. In the minimum figures, the bulge is somewhat more

pronounced and begins with the settlement-sizes smaller than 15 ha.

In principle, both curves show the same tendency. After the second-ranking settlement, the curves begin to diverge from the power trend-lines. The maximum is reached in the middle segments, in which the strongest clustering of size-figures is found: between ten and 15 hectares on the trend-line for the maximum and between seven and 12 hectares on the trend-line for the minimum estimates. The settlements smaller than eight ha on the trend-line for the maximum values and smaller than six ha on the trend-line for the minimum values begin to approach the size-figures predicted by the power law. In the case of the lower curve, the end of the chain drops below the power law trend-line. The upper curve stops at three ha and it remains entirely above the power trend-line.

The rank-size analysis projects a settlement hierarchy very similar to that observed in Macedonia and Epirus. Again, one can see the tri-partite scheme consisting of a single settlement in the top tier, a smaller group of more widely scattered size-figures representing the second tier and the largest group of size-figures forming a continuous line in the middle and lower segments of the chain. The latter correspond to the hypothetical third tier in the settlement hierarchy, consisting of agglomerations that measure between five and 15 ha. There are slight changes in the thresholds for the size-ranges. If the optimistic size-estimates are accepted, the lower threshold for the second-settlement tier is raised from 15 to 20 ha. Moreover, the upper curve has clearly picked up a separate, fourth cluster at the tail of the chain that roughly corresponds to our smallest size-category, composed of settlements that, by their size, belonged to the rural sector, despite the possibility that they were at least partly involved in the non-agrarian economy. On the upper curve, the last segment begins with the settlement/s measuring below eight hectares and the settlements that belong to the third-settlement tier are defined by the thresholds of ten and 18 ha. In the conservative estimates, the size-figures decrease more gradually in the lower end of the size-spectrum and it is impossible to draw a non-arbitrary line between the settlements that fall in the range between 2.5 and 13 ha. The lower threshold for the second tier of settlements is set at about 14 ha.

Dalmatia is one of those provinces in which the urban-rural dichotomy is blurred, even for the settlements that belong to the medium size-range. The smallest and medium size-categories are composed of extremely diverse groups of settlements. Autonomous towns like the colonies of Epidaurum or Risinium appear among the group of smallest settlements, together with ports of call, road-side *vici* and garrison settlements, whereas anonymous, road-side settlements or mining *vici* join

<sup>434</sup> Gottlieb ed. 1989.



the autonomous towns of the province in the medium size-ranges. There are a number of different factors that potentially undermine the positive correlation between settlement size and status. In any estimate, the ecological circumstances must be taken into account, because the autonomous towns of Dalmatia were not limited solely to the most productive corners of the province. Some of the coastal colonies had far more reduced agricultural territories than the subordinate central places in the interior of the province. An additional distorting factor is the unreliably high size-estimates for some of the road-site settlements and mining *vici* in the Dalmatian interior.<sup>435</sup> In the minimum estimates, nearly all of these settlements are shifted to the third or the problematic fourth tier of the settlement hierarchy. Finally, the limited potential for differential growth among the subordinate central places of Dalmatia has to be acknowledged. As most of these were located in the mining districts of the province, they would have faced insuperable legal barriers on their path to becoming autonomous towns, even should they grew large and successful.

If we exclude the unlikely optimistic estimates for the subordinate settlements in the interior of the province, the upper tiers of the settlement hierarchy form coherent groups. The second-tier settlements – falling in the size range between 15 or 20 and 35 ha – consist exclusively of autonomous towns. They represent no more than ten percent of all settlements included in the analysis, a figure that was closely paralleled in Macedonia. Unlike the latter province, the top tier of the settlement hierarchy in Dalmatia had only one settlement, the provincial capital Salona. This was the only Dalmatian town larger than 50 ha. It was at least twice the size of the second largest settlement in the province, Iader, and up to five times the size of the other two *conventus* capitals, Narona and Scardona.<sup>436</sup>

Excluding the size-ratio between the two highest ranking settlements, the rank-size graph for the Dalmatian towns is pronouncedly concave. This is in tune with what is known about the ethnic and administrative geography of the province. Like the rest of the provinces that constitute our study-area, Roman Dalmatia was a territorial entity of an unprecedented

extent for the area of the western Balkans.<sup>437</sup> It contained at least forty different *civitates* at the time of the Roman conquest or in its immediate aftermath, many of which occupied well-defined regional niches, a situation that hampered both the exchange of goods and services and the emergence of larger and stable polities.<sup>438</sup> Bearing in mind the fragmented geography of the province, it is not at all surprising to discover a very large number of small- and medium-sized conurbations, each functioning as centres of similarly-sized micro-regions. Obviously, this clustering of the settlements in the medium size-ranges has produced the strongly concave patterns and concavity is seen by most scholars as the symptom typical of a poorly integrated economic system.<sup>439</sup> Viewed from this perspective, the largest urban settlements of Roman Dalmatia fell short of the size predicted by Zipf's Law. Although it might have been expected that the massive infrastructural project that connected Salona to every corner of the province would have created a typically primate system, this factor failed to materialize, not even leading to a more closely integrated urban system.<sup>440</sup>

However, there is an alternative explanation of the system's concavity; one that we find especially plausible in the case of Roman Dalmatia.<sup>441</sup> In conventional thinking, the concave shape of the rank-size graphs has been attributed to the excessive growth of the average towns in a given urban system. But, seen from a different angle, it is equally feasible to attribute it to the failure of the top settlement to reach the size projected by the rank-size rule. This conclusion is rather counter-intuitive, as it runs counter to the common perception of Salona as the largest and most important urban centre on the Eastern Adriatic. Nevertheless, this interpretation has to be taken seriously, especially in view of the fact that Salona was not the centre of an isolated system, but was closely connected to Rome and the Italian Peninsula. Like Dyrrhachium on the Ionian coast, Salona was primarily a port-town. The goods and resources extracted from the Dalmatian interior flowed through Salona, but only a proportion of this wealth remained in the Dalmatian capital. In this scenario, Salona and the Dalmatian towns were a segment of a larger dendritic system that not only impeded the growth of the largest settlement, but also limited the horizontal relations between the individual towns.<sup>442</sup>

<sup>435</sup> The supposed site of the road-station Leusinium in southern Dalmatia is a pertinent example. Initially identified by means of extensive surveys along the provincial road leading to Narona, Sergejevski 1962, 111-113, the site was described as a 20 ha-large agglomeration. Later research has revealed an extensive villa complex, with a number of dispersed ancillary buildings and its own necropolis, Čremošnik 1976, 41-164. Donev 2017, 79-94. All data for sites like the mining settlement near modern Višnjani or the road-side vicus near Drenovik are derived from descriptive accounts based on extensive surveys, Bojanovski 1981, 125-197; Bojanovski 1978, 51-125.

<sup>436</sup> Salona: Cambi ed. 1991; Narona: Cambi 1978; 57-66; Marin 2003, 11-65; Scardona: Glavičić, Miletić 2011, 113-150; Iader: Suić 1981; Jović 2010, 79-119.

<sup>437</sup> Wilkes 1969, xvii-xviii.

<sup>438</sup> Alföldy 1965; Bojanovski 1988, Dzino 2010, 164.

<sup>439</sup> Russel 1958, 68-69; Johnson 1980, 234; De Ligt 2016, 39-44.

<sup>440</sup> Bojanovski 1974.

<sup>441</sup> Marzano 2011, 196-228.

<sup>442</sup> Johnson 1980, 240-242; this is almost the equivalent of the 'low closure-low interconnectivity' model defined by Vapnarsky 1969, 584-595, although in the case of Dalmatia, the size-distributions do not obey the primate-city law even in the top segments of the curve.

Pannonia Superior

Pannonia Superior belongs to the belt of newly founded cities and garrison settlements. Certainly, the majority of the settlements in Dalmatia and a considerable proportion of the settlements in Roman Macedonia were in all aspects, but their location, Roman creations. But the absence of topical continuity among the settlements in the northern and eastern parts of the study-area has led to the emergence of a network that is entirely new, freed from the bonds of the pre-Roman settlement maps. The newly founded settlements in the Pannonian and Moesian provinces differed significantly from the old *oppida* of Dalmatia and Macedonia in their micro-locations and layout. Theoretically at least, the planned and regular character of the newly founded settlements should have raised fewer uncertainties about the size of their built-up areas. The new foundations often featured sharp physical limits and their width to length ratios are surprisingly regular. Nevertheless, the number of settlements with controversial size-estimates remains fairly high, mostly because of the composite layout of the garrison settlements.

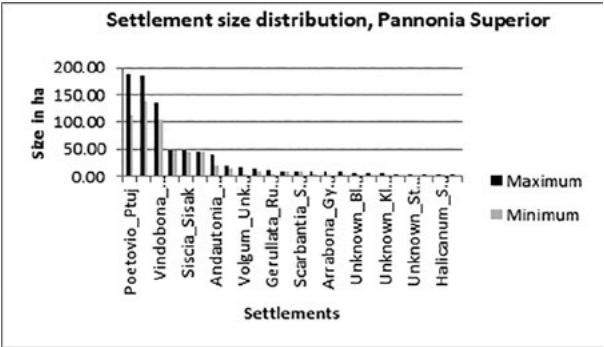


Figure IV 6: Maximum and minimum size-estimates for the major agglomerations in Pannonia Superior.

Over 35% of the settlements in Pannonia Superior have uncertain maximum extents (Figure IV 6). Most problematic are the subordinate central places and garrison towns, in which the difference between the maximum and minimum areas is often manifold. Luckily, the effect of these disparities is limited to the lowest tiers of the settlement hierarchy and their impact on the rank-size graphs is almost invisible. The main difficulty is posed by the double towns on the Danube frontier. These towns are by far the largest settlements in this province and the substantial differences between their maximum and minimum size-estimates are likely to influence the rest of the rank-size sequence. As explained in the Introduction, it is impossible to make an objective decision about the integrity of these communities. The double towns are treated as single entries if the maximum estimates are accepted, whereas in the list of conservative estimates,

the areas of the civilian components have been added as separate entries.

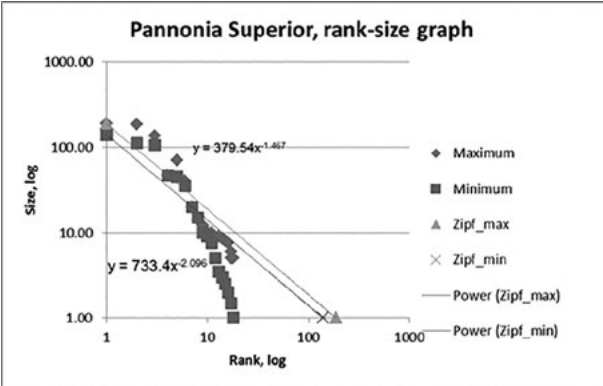


Figure IV 7: Rank-size graphs for the maximum and minimum size-estimates for the settlements in Pannonia Superior.

It was all the more surprising to discover that the rank-size graphs for the maximum and minimum estimates of the built-up areas of the settlements differ only in details (Figure IV 7). Most apparent are the divergences in the upper and lower thirds of the trend-line, in which we have observed the largest differences between the alternative size-estimates. The fact that the two trend-lines partly overlap along their middle segments is determined by the group of large- or medium-sized settlements, most of whose built-up area has been securely determined. The curve showing the distribution of the minimum estimates has a longer tail, because the sequence includes a number of uncertain entries whose minimum estimates are in theory non-controversial, but which were excluded from the list of maximum values. In addition to road-stations, the group includes spa-centres whose residential quarters are yet to be identified.<sup>443</sup>

The shapes of both curves are strikingly different from the concave patterns observed in the provinces discussed earlier in this chapter. The rank-size graphs for the settlements of Pannonia Superior are especially peculiar in that they combine the features of concave and convex patterns.<sup>444</sup> They are moderately concave in the uppermost segments, but clearly convex in their lower thirds. All settlements ranked sixth or above on the upper curve and eighth or above on the lower curve fall above the power trend-line. These are the settlements that measure over 40 and 15 ha respectively.

<sup>443</sup> For example, *Aquae Iasae*: Gorenc, Vikić 1979, 32-49; Nemeth-Ehrlich, Kušan-Špalj 2014, 133-140; Topusko-Ad Quadrata, Šegvić 1996, 283-289; Jakaša-Borić, Bilušić-Dumbović 2008, 269-284.

<sup>444</sup> The pattern is otherwise known as intermediary, Pearson 1980, 453-462; Drennan, Peterson 2003, 533-549.

A direct consequence of this distribution is that the curve bulges not in its middle or lower segment – as has been the case in rest of the provinces considered so far – but in its upper third. Only towards the middle of the sequence of the maximum estimates does the trend-line conform more closely to Zipf's Law. These are the size-figures for the autonomous towns, each lying above the power trend-line. The considerable difference in size between the smallest among this group of settlements and the largest settlement of the next group contributes to the wide gap between the upper and lower halves of the curves. The differences between the individual size-figures decrease again in the lower end of the curve, at which it bulges for the second time.

Although roughly parallel, the curve for the minimum estimates follows a slightly different trajectory. It too bulges most dramatically in its upper end, – reflecting the phenomenon of multiple towns in the top tier of the settlement hierarchy – but the bulge is less prominent than on the graph for the maximum estimates. The differences between the next group of size-estimates, usually corresponding to the second tier of the settlement hierarchy, are smaller than predicted by the power-law and the curve bulges for the second time towards the middle of the segment. The low size-figures for the low-ranking settlements produce the concave trend in the lower half of the thirds, only the seventh- and the eighth-ranking settlements lying on the power trend-line.

The rank-size graphs reflect the size-ranges into which the Pannonian settlements cluster. The first two tiers are easily discernable, both emerging as distinct clusters in the upper halves of the curves. These include the three settlements larger than 100 ha and the group of settlements measuring between 35 and 50 ha according to the minimum and between 40 and 75 ha according to the maximum estimates. The breach in the lower segment of the rank-size graphs is equally ubiquitous. Both curves clearly distinguish between the third-settlement tier and the group of settlements that belong to the smallest size-range. On the graph for the maximum values, the breach is at 15th ranked settlement, measuring 7.5 ha or less. In the minimum estimates, the lower segment of the curve is less compact, especially in its upper part. Nevertheless, there is a visible breach in the middle of this segment, coinciding with the 12th ranked settlement. The settlements measuring five ha or less form the tail of the series. Given that these tiny agglomerations did truly assume a range of urban functions – and this was certainly the case for the *municipia* of Mogentiana and Halicanum<sup>445</sup> – they will constitute a separate fourth tier in the settlement hierarchy of this province. As in

the rest of the provinces, the built-up areas of these settlements equalled the size of average villages, the upper threshold being slightly higher in Pannonia Superior than in Macedonia or Dalmatia.

There are no instances of excessive growth among the low-ranking settlements of Pannonia Superior. Even the largest auxiliary *vici* fail to exceed the threshold of 15 ha. Differential growth was far more characteristic of the autonomous towns in the province and this is the main factor that spoils the positive correlation between size and status. The Pannonian *municipia* and colonies are spread out across all size-ranges, beginning from the 'small *municipia*' of Halicanum or Mogentiana, measuring only a few ha, the middling towns of Salla or Neviodunum with extents not larger than 15 ha,<sup>446</sup> the Pannonian colonies making up the second tier of the hierarchy and the provincial capitals and legionary towns with built-up areas larger than 100 ha. While there is very little correlation between size and autonomous status, it is evident that the colonies were consistently larger than the *municipia*. Similarly, the seats of the provincial and financial governors, Poetovio and Carnuntum, were visibly larger than Vindobona.<sup>447</sup>

The settlement hierarchy of Pannonia Superior diverges from the hierarchies encountered in the western Balkan provinces in a few important aspects. The settlements that belong to the upper half of the size-spectrum represent a higher percentage of the total number of settlements in Pannonia Superior than in any other province in our study area. Whereas in Macedonia and Dalmatia, the second- and first-tier settlements are less than ten percent of the settlement system, in Pannonia Superior they represent at least 20% of all settlements. Although the number of large towns in this province is not much greater than in the western Balkan provinces, the relatively small number of secondary agglomerations is what causes this 'imbalance'. The small *poleis* and *oppida* that dominated the settlement systems of Macedonia and Dalmatia are absent in Pannonia Superior. This peculiarity of the system might possibly be related to the fact that the difference in size between the settlements that belong to the first two tiers and those that belong to the third – and the problematic fourth – tier in the hierarchy is much greater than in the western Balkans. While the settlements in the latter categories are of roughly equal size to their Macedonian or Dalmatian counterparts,

<sup>445</sup> Mócsy 1974, 143-145; Nagy 2004, 78-85.

<sup>446</sup> *Municipium Iasorum* or *Aquae Balissae*: Mócsy 1974, 143; Schejbal 2004, 99-129; and *Andautonia*: Nemeth-Ehrlich, Kušan-Špalj 2003, 107-129, could join this group. However, according to the latest research, Groh 2013, 89-113, it is possible that *Andautonia*, at least temporarily, grew beyond the 35-ha threshold.

<sup>447</sup> *Carnuntum*: Doneus, Gugl, Doneus 2013; *Vindobona*: Kronberger et al. 2005, 9-33. *Poetovio*: Horvat et al. 2003, 153-189. In the case of *Poetovio*, the greatest problem in determining the maximum extent of the site is the size and layout of the potters' quarter, in the northern periphery of the town, Horvat, Vičić 2010.



the large Pannonian towns are much larger than the first and second order settlements in the western Balkan provinces.

Evidently, the settlement pattern in Pannonia Superior was very different to that encountered in Roman Macedonia and Dalmatia. The urban population of the province was not evenly dispersed among a large number of micro-regional central places, but was concentrated in a few towns of a very large size and an unknown number of much smaller central places. How is this related to what was already said about the urban profile of the province and what does this distribution say about the nature and degree of economic integration in Pannonia Superior?

Pannonia Superior not only belonged to the zone of newly introduced urbanism, but was also a frontier province with a sizeable military sector. The settlement network in Pannonia Superior was more recent than those of Dalmatia or Macedonia and it was geared towards the goals of military expansion into Central Europe and control of the major inter-regional corridors that linked Italy to the Danube and the Baltic. With the exception of the southwest corner of the province, Pannonia Superior did not abound in mineral resources. It is true that the agricultural potential was much greater in comparison to Macedonia and especially Dalmatia but, prior to Late Antiquity, there is hardly any evidence that grain was exported to Italy or the provinces in significant quantities.<sup>448</sup> A likelier incentive for an increase in agricultural productivity was the grain supply to the large military contingents on the Danube *Limes*, but it is unclear if this activity brought any benefits to the towns in the interior of the province.<sup>449</sup> Nevertheless, if such close economic relations between the *Limes* and the interior did exist, it is rather difficult to find a clear reflection of this symbiosis in the rank-size graphs.

Although the rank-size graphs for Pannonia Superior are described most correctly as intermediary or hybrid, overall they obey a convex pattern: the surfaces enclosed by the graphs below the power trend-line are larger than the surfaces enclosed above the power trend-line.<sup>450</sup> Can we recognize the traits of a primate-city model in what is known about the society and economy

of Pannonia Superior?<sup>451</sup> This observation is somewhat compromised by the presence of at least three similarly sized towns in the top tier of the hierarchy, but this is not entirely incompatible with the primate-city model. On account of their political significance, these towns enjoyed a privileged position in the regional settlement network. Their growth was sustained by channels the bulk of which by-passed the rest of the province and therefore it could be argued that they were better connected to the more distant corners of the Empire than to the rest of the Pannonian towns. In this respect, they seem to have mimicked Rome and other primate cities, the base for their growth exceeding the natural and demographic resources of Pannonia Superior. However, unlike Salona or Dyrrhachium, the largest Pannonian towns did not function as provincial *emporia* nor was this province rich in highly strategic resources. All three towns owed their exceptional development chiefly to non-economic considerations, namely: top-down strategic and political decisions. This suggestion does not necessarily imply that they were detached from the rest of the urban system and, in theory at least, their large size potentially offered second-tier settlements some scope for growth. It is notable that, yet again, social and juridical norms were the main factors that determined which of the towns in the interior of the province joined the second tier in the settlement hierarchy. Two of the three towns that belong to this category were Roman colonies.<sup>452</sup> With a few possible exceptions, for example, Andautonia and Mursella, the Pannonian *municipia* and subordinate central places lagged behind the second-tier settlements in terms of size and architectural elaboration.

### Pannonia Inferior

Pannonia Inferior is the outstanding example of the typical military province. At least two-thirds of the conurbations in this province were settlements that grew up near military camps. We have already discussed some of the far-reaching implications of this type of development, especially those pertaining to the distribution of the military and civilian sectors. This factor is of equal weight in estimating the size of the garrison settlements. The composite layout of this settlement category meant that, for a long period of time, only the fortified component was documented archaeologically. Up to the present day, the number of garrison settlements whose full extent or the layout of the civilian components have been studied is tiny.<sup>453</sup> In

<sup>448</sup> Várady 1969; Lengyel, Radan eds 1980, 57-63; Mócsy 1971a, 347-360, is far more cautious in admitting the role of Pannonia as a major grain-exporter in Late Antiquity. See also Wilkes 1973, 260-262, for a critical view of Várady's thesis.

<sup>449</sup> The evidence of oil and wine amphorae show that most of the imported higher value goods came from Italy or Spain; Gabler, Kelemen 1985, 69-84; Kelemen 1990, 147-193; Kelemen 1993, 45-73; Bezczy 2005, 35-70. Of course, this says little about the possible input of local production as wine or other goods produced in Pannonia would not have been shipped in amphorae.

<sup>450</sup> Drennan, Peterson 2003, 534-535.

<sup>451</sup> Vapnarsky 1969, 585; Johnson 1980, 243; Hanson 2011, 241-242.

<sup>452</sup> The size estimate for Mursella, the third town that belongs to this group, refers to the Late Roman period and, judging by the humble epigraphic heritage of this *municipium*, it is likely that it was either much smaller at the time of the High Empire or that the later walled area was only sparsely occupied. Szőnyi 2003, 92-94.

<sup>453</sup> Intercisa: Barkóczy ed. 1954; Fitz ed. 1991, 14, attributes a much a larger area to the *vicus*, but without explanation; Matrica: Kovács 1995, 81-106; Gudea 2013, 571-576; Albertfalva: Szirmai 1997, 527-529;



the southern half of the Pannonian *Limes* the situation is even more desperate, as the sites of a large number of auxiliary forts have not been yet located.<sup>454</sup> Despite the fact that nearly all civilian settlements in this province have been buried under modern cities, the size-figures for this category are often far more reliable than for the garrison settlements.

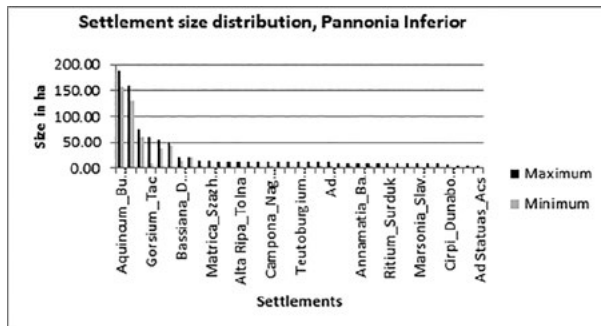


Figure IV 8: Maximum and minimum size-estimates for the major agglomerations in Pannonia Inferior.

Nearly 60% of the Pannonian settlements are still without any concrete data about their maximum extent. As explained in the Introduction, in these cases the maximum values have been estimated from the size of the walled areas; on the basis of the fact that the ratio between the two parameters remains fairly consistent among the better researched examples. In order to allow for the possibility that the civilian component was missing in some cases, the minimum figures are those of the walled areas. Hence, the differences between the two estimates are often four- to fivefold but, because the walled areas are usually smaller than four hectares, the variations remain within a limited size range (Figure IV 8). For at least ten sites, or about 27% of all entries, there are no data even for the walled areas. In these cases, both the minimum and maximum figures have been deduced on the basis of comparative evidence. In general, both estimates for this settlement-category are the unlikely extremes. Probably all auxiliary forts in Pannonia Inferior featured an adjacent *vicus* and their minimum size would have certainly exceeded the extent of the walled areas. Nevertheless, because of the dispersed layout of the auxiliary *vici* in the other frontier provinces and the few known examples from our study-area, we suspect that the maximum figures have been slightly overestimated.<sup>455</sup> As developments must have varied from case to case, it is risky to draw any far-reaching conclusions solely on the basis of comparative evidence. It should be remembered that

the aim of the projections proposed in this study is to approximate the overall size-distribution rather than the size of any particular site.

Probably the most problematic case in Pannonia Inferior is Gorsium, the only civilian settlement in the northern half of the province.<sup>456</sup> The intensive urban development at this site in Late Antiquity, when the built-up area reached about 60 ha, completely obscured the extent of the earlier town. In this case, the fluctuations between the minimum and maximum estimates cross over several size-ranges.<sup>457</sup>

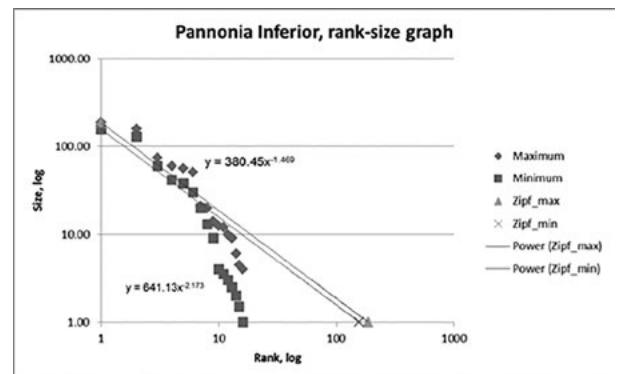


Figure IV 9: Ranks size graphs for the maximum and minimum size-estimates for the settlements in Pannonia Inferior.

If we are to go by the shape of the rank-size graph, Pannonia Inferior was much closer to its Pannonian neighbour than to the western Balkan provinces (Figure IV 9). This is hardly surprising in view of the extent of the military sector in these two frontier provinces. Nonetheless, there are differences between the two Pannonian provinces that might appear subtle at first sight but cannot be dismissed as insignificant.

There are only minor differences between the curves representing the distribution of the minimum and maximum size-figures. In fact, in their upper segments, the two curves overlap. Both trend-lines have a slightly concave shape at their upper ends, enclosing very small areas above the power trend-lines. The trend-line for the minimum estimates quickly returns to the power trend-line and all settlements ranked between the third and the seventh follow the rank-size rule closely. These correspond to the group of settlements that measure between 60 and 20 ha. Commencing from the latter size-figure, the curve plunges below the power trend-line and its position is rather ambiguous. The graph for the maximum size-estimates follows a slightly different

Szirmai 2005, 681-684; Ulcisia Castra: Gudea 2013, 545-549.

<sup>454</sup> Klemenc 1961, 5-34; Bulat 1969, 39-62; Pinterović 1975, 69-82; Sanader 2003, 463-468.

<sup>455</sup> Britannia: Sommer 1984; Germania: Sommer 1997, 41-52; Noricum: Gassner 1997, 56-67; Dacia, Hanson, Oltean 2003, 101-117; Varga 2012, 806-820.

<sup>456</sup> Fitz 1972a, 3-52; Fitz 1999, 187-203.

<sup>457</sup> Fitz 1972a, 27-30; Fitz 2003, 197-207, has reckoned with at least 100 ha in the course of the 2nd and 3rd centuries, but this has been poorly demonstrated.

trajectory. It fails to touch the power trend-line, as even the third-ranking settlement is slightly larger than predicted by Zipf's Law. The subsequent ranks diverge from the power trend-line, creating a second bulge in the middle segment of the curve. In this case, they coincide with the second-tier settlements. At rank seven – corresponding to the size-figure of 21 ha – the graph drops sharply below the power trend-line and in its lower third, the trend-line of the maximum figures assumes a distinctly convex pattern. Both trend-lines end in a slight bulge reflecting the gradual decrease in the settlement size at the lower end of the size-spectrum. As in the case of other provinces, the trend-line for the minimum estimates is extended to include a small number of sites whose character and maximum extents are impossible to predict.

The hierarchical structure of the settlement system emerges quite clearly in the rank-size graphs. In comparison with the rank-size graphs for some other provinces, the clustering of the individual size-figures is more pronounced and there is less ambiguity about the integrity of the size-categories. The two largest settlements with built-up areas larger than 100 ha occupy an isolated position at the head of the graph, regardless of which estimate is adopted. A second tier, consisting exclusively of the autonomous towns of the province, is crystalized in the middle segments of both graphs. Depending on the size-estimates and, above all, on how we deal with the double towns on the Danube, their number varies between four and seven. When the maximum estimates are adopted, all four settlements that belong to this group measure between 50 and 75 ha, but in the minimum estimates, the individual size-figures for this category are far more spread out, ranging from nine to 60 ha. The conservative scenario allows for only three tiers in the settlement hierarchy of Pannonia Inferior. Commencing from rank ten, all settlements measuring four ha or less are included into a single compact group that represents the third and bottom tier of the settlement hierarchy.

The rank-size graph for the maximum figures depicts a more complex settlement hierarchy. On the lower half of the graph it is possible to distinguish between the settlements ranked seventh to 13th, falling in the size range between nine and 21 ha, and a small group of garrison settlements or special-purpose sites smaller than six ha, ranked 14th or lower. The latter group of settlements forms the so called 'lower limb' of the rank-size graphs, falling well below the power trend-line. It corresponds to the group of settlements smaller than four ha on the lower graph. In the optimistic scenario most of these settlements are shifted to the size-range between five and 15 ha. The key difference between the two graphs is the interpretation of the middle segments. The apparent gap between the sixth and seventh ranking settlements on the upper graph

is not paralleled on the lower graph, in which the size-figures form an uninterrupted chain. Admittedly, even on the lower graph it is possible to distinguish between the group of settlements ranked third to sixth and those ranked seventh to ninth. The latter are located below the power trend-line and the size-figures descend more abruptly than in the former group of settlements. Obviously, these differences are extremely subtle and their significance can be easily overstated. Nevertheless, it is striking that, on both graphs, this intermediary group of settlements falls within the same size range between nine and 20 ha.

There is a fairly strong correlation between settlement size and status in Pannonia Inferior. The settlements that form the base of the hierarchy are composed exclusively of subordinate central places – auxiliary and road-side *vici*. With one possible exception – Gorsium – all of the second-order settlements were autonomous towns, whose status is indisputable. As in Pannonia Superior, the two legionary towns stand alone in the top tier of the settlement hierarchy, as they were much larger than the second-order towns. This is easily attributable to the peculiar layout of these towns. The legionary camps already presented a sizeable agglomeration of over 20 ha and, after the addition of the extensive *canabae*, the combined built-up areas could easily exceed the limit of 100 ha, even without the civilian components. Moreover, one of these settlements was the seat of the commander of the Pannonian army and provincial governor. This additional political function is again reflected in the size of the built-up areas. Aquincum, the provincial capital, was about 20% larger than the second military town in the province, Brigetio.<sup>458</sup> The only incongruous group is formed by the settlements that separate the second from the bottom tier of the hierarchy including both auxiliary *vici* and civilian settlements of an uncertain status but, with the exception of Bassianae<sup>459</sup> – that lies on the upper margin of this size-range –, none is an autonomous town.

In contrast to the western Balkan provinces, there are considerable variations in size among the second-tier settlements in the two Pannonian provinces. The scope for differential growth among the autonomous towns was evidently greater in the Pannonian provinces than among the *poleis* and *oppida* of the demilitarized provinces. As a result, the difference in size between the second and third-order settlements in Pannonia is much greater than in Dalmatia or Macedonia. Pannonia Inferior would appear to approach the ranges in the demilitarized provinces, because the bottom tier of the

<sup>458</sup> Aquincum: Zsidi 2003, 209–230; Láng 2013, 231–250; Brigetio: Borhy 2003, 231–250; Dobosi, Borhy 2015, 183–202.

<sup>459</sup> Milin 2004, 253–268. Sopiana joins the group, but this settlement acquired an urban status only in Late Antiquity: Fülep 1984; Gábor *et al.* 2004, 287–290.

settlement hierarchy is much wider compared to its Pannonian neighbour. This can be entirely attributed to the fact that the large number of small *poleis*, that were one of the hallmarks of the settlement systems in the belt of pre-Roman urbanism, were substituted by the large number of auxiliary *vici* in Pannonia Inferior. This settlement category was far less numerous in Pannonia Superior.

The rank-size graphs for Pannonia Inferior are of the same intermediary type as those for the neighbouring province.<sup>460</sup> The chief difference between the two provinces is that Pannonia Inferior has fewer top-ranking settlements than Superior, and the size-figures in the former are widely spaced. As a consequence, the convex shape is even more pronounced in Inferior, although in both provinces all large settlements are slightly larger than predicted by the rank-size rule. In fact, in the minimum estimates, the middle segment of the graph follows the rank-size rule. As in Pannonia Superior, it is the low-ranking settlements that contribute to the markedly convex pattern. Their sizes are much lower than predicted by Zipf's Law, especially in the minimum estimates. This is particularly pronounced in Pannonia Inferior because of the very large number of auxiliary *vici*.

Regardless of these divergences, there is no reason to look for an interpretation that is radically different from that offered for Pannonia Superior. The excessive size of the military towns had very little to do with the social and economic realities in the interior of the province. Their size and importance were rooted entirely in the growing political role of the army. Superficially, the military towns seem to differ from a typical primate-city and they cannot be readily compared to the capitals of the New World colonies.<sup>461</sup> However, in other aspects – their role as bases for the provincial government, their high degree of connectivity with the outside world – they match the profile of the primate-city. Moreover, if we extend our notion of exportable goods and resources to include the recruitment of soldiers for the legions, even this point of difference becomes slightly blurred. With permanent contingents of about 6000 – that was only one segment of the urban population in these centres – the legionary towns must have presented a considerable drain on the young, physically fit segment of the population.

It is more difficult to explain the relatively large size of the settlements that belong to the second tier of the regional hierarchy. After all, the primate-city model

is characterized by a reduced growth in the rest of the urban system. In the preceding section, we briefly touched upon the possibility that the extensive military sector could theoretically have stimulated growth among the civilian settlements, as they were likely to have participated in the provisioning of the garrisoned units and were also more likely to have attracted a proportion of the veteran settlers.<sup>462</sup> Although this connection has yet to be proven, it is suggested by the ordering of the size-figures in the upper segments of the graphs, in which they exhibit slightly concave shapes or come very close to the rank-size rule. Because of the size of the upper-tier settlements, Pannonia Inferior does not fit the primate-city model.

As in Pannonia Superior, the settlements that can be assigned to the third tier of the urban hierarchy and were one of the main factors behind the concave patterns in Dalmatia and Macedonia are too small, even when the maximum estimates are adopted. The small micro-regional centres that characterized the urbanism of the demilitarized provinces and were often not much smaller than the second-tier settlements are absent in the Pannonian provinces. In the final section of this chapter, we shall argue that the key reason for this important difference between the two groups of provinces has a historical background and it is related to the differences in the juridical status of the population.

### Moesia Superior

In the preceding chapter we drew attention to the fact that large parts of Moesia Superior remained outside the ranks of the municipal territories and also fail to show traces of major agglomerated settlements. This fact was related to the wide extent of the governmental sector in this province.<sup>463</sup> As pointed out in Chapter Three, neither the administrative nor fiscal status of these regions was conducive to urban growth. However, in view of the size of their territories, the emergence of some sort of micro-regional centres would have been expected, even if these failed to qualify as towns by the standards of Antiquity.<sup>464</sup> Nevertheless, evidence of this settlement category in the interior of the province – exemplified by the mining or road-side *vici* – is so far missing. However, thanks to the large number of auxiliary *vici*, the bottom tier of the settlement hierarchy is comparable to the rest of the provinces in our study-area.

<sup>460</sup> Berry 1961, 573-588; Pearson 1980, Figure 1; Drennan, Peterson 2003, Figure 1, includes only a 'primo-convex', but not a concave-primate type. In the archaeological literature, the word convex is used to describe a system in which most of the urban settlements are larger than predicted by Zipf's Law; cf. De Ligt 2016, fn. 19.

<sup>461</sup> Vapnarsky 1969, 587-589; Johnson 1980, 243.

<sup>462</sup> This observation runs contrary to the view that primate systems were paralysing the growth of the category of medium-sized towns; Berry 1961, fn. 5. However, it should be noted that this view refers primarily to the so-called primo-convex type. On the other hand, the graphs for both the Pannonian provinces exhibit a concave shape at their upper ends, convex in their lower segments.

<sup>463</sup> See the literature in chapter Six, Mócsy 1970; Dušanić 2004a, 247-270.

<sup>464</sup> Bintliff 2002a, 209-250.

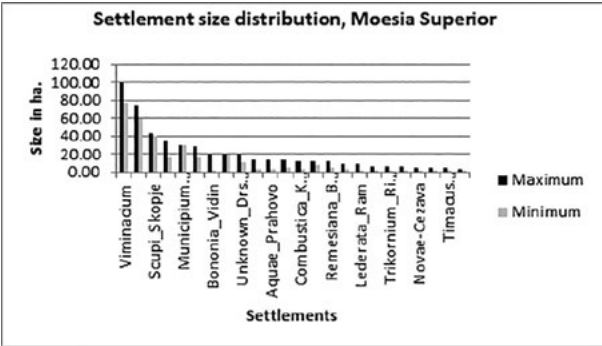


Figure IV 10: Maximum and minimum size-estimates for the major agglomerations in Moesia Superior.

Like all frontier provinces, Moesia Superior had a substantial military sector. At least one-third of the agglomerations included in this analysis are garrison settlements, consisting of a military fort and an adjacent open settlement. The extent and layout of most of the civilian components are as yet undetermined and the differences between the minimum and maximum estimates are considerable, mirroring the situation in the other frontier provinces (Figure IV 10). The effect is most apparent in the low-ranking settlements, primarily the auxiliary *vici*, in which nearly 80% of the entries have uncertain maximum extents. The auxiliary forts located in the narrowest sections of the Iron Gates on the Danube or the sites of road-stations are excluded from the list of maximum values, as the presence of a civilian component at these sites has not yet been confirmed by archaeological research. Their walled areas have been accepted as a more reliable estimate and they are included in the list of minimum values for the rank-size analysis.

Unfortunately, the considerable differences between the minimum and maximum estimates are not limited only to the smallest size categories. Because the last wave of intensive urban construction in Moesia Superior dates to the 4th century AD, it is very difficult to establish the extent of these settlements at the time of the High Empire. The high estimates given for some of the larger towns are twice as high as the low estimates.<sup>465</sup> These disparities will inevitably have a visible effect on the rank-size graphs.

The trend-lines for the maximum and minimum estimates run approximately parallel to each other (Figure IV 11). The greatest divergences are between the middle segments of the two curves and these are related to the uncertain estimates for some of the autonomous towns. In the upper thirds of the trend-lines, the two curves almost overlap, that for the lower

<sup>465</sup> Naissus: Petrović 1976; Ratiaria: Dinčev 2002, 13-28; Luka 2014, 50-64; and Ulpiana: Parović-Pešikan 1981, 57-73; Berisha *et al.* 2012, 65-92; are only some of the middle-ranking settlements whose exact size at the time of the Principate is yet to be determined.

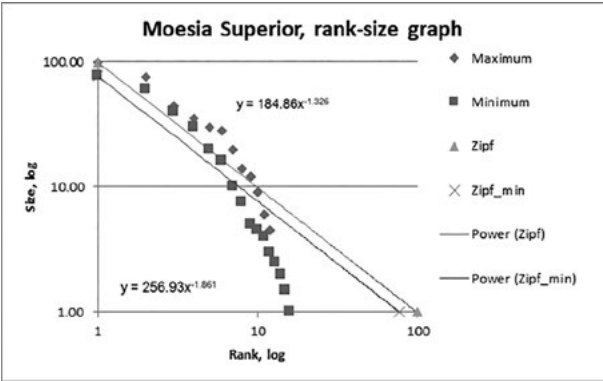


Figure IV 11: Ranks size graphs for the maximum and minimum size-estimates for the settlements in Moesia Superior.

estimates being farther away from the power trend-line. In both scenarios, the upper-tier settlements are somewhat larger than predicted by Zipf's Law. As a result, both curves feature slightly concave shapes, enclosing small areas above the power trend-line. The gap between the two trend-lines begins to widen in the middle segments. According to the conservative estimate, the fifth- and sixth-ranking settlements do begin to approach the power trend-line, although they are both larger than predicted by the rank-size rule. The intersection with the power trend-line is at the seventh-ranking settlement, measuring ten ha, and this is already smaller than predicted by Zipf's Law. The trend-line for the maximum values retains the moderately concave pattern throughout its middle segment. In fact, the fifth- and sixth-ranking settlements are positioned farther away from the power trend-line, creating a small bulge in the middle of the curve. Only in the lower half does the upper curve slowly begin to approach the power trend-line. The eighth- and the ninth-ranking settlements, measuring 14 and 12 hectares are positioned just above the power trend-line. The two trend-lines meet between the ninth- and the tenth-ranking settlements, the latter being only slightly smaller than predicted by the rank-size rule. Towards their lower ends, the gap between the two curves decreases. The large number of lower-ranking settlements with a similar size is reflected in the bulge on the tail of the trend-line for the minimum values. Because of this tendency, beginning from the 11th- and the 12th ranking settlements, the two curves nearly overlap.

The widely scattered size-figures for the large settlements in Moesia Superior prevent us from observing discrete hierarchical tiers. Nevertheless, following the changes in the slope gradient, it is possible to distinguish between the group of settlements ranked





second to sixth or seventh - all located above and running roughly parallel to the power trend-line - and the group of settlements ranked seventh through 11th or 16th - mostly falling below the power trend-line and featuring a steeper slope gradient. The former corresponds to the second-tier settlements, measuring between 75 and 20 or 16 ha, the latter to the base of the settlement hierarchy, falling below the 15-ha threshold. The threshold that separates the second and third tiers is not entirely clear. Two size-figures on the lower and three on the upper graph are ambiguously positioned: they are located very close to the power trend-lines, but belong to the steeper halves of the graphs. This small group of settlements that falls in-between the second- and third-order settlements was somewhat better articulated in Pannonia Inferior. Equally ambiguous is the position of the second-ranking settlement. On a normal scale, it stands closer to the first- than to the third-ranking settlement, but on the rank-size graphs, it forms a continuous chain with the settlements ranked third to seventh. The differences between the settlements that belong to different hierarchical tiers are smaller in Moesia Superior than in the Pannonian provinces and there are no apparent gaps between the upper and the lower half of the graph.

In general, we are inclined to accept the same tripartite hierarchy that characterized the urban systems of the other provinces discussed so far. The scheme is in accord with the categorization of the settlements by origin and juridical status. The base of the settlement hierarchy, or the third tier of settlements, consists almost entirely of the auxiliary *vici* and road-side settlements. Depending on which estimates are accepted, they are spread across the size-range between one and 15 or five and 15 ha, with a few ambiguous cases that were larger than 15 ha. It is noteworthy that most of the settlements that fall in-between the categories were either civilian settlements with an uncertain status - Naissus, the supposed *municipium* near Drsnik - or *municipia* that failed to join the second-order settlements - Horreum Margi.<sup>466</sup> The second-tier settlements are almost exclusively autonomous towns. They are also spread across more than one size-category, but the majority measure between 15 and 50 ha. The only exception is Singidunum, the smaller of the two legionary towns, with 60 ha according to the minimum, 75 according to the maximum estimate.<sup>467</sup> The rank-size analysis predicts only one settlement in the top tier of the settlement hierarchy. As elsewhere,

this was the provincial capital and legionary camp of Viminacium.<sup>468</sup>

According to the rank-size analysis, Moesia Superior occupies a position in-between the demilitarized and the frontier provinces. Compared to the latter, the rank-size graphs for Moesia Superior are more concave, even though the lower limb of the curve falls below the power-trend line.<sup>469</sup> Admittedly this does not apply to the rank-size graph for the minimum size-estimates, on which the lower limb departs significantly from the power trend-line. If our data-set for the maximum figures were complete, it would have weakened the concave pattern. It is also impossible to ignore the fact that, although the graphs exhibit a slightly concave pattern in their upper halves, they come fairly close to the rank-size rule. This tendency is particularly evident on the graph for the conservative size-estimates. This is yet another point of similarity between Moesia and the Pannonian provinces, especially Pannonia Inferior. Therefore, although weakened, the dichotomy between the frontier and the demilitarized provinces persists.

Moesia Superior differs from the Pannonian provinces on two major points: a shorter segment of the rank-size graphs falls below the trend-line for the power-law, while the difference between the top- and lower-ranking settlements is smaller than in the middle Danube provinces. The former difference can be attributed to the fact that very little is known about the third-tier settlements in Moesia Superior. This province had fewer auxiliary *vici* than Pannonia Inferior and we have also seen that, outside the military sector, there is very little evidence of settlements belonging to this size-category. It is far more difficult to account for the fact that the top-ranking settlements in Moesia Superior failed to reach the size of their Pannonian counterparts. The two legionary towns in Moesia Superior were considerably smaller, comparable to the sizes of the top-ranking settlements in Dalmatia and Macedonia. Most crucially, unlike their Pannonian counterparts, they were not double towns, a fact that must be read as a sign of a reduced demographic and economic potential. We believe that this is the key difference between Moesia Superior and the two Pannonian provinces. It is the smaller size of the top-ranking settlement that produces the faintly concave shape of the rank-size graphs for Moesia Superior.

<sup>466</sup> The size-estimates and topographies of all three settlements are extremely unreliable. Horreum Margi: Vasić, Kavajin-Mundrić, Popović 1989, 7-37; Naissus: Petrović 1976; Petrović ed. 1979; the anonymous settlement near Drsnik: Čerškov 1969, 39-40.

<sup>467</sup> Bojović 1975, 71-85; Mirković, Dušanić eds 1976; Bikić, Ivanisević 1996, 253-262; Ivanisević, Nikolić-Djordjević 1997, 65-148.

<sup>468</sup> Popović 1967, 29-49; Mirković ed. 1986; Zotović, Jordović 1990; Nikolić, Bogdanović 2015, 547-555.

<sup>469</sup> Falconer, Savage 1995, 37-58; Savage 1997, Figure 1, call them double-convex. In our case, the bulge in the lower segment of the curve is less pronounced, but this is almost certainly related to the restricted data-set for this size category.

## Moesia Inferior

Like its counterpart on the Middle Danube, Moesia Inferior faced a long section of the Danube *Limes*. The large extent of the military sector in this province is reflected in the high number of problematic size-estimates. As shown in Figure IV\_12, the differences between the minimum and maximum estimates are manifold for over two-thirds of all settlements. For almost 40% there is no concrete evidence of their built-up or walled areas. Although this problem is common to nearly all provinces in our study area, the uncertainties have usually been limited to the smallest size-ranges. In the case of Moesia Inferior, there are considerable variations between the minimum and maximum size even for some of the largest settlements in the province.<sup>470</sup> In fact, for over half of the settlements whose size cannot be determined, the differences are such that choosing the optimistic or conservative estimate can shift the settlement from the lower to the upper end of the size-spectrum. These fluctuations have a profound effect on the urban hierarchy and the shape of the rank-size graphs.

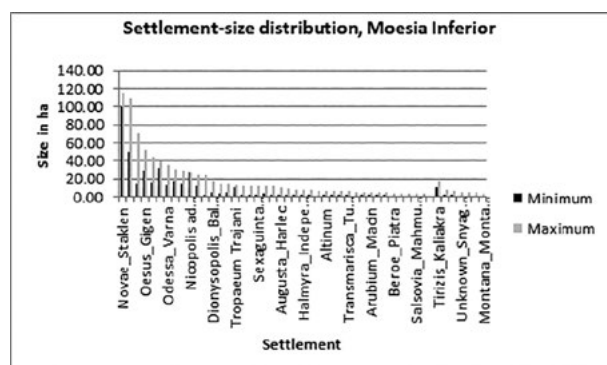


Figure IV 12: Maximum and minimum size-estimates for the major agglomerations in Moesia Inferior.

The discrepancies observed between the alternative size-estimates are apparent once we look at the rank-

<sup>470</sup> For Durostorum, the maximum estimates predict 100, the minimum 50 ha, Donevski 1990, 931-939; Donevski 2009, 105-130; Donevski 2015, 163-168; the low estimate is based entirely on negative evidence, provided by the distribution of funerary monuments. Positive evidence is limited to a much smaller area to the north of the camp, Ivanov 2003d, 75-86. The size estimates for Marcianopolis are 70 and 15 ha! In this particular case, the maximum estimate refers to the Late Roman period, when the town became a provincial capital, Velkov ed. 1979, 238; Gerov 1980, 289-312; Tačeva ed. 2004, 32-38; judging by the chronology of the town *necropoleis*, that were the focus of the most recent excavations, the Late Roman period saw a considerable urban expansion, Minchev 2007, 57-69. The size estimates for the majority of the Greek colonies on the Black Sea coast are equally vexed, as most of these towns have survived to the present day at the same locations. Tomis: Bordenache 1960, 255-272; Doruțiu-Boilă 1975, 151-160; Alexandrescu-Vianu 2009, Figure 1, still shows the plan of the Late Roman city walls made by Polonic one century ago; Callatis: Pippidi 1975; Ștefan 1975, 161-172; Preda 1980; Avram ed. 1999.

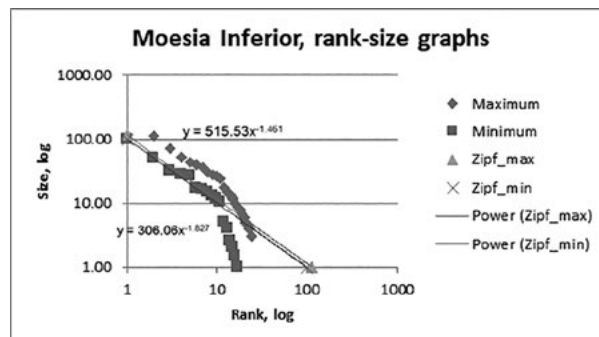


Figure IV 13: Rank-size graphs for the maximum and minimum size-estimates for the settlements in Moesia Inferior.

size graphs (Figure IV 13). According to the minimum estimates, the entire upper half of the graph coincides with the power trend-line. Only the fifth-ranking settlement – measuring 27 ha – is slightly larger than predicted by Zipf's Law, creating a small bulge towards the end of the uppermost third of the graph. After the 11th-ranking settlement – with an area of ten ha – the figures plummet and the lower half of the curve falls below the power trend-line. The trend-line for the maximum estimates follows a very different path. The departure from the rank-size rule begins with the second-ranking settlement that, with about 100 ha, was almost as large as the largest town. This gap between the trend-line for the maximum figures and the power trend-line is maintained throughout the length of the curve, with a shallow bulge towards the middle of the graph. After this point, the chain is broken and it begins to descend gradually towards the power trend-line. However, only the two smallest settlements – measuring less than five ha – are smaller than predicted by the rank-size rule.

The differences between the graphs for the high and low estimates also have an impact on the settlement hierarchy. There is more segmentation on the lower than on the upper curve. According to the conservative estimates, there was only one settlement in the top-tier of the hierarchy and two smaller clusters in the upper half of the graph, most of them coinciding with the autonomous urban sector. One includes the settlements ranked second to fifth – measuring between 27 and 50 ha –, the other the settlements ranked sixth to 11th falling in the size-range of ten to 27 ha. These are basically the size-figures that conform to the rank-size rule. The chain is interrupted at the fifth-ranking settlement, that is slightly too close to the fourth- and slightly too far from the sixth-ranking settlement. This breach creates an intermediary cluster of size-figures separating the second from the bottom tier of the settlement hierarchy (cf. Moesia Superior or Pannonia

Inferior). The lower half – overlapping perfectly with the settlements sized five ha or less – is more or less compact. It is still possible to observe minor clustering, but the differences between the individual figures are negligible.

The upper curve is somewhat more compact. It places the two largest settlements in the top tier of the settlement hierarchy, bringing Moesia Inferior closer to the Pannonian provinces than to its Moesian neighbour. The rest of the upper half of the curve – corresponding to the settlements that measure between 27 and 70 ha or the second order settlements – is fairly continuous. As on the lower curve, the segment ends with the 11th-ranking settlement and, although the size-amplitude is wider than on the lower graph, the size-figures descend gradually and there are no visible interruptions in the series. With the exception of the third-ranking settlement, the differences between consecutively ranked settlements are never greater than nine ha. The lower half of the series shows no visible interruptions. The differences in the thresholds – the rank-size graph for the high figures set the upper threshold for the tier at 17 ha, while the graph for the low figures at five – merely reflect the uncertain size-estimates for the smallest settlements in this province.

When it is all said and done, whether the settlement system of Moesia Inferior deviates from the three-pronged hierarchies observed in the other provinces of our study area can be questioned. The apparent clustering of the minimum size-figures in the upper tiers of the hierarchy should not be overemphasized. Similar tendencies in differentiation among the group of larger towns and settlements have been observed in the other frontier provinces. Some of the autonomous towns grew large and successful, while others stagnated and were overtaken by the most successful among the settlements from the bottom of the settlement hierarchy. Even these transgressions of the size-categories by lower-order settlements had been recognized by the time of the Late Empire and garrison settlements, like Abritus or Noviodunum, or road-side *vici*, like [L]ibida, had been officially recognized as towns.<sup>471</sup> Setting these exceptional cases aside, there is a strong correlation between size and status. Nearly all of the third-tier settlements were auxiliary or road-side *vici*, while the second-tier is reserved for the autonomous towns and the most prosperous among the garrison settlements. As in all frontier provinces, the top tier in the settlement hierarchy is the preserve of the two legionary towns.

So far, attention has been focused on the differences between the demilitarized and the frontier provinces. Having discussed the size-distribution of the towns and non-agrarian settlements in Moesia Inferior, it is possible to make another distinction between the Moesian and Pannonian provinces. The size-spectrum in both Moesia Superior and Moesia Inferior was narrower than that in the Pannonian provinces. Many of the second-tier settlements in the former provinces were smaller than their Pannonian counterparts, while their top-ranking settlements were only slightly larger than the largest towns in Dalmatia or Macedonia. The most striking characteristic of the reduced size of the legionary towns in the Moesian provinces is the absence of double towns. In the concluding section to this chapter, we shall attempt to offer an explanation for the differences between the frontier provinces of our study-area.

At first sight, the rank-size graphs of the settlements in Moesia Inferior seem to dispel the observed differences in the shape of the curves between the frontier and the demilitarized provinces. Although a typical frontier province, the rank-size graph for Moesia Inferior has a markedly concave shape when the maximum estimates are accepted. All but the smallest two settlements are larger than predicted by the rank-size rule, if we opt for the high estimates. In this respect, they are much closer to the rank-size graphs for Dalmatia or Macedonia than to the neighbouring frontier provinces. However, the distribution of the minimum size-figures tells a very different story. According to this scenario, the size-frequency of the largest settlements of the province follows the rank-size rule closely, while the group of settlements smaller than the median size-range break off sharply from the predominant trend in the upper half of the curve and descend below the power trend-line. (cf. the rank-size graph for the minimum estimates for Pannonia Inferior) This aspect of the rank-size graph for the minimum values brings Moesia Inferior closer to the rest of the frontier provinces, restoring the divide between the militarized and demilitarized provinces observed in the preceding section. In all of these provinces we see a duality in the urban system, with a relatively high degree of integration among the larger settlements – the flow of goods and coins, recruits and veterans between the legionary and civilian towns – and an underdeveloped and/or incomplete base in the settlement hierarchy.<sup>472</sup>

It is difficult to make a choice between these two interpretations. As a frontier province, in a number of aspects, the urban system of Moesia Inferior was similar to the rest of the Danube provinces: the presence of legionary towns, a few colonies and *municipia* as the bases for the army veterans and the provincial elites,

<sup>471</sup> Abritus: Ivanov 1980; Radoslaveva, Dzanev 2003, 110-148; Carrié, Moreau 2015, 601-610; Noviodunum: Stănică, Radu, Dinu 2010, 203-222; Teodor, Teodor, Florea, Popescu 2011, 499-505; [L]ibida: Iacob, Ibba, Paraschiv, Teatini 2015, 559-573.

<sup>472</sup> Falkoner, Savage 1995, 41; Savage 1997, Figures 8 and 9.



and a lower-tier of the urban hierarchy, made up mostly of auxiliary *vici* and major road-stations. It might have been expected that these conditions would have given rise to the intermediary patterns observed in the rest of the frontier provinces. The only feature that sets Moesia Inferior apart from the rest of the frontier provinces is the missing bulge in the upper segment of the graph for the minimum size-estimates. But this specific can wholly be attributed to the differential development of the two largest settlements, posited by the minimum estimates. However, the concavity of the graph for the maximum estimates can be explained by an important feature in the urban network of this province that cannot be accounted for in our reading of the rank-size graph for the minimum estimates. The concavity of the upper graph ties in with the composite nature of the urban system of Moesia Inferior, incorporating the Greek colonies on the Black Sea coast and the newly founded towns in the Danube Valley. This is a typical case of the pooling in segments of two different urban systems in the same territorial unit, normally leading to an increased frequency of certain size-figures and a concave pattern of the rank-size distributions.<sup>473</sup> This situation was not encountered in the rest of the frontier provinces, whose urban systems were more homogeneous. We believe that the joining of the small group of Black Sea colonies – half of which ranked among the top ten settlements in the province – to the Lower Danube *Limes* overruled the factors that resulted in the intermediary primate patterns in the rest of the Danube provinces.

### Thrace

Thrace belongs to the demilitarized sector of our study-area. Although a large segment of the settlement network was founded after the Roman conquest, the character and origins of the urbanism of Roman Thrace differed radically from those attested in the frontier provinces and, despite the historical peculiarities, it is reasonable to expect developments similar to those observed in neighbouring Macedonia or in Dalmatia. It should be pointed out that, as in the case of Macedonia, we looked only at one segment of the provincial settlement network. The omission of the important coastal towns will certainly have weighed heavily on any quantitative analysis. Luckily, the portion of Thrace included in this study had its own major centre in Philippopolis, the seat of the provincial assembly and the Thracian *koinon*.<sup>474</sup> Nonetheless, towards the end of this section, we shall briefly turn to the rank-size graphs for the united province of Thrace in order to examine the effects of system-partitioning in the case of this province.

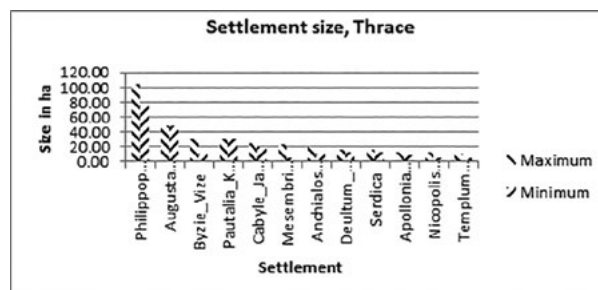


Figure IV 14: Maximum and minimum size-estimates for the major agglomerations in Thrace.

In comparison to the neighbouring Moesian provinces, the fluctuations between the maximum and minimum size-estimates in Thrace are relatively modest (Figure IV 14). This is undoubtedly related to the absence of garrison settlements and towns that developed on the sites of pre-Roman *oppida*. The Roman period in Thrace saw the establishment of regularly planned lower towns, completely overshadowing the *acropoleis* of the earlier periods. However, there are a few problematic cases and they are not limited to particular size-ranges. The remains of the ancient coastal towns are especially elusive, because of the continuous occupation of these natural ports into the modern era. Moreover, as in most of the Balkan provinces, the towns in Thrace experienced the last major wave of planned urbanization only in the 4th century AD, erasing all traces of the preceding era.<sup>475</sup> As explained in the preceding chapter, it is possible that some of these late-comers did not exist prior to the 4th century. The settlements, the majority of whose remains date to Late Antiquity, are therefore excluded from the analysis, alongside those settlements that developed near road-stations. Both categories are included in the rank-size analysis for the minimum estimates, accounting for the possibility that at least some of these sites functioned as minor settlements during the High Empire.

The rank-size graphs for the maximum and minimum figures overlap in the upper thirds of the curves, although their position in respect to the power trend-line does differ (Figure IV 15). The gap between the two curves begins to widen towards the middle, and this tendency continues throughout their lower segments. The tail of the lower curve is longer, because it includes a group of uncertain settlements the bulk of whose remains date to the Late Roman period. As most of these were road-stations and *emporia*, predictably their minimum size-figures are smaller than five ha and their inclusion simulates the base of the settlement hierarchy, missing in the distribution of the high

<sup>473</sup> Johnson 1980, 234, Paynter 1983, 233-275.

<sup>474</sup> Velkov ed. 1979, 308; Sharankov 2007, 518-538.

<sup>475</sup> In the words of Velkov 1981, 473-483, in the 4th century, the province became the hinterland of the new capital on the Bosphorus.



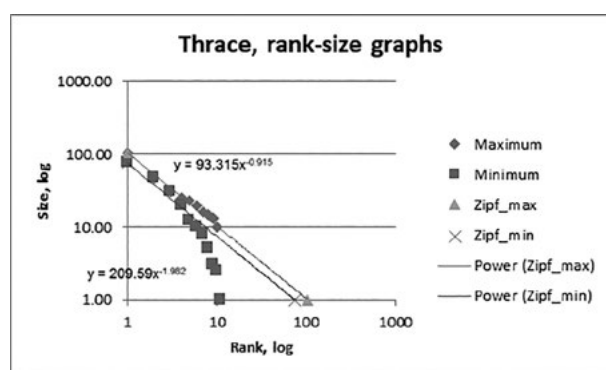


Figure IV 15: Ranks-size graphs for the maximum and minimum size-estimates for the settlements in Thrace.

size-figures. The chief differences between the two curves are determined by the fluctuations between the alternative size-estimates for the settlements that belong to the middle and lower size-ranges.

The curve showing the distribution of the minimum estimates conforms closely to the rank-size rule in its upper third. The settlements ranked second to fourth – measuring between 20 and 48 ha – are placed either immediately above or on the power trend-line. Beginning from the fifth-ranking settlement, measuring 12 ha, the trend-line for the minimum figures begins to sink below the power trend-line. However, the settlements ranked fifth to seventh, – measuring between eight and 12 ha – are only slightly smaller than predicted by Zipf's Law. Only from the eighth-ranking settlement, measuring five ha, does the curve depart from the power trend-line. The small group of problematic sites produces the predominantly concave shape in the lower segment of the lower curve and increases the slope gradient.

The trend-line for the maximum figures differs little from the lower curve in its upper half, approaching the rank-size rule even more closely. The second- and third-ranking settlements – with 48 and 30 ha – are only slightly smaller than predicted by Zipf's Law and they are placed immediately below the power trend-line. Commencing from the fourth-ranking settlement, – measuring 25 ha – all size-figures are more or less aligned on the power trend-line. Even the smallest tenth-ranking settlement with its ten ha is placed just beneath the power trend-line. The graph showing the distribution of the maximum figures ends with this tenth-ranking settlement. We surmise that the missing settlements that belong to the hypothetical third tier in the settlement hierarchy were smaller than predicted by the rank-size rule. If data were available for this category, the upper curve would most probably run parallel to the trend-line for the minimum values in its lower segment.

With only 12 agglomerated settlements, continental Thrace is obviously not the best region to study the settlement hierarchy. The maximum estimates underline the restricted extent of the urban network in this province. The hypothetical third tier in the settlement hierarchy, usually represented by the auxiliary *vici* or the minor pre-Roman *oppida* in the other provinces, is absent in Thrace. As already suggested, it is possible that this settlement category was replaced by the road-stations and *emporia*, but the bulk of these remain archaeologically invisible. A more developed hierarchy is suggested by the graph for the minimum estimates, but the number of settlements per tier is suspiciously small. If we are to follow the clustering of the size-figures on the lower graph strictly, the second-tier in the urban hierarchy included only three, the third, four or five settlements. Moreover, both the second- and third-settlement tiers would seem to have been composed almost exclusively of autonomous settlements, a postulation that is impossible to reconcile with their distribution and territoriality. A likelier explanation is that the settlement system of Roman Thrace was characterized by a strong differential growth between the autonomous towns that, in the absence of a large and compact tier of low-ranking settlements, creates an illusion of a more complex hierarchy among the upper size-ranges. Similar patterns have been observed in the frontier provinces, a conclusion that runs contrary to our initial expectations that the urban hierarchy in Thrace will resemble the patterns observed in the demilitarized provinces. According to both graphs, the only settlement in the top tier of the hierarchy was the seat of the Thracian *koinon*, Philippopolis. Yet again, the exclusive political and religious role of this town was accompanied by an increased settlement size.

In view of the size-spectrum, Thrace joins the Moesian and demilitarized provinces. The largest town barely reaches the 100-ha threshold in the maximum estimate. According to the conservative scenario, it was of a similar size to Dyrrhachium or Viminacium and it is only slightly larger than Salona. The second-order settlements exceed their counterparts in the demilitarized provinces by a relatively small margin. With the exception of Augusta Traiana, the rest of the autonomous towns fall within the size-range of ten to 35 ha. Although the urban network was sparser than in Dalmatia or Macedonia, the towns of Roman Thrace were not much larger.

That the sizes of the dozen largest towns in Roman Thrace follow a power-law when arranged in a descending order is not particularly surprising viewed from a comparative perspective. It is a known fact that the rank-size rule has a lower threshold after which, the settlement size begins to drop much faster than

predicted.<sup>476</sup> Indeed, if we look briefly at the distribution of the top ten ranking settlements from the rest of the provinces, in most of the cases, the curves will assume roughly linear shapes, although admittedly in no other province do they follow the rank-size rule as closely as in Thrace. There is little room to manoeuvre to explain this blunt fact, especially if we follow the traditional interpretation of the rank-size rule phenomenon. The settlement hierarchies that fit the power law have normally been associated with highly integrated economies, in which services and consumers were rationally distributed across space.<sup>477</sup> The rank-size rule has also been associated with societies that have a long history of urbanization.<sup>478</sup> Nothing in the historical or archaeological record indicates that Thrace can be qualified in terms that are even vaguely similar. On the contrary, in the preceding chapters we have stressed the low degree of urbanization, the difficult and mountainous relief in the western parts of the province, the possible role of sanctuaries and other non-urban settlements as micro-regional centres and, most significantly, the composite nature of the urban system of Roman Thrace, including the newly founded towns in the interior of the province and the ancient Greek colonies on the Black Sea coast. By all standards Roman Thrace was a predominantly rural and loosely integrated province, in which urbanism was a relatively recent phenomenon.<sup>479</sup>

However, none of this implies that the urban hierarchy of continental Thrace was unbalanced or inefficient. Admittedly, it could be argued – contrary to the prevalent view that rejects the possibility of a rank-size rule outside a well-enclosed system<sup>480</sup> – that our dataset for Roman Thrace is incomplete, as we are missing the towns of coastal Thrace. But in contrast to the part of Roman Macedonia included in this study, the Bulgarian part of Thrace should display a higher degree of integrity, because this territory had been united by the Odrysian kingdom centuries prior to the Roman conquest. Like the Roman provinces of Dalmatia and Macedonia, Roman Thrace was an administrative entity with no precedent in the past.

There are problems with the size-estimates for the coastal towns of Roman Thrace, particularly those located in the Turkish part of the province.<sup>481</sup> Size-estimates are available only for four of the 37 towns and town-like settlements in this part of the province. In fact, the few size-estimates available cause an

even greater problem, because they almost double the width of the size-spectrum. Three of the four towns, the size of which can be estimated, are among the five largest settlements in the united province of Thrace. Philippopolis, the top settlement in the part of Thrace included in this study is superseded by two coastal towns, Byzantion and Ainos. According to the researcher who collected these data, none of these size-estimates is fully reliable.

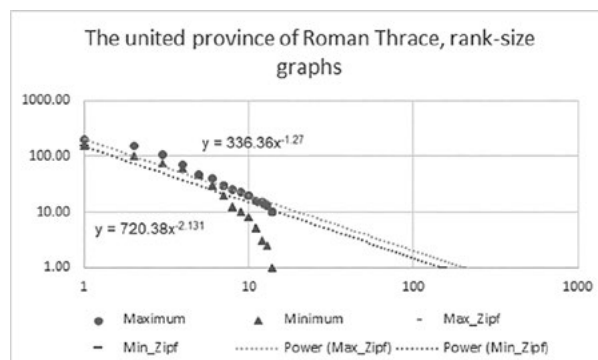


Figure IV 16: Ranks-size graphs for the maximum and minimum size-estimates for the settlements in united Thrace.

If these estimates are nonetheless plotted on a doubly logarithmic graph, the size distribution will begin to deviate from the rank-size rule. (Figure IV\_16) Contrary to what might be expected, the rank-size graphs for the united province stand closer to the graphs for the frontier provinces than those for the demilitarized, western Balkan provinces. As in the frontier provinces, the upper segment of the graph – in the minimum estimates more so than in the maximum – is positioned above the trendline for the rank-size rule, while the points that represent the settlements from the lower tiers of the settlement hierarchy fall below this line. Because of their problematic status, these settlements have been excluded from the rank-size graph for the maximum estimates. The slope gradient for the best fit line increases and, in this respect, Roman Thrace does not differ from the frontier provinces. Indeed, it is nearly impossible to spot a difference between the shape of the rank-size graphs for the minimum estimates in united Thrace and Moesia Superior.

But this is not the most paramount difference between the two urban systems. The rank-size graph for the minimum size-estimates in continental Thrace also comes very close to some of the rank-size graphs for the frontier provinces, and we have seen that the graph for the maximum estimates follows a log-linear trend only because the lower-tier settlements are excluded from the analysis. Far more crucial is the upward shift in the upper segment of the graphs. Like in the parts of Roman Macedonia that belong to this study-area,

<sup>476</sup> Haggett 1965; Pearson 1980, 455.

<sup>477</sup> Berry 1961, 573-574; Vapnarsky 1969, 584-586.

<sup>478</sup> Berry 1961, 575; Pearson 1980, 455.

<sup>479</sup> Velkov ed. 1979, 286-296, 304-312; Gerov 1980, 229-238, 319-348; Tačeva 1987, 129-147.

<sup>480</sup> Cf. Johnson 1977, 499.

<sup>481</sup> The data for the towns in the Greek and Turkish part of Roman Thrace have been kindly provided by Michalis Karambinis and Rinse Willet.

the upper-tier settlements are larger than predicted by the rank-size rule when the integral province of Thrace is analyzed. As a result of this clustering of the upper size-figures, a gap begins to appear between the upper and lower segment of the graphs and it is possible to distinguish between second- and third-tier settlements. The former category is comprised almost entirely by the Greek colonies, plus Philippopolis and Augusta Traiana, whereas the latter are mostly represented by subordinate central places and a few of the newly founded towns in the interior of the province.

The simple causes of these similarities in the size-frequency trends between Thrace and the frontier provinces are fairly easy to grasp. The high size-estimates for the towns on the northern coast of the Sea of Marmara are paralleled by the legionary towns in the frontier provinces, whereas the tail of the graphs represented by the auxiliary *vici* in the frontier provinces is mostly populated by the small town-like agglomerations in continental Thrace. This divide is not merely geographic. The coastal towns of Roman Thrace were many centuries older than most of the towns and town-like settlements in the interior of the province. The two components of the urban system of the united Roman province were further separated along political and ethnic lines and these divides were acknowledged by the Romans. There was an analogous divide in the frontier provinces, albeit the territorial and historical aspect is missing in that part of the study-area. In both areas, the effect on the rank-size graphs is the same, although the socio-economic realities were very different.

### Dacia

Taking into consideration the topography of the settlements and the size-related problems, Dacia does not differ from the rest of the frontier provinces. With almost 80% of the settlements growing near garrison sites, the same problems that were encountered during the study of the settlement-size in the Pannonian or Moesian provinces resurface. As in the rest of the frontier provinces, the auxiliary *vici* have rarely been the focus of archaeological research. Systematic excavations have normally concentrated on the few largest settlements of this category and, even in these instances, the excavations were rarely focused on the civilian component.<sup>482</sup> Only lately have more sophisticated topographical studies appeared, the fruits of the application of aerial and geophysical surveys.<sup>483</sup> Nevertheless, the number of auxiliary *vici* whose topography has been documented with the help

of these techniques remains tiny. For the majority of the garrison settlements, data are available only for the extent of the walled areas and the estimates for the built-up areas are based on comparative evidence.

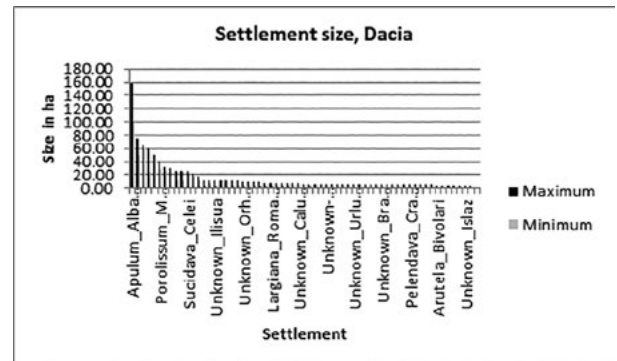


Figure IV 17: Maximum and minimum size-estimates for the major agglomerations in Dacia.

There are other problems related to the size estimates for the Dacian settlements. Alongside the two Pannonias, Dacia is the only province in our study-area that includes a double town, and here again, we shall have to entertain the possibility that these were functionally two separate towns. In contrast to the central Balkan provinces, the Dacian towns did not have a monumental Late Roman phase, but they were not spared the urban expansion in the post-Antique periods. For the greater part, the topography of the Dacian capital Apulum was lost during later construction phases and the same fate was shared by a number of other Dacian towns.<sup>484</sup> Whereas the disparities between the minimum and maximum estimates for the auxiliary *vici* are rarely felt beyond the lowest size-ranges, those pertaining to the size of the large towns influence the reading of the integral settlement hierarchy (Figure IV 17).

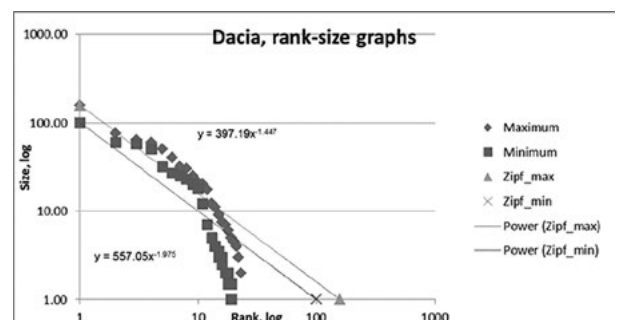


Figure IV 18: Ranks-size graphs for the maximum and minimum size-estimates for the settlements in Dacia.

<sup>482</sup> Cumidava: Gudea, Pop 1971; Buciumi: Chirilă *et al.* 1972; Porolissum: Gudea 1989; Bumbesti: Marcu 2005, 703-711; for a general overview, see Gudea 1997, 1-113.

<sup>483</sup> Hanson, Oltean 2003, 101-117; Oltean 2007, xi-xii; Varga 2012, 806-820.

<sup>484</sup> The literature on Apulum is substantial. For a good synthesis of the town's topography see Diaconescu 2004, 87-142; Hanson, Oltean 2003, 109; Bounegru, Ota 2010, 427-446; the epigraphic and historical sources: Piso ed. 2001. Dierna: Russu ed. 1977; Branga 1980; Drobeta: Balaci 2010, 215-221; Napoca: Daicoviciu 1977, 919-949.

In the rank-size graphs the differences between the alternative size-estimates are most visibly pronounced along short sections in the middle segments of the curves and in their lower limbs (Figure IV 18). Given the problematic status of the double town of Apulum, there is also a visible gap at the upper end of the curves, but this has no further effect on their overall shapes. In both graphs the second-ranking settlement is positioned either immediately below or above the power trend-line. Commencing from the third-ranking settlement – measuring 58 or 64 ha depending on the estimate – both graphs begin to bulge. The lower graph departs from the power trend-line somewhat more abruptly, but the bulge ends with the fourth-ranking settlement at 50 ha, and the fifth-ranking settlement with its 32 ha is much closer to the size predicted by Zipf's Law. The graph for the minimum estimates bulges for the second time in its middle segment, but this time more moderately and returns to the power trend-line at the 11th-ranking settlement. All settlements ranked below the 11th rank or measuring less than 12 ha are smaller than predicted by the rank-size rule and the lower third of the graph drops below the power trend-line. The small differences between the individual size-figures in the lower end of the size-spectrum have preconditioned a slight bulge at the end of the lower curve.

The upper graph departs more gradually from the power trend-line. The third-ranking settlement – measuring 64 ha – is only slightly larger than predicted by the rank-size rule and the maximum departure from the power trend-line is already achieved by the next ranking settlement. After the fourth-ranking settlement – whose maximum size is estimated at 60 ha – the size-figures decline steadily and the curve runs almost parallel to the power trend-line. The two trend-lines intersect only at the 13th-ranking settlement that, with its 12 ha, remains larger than predicted by the rank-size rule. The 14th and 15th ranking settlements – measuring 11 and nine ha – are placed immediately below the power trend-line. Only with the 16th-ranking settlement – extending over an area of 7.5 ha – does the curve drop farther below the power trend-line.

The rank-size graphs for the maximum and minimum estimates project slightly different settlement hierarchies. The lower curve recognizes four distinct size-clusters. Ignoring the top-ranking settlement, two separate clusters are visible in the upper half of the curve. The first includes the settlements ranked second to fourth, measuring between 50 and 60 ha. These are the thresholds for the second tier in the settlement hierarchy. The settlements ranked fifth to tenth – falling in the range between 18 and 32 ha – form an uninterrupted chain in the middle segment of the curve. This is the group of settlements that separates the second from the last tier in the settlement hierarchy observed in nearly all frontier provinces. Note that the

place of the 11th-ranking settlement, measuring 12 ha, is slightly ambiguous, although it is evident that the chain breaks off just above this point. With the exception of the 11th- and 19th-ranking settlements, the last tier in the settlement hierarchy forms a continuous chain in the lower end of the curve. Measuring less than seven ha, these settlements stand visibly apart from the third tier of the settlement hierarchy.

The clustering of size-figures in the upper half of the graph for the maximum size estimates is less apparent. It is especially difficult to pin-point the threshold that separates the second and third tiers in the settlement hierarchy. The settlements ranked second to 12th and measuring between 18 and 75 ha form a continuous chain above the power trend-line, although a small group of settlements in the middle segment of the curve – those ranked seventh to 12th – stand packed closely together and are slightly off the main trajectory of the curve in its upper half. They match the third tier of settlements on the lower graph perfectly. In both graphs, the number of settlements that belong to this category, as well as the size-range – 17.5 to 32 ha –, are nearly identical, but there is no objective way of deciding if this group of settlements represented a separate tier in the hierarchy or if they were a subset of the second-order settlements. The last tier of settlements is clearly separated from the upper tiers by the visible break between the 12th- and 13th-ranking settlements and by the fact that, commencing from the 13th-ranking settlement, the curve drops below the power trend-line. The difference in size between this and the previous size-category is not as pronounced as on the lower graph, but the breach is clearly visible. The second- or third-order settlements end with the settlement measuring 18 ha, while the largest among the lowest tier settlements occupied no more than 12 ha.

Overall there is a good correlation between settlement-size and juridical status in Dacia. Typical of the frontier provinces, the base of the settlement hierarchy was composed entirely of auxiliary and road-side *vici*. In view of the share of the settlements smaller than 15 ha, Dacia exceeds the rest of the frontier provinces and approaches the demilitarized provinces in the west of the peninsula. This was obviously influenced by the large number of auxiliary *vici*, spread out at short intervals along the frontiers and in the interior of the province. 'Small municipia' are absent in Dacia and there are no autonomous towns that are smaller than 15 ha. The different juridical categories overlap only in the third or the lower segment of the second-tier settlements, in the size-range of 17.5 to 32 ha. This size-category unites the smallest among the autonomous towns and the largest among the auxiliary *vici*.<sup>485</sup> The same category

<sup>485</sup> Auxiliary *vici*: Micia, Hanson, Oltean 2003, 103; Samum, Marcu



has been observed in Moesia and Pannonia Inferior and, in our view, it is a result of the differential growth among the settlements in the second and third tiers of the hierarchy. The reduced second-tier settlements consist exclusively of autonomous towns, but the group is not fully homogenous. Besides the large garrison towns – Potaissa, Porolissum – it includes the financial capital of Apulensis – Sarmizegetusa – the capital of Maluensis – Romula –, but not Napoca, the capital of the third Dacian province, Porolissensis. The integrity of this settlement tier is further undermined by the uncertain size estimates for some of these towns, Potaissa, Drobeta and Romula in particular.<sup>486</sup> If future research proves that these three towns were smaller than our size-estimates, the difference between the second- and third-tier settlements will all but disappear.

Both the maximum and minimum estimates posit a single settlement at the top of the settlement hierarchy. This is the double town of Apulum. Even when the civilian component is treated as a separate settlement, the legionary camp and *canabae* remain the largest agglomeration in the province. As in the other frontier provinces, Apulum was both the seat of the military commander and provincial governor.<sup>487</sup>

The rank-size graphs for Dacia show great similarities with the settlement-size distributions in the frontier provinces. They are slightly concave in their upper segments and convex at their lower ends.<sup>488</sup> Nonetheless, if we compare the length of the segments falling above and below the power trend-line, the rank-size graphs for Dacia approximate more closely the graphs for the Moesian than those for the Pannonian provinces. Despite the presence of a double town at the top of the settlement hierarchy, the rank-size graphs for Dacia are pronouncedly concave in their upper segments. However, whereas in the Moesian provinces the concave shapes of the graphs have been chiefly preconditioned by the small differences between the first- and second-ranking settlements, in Dacia, they reflect the gradual decrease in settlement size in the medium and low size-ranges.

It is not easy to relate this pattern to the known specifics of the society and economy of Roman Dacia. As in Moesia Superior, whose rank-size graphs differ very

little from those for Dacia, mining played an important role in the regional economy but, on account of their inconspicuousness in the archaeological record, the mining settlements in both provinces represent only a small segment of the overall settlement network. If anything, the importance of mining in these provinces should have brought them closer to the profile of the urban systems dominated by a primate-city, in which the unchecked growth of the top-ranking settlements would have been propelled by the export of mining products and the concentration of political power. Quite the contrary in fact, the rank-size graphs for both Dacia and Moesia Superior are more concave than for the Pannonian provinces that were deficient in valuable natural resources.

Perhaps the answer to this question should be sought in the geographical aspects of the urban system. Dacia united three different provinces, one of which – Dacia Maluensis – was separated from the other two by the southern Carpathian Range and was culturally and economically more closely attached to Moesia Inferior than to Transylvanian Dacia.<sup>489</sup> Indeed, if we carry out separate rank-size analyses for each of the three Dacian provinces, this will result in pronouncedly primate patterns in all three cases.<sup>490</sup> It is thus quite possible that the concavity of the upper segments of the graphs in both Dacia and the Moesian provinces is a consequence of the inclusion of segments of different regional systems in the same unit.<sup>491</sup> This is another way of saying that the regional system was poorly integrated, at least in the upper segment of the settlement hierarchy.<sup>492</sup> The economic relations between the civilian and military towns in the Moesian provinces were weaker than in the Pannonian provinces, while Dacia, although brought under the government of a single *legatus* during the reign of Marcus Aurelius,<sup>493</sup> never developed into a coherent territorial entity.

### Conclusions: The urban hierarchy in the Balkan provinces and the spatial aspects of the system

Much of this chapter has been devoted to the study of the clustering of size-estimates and their implications for the hierarchical ordering of the settlements in the study-area. We have tried to define distinct settlement tiers solely on the basis of the settlement size distribution in the individual provinces. In reality, the function and place of the settlement in the hierarchy was not determined by its size, but by its

2005, 705-706; Hanson, Oltean 2003, 104-109; Razboieni, Oltean 2007, 159; Germissara, Hanson, Oltean 2003, 104-109. Autonomous towns: Napoca, Daicoviciu 1977, 919-949; Branga 1980, 36-39; Diaconescu 2004, 117-120; Tibiscum, Benea, Bona 1994; Benea, Regep 2014, 67-84; the size estimates for Ampelum, the mining *municipium*, Russu ed. 1975; Branga 1980, 76-77; and Dierna, Russu ed. 1977; Branga 1980, 75-76; are problematic.

<sup>486</sup> Potaissa: Branga 1980, 69-71; Fodorean 2013, 45-49; Romula: Tudor 1968; Popilian 1976, 221-250; Branga 1980, 64-69; Drobeta: Branga 1980, 39-40; Balaci 2010, 215-221.

<sup>487</sup> Diaconescu 2004, 159-162.

<sup>488</sup> This is a rather rare pattern that closely approaches the 'double convex' type defined by Savage 1997, Figure 1.

<sup>489</sup> Popilian 1974, 137-146; Tudor 1980, 239-251. It should be added that during Trajan's reign sub-Carpathian Dacia was governed by the governor of Moesia Inferior, Petolescu 1985, 45-55. For the administrative divisions of Dacia and their history see, Macrea 1967, 121-141; Russu ed. 1975, 9-32; Gudea 1997, 6-12.

<sup>490</sup> This should occasion no surprise, cf. De Vries 1984, 92.

<sup>491</sup> Johnson 1980, 240.

<sup>492</sup> Cf. De Ligt 2016, 40-41.

<sup>493</sup> Macrea 1967, 121-141.



juridical status. The fact that some of the autonomous towns were as small as the subordinate settlements did not erase the essential differences between these two settlement categories. The hierarchical structure of the settlement system in the study-area was fairly simple. It consisted of three tiers, corresponding to the categories of subordinate settlements, autonomous towns and provincial capitals - the seats of the provincial government and military command. In contrast, the hierarchical tiers defined in this study are essentially size-categories. That they largely coincided with the formal hierarchical categories not only underlines the positive correlation between size and function, but also shows that the potential for growth was to a large extent predetermined by juridical status. Nonetheless, the overlap between the hierarchical and size categories was far from perfect. Instances of differential growth between the settlements of the same hierarchical order have been observed both across and within individual provinces. What these ‘anomalies’ demonstrate is that size is not an exclusive correlate of function, but a parameter dependent on a wide range of different factors.

The great majority of the Roman settlements in the Balkan and Danube provinces were small by all standards. In all but three provinces, over 70% of all settlements measure less than 15 ha. (Figure IV\_19) Of the three provinces in which the percentage of this size-category falls below 70%, two – Dalmatia and Thrace – are problematic examples, either because of the uncertain size-estimates or the possible incompleteness of the list of settlements. In Pannonia Superior, the share of this size-category is just below 70%. This predominance of the small size-ranges is characteristic of many parts of the Roman Empire, but in this study it is further emphasized by the decision to include settlements as small as five ha in the analysis.<sup>494</sup> Even with the maximum estimates, the share of this size-category rarely drops below ten percent and, when the conservative estimates are considered, they emerge as the most predominant group in nearly half of the provinces in our study-area.

As argued in the preceding chapter, the true percentage of the settlements smaller than 15 ha was certainly higher than suggested by our figures. The great majority of the towns and settlements whose locations are debated probably belonged to this size-category, but the true extent of this sector is impossible to estimate. Settlements that performed central-place functions, including some of the autonomous towns, did not differ from the ordinary village from a purely demographic point of view. The study of the settlement-size distributions only further underlines the absence

<sup>494</sup> Cf. Hanson 2016; Italy: De Ligt 2012; Iberia and Britain: Marzano 2011, Figures 8.2 and 8.7; Baetica: Keay, Earl 2011, 276-316.

of a clear dividing line between the urban and rural sectors. However, the alternative to this approach was equally unsettling. Removing the smallest size-category from the analysis would have decreased the number of settlements by at least ten to 20%, and up to 75% in certain provinces, if the conservative estimates are accepted. This ‘pruning’ of the data-set would result in the elimination of a number of subordinate central places and even a few autonomous towns. In the next chapter we shall see that the reduced size of these settlements facilitated their spread in regions with relatively humble agricultural resources, therefore attempting to ignore this segment of the network is likely to lead to a gross underestimate of the number of non-agrarian central places.

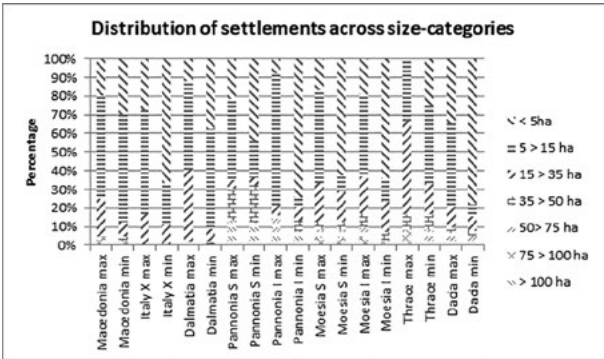


Figure IV 19: Distribution of settlements across size-categories, maximum and minimum estimates.

Of the towns larger than 15 ha, the great majority fall within the size-range between 15 and 75 ha, while only about one percent have built-up areas close to or larger than 100 ha. In this respect the Balkan provinces do not diverge sharply from the northwestern provinces of the Empire.<sup>495</sup> Only the largest settlements near the legionary camps on the Middle Danube fall into Pounds’ Category A, described as the chief commercial, administrative and military centres of the Empire. Even in these cases, we should remember that the large size of the legionary towns was chiefly determined by their peculiar topography. All very large towns in the Danube provinces are double towns and we have seen that it is unclear if they were constituted by one or two separate urban entities. If the latter option is accepted, our study-area lacks settlements that can be qualified as major inter-regional centres from an Empire-wide perspective.

The developments prior to and after the Roman conquest in the regions that constitute our study-area were variable and this irregularity resulted in considerable differences in the amplitude of the size-spectrum. This circumstance complicates any direct

<sup>495</sup> Pounds 1969, 135-157.

comparison between provinces. In two, possibly three of the nine provinces included in the study-area, the settlement sizes vary between less than five and 100 ha. These are the parts of Macedonia and Thrace studied and, possibly Moesia Superior, if the maximum estimates are accepted. In Dalmatia the maximum size does not exceed 75 ha and, according to the conservative estimate, the largest settlement in this province barely reached 50 ha. On the other hand, in the Pannonian provinces and Dacia, the upper limit of the settlement size reaches above 100 ha in the minimum and over 150 ha in the maximum estimates.

Some of these ample differences are related partly to the variation in the agricultural potential of the individual provinces. In Dalmatia and the northern Adriatic at least, it is certain that urban growth was inhibited by the rugged geography and the large areas of waterless karst. However, as we shall see in the following chapter, Macedonia boasts larger tracts of arable land than Dalmatia and yet, on average, the Macedonian towns were not much larger than those of Roman Dalmatia.<sup>496</sup> The ecological factor certainly cannot be ignored, but seeing it as the principal determinant of the settlement geography will hardly bring us closer to the intricate realities of the urban systems. The settlement geography is as inseparable from the environmental context as from the society and economy it serves. Consequently, it is no wonder that the differences in the settlement hierarchies of the individual provinces often occurred across the divide between the frontier zone and the demilitarized provinces or between the pre-Roman urban belt and the zone of newly founded towns and settlements.

The settlement-size distributions reflect the triple-pronged juridical hierarchy. Thrace and, probably the northern Adriatic, are simply exceptions that confirm this rule. Even in the frontier provinces, in which we have detected an 'intermediary' settlement tier separating the second-order settlements from the base of the settlement hierarchy, the contours drawn by the distribution of juridical status are readily recognizable. This implies that the greatest part of the dynamic of the system was channelled by the legal entitlements and restrictions, although in nearly all provinces we have encountered cases in which juridical status did not concur with settlement size. Obviously, as a consequence of the different width of the size-spectrums, the settlement tiers for the individual provinces do not correspond to the same size-ranges. Further differences between the provinces have been observed in relation to the number of settlements per tier, as well as the juridical status of the settlements that constitute the size-categories.

<sup>496</sup> A difference that is possibly related to the variably population densities in the two provinces.

The lowest size-categories do not form a compact socio-economic group nor do they always coincide with the formal hierarchical categories, although the great majority of these settlements were not autonomous towns. This is unsurprising in view of the great disparities in the evolution of the settlement systems of the individual provinces. Nevertheless, in the individual provinces too, this was a mixed group, composed of settlements with a different juridical status and different historical background. For example, in Moesia Inferior or Pannonia Superior, it includes not only road-side and auxiliary *vici*, but also small autonomous towns, like Tropaeum Traiani or Salla. This pattern was especially pronounced in Dalmatia and Macedonia, in which some of the small *poleis* were quantitatively indistinct from the subordinate central places. From this perspective, the difference between the frontier and the demilitarized provinces in the number of settlements of the lowest rank is easier to grasp. Because of the high urban density, the number of subordinate central places was lower in Macedonia and coastal Dalmatia. Their role was often fulfilled by the small *poleis*. But from a purely quantitative perspective, these provinces had a wider base in the settlement hierarchy than the frontier provinces. Looking solely at the number of towns and town-like settlements, it could be argued that the zone of pre-Roman urbanism was more urbanized than the frontier provinces. Of course, matters are very different if we focus on the size of the upper-tier settlements.

Most of the settlements that escaped the confines imposed by their juridical status belong to the size-category that stands inbetween the second-order settlements and the base of the settlement hierarchy. The auxiliary and road-side *vici* that succeeded in crossing the 15-ha threshold were almost never larger than 20-25 ha. They were joined by the smallest among the autonomous towns and together they formed the periphery of the autonomous urban sector. This phenomenon was observed only in the zone of newly founded towns and settlements. In the over-urbanized pre-Roman urban belt, no secondary centre could have hoped to compete with the autonomous *poleis* prior to the period of the Late Empire.

While the base of the settlement hierarchy was everywhere defined by the threshold of 15 ha, there is little correspondence between the size-categories that constituted the second-tier of the settlement hierarchies. In their uppermost segments, according to the optimistic estimate, they range from 20 to 32 and 35 ha in Dalmatia and Macedonia, between 40 and 60 ha in Pannonia Superior and Thrace to a maximum of 75 ha in Pannonia Inferior, the Moesian provinces and Dacia. In the conservative estimate, the maximum is reduced to 60 ha in the frontier provinces and Thrace, and only 30 and 24 ha in northern Macedonia and Dalmatia. In

these two provinces, all of the settlements that belong to the second tier of the urban hierarchy are pushed into the size range between 15 and 35 ha. From a purely demographic perspective, they are the equivalent of the intermediary settlement tier that can be observed in most of the frontier provinces. The second-order settlements in the frontier provinces and Thrace are one to two size-ranges larger than their counterparts in the west of the peninsula. This is another important difference between the two zones of our study-area. In the zone of pre-Roman urbanism, there was very little differential growth among the settlements that constituted the second tier of the settlement hierarchy.

All settlements that constitute the second tier in the settlement hierarchy were autonomous civilian or legionary towns. In the case of the Latin provinces, the group coincided entirely with the most important towns, usually the Roman colonies. On the other hand, most of the autonomous towns that failed to join this size-range were Latin *municipia*. In the Hellenized part of the peninsula, featuring a much higher number of pre-Roman *poleis*, the second tier of settlements consisted almost exclusively of *poleis* that had either become colonies or *municipia* or that included a large community of Roman citizens. The rest of the old *poleis* did not experience much growth under the High Empire and were often relegated to the lowest tier of the settlement hierarchy. In Dalmatia, the divide between the coastal colonies and Latin *municipia* in the interior presents a perfect analogy. Many of the official towns from the latter group were smaller than 15 ha and joined the smallest size-category.

Obviously, there were a number of potential factors that might have caused the visible gap between the size of the second-order towns in the frontier provinces and Thrace and the western Balkan provinces. This difference does not necessarily coincide with the divide between the zones of old and new urbanism, although it could be argued that the micro-locations of many of the pre-Roman towns posed rigid limits on the expansion of the built-up area. Nevertheless, the newly founded towns in the Dalmatian interior were also consistently smaller than their counterparts in the frontier provinces. Environmental factors certainly played a part, but we would like to stress the impact of the variable urban density in the western and the eastern half of the study-area. As we shall see in Chapter Six, the towns of coastal Dalmatia and Macedonia also had smaller territories than their counterparts in the Danube provinces. The towns in the latter provinces not only had larger territories, but could also exploit the resources that were located beyond the municipal boundaries, arrangements that are rarely attested in the belt of pre-Roman urbanism, in which the territorial integrity of the existing *poleis* was zealously guarded. Although positive evidence pertaining to the

supply of the frontier troops is lacking, the possibility that the presence of the frontier market was another stimulus for growth should not be overlooked, at least for the few privileged colonies in the civilian sector of the provinces.

The number of top-ranking settlements varied from province to province. In Dalmatia, Dacia and Thrace – both, the part of the province studied and the integral province of Roman Thrace – the group included only a single settlement and this was either the provincial capital or the seat of the provincial assembly.<sup>497</sup> This exclusive role in the political, economic and religious life of the provinces always guaranteed these settlement-categories a place in the top tier of the settlement hierarchy. The situation is somewhat ambiguous in the parts of Macedonia that belong to the study-area – but not when the integral province is analyzed – and the Moesian provinces, in which according to some of the size-estimates, the second-ranking settlements stood equidistant from the first- and third-ranking settlements on the rank-size graphs. Notwithstanding the problematic size-data for some of these towns, it is likely that in all frontier provinces the top settlement tier included two settlements. This was certainly the case in the Pannonian provinces, in which the top-ranking settlements are positioned much closer to each other on the rank-size graphs. Finally, in Pannonia Superior, the two legionary camps were joined by Poetovio, the seat of the financial procurator, making it a unique case of a system with three towns in the top settlement tier. Undeniably, there are differences in the size of the settlements that belonged to this group – the seat of the provincial governor was regularly larger than the second legionary town – but they are hardly sufficient to single out one of these settlements at the top of the urban hierarchy.

The existence of two or more settlements in the top tiers of the settlement hierarchy is highly indicative of the nature of these urban systems. The fact that in none of these provinces did an undisputed top-ranking settlement emerge can be read only as a symptom of a fairly static system, allowing little or no room for specialization and differential growth among the top-ranking settlements. In the frontier provinces, the phenomenon of multiple settlements in the top tier is a legacy of the military nature of the urban system, – each of the provinces included two legionary towns that were the largest agglomerations in these provinces – whereas in the part of Roman Macedonia that falls within the limits of the study-area, it was a legacy of the pre-Roman history of the network, a period in which the region was divided between the spheres of

<sup>497</sup> Byzantion, the largest city of united Thrace is an exception, but because of the unreliable size-estimate we cannot be certain that this is a result of its extraordinary geographic position.



interest of the two Greek colonies, Dyrrhachium and Apollonia.<sup>498</sup>

The differences between the frontier zone and the demilitarized provinces are most apparent in the rank-size graphs. The rank-size graphs for Dalmatia and the part of Roman Macedonia included in this study are invariably concave and the same can be held for the Northern Adriatic.<sup>499</sup> This trend in the size distributions is not caused by the small differences in size between the top-ranking settlements. In Dalmatia and Macedonia, the largest settlements were about twice as large as the second-ranking settlements. Instead, it is the similarities in the size of the settlements from the middle size-ranges and the large number of settlements from the base of the settlement hierarchy that contribute to the predominantly concave shapes. This result agrees with what we know about the towns in these provinces from the historical and archaeological sources. The majority of the towns of Roman Macedonia and the Adriatic coast were micro-regional centres, their economic focus entirely confined to their hinterlands. Their status and territorial integrity inherited from the preceding era were respected by the Roman authorities, thereby leaving little room for differential growth after the Roman conquest.<sup>500</sup> It has to be stressed that this explanation is only partly valid for Dalmatia, in which most of the settlements in the interior were new foundations. However, in these provinces, the concavity of the rank-size graphs indicates, in one way or another, the low degree of integration of the urban systems. The crystallization of a second tier in the hierarchy, almost entirely comprising the *poleis* that became colonies or *municipia* after the conquest, does not undermine the concavity of the rank-size graphs. The differences in size between the second- and third-order settlements remained relatively small.

A possible explanation for the concave shape of the rank-size graphs is the composite nature of the urban system in the provinces. This has been demonstrated on the examples of Macedonia and Thrace. In both case-studies, the rank-size graphs for the historical regions within the provinces are closer to the rank-

size rule than the graphs for the integral provinces. The latter were either concave or hybrid and this was caused by the increased number of settlements in the upper tiers of the hierarchy. This implies that the provinces outstripped the extent of the local economic currents. The drawing of the provincial boundaries was chiefly driven by strategic considerations and these administrative units did not leave any permanent mark on later historical developments in the region.

A different pattern prevailed in the frontier provinces. Notwithstanding the differences between the individual provinces, the graphs for all urban systems in the frontier zone exhibit a hybrid trend, slightly concave in the upper, moderately to strongly convex in the lower segments. The concavity in the upper segment of the graphs has obviously been conditioned by the presence of more than one settlement in the top size-ranges – the Pannonian provinces – and/or the relatively small differences between the settlements that can be assigned to the medium size-ranges – Dacia and the Moesian provinces. While the second- and especially the top-ranking settlements of the frontier provinces were larger than their counterparts in the western Balkan provinces, the size of the settlements that belonged to the third tier in the settlement hierarchy was roughly the same in all provinces of our study area. This is the main factor that has contributed to the convexity in the lower segments of the rank-size graphs for the frontier provinces. The settlements that constituted the upper tiers of the settlement hierarchy are too large in relation to the settlements from the bottom tier.

These patterns are not easily interpreted. They fit none of the basic types of city size distributions.<sup>501</sup> In the sections dealing with the individual provinces, we emphasized the fact that, at least in some cases – mainly the Pannonian provinces –, the urban systems can be qualified as primate. However, this assertion is not easily reconciled with the concave trends in the upper segments of the graph – one of the defining features of the primate distributions is precisely the large gap between the first- and second-ranking settlements<sup>502</sup> – and it is not clearly supported by the existing body of written or archaeological evidence pertaining to the socio-economic realities in these provinces. The only point of resemblance between the systems dominated by a primate-city and the urban systems of the Pannonian provinces is the conscription of legionary recruits, by Hadrian's reign, limited mostly to the provinces in which the legions were stationed. These vertical relations are vaguely paralleled by the extraction of resources by the primate-city in an Early

<sup>498</sup> Obviously, this observation is valid only if we ignore the core of historical Macedonia, in which some of the leading towns were as large as or even larger than Dyrrhachium and Apollonia and in which urban developments were more dynamic following the Roman conquest. Cf. Chapter Three for the different developments in the area of the former Illyrian kingdom and in Upper Macedonia. In the Macedonian part of the province, Thessaloniki was about two times larger than the second-ranking settlement and, should we plot the sizes of the towns in Lower Macedonia together with those in Upper Macedonia and Epirus, the double-headed hierarchy will likewise disappear because of the small size-differential between the second- and third-ranking settlements. This implies that the patterns observed in the part of Macedonia included in this study are more relevant to the western half of the province, Epirus and Illyria, than to Upper Macedonia.

<sup>499</sup> Thrace is an exception and deserves a separate mention.

<sup>500</sup> Cf. De Ligat 2016, 50.

<sup>501</sup> Savage 1997, Figure 1, Table 1.

<sup>502</sup> Jefferson 1939, 226-232; Berry 1961, 573-574, 579, allows more than one settlement at the top of the settlement hierarchy.

Modern colonial context.<sup>503</sup> However, the flow of army recruits into the provincial capitals can hardly account for the concavity of the graphs in their upper segments. If anything, this regime would have had the opposite effect, inhibiting rather than promoting growth among the second-tier settlements. Moreover, this was not a one-way relationship, another characteristic of the primate systems. Many of the veterans received land-plots in their place of origin, contributing to the demographic and economic growth of their hometowns. The possible role of the autonomous towns in the supply of the troops on the Danube frontier should also not be underestimated.<sup>504</sup> At least for some of the major towns in the frontier provinces, this situation provided a potential base for economic growth.

Although longer segments of the rank-size graphs for the Pannonian provinces fall below the power trend-line, they cannot be qualified as primate.<sup>505</sup> Stable socio-economic relationships must have existed between the civilian and legionary towns, even if any evidence of their nature and intensity is poor. The rank-size graphs for some of the frontier provinces – Moesia Inferior, Pannonia Inferior – hint at this possibility, the upper half of the graphs conforming to the rank-size rule. The role of the settlements in the lower segments of the graphs in this system can only be guessed at. They seem to have been unaffected by the large size of the upper-tier settlements and did not differ in size from their counterparts in the rest of the provinces. In this scenario, the base of the settlement hierarchy appears to have been disconnected from the rest of the system, a feature that is perhaps reflected in the detached lower limbs of the rank-size graphs of the Pannonian provinces. Seen from this angle, it seems that we were closer to the truth when we likened the hybrid graphs of the frontier provinces to the so-called double concave patterns, related to the superimposition of multiple, poorly connected settlement systems.<sup>506</sup> They were exemplified by societies in which a new administrative superstructure had been grafted onto an existing settlement network, the two sub-systems existing side-by-side for a certain period of time, before reaching a higher level of integration. The problem is that this particular example does not match the case of what happened in the frontier provinces, in which the great majority of the third-tier settlements were

founded at the same time or soon after the founding of the major urban centres. Might therefore this divide be traced to the difference in juridical status between the communities of the frontier provinces? This is a plausible suggestion, especially in view of the sparseness of the urban network outside the belt of pre-Roman urbanism. Wealth and privileges were confined to a handful of urban communities, while the bulk of the population with peregrine status was dispersed among predominantly rural settlements that developed their own parallel hierarchies. That the rank-size graphs for the Pannonian provinces are missing a second bulge in their lower segments could easily be a consequence of the nature of the evidence, above all the incomplete data-set for the bottom tier of the settlement hierarchy.

If considered deviations from the patterns observed in the two Pannonian provinces, the explanation for the hybrid rank-size graphs for the remaining frontier provinces is relatively straightforward. In the Moesian provinces, the concavity of the upper segment is principally a reflection of the smaller size of the top-ranking settlements in comparison to Pannonia. The legionary towns on the Lower Danube lacked a civilian component, with the possible upshot that a larger number of veteran soldiers would have settled in the autonomous towns in the interior of the province than on the *Limes*. Had they chosen to do this, it must have reduced the difference in size between the first and second ranking settlements. Another factor contributing to the concavity in the upper segments of the rank-size graphs – particularly relevant to Moesia Inferior and Dacia – is the composite nature of the urban systems. Although considered a unit for military and administrative purposes, Dacia was composed of at least two separate regional units, while the urban system of Moesia Inferior combined two segments of very different age and character. These circumstances have resulted in the clustering of city-sizes in the middle segments of the graphs, extending the segments of the curves that remained above the power trend-lines.<sup>507</sup> This is also indicated by the differences in the graphs for the towns in the part of Roman Macedonia included in this study and the territory of ancient Macedon in ca. AD 200.

Thrace is the only province in the study-area that defies the dichotomy between the frontier and demilitarized provinces with respect to the shape of the settlement hierarchy. The interpretation of the rank-size graph for the part of Thrace that belongs to modern-day Bulgaria is problematized by the small number of settlements included in the analysis, but the rank-size graph for the integral province differs little from the rank-size graphs for the frontier provinces. Like the latter, it is a hybrid in relation to the trendline for the

<sup>503</sup> Johnson 1980, 243.

<sup>504</sup> Fitz 1980c, 323-335; Poulter 1999, 1-54. For the evidence see Chapter Six. The possible involvement of the local aristocracy in the transport of grain and other goods to the frontier zone is discussed by Erdkamp 1995, 168-191; Erdkamp ed. 2002.

<sup>505</sup> This casts a doubt on the usefulness of the approach advocated by Drennan, Petterson 2003, 534-535. The size of the areas enclosed above and below the trendline for the rank-size rule is less relevant than the shape of the graph.

<sup>506</sup> Falconer, Savage 1995, 52-53; Savage 1997, Figure 7, 240-241. In this approach, concavity is not defined by the position of the graph in relation to the rank-size rule, but by the presence of bulges.

<sup>507</sup> Johnson 1980, 240.



Map IV 1: Distribution of settlements by size-categories.

rank-size rule – one third of the settlements are larger than predicted by Zipf's law, the other two thirds are smaller – and it is possible to observe two bulges, in the upper and lower half of the graph. Can the same explanation offered for the frontier provinces apply to Thrace? It is beyond doubt that the socio-economic conditions in Thrace were quite unlike those in the frontier provinces, but there are certain parallels between the settlement patterns in Thrace and the frontier provinces that should not be dismissed as superficial. The divide between citizens and peregrines in the frontier provinces finds a counterpart in the two zones of urbanization in the integral province of Roman Thrace: the belt of Greek colonies and *emporia* on the coast and the towns in the continental part of the province, many of which were newly founded. Because of the chronological difference between the two components of the urban system, Thrace conforms more closely to the so-called double concave model as defined by Falconer and Savage than the frontier provinces, in which the divide was not reinforced by historical heritage, but by the imposition of strict status divisions.<sup>508</sup> Thanks to their location on the coast, the Greek colonies enjoyed far better connectivity than the towns in the interior of the province. They were also a part of a much wider cultural, political and trading

network that preceded the Roman conquest by several centuries. The creation of the Roman province did not result in the weakening of these bonds.

The spatial aspects of the urban hierarchy are implied in the size-distributions by formal categories. (Map IV\_1) Perhaps the most striking feature of the urban network in this corner of the Empire is the peripheral position of the top-ranking settlements. All but a few of the largest settlements in our study-area are located either on the Adriatic coast or on the Danube frontier; that is, the western and eastern edges of our study-area. The exceptions are Philippopolis in Thrace, Poetovio in Pannonia Superior and Apulum in Dacia.

To most people used to the patterns that characterize the urban geographies of the modern nation-states, this presents a rather awkward constellation. Why were the largest and most important settlements located on the very edge of their territorial units? While this is understandable for the location of the large coastal towns of Dalmatia and Macedonia – access to the sea made them gateway towns for large sections of the interior – the position of the large frontier towns seems less comprehensible. Would life on the frontier with all the inherent risks of mutinies by the garrisoned units or Barbarian incursions not have been a disincentive to urban growth? This is undoubtedly a reasonable

<sup>508</sup> Falconer and Savage 1995, 52-53.



observation, but only if we insist on the defensive and divisive aspects of the Danube frontier.<sup>509</sup> Taking a look at the other side of the coin, the peripheral location of these settlements was as advantageous to them as the access to the sea for the coastal towns in the demilitarized provinces. Not only did the Danube offer a ready access to the Black Sea and the northwestern provinces, but it was also a zone of direct contact between the Empire and the *Barbaricum*. The high degree of connectivity offered by the Danube corridor, in conjunction with the strategic importance of the legionary towns, ensured their highly privileged position in the regional settlement systems and in the political economy of the Early Empire. Throughout the period of the High Empire, both the external security of the Empire and the interior political stability were vested to a large extent in the legionary camps on the Danube.

Some scholars have also stressed the importance of trade-relations between the *Barbaricum* and the frontier zone, implying that the economic outreach of these towns extended beyond the state-frontiers. Although it is nearly impossible to approximate the volume of trade across the frontier, the evidence of commercial contacts cannot be downplayed.<sup>510</sup> A large array of products for everyday use, tools, weapons and jewellery was sold to the people living on the other side of the *Limes*. Techniques and technologies could also be counted among the exports and these transactions could not have happened in an economic vacuum.<sup>511</sup> Possible imports are more difficult to trace in the archaeological record and it is likely that they consisted mostly of perishable goods like raw materials, animal skins, furs and slaves.<sup>512</sup> From our present point of view, it is impossible to make an objective assessment of the significance of these economic relations as a growth factor in the legionary towns. The majority of the legionary towns were not great producers and, even if the volume of external trade was not negligible, their commercial activity would have benefited only a small circle of mediating merchants.

Regardless of whether we see the *Limes* as a physical barrier or a thriving zone of contact and exchange,

it is certain that the main military outposts were simultaneously the main pillars of the Empire's defences and potential bases for further military and economic expansion.<sup>513</sup> In that sense, the large garrison settlements on the Danube occupied locations analogous to the locations of the major civilian centres on the eastern Adriatic coast. The Pannonian capitals, Carnuntum and Aquincum, were the terminal nodes of the road-network, but were also gateway communities, channelling contacts with the *Barbaricum*.<sup>514</sup> Their place and role in the settlement system of the High Empire was very similar to that of Aquileia or Dyrrhachion during the period of the Late Republic.

Appealing as it seems, this regularity cannot account for all the peculiarities of the urban geography in this region. On account of its size, Apulum joins the ranks of Carnuntum and Aquincum but, given its general location, it was hardly in a suitable location to act as a base for further military expansion. It was situated at the end of the chain and its role was the military control and administration of the Dacian provinces.<sup>515</sup> Its access to the potential market in the *Barbaricum* was limited to the western Carpathian Basin; a trade for which Apulum would have had to compete with Aquincum, another double town on the eastern Pannonian frontier. (Map IV\_2) At the same time, the garrison settlements on the lower Danube or the Greek colonies on the Black Sea coast remained much smaller than the large military towns on the Middle Danube, although theoretically their position in the overall system was equally favourable. This is especially true of the Black Sea colonies that offered ready access to the entire Pontic region.

In order to understand these differential developments, it is necessary to look at the wider picture. Viminacium and Singidunum in Moesia Superior were both legionary towns that occupied the top-tier in the provincial settlement hierarchy, but they lagged considerably behind the Pannonian legionary towns. Unlike the latter, the Moesian legionary towns faced a limited section of the *Barbaricum* that did not have any roads of inter-regional importance, like the Amber Road passing through Carnuntum or the road that led from Aquincum across the Carpathians and down on to the Ukrainian steppes. In the late 2nd century, the threats emanating from the other side of the frontier were not as grave as those on the Pannonian section of the Danube *Limes*. Moreover, the security of this sector of the *Limes*, although important from a global perspective, had little direct impact on the defences of Italy. The legionary towns in Moesia Inferior were in a

<sup>509</sup> Whittaker 1994.

<sup>510</sup> Epigraphic evidence of *negotatores*: Kolník 1978, 61-75; Harding, Jacobsen 1989, 227-232; evidence of trade with the *Barbaricum*, literary: Mócsy 1974, 189, 247; archaeological: Mócsy 1969, 340-375; Mócsy 1977, 373-401; Gabler 1978, 77-147; Wielowiejski 1990, 753-763; Gabler, Vaday 1992, 83-160; Vaday, Medgyesi 1993, 63-89; Kuzmová 2005, 979-986; Varsik 2005, 281-291; Croitoru 2010, 54-73. Admittedly, it is not always possible to distinguish the goods that reached the *Barbaricum* by means of trade from gifts or plunder, Galestin 2005, 221-226. Customs-duty stations near garrison settlements: Balla, Tóth 1968, 69-78; Gudea 1989; Vaday 2003, 25-68; Mitova- Džonova 2003, 39-55.

<sup>511</sup> Architectural remains: Kolník 1990, 779-787; Elschek 1997, 225-232; pottery production: Raftiu 2009, 165-186.

<sup>512</sup> Mócsy 1974, 247; Kolník 1978, 63; Whittaker 1994, 86-119.

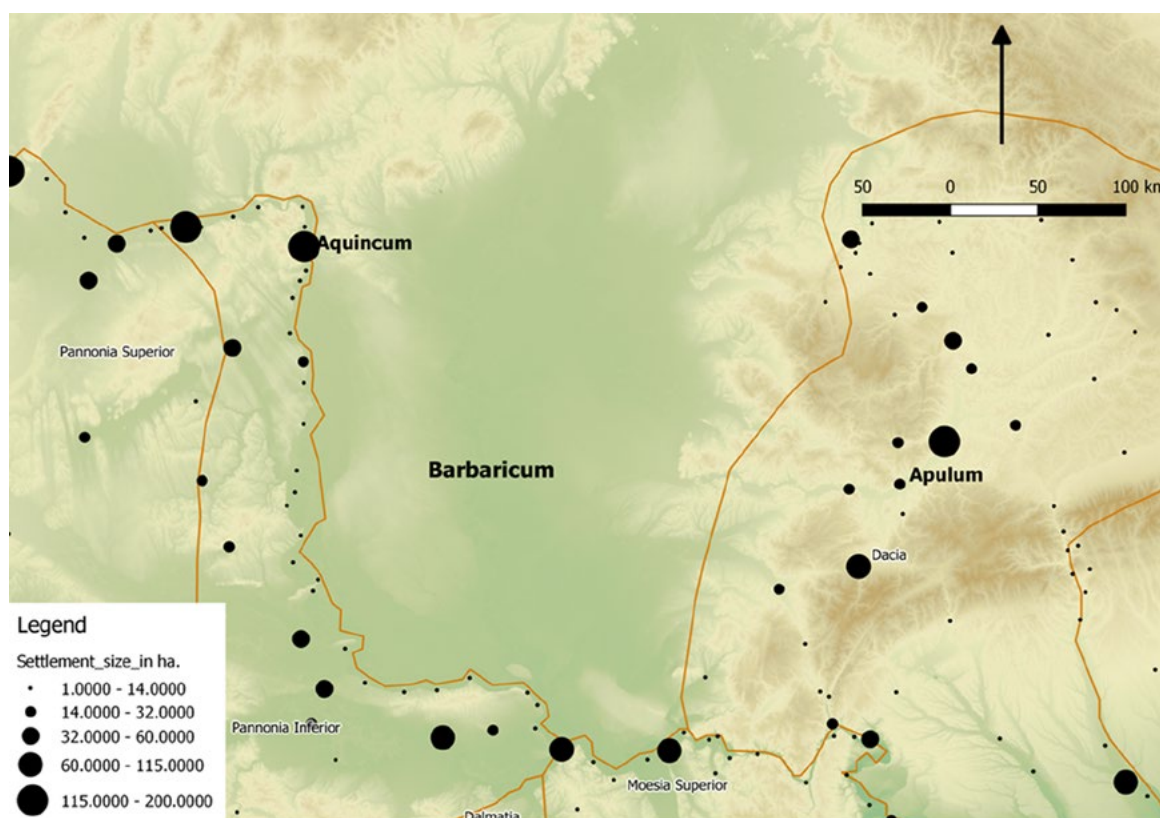
<sup>513</sup> Burghard 1979, 1-20.

<sup>514</sup> Burghardt 1979, 7.

<sup>515</sup> That is, the central communication node of the new network in Burghardt's model; Burghardt 1979, 7.







Map IV 2: Distribution of settlements by size-categories in the frontier zone between Pannonia and Dacia.

similar or even a less advantageous situation, as they were located even farther away from Italy and Rome. Much like Viminacium and Singidunum, Novae and Durostorum faced a small segment of the *Barbaricum* delimited by the Danube, the Carpathian Mountains and the Black Sea. (Map IV\_3) Both towns were terminal points on the roads between the Lower Danube and the Carpathian Basin,<sup>516</sup> but they were off the major roads that connected the *Barbaricum* and Italy and, until the Gothic invasions in the mid-3rd century, were strategically less important to Rome and Italy. While the territories beyond the Pannonian section of the frontier were at least temporarily considered as possible new additions to the Empire, the Pontic region failed to attract the attention of Roman imperialism and neither the garrison settlements on the Lower Danube nor the civilian towns on the Black Sea ever evolved into springboards for further military or economic expansion.

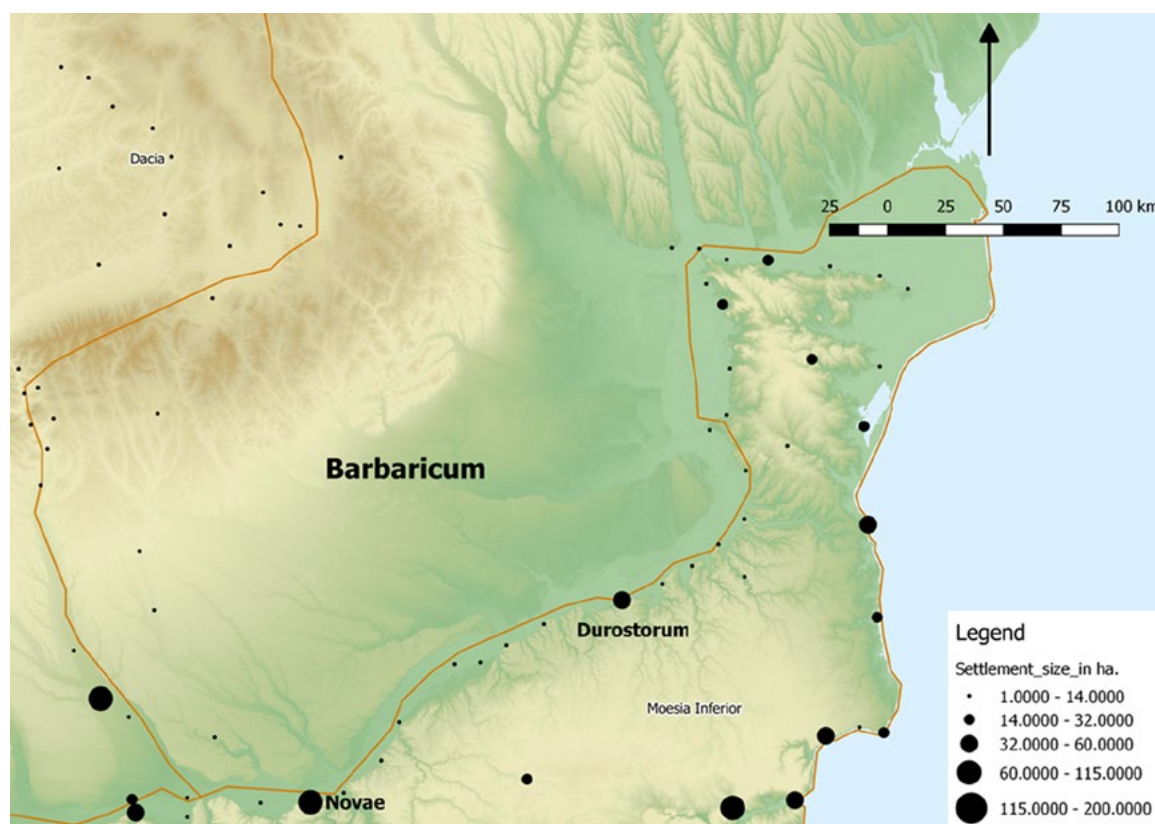
The final remark in this chapter is reserved for the apparent clustering of certain size-categories. Four of the six largest towns in our study-area are located on the 220-km-long section of the northern Pannonian frontier. (Map IV\_1) Even within this narrow territorial segment they are not evenly distributed, but appear in

pairs. Brigetio and Aquincum are spaced about 70 km apart, whereas the distance between Carnuntum and Vindobona was only 30 km! This pattern continues farther downstream. The two largest settlements in Moesia Superior are separated by less than 60 km. An almost equal distance separates the two legionary camps in Dacia, Apulum and Potaissa. This pairing of the largest agglomerations in our study-area was obviously related to purely strategic considerations. Each pair of legions was charged with the defence of certain sections of the *Limes*: Carnuntum and Vindobona faced the Marcomanni; Brigetio and Aquincum the Quadi, Viminacium and Singidunum the Yazigi and so forth.<sup>517</sup> This unusual regime succeeded only because of the extraordinary role of these places in the political economy of the High Empire. As long as these communities were subsidized by the central government, there was no danger of one being outcompeted and absorbed by the other. At the present-day, both Aquincum (Budapest) and Vindobona (Vienna) are large cities and national capitals, but Carnuntum and Brigetio are little more than villages.

This concentration of very large settlements on the northern Pannonian frontier predictably influenced the distribution of the large settlements in the interior

<sup>516</sup> Rădoescu, Hortopan 2010, 25-50.

<sup>517</sup> Mirković 1977, 171-178; Kreković 2001, 103-107.



Map IV 3: Distribution of settlements by size categories on the Lower Danube.

of the province. More clustering has already been observed in Pannonia Inferior, with nearly all major civilian towns situated in the south of the province. In Pannonia Superior, the large towns in the interior of the province are somewhat more evenly distributed, but their overall spread is relatively limited to dispersion along the Amber Road and the Sava Corridor. A very similar pattern prevails in Dacia, in which nearly all large towns are aligned along the main north-south axis in the west of the province. Similar tendencies can be observed in the rest of the provinces. The two largest towns of the part of Macedonia included in this study, Apollonia and Dyrrhachium, are spaced less than 70 km apart and managed to survive for centuries without subsidies from the central government. All but one of the second-tier settlements in Moesia Superior are concentrated in the southwest corner of the province. Similar clusters emerge in the central parts of Thrace and on the coast of Moesia Inferior.

In a later chapter we shall try to establish how the inter-city distances or the size of the territories of the towns relate to the city-size categories. For the moment, the idea has been to draw attention to the uneven distribution of the large and very large settlements

in our study area. Extraordinary urban growth was limited to the state frontier itself and along the major inter-regional corridors that traversed the interior of the region. Even here, large towns appear only along certain sections of the main thoroughfares, with an apparent predilection for the major crossroads. Large swathes of the study-area were populated by average and small towns or remained predominantly rural and largely disconnected from the upper segments of the settlement hierarchy. In the preceding chapters, we have pointed out the possible reasons behind the uneven spread of urbanism in the Balkan Peninsula. The problem is not to isolate the inhibiting factors – the extent of the mining districts and imperial estates, the persistence of the traditional way of life in many of the *civitates* in the interior of the province – but to understand the peculiar pattern of clustering of the large urban settlements along relatively small sections of the road-network. Evidently resources were limited to small sections of the region, namely: those in control of the frontier zone, the main points of entrance into the area and of the main intersections in the interior. In the rest of the network, urbanism was relatively humble, often on the very verge of self-sustainability.

## Chapter V

# Agricultural Territories

### Introduction: The approach and the major problems in the data-set

In the opening chapters of this study it was demonstrated that at least two-thirds of the settlements in our study-area were founded after the Roman conquest, at micro-locations that had not been occupied during the preceding period. Casting a brief glance at the distribution of the central places prior to the Roman conquest, it was observed that in some provinces, - Dacia, parts of Dalmatia -, the newly established settlement network had almost no overlap with its predecessor. What are the implications of these major shifts in the regional settlement maps? In what aspects did the old settlement locations differ from those of the newly founded settlements? Was there an overall shift to a different type of micro-location and how were these placed in relation to the various categories of natural resources? Furthermore, we have seen that the newly founded segment of the network was composed of settlements that differed in terms of their geneses, size and juridical status. What are the relations between these parameters and the micro-locations of the settlements? Can we give some rough indication of the factors that determined the siting of the different settlement categories? It is the aim of this chapter to address at least some of these important questions. As always, a host of theoretical and methodological difficulties that are best clarified at the very beginning loom large.

The most straightforward way of expressing the character of the micro-locations of the settlements in a non-descriptive fashion is to analyze their catchment areas. A settlement's catchment - the area accessible from the settlement within a given distance - is a direct function of its micro-location.<sup>518</sup> The extent of the catchment radius depends on the basic economies of the settlements studied. As the present study is focused on urban and non-agrarian settlement categories, two catchment radii are of particular relevance: the five-km, or one-hour walking distance radius, and the 15-km, or three-hours walking distance radius. The former catchment can be called the farming radius. It defines the maximum area that can be cultivated directly and on a daily basis by farmers residing in the central place.

It should be pointed out that comparative evidence suggests that in densely populated and fertile areas, the normal catchment is often reduced to 30 minutes walk from the central place or less.<sup>519</sup> But because we are not studying purely agrarian settlements, it is wise to assume - at least for the category of autonomous towns - a larger than average farming catchment area. It should not be lost from sight that the five-km catchment radius is used primarily as an index of the locational preferences of the settlement. It is not meant to imply anything about their rank, economic orientation or the mechanisms of agricultural exploitation (see *infra*).

The second catchment radius encloses the maximum area wherein the surplus agricultural produce can be tapped through the market. As in the case of the farming radius, the maximum range of three-hours walking distance is defined by the law of logistics. It is the maximum distance a peasant is willing to travel to sell his surplus and obtain goods that are unavailable locally.<sup>520</sup> It is the same rule of day-return defining the farming radius. A longer travelling distance would simply overinflate the expenses of the whole undertaking, requiring additional expenses for an overnight stay and safe-keeping of the goods. Obviously, only a minority of the studied settlements could actually function as micro-regional markets. But as we are primarily interested in the properties of the site of the settlement rather than in the particular settlement, we proceeded to estimate the amount of arable land enclosed by the market-radius for all settlements included in this study, regardless of their rank. The goal of this exercise is to analyse the implication of the siting of the settlements, not to approximate historical reality.

As we shall shortly see, the study-region includes both extensive plains and vast zones of hilly to mountainous terrain. It is therefore advisable to use walking rather than linear distances. However, creating a digital terrain model for the entire study-region was not a viable option. The most we could do is test the effect of the relief on the size of the catchment in a small number of cases representative of the different geographies of our study-region.<sup>521</sup> Predictably the ruggedness of

<sup>518</sup> Vita-Finzi, Higgs 1970, 1-37; Hodder, Orton 1976; Johnson 1977, 479-508; Roper 1979, 119-140.

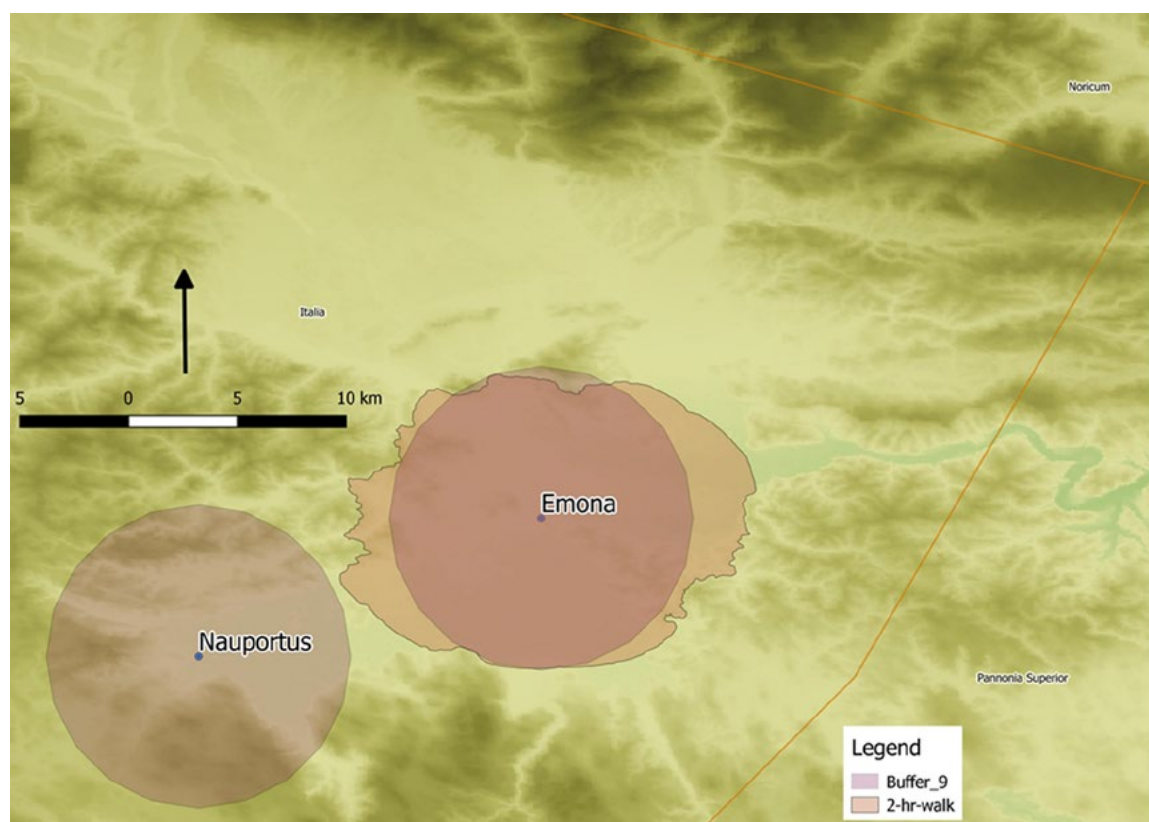
<sup>519</sup> Bintliff 1999a, 505-545; Bintliff 2002b, 153-177.

<sup>520</sup> Bintliff 2002a, 209-250.

<sup>521</sup> The tests were run by Bart Noordervliet, whom I thank once more for his friendly assistance.







Map V 1: Catchment areas drawn around nine-km radii and two-hours walking distance in real terrain.

the terrain did not have a very dramatic effect on the size of the catchment enclosed by the farming radius, but with the extended market radius, the differences were becoming considerable. When the terrain is fairly rugged, even the area enclosed by the two-hours walking distance radius may be reduced by 30% and, in mountainous conditions, the catchments are reduced by nearly two-thirds. (Map V\_1) We have therefore decided to adopt two alternative catchment radii: ten km for the towns and settlements of the western Balkan provinces and Dacia, 15 km for the settlements of the Danube provinces and Thrace.

Both the farming and the market radius have to be considered if we are to determine the logic behind the siting of the settlements and to examine their sustainability by the local resources. The five-km catchment radius is more sensitive as a location index than the ten- or 15-km radii, simply because the latter catchments are large enough to include resources that were originally of minor importance for the siting of the settlements and their economy. The obvious downside of using only the five-km radius is that it is too small for all settlements with population figures higher than 6000-7000, basically including all the major towns in our study-area.<sup>522</sup> This circumstance diminishes its

value as an index of locational preferences, as it will lump together the categories of large settlements and those featuring specialized economies. Finally, about one-third of the settlements included in this analysis had access to the agricultural resources of areas much larger than those enclosed by the market radii by virtue of their status.

The underlying assumption of this analysis is that the variable settlement locations will at least partly reflect the relative importance of two broad categories of natural resources: agricultural land and other, pastoral or non-agricultural resources, like minerals or access to the main lines of communication. Those settlements that were primarily focused on exploiting the agricultural potential of the surrounding land are more likely to occupy a central position in the cultivable zone and enjoy a higher percentage of arable land within their theoretical hinterlands. Those communities whose primary concerns lay in the control of the flow of goods and people or the extraction of mineral resources often had to relinquish at least a proportion of their agricultural potential. Obviously, this is a Weberian ideal type.<sup>523</sup> Once we turn

<sup>523</sup> In reality, the town-based landowner could own properties beyond the immediate catchment radius of the towns, but this possibility does not diminish the value of the location index. Instead, it exemplifies a mechanism by which the towns extended their outreach.

<sup>522</sup> Bintilff 2002b, Figure 1.



our attention to the individual sites, we shall quickly discover that in the majority of the cases, the micro-location of the settlements was ambiguous. Even those settlements whose involvement in non-agricultural economies is known from other sources had access to a certain amount of cultivable land. The same applies to the predominantly agricultural communities. They rarely occupied the geometric centres of the surrounding tracts of arable land. This is because even the traditional rural communities in most parts of this region practised mixed agricultural economies, making locations along the edges of the ecological zones highly attractive.<sup>524</sup> This economic strategy is optimally suited to the mountainous terrain that characterizes much of the Balkan Peninsula.

Economic strategies were not the only variables that determined settlement locations. The defensive quality of the available micro-locations, access to drinking water, protection from the elements and even ideological considerations all played a role in determining settlement locations. We should also mention the political factor, especially in view of the historical evidence of forced migrations and the displacement of the native communities in the period following the Roman conquest.<sup>525</sup> There is an ever-present risk of confusing the effects of the non-economic and economic factors in analysing the siting of settlements. What might appear to be a settlement focused largely on the non-agricultural sector could, in theory, owe its 'non-optimal' location to the absence of drinking water in the plough-zone or to unknown political factors.

Although these considerations certainly weaken the sensitivity of our location index, they do not necessarily disqualify this path of analysis altogether. In fact, minor or even moderate differences in the agricultural potential should not be overemphasized, as they might easily be the outcome of our imprecise estimates. However, when it comes to the exploitation of non-agricultural resources, like mines or natural harbours, the economic orientation will inevitably be reflected in the amount of arable land available within the theoretical hinterlands. To take the most obvious example, the catchments of coastal settlements will always comprise smaller agricultural territories than the catchments of most inland settlements, because at least a third of their catchments would have fallen beyond the coastline. Moreover, we can take comfort from the fact that the relatively advanced urban culture of the High Empire eliminated at least some of the non-economic locational factors, like the

availability of drinking water or natural defences. In this context, we shall try to shed light on the possible differences between the locations of the autonomous towns and those of secondary agglomerations or special-purpose settlements, like spa-towns or road-side settlements. Finally, without the slightest intention of underestimating the significance of the figures for the agricultural potential of our towns, it must be stressed that, for a number of individual towns, we know something about their economies from the archaeological and written sources. Where such evidence is available, it will always be considered in relation to our estimates of the agricultural territories.

It can be argued that this entire approach has an inbuilt defect, because it has been designed primarily for the study of predominantly agrarian settlements.<sup>526</sup> The five-km farming radius is all important for the farmer, but is of little relevance for the landowner. Estimating the amount of arable land within a given catchment radius makes sense as long as it is assumed that the settlements in question were the principal bases for the farming population. The prevalent scholarly opinion is that the Roman town did not conform to this model,<sup>527</sup> although it should not be excluded that in certain parts of the study-region some settlements continued to operate as agro-towns.<sup>528</sup> The same applies to the other settlement categories. Notwithstanding the scattered evidence of intensive agricultural exploitation of the hinterlands of some auxiliary *vici*, most scholars agree that the grain-procurement of the army units was organized by the central government and was not reliant entirely on the local or regional resources.<sup>529</sup>

The starting position – rather than its final finding or its underlining assumption – of the present study is that most of the settlements in the region were sustained primarily by agricultural production. At the very least, the ensuing analysis should help us assess the importance of agricultural considerations in the siting of the different categories of settlements and, indirectly shed light on their economic profiles. It has to be stressed that the estimates of the agricultural territories are purely theoretical. We are interested in studying the implications of the settlement sites on the agrarian potential, even if the communities that occupied these sites satisfied their subsistence needs from more distant regions or did not own the land in their surroundings. This exercise is legitimate if viewed from two perspectives. It highlights the agricultural potential of those areas that were not occupied by

<sup>524</sup> Cvijić 1918.

<sup>525</sup> Strabo 7.3.10; CIL XIV 3608; Gerov 1997, 8; for the displacement of the Azali after the Pannonian revolt, see Mócsy 1974, 55; see Colombo 2010, 171–202, for a different interpretation.

<sup>526</sup> Higgs, Vita-Finzi 1970, 1–37.

<sup>527</sup> Garnsey 1998, 183–200; De Ligt, Garnsey 2012, 69–94. Agricultural land remained the main source of income for the town-residing elites, but it is unlikely that it was exploited by farmers based in the town.

<sup>528</sup> Cf. for example, Lo Cascio 1999, 161–172.

<sup>529</sup> Erdkamp ed. 2002. See, Lo Cascio 2007, 619–647; for different opinions.



autonomous towns during the High Empire and it points to the directions in which urbanism expanded or retreated in later periods.

The geographical factor cannot possibly be overlooked in this kind of analysis. As we are dealing with a large area, made up of several major regional units with contrasting physical geographies, this must surely have an effect on our figures. Just by looking at a physical map of the region, one can easily predict that the towns located in the Danube Valley and along the other major rivers will, on average, have offered greater agricultural potential than the towns located in the western, mountainous half of the peninsula, even if there were no major differences in their general economic orientation. This is a valid and relevant observation, but it pertains to the agricultural potential of wider regional units rather than individual settlements. It has to be remembered that there is a considerable degree of local or micro-regional variability in our study-area, both in the provinces in the western half of the peninsula and in the frontier provinces. Overall, the towns and settlements of Pannonia and Moesia Inferior would have probably enjoyed larger agricultural territories than those of Macedonia or Dalmatia, but this fact does not reduce the significance of the variable potentials of the towns that belonged to the same province.

It should be stressed that the immediate goal of this study is to produce rough estimates for the extent of arable land within the five- and ten/15-km catchment radii of the towns and secondary agglomerations.<sup>530</sup> In view of the quality of the available data, we are not in a position to make a proper assessment of the carrying-capacity of the surroundings of the settlements.<sup>531</sup> With a few exceptions, palaeoenvironmental site-based or regional studies are very thin on the ground.<sup>532</sup> On the other hand, we cannot afford to collect modern environmental data, for example, regional soil-maps, annual yields or rainfall records, for the entire study-area. The most we can do is to try to determine what percentage of the theoretical hinterland of our settlements was potentially cultivable. This means that only a small fraction of the relevant data shall be considered. Much will be obscured, as we know next-to-nothing about the local variations in soil types or their fertility in relation to the agricultural practices and technology in the time-period studied. Nonetheless, we remain convinced that the settlement's location will in itself indicate the possible non-agricultural economic focus of its population.

The agricultural potential of the land in our study-area is chiefly determined by the relief and hydrography. In many regions, between 60 and 80% of the territory is taken up by mountains or hills. This characteristic is especially pronounced in the western part of the peninsula, in the Dinaric Alps, an area in which the geological framework has also pre-conditioned that large portions of the mountainside are karstified.<sup>533</sup> The soaring, massive ranges of the Carpathians, Mount Haemus and Rhodopes do cut across the eastern half of the Peninsula, but they are less rugged and less extensive than the Dinaric Alps. In the north, on the Middle Danube and along the lower courses of its Pannonian tributaries, the rugged terrain is hardly an issue. The problem here is that unknown proportions of the river plains were permanently flooded prior to the canalization of the rivers in the last couple of centuries. This is mentioned in the ancient sources and it is often depicted on Late Medieval-Early Modern maps of the region.<sup>534</sup> Poor drainage is also a problem in certain regions in the western half of the study-area, like the Albanian coastal plains or the limestone plateaus in Dalmatia.<sup>535</sup> This flood-zone was not suitable to agriculture and, like the mountainsides it was probably left outside the ancient plough-zone. Naturally, both the mountainside and marshland offered a range of valuable resources like pastures, woodlands and fishing, but we assume that these were merely complementary to the local agricultural economies.

In fact, our main sources for estimating the extent of arable land are the physical relief and modern land-use. For the western Balkans, these data are probably sufficient. Here, the limitations posed by the physical relief are both rigid and relatively stable. It can be safely assumed that, in most micro-regions of the western Balkans, the modern plough-zone approximately reflects the agricultural potential of the area in the past.<sup>536</sup> Only a marginal increase as a consequence of the construction of agricultural terraces will have ever been possible. Of course, this does not mean that the modern plough-zone fully coincides with the area cultivated in Antiquity. In the published literature there are hardly any data relevant to this topic. But the extent of the modern plough-zone - clearly visible on aerial images even in cases of recently abandoned fields - does convey a rough idea of the agricultural potential of the areas in question. It is possible that the ancient land-use was less intensive than it was after the technological advances and population growth in the

<sup>530</sup> The towns and communities known only from historical and epigraphic sources cannot be included in this analysis for obvious reasons, although we have included those cases in which the location has been approximately determined.

<sup>531</sup> Rosen, Finkelstein 1992; De Angelis 2000, 111-148.

<sup>532</sup> For example, Chapman, Shiel, Batović eds 1996; Santoro 2008; Serlegi 2009, 135-146.

<sup>533</sup> The Naval Intelligence Division 1944a.

<sup>534</sup> Marshes in the hinterland of ancient Mursa are mentioned in the description of the Pannonian revolt in AD 6 - 9, Vell. Pat. 2.112, Pinterović 1978; Domić-Kunić 2012, 29-69.

<sup>535</sup> The Naval Intelligence Division 1920b.

<sup>536</sup> However, cf. the case of Liburnia and the northern Adriatic, Chapman, Shiel, Batović eds 1996, 23-24.

Early Modern period, but for what are now marginal and depopulated areas, the opposite might be true.

This source is less reliable for estimating the arable potential in the Pannonian provinces. Modern topographical maps show sizeable marshy areas along the major Pannonian rivers, in some cases extending for ten km on both river-banks. Without specialized palaeo-environmental studies, we have no way of drawing even a very rough sketch of the landscapes in these regions in the past. Surely, the modern regulation of the river-beds will have had a positive impact on the productivity of this land, but it would be wrong simply to project the situation from the Early Modern-Late Medieval periods retrospectively onto Antiquity. The height of the water-table would have been dependent on a broad range of climatic and anthropogenic variables of which we know too little. Finally, it should be pointed out that, for Roman Pannonia, there is historical evidence of large-scale land reclamation projects.<sup>537</sup> As we have no way of assessing the effect of these factors, it was decided to exclude the areas transected by modern drainage canals or ancient river-beds from the estimates of the agricultural territories. Like the modern plough-zone, these features are easily distinguished on aerial photos.

More constraints on the local agricultural potential were posed by a series of non-environmental factors. In principle, these consist of the administrative and territorial divisions in the study-area. In the case of the provincial and state-frontiers, it was assumed that the land on the other side of the frontier was not exploited even when it fell within the five-km radius of the nearest settlement. The problem is that, quite often, the boundary-lines cannot be determined precisely – as in the case of the northern Dacian *Limes*, or the forts located to the east of the River Olt. The majority of the provincial frontiers on the other hand, were drawn along the mountain ranges, passing through sparsely urbanized areas. Therefore, they pose only a minor problem in comparison to the unknown extents and locations of the extra-municipal districts, like the mining areas or imperial estates. In the next chapter, we shall demonstrate that a considerable portion of the study-area was controlled by the provincial government. Unfortunately, we have no way of gauging the degree of dispersal of this state-owned land. It can only be hoped that it was grouped into larger districts.<sup>538</sup>

No less complicated are the territorial relations between two neighbouring settlements. The close spacing of neighbouring settlements of a similar rank and status will inevitably have had a limiting effect on

their agricultural territories. In view of the average inter-city distances in our study-area, this is hardly a problem even if the market radius is set at 15 km. However, in the zones of pre-Roman urbanism, in which towns were often spaced at distances of less than 20 km, or on the frontier, in which the auxiliary *vici* are separated by even shorter distances, this was obviously an important factor. In the next chapter, we shall try to reconstruct the administrative territories of the autonomous towns, but these reconstructions are too imprecise to be of much assistance in determining the amounts of arable land on either side of the boundary. It is worth repeating that the primary goal of this analysis is to estimate the amount of arable land enclosed by the catchment radius. In other words, the focus is not on the town, but on its site. We therefore proceeded by dividing the intervening arable land equally between the two neighbouring settlements of equal status, regardless of the real territorial divisions.

This approach seems to be less problematic when estimating the agricultural potential in the surroundings of the secondary agglomerations. However, this settlement category is beset by problems of a different nature. In the preceding chapter, it was demonstrated that, in terms of size and physical appearance, they differed little from the average rural settlement. Because of their inconspicuousness, only a small segment of this settlement category has been identified and hence the true spacing between the neighbouring settlements of this rank has to be a matter of guesswork. Therefore, the estimates for the agricultural territories of most of our secondary agglomerations are almost certainly over-inflated. In most of the cases, their agricultural territories were probably smaller than the area enclosed by the five-km catchment radius.<sup>539</sup>

In cases in which a secondary agglomeration fell within the market radius of an autonomous town, the arable land in its hinterland was added to the total for the autonomous town. Nevertheless, separate counts were kept of the agricultural potential of the subordinate settlement, both within the farming and the market radius. This approach allows a direct comparison between the properties of the sites of both settlement categories.

So far, we have argued that the settlement's micro-location expressed as the amount of cultivable land within the five- or ten/15-km catchment radii will always reflect, among other factors, the economic interest and strategy of the local community. However, if seen in isolation, these approximations are not particularly informative for the second goal of this study or the evaluating of the settlement's sustainability

<sup>537</sup> Hist. Aug. *Vita Probi* 18.8, after Gračanin 2005, 287–298. The story was evidently a piece of imperial propaganda, but it probably contains a kernel of truth.

<sup>538</sup> It is very possible that this was actually true of the iron mines, Ørsted 1985.

<sup>539</sup> Compare with the figures in Bintliff 2002b, Figure 1.



by the local resources. Small communities can live comfortably off the limited volume of agricultural products from their surroundings, even when large segments of the population are fully engaged in non-agricultural activities, mining or industries. At the other extreme, the largest urban communities in the area exceeded the agricultural productivity of their theoretical hinterlands, even when 100% of the land within the market radius was arable. The study of the agricultural territories becomes meaningful only when it is carried out in relation to the population estimates or, at least, city-size. In fact, determining the amount of arable land is only the first step, as the primary study goal is the ratio of arable land to population size or the amount of arable land per individual. This will allow us to isolate those settlements that, because of their size or location, could not secure their subsistence from the immediate surroundings, implying highly specialized economies, larger administrative territories or other special arrangements.

When projecting the population size of individual settlements, a great number of methodological and technical problems have to be faced.<sup>540</sup> This is hardly surprising in view of the character of the available data. We only have a vague idea of the extent of the built-up area of the settlements and a few scattered clues to the population density in these agglomerations and almost nothing is known about the size of housing units or households. One thing certain – and this lies at the very heart of the problem – is that the population density varied dramatically, not only between settlements of different categories, but also within a single settlement.<sup>541</sup> This is neatly illustrated by the example of the garrison settlements, in which population density ranged from up to 500 individuals per hectare in the auxiliary camps to fewer than 100 inhabitants per hectare in the *vicus*, usually made up of smaller residential units, spaced at greater distances to allow for working space or storage facilities.<sup>542</sup> Similar amplitudes in the population densities can be expected for the civilian settlements. The evidence from the study-area, although fragmentary and non-representative, suggests that the size of the residential units could vary from several hundred square meters in the wealthy quarters of the large towns to only 30–40 square meters in the secondary agglomerations.<sup>543</sup> A

simple comparison of the areas with housing units will lead us to the conclusion that the military forts – and also perhaps certain quarters of the autonomous towns – had population densities up to ten times higher than the various categories of subordinate settlements or the town quarters under public buildings.

Serious data shortages prevent us from addressing the problem of population density across different settlement categories. Nor can this issue be addressed adequately in a chapter devoted to a different topic. For the purposes of the present chapter, we shall have to be content with introducing a constant of 150 individuals per hectare, regardless of the settlement type.<sup>544</sup> This figure is obviously better suited to the large urban settlements characterized by densely packed housing units than to the small unplanned agglomerations,<sup>545</sup> but at the same time it grossly underestimates the population density in the most dominant settlement category of our study-area, the garrison sites. This difficulty is an inevitable consequence of using a constant figure for all settlement categories. In the concluding section to this chapter, we shall revisit the possibility that certain settlement categories had population densities lower than 150 inhabitants per ha. As a further safeguard to counter the possibly exaggerated population densities, we propose two alternative population estimates based on the minimum and maximum figures for the size of the built-up areas. As we saw in the preceding chapter, the differences between the alternative size-estimates are often much greater for the secondary agglomerations than for the autonomous towns. The minimum population figure can be seen as a proxy for the probably lower population density in the former settlement category.

Most studies that analyse the productive potential of specific geographical regions or catchment areas estimate that the ancient annual rates of consumption fluctuated between 175 and 193 kg of grain per capita.<sup>546</sup>

<sup>540</sup> Cf. Hanson 2016.

<sup>541</sup> Duncan-Jones 1963, 85–90; Lo Cascio 1999, 164–166; De Ligt 2012.

<sup>542</sup> Campbell 2009. In the *canabae* of Carnuntum, the early phases are marked by a very sparse settlement structure, with houses separated by large stretches of land used as working areas, gardens or orchards, Kandler 2008, 90–108; see Sommer 1997, 41–52, for the auxiliary *vici* in Germany and Britannia.

<sup>543</sup> A handful of examples are enough to illustrate the situation: a suburban villa in Salona, c. 1250 sq. m; Piplović 1980, 89–101; an urban residence in Burnum, c. 1000 sq. m, Boschi 2011; an urban residence in Sarmizegetusa, turned into a temple, 400 sq. m, Piso, Tentea 2010; a sub-urban residence in Oescus, c. 3200 sq. m, Ivanov 1987, 7–60; houses in Arupium, 35 to 50 sq. m, Bižić-Drechsler 1974, 1–46.

<sup>544</sup> Cf. Marzano 2011, 204; Hanson 2016, apply sliding density ranges to different size-categories, that is in principle surely a better alternative to using a constant, but we feel we know too little about this topic. It is symptomatic that the latter study cites mostly theoretical treatises – Bettencourt 2013, 1438–1441; Ortman *et al.* 2014 – in support of the thesis that smaller size entails lower population density. The empirical evidence in support of the idea that population densities were much higher in large towns refers to exceptional cases like Rome, Ostia or Alexandria; Russel 1958, 64–68; Hanson 2016, 66–69; cf. De Ligt 2012, 207, fn. 53.

<sup>545</sup> Price 2011, 17–35, has argued in favour of population densities as low as 40–60 inhabitants to the hectare for villages and not more than 100–120 inhabitants to the hectare for the large towns in Classical and Hellenistic Greece. However, their size estimates for the sites discovered in the Sphakia survey do not refer to individual chronological phases but to the total extents of the ceramic scatters, Price 2011, 27. Given that the core of the settlement shifted over time, this will probably result in larger site-areas and lower population densities. The overall impression is that too little is known about this subject, even in regions with a long history of research.

<sup>546</sup> Foxhall, Forbes 1982, 41–90; Garnsey 1998b, 201–213; De Angelis 2000, 111–148.



Translated into agricultural territory, these annual needs add up to three to four hectares per family or about one hectare per person. Obviously, this figure is meant to be used only as a yard stick.<sup>547</sup> In this case too, too much depends on too many factors and, because of the inadequate data, it is nearly impossible to arrive at realistic estimates of the agricultural productivity of the land. Even if we disregard the obvious fact that the cultivation of cash-crops would require smaller areas to cover the annual household needs than the cultivation of grain,<sup>548</sup> without the help of predictive modelling, it is virtually impossible to account for the great variability in the agricultural productivity of the land caused by the different soils, temperatures and hydrography.

The final difficulty facing this study is to determine the size of the population who lived outside the central place. In the case of autonomous farming communities or agro-towns, a large proportion of the population that lived off the agricultural products of a certain catchment may be assigned to the central place. However, once we extend the catchment radius beyond the five-km, the presence of a permanently settled rural population, either residing in independent nucleated settlements or in hamlets of tenant farmers attached to large private properties has to be accounted for. In order to test the self-sustainability of the settlements included in this study, it is crucial to have at least an approximate idea of the size of the rural population. This problem was touched upon while discussing the problematic estimates of the catchments of the roadside or auxiliary *vici*. Yet again, the current state of knowledge about the Balkan countryside is far from satisfactory. Integrated regional projects that include systematic surface prospection are still very rare. In a number of cases, it is possible to approach the problem by collecting and critically analysing the legacy data available, but obviously this can be done for only a very small portion of our study-area. In our discussion of the agricultural territories and locational preferences of the settlements by provinces, we shall refer to some of these case studies. These studies shall not only offer a closer look at the distribution of the population in the urban hinterlands, they will also shed light on the

changing exploitation strategies at increasing distances from the central place.

In the absence of adequate data, we shall have to make do with the few parameters at our disposal at present. These are the estimates of the settlements' built-up areas and of the agricultural potential in their immediate hinterlands. Accepting the simplifying view that the annual consumption requirements of a mature individual can be met by the produce of one hectare of cultivable land, it is possible to postulate maximum population figures for every territory included in this study by simply equating the number of arable hectares to the number of individuals. Deducting the projected number of the urban population – based on constant population densities of 150 per ha – from the maximum number of individuals who can be sustained from the agricultural hinterlands, we arrive at the maximum rural population for the districts studied. An even more straightforward operation is simply to divide the figure for the urban population by the figure for the maximum district population. The result will be the *minimum urbanization rate* per district.

Obviously, this formula aims to chart the limits of the possible. That the ceiling of the local carrying-capacities was reached in all studied hinterlands is as likely as to assume that 100% of the population lived in the central place. In reality, the local urbanization rates must have stood somewhere in-between the two extremes.

As we shall shortly see, it is possible to infer which settlements were oversized for their agricultural territories just by looking at the variable urbanization rates per district. This is preconditioned by the fact that the areas located beyond the five-km catchment radius cannot have been farmed exclusively by town-based farmers. Without a certain population minimum permanently residing in the outer reaches of the countryside, there could have been no maximum productivity.<sup>549</sup> It is therefore valid to postulate a maximum urban to rural population ratio above which the sustenance of the urban population from the agricultural produce of their hinterland becomes logistically untenable or impossible. Because of the many variables involved – technology, agrarian relations, environmental conditions and the types of crops grown – it is impossible to arrive at a universally applicable threshold for this ratio, but for the Roman world of the 2nd and 3rd centuries AD, urbanization rate of 33% may be regarded as the approximate limit of self-sustainability.

A more direct approach to assessing the sustainability of the central place will require certain modifications to

<sup>547</sup> There are considerable differences in opinions when it comes to the agricultural productivity of the land in Antiquity. Earlier scholars have suggested that the average productivity levels were not higher than 235 kg per hectare for wheat and 330 kg per hectare for barley, figures deduced from an inscription concerning the year 329/328 BC for Attica, that was by all standards a bad year, Garnsey 1998b, 201-213. Garnsey has proposed a net production of 625 and 770 kg per hectare for wheat and barley respectively. This will inevitably decrease the arable area necessary to sustain a single person to about 0.65 ha and 0.8 ha, given that fallowing was practised. However, this estimate is based on the yearly statistics for the period 1911-1950, when new methods and technologies were slowly being introduced. A humbler productivity is suggested by Salares 1991; Erdkamp 2005.

<sup>548</sup> Jongman 2007, 592-618; obviously even if cash-crops were the dominant cultures in the territories of some towns, their produce would have had to be exchanged for grain.

<sup>549</sup> On the role of labour in determining agricultural productivity see Erdkamp 2005, 12-54.



the equation of one hectare of cultivable land equals one person. Depending on the local urbanization rates, it is possible to adjust the amount of arable land necessary to secure the subsistence needs of the urban population. The food requirements of the population based in the countryside will inevitably raise the lower threshold of agricultural productivity. For example, assuming a 30% urbanization rate and that the fruits of the land located within the five-km catchment radius were reserved for the urban population, the agricultural land necessary to cover the needs of a single town-resident increases to three ha in the outer belt of the market radius catchment. In this outer belt, representing about 75% of the theoretical hinterland based on the ten-km radius, only one-third of the agricultural territory was directly available to the urban residents, the other two-thirds were consumed by the labour force residing in the countryside.<sup>550</sup> On the basis of these postulations, the overall amount of land necessary for the sustenance of a single urban resident in any given section of the extended hinterland increases to about two ha, or more precisely to 1.85 ha. If we lower the urbanization rate to ten to 15%, to match the widely accepted overall rate of urbanization for the western provinces of the Empire, the land necessary to sustain one urban resident from any part of the agricultural territory will rise to almost three hectares. In order to visualize the settlements that grew too large for their agricultural territory more clearly, we shall add trend-lines for the minimum land-to-population ratio in the graphs plotting the population estimates and the amount of arable land. All the settlements situated high above this line outgrew the agricultural capacities of their immediate hinterland, implying a large administrative territory, a strong non-agricultural sector, special governmental subventions or a combination of any of these mechanisms. We shall see that, with a few exceptions, all settlements falling above the trend-lines for the minimum land-to-population ratio also feature a local urbanization rate higher than 30%.

It may be objected that this approach is another repercussion of the erroneous assumption that the Roman towns functioned like agro-towns. Indeed, this model has originally been devised for the Bronze Age and Iron Age centres in the eastern Mediterranean and the Near East.<sup>551</sup> We adopted the approach without major modifications, not because we believe that most of the urban residents plowed their own fields, but to account for the fact that a given proportion of the agricultural territory was owned directly by the urban

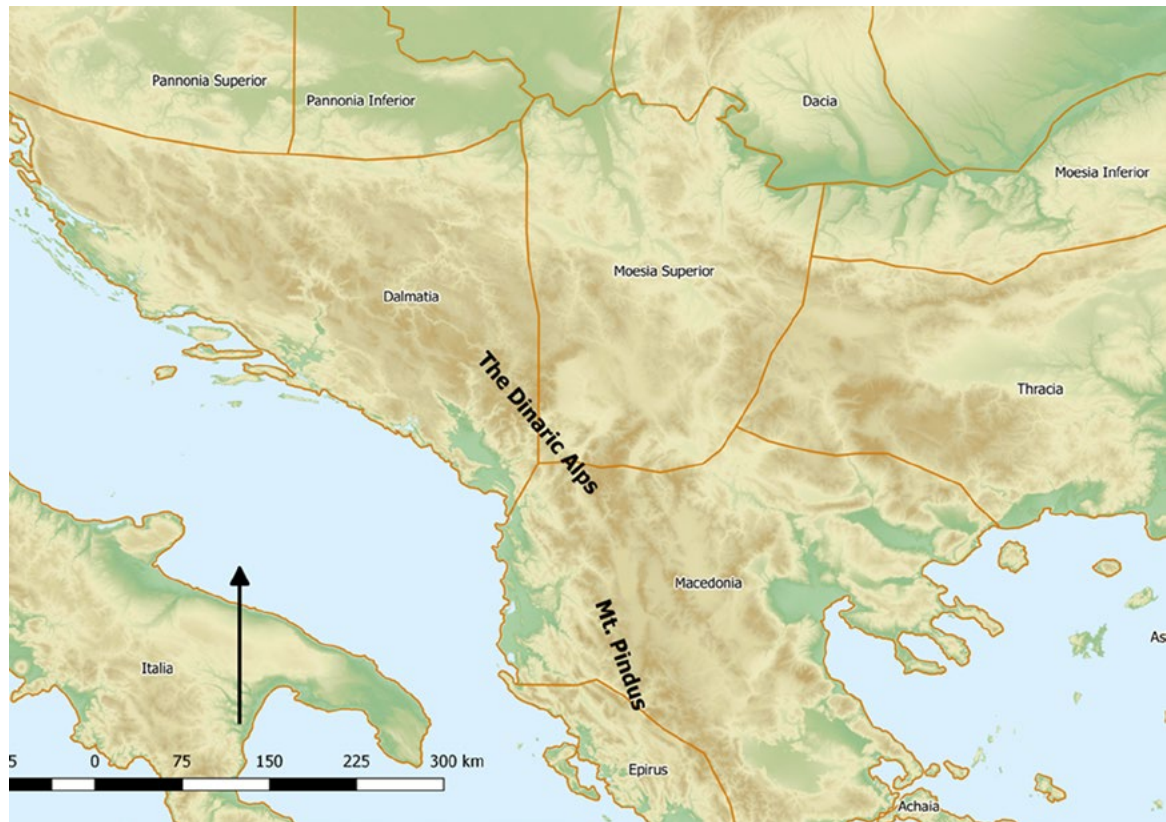
residents. A distinction has to be made between the land property of the urban elite and the land that fell within the market radius of the central place but was owned by the rural communities. This is more closely related to the agrarian relations in the urban hinterlands than to the local urbanization rate, although these two parameters are essentially inseparable. In the core segment of the catchment area a larger proportion of the agricultural produce stood at disposal of the urban dwellers than in the peripheral belt, in which only a small proportion of the harvest was set aside for urban consumption through the market or taxation. We have no means of learning how much of the land within the extended catchment radius belonged to the urban elite. Presumably it was much greater than the area enclosed by the farming radius, but because this land would have been likewise exploited by means of hired labor, tenant farmers or sharecroppers, we have decided to limit our zone of total urbanization to the five-km catchment radius. This is not an attempt to model the settlement pattern at increasing distances from the central place, but a rough approximation of the variable agrarian relations in the area enclosed by the market radius.

It does not take much to add another trend-line in the graphs correlating urban population size and agricultural territories. This trend-line shall mark the minimum land-to-population ratio at constant urbanization rates of 10, 20 or 30%, depending on the province. These can be inferred from the average district rates for the individual provinces. It is difficult to agree with the principle assumption behind this approach, even though it is simpler in comparison to that described in the preceding paragraph. Constant urbanization rates across the entire market catchment would imply that population density increased from the periphery to the centre of the urban hinterlands. As we shall shortly see, this will result in a substantial increase in the number of towns that are too large for their theoretical hinterlands.

In order to keep this chapter within human proportions, only the optimum scenario – minimum population figures and ten/15-km catchment radii – will be discussed in greater detail. The maximum size-estimates will be considered only if they are judged to be more reliable than the conservative size-estimates. Doubtless, if higher population figures or smaller catchment radii are advanced, there will be quite a few settlements that will fall just above the trend-line for the minimum land-to-population ratio. But only the settlements that exceed this threshold by a greater margin will remain unsustainable by the resources available in their immediate hinterlands, no matter the values of the parameters considered.

<sup>550</sup> Bintliff 2002b, 159. This amounts to projecting twice as many people in the rural districts as in the urban centre, a figure that is too low for most of the western provinces of the Roman Empire, in which the urbanization rate is normally estimated at not more than ten to 15% of the total population: Scheidel 2007, 38-86; Wilson 2011, 161-195; De Ligt 2012. See Hanson 2016, fn. 657, for a full bibliography.

<sup>551</sup> Bintliff 2002b, 157-159.



Map V 2: The western Balkans, geography and administrative divisions.

### Upper Macedonia and Epirus

In location and geography, this region belongs to the southwestern part of the Balkan Peninsula. It is predominantly mountainous country, composed of the southern half of the Dinaric-Pindus Range. (Map V\_2)<sup>552</sup> However, in comparison to Dalmatia, the relief is less rugged. The mountain masses are broken up by the numerous plateaus and high fluvial plains, many of which are very fertile and relatively large. There are considerable regional variations. The earlier observation, for example, is valid for the eastern half of the province, that is the Vardar Valley, but not for northern Albania or Epirus in which the major rivers flow through narrow gorges, leaving little room for cultivable land on the valley floors.<sup>553</sup> The Albanian coastal plains represent yet another geographical zone.<sup>554</sup> These are fairly extensive sections of flat land, but they are poorly drained and, as in the Danube provinces, considerable areas were marshy. This problem is not limited to the coastal zone. Flooding has hampered the agricultural potential along the major rivers in the interior of the country. Nowadays, these areas have been drained and are intensively cultivated

and hence it is very difficult to take a precise account of their extents. Hopefully, they were limited to narrow belts along the major rivers and consumed only minor sections of the presently arable land.

The other natural aspects in this province were favourable. The soils, climate and hydrography guaranteed the agricultural riches of the regions that belonged to the part Roman Macedonia studied. Apart from the hilly or mountainous terrain and poor drainage, the only other possible hindrance to the full exploitation of the theoretical hinterlands was the very close spacing of the towns, especially pronounced in northern Epirus and in the Middle Vardar Valley. As it is not always possible to decide which settlements were autonomous and which were subordinate central places, we proceeded by making alternative estimates: one assuming that the problematic settlements were autonomous, the other that they belonged to the territory of the nearest town. Obviously, the differences between the alternative estimates are dramatic, but in none of these cases does the lower figure challenge the sustainability of the settlements analyzed.

That the arable surfaces cover less than 50% of the hinterlands in over two-thirds of the cases is hardly

<sup>552</sup> The Naval Intelligence Division 1945.

<sup>553</sup> The Naval Intelligence Division 1920b, 9-36.

<sup>554</sup> The Naval Intelligence Division 1945, 73-83.



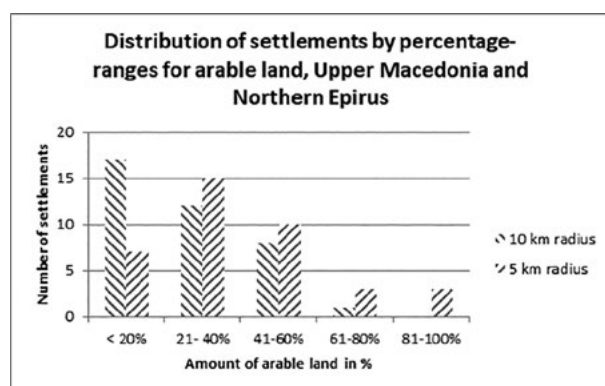


Figure V 1: Distribution of settlements across percentage ranges for arable land within the ten- and five-km catchment radii in Upper Macedonia and Northern Epirus.

surprising in view of the geography of this province.<sup>555</sup> However, we did not anticipate that the agricultural potential, expressed in percentage, would decrease so sharply when the catchment radius is extended to ten km. (Figure V\_1) In both scenarios, there is a roughly equal number of settlements in control of hinterlands with average agricultural potential – that is 21-60% of the catchment. However, the number of settlements with agricultural potential lower than 20% is visibly decreased in the five-km catchment radius and there is a slight increase in the number of settlements that belong to the other end of the spectrum. The mountainous geography of the area means that the extension of the catchment radius is more likely to include uncultivable stretches rather than new arable land. Only in the case of seven settlements did the extended theoretical hinterland increase the percentage of arable land, in three of which the increment was marginal, that is smaller than five percent. Even in absolute terms, the extended catchment radii add relatively small amounts of arable surface. Almost one-half of the settlements gain less than 40-50 square kilometres of arable land in the extended catchment radius. This result suggests that proximity to arable land was a major factor in the geographical distribution of the towns and settlements in Upper Macedonia and Northern Epirus.

There are no apparent correlations between the various settlement categories and the amount of arable land in their hinterlands. This relationship has possibly been scrambled by a number of small, subordinate settlements, like the anonymous hill-top site near Symizë in the Korça Plain, the road-side vicus of Ad Scampsas or the unnamed agglomeration near modern Krupište in the Bregalnica Valley. These were subordinate settlements whose extent in the period

of the High Empire is uncertain.<sup>556</sup> On account of their well-chosen micro-locations, at least 50% of their catchment areas were arable. This could very well be an effect of the limited data-set. We are not sure if these were the only agglomerations within the ten- or even the five-km catchment radii. In view of their tiny size and the concomitant lack of conspicuous remains, it is likely that they had to share the excellent agricultural potential of their surroundings with other, hitherto unknown, settlements of similar rank and size.

With a few exceptions, most of the autonomous towns were in control of hinterlands that were at least 20% arable. It is difficult to make further distinctions between the *poleis*, although it should be stressed that most of the settlements that were promoted to colonies or *municipia* or included sizeable communities of Roman citizens – Bylis, Heraclea Lyncestis, Stybera, Stobi – enjoyed access to large agricultural territories. However, there are a number of exceptions, like Dimalë or Antipatrea, peregrine communities that in all likelihood declined after the Roman conquest, even though their micro-locations guaranteed large arable surfaces. The settlement in control of the most fertile catchment was the Greek colony of Apollonia that jealously guarded its ancient traditions until the end of Antiquity.

The theoretical local urbanization rates in the parts of Roman Macedonia and Epirus included in this study vary greatly from settlement to settlement. (Table V\_1) Excluding a group of small communities with uncertain size-estimates, either located on the northern Epirote coast or in the mountainous parts of the province, there is an apparent positive correlation between settlement size and the local urbanization rate. In nearly all of the hinterlands of the major towns mentioned in the preceding paragraph, the local urbanization rate was higher than 30%, even with the minimum size-estimates. In the surroundings of the minor *poleis* and secondary agglomerations, the urbanization rates barely exceeded 20%. Only the community of Dyrrhachium, the top-ranking settlement in this province, was much larger than the rural community potentially residing in its hinterland. If the maximum size-estimate is accepted, the urban population of Dyrrhachium was already visibly larger than the agricultural capacity of its hinterland. Taking the optimistic estimate, this town was 75% larger than the maximum carrying-capacity of the land within the ten-km catchment radii. The average district urbanization rate in this part of the study-area is 33% for the minimum estimate, over 42% for the maximum estimates. Most of Roman Macedonia belonged to an urban tradition that was closer to the Greek *polis* than to the Roman *municipium*.

<sup>555</sup> Cf. De Angelis 2000, 138-141.

<sup>556</sup> Symize: Andrea 1984, 71-88; Ad Scampsas: Ceroval 1997, 285-304; Krupište: Mikulčić 1999.



Table V 1: Theoretical urbanization rates in the market catchments – ten km – of the towns and settlements in Upper Macedonia and Northern Epirus; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern  | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|---------------------------|----------|----------|----------|----------|
| Apollonia-Fier            | 74.07%   | 62.04%   | 59.26%   | 49.63%   |
| Styberra_Čepigovo         | 13.04%   | 8.48%    | 10.43%   | 6.78%    |
| Unknown-Capar, Krupiste   | 3.28%    | 3.69%    | 2.62%    | 2.95%    |
| Scamps_Elbasan            | 15.00%   | 4.50%    | 12.00%   | 3.60%    |
| Dimale-Kerkinë,           | 27.50%   | 27.50%   | 22.00%   | 22.00%   |
| Antipatrea-Berat          | 13.50%   | 13.50%   | 10.80%   | 10.80%   |
| Unknown_Kozuf             | 11.54%   | 2.54%    | 9.23%    | 2.03%    |
| Unknown_Symizë            | 11.54%   | 1.73%    | 9.23%    | 1.38%    |
| Bylis-Hekal               | 70.71%   | 64.29%   | 56.57%   | 51.43%   |
| Albanopolis_Kruië         | 11.11%   | 11.11%   | 8.89%    | 8.89%    |
| Heraclea Lyncestis_Bitola | 14.81%   | 6.76%    | 11.85%   | 5.41%    |
| Ceramae_Prilep            | 7.50%    | 1.25%    | 6.00%    | 1.00%    |
| Antigonea_Negotino        | 8.30%    | 3.30%    | 6.64%    | 2.64%    |
| Stobi_Gradsko             | 42.86%   | 28.57%   | 34.29%   | 22.86%   |
| Astraion_Šopur            | 16.30%   | 16.30%   | 13.04%   | 13.04%   |
| Epidamnos_Durrës          | 176.25%  | 90.00%   | 141.00%  | 72.00%   |
| Phoinike_Finiq            | 65.63%   | 33.75%   | 52.50%   | 27.00%   |
| Unknown_Tremnik           | 35.63%   | 26.25%   | 28.50%   | 21.00%   |
| Pelagonia_Mojno           | 15.00%   | 15.00%   | 12.00%   | 12.00%   |
| Eidomenae_Isar Marvinci   | 12.95%   | 11.05%   | 10.36%   | 8.84%    |
| Hadrianopolis_Gjirokastra | 25.71%   | 17.14%   | 20.57%   | 13.71%   |
| Unknown_Sandanski         | 50.00%   | 37.50%   | 40.00%   | 30.00%   |
| Alkomenai_Bučin           | 51.43%   | 51.43%   | 41.14%   | 41.14%   |
| Butrint-Butrint           | 64.29%   | 64.29%   | 51.43%   | 51.43%   |
| Eudaristos_Drenovo        | 31.10%   | 21.95%   | 24.88%   | 17.56%   |
| Neine_Ilindenci           | 11.45%   | 11.45%   | 9.16%    | 9.16%    |
| Unknown_Suvodol           | 18.07%   | 18.07%   | 14.46%   | 14.46%   |
| Amantia                   | 48.75%   | 48.75%   | 39.00%   | 39.00%   |
| Lychnidus_Ohrid           | 36.67%   | 36.67%   | 29.33%   | 29.33%   |
| Orikum_Pasha Limani       | 45.00%   | 15.00%   | 36.00%   | 12.00%   |
| Argos_Vodovrati           | 35.00%   | 20.00%   | 28.00%   | 16.00%   |
| Stenae_Demir Kapija       | 42.86%   | 12.86%   | 34.29%   | 10.29%   |
| Neapolis_Stari Grad       | 9.50%    | 8.75%    | 7.60%    | 7.00%    |
| Castra_Dolenci            | 17.14%   | 4.29%    | 13.71%   | 3.43%    |
| Zgurbita_Zgropolci        | 19.74%   | 10.53%   | 15.79%   | 8.42%    |
| Unknown_Vitoliste         | 150.00%  | 150.00%  | 120.00%  | 120.00%  |
| Onchesmos_Saranda         | 132.86%  | 132.86%  | 106.29%  | 106.29%  |
| Dostonei_Kalen            | 85.71%   | 75.00%   | 68.57%   | 60.00%   |
| Avg                       | 40.05%   | 30.74%   | 31.83%   | 24.58%   |

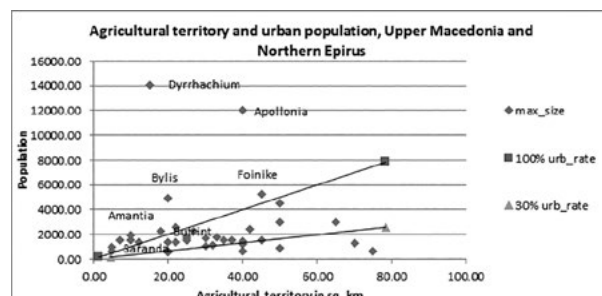


Figure V 2: Population figures and estimates of arable land within the five-km catchment radius for Upper Macedonia and Northern Epirus.

Figure V 2 is a testimony to the favourable location of most of the towns and settlements the part of Roman Macedonia that belongs to the study-area. Even with the maximum size estimates, only a handful of towns were too large for the agricultural resources lying within the five-km catchment radius. A group of smaller *poleis* and port-towns are placed just above the trend-line for the minimum land-to-population ratio, but for many of these, the maximum size-figures are not particularly reliable. Obviously, this observation is valid only if we assume that most of the population in the five-km catchment radius was concentrated in the central place. If 30% urbanization rate is postulated, the situation would be completely reversed and over-three quarters of the settlements would have become unsustainable. This would imply that, despite the centuries-long tradition of agro-towns in the area, most of the settlements were too big to function as simple agrarian communities.

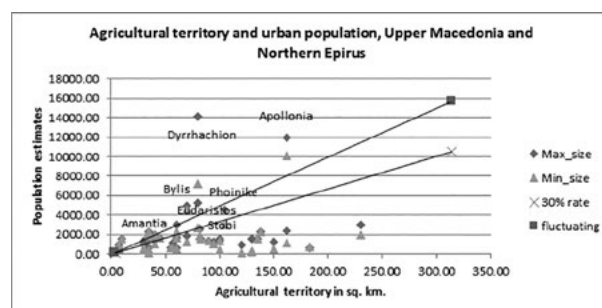


Figure V 3: Population figures and estimates of arable land within the ten-km catchment radius for Upper Macedonia and Northern Epirus

With population figures based on the minimum size-estimates, extended catchment radii and fluctuating urbanization rates, the great majority of the towns and settlements in Roman Macedonia would have been small enough to live off the resources available locally (Figure V 3). As suggested by the projected local urbanization rates, only the top-ranking settlements in the province clearly exceeded the agricultural potential of their extended hinterlands. Dyrrhachium

is joined by the second Greek colony Apollonia and a few settlements positioned in the bottom left corner of the graph, but these were tiny agglomerations, located in the agriculturally marginal parts of the province. The group includes small ports of call, like Orikum and Onchesmos, possibly compensating for the grain deficiencies in their territories by their profits from maritime trade and fishing,<sup>557</sup> and the assumed centres of the *koina* of Upper Macedonia, in which only minor adjustments in the size of the settlement or the arable land could shift the settlement below the trend-line.<sup>558</sup> One of these sites is a possible mining settlement on the Moriovo Plateau.<sup>559</sup> If this was proved, it would confirm our predictions that the settlements with a pronounced non-agricultural component are likely to be oversized in relation to their immediate hinterlands, but the size-estimate for the site in question is anything but certain. Most of the *poleis* that constituted the second tier of the settlement hierarchy are placed below the trend-line for the minimum land-to-population ratio.

Allowing for the possibility that the settlements grew to their maximum extent, a number of *poleis* come close to or are shifted slightly above the trend-line, whereas Dyrrhachium climbs far above the threshold for the minimum land-to-population ratio. Most of the towns that come close to exceeding the limits of the agricultural potential in their hinterland were major *poleis*, like Bylis, Foinike or Stobi. That they are joined by a few obscure towns – Eudaristos or Amantia – can be entirely attributed to the unlikely maximum size-estimates. It has to be acknowledged that all of these settlements were autonomous towns but, as we shall see in the next chapter, their administrative territories were not much larger than the territories enclosed by the market radius. They could therefore rely only on a very limited amount of resources from beyond the ten-km radii.

Note that when the district urbanization rate is fixed at 30% and the maximum size-estimates are used, most of the larger *poleis* in the interior of the province, alongside the small coastal settlements, would have become oversized in relation to the local agricultural resources. Moreover, a number of smaller towns would have come very close to the trend-line for the minimum land-to-population ratio. If the theoretical urbanization rates for the urban hinterlands are lowered, the fact that so many settlements would have struggled to secure their survival by the local resources cannot be readily explained. Insisting on constant local urbanization rate of 30% would either entail population densities lower than 150 inhabitants per hectare or lower size-figures.

<sup>557</sup> Orikum: Kumi 1989, 277-278; Onchesmos: Lako 1986, 279-281.

<sup>558</sup> Papazoglou 1988a; Nigdelis, Souris 1997, 55-64; Mikulčić 1999. It is also possible that population density was lower than 150 inhabitants per hectare in these settlements. See, fn. 543-544.

<sup>559</sup> Mikulčić 1999, 91-93.

Indeed, in the minimum size-estimate, the number of settlements that fell above the trend-line for the minimum land-to-population ratio is unchanged.

It is all the more unfortunate that there are very little or no data about the settlement patterns in the hinterlands of these towns. Among the few exceptions is Phoinike, in Epirus, at which the Italian mission has carried out a systematic survey of the area to the north and east of the town.<sup>560</sup> Notwithstanding the ambiguous nature of these data, it is evident that the hinterland of the town underwent an intensive agricultural exploitation, beginning with the Hellenistic period and continuing under the Roman Republic and Early Empire. The great majority of the sites measured less than 0.5 ha and can only be interpreted as farms or *villae*.<sup>561</sup> This interpretation is further supported by the finds of isolated funerary monuments, evidently private mausoleums associated with these estates. Most of the sites whose character is securely determined are located within the five-km catchment radius from the town, but the significance of this observation is diminished by the unknown scope and intensity of the survey.

At least in the case of Phoinike, it seems that the town's primary occupation was agriculture. There is hardly any evidence of the importance of other, non-agricultural activities. Foinike remained a land-locked community and its relations with the nearest port-town, Onchesmos, are unclear. In Late Antiquity, the latter became a bishopric while Phoinike apparently declined, although it maintained its independent status.<sup>562</sup> It is possible that the large size of the town in relation to its immediate hinterland reflects the situation in the pre-Roman period, when Phoinike was the capital of the *koinon* of the Chaonians.<sup>563</sup> As long as this arrangement was in place, the town could presumably draw on additional resources from the territories of the neighbouring *poleis*.

The research carried out in the hinterland of Apollonia is particularly important, as it covered a substantial portion of the city's immediate hinterland.<sup>564</sup> Thanks to this shard-based ceramic survey, it was possible to observe a number of important specifics that were obscured in the Phoinike surveys. In Apollonia too, a

<sup>560</sup> Giorgi 2003, 91-97; Giorgi *et al.* 2005, 195-210.

<sup>561</sup> Cf. Jameson *et al.* 1994; Mee, Forbes 1997; size of Roman and Late Roman *villae*, Mulvin 2004, 377-411; Potter 1979.

<sup>562</sup> Onchesmos: Lako 1986, 281; Lako, Muçaj, Bushi and Xhyheri 2014, 613-625; Foinike: De Maria 2012, 27-53.

<sup>563</sup> Budina 1986, 111-121.

<sup>564</sup> It should be pointed out that this research was focused on the rugged area to the east and south of the colony, because it was feared that the coastal section of the hinterlands would not have offered favourable settlement locations. However, probing transects in the direction of the sea have revealed both an extensive carpet of off-site material and discrete clusters of finds. Davis *et al.* 1998-2002.

network of farms and *villae* in the immediate hinterland of the town had been established by the Hellenistic period and continued into the Roman period. However, the study of the pottery collected demonstrates a sharp decline in the period following the Roman conquest, both in the overall number of shards and in the number of farms. The findings of this project confirm our suspicions about the maximum size-figures for Roman Apollonia. Here, as in many other towns in Epirus and in the territory of the old Illyrian kingdom, the size-figure refers to the walled area in the Hellenistic period. If Apollonia shrank in size after the Roman conquest, while formally maintaining the old urban limits, the sustaining of the town from its own hinterland would not have presented a problem, and the evidence of less intensive exploitation of the countryside becomes more intelligible.<sup>565</sup>

In the case of Dyrrhachium, neither the increased catchment radius nor the minimum estimate for the built-up area relieve the pressure on the agricultural potential of the urban hinterland. Located close to a promontory and surrounded by the sea on two sides, the agricultural potential of this town was inevitably limited to a fraction of its theoretical hinterland. Moreover, the coastal plain that constitutes the hinterland of Dyrrhachium was covered by extensive marshes until the middle of the 20th century. The limited size of the agricultural territory, but also malaria and other paludal diseases, hindered the growth of Ottoman and Early Modern Durrës. There are indications of a more favourable hydrology in the area prior to Late Antiquity, but without a focused palaeo-environmental research programme there is no way of evaluating the impact of this factor.<sup>566</sup>

Both the historical and archaeological evidence suggest that the agricultural deficiencies of Dyrrhachium's hinterland were at least compensated in part by the important role of this town in the maritime traffic between Italy and the Balkans. The historical sources mention the bustling ports of Dyrrhachium, stressing its outward-looking and international character in contrast to the neighbouring Greek colony of Apollonia.<sup>567</sup> At the time of the Roman conquest and subsequent expansion in the interior of the Balkan Peninsula, Dyrrhachium was the principal military and economic base of the expanding Republic and enjoyed access to the agriculture produce of an area much larger than its immediate hinterland.<sup>568</sup>

However, there were other solutions to the meagre agricultural potential in the hinterland of this town. As we shall demonstrate in the next chapter, scant though epigraphic evidence is, it suggests that Dyrrhachium had a vast administrative territory, extending into the lower and middle course of the Shkumbini. (Map V\_3)<sup>569</sup> This territory contained sizeable stretches of arable land, and a moderately populated countryside could produce enough surpluses to compensate for the shortcomings of Dyrrhachium's immediate surroundings. In fact, even if the administrative territory is limited to the coastal plain, covering an area of over 240 square kilometers of arable land, the agricultural potential of Dyrrhachium looks much brighter. On any view, it is likely that this important trade-hub had access to resources brought in from a territory much larger than that enclosed by the ten-km market radius.

The survey of the agricultural territories of the towns in Northern Epirus and Upper Macedonia allows us to make a few general observations. The great majority of the settlements in the area were of a size that did not necessitate very extensive hinterlands. Less than ten percent of all settlements included in this study required an area larger than that enclosed by the five-km radius to satisfy their sustenance needs. In this respect, most of the towns and town-like agglomerations of the part of Roman Macedonia studied fall within the same range as the so called *Dorfstadt* – a settlement of at least 500 inhabitants and a territorial radius ranging between two and five kilometres.<sup>570</sup> If they are to be judged solely by their size and micro-locations, – inevitably other evidence is wanting – the towns of northern Epirus and Upper Macedonia were ideally poised to act as agro-towns.<sup>571</sup> They were by all standards small, but their micro-locations were well chosen, with a clearly agricultural focus. To some extent, this pattern was dictated by the physical geography. The niches exploited by these towns offered a limited amount of land and the high, inhospitable mountain ranges made the exploitation of the neighbouring niches logistically demanding and economically unviable. Hence, a large territory often brought little benefit in terms of the expansion of the agricultural potential. Under these conditions, the pronouncedly modular pattern of settlements of a similar size is hardly surprising.

Dyrrhachium during the Late Republic, Mitrea 1983, 23-31.

<sup>569</sup> Anamali, Ceka, Deniaux eds 2007; see Chapter Six.

<sup>570</sup> Bintliff 2002b, 158.

<sup>571</sup> As explained in the introductory section, many scholars would argue that the agro-town or *Dorfstadt* has no place in the Roman Empire, see fn. 527-528. Even for the towns in the Roman East – representing the prototype of the *Dorfstadt* – there is evidence suggesting that they had become more elite-dominated by the Hellenistic period, and this trend continued after the Roman conquest, Alcock 1993; Bintliff 2014, 49-53. This does not necessarily contradict our observations on the siting of these towns. Their micro-locations indicate that these settlements were founded as agro-towns, even if their socio-economic profile changed in later centuries.

<sup>565</sup> Evidence of abandonment of parts of the built-up area of the Classical and Hellenistic town: Lamboley *et al.* 2012.

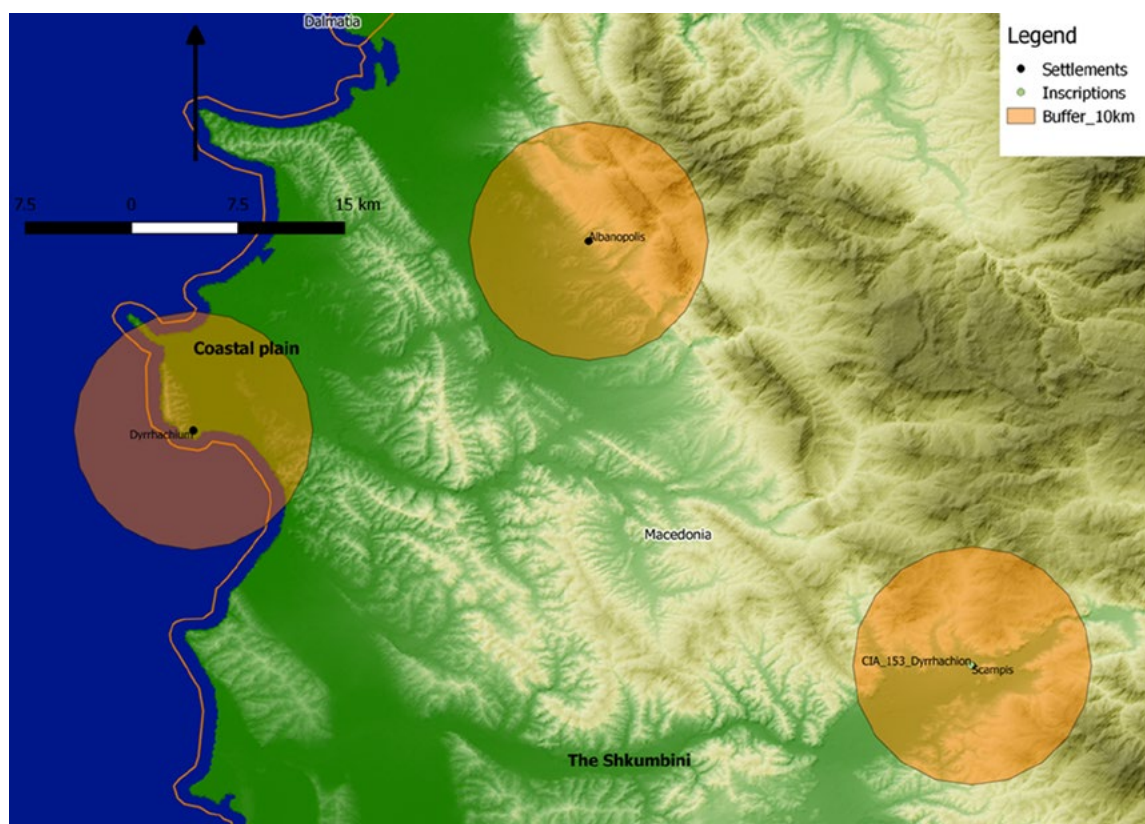
<sup>566</sup> That the hydrological conditions in Antiquity were more favourable than in later periods is indicated by the archaeological finds in the area to the northeast of the urban core and the analysis of the pollen record from the excavations in the amphitheatre; Myrto 1989, 89-109; Santoro 2008, 9.

<sup>567</sup> Cabanes, Drini eds 1995.

<sup>568</sup> Most clearly reflected in the spread of the *tetradrachms* issued in







Map V 3: Dyrrhachium and its territory.

There is very little evidence of large-scale non-agricultural economies in the towns of Roman Macedonia included in this study. With the exception of Dyrrhachium, the economic interest of these communities did not reach beyond the regional horizon. What determined growth or at least a status-distinction was the favourable geographical location in the context of regional politics. A town like Stobi, conveniently located at the crossing of two interregional roads and close to the provincial frontier, obviously benefited from these circumstances and it outshone its neighbours, although it did not outgrow them by a very large margin. The same can be said of Dyrrhachium, only slightly larger than Apollonia if the maximum size-estimates are accepted. In this respect, it could be argued that the agricultural potential did set the outer limits of urban growth in this part of the study area.

### Dalmatia

Roman Dalmatia was a land of mountains.<sup>572</sup> In certain parts of the province, especially its southern half, over 80% of the territory is taken up by the Dinaric Alps. The agricultural potential of this province is further undermined by its geological framework. The arable

land is scattered across hundreds of tiny high plains, separated by extensive stretches of barren, waterless karst. Even on the plateaus, agricultural productivity is potentially diminished by the frequent floods, caused either by heavy downpours or the melting of snow in late spring. In comparison to Albania, the Dalmatian coast is much narrower. With a few exceptions, like the Ravni Kotari in modern Croatia, the coastal plains are small or simply non-existent. This grim sketch of the country's agricultural potential is to a certain degree moderated by the fertility of the large valleys running through the northern half of Dalmatia, in present-day Bosnia. However, it is as well to remember that there were very few traces of Early Roman urbanism in this part of the province. These relatively fertile areas were either attached to the mining districts or remained under military control.<sup>573</sup>

It can be argued that this perspective underestimates the food-producing capacity of Dalmatia by ignoring the importance of animal husbandry and maritime resources, not to mention the possible gains in cultivable land by the terracing of the hilly zone.<sup>574</sup> A large proportion of the cultivated land in the coastal

<sup>573</sup> See Chapter Six.

<sup>574</sup> Škegro 2006, 149-173; Begović-Dvoržak, Schrunck-Dvoržak 2004, 65-91.

<sup>572</sup> The Naval Intelligence Division 1944a, 43-85; Wilkes 1969.





Map V 4: Traces of centuriation in the hinterland of Iader.

district was laid down to olives and vines, although evidence of the export of these products to other provinces has not yet been found. Moreover, in some corners of the province, it is clear that erosion has washed away a significant portion of the arable land available in Antiquity.<sup>575</sup> A stark illustration of this tendency can be found in the hinterland of Iader, in which the traces of centuriation are spread out over a now barren area. (Map V\_4)

The fact remains that the region had a low grain-producing capacity. According to an agricultural survey of the area carried out immediately after World War I, only about ten percent of the territory of Dalmatia was cultivated, a visibly lower percentage compared to the extent of the plough-zone in the rest of the western Balkans.<sup>576</sup> It has to be stressed that the study refers to the Austro-Hungarian province of Dalmatia. Bosnia and Herzegovina and Montenegro are treated separately in the cited study, complicating any direct comparison. Nonetheless, according to the same source, all three regions of Roman Dalmatia were grain-importing regions in the early decades of the 20th century.

As in Macedonia, large portions of Roman Dalmatia belong to the belt of pre-Roman urbanism, with intercity

distances shorter than 20 km. This circumstance shrinks the agricultural potential in the hinterlands of individual towns even more.

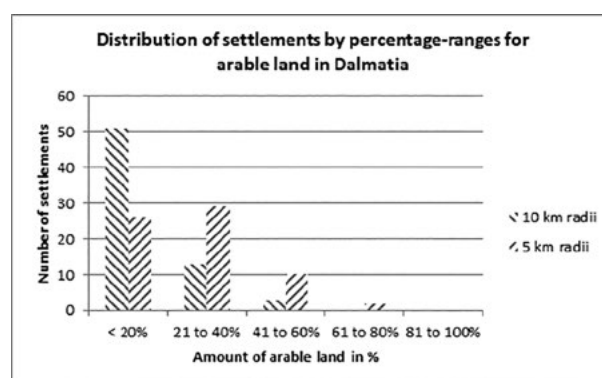


Figure V 4: Distribution of the towns and settlements across percentage ranges for arable land within the ten- and five-km catchment radii in Dalmatia.

Because of the relatively small extent and dispersed character of the arable land in Dalmatia, the extension of the catchment radii rarely results in substantial gains of cultivable surface (Figure V 4). This is even more sharply pronounced than in Macedonia, in which in some cases at least, the extended hinterland guaranteed the survival of the central place. For Roman

<sup>575</sup> Chapmann, Shiel, Batović, 1996, 23-24.

<sup>576</sup> Louis 1924; The Naval Intelligence Division 1944b, Figures 15, 16.

Table V 2: Theoretical urbanization rates in the market catchments – ten km – of the towns and settlements in Dalmatia; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern  | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|---------------------------|----------|----------|----------|----------|
| Castra Banja Luka         | 3.06%    | 1.02%    | 2.45%    | 0.82%    |
| Unknown Drenovik          | 15.00%   | 1.50%    | 12.00%   | 1.20%    |
| Haedum Breza              | 7.50%    | 1.50%    | 6.00%    | 1.20%    |
| Unknown Dobo              | 6.92%    | 2.31%    | 5.54%    | 1.85%    |
| Aquae S Ildija            | 18.38%   | 2.94%    | 14.71%   | 2.35%    |
| Arausa Zaton              | 6.92%    | 2.31%    | 5.54%    | 1.85%    |
| Unknown Beretinova        | 5.29%    | 1.76%    | 4.24%    | 1.41%    |
| Unknown Vishnjica         | 8.33%    | 1.67%    | 6.67%    | 1.33%    |
| Unknown Promina           | 30.51%   | 2.54%    | 24.41%   | 2.03%    |
| Olcinium Ulcinj           | 26.47%   | 8.82%    | 21.18%   | 7.06%    |
| Scardona Scradin          | 75.00%   | 4.69%    | 60.00%   | 3.75%    |
| Stanecli Mali Mosunj      | 16.67%   | 4.17%    | 13.33%   | 3.33%    |
| Malvesiatum Skelane       | 37.50%   | 12.50%   | 30.00%   | 10.00%   |
| Unknown Vinjani           | 25.00%   | 5.00%    | 20.00%   | 4.00%    |
| Unknown Vojlavica         | 38.66%   | 7.73%    | 30.93%   | 6.19%    |
| Blandona Kakma            | 11.03%   | 8.82%    | 8.82%    | 7.06%    |
| Arupium Otocac            | 34.62%   | 11.54%   | 27.69%   | 9.23%    |
| Bistue Vetus Tomislavgrad | 36.00%   | 12.00%   | 28.80%   | 9.60%    |
| Unknown Velecevo          | 42.45%   | 14.15%   | 33.96%   | 11.32%   |
| Magnum Umljanovic         | 73.33%   | 10.00%   | 58.67%   | 8.00%    |
| Unknown Crvenica          | 136.36%  | 13.64%   | 109.09%  | 10.91%   |
| Unknown Kacunj            | 42.45%   | 5.66%    | 33.96%   | 4.53%    |
| Varvaria Bribir           | 60.00%   | 20.00%   | 48.00%   | 16.00%   |
| Metulum Skradnik          | 14.15%   | 14.15%   | 11.32%   | 11.32%   |
| Nedinum Nedan             | 24.73%   | 16.48%   | 19.78%   | 13.19%   |
| Scodra Scadar             | 33.33%   | 13.33%   | 26.67%   | 10.67%   |
| Bouthoe Budva             | 75.00%   | 15.00%   | 60.00%   | 12.00%   |
| Corinium Karin            | 60.00%   | 15.00%   | 48.00%   | 12.00%   |
| Raetinium Golubic         | 21.82%   | 19.09%   | 17.45%   | 15.27%   |
| Pharos Stari Grad         | 75.00%   | 15.00%   | 60.00%   | 12.00%   |
| Asseria Podgradje         | 21.82%   | 15.00%   | 17.45%   | 12.00%   |
| Bistue Nova Bugojno       | 29.19%   | 23.51%   | 23.35%   | 18.81%   |
| Monetium Brinje           | 95.45%   | 31.82%   | 76.36%   | 25.45%   |
| Avendo Kompolje           | 88.24%   | 17.65%   | 70.59%   | 14.12%   |

| Name, ancient and modern   | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|----------------------------|----------|----------|----------|----------|
| Tilurium Gardun            | 44.44%   | 22.22%   | 35.56%   | 17.78%   |
| Novae Runovici             | 34.38%   | 34.38%   | 27.50%   | 27.50%   |
| Setovia Sinj               | 21.00%   | 6.00%    | 16.80%   | 4.80%    |
| Leusaba Mrkonjic Grad      | 50.00%   | 25.00%   | 40.00%   | 20.00%   |
| Aequum Citluk              | 63.16%   | 51.32%   | 50.53%   | 41.05%   |
| Epidaurum Cavtat           | 75.00%   | 37.50%   | 60.00%   | 30.00%   |
| Unknown Kolovrat           | 46.05%   | 31.58%   | 36.84%   | 25.26%   |
| Municipium Ris... Rogatica | 41.38%   | 41.38%   | 33.10%   | 33.10%   |
| Burnum Ivoevci             | 63.83%   | 35.11%   | 51.06%   | 28.09%   |
| Lissus Ljesh               | 46.15%   | 41.54%   | 36.92%   | 33.23%   |
| Agruvium Kotor             | 75.00%   | 15.00%   | 60.00%   | 12.00%   |
| Aenona Nin                 | 59.06%   | 45.00%   | 47.25%   | 36.00%   |
| Risinium Rizan             | 105.00%  | 30.00%   | 84.00%   | 24.00%   |
| Salthua Rjecani            | 90.00%   | 15.00%   | 72.00%   | 12.00%   |
| Unknown Ustikolina         | 77.78%   | 11.11%   | 62.22%   | 8.89%    |
| Baloie Sipovo              | 72.92%   | 18.75%   | 58.33%   | 15.00%   |
| Iader Zadar                | 56.47%   | 38.82%   | 45.18%   | 31.06%   |
| Narona Vid                 | 65.79%   | 44.74%   | 52.63%   | 35.79%   |
| Delminium Borcani          | 150.00%  | 30.00%   | 120.00%  | 24.00%   |
| Rider Danilo               | 66.96%   | 21.43%   | 53.57%   | 17.14%   |
| Doclea Podgorica           | 51.32%   | 37.89%   | 41.05%   | 30.32%   |
| Pardua Gradac              | 107.14%  | 32.14%   | 85.71%   | 25.71%   |
| Salvium Halapic            | 68.57%   | 64.29%   | 54.86%   | 51.43%   |
| Unknown Vrba               | 225.00%  | 75.00%   | 180.00%  | 60.00%   |
| Municipium S Komini        | 40.38%   | 40.38%   | 32.31%   | 32.31%   |
| Alveria Bjelina            | 150.00%  | 60.00%   | 120.00%  | 48.00%   |
| Diluntum Stolac            | 120.00%  | 25.00%   | 96.00%   | 20.00%   |
| Domavium Srebrenica        | 36.29%   | 16.94%   | 29.03%   | 13.55%   |
| Salona Solin               | 225.00%  | 165.63%  | 180.00%  | 132.50%  |
| Issa Vis                   | 225.00%  | 171.43%  | 180.00%  | 137.14%  |
| Ansium Obrovac             | 150.00%  | 75.00%   | 120.00%  | 60.00%   |
| Sidrona Medvidja           | 150.00%  | 120.00%  | 120.00%  | 96.00%   |
| Andertium G. Muc           | 50.00%   | 12.50%   | 40.00%   | 10.00%   |
| Avg                        | 62.68%   | 27.53%   | 50.14%   | 22.02%   |

Dalmatia, it is evident that the extended catchment radius decreased the percentage of arable land in the hinterland. Over 90% of the settlements have a less than 40% arable surface in their hinterlands when the catchment radius is increased to ten-km. This percentage drops to 80% with the five-km radius, and at the same time, the number of settlements whose

agricultural territory makes up at least half of their theoretical hinterland rises to nearly 20%. With the ten-km radii, only two settlements have agricultural potential higher than 50%. In only two of the Dalmatian settlements is there an increase in the percentage of arable land when the catchment radius is extended to ten-km and, even in these cases, the gain is truly

marginal, hardly exceeding five percent. It is important to mention that one of these settlements is Domavia, the administrative centre of the silver mining district in the east of the province. In absolute numbers, no more than 12 settlements gain over 50 square kilometres of arable land with the extended catchment radius.

It is difficult to discern a clear correlation between the different settlement categories and the size of their agricultural territories. As was shown in the opening chapters, the settlement network of Dalmatia had a mixed genesis. In most cases the period of the foundation of a certain town is less relevant than the geographical zone in which it was founded. Most pre-Roman towns were located in the narrow coastal zone in which arable land was extremely scarce. If we compare the micro-locations of the land-locked communities, the pre-Roman foundations, including a handful of examples that were probably abandoned after the conquest, had agricultural potential comparable to the newly founded settlements in the interior of the province. It is also evident that the few road-stations and, even a few of the mining *vici*, occupied locations that were served by relatively sizeable agricultural hinterlands. We repeat that all estimates for the amount of arable land controlled by particular settlements are only theoretical. It is likely that there were far more settlements of a similar rank and size sharing the same geographical niches than those included in this analysis.

The marked discrepancies between the high and low estimates for the size of the Dalmatian towns and settlements are inevitably reflected in the differences between the projected minimum urbanization rates. (Table V\_2) According to the high size-estimates, over one-half of all settlements included in the analysis had communities as large as, or larger than, the maximum rural population inhabiting the area of the ten-km catchment radius. Even more striking is the prediction that no less than 15% of all settlements are larger than the agricultural potential of their hinterlands, even if the rural population is excluded. Looking at the conservative size-estimates, the projections become far more convincing. Only in about 12% of the territories, do we find an urban-rural ratio close to one or higher, half of which were composed of small settlements located on the coast or in areas of challenging terrain. Of the larger towns, only the provincial capital Salona, the Greek colony of Issa and the mining *municipia* in the interior had urbanization rates higher than 40%. According to the low estimates, in the hinterlands of most of the autonomous towns, the minimum urbanization rate was between 25 and 37%. The average for the entire province falls within the same range. Even after lowering the population density in the central places to 120 per ha and accepting the minimum estimates, the average district rates are still

as high as 22%. (Table V\_2) Unless our size-estimates and population projections are entirely off the mark, it would be reasonable to count with average rates of about 30% in the urban territories, in both Dalmatia and Upper Macedonia and Northern Epirus. High district urbanization rates would have been a logical response to the low to modest agricultural productivity in both regions. Therefore, it should not be excluded that the settlements of coastal Dalmatia were partly bases of a farming population.

These estimates are somewhat compromised by the results of the Neo-thermal Dalmatia Regional Project.<sup>577</sup> The intensive survey of sections of the Liburnian countryside and the research carried out at individual settlements has howed that, despite the process of urban withdrawal,<sup>578</sup> the countryside witnessed an upswing in rural investments and villa construction. Both in numbers of individual sites and overall artefact density, the Roman period is the most predominant phase in the surface archaeological record of Ravni Kotari.<sup>579</sup> The Roman period in Liburnia is not only marked by the highest artefact and site-densities, it is also the most wide-spread phase encountered in all pedological and climatic zones. In some cases, isolated *villae* or clusters of farm-buildings from the Roman period were discovered in the midst of what is now barren karst. This is not easily reconciled with our high projections for the local urbanization rates that imply a moderate population density in the immediate surroundings of the towns. However, caution is advised when interpreting the results of this regional project. Although highly advanced for its time, the Neo-thermal Dalmatia Project did not develop an explicit methodology for site-definition. As a result, it is difficult to decide if the prominence of the Roman period in the surface record is related to the large number of sites or the dense off-site carpet. More to the point, the large number of *villae* do not necessarily imply high population density in the countryside. Mentions of large nucleated villages are missing in the project's publication. If isolated farms and *villae* were the only settlement form in the Liburnian countryside, this can be taken as evidence in support of our high projections for the local urbanization rates.

If the maximum size-estimates are accepted, over half of the Dalmatian towns and settlements would be too

<sup>577</sup> Chapmann, Shiel, Batović eds 1996.

<sup>578</sup> The evidence from the presumed site of the Liburnian *oppidum* Blandona, suggests that the settlement was reduced to an isolated residence or workshop in the aftermath of the Roman conquest. The small-scale excavations at Nedinum revealed not a single public building from the Roman period in the area of the *acropolis*, Chapmann, Shiel, Batović eds 1996, 123-131; 231-250, Figure 94. Cf. the developments in the hinterland of the Hellenistic *oppidum* near present-day Margelić, in southern Illyria. Davis, Korkuti *et al.* 1998-2002.

<sup>579</sup> Chapmann, Shiel, Batović eds 1996, 84-85.



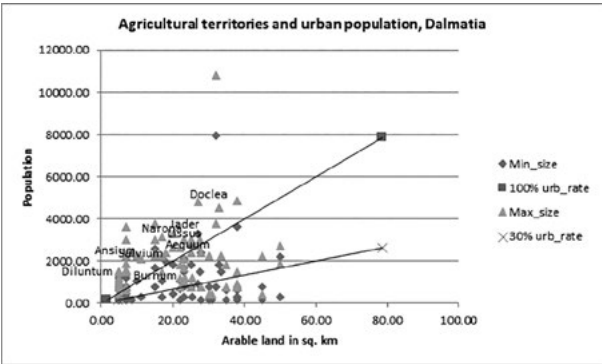


Figure V 5: Minimum and maximum population figures and estimates of arable land within the five-km catchment radius in Dalmatia.

large for their five-km catchments (Figure V 5). In the preceding chapter we explained why these figures were unlikely for the great majority of the pre-Roman hill-top settlements. The same applies to the road-side *vici*, whose size-estimates are based solely on impressions gathered by unsystematic field walking.<sup>580</sup> Judging by the absence of monumental architecture dating to the Roman period, these settlements were of a much humbler size than indicated by the maximum estimates.<sup>581</sup> This hypothesis is corroborated by the low agricultural productivity of their surroundings, a feature particularly indicative of the likely size of the secondary agglomerations. If the Dalmatian road-side *vici* truly did reach the maximum estimates, they either boasted large territories or they had to rely on regular grain imports. Both scenarios are unlikely. Without an autonomous status, these settlements were not in position to exploit the land located beyond their immediate surroundings, while the logistical efforts necessary to secure a regular supply of grain to these land-locked communities would have hardly been justifiable. A likelier explanation is that, in terms of size, they differed little from the typical village, even if they did stand apart by their specialized economy and social composition. Reverting to the minimum size-estimates, only the largest autonomous towns outsize the arable potential of their immediate surroundings.

Dropping the unlikely maximum size-estimates from the analysis and extending the catchment radius to ten-km, only a small group of settlements exceeds the agricultural potential of their hinterlands. (Figure V\_6) Admittedly, if we adopt the simplifying view that the urbanization rate was constant across the urban territory, the group of settlements placed above the threshold of self-sustainability is enlarged. These are more or less the same settlements whose population

<sup>580</sup> Bojanovski 1988.  
<sup>581</sup> The population estimates have also been inflated by using a relatively high population density of 150 inhabitants per hectare.

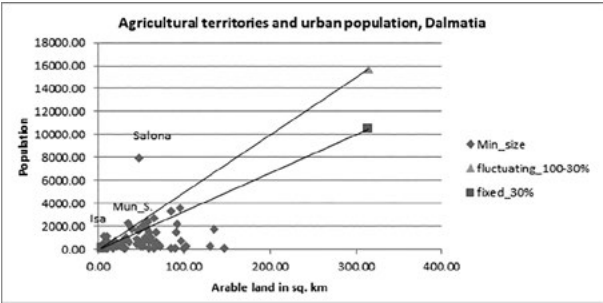


Figure V 6: Minimum population figures and estimates of arable land for the ten-km catchment radius in Dalmatia.

equalled or exceeded the number of rural residents. (Table V\_2) However, for nearly all of these settlements the land-shortage is inconsiderable. This was a surprising outcome in view of the poor agricultural resources in the area and the fairly large number of special-purpose settlements, ports of call and mining *vici*.

In this context, it is interesting to take a closer look at the few archaeologically verified mining settlements in Roman Dalmatia. After all, this is the settlement category for which the premises of this research, elaborated in the introductory part, should prove most relevant. Given that the primary targets of the mining colonies were the exploitation of the ore deposits rather than the farm-land, this is likely to reduce the amount of arable land in their surroundings. The centre of the silver-mining district in the Middle Drina Valley, identified with the remains at Sase, near modern Srebrenica, occupies one of the least favourable locations from an agricultural point of view.<sup>582</sup> Even with the minimum size-estimates, there is less than one hectare of arable land per person within the ten-km catchment radius of this settlement. However, only about five kilometres to the northeast of ancient Domavia, archaeological surveys have discovered a major agglomeration dated to roughly the same period.<sup>583</sup> According to the archaeologist who surveyed the site, this was a fairly large settlement, spread over an area of about 25 ha. The site is located on the left bank of the Drina and has immediate access to a large expanse of arable land on the valley floor and in the hilly area on the right river-bank. The plough-zone consumes nearly 40% of the theoretical hinterland of this site and, despite the unlikely size-estimate, it could have comfortably secured its subsistence from the surrounding area. The monumental remains near Sase have been identified with Domavia, the administrative centre of the mining district, and this makes the neighbouring site in the Drina Valley a possible candidate site for the

<sup>582</sup> Srejić 1965, 7-48; Wilkes 1969, Figure 19; Bojanovski 1988, 193-203.  
<sup>583</sup> Bojanovski 1981, 125-197.





mining colony.<sup>584</sup> If this interpretation proves correct – it is problematized by the fact that the plan of the excavated remains at Domavia also shows residential buildings<sup>585</sup> – it could point to a possible pattern of settlement and production in the mining districts. The example of Domavia shows a tendency to separate the administrative centres of the districts physically from the mining settlements and smelting-facilities. Unfortunately, this model has only one or two possible parallels.<sup>586</sup> The study of the settlement locations in these areas shows that even mining colonies were located in or near agriculturally productive areas. Indeed, most of the Dalmatian settlements associated with mining or related activities, have fairly productive hinterlands and, regardless of the possibly overestimated built-up areas and population densities, were well below the productive ceiling of their theoretical hinterlands.

It has to be emphasized that too little is known about the exact chronology and character of these settlements. Occasional surface evidence of ore-smelting cannot serve as a solid basis for determining the character of the local economies. Equally convincing is the scenario in which the mining colonies remain attached to the administrative centres, acquiring most of their food supply from the agriculturally productive sectors of the districts. A gradual involvement of the local, primarily agricultural, communities in the process of production would not have been surprising in this context. In any event, the chief prerequisite for the sustainability of either of these models is the small to medium size of the miners' communities.

Finally, it should not be forgotten that these settlements belonged to the governmental sector of the provincial economy. If they were purely mining colonies, it is likely that their food supply was guaranteed by the district procurator. In the next chapter, it will be demonstrated that the mining districts might have extended over large territories, including sizeable stretches of fertile land that belonged to the government.

Contrary to our expectations, only a few of the towns located in the coastal zone or on the islands proved too big for their surroundings, even with the minimum size-estimates. Issa, the only Greek colony in the area that

survived the Dalmatian wars and the Roman conquest belonged to this category. It is certain that Issa had a much larger territory prior to the Roman conquest and the founding of Salona.<sup>587</sup> This Syracusan colony, like some of the pre-Roman towns in Epirus and Illyria, declined after the Roman conquest, but did retain its formal status and walled perimeter. The Roman period saw the construction of public baths and *villae* on the periphery of the old town, but the city walls constructed in the 4th century BC were not maintained and there is some evidence to suggest deliberate demolition.<sup>588</sup> With the minimum size-estimates, the rest of the small maritime settlements could secure their survival from their immediate hinterlands.

There is only one Dalmatian settlement that is too big for its immediate hinterland, regardless of the size-estimate and the extent of the theoretical hinterland. This is again the largest settlement in the province, the provincial capital Salona. Even if we accept the optimal scenario, assuming a minimum size-estimate and extended catchment radius, Salona has a deficit of nearly 100 square kilometres of arable land. Although in Dyrrhachium the grain demand could be met from the neighbouring regions that might have been attributed to the colony, in the case of Salona, the surrounding micro-regions are agriculturally much poorer than the immediate vicinity of the capital. On the high plains to the north and east of Salona and on the islands of Hvar and Brač there is hardly more than 30 square kilometres of arable land in total.

In view of these circumstances, the possibility that a large proportion of Salona's population was involved in the non-agrarian sector has to be acknowledged. Like Dyrrhachium, Salona was an important port and, in conjunction with Narona, it was an important base at the time of the conquest of the Dalmatian interior. The town maintained close trade connections, not only with Italy, but also with the Aegean, the Eastern Mediterranean and the North African coast. It is no accident that, by the late 2nd century AD, Salona boasted a sizeable community of merchants from the Orient.<sup>589</sup> These communities are barely represented in the small towns in the interior of the peninsula. Their presence in Salona is a symptom of the attraction the town exerted on trade and business. One should also take note of the high mobility of Salona's aristocracy, especially their involvement in the mining districts in the east of the province and their role in the establishment of the new *municipia* in the Dalmatian interior.<sup>590</sup> The growth of Salona was almost certainly based on a much broader

<sup>584</sup> Škegro 1998, 89–117; a similar pattern has been attested elsewhere in Dalmatia and Pannonia Superior. Bojanovski 1981, 189–191, however, sees the remains at Vojlavica as a road-station and the site of the ore-smelting facilities. On the other hand, Hirt 2010, is doubtful that Domavia was the administrative centre of the district.

<sup>585</sup> Wilkes 1969, 277–283 and Figure 19, could relate to the Late Roman phase of the site though.

<sup>586</sup> Cf. the case of the *ferraria* in southern Pannonia, in which a similar separation between the administrative centre of the district in Ljubija and the mining settlement near modern Blagaj, on the Japra, is found. Sergejevski 1963, 85–102; Bojanovski 1988, 273–278. Hirt 2010, is right to relate these variations in the settlement patterns in mining areas to the geological specifics and their ramifications for the mining logistics.

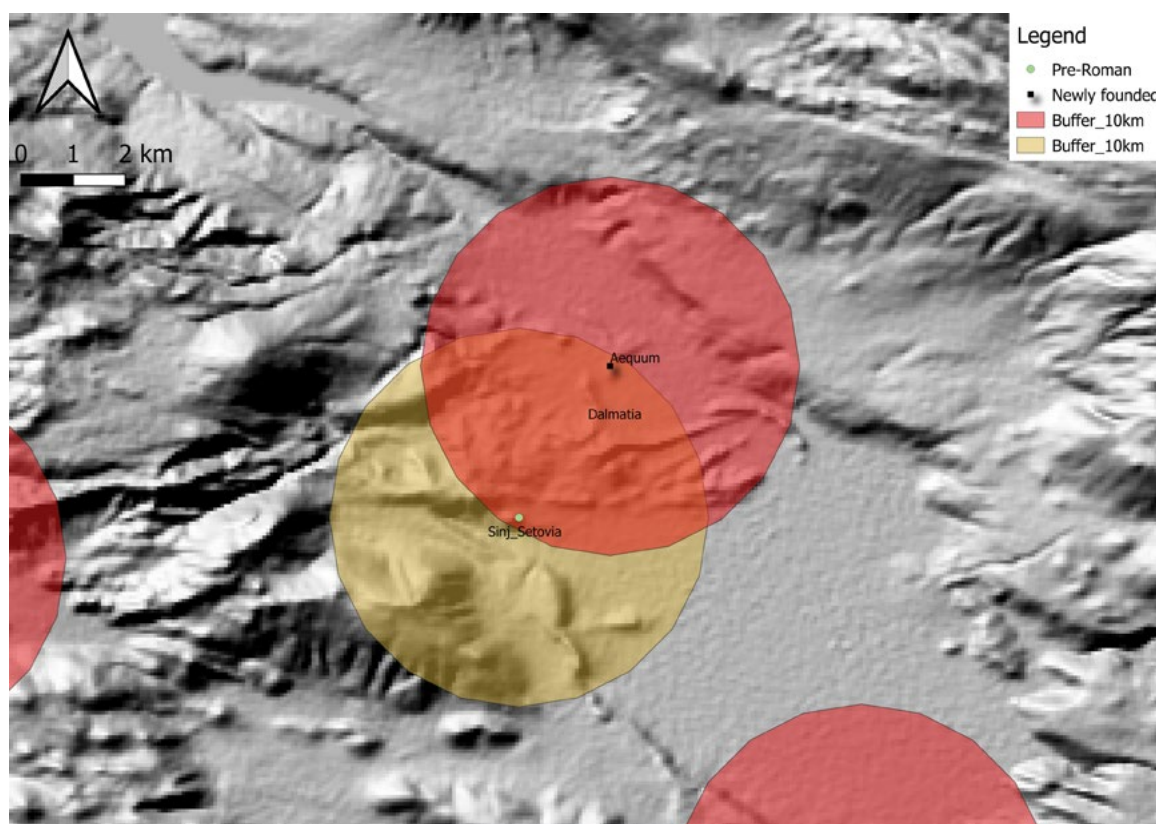
<sup>587</sup> Suić 1996, 269–282; Čargo 2004.

<sup>588</sup> Čargo 2002, 399–469.

<sup>589</sup> Cambi ed. 1991; Wilkes 2002, 87–105.

<sup>590</sup> Sergejevski 1957, 109–125; Zotović 2002, CIL III 8338; Ferjanić 2002, 62–67; gives examples of veterans based in Salona serving as town magistrates in the neighbouring towns.





Map V 5: The theoretical hinterlands of Aequum (newly founded) and Setovia (Pre-Roman).

economic base than the exploitation of the agricultural potential found in its immediate surroundings.

The two faces of Dalmatia, the Adriatic-Mediterranean and the continental, belong to two essentially different urbanistic traditions. Therefore, it is rather an uphill battle to try to come up with a concise conclusion about the urban developments in this province. In the coastal zone, despite the very limited agricultural resources, urbanism had begun to take root centuries before the arrival of the Roman merchants. Notwithstanding the evidence of a reduction in the number of sites of urban character in the Roman period, settlement density was maintained at a fairly high level, albeit at the cost of the size of these communities. With the exception of the inland Liburnian towns in Ravni Kotari, virtually all settlements in the Dalmatian coastal zone were port-towns. Nonetheless, access to fertile land was deemed equally important. This is confirmed by the fact that nearly all micro-regions that offered even the smallest amount of arable land were occupied, while some excellent harbour locations – like modern Šibenik – never developed into urban communities.

The availability of agricultural resources grows even more important in the interior, on the high plains on the Adriatic side of the Dinaric Alps. The Roman colonies

and the newly founded *municipia* regularly occupy the largest of these niches, for example Aequum and Novae or Doclea, in the Podgorica Basin. (Map V\_5)<sup>591</sup> Because of the limited size of these plains and the absence of other natural resources, their central places never grew to any large extent. Unlike in the coastal zone, in which almost every possible niche was occupied by a small urban-like community, the small plateaus in the interior never developed an urban centre.

Both the geographical conditions and settlement patterns change dramatically in the continental parts of the province. Although a large proportion of this land is mountainous and unsuitable for agricultural production, there are large fertile regions along the major Bosnian rivers and their tributaries. Nevertheless, settlement density declines abruptly, while settlement sizes remains within the same range as in the coastal zone. With the exception of Domavia, all settlements in this part of the province, including those that belong to the mining districts, had recourse to good agricultural potential in their immediate surroundings. In other words, despite the environmental potential for

<sup>591</sup> The central position of Aequum might signal more optimal hydrological conditions than those in the Early Modern period, when much of the valley floor was affected by seasonal flooding, The Naval Intelligence Division 1944a, 60.

demographic growth, none of these settlements came close to reaching the productive limits of its hinterland. This observation lends support to our interpretation of the settlement system in Dalmatia elaborated in the preceding chapter: it was fine-tuned to the extraction of the natural riches in the interior of the province administered from the provincial capital. As mentioned in the opening part of this section, the large fertile stretches along the Bosna or Vrbas – nowadays home to three of the five largest towns in Bosnia and Herzegovina – remain conspicuously devoid of urban settlements. In the next chapter, it will be demonstrated that it were political and economic rather than environmental factors that dictated urban developments in this part of the province.

### The northern Adriatic

Despite its small size, this part of the study-area displays a fairly high degree of regional variation. Its principal geographical components are the fertile Istrian Peninsula, a small part of the Julian Alps, the Upper Sava Basin and the Kvarner Bay in the northern Adriatic. There are a wide number of climatic and geopedological variations between these micro-regions. The agricultural potential ranges from excellent on the Istrian Peninsula to mediocre in the valley of the Ljubljanka and negligible on the Kvarner Islands, the northern Liburnian coast and in the mountainous interior. The main factors that have limited the agricultural potential of the area have been the narrow coastline and the extremes in relief and climate in the interior. On the other hand, in the Upper Sava Valley, the agricultural potential was reduced by the poor drainage of the fluvial plains.<sup>592</sup>

Like coastal Dalmatia, these regions are deficient in mineral resources. Agriculture and fishing, in combination with the control of the key communication nodes, often provided the only bases for urban development. Both Slovenia and Dalmatia were grain-deficient regions at the beginning of the 20th century,<sup>593</sup> although admittedly, this observation is based on aggregate data for much larger territorial units than those covered by this section. As elsewhere in the western half of the peninsula, considerable micro-regional variations have to be taken into account. In general, however, with the exception of certain parts of the Istrian Peninsula, the northern Adriatic differs little from the rest of the Dalmatian coast.

<sup>592</sup> The Naval Intelligence Division 1944a, Figure 3, 28-30.

<sup>593</sup> Louis 1924, Table 126. For the productivity of this area see The Naval Intelligence Division 1944b, Figures 18, 19. The bleak image is reinforced by the omission of the Istrian Peninsula from the geographical survey and the high grain consumption rates, Louis 1924, Table 11.

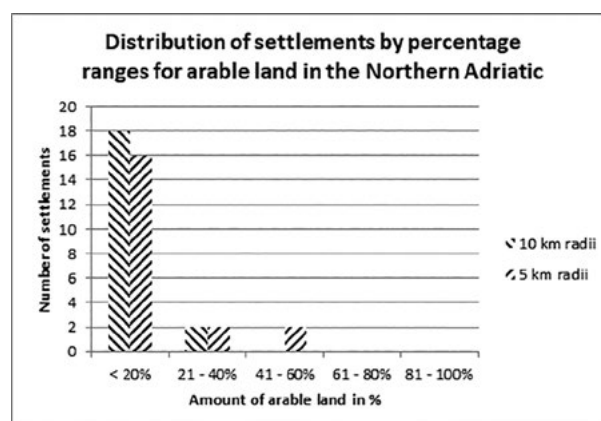


Figure V 7: Distribution of towns across percentage ranges for arable land within the ten- and five-km catchment radii in the northern Adriatic.

As in other mountainous areas, the extended catchment radius had a limited effect on the agricultural territories, especially in the coastal zone around Kvarner Bay (Figure V 7). This applies to nearly all settlements in the coastal zone. Conversely, the settlements located on the Istrian Peninsula and the couple of settlements in the Upper Sava Valley are in a more favourable position. Nonetheless, when the percentage of arable land within the ten- and five-km catchment radii is compared, it is evident that, relatively speaking, little is gained by the extended catchment radius. Only in the case of one settlement – the central place of a small *civitas* – do we see a marginal increase in the percentage of productive land. In absolute terms, the gains are pretty negligible, rarely exceeding 50 square kilometres. But given the very small size of the majority of these communities, even a minor increase would have had the potential to make the difference between a self-sustainable and market dependent settlement.

There is a consistent difference between the eastern and western half of the part of Italy X included in this study. All settlements in possession of over 50 square kilometres of arable land within the market catchment are located on the western coast of the Istrian Peninsula or in the Upper Sava Valley. These were also the largest settlements in this part of our study-area. There seems to be a further correlation between juridical status and agricultural productivity of the hinterland. All three Roman colonies in this region belong to the agriculturally rich corners of the area, Pola and Parentium on the western Istrian coast, Emona in the Upper Sava Valley. The towns on Kvarner Bay, on the other hand, were either *municipia* or the central places of free, tax-exempt *civitates*.<sup>594</sup> In view of their status, it is difficult to qualify them as disadvantaged in comparison to the Roman colonies. Some of these communities were granted Italic rights,

<sup>594</sup> Alföldy 1965; Čače 2001, 7-43.

while the number of Italian settlers was high in nearly all Liburnian communities.<sup>595</sup> However, the location of the colonies guaranteed larger agricultural territories than those of the central places of the *civitates*. It is no accident that only settlements that belong to the latter category increase the percentage of arable land with the extended catchment radii. As in Upper Macedonia and Epirus, the Romans were consistent in turning their backs on the agriculturally marginal parts of the region.

According to the unlikely maximum size-estimates, the minimum urbanization rate in the territories of these settlements was over 80%! (Table V\_3) Contributing equally to the high value for this parameter is the low agricultural potential in the hinterlands, over three-quarters of the settlements had hinterlands that were less than 20% arable. According to the maximum size-estimates, over half of the settlements in the northern Adriatic featured over 40% district urbanization rates and were almost certainly disproportionately large in respect of their agricultural territories. Although long, the list is fairly coherent, in that the great majority of the settlements were peregrine communities or Latin *municipia*. In the *agri* of the three Roman colonies, the minimum urbanization rates varied between 20 and 45%, regardless of the size-estimates. This was paralleled in Dalmatia and Macedonia, in which most of the Roman colonies and *poleis* with large communities of Roman citizens had urbanization rates falling in the same range. Only the settlements with the smallest agricultural potential in their hinterlands, largely coinciding with the Liburnian *oppida* on Kvarner Bay reveal urbanization rates higher than 50%, even with the minimum size-estimates. In view of the close spacing of agglomerated settlements in this area, the high projection for the local urbanization rates are not implausible. Even with the minimum size-estimates and population density of 120 to the hectare, the minimum local urbanization rate for the entire region is nearly 30%.

The maximum size-figures for the majority of the port-towns on Kvarner Bay are problematic. As in Dalmatia, the optimistic size-estimates refer mainly to the size of the topographical unit occupied by the settlement, or alternatively, the space available between the sites of the *necropoleis*. Only future research will tell if this area was built-up. With the minimum size-estimates and the ten-km catchment radii – likewise more appropriate to this part of the study-area, as the majority of the settlements were autonomous towns – almost all of these settlements could have been sustained by the local resources. (Figure V\_9) In fact, even with the five-km catchment, only a handful of small *oppida* are slightly oversized in respect to their territories. Because

Table V 3: Theoretical urbanization rates in the market catchments – ten km – of the towns and settlements in the northern Adriatic; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern | h 150/ha | l 150/ha | h 120/ha | l/120 ha |
|--------------------------|----------|----------|----------|----------|
| Albona Labin             | 47.73%   | 6.82%    | 38.18%   | 5.45%    |
| Apsarus Osor             | 107.14%  | 21.43%   | 85.71%   | 17.14%   |
| Arba Rab                 | 100.00%  | 50.00%   | 80.00%   | 40.00%   |
| Argyrintum Starigrad     | 120.00%  | 90.00%   | 96.00%   | 72.00%   |
| Cissa Pag                | 23.33%   | 3.33%    | 18.67%   | 2.67%    |
| Crexus Cres              | 28.13%   | 18.75%   | 22.50%   | 15.00%   |
| Curriculum Krk           | 72.00%   | 54.00%   | 57.60%   | 43.20%   |
| Emona Ljubljana          | 32.86%   | 28.57%   | 26.29%   | 22.86%   |
| Flanona Plomin           | 112.50%  | 12.50%   | 90.00%   | 10.00%   |
| Fulfinum Omishalj        | 180.00%  | 75.00%   | 144.00%  | 60.00%   |
| Lopsica Sv. Juraj        | 180.00%  | 30.00%   | 144.00%  | 24.00%   |
| Nauportus Vrhnika        | 34.29%   | 17.14%   | 27.43%   | 13.71%   |
| Nesactium Visace         | 38.03%   | 33.80%   | 30.42%   | 27.04%   |
| Ortopla Stinica          | 60.00%   | 30.00%   | 48.00%   | 24.00%   |
| Parentium Porec          | 44.04%   | 22.02%   | 35.23%   | 17.61%   |
| Pola Pula                | 31.91%   | 31.91%   | 25.53%   | 25.53%   |
| Senia Senj               | 210.00%  | 120.00%  | 168.00%  | 96.00%   |
| Tarsatica Rieka          | 112.50%  | 37.50%   | 90.00%   | 30.00%   |
| Vegium Karlobag          | 120.00%  | 30.00%   | 96.00%   | 24.00%   |
| Piquentium Buzet         | 20.27%   | 12.16%   | 16.22%   | 9.73%    |
| Avg                      | 83.74%   | 36.25%   | 66.99%   | 29.00%   |

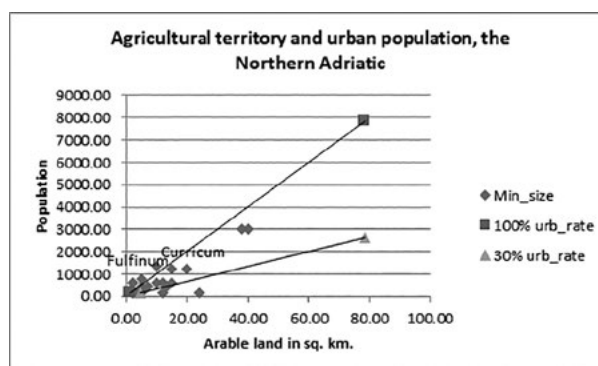


Figure V 8: Minimum population figures and estimates of arable land for the five-km catchment radius in the northern Adriatic.

<sup>595</sup> Kurilić 2006, 7-72.



of their small size, most of the towns and settlements in the northern Adriatic were sustainable by the local resources, but only if it is assumed that 100% of the population in the five-km catchment radius was based in the central place. Decreasing the district rates to 30%, over three-quarters of the settlements would have been too large for their five-km catchments. (Figure V\_8)

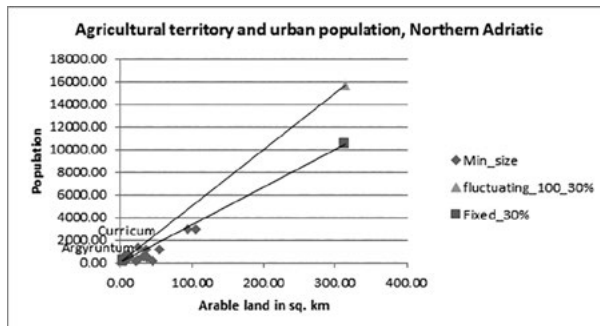


Figure V 9: Minimum population figures and estimates of arable land for the ten-km catchment radius in the northern Adriatic.

It is notable that even though the gains in agricultural land introduced with the extended catchment radius are not particularly impressive, they are sufficient to sustain the urban population even at a fixed urbanization rate of 30%. The only two settlements that exceeded the agricultural potential of their enlarged hinterlands were Fulfinum and Curricum, *municipia* that occupied a small island in the Kvarner bay. Both towns exceeded their agricultural hinterlands by relatively small margins and minor adjustments in the size of the arable hinterland or the population density could shift them below the trend-line for the minimum land to population ratio. Moreover, these were maritime communities that could compensate for the grain deficiencies of their hinterlands by extracting marine resources or cultivating cash-crops. Here, as along the rest of the Adriatic coast, it would be wrong to evaluate the agricultural potential by the standards used for the settlements in the interior of the Balkan Peninsula.

The areas around the northern Adriatic were a segment of a much larger settlement network, whose centre was located outside the limits of our study-area. None of the Italian settlements included in this study is a true outlier in respect to the agricultural productivity of its hinterland. Almost all of these towns could in theory have secured their subsistence from their own hinterlands. When the size of the town outstripped the agricultural potential of the immediate surroundings, the gap was always fairly small and the deficit could easily be the result of inaccurate estimates of the two parameters.

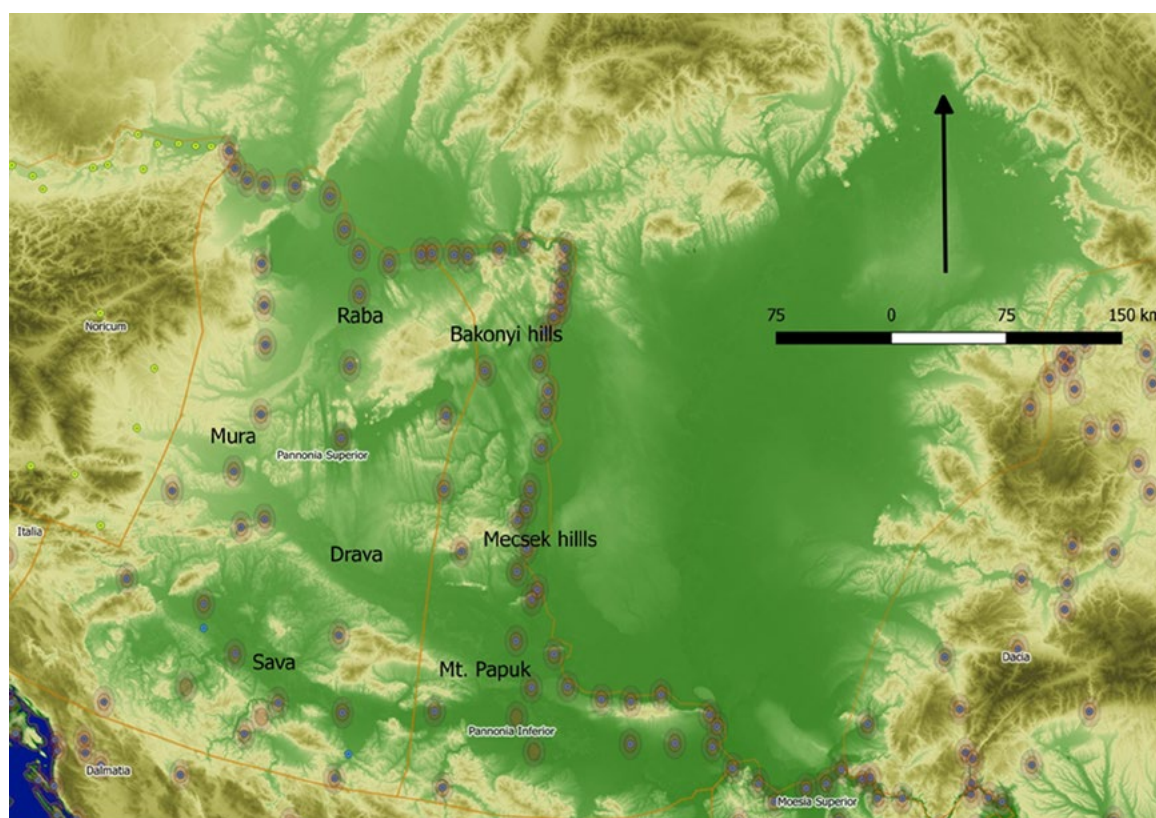
It is useful to repeat the difference between the Roman colonies in western Istria and in the Upper Sava Valley and the small port towns and *oppida* on Kvarner Bay. The micro-locations of the former not only guaranteed that they could be sustained by the local resources, they also left some room for surplus production. Amphora studies have demonstrated that much of the oil and possibly wine on the Middle Danube *Limes* was produced on the Istrian Peninsula during the 1st century AD.<sup>596</sup> These towns were envisioned as autonomous entities in control of larger territories from the moment of their foundation. In contrast to this, the port-towns and *oppida* had an extremely limited agrarian base. Although small by any standard, they were forced to push the limits of the agricultural productivity of their hinterlands. This ties in with the archaeological evidence of heavy investments in the countryside, farms and villa constructions, the building of terraces and port facilities.<sup>597</sup> In any event, the productivity of these small settlement niches should not be written off easily. The sheer fact that they gave rise to so many little towns that were able to sustain themselves for at least a couple of centuries is telling in itself. Were life in this zone truly as precarious as our numbers suggest, a lower urban density could justly be expected. Despite their small size, many of these settlements had a proper urban fabric: city walls, temples and aqueducts. This is difficult to reconcile with an overstretched agricultural productivity. It all leads to the conclusion that the maritime zone gave rise to a specific type of urbanism, manifested in the small port-town or *oppidum*. These were truly maritime settlements, owning very little arable land in the interior, mostly suitable to the cultivation of fruits, olives and vines.<sup>598</sup>

The high density of *villae* in the coastal zone, the limited agricultural potential and the small inter-city distances left very little scope for the emergence of secondary agglomerations in the urban territories. If we exclude the possible residences of the tenant farmers attached to the larger villa complexes – not yet confirmed archaeologically – there are hardly any sites in the Liburnian or the Istrian countryside that can be qualified as nucleated rural settlements. Even the more distant parts of the urban hinterlands were exploited through villa-complexes rather than through dependent rural settlements. This strategy seems to have been well-adapted to the poor agricultural potential in the area, as it would have reduced the number of permanent residents in the countryside and the trouble of taxing these communities. It also implies a fairly high rate of urbanization in the urban

<sup>596</sup> Kelemen 1987, 3–47; Kelemen 1988, 111–150; Kelemen 1990, 147–193; Tassaux 2011, 431–440.

<sup>597</sup> Matijašić 1982, 53–64; Ilakovac 1997–1998, 69–82; Schrunk, Begović 2000, 252–276.

<sup>598</sup> At the time of the Austro-Hungarian Empire, the grain for this region came from the Pannonian Plain, Louis 1924, 15.



Map V 6: Geography and settlement in the Pannonian provinces.

hinterlands along the Adriatic coast and a strong agricultural focus of the urban communities.

### Pannonia Superior

In the regions drained by the Danube, the geographical realities change dramatically from those witnessed on the other side of the Dinaric Alps. Certain parts of Pannonia Superior still comprise hilly to mountainous land, especially in the southwest. These are, however, relatively low and lush outshoots of the Julian Alps that bear little comparison to the precipitous, barren ridges of the Dinaric or Albanian Alps. The principal hallmarks of the Pannonian landscape are the large rivers, the Sava, Drava, Mura, Raba and Danube. They all flow through low, wide fluvial plains. Their valleys are separated by chains of rolling hills or low mountain ranges that do not represent major obstacles to communication nor do they cover a very extensive area. (Map V\_6)<sup>599</sup> In order to acknowledge the changed geographical reality in the Pannonian provinces, the market radius was extended to 15 km. This adjustment might have resulted in the overestimates of a handful of catchments, mostly in the southwestern corner of the province.

Far more detrimental to the agricultural potential of Pannonia Superior are the marshy areas that occupy wide belts along the river-banks.<sup>600</sup> As a result of the large reclamation projects of the last century, this problem was all but eliminated and large segments of the flood-zone were either occupied or brought under the plough. Hence, the modern plough-zone is not the most accurate source on which to base the estimate of the amount of arable land in the past. As explained in the Introduction, it will require a tremendous amount of time and energy to compile a rough hydrographical sketch for these areas, and what is finally produced will show situation relevant only to the Early Modern or Late Medieval periods. An additional limiting factor was the close spacing of the garrison towns and *vici* on the frontier, separated by distances shorter than 20 km along certain sections of the *Limes*.

According to an early 20th century agricultural survey of the area, Pannonia Superior is divided into two major parts.<sup>601</sup> The region to the north of the Mura, roughly corresponding to the Hungarian part of the province, is one of the most fertile regions in the entire Middle Danube Basin. Judging by the estimates, this land was able to produce over 1500 kg of wheat per hectare and

<sup>599</sup> The Naval Intelligence Division 1944a, Figure 3, 32-35.

<sup>600</sup> The Naval Intelligence Division 1944a, Figure 20, 34.

<sup>601</sup> Louis 1924, Figure 3, Table 11.

Table V 4: Theoretical urbanization rates in the market catchments – 15 km – of the towns and settlements in Pannonia Superior; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern    | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|-----------------------------|----------|----------|----------|----------|
| Ad Praetorium Suvaja        | 7.94%    | 1.59%    | 3.75%    | 0.75%    |
| Aequinoctium Fischamend     | 8.00%    | 2.67%    | 4.06%    | 1.35%    |
| Ala Nova Schwechat          | 13.92%   | 4.64%    | 6.35%    | 2.12%    |
| Andautonia Scitarjevo       | 26.09%   | 9.78%    | 10.67%   | 4.00%    |
| Aqua Iassae Toplice         | 5.64%    | 1.13%    | 2.79%    | 0.56%    |
| Aqua Ballisae Daruvar       | 21.13%   | 15.85%   | 8.51%    | 6.38%    |
| Arrabona Gyor               | 34.48%   | 6.90%    | 14.98%   | 3.00%    |
| Carnuntum Petronell         | 176.75%  | 133.76%  | 67.48%   | 51.06%   |
| Gerullata Rusovce           | 31.58%   | 7.89%    | 15.00%   | 3.75%    |
| Halicanum Sv. Martin        | 2.16%    | 0.72%    | 0.86%    | 0.29%    |
| Iovia Ludbreg               | 5.23%    | 2.29%    | 2.29%    | 1.00%    |
| Unknown Klosterneuburg      | 33.33%   | 11.11%   | 18.00%   | 6.00%    |
| Mogentiana Somlyóvasareli   | 6.54%    | 0.65%    | 2.49%    | 0.25%    |
| Vindobona Wien              | 94.31%   | 71.86%   | 42.42%   | 32.32%   |
| Mursella Arpas              | 26.31%   | 5.60%    | 13.01%   | 2.77%    |
| Neviodunum Drnovo           | 16.73%   | 10.76%   | 8.68%    | 5.58%    |
| Poetovio Ptuj               | 152.02%  | 90.57%   | 54.56%   | 32.50%   |
| Quadratta Lebeny            | 3.40%    | 1.13%    | 1.65%    | 0.55%    |
| Sala Zalalovo               | 15.08%   | 15.08%   | 3.78%    | 3.78%    |
| Savaria Szombathely         | 25.00%   | 25.00%   | 9.27%    | 9.27%    |
| Scarbantia Soprony          | 11.00%   | 10.00%   | 3.68%    | 3.35%    |
| Siscia Sisak                | 69.80%   | 59.41%   | 31.69%   | 26.97%   |
| Servitium Bosanska Gradiska | 2.71%    | 1.81%    | 1.12%    | 0.74%    |
| Unknown Blagaj              | 14.63%   | 9.15%    | 5.26%    | 3.29%    |
| Unknown Strigova            | 25.47%   | 8.49%    | 20.38%   | 6.79%    |
| Unknown Skugric             | 5.54%    | 1.11%    | 1.86%    | 0.37%    |
| Volgum Fenekpuszta          | 36.92%   | 2.31%    | 12.31%   | 0.77%    |
| Quadrata Topusko            | 8.18%    | 2.73%    | 2.67%    | 0.89%    |
| Unknown Strebersdorf        | 3.01%    | 0.67%    | 1.86%    | 0.41%    |
| Ad Flexum Mosonmagyaróvár   | 23.28%   | 2.59%    | 18.62%   | 2.07%    |
| Avg                         | 30.21%   | 17.24%   | 13.00%   | 7.10%    |

it created most of the surplus in the Austro-Hungarian monarchy. Surprisingly enough, the southern half of the province, belonging to modern-day Croatia and northern Bosnia, had a considerable grain deficit in the decade prior to World War I. In comparison to

the northern part of the province, a relatively large proportion of the south was covered by hills and low mountains that were probably left out of the plough-zone. In addition, wide strips of land along the Sava and Drava were marshy. Nevertheless, it is difficult to accept that these valleys were grain-importing regions. The tables clearly show that the problem of this country was not the fertility of the land, but the unusually high annual ratio of grain consumption, three times higher than in some of the neighbouring regions.<sup>602</sup>

Finally, whereas it is true that the heavy Pannonian soils are much more fertile than the thin soils in the western and southern parts of the peninsula, this difference only really manifested itself with the advance of modern agricultural techniques and mechanized agriculture. It is unclear whether the farmers at the time of the High Empire could have made full use of the potential fertility of these soils.<sup>603</sup> Understandably, this does not diminish the prime agricultural character of the Pannonian provinces, attested both by the archaeological and written evidence.

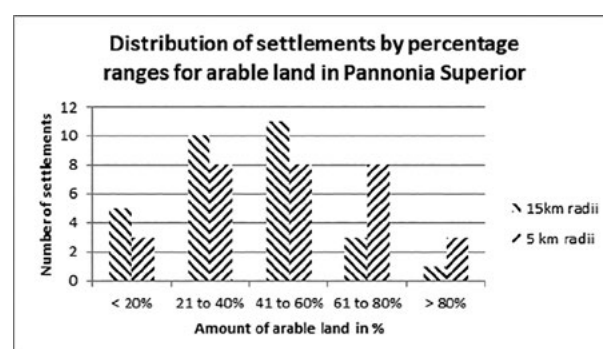


Figure V 10: Distribution of the settlements across percentage ranges for arable land within the 15- and five-km catchment radii in Pannonia Superior.

In the western Balkan provinces, the extended catchment radius often brought only slight enlargement of the agricultural territories and, consequently, the percentage of arable land in the hinterland declined. The case of Pannonia Superior demonstrates that perhaps this was a general trend, unrelated to the character of the regional geography. Only a couple of Pannonian settlements increase the percentage of arable land in their hinterland, one of which was a site associated with

<sup>602</sup> Louis 1924, Table 11. In general, the variations between the consumption rates in the different regions of the Austro-Hungarian Kingdom are striking cf. Table 11 and 126. The data are drawn from official government documents. The agricultural potential of the area looks much better on the maps produced by the British Admiralty a couple of decades later: The Naval Intelligence Division 1944b, Maps 17, 18.

<sup>603</sup> The fertility of the *chernozems* in Pannonia is contrasted with the thin soils in the western part of the peninsula in The Naval Intelligence Division 1944b, 75.



ore-processing (Figure V 10).<sup>604</sup> One possible reason for the prevalently negative effect of the increased catchment radius is the distribution of the auxiliary *vici*, often spaced at intervals of 17-18 km. However, the market catchments led to diminished agricultural territories even in the case of the autonomous towns located in the interior of the province. Their example highlights the importance of the agricultural factor in the siting of the Pannonian settlements. Even in the favourable context of Pannonian geography, not every location was equally optimal.

In absolute numbers, the gains of new arable land with the extended catchment radius are hard to downplay. Only three settlements – two of which were auxiliary *vici* on the Danube frontier – gain less than 50 square kilometres of cultivable surface. In contrast, recall that in the western Balkan provinces, only three or four settlements were lucky enough to increase their agricultural territory by an equivalent margin. With the far better soils at their disposal, the great majority of the Pannonian settlements doubled their arable potential and many tripled it.

As in most of the provinces studied so far, there are only vague correlations between the settlement's status and the size of the agricultural territories. The relatively homogenous relief has also minimized the possible differences that might have arisen from the contrasting geographical conditions, although the towns in the mountainous south feature lower percentages of arable land than the settlements located to the north of the Drava. The chief point of difference in the Pannonian settlements was their proximity to the political and administrative frontiers. In the interior, most of the towns have market catchments that are over 60% arable, while on the Danube *Limes* the arable percentage drops to 40%. Because there were only a few garrison settlements in the interior of Pannonia Superior, this difference coincides with the divide between the civilian and garrison settlements. With the exception of those garrison towns that became honorary colonies, all of the *coloniae* had over 40% of arable land in their hinterlands. They were joined by some of the *municipia* and garrison towns in the interior of the province.

The district urbanization rates in Pannonia Superior are visibly lower than in the provinces discussed in the preceding sections. (Table V\_4) Obviously, this is to a large extent dictated by the greater catchment radius ascribed to the Pannonian settlements. Pannonia Superior belonged to the belt of newly founded towns and settlements and its urban tradition tallies closely with the standards in the northwestern provinces of the Empire. Even in the high estimates the average urbanization rate in the urban territories barely

reaches an average of 16%. In the less likely minimum size-estimates, it drops to less than ten percent. This is another indication of the agricultural potential of the urban territories in Pannonia. Even though the Pannonian towns were much larger than their Dalmatian or Macedonian counterparts, the weight of this factor is completely overridden by the large size of the agricultural territories. The latter imply very high total populations for the urban territories, depressing the minimum urbanization rates.

The patterns observed in the other provinces are repeated in Pannonia Superior. Minimum urbanization rates lower than ten percent appear consistently among the third-tier settlements, both *vici* and small, autonomous towns. The urbanization rates in the territories of the larger autonomous towns were more variable, but in general they are higher than 30%. The only exception is the colony of Savaria, in which the projected urbanization rates are only slightly higher than ten percent, mostly because of the great fertility of the land. Predictably, only in the case of the largest legionary towns and Poetovio is the urban to rural ratio close to or greater than one. The unusually large size of these agglomerations signals that these developments were not rooted entirely in the local conditions.

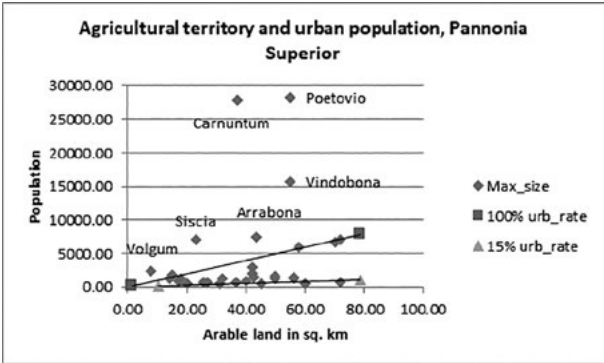


Figure V 11: Maximum population figures and estimates of arable land for the five-km catchment radius in Pannonia Superior.

Certainly, the most obvious testimony to the fertility of this province is the fact that the great majority of the settlements, including over half of the autonomous towns, were sustainable by the agrarian resources available within the five-km catchment radius (Figure V 11). This has no connection to the nature of the urban economies in Pannonia Superior. Although considerably smaller than their Pannonian counterparts, most of the colonies and *municipia* in the western Balkan provinces outgrew the local agrarian potential. In view of the agricultural potential of the urban hinterlands, the latter settlements were the larger. The implication is that factors of a different nature set the limits of growth to the Pannonian towns.

<sup>604</sup> Basler 1977, 121-216.





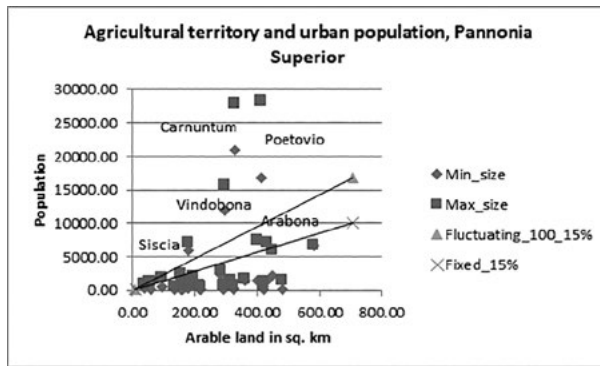


Figure V 12: Maximum and minimum population figures and estimates of arable land for the 15-km catchment radius in Pannonia Superior.

Regardless of the values assigned to the parameters correlated in Figure V\_12, the three largest agglomerations in the province remain high above the trend-line, with deficits ranging from 207 square kilometres in the case of Vindobona, in the minimum size-estimate, to over 800 square kilometres for Carnuntum at its largest. It is certain that these settlements, all three official towns, were in control of territories much larger than the 705 square kilometres enclosed by the market catchment. Nevertheless, in some cases, the deficit is worryingly high and one wonders if the problem was overcome by the large administrative territories. Even so, in all probability the large expanses of fertile land in combination with a moderately dense rural population would have alleviated the land deficit in the territories of these towns.<sup>605</sup>

Other possibilities are also worth considering. Most scholars agree that, during the period of the High Empire the grain supply of the army was in the hands of the central government.<sup>606</sup> We have estimated the agricultural potential in the surroundings of the auxiliary *vici* only to explore the possible locational preferences for these sites. Obviously, the garrisoned units were not entirely reliant on local resources. Accepting this fact, we shall have to lower the population estimates for the garrison towns, by subtracting the number of garrisoned soldiers. Exact data are unavailable, but it is safe to assume that the military personnel in the legionary towns would have been in the region of 6000, including the auxiliary units that accompanied the legions.<sup>607</sup> The results are mixed. At Vindobona, subtracting the number of soldiers from the total population estimate removes the subsistence

problem but, at Carnuntum, the deficit is only reduced to 300 square kilometres in the minimum, and over 580 square kilometres in the maximum population estimate. Understandably, these considerations have absolutely no effect on Poetovio that was a civilian town.

One final possibility that needs to be considered is that the *canabae* had a sparser settlement structure, entailing lower population densities. The long-standing research on the *canabae* in Carnuntum has brought to light a loosely planned agglomeration, with houses separated by spacious cultivated plots or working space.<sup>608</sup> Deducting the size of the legionary contingent from the total population of the legionary camp and *canabae* and assuming a population density of 100 to the hectare in the *canabae* will nearly halve the grain demand of Carnuntum. However, even this adjustment will only reduce, but not eliminate the problem of sustaining the largest town in our study-area. It should also be pointed out that the low density of housing units was characteristic of the earliest phase of the *canabae*. By the Severan period, the settlement area appears to have been packed with buildings.<sup>609</sup>

The non-agricultural sector almost certainly had an important share in the economies of all three towns. Its participation is obvious in the case of the garrison towns. The large communities of professional, full-time soldiers – equal in size to the population of the major civilian towns – represented a big and attractive market. Their presence certainly would have drawn a large number of entrepreneurs, craftsmen and retailers who, taken in conjunction with the families and partners of the serving soldiers, would have constituted the backbone of the legionary towns.<sup>610</sup> This segment of the legionary town, usually identified with the *canabae* would have certainly purchased its grain at the market. The *canabae* were located on military land that was of very limited extent.<sup>611</sup> They measured roughly about ten to 15 square kilometres and were strictly reserved for military use. The agricultural base of this community was located elsewhere in the province and, by the 2nd century, in the territory of the *municipia* that developed next to the legionary camp. As the legionary towns were consumers not great producers, it is unlikely that their grain supply would have had to have come from more distant sources.<sup>612</sup>

Consequently, Poetovio was the only Pannonian town that partly had to rely on large-scale production for the regional market to cover a portion of its grain

<sup>605</sup> For the prominence of the villa landscape in the territory of Carnuntum, see Kandler, Humer, Zabehlicky 2004, 11–66; Ployer 2009, 1437–1446.

<sup>606</sup> Garnsey, Gallant, Rathbone 1984, 30–44; Erdkamp ed. 2002; although allowing for the involvement of private entrepreneurs in the transport of goods intended for the army.

<sup>607</sup> Doneus, Gugl, Doneus 2013; Kronberger, Mosser 2002, 573–584.

<sup>608</sup> Kandler, Zabehlicky 1986, 341–349; Kandler 2008, 90–108.

<sup>609</sup> Doneus, Gugl, Doneus 2013, Figure 87.

<sup>610</sup> Vittinghoff 1971, 299–324; Mócsy 1974, 139–147.

<sup>611</sup> Piso 1991, 131–169.

<sup>612</sup> Carnuntum: Kandler, Humer, Zabehlicky 2004, 11–66; Doneus, Gugl, Doneus 2013, 167–172.

demand.<sup>613</sup> Evidence of manufacturing has been found, but little can be said about the scale of these activities. A few established facts deserve a brief mention. The rescue excavations on the eastern periphery of the ancient town have revealed an extensive potters' quarter, unparalleled in any other Pannonian town.<sup>614</sup> In contrast to the military towns and *vici* on the Danube, in Poetovio, the imports from the large pottery workshops in Gaul and Germania were already in decline by the middle of the 2nd century and had been replaced by locally produced ware. Pottery was not the only product of this town. There is evidence for the large-scale production of bronze, glass and carved bone. Poetovio is also known from the historical sources to have been an important textile producer.<sup>615</sup> Furthermore, it is impossible to overlook the importance of the Poetovian marble quarries. Alongside Noricum, Poetovio was one of the main suppliers of Alpine dolomites to the Pannonian towns.<sup>616</sup> More importantly, in the next chapter, we shall see that Poetovio, like most other Roman colonies, had a large administrative territory. It extended over an area of at least 2000 square kilometres, most of it in the fertile valleys of the Mura and Drava. Even if future research proves that the scale of non-agricultural production in Poetovio was too small to meet the regional demand, the town could have relied on its vast territory to secure its grain supply.

Despite the high fertility of the land, the urban density in Pannonia was much lower than in Dalmatia or Macedonia. As in all provinces in our study-area, the agrarian potential did not necessarily lead to urban growth. Much of the land in the Sava, Drava and Raba Valleys remained under-urbanized throughout the period of the High Empire. Nor should the possibility that we have tended to overestimate the agrarian potential of these regions be ignored but, in the next chapter, we shall weigh up the fact that these gaps were caused by political and demographic rather than by environmental constraints. The possibility that some of the increased grain demand in the frontier communities was met from these areas should also be taken into account.

Agricultural considerations obviously ranked high in the period of town-foundation in this province, although other factors – primarily connectivity – also played a role. The physical geography of the province

would have allowed for a great deal of flexibility in the siting of settlements. Even if the town was not placed in an optimal location in relation to its agricultural resources, there would have still been plenty of arable land in its immediate surroundings. The majority of the large Pannonian towns were located on river-banks, although these could potentially be marshy areas. Evidently connectivity and, also possibly the natural defensive possibilities of the locations, were deemed equally important and, thanks to the agricultural riches of the broader region, these communities could afford to use a proportion of their hinterland for non-agricultural purposes. These factors effectively thwart all attempts to gauge the economic profile of the settlements simply by looking at the agricultural potential in their immediate surroundings.

Pannonia does not run counter to the pattern observed in the provinces in the western part of the peninsula. Only the largest towns would not have been able to produce the required amount of grain in the theoretical hinterlands defined by the 15-km radius. In Pannonia Superior, this deficiency was compensated for either by a broadening of the local economic base, that went hand in hand with large administrative territories and land purchases in neighbouring territories – the case of Poetovio, paralleled by Salona and Dyrrhachium in Dalmatia and Macedonia – or by the special subsidies from the central government, as in the case of the garrison towns of Carnuntum and Vindobona.

### Pannonia Inferior

The ruggedness of the relief was even less of a problem in Pannonia Inferior. Only a marginal segment of the provincial territory is comprised of hilly terrain. (Map V\_6) However, the geomorphology of the area has determined that sizeable areas to the south of Lake Balaton and along the rivers were waterlogged and ill-suited to agricultural exploitation. As explained in the preceding paragraphs, we are not in a position to arrive at even a rough estimate of the marshy areas in Antiquity. All available sources relate to the Early Modern period, by which time the hydrological situation in the region had probably undergone significant changes.<sup>617</sup> According to the written sources, there were marshes in the area in Antiquity, but there are no means to approximate their extents. We have tried to take this negative factor into account by deducting the areas drained by modern canals from the total arable area enclosed by the theoretical catchment radii.

At the beginning of the 20th century, Pannonia Inferior belonged to the same high-fertility zone as

<sup>613</sup> Siscia too stands above the trend-line for the minimum land-to-population ratio and, despite the relatively small deficit and imprecise nature of the estimates of the agrarian potential, it is worth mentioning the fact that Siscia was the principle base for the exploitation of the Pannonian iron mines, Lolić 2003, 131–152. Radman-Livaja 2007, 153–172, has discussed the epigraphic evidence of textile manufacture.

<sup>614</sup> Horvat *et al.* 2003, 153–189.

<sup>615</sup> Horvat *et al.* 2003, 181.

<sup>616</sup> Djurić, Müller 2009, 1–17.

<sup>617</sup> For the southern part of the province see The Naval Intelligence Division 1944a, Figure 3, 32–35.

Table V 5: Theoretical urbanization rates in the market catchments – 15 km – of the towns and settlements in Pannonia Inferior; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|--------------------------|----------|----------|----------|----------|
| Acumincum Slankamen      | 12.80%   | 4.27%    | 7.01%    | 2.34%    |
| Ad Militare Batina       | 150.00%  | 50.00%   | 120.00%  | 40.00%   |
| Ad Saldisae Morovic      | 5.88%    | 1.18%    | 2.84%    | 0.57%    |
| Ad Statuas Vardomb       | 15.70%   | 1.74%    | 7.83%    | 0.87%    |
| Alisca Ocseny            | 19.15%   | 6.38%    | 15.32%   | 5.11%    |
| Alta Ripa Tolna          | 6.67%    | 1.67%    | 3.17%    | 0.79%    |
| Altinum Kolked           | 10.98%   | 3.66%    | 4.40%    | 1.47%    |
| Annamatia Baracs         | 5.64%    | 1.88%    | 2.42%    | 0.81%    |
| Aquincum Buda            | 448.80%  | 376.80%  | 143.85%  | 120.77%  |
| Basante Zupanja          | 28.21%   | 2.82%    | 13.16%   | 1.32%    |
| Bassiana D. Petrovci     | 10.13%   | 6.27%    | 3.62%    | 2.24%    |
| Brigetio Szony           | 167.83%  | 146.85%  | 61.05%   | 53.42%   |
| Burgenae Novi Banovci    | 5.03%    | 0.91%    | 2.70%    | 0.49%    |
| Campona Nagyteteny       | 30.77%   | 9.62%    | 20.14%   | 6.29%    |
| Cibalae Vinkovci         | 46.67%   | 31.67%   | 12.68%   | 8.60%    |
| Cirpi Dunabogdany        | 34.62%   | 11.54%   | 23.23%   | 7.74%    |
| Cornacum Sotin           | 11.88%   | 1.98%    | 5.68%    | 0.95%    |
| Crumerum Nyergesujfalu   | 8.33%    | 2.08%    | 3.89%    | 0.97%    |
| Cuccium Ilok             | 14.52%   | 4.84%    | 5.11%    | 1.70%    |
| Gorsium Tac              | 45.80%   | 6.87%    | 17.20%   | 2.58%    |
| Intercisa Dunaujvaros    | 31.11%   | 8.89%    | 13.18%   | 3.76%    |
| Iovia Alsoheteny         | 10.55%   | 1.51%    | 4.11%    | 0.59%    |
| Lugio Dunaszekco         | 8.45%    | 2.82%    | 4.53%    | 1.51%    |
| Lussonium Dunakomlod     | 8.49%    | 1.42%    | 3.36%    | 0.56%    |
| Matrica Szazhalombatta   | 12.63%   | 2.53%    | 5.99%    | 1.20%    |
| Ritium Surduk            | 9.05%    | 3.02%    | 7.24%    | 2.41%    |

| Name, ancient and modern   | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|----------------------------|----------|----------|----------|----------|
| Sirmium Mitrovica          | 39.27%   | 31.41%   | 13.78%   | 11.03%   |
| Solva Esztergom            | 48.21%   | 10.71%   | 14.69%   | 3.27%    |
| Sopianae Pecs              | 18.18%   | 9.09%    | 5.54%    | 2.77%    |
| Unknown Svileuva           | 3.16%    | 0.63%    | 1.61%    | 0.32%    |
| Teutoburgium Dalj          | 6.57%    | 2.19%    | 3.91%    | 1.30%    |
| Ulcisia Castra Szentendre  | 33.75%   | 11.25%   | 24.00%   | 8.00%    |
| Unknown Albertfalva        | 52.94%   | 13.24%   | 42.35%   | 10.59%   |
| Unknown Janje              | 15.96%   | 1.91%    | 7.13%    | 0.86%    |
| Unknown Mehovina           | 3.99%    | 0.80%    | 2.42%    | 0.48%    |
| Unknown Petkovac/Vlasenica | 7.35%    | 1.47%    | 5.88%    | 1.18%    |
| Unknown Sabac              | 3.76%    | 0.75%    | 1.60%    | 0.32%    |
| Unknown Usce               | 3.72%    | 0.74%    | 1.22%    | 0.24%    |
| Unknown Obarska            | 4.94%    | 0.49%    | 2.32%    | 0.23%    |
| Vetus Salina Adony         | 6.49%    | 1.80%    | 3.36%    | 0.93%    |
| Mursa Osjek                | 52.04%   | 42.86%   | 22.84%   | 18.81%   |
| Marsonia Slavonski Brod    | 10.17%   | 3.39%    | 3.12%    | 1.04%    |
| Ad Azaum Almásfízitő       | 36.49%   | 12.16%   | 18.95%   | 6.32%    |
| Ad Novas Zmajevac          | 27.00%   | 3.00%    | 15.43%   | 1.71%    |
| Taurunum Zemun             | 24.55%   | 2.73%    | 15.43%   | 1.71%    |
| Ad Statuas Acs             | 12.63%   | 3.16%    | 10.11%   | 2.53%    |
| Ad Mures Acs               | 12.63%   | 4.74%    | 5.08%    | 1.90%    |
| Unknown Vizivaros          | 150.00%  | 45.00%   | 120.00%  | 36.00%   |
| Tricciana Sagvar           | 5.45%    | 4.77%    | 1.72%    | 1.50%    |
| Avg                        | 9.75%    | 21.84%   | 17.47%   | 7.80%    |

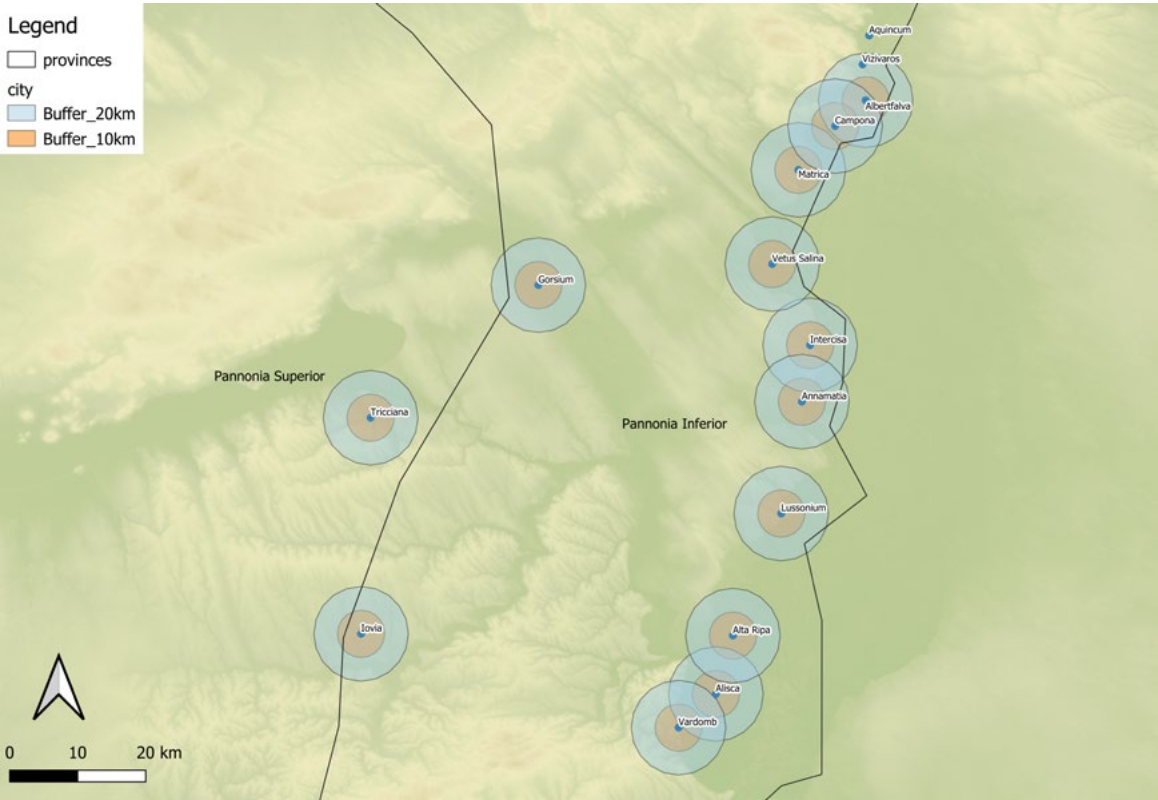
the neighbouring Pannonian province.<sup>618</sup> Alongside Vojvodina, the territories of the two former Roman provinces formed the agricultural core of the Austro-Hungarian Empire, compensating entirely for the low productivity of the Alpine regions in the western parts of the monarchy. There is some historical evidence that the Pannonian provinces assumed a similar grain-producing role during the 4th century AD, but the issue is still debated.<sup>619</sup> We were again surprised to discover that the southern part of the province, the Danube-Sava Interfluve, produced only a moderate surplus in the early 20th century, insufficient to cover the grain deficits in the rest of modern Croatia. However, we remain convinced that the very high rate of

consumption adopted by the survey cited rather than any deficiency in the agricultural productivity of the area caused this deficit.

In Chapter Three we saw that almost 80% of the Pannonian settlements were located on the Danube. The direct consequence of this siting was that a certain proportion of the immediate surroundings was waterlogged but, even more significantly, about half of the theoretical catchments of these settlements were located beyond the state frontiers. In view of the undulating relief in the interior of the province, one would have expected the extended catchment radius to have had a positive effect on the amount of arable land in the urban hinterlands. However, nothing would seem to be farther from the truth when one takes a closer look at the figures expressed in percentages (Figure V 13).

<sup>618</sup> Louis 1924, Figure 3, Table 11.

<sup>619</sup> Varady 1969; Lengyel, Radan eds 1980, 61; Gabler 1991, 51-73.



Map V 7: Settlement and agricultural territories in the region behind the eastern Pannonian frontier.

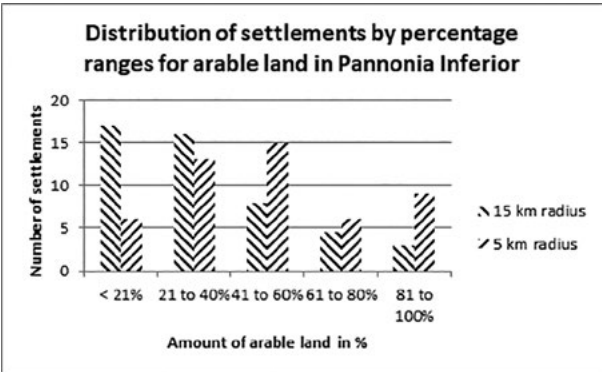


Figure V 13: Distribution of the settlements across percentage ranges for arable land within the 15- and five-km catchment radii in Pannonia Inferior.

Quite the opposite, with the market radius, the number of towns whose hinterlands were less than 40% arable increases substantially, representing about two-thirds of all urban hinterlands. Nearly half of the settlements had catchments that were at least 50% arable in the five-km catchment radius. This percentage drops to 16% when the catchment radius is extended to 15-km.

In Pannonia Inferior, as in the neighbouring Pannonian province, the negative effect of the extended catchment

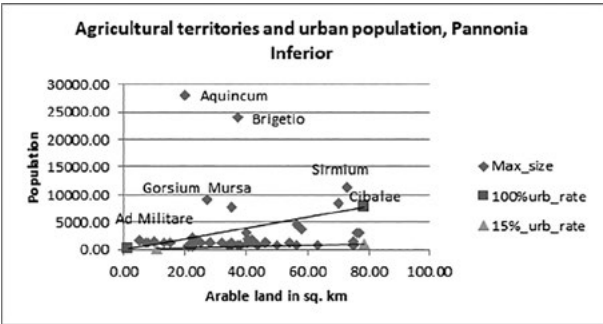


Figure V 14: Maximum population figures and estimates of the agricultural territory for the five-km catchment radius in Pannonia Inferior.

radius was predestined by the short distances between the frontier settlements. Because of the proximity of neighbouring settlements of equal rank, the hinterlands of the garrison settlements have radii smaller than ten km. Nonetheless, as in Pannonia Superior and in contrast to the western Balkan provinces, in absolute terms the gains are far from insignificant. Over two-thirds of the settlements add more than 100 square kilometres of new arable land with the extended catchment radius. Accounting for the needs of the rural population in



these areas, – even if estimated at three-quarters of the total population – this increase could have secured the livelihood of about 2500 urban residents.

There are not any obvious correlations between the amount of arable land and the rank of the settlements. With a few exceptions, and mostly because of their position on the Danube frontier, the plough-zone in the hinterlands of most garrison settlements was made up of between 20 and 40% or 40 and 60%, depending on the catchment radius. This group includes the two honorary colonies of Aquincum and Brigetio. On the other hand, the autonomous civilian towns were located in the interior of the province and at least 80% of their hinterlands are arable. As in some other provinces, despite their small size and subordinate status, most of the secondary agglomerations also enjoyed a high agricultural potential. We have included this small group of settlements only to demonstrate that large segments of the Pannonian provinces remained under-urbanized, despite the fact that environmental conditions did not dictate this. For similar reasons, we have included a group of Late Roman foundations in this analysis. Notwithstanding the possibility that they might have grown out of smaller settlements and stations founded in the period of the High Empire, both Iovia and Tricciana enjoyed an excellent agricultural potential. They too show that large sections behind the eastern Pannonian *Limes* were not urbanized, despite the solid agricultural potential. (Map V\_7)

The minimum urbanization rates in the hinterlands of the Pannonian towns and settlements are kept low by the large market catchments and the favourable geographical conditions. Among the auxiliary and road-side *vici*, they are consistently lower than 20% with the maximum, dropping to less than five percent with the minimum size-estimates. (Table V\_5) The only exceptions are the auxiliary *vici* whose territory was limited by the Danube frontier or the close proximity of the neighbouring forts. The urbanization rates in the market catchments of the autonomous towns, most of which were located in the interior of the province, do not differ from those in the catchments of the auxiliary and road-side *vici*. Only in the hinterlands of the legionary agglomerations are the district rates higher than 50%. Because the settlements of Pannonia Inferior enjoyed access to less extensive agricultural territories – a precondition of their location on the Danube *Limes* and by the short spacing between the auxiliary *vici* – the average local urbanization rates are slightly higher than in Pannonia Superior, ranging between ten percent for the minimum and 22% for the maximum size-estimates. Obviously, the relatively high average urbanization rates for the urban territories are hardly representative of the distribution of the population in Pannonia Inferior. They have been pushed upwards by the high urbanization rates in the territories of the

auxiliary *vici* that occupy the corners of the provincial territory or the thickly defended sections of the *Limes*. Lowering the population density in the settlements to 120 persons per hectare – unlikely in view of the high density in the military forts – will sink the local rates by five percent.

Only the largest towns in Pannonia Inferior exceeded the agricultural potential of their farming catchments (Figure V 14). Most of these towns were too large for the land in their immediate catchments, even if they were 100% arable. The cluster of settlements in the lower left corner of the graph that are placed on the trend-line for the minimum land-to-population ratio are obscure auxiliary *vici* that occupied marginal locations on the Danube frontier. The remaining Pannonian settlements, even at their largest, are situated below the sustainability threshold. As in the case of Pannonia Superior, this is a corollary of the high fertility of the province. Most of the settlements in question were auxiliary *vici*, whose siting was not determined by agricultural considerations.

Taking a constant urbanization rate of about 15%, the picture is entirely reversed and almost none of the Pannonian settlements are fully self-sustainable. This is in itself a possible indicator that urbanization rates could have been much higher in the immediate surroundings of the central place. In order to have all third-tier settlements placed below the trend-line – a likely assumption bearing in mind that these settlements could rarely rely on resources located beyond their farming catchments –, the district rates in the five-km catchment radius must be increased to at least 50%.

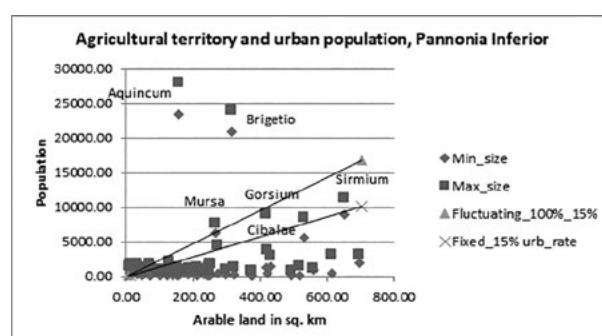
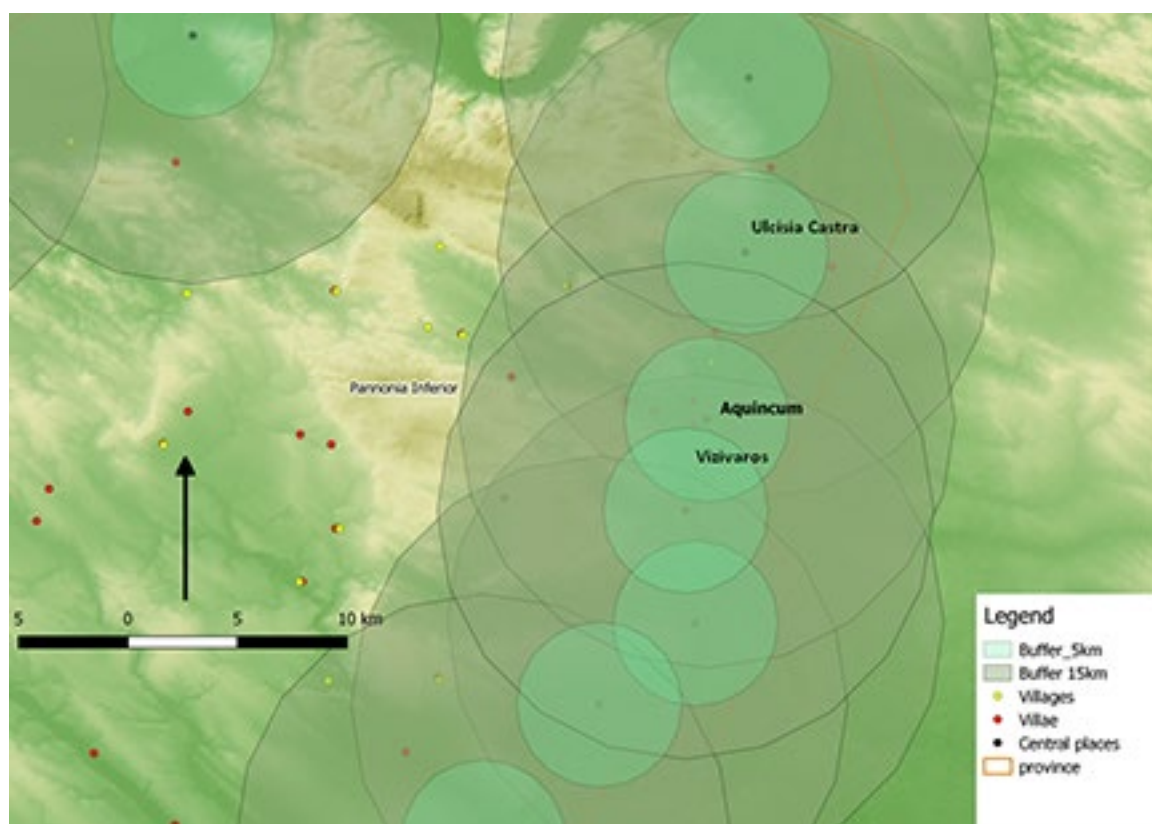


Figure V 15: Maximum and minimum population figures and estimates of arable land for the 15- km catchment radius in Pannonia Inferior.

Taking the extended catchment radii and minimum population estimates, all but the two largest Pannonian towns become self-sustainable (Figure V 15). Even with the maximum population estimates, most of the civilian towns, with a few exceptions, could have satisfied the bulk of their grain consumption from the



Map V 8: Distribution of rural settlements on the territory of Aquincum.

arable land available within the 15-km radii, regardless of the projected size of the rural population. A few of the second-tier settlements – Cibalae, Sirmium – came close to reaching the ceiling of their agricultural productivity, but the maximum estimates for both towns refer to their extent in the Late Roman period. It is likely that alongside Mursa, Cibalae and Sirmium were involved in non-agricultural economic pursuits on a significant scale, but the evidence is too scant.<sup>620</sup> In the case of Sirmium, the epigraphic record attests the involvement of its elite in the silver-mining district along the Drina.<sup>621</sup> Primarily on account of its geostrategic importance, Sirmium became one of the capitals of the Empire under the Tetrarchy. Subsequently, the town underwent considerable changes in its urban fabric to accommodate the exigencies of the Imperial court and the great influx of administrative personnel and its urban area was enlarged.<sup>622</sup> Finally, all three settlements were autonomous towns and their administrative territories were much larger than the area enclosed by the extended catchment radius. The small land deficits

for these towns could have easily been compensated for by the arable land available in their administrative territories.

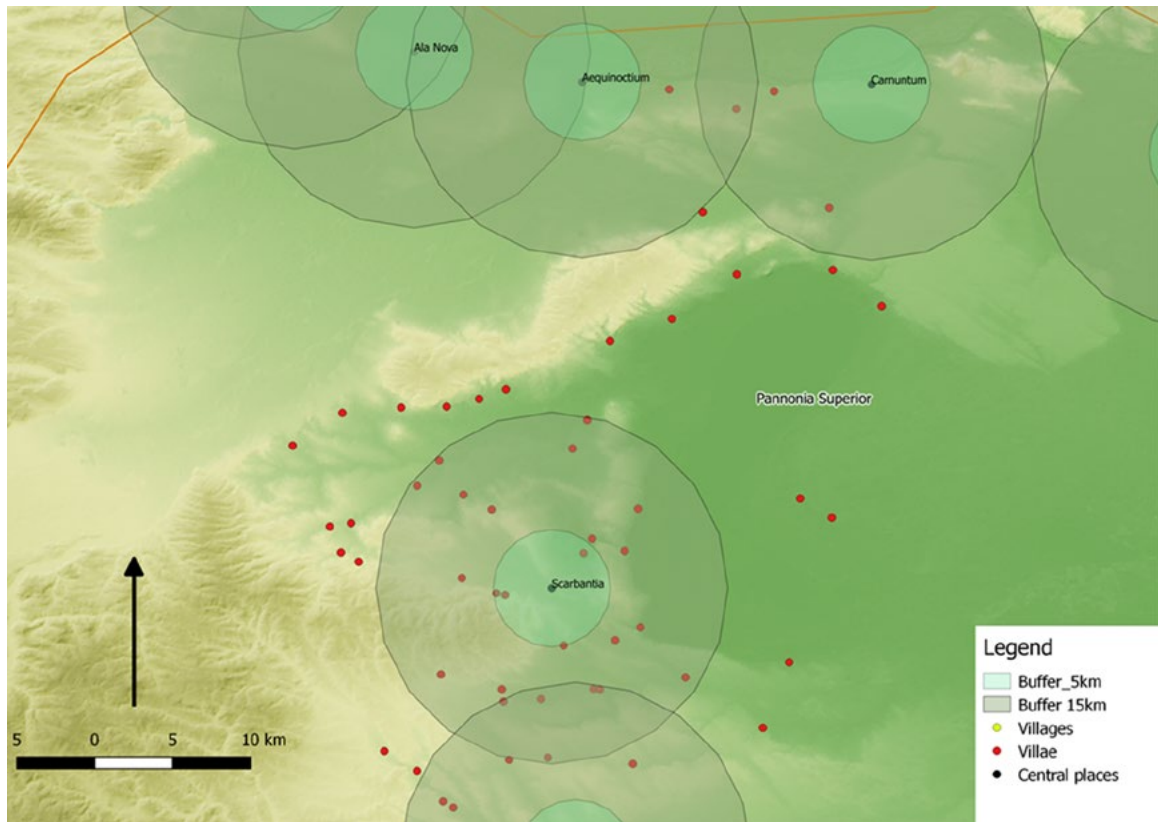
Only the two legionary agglomerations were so much larger than their arable hinterlands that neither the conservative size-estimates nor the increased catchment radius could compensate for the huge gap between these two parameters. The land-shortages climb to 567 and to over 830 square kilometres, with the minimum size-estimates and to as much as 1000 square kilometres for Aquincum at its largest. We can only repeat the explanations that have been offered for the largest towns of Pannonia Superior. A considerable proportion of the population of Brigetio and Aquincum – between one-quarter and one-third – consisted of professional soldiers.<sup>623</sup> This segment of the population was not involved in agricultural production nor was it entirely dependent on the local agricultural produce. Discounting the military component will substantially alleviate the problem of feeding these towns although, as in the case of the legionary towns in Pannonia Superior, large and fertile administrative territories will have to be reckoned with.

<sup>620</sup> Cibalae was obviously involved in pottery production, but the true scale of this manufacture is difficult to assess, Iskra-Janošić 2004, 189; Iskra-Janošić 1996, 141-149; for imperial kilns in Mursa see, Pinterović 1978; the archaeological evidence is meagre, Filipović 2004, 157-168. There is no evidence of other, more profitable industries.

<sup>621</sup> Bojanovski 1981, 148-149; Škegro 2006, 161-162.

<sup>622</sup> Mirković 1971, 5-90.

<sup>623</sup> Máritý 1992, 65-73.



Map V 9: Distribution of rural settlements in the hinterland of Scarbantia.

If we are to understand the mechanisms by which towns the size of Aquincum coped with the high grain demands, it is crucial to look at the settlement patterns in the countryside. Unfortunately, the published data are far from ideal, the bulk of them are based on orientational surveys and accidental discoveries. (Map V\_8)<sup>624</sup> The lack of systematic research in the countryside and the fact that much of Aquincum's hinterland has been swallowed up by modern Budapest preclude even the most rudimentary quantitative analysis. However, regardless of all the deficiencies that might arise, Map V\_8 shows a slightly higher concentration of *villae* within the five-km radius of the provincial capital. At least four *villae* have been identified in this central zone of the town's hinterland and another two lie just outside the five-km catchment radius. Together, they make up almost one-half of the *villae* discovered on the assumed administrative territory of the colony. The rest of the *villae* attributed to Aquincum are located at the edge of or beyond the market catchment. They are clustered along the major roads that led to the northern Pannonian frontier, at distances of about 15 to 20 km from the town. This pattern is vaguely repeated in the territories of Carnuntum and Scarbantia in Pannonia Superior. Clusters of *villae* appear beyond the five-km

radius and, in these cases, again it is difficult to observe an increased frequency of *villae* construction within the shorter catchment radius. (Map V\_9)<sup>625</sup> If these data are at least partly correct, they could imply relatively high urbanization rates in the administrative territories of these towns. As in most of the urban hinterlands, larger nucleated settlements are rare or absent in the catchment areas defined by the market radius.

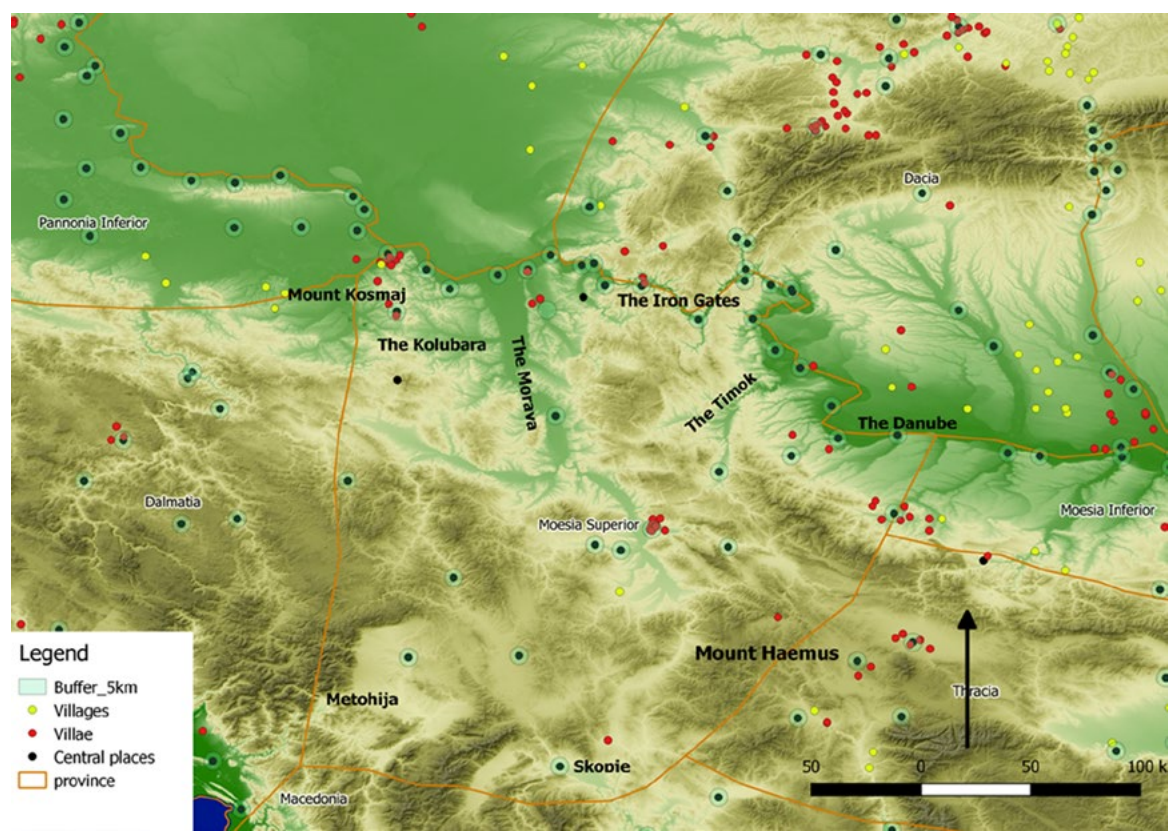
But the predominance of *villae* does not necessarily exclude the presence of nucleated settlements. Indeed, the putative territory of Aquincum features a fairly high number of small rural agglomerations. However, with a few exceptions, most of these *vici* are located outside the core area of the urban catchment.<sup>626</sup> Although the significance of this fact can only be surmised, it is not easily written off. It is difficult to point out any possible research biases that could have caused this distribution. The absence of nucleated settlements is paralleled in a number of urban hinterlands and it would appear to support the hypothesis of a high urbanization rate in the towns' immediate surroundings. However, more evidence is needed before we can embrace this postulation wholeheartedly. The predominance of

<sup>624</sup> Fitz 1971, 47-57; Németh 1997, 47-55; Zsidi 2003, 209-230.

<sup>625</sup> Gabler 1973, 139-176; Kandler, Humer, Zabehlicky 2004, 24-26.

<sup>626</sup> Fitz 1971, 50; Nagy 1971, 59-81; Zsidi 1997, 225-227.





Map V 10: Geography and settlement in Moesia Superior.

*villae* primarily reflects the agrarian relations in the urban hinterlands. It is interesting to observe that, unlike the *vici* in some other provinces in this region, the names of the majority of the nucleated settlements in the territory of Aquincum have not survived in the epigraphic record. The fact that they are often associated with large *villae* might perhaps indicate their genesis and role in the agricultural economy of the area. Even in the distant hinterland of the town, much of the rural population would have made their living as tenant farmers on the large estates of the rich urban dwellers.

The towns of Pannonia Inferior occupied micro-locations that offered access to agriculturally rich territories. Although on average larger than the towns of Roman Macedonia or Dalmatia, fewer of the Pannonian towns came close to reaching the limits of the grain-producing capacities of their theoretical hinterlands. It is symptomatic that in nearly all of these cases, the size-estimates refer to Late Antiquity. Notwithstanding the importance of the non-agrarian sector in these towns, it could be argued that agricultural considerations and connectivity ranked high in the siting of all civilian settlements in Pannonia Inferior. However, these conditions were not decisive in the urban developments in the area. Most of the urban

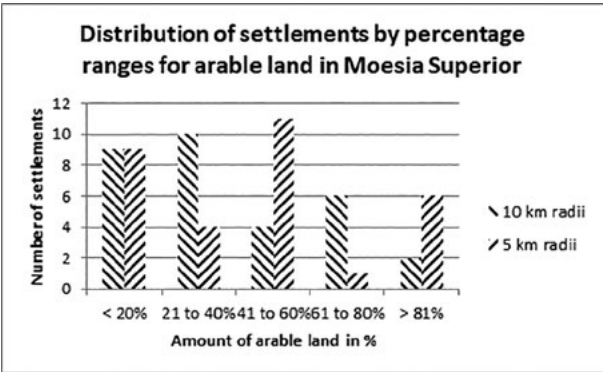


Figure V 16: Distribution of the settlements across percentage ranges for arable land within the ten- and five-km catchment radii in Moesia Superior.

growth was limited to the frontier zone, fuelled by the generous financial support of the central government. Only when the Danube *Limes* began to falter in the 4th century AD was this pattern abandoned and new centres emerged in what had previously been ‘vacant’ areas in the Pannonian interior. At this time, the civilian towns in the south of the province reached their apogee, possibly straining the resources available in their immediate hinterlands. The large agglomerations



Table V 6: Theoretical urbanization rates in the market catchments – ten km – of the towns and settlements in Moesia Superior; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|--------------------------|----------|----------|----------|----------|
| Ad Herculem Glasinac     | 2.20%    | 0.73%    | 1.76%    | 0.59%    |
| Almus Lom                | 19.35%   | 5.53%    | 15.48%   | 4.42%    |
| Aquae Prahovo            | 17.95%   | 2.56%    | 14.36%   | 2.05%    |
| Aureus Mons Seona        | 5.31%    | 1.77%    | 4.25%    | 1.42%    |
| Bononia Vidin            | 17.00%   | 1.70%    | 13.60%   | 1.36%    |
| Combustica Kladorup      | 11.48%   | 3.28%    | 9.18%    | 2.62%    |
| Cuppae Golubac           | 14.79%   | 6.13%    | 11.83%   | 4.90%    |
| Diana Karatas            | 26.47%   | 8.82%    | 21.18%   | 7.06%    |
| Dortikum Vrv             | 4.69%    | 1.17%    | 3.75%    | 0.94%    |
| Hammeum Prokuplje        | 7.00%    | 2.00%    | 5.60%    | 1.60%    |
| Horreum Margi Cuprija    | 6.61%    | 1.10%    | 5.28%    | 0.88%    |
| M.Municipium Kaliste     | 1.73%    | 0.58%    | 1.38%    | 0.46%    |
| Lederata Ram             | 34.09%   | 6.82%    | 27.27%   | 5.45%    |
| Margum Orasje            | 14.57%   | 8.50%    | 11.66%   | 6.80%    |
| Municipium DD Socanica   | 128.57%  | 64.29%   | 102.86%  | 51.43%   |
| Naissus Niš              | 13.70%   | 6.85%    | 10.96%   | 5.48%    |
| Novae-Cezava             | 50.00%   | 18.75%   | 40.00%   | 15.00%   |
| Pincus Pecka             | 2.73%    | 0.68%    | 2.18%    | 0.55%    |
| Ratiaria Archar          | 62.69%   | 33.58%   | 50.15%   | 26.87%   |
| Remesiana Bela Palanka   | 27.69%   | 11.54%   | 22.15%   | 9.23%    |
| Scupi Skopje             | 34.29%   | 31.17%   | 27.43%   | 24.94%   |
| Singidunum Belgrade      | 131.25%  | 112.50%  | 105.00%  | 90.00%   |
| Unknown Stojnik          | 2.41%    | 0.60%    | 1.93%    | 0.48%    |
| Taliata Milanovac        | 21.43%   | 9.11%    | 17.14%   | 7.29%    |
| Timacus Minus Ravna      | 5.95%    | 1.98%    | 4.76%    | 1.59%    |
| Transdierna Tekija       | 12.50%   | 1.88%    | 10.00%   | 1.50%    |
| Trikornium Ritopek       | 12.33%   | 2.05%    | 9.86%    | 1.64%    |
| Ulpiana Gračanica        | 22.93%   | 10.48%   | 18.34%   | 8.38%    |
| Unknown Drsnik           | 13.04%   | 6.52%    | 10.43%   | 5.22%    |
| Viminacium Kostolac      | 139.44%  | 108.45%  | 111.55%  | 86.76%   |
| Egeta Brza Palanka       | 15.19%   | 3.80%    | 12.15%   | 3.04%    |
| Avg                      | 28.37%   | 15.32%   | 22.69%   | 12.26%   |

on the Danube *Limes* continued to exist as long as the central government was in a position to send grain and silver to the army and invest in construction. Once this supply-line was cut, even the largest towns on the *Limes* experienced a considerable reduction in size and,

with the advance of the Barbarian tribes, were either completely abandoned or lost their urban character.<sup>627</sup>

### Moesia Superior

In contrast to the Pannonian provinces, the geography of Moesia Superior is much more varied.<sup>628</sup> A significant portion – up to 80% – of its territory is composed of hills and mountains. (Map V\_10) Although the amount of cultivable land in these areas is limited, it is rich in pastures and, more importantly, in precious metals.<sup>629</sup> Despite the extent of the hilly zone, this province cannot be compared to the truly mountainous geography of Dalmatia. The Moesian Mountains are less rugged than the Dinaric or Albanian Alps and they are dissected by large and fertile river valleys. These offer large amounts of fertile land, especially the Morava and its tributaries.<sup>630</sup> In the northwest of the province, in the interfluvium between the Morava and the Kolubara, the Pannonian landscapes return. In this region, with the exception of Mount Kosmaj, almost 100% of the land is arable. The peripheral parts of the province fall outside the drainage system of the Morava, but these are equally fertile regions: the Metohija Plain, the Skopje Basin and the Timok Valley in its lower half. A small segment of the Danube Valley on the other side of the Iron Gates and Mount Haemus also formed part of Moesia Superior.<sup>631</sup> However, because over half of the settlements included in this analysis were located in the rugged portions of the province – a fact which is telling in itself – the market radius has been set at ten kilometres.

The agricultural surveys characterize Moesia Superior as a surplus-producing region during the first couple of decades of the last century.<sup>632</sup> This document refers to the agricultural productivity of the kingdom of Serbia, a polity that inherited most of the territory of Moesia Superior, but it also covered considerable mountainous stretches that in antiquity formed parts of Macedonia and Dalmatia. It is therefore likely that agricultural productivity was even higher in the section of the kingdom that was once a part of Moesia Superior. Admittedly, an unknown proportion of the fertile northwestern quarter of the Serbian kingdom had belonged to Dalmatia or Pannonia in the past, but this historical fact does not challenge the overall positive image of the agricultural capacities of the Moesian valleys.

<sup>627</sup> Mócsy 1974, 308-319.

<sup>628</sup> Mladenović 2012.

<sup>629</sup> The Naval Intelligence Division 1920b, 12-19; The Naval Intelligence Division 1944a, 89-107.

<sup>630</sup> The Naval Intelligence Division 1944a, 92-93, 99-100.

<sup>631</sup> The Naval Intelligence Division 1944b, Figure 17-18.

<sup>632</sup> Louis 1924.

In comparison to some other provinces, the enlarged theoretical hinterlands have a fairly positive effect on the percentage of arable land in Moesia Superior (Figure V 16). Slightly over one-quarter of the settlements see an increase in the percentage of arable land taking the extended catchment radius. The increment is not always trifling. In fact, most of the towns and settlements increase their agricultural potential by over ten percent with the market catchment. It should be remembered that in the majority of the provinces studied so far, even a slight increase in the percentage of arable land is an exception. The extended hinterlands also improved the agricultural potential of some of the coastal towns in the western Balkan provinces, hinting at the possibility that other, non-agricultural factors were decisive in the siting of these settlements. In Moesia Superior, the majority are represented by the auxiliary *vici* and legionary towns, a category of settlements whose micro-locations were entirely determined by military and logistical rather than by agricultural considerations. In absolute numbers, the gains are much higher than in the western Balkan provinces. Only five or six settlements add less than 50 square kilometres of arable land when the catchment radius is extended to ten kilometres.

No obvious patterns emerge when we attempt to correlate the different settlement categories with the agricultural potential in their theoretical hinterlands. Even among the handful of certainly attested autonomous towns, there are considerable differences. The percentage of arable land ranges from between 11 and 19% for the Dardanian *municipium*, to over 70% for Ulpiana or Naissus. In the case of the legionary towns of Singidunum and Viminacium, the agricultural territories drop to less than 35% of the market catchments. Rather unexpectedly, Trajan's colony, Ratiaria, had only about 20% of arable land in the ten-km catchment. Scupi, the first colony of Moesia Superior, had a far more favourable location and over 60% of its ten-km catchment was productive. The Roman colonies usually occupied locations that guaranteed fertile theoretical hinterlands and, in this respect, Ratiaria presents a special case.

Smaller agricultural territories seem to have been a feature of the garrison settlements. The agricultural territories of both the auxiliary *vici* and legionary towns rarely contain over 30% of their catchments. However, this is chiefly predetermined by their location on the Danube frontier rather than by their socio-economic fabric. Some of the most fertile hinterlands in the interior fall within the catchment radii of garrison settlements like Timacus Minus or Naissus. In this context, we can observe that, as in other sparsely urbanized provinces, the supposed locations of road-stations almost always enjoyed a very high percentage of cultivable land in their immediate vicinity. While

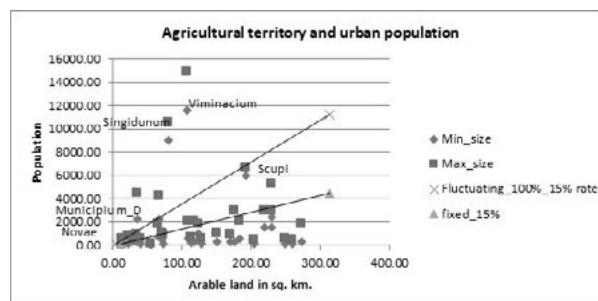
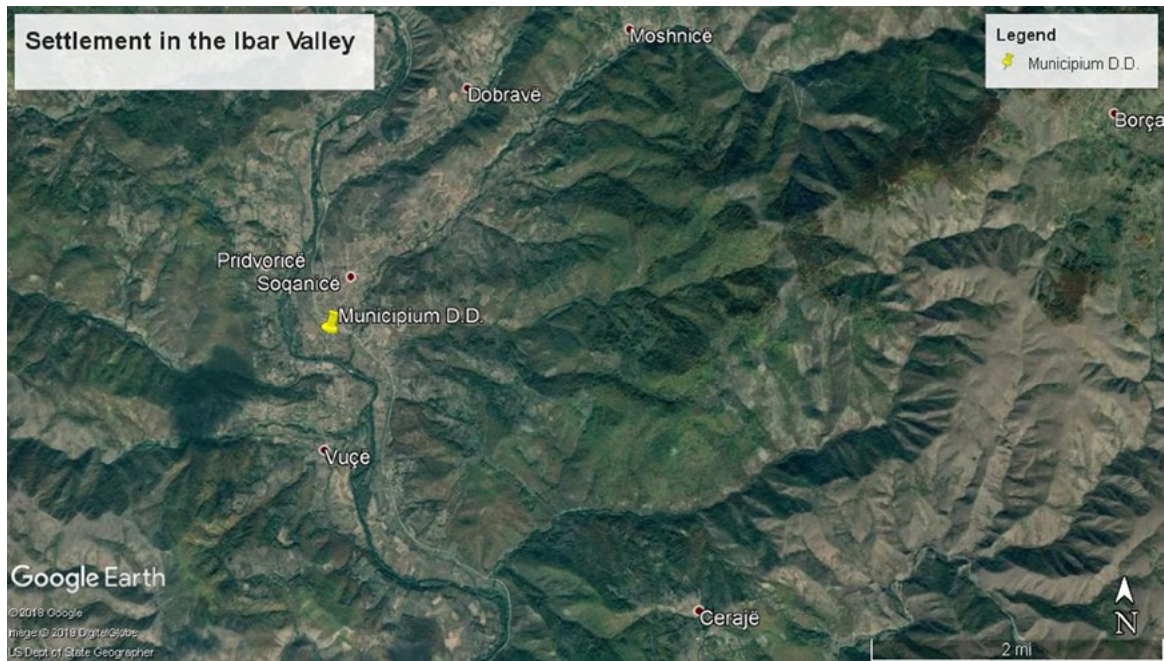


Figure V 18: Maximum and minimum population figures and estimates of arable land for the ten-km catchment radius in Moesia Superior.

they probably would have had to have shared this agricultural potential with an unknown number of similarly sized settlements, the fact remains that most of these micro-locations were never urbanized. Instead, urbanism took root in the narrow frontier zone and in some of the mining districts.

Taking the minimum size estimates, in over two-thirds of the Moesian hinterlands included in this study, the urbanization rates are lower than ten percent. (Table V\_6) The district rates could rise to 20% if we accept the maximum size-estimates, but for the majority of the settlements in question, these are not particularly reliable. The low urbanization rates were predetermined chiefly by the small size of most of these settlements. As in the rest of the study-area they were smaller than 15 ha and they were quite often located in the most fertile sections of the province. Most of them were not autonomous towns and the real number of similarly sized settlements in these areas can only be surmised. Whatever their size, we would not be far off if we were to say that, in at least three-quarters of the provincial territory, the population was distributed into small communities that could live comfortably off the agricultural resources found in their immediate surroundings. Excluding the legionary settlements that, as elsewhere, exceeded the agrarian capacities of their hinterlands, higher urbanization rates can only be observed among some of the autonomous towns and the auxiliary *vici* located in the Iron Gates on the Danube. They range between 20 and 60%. Only in the case of the mining *municipium* Dardanorum was the urban to rural ratio higher than one, even in the minimum size-estimate. With the exception of the legionary agglomerations, the medium to high urbanization rates were primarily a consequence of the low agricultural potential in the settlements' surroundings rather than of their size. It is mostly because of this circumstance that the average district rates were relatively high. Almost 30% are implied by the maximum, 16% by the minimum size-estimates. We expect urbanization rates



Map V 11: Distribution of modern rural settlements in the upper Ibar valley.

on the order of those projected for the Pannonian provinces – between ten and 20% – were the market catchments extended to 15 km or the urban population density reduced to 120 per hectare.

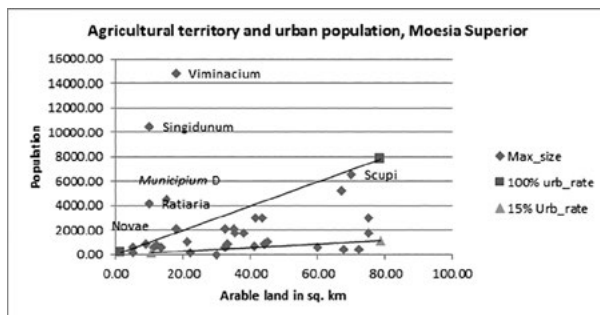


Figure V 17: Maximum population figures and estimates of arable land for the five-km catchment radius in Moesia Superior.

Despite the fact that their micro-locations were not always optimal in relation to the agricultural resources, the majority of the Moesian settlements were self-sustainable because of their small size. In this respect, the situation in Moesia Superior was not different from that encountered in the Pannonian provinces. Only a handful of autonomous towns, including the two legionary agglomerations, were too large to function as simple agrarian communities. However, the principal assumption that underlies this distribution is that the entire produce of the farming catchment was reserved for the urban dwellers. As in the Pannonian provinces,

postulating a rural population seven times the size of the urban population – which is the overall urbanization rate usually ascribed to the northwest provinces – only a few of the Moesian settlements would have been self-sustainable. In the case of Moesia Superior, 30 to 40% urbanization rate in the five-km catchments is the bare minimum required to shift most subordinate settlements below the trend-line.

It is striking that the prospect of the oversized settlements in Figure V\_17 is unchanged when the catchment radius is increased to ten kilometres (Figure V 18). The same group of settlements falls above the trend-line for the minimum land-to-population ratio and the land deficit is not reduced. The additions of new arable land are relatively modest in the case of Ratiaria and the *Municipium Dardanorum*, whereas the legionary towns are too large even for their market catchments. Nonetheless, the great majority of the settlements are shifted above the trend-line once the catchment radius is extended to ten kilometres. Taking the low size-estimates and constant urbanization rate of 15%, over three-quarters of the Moesian settlements would have been self-sustainable with the extended hinterland.

Apart from the small group of autonomous towns, a few of the auxiliary *vici* in the Iron Gates are also unsustainable by the resources available within their market catchment. The principal role of the military outposts in the Danube Gorge was control of the river traffic.<sup>633</sup> These garrison settlements were not

<sup>633</sup> For conditions in the region of the Iron Gates see The Naval



dependent on the local agricultural resources and, because of their small size and access to the Danube, their sustenance did not present a serious challenge for the provincial government.

The *municipium Dardanorum* was likewise a settlement with a highly specialized economy. In contrast to the Early Roman period, the hinterland of this town - the Upper Ibar Valley - is now occupied by small villages, each exploiting its own small niche. (Map V\_11) Despite the inadequacy of the data, we have suggested that similar patterns might be expected in the mining districts in Dalmatia and Pannonia. It is unclear what conditions gave rise to the emergence of a fairly large agglomeration in the Dardanian district. Even with the minimum size-estimate, the *Municipium Dardanorum* is slightly oversized for its hinterland.<sup>634</sup>

It is important to bear in mind that almost all the very large settlements in our study-area had direct access to harbours or river-ports. The *Municipium Dardanorum* is a land-locked settlement, located hundreds of kilometres from the nearest harbours. Provisioning this community over a period of at least three centuries would have been prohibitively expensive for the provincial government, regardless of the profitability of the silver mines in its territory. One possibility that does spring to mind is that grain was shipped from the agriculturally rich areas in Kosovo Polje or the Skopje Basin. As we shall see in the next chapter, the epigraphic sources reveal the close involvement of the urban elites of both Scupi and Ulpiana in the *ordo* of the mining colony.<sup>635</sup>

Ratiaria is the other civilian town in Moesia Superior that exceeded the local agricultural resources. The margin is small and the sustenance problem occurs only with the maximum size-estimate that refers to the size of the town in Late Antiquity. The minimum size-estimate is the more accurate one in the case of Ratiaria.<sup>636</sup> It is nonetheless worth mentioning that, like Siscia or Sirmium, the involvement of the elite of this town in the mining district in the region is well attested epigraphically, and its river-port would have opened access to the agricultural produce of a territory much larger than the town's catchment. Like most of the autonomous towns in the Danube provinces, Ratiaria was in control of a very large territory that contained vast fertile areas between Mount Haemus and the Danube.

Intelligence Division 1944a, 102-107.

<sup>634</sup> Archaeological remains: Čerškov 1970; economic profile and social composition: Dušanić 1971, 241-259; Dušanić 2004a, 247-270.

<sup>635</sup> Šašel 1992; cf. Dušanić 2004a, 257; for parallel roles of Siscia and Sirmium in the Pannonian mining districts.

<sup>636</sup> Luka 2014, 50-64.

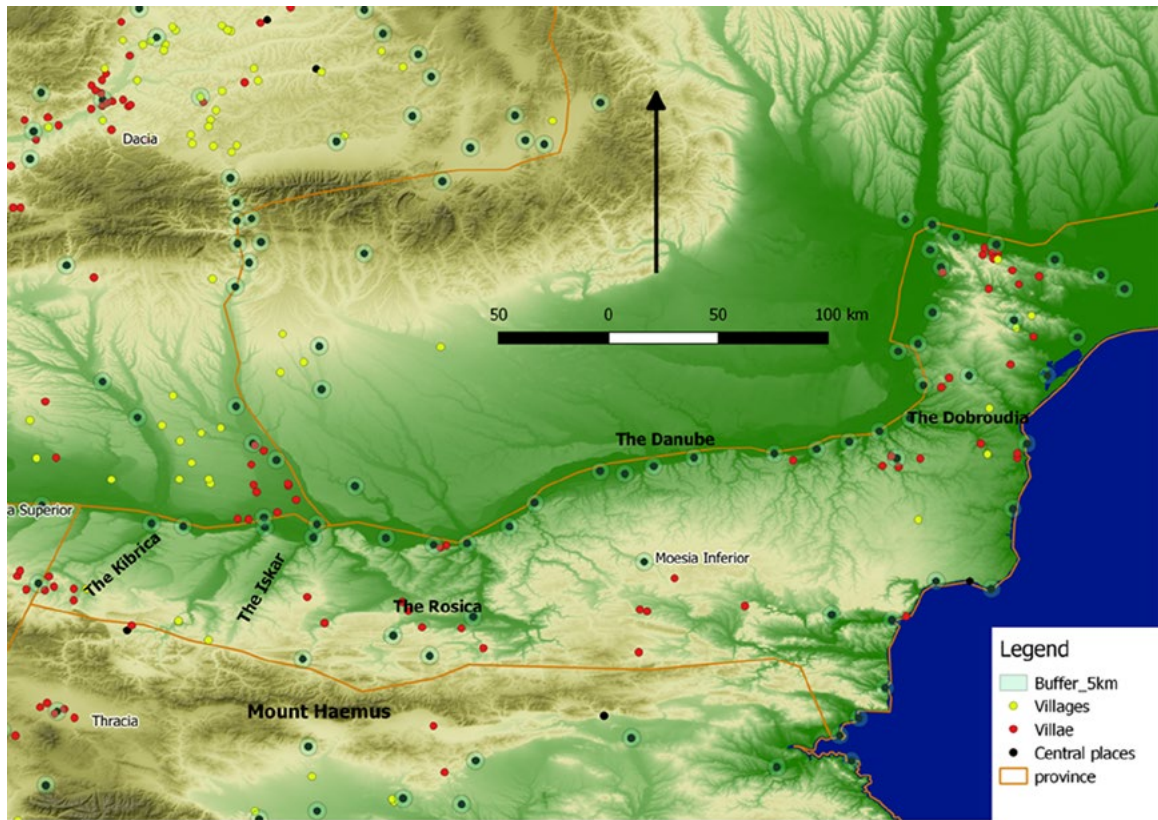
Only the largest two settlements in the province exceed the agricultural riches of their hinterlands by a greater margin. As in the rest of the frontier provinces, these are the two legionary settlements, both located on the 60-km-long section of the Danube *Limes* in Moesia Superior. These garrison towns are too large even for the amount of arable land found within the ten-km catchment radius. Because of the absence of double towns on this section of the Danube *Limes*, both Viminacium and Singidunum are considerably smaller than their Pannonian counterparts and consequently, the deficit is comparatively small. In the case of Viminacium, it amounts to over 300 square kilometres with the maximum population estimate, but this figure is reduced by one-third when the conservative size-estimates are taken into consideration. Depending on the population estimates, Singidunum fell short by 170 to 215 square kilometres of arable land.

The special conditions that applied to the remaining large frontier towns are also what sustained the extraordinary growth of Singidunum and Viminacium. Deducting the military personnel from the estimated population of these settlements, the grain deficit is greatly reduced in the case of Viminacium and all but disappears in the case of Singidunum. In the next chapter, we shall see that the administrative territories of these towns were relatively small, but fertile. The large stretches of arable land along the Rivers Mlava and Sava ensured the sustainability of both settlements.

In general terms, Moesia Superior is similar to the rest of the frontier provinces in its distribution of towns and settlements in relation to the agricultural resources. The great majority of the agglomerated settlements were of a size that allowed them to survive from the resources available locally, even though their micro-locations were not fully optimal from an agrarian perspective. To some extent, this circumstance masks the important variations in the siting of the different town categories. Nonetheless, economic specialization was reflected in the siting of the garrison settlements in the Danube Gorge and the *Municipium Dardanorum*. These communities were not dependent on local resources, but on governmental subsidies. The land deficits of the legionary towns were much greater, but these were unrelated to the economic orientation of these communities.

Agricultural considerations were not the principal factor that determined the location of settlements in Moesia Superior. This is evident from the spread of urbanism in this province, absent from large tracts of arable land in the Morava Valley and its tributaries. There were no major settlements with an urban character in these parts of the province. As in many other provinces, they were dominated by settlements





Map V 12: Settlement and geography in Moesia Inferior.

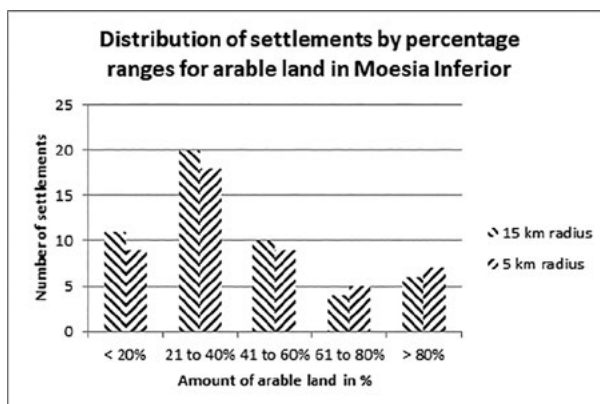


Figure V 19: Distribution of settlements across percentage ranges for arable land within the 15- and five-km catchment radii in Moesia Inferior.

of minor size and rank and, in some cases, they had been brought under military surveillance.

### Moesia Inferior

In one of the preceding chapters, Moesia Inferior was compared to Pannonia Inferior on the grounds that both provinces were originally little more than narrow

military zones along the Danube frontier.<sup>637</sup> The main factor that limited the agricultural productivity in both areas was the peripheral location of the majority of the settlements, exacerbated by their close spacing. Nevertheless, from the view point of the specifics of the relief, climate and soils, there are a number of important differences between these two frontier provinces. The geological substrate of the Moesian Tableland – limestone covered with loess deposits of variable depths – has preconditioned a fairly rugged relief.<sup>638</sup> The rivers that issue from Mount Haemus in the south flow through deep, narrow valleys that offer negligible amounts of arable land and present formidable barriers to those wishing to traverse the longitudinal axis of the province. However, there are important regional variations. In the interfluvium between the Rivers Kibrica and Iskar, water drains away quickly through the porous limestone, resulting in a steppe-like landscape that is thinly populated even in modern times. (Map V\_12) Whereas most of the river-valleys that cut across the Moesian Tableland are little more than narrow ravines, the Rosica Valley is far more open, probably offering the best agricultural land in the central parts of the province.<sup>639</sup> The southern part of the extended

<sup>637</sup> Gerov 1980, 147-167; Poulter 1980, 729-744.

<sup>638</sup> The Naval Intelligence Division 1920a.

<sup>639</sup> Poulter ed. 1995, 4-7.

Table V 7: Theoretical urbanization rates in the market catchments – 15 km – of the towns and settlements in Moesia Inferior; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern   | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|----------------------------|----------|----------|----------|----------|
| Abritus Razgrad            | 6.98%    | 3.74%    | 5.59%    | 2.99%    |
| Altinum Oltina             | 9.23%    | 3.08%    | 7.38%    | 2.46%    |
| Appiaria Rjahovo           | 5.47%    | 1.82%    | 4.38%    | 1.46%    |
| Argamum Jurilovca          | 10.50%   | 1.50%    | 8.40%    | 1.20%    |
| Arubium Macin              | 6.50%    | 2.17%    | 5.20%    | 1.73%    |
| Augusta Harlec             | 6.87%    | 3.96%    | 5.49%    | 3.17%    |
| Axiopolis Cernavoda        | 2.55%    | 0.64%    | 2.04%    | 0.51%    |
| Beroe Piatra               | 2.24%    | 0.56%    | 1.79%    | 0.45%    |
| Calatis Mangalia           | 6.78%    | 4.52%    | 5.42%    | 3.61%    |
| Camistrum Kozloduj         | 2.84%    | 0.71%    | 2.27%    | 0.57%    |
| Capidava Capidava          | 2.62%    | 0.87%    | 2.10%    | 0.70%    |
| Carsium Harsova            | 6.35%    | 1.59%    | 5.08%    | 1.27%    |
| Cimbriana Canlia           | 2.99%    | 0.75%    | 2.39%    | 0.60%    |
| Cius Garliciu              | 4.98%    | 0.75%    | 3.99%    | 0.60%    |
| Dimum Belene               | 5.57%    | 1.86%    | 4.46%    | 1.49%    |
| Dinogetia Garvan           | 4.49%    | 1.35%    | 3.59%    | 1.08%    |
| Dionysopolis Balchik       | 18.19%   | 7.08%    | 14.56%   | 5.66%    |
| Durostorum Silistra        | 59.03%   | 26.83%   | 47.23%   | 21.47%   |
| Halmyra Independenta       | 26.09%   | 6.52%    | 20.87%   | 5.22%    |
| Histria Istra              | 15.68%   | 9.15%    | 12.54%   | 7.32%    |
| Kinton Nova Cherna         | 5.37%    | 2.68%    | 4.30%    | 2.15%    |
| Marcianopolis Devnya       | 21.15%   | 4.53%    | 16.92%   | 3.63%    |
| Montana Montana            | 1.01%    | 0.34%    | 0.81%    | 0.27%    |
| Nicopolis ad Istrum Nikjup | 7.11%    | 3.95%    | 5.68%    | 3.16%    |
| Nigrinianis Malk Preslavec | 7.14%    | 2.38%    | 5.71%    | 1.90%    |

| Name, ancient and modern | h 150/ha | l 150/ha | h 120/ha | l 120/ha |
|--------------------------|----------|----------|----------|----------|
| Novae Staklen            | 57.60%   | 50.08%   | 46.08%   | 40.07%   |
| Noviodunum Issacea       | 21.03%   | 5.61%    | 16.82%   | 4.49%    |
| Odessa Varna             | 33.33%   | 23.15%   | 26.67%   | 18.52%   |
| Oescus Gigen             | 22.94%   | 12.35%   | 18.35%   | 9.88%    |
| Unknown Gorsko Kosovo    | 2.96%    | 0.59%    | 2.37%    | 0.47%    |
| Salsovia Mahmudia        | 2.67%    | 1.07%    | 2.14%    | 0.85%    |
| Sexaguinta Prista Ruse   | 6.20%    | 0.52%    | 4.96%    | 0.41%    |
| Unknown Snyagovo         | 1.07%    | 0.21%    | 0.86%    | 0.17%    |
| Sostra Lomec             | 4.74%    | 1.89%    | 3.79%    | 1.52%    |
| Sacidava Dunareni        | 23.08%   | 10.77%   | 18.46%   | 8.62%    |
| Tautiomosis Krividol     | 1.65%    | 0.33%    | 1.32%    | 0.26%    |
| Tirizis Kaliakra         | 20.22%   | 11.24%   | 16.18%   | 8.99%    |
| Tomis Constanta          | 31.32%   | 11.14%   | 25.06%   | 8.91%    |
| Transmarisca Tutrakan    | 6.16%    | 2.05%    | 4.93%    | 1.64%    |
| Trimamium Mechka         | 1.96%    | 0.73%    | 1.57%    | 0.59%    |
| Troesmis                 | 18.50%   | 9.25%    | 14.80%   | 7.40%    |
| Tropaeum Trajani         | 3.34%    | 1.49%    | 2.68%    | 1.19%    |
| Trullensium Kunino       | 5.07%    | 1.01%    | 4.05%    | 0.81%    |
| Ulmetum Panteleimon      | 1.51%    | 0.48%    | 1.21%    | 0.38%    |
| Utus Vit                 | 3.48%    | 1.74%    | 2.78%    | 1.39%    |
| Variana Ljaskovec        | 4.02%    | 1.34%    | 3.21%    | 1.07%    |
| Unknown Barbosi          | 3.60%    | 0.69%    | 2.88%    | 0.55%    |
| Libida Slava Rusa        | 11.36%   | 0.95%    | 9.09%    | 0.76%    |
| Bizone Kavarna           | 2.01%    | 0.67%    | 1.61%    | 0.54%    |
| Avg                      | 10.97%   | 4.95%    | 8.78%    | 3.96%    |

province covers hilly terrain, but because most of the Moesian settlements are located on the Danube, the market radius shall be increased to 15 kilometers.

With the exception of the area of the Danube Delta, the marshy areas are not as widespread as in the Pannonian provinces. The promising hydrology of the area is attributable to the fact that, in its lower course, the right bank of the Danube is much higher than the opposite bank, in some cases rising to over 100 meters above the surface of the stream.<sup>640</sup>

It has proven impossible to find any hard data about the agricultural productivity of this part of modern Bulgaria in the early 20th century. However, at the

beginning of the last century, the country's prime export product was grain. The official data show that over 50% of the national grain production was cultivated in the northern half of Bulgaria, the region that roughly corresponds to Moesia Inferior.<sup>641</sup> The fertility of the region was also stressed in the *cursus honorum* of the Moesian governor Plautius Silvanus Aelianus.<sup>642</sup> This inscription advertises one of his greatest achievements as a provincial governor in the middle of the 1st century AD: the settlement of large Trans-Danubian groups in the province, allowing him to levy a tax in grain for the first time since the Roman conquest.<sup>643</sup> The conclusion

<sup>640</sup> The Naval Intelligence Division 1920a, 12.

<sup>641</sup> The Naval Intelligence Division 1920a, 106.

<sup>642</sup> Tačeva ed. 2004, 124–125.

<sup>643</sup> Most scholars agree that the migrants were settled in the territory of the later province of Moesia Inferior; Gerov 1997, 8; Mócsy 1970, 28,

has to be that it was shortage of labour rather than the low fertility of the soils that hindered the agricultural productivity of this province.

Only a relatively small portion of Moesia Inferior is occupied by high mountains and the extended catchment radii have a generally positive effect on the agricultural potential (Figure V 19). For nearly one-third of the settlements, their extended catchment radius results in an increase in the percentage of arable hinterland. In most of the cases, the growth is ten percent or higher. This group mostly consists of the auxiliary *vici* on the Danube and the settlements on the Black Sea coast. The positive effects of the extended catchment radii were also boosted by the distances between the garrison settlements on the Lower Danube. Along those sections on which the auxiliary camps were spaced more closely, the effect on the agricultural potential is either trifling or negative. To a large extent, this outcome confirms the point of departure of our enquiry. The percentage of arable land increases with the extended catchment radius of those settlement categories that were not founded purely with an agrarian purpose in mind.

The extended catchment radius results in only minor increments in the percentage of arable land for the few settlements from the interior of the province included in this group. The reason is that the majority of these settlements were located in the mountainous, southern periphery of the province. With the exception of Montana, the likely centre of a mining district,<sup>644</sup> the rest of these settlements were *vici*, closely concentrated on the narrow valley floors. The extended catchment radius does add a limited amount of extra land that was probably exploited by the neighbouring *vici* or farms.

In absolute terms, the increments are substantial. Only about ten percent of the settlements gain less than 50 square kilometres and most of these were located either along the heavily guarded sections of the *Limes* or in the outermost corners of the provincial territory. As in most frontier provinces characterized by a flat relief, the increased catchment radius regularly adds large expanses of fertile land to the agricultural territories of the settlements.

These observations also underline the fact that by far the most important locational factor for the group of settlements analysed, regardless of their rank and status, was access to the Danube or the Black Sea. Over 80% of all settlements – including the large civilian towns – were located on the edge of the provincial territory. Access to a convenient harbour location or control of the important strategic points along

the Danube was in some cases deemed preferable, even though it restricted the size of the agricultural territories. In this respect, the urban system of Moesia Inferior is a little replica of the urban system in the study-area. The towns were arranged in a ring-shaped pattern, encircling a fertile, but predominantly rural territory.

With a few exceptions, located at the northern foot of Mount Haemus, the settlements in the interior of the province enjoyed a high agricultural potential. It was a mixed group, made up of major rural settlements and road-side *vici*, garrison settlements and a couple of autonomous civilian towns. The great majority of these settlements were not autonomous towns and they could not have been very large or important in the period of the High Empire. A similar trend has been observed in the other provinces in our study-area. Urbanism thrived along the *Limes* and on the coast, leaving extensive stretches of fertile land in the interior redominantly rural.

Because of the extended market catchment and the fertility of its territory, Moesia Inferior has one of the lowest district urbanization rates in the study-area. In almost two-thirds of the hinterlands studied, the population of the central place represented less than ten percent of the total population that could be sustained by the local resources, even in the maximum size-estimates. (Table V\_7) The settlements that show urbanization rates higher than ten percent are a small but a varied group. They are composed of the garrison settlements and civilian towns on the Danube and the pre-Roman foundations on the Black Sea coast. More importantly, the group unites settlements that were 20 ha or larger and much smaller settlements that occupied agriculturally marginal locations, like promontories or the curve in the Danube's Bend.

There are no readily observable patterns among the settlements that feature higher urbanization rates in their 15-km catchment areas. Both the newly founded autonomous towns and the Greek colonies on the Black Sea coast accounted for between ten and 60% of the total number of inhabitants who could have been sustained by the agricultural potential in their hinterlands. In fact, on the territories of most of the autonomous towns, the projected urbanization rates range between ten and 30%. Only the largest agglomerations in the province – as in all frontier provinces represented by the legionary towns – had populations greater than the rural population in their hinterlands, even in the low size-estimates. The largest settlement in Moesia Inferior – the legionary agglomeration of Novae – accounted for between 50 and 60% of the agricultural capacity of its hinterland, a relatively low percentage, compared to the Pannonian double towns. This is surely one of the main factors that depress the overall

located the event in Moesia Superior.

<sup>644</sup> Aleksandrov 1994.



local urbanization rates in Moesia Inferior. With the minimum size estimates, this is only about five percent, with the maximum estimates, it climbs to 11%. The high estimates for the built-up areas of the Moesian towns are not particularly convincing, but the low estimates limit the size of the auxiliary *vici* to the area of the military camp. We have therefore taken into account the maximum size-estimates in determining the minimum land-to-population ratio.

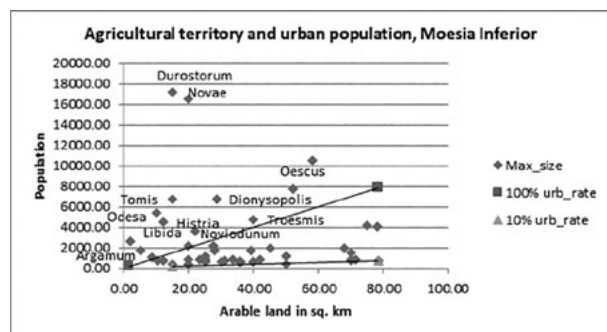


Figure V 20: Maximum population figures and estimates of arable land for the five-km catchment radius in Moesia Inferior.

The settlements that are too big for the arable land enclosed by the five-km catchment radius constitute a varied group (Figure V 20). Most of these settlements are Greek colonies and outposts on the Black Sea coast, unimpressive in size but occupying long promontories and surrounded by the sea on three sides. In the western Balkan provinces, this settlement category was likewise placed above the trend-line for the minimum land-to-population ratio. The Greek colonies were not founded on locations that guaranteed immediate access to agricultural territory. Access to the sea had always been the imperative and the sustainability of these settlements required large administrative territories. In addition to the legionary camps, the group includes a couple of official towns, auxiliary and road-side *vici*. A trait common to all these settlements is their marginal location on the Danube. The few special-purpose settlements do not show land deficits, even in the maximum size-estimates. The hinterland of Montana, the centre of the only known mining district in Moesia Inferior, could sustain a population much greater than the district capital and the surrounding *villae*.<sup>645</sup>

Taking the rural population in the areas enclosed by the five-km catchment radii into account, all of the autonomous towns and a few of the auxiliary *vici* would have fallen above the trend-line for the minimum land-to-population ratio. It is very unlikely that the urbanization rates in the farming catchments of the Moesian town and settlements were lower than 40%. In

that case, most of the Moesian settlements would have been unsustainable by the local resources.

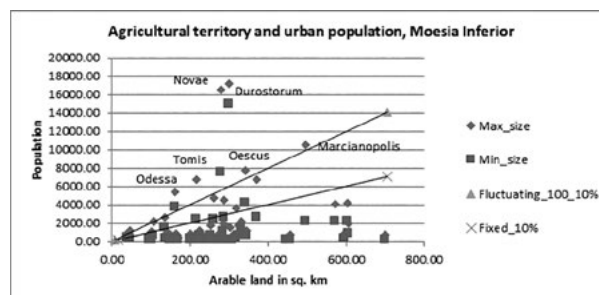


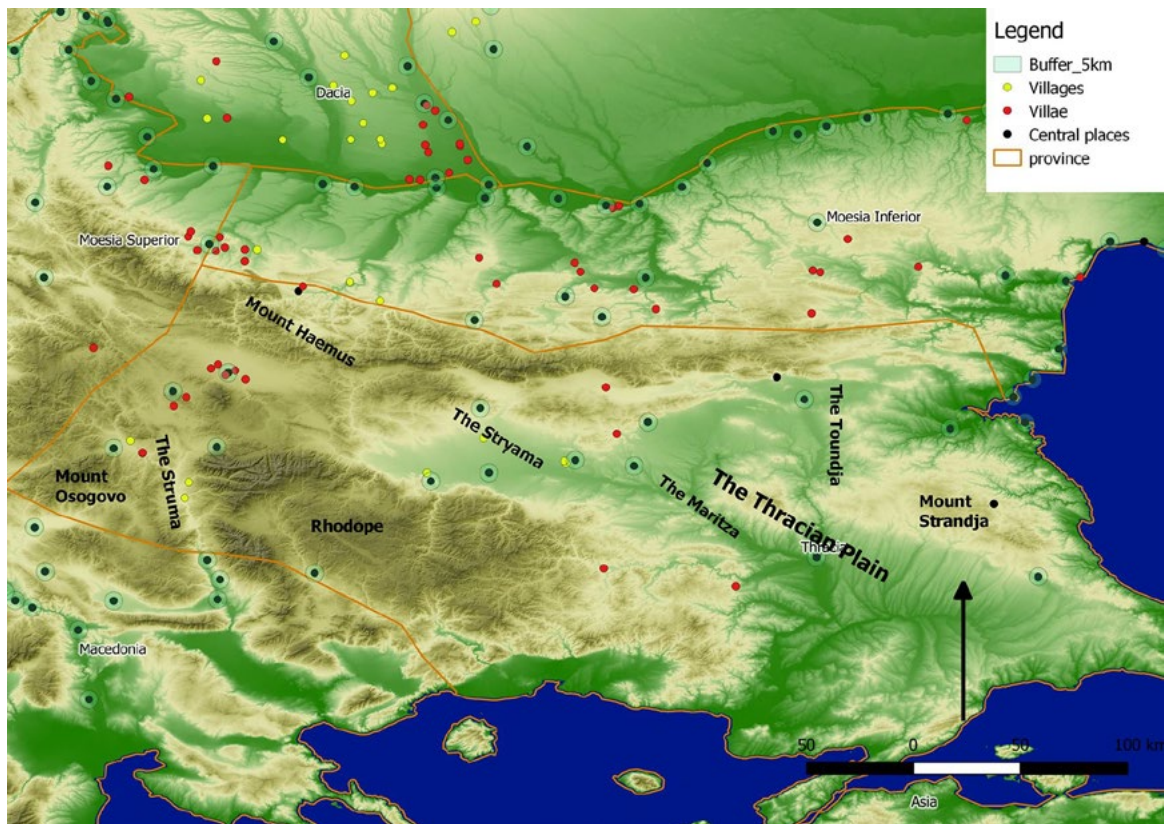
Figure V 21: Maximum and minimum population figures and estimates of arable land for the 15-km catchment radius in Moesia Inferior.

Nearly all of the settlements whose size comes close to or exceeds one-half of their agricultural territories were autonomous towns. It is therefore reasonable to assume that the catchment radii of most of the oversized settlements were at least 15-km. Even assuming that on average the rural population was ten times greater than the population of the central place – as predicted by the minimum size-estimates – most of the large towns would have had sufficiently large agricultural territories to secure their subsistence needs. But as shown on Figure V\_21, this is only true as long as the population estimates are kept to the minimum. If we allow that the Moesian settlements grew to their maximum extents prior to Late Antiquity, the problem of the limited agricultural capacity returns. The shortages range from 108 square kilometres for Odessa, to 122 square kilometres for Tomis. They are, moreover, joined by a couple of inland settlements, such as Marcianopolis and Oescus on the Danube. In all of these cases, the deficiencies are relatively small and could easily have stemmed from the overinflated size-estimates for some of these towns, the inaccuracies in the estimates of the size of the agricultural territories or a combination of the two.

By now it should come as no surprise that only the two legionary towns in this province exceed the agricultural potential of their hinterlands by a substantial margin. We shall avoid repeating what was said for the rest of the legionary towns on the Danube. Visibly smaller than their Pannonian counterparts, the deficit in arable land is somewhat less pronounced in the case of the Moesian towns. If we deduct the legionary garrison from the minimum size-figure for the total urban population, the sustainability of Durostorum ceases to be a problem. In the case of Novae, the deficit persists. It ranges between 150 and 263 square kilometres, depending on the population estimate. A recently published gazetteer of the rural settlements in the hinterland of this town reveals a densely populated

<sup>645</sup> Aleksandrov 1994, 41-47; Binev 2003, 160-182.





Map V 13: Settlement and geography in Thrace.

countryside.<sup>646</sup> The chronology of most of these sites is unclear, but it is tempting to relate them to the granting of the municipal status to Novae that came with a sizeable stretch of territory between the Belene Plain and the River Yantra.<sup>647</sup> Finally, both towns could also rely on additional supplies from the interior of the province and from the wider Pontic region via the Danube.

The tendency to urbanize the peripheral but well-connected zones of the region observed in most of the provinces in our study-area continues unabated in the east of the peninsula. Because of their locations on the Black Sea coast and the Danube frontier, the Moesian settlements had moderately sized agricultural territories that in the majority of the cases expanded when the catchment radius was extended. Nonetheless, the great majority of the settlements were of a modest size that allowed them to live off the arable land available within the five- or 15-km catchment radii. Apart from the largest garrison towns, the few exceptions included the largest colonies on the western Black Sea coast. The towns that outstripped the grain-producing capacities of their immediate hinterland either enjoyed special privileges or were trade-oriented maritime settlements. Both categories had access to the agricultural produce

of areas much larger than their immediate hinterlands by virtue of their autonomous status.<sup>648</sup>

The interior of the province remained predominantly rural, despite the great agricultural potential of certain areas, like the Iskar Valley or parts of the Dobroudja. In this respect too, Moesia Inferior joins the rest of the Balkan and Danube provinces. As in Pannonia Inferior, the land behind the *Limes* began to show definite signs of urbanization only in Late Antiquity. It is not by chance that many of our size-figures refer to areas that were walled only in Late Antiquity. The paucity of data pertaining to the earlier settlement phases hints at a substantial urban growth in this region in the late third and throughout the 4th century.

### Thrace

In comparison to its northern neighbour, the physical geography of Roman Thrace is far more diverse, even when the Aegean coast and the eastern Thracian plain are excluded. Mountains make up large segments of the province, especially in the south and west. (Map V\_13) These areas offer only a very limited amount of arable land in the narrow valleys and high plains. The prime resources were timber and pastures. Compared

<sup>646</sup> Tomas 2007, 31–47.

<sup>647</sup> Kolendo, Božilova eds 1997; see the next chapter.

<sup>648</sup> See the next chapter.

to the mountains in the western Balkan provinces, the Thracian mountains do not abound in mineral resources.<sup>649</sup> As a result, to this day large areas of the mountainous regions in the west and south of Bulgaria do not have any major urban settlements. There was neither a sufficiently broad agricultural base to support a spontaneous urban growth nor other natural resources to compensate for the scarcity of arable land. Nevertheless, because the core of Thrace's urban network was centred on the Great Thracian plain, the outer market radius is set at 15 km.

The main agricultural riches of the province lie in the Great Thracian plain and along the major Thracian rivers, the Toundja and Stryama, the Maritza and in the Struma Valley in the west. With its fertile soils, mild climate and good hydrology, these regions have attracted permanent farming settlements ever since the earliest Neolithic.<sup>650</sup> Thrace was not a frontier province and, as mineral resources are relatively scarce, there were no zones of special interest to the central government. Furthermore, the considerable distances between the major Thracian settlements offered full access to the territories within the 15-km catchment radius. Administrative and political frontiers had no effect on the extents of the agricultural territories. The only possible limiting factor to the grain-producing capacity was the proximity to the mountains and the sea.

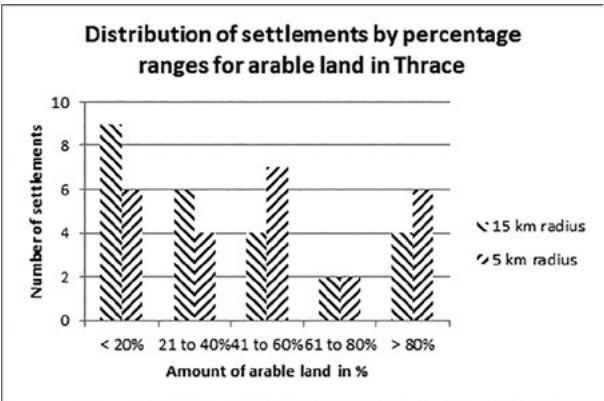


Figure V 22: Distribution of settlements across percentage ranges for arable land within the 15- and five-km catchment radii in Thrace.

In Thrace, the effects of the extended catchment radii are prevalently negative (Figure V 22). About one-quarter of the Thracian settlements experienced a rise in the percentage of arable land with the extended catchment radius. This is a high percentage by regional standards, a fact which is chiefly preconditioned by the large intercity distances and the relatively flat relief.

<sup>649</sup> The Naval Intelligence Division 1920a.

<sup>650</sup> Valeva, Nankov, Graninger eds 2015.

Nonetheless, for the majority of the settlements, the extended hinterland reduces the percentage of arable land.

The coastal settlements profited the most from the enlarged hinterland. Access to a good harbor was the prime factor in the siting of these towns. In contrast, in most of the continental settlements, the increased catchment radius decreases the percentage of arable land in the theoretical hinterlands. This circumstance reflects both the mountainous geography in certain parts of the province and the strong agricultural focus of these communities. Thrace joins the Danube provinces by the amount of new arable land introduced with the extended catchment radius. About three-quarters of the settlements add over 50 square kilometres of arable land in the 15-km market catchments.

There is no clear correlation between the different settlement categories and agricultural productivity. In the urban hinterlands, the percentage of arable land in the 15-km zone varied from below 15% for the Greek colonies on the Black Sea coast, to between 15 and 50% for the towns of western Thrace, to over 35% for the towns and settlements in the Great Thracian Plain. Similar fluctuations characterize the size of the agricultural territories of the non-urban settlements. The principal factors that determined agricultural productivity were the local geographical conditions not the socio-economic profile of the settlement.

Nonetheless, the most important feature of the urban map of Thrace cannot be inferred from the estimates of the agricultural territories. In the preceding chapters we have pointed out the sparseness of the urban network in Early Roman Thrace. In view of the favourable geographical and historical conditions, the number of urban settlements is surprisingly low. Large sections along the Maritza and most of the Toundja Valley, densely populated in earlier periods, were left virtually empty during the High Empire.<sup>651</sup> Most of the sites in these areas can be described as minor agglomerations, hypothetically associated with *emporia* or road-stations. At the same time, there were urban developments in regions with less plentiful agricultural resources and with a dubious pre-Roman urban tradition. Instead of making maximum use of the agricultural riches of the Maritza and Toundja, the urbanization of the province was spread evenly across the different geographical zones, including the high fluvial plains in western Thrace and, obviously, the coastal zone. Only the mountains in the south and north of the province were devoid of any urban or urban-like centres.

<sup>651</sup> Cf. Figure 2 in Hawthorne, Varbanov and Dragoev 2011, showing the distribution of Thracian pit-sanctuaries. Nearly two-thirds of all registered sites that belong to this category are located between the Rivers Maritza and Toundja, the heart of historical Thrace. The Roman province was evidently a different territorial entity.



Because of the relatively modest settlements size and the large agricultural territories, it is likely that the minimum urbanization rates were low in the territories of the Thracian towns and settlements. In fact, Thrace does not stand out from the other provinces by the number of settlements with population figures lower than 15% of the agricultural capacity of their immediate hinterlands. (Table V\_8) With the maximum size-estimates, they constitute slightly over one-half of all Thracian settlements included in this analysis, chiefly coinciding with the group of subordinate central places. Thrace differs from the rest of the provinces in the study-area in that the hinterlands of the largest Thracian towns were large enough to sustain rural populations twice the size of the populations of the urban centres. No Thracian town boasts a population figure higher than 30% of the total population who could live off their hinterlands, even with the maximum size-estimates. The only exception is a mining settlement in the Strandja massif, but its true nature and size is far from certain. In comparison to the rest of the Balkan provinces, Thrace had no settlements that were too large for their immediate surroundings. Consequently, the average local urbanization rates range from about five percent in the minimum to less than 15% in the maximum size-estimates.

These rough projections cannot be checked against the archaeological evidence from the Thracian countryside. In view of what is known about the constitution of these urban communities, the division of the countryside into separate sectors attributed to different *phylai*, as well as the large number of epigraphically attested *komai* in Thrace,<sup>652</sup> it is unlikely that the rural sector was thinly populated or predominantly villa-based. A few important epigraphic documents clearly attest that at least the peripheral sections of the urban hinterlands were exploited by tax-paying *komai*.<sup>653</sup> Although this evidence is insufficient to argue that Thrace was substantially different from the other Balkan provinces, it does not contradict our projections for the local urbanization rates.

With the exception of the largest town in continental Thrace, no other settlement is oversized for the agricultural resources within the five-km catchment radius, when the minimum size figures are considered (Figure V 23). As anticipated during the survey of the settlements by percentage ranges for the arable territories, the Thracian towns can be envisioned as tiny islands in a sea of agriculturally productive land. Most of these settlements are self-sustainable as long as the urbanization rates within the five-km zone are higher than 30%. The situation changes when the

Table V 8: Theoretical urbanization rates in the market catchments – 15 km – of the towns and settlements in Thrace; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern     | h_150/ha | l_150/ha | h_120/ha | l_120/ha |
|------------------------------|----------|----------|----------|----------|
| Anchialos_Pomorje            | 28.99%   | 7.25%    | 23.19%   | 5.80%    |
| Apollonia_Sozopol            | 30.71%   | 11.81%   | 24.57%   | 9.45%    |
| Augusta Traiana_Stara Zagora | 27.85%   | 6.96%    | 22.28%   | 5.57%    |
| Besapara_Isperih             | 4.00%    | 0.33%    | 3.20%    | 0.27%    |
| Byzie_Vize                   | 14.56%   | 4.85%    | 11.65%   | 3.88%    |
| Cabyle_Jambol                | 6.23%    | 1.25%    | 4.98%    | 1.00%    |
| Cilis_Cherna Gora            | 1.19%    | 0.24%    | 0.95%    | 0.19%    |
| Deultum_Debelt               | 6.00%    | 4.88%    | 4.80%    | 3.90%    |
| Diocletianopolis_Hisarja     | 12.24%   | 1.22%    | 9.80%    | 0.98%    |
| Discoduratera_Slavejkovo     | 2.15%    | 0.72%    | 1.72%    | 0.57%    |
| Germania_Sapareva Banja      | 5.26%    | 2.19%    | 4.21%    | 1.75%    |
| Unknown_Pernik               | 2.08%    | 0.60%    | 1.67%    | 0.48%    |
| Longinopara_Zlatna Panega    | 4.04%    | 0.81%    | 3.23%    | 0.65%    |
| Mesembria_Nesebar            | 28.40%   | 6.17%    | 22.72%   | 4.94%    |
| Nicopolis ad Nestum_Garmen   | 19.85%   | 7.35%    | 15.88%   | 5.88%    |
| Pautalia_Kyustendil          | 16.57%   | 8.29%    | 13.26%   | 6.63%    |
| Philippopolis_Plovdiv        | 19.95%   | 17.61%   | 15.96%   | 14.08%   |
| Pizus_Unknown                | 1.11%    | 0.22%    | 0.89%    | 0.18%    |
| Scaptopara_Blagoevgrad       | 17.05%   | 3.41%    | 13.64%   | 2.73%    |
| Serdica_Sofia                | 4.31%    | 2.88%    | 3.45%    | 2.30%    |
| Spinopara_Konjavo            | 13.39%   | 2.68%    | 10.71%   | 2.14%    |
| Sportela_Rila                | 8.33%    | 1.67%    | 6.67%    | 1.33%    |
| Templum Iovis_Obzor          | 21.13%   | 4.23%    | 16.90%   | 3.38%    |
| Unknown_Malko Tarnovo        | 50.00%   | 10.00%   | 40.00%   | 8.00%    |
| Tonzos_Unknown               | 2.10%    | 0.42%    | 1.68%    | 0.34%    |
| Avg                          | 13.90%   | 4.32%    | 11.12%   | 3.46%    |

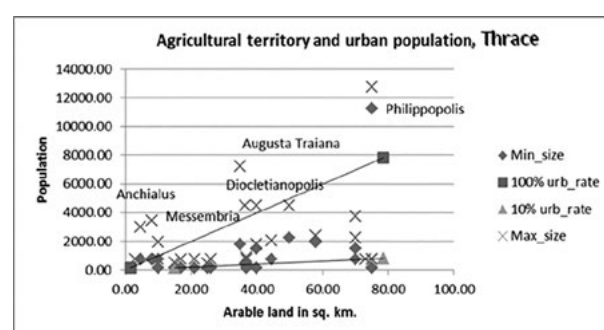


Figure V 23: Maximum and minimum population figures and estimates of arable land for the five-km catchment radius in Thrace.

<sup>652</sup> Martemianov 2012, 40-51; Gerov 1980, 273-283.

<sup>653</sup> This is plainly evidenced in the case of Pautalia, Gerov 1998, 72-184.



maximum size-figures are taken. In that case, almost one-third of the settlements would have been too large for the immediate surroundings. Some of these figures are not very reliable, but it is worth noting that familiar settlement categories pop up above the trend-line for the minimum land-to-population ratio: the Greek colonies and the largest settlements in the interior of the province. Both settlement categories had access to administrative territories much larger than the immediate farming catchments.

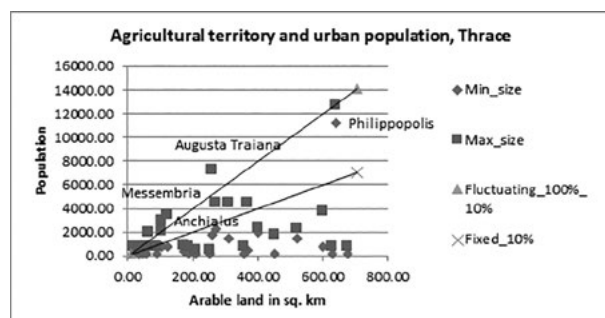


Figure V 24: Maximum and minimum population figures and estimates of arable land for the 15-km catchment radius in Thrace.

The relatively low local urbanization rates are reflected in the graph correlating the population figures and the amount of arable land in the urban hinterlands. With the extended catchment radius and the high size-estimates, only a few settlements would have felt any pressure on the grain-producing potential (Figure V 24). Both the two largest towns in the province, Philippopolis and Augusta Traiana, and the Greek colonies of Apollonia and Mesembria are located on or above the trend-line for the minimum land-to-population ratio. Mostly because of its location at the foot of Mount Haemus, Augusta Traiana had the greatest land deficit of about 100 square kilometres. If we postulated fixed urbanization rates of ten percent across the entire urban hinterland, these towns would have been joined by another small group of autonomous towns, but only in the maximum size-estimates.

It is difficult to see what factors might have sustained the excessive size of these communities. Philippopolis, the seat of the provincial assembly, was the only major regional centre in the Bulgarian part of the province during the High Empire.<sup>654</sup> The epigraphic monuments bear witness to the presence of a vigorous community of professional associations that certainly did not belong to the agricultural sector of the local economy.<sup>655</sup> Philippopolis was not the provincial capital, but it does

share many common features with the capitals in the demilitarized provinces. This town was the main centre in the Thracian interior and, like the rest of the supra-regional centres, it was able to draw on resources located beyond the regional horizon.

Little can be said about the remaining Thracian towns whose maximum size exceeds the agricultural riches of their immediate hinterlands. Their epigraphic heritage is not as copious as that of Philippopolis and only tiny fragments are known from the archaeology of these towns. One thing that all of these communities had in common was their autonomous status. They were the centres of regions much larger than the hinterlands enclosed by the 15-km catchment radius and it is likely that the potential grain deficits in the immediate hinterlands were compensated for by the taxes and rents coming from the peripheral parts of the urban territories.

When we consider the minimum population estimates in conjunction with the 15-km catchment radii, none of the Thracian towns appears to have been too big for the grain-producing capacities of their hinterlands. Even Philippopolis is placed well below the trend-line marking the minimum land-to-population ratio. It is possible that many of these towns were either smaller than suggested by the maximum estimates or had lower population densities and never really strained the limits of the agricultural resources available within their hinterlands. This could very well be the case for Mesembria, Apollonia and Augusta Trajana, towns for which we have the estimates only for the walled areas.

With the exception of the colonies on the Black Sea coast, most of the Roman towns in Thrace occupied micro-locations that ensured access to agriculturally rich hinterlands. It is true that the largest towns in the interior of the province did possibly outstrip the grain-producing capacity of their immediate surroundings, but the margin was negligible. However, the exploitation of the agricultural riches of the province was not the principal goal behind the urbanization of Roman Thrace. The urban core of Thrace did not coincide fully with the agricultural heartland of the country in the central Thracian plain, large portions of which lay outside the urban umbrella. Administrative and strategic considerations must have played an equally important role in the urban genesis of the area. Towns like Pautalia and Serdica were in control of key nodes in the road-network that covered the interior of the province, inheriting the territories of communities that had been autonomous at the time of the Roman conquest.<sup>656</sup> Although carefully placed in relation to the local resources, the main function of these towns was to govern the mountainous but strategically important

<sup>654</sup> Gerasimov 1958, 289-304; Velkov ed. 1979, 328-340; Lozanov 2015, 75-89.

<sup>655</sup> Botušarova 1957, 308-311; Velkov ed. 1979, 328-340; Djambov, Mateev 1980, 106-121.

<sup>656</sup> Gerov 1998, 72-184.



regions of western Thrace. Even the agriculturally marginal Upper Mesta Valley hosted an autonomous town. Outside this framework of administrative centres, there was little urban growth prior to Late Antiquity, even in areas with optimal agricultural conditions.

## Dacia

In view of its physical geography, climate and fertility of the soils, Roman Dacia is one of the most diverse provinces in our study-area. Its territory encompassed large alluvial plains, steppe-like tablelands, plateaus and mountain ranges. In a broader perspective, the key line of division is the Carpathian Mountains, separating the Transylvanian Plateau from the Great Wallachian Plain.<sup>657</sup> To the south of the Carpathian Range, nearly all land is agriculturally productive. Besides the favourable climate and sufficient amounts of rainfall, the black soils or *chernozems*, extremely rich in nutrients, have guaranteed the high fertility of the sub-Carpathian region.<sup>658</sup> On the other hand, Transylvania, that corresponds to the combined territories of Dacia Apulensis and Porolissensis in Antiquity, is a plateau surrounded on all sides but the north by mountains. Its openness to Central Europe means a cooler climate and higher amounts of rainfall compared to Wallachia. The chief factor limiting the agricultural productivity in Transylvania is not the relief, as most of the hills have gentle slopes and even in the mountainsides there are numerous small valleys that are agriculturally productive. The fly in the ointment is that the lighter brown soils, much poorer in nutrients than the *chernozems*, decrease the fertility of the land. Crop rotation has been crucial in preventing the over-depletion of the soils in this area.

Although conditions were far from optimal, Transylvania was an agriculturally productive region in the first couple of decades of the 20th century.<sup>659</sup> This was not a great surplus producing region like Vojvodina, but it could sustain itself and, it has to be stressed that the agricultural productivity in the Wallachian Plain was maximized only in the modern era, after the deforestation of much of the tableland between the Danube and the Transylvanian Alps.<sup>660</sup> It is likely that, in the past, only a portion of this land was cultivated. Just as wide stretches along the Danube's left bank were converted into arable land only after the large drainage projects of the last century. Hence, a caution must be observed not to overstress the differences in

agricultural productivity between the two principal regions of Roman Dacia.

At this point, it should be noted that the most fertile portions of modern Romania, Banat and the Great Wallachian Plain, were left outside the borders of the Empire, even though they were brought under military control albeit briefly.<sup>661</sup> Only the smaller, western portion of Wallachia was permanently occupied. Again, it was primarily geo-strategic and other, non-agricultural considerations that directed the expansion of the Roman Empire. Despite the fact they were more fertile than the Transylvanian Plateau, the Wallachian Plain and Banat were far more open to the *Barbaricum* and hence more difficult to defend from the incursions of nomadic people. Besides, Transylvania had other, equally attractive assets. Even after centuries of exploitation, the Transylvanian Mountains still boast one of the largest deposits of gold and silver in Europe.<sup>662</sup> Not less valuable were the iron-mines in the southwest and the salt-pans in the east of Transylvania.

As in other frontier provinces, the administrative and political divisions posed additional constraints on the agricultural territories. Along certain sections of the Dacian frontier, the auxiliary castles are spaced at distances shorter than ten-km, reducing the catchment radius to less than five-km. The proximity of the *Limes* was less of a problem than in the other frontier provinces. The Dacian *Limes* was not a linear frontier and the garrison settlements were located a few kilometres behind the frontier-line.<sup>663</sup>

Although Roman Dacia covered large expanses of flat land, the majority of the settlements included in the analysis are pinned on the Dacian *Limes*, in mountainous areas. In order to account for this fact, the market radius has been reduced to ten km.

In contrast to Thrace or Moesia Inferior, the increased catchment radius has a strongly negative effect on the percentage of arable land in Dacia (Figure V 25). The greatest discrepancy between the two scenarios lies in the number of settlements that belong to the highest percentage range. Only three settlements are in control of hinterlands in which over 80% of the land was arable with the ten-km catchment radius. With the shorter catchment radius, the number of settlements that belong to this percentage-range is tripled. The extended catchment radius would decrease the number of settlements belonging to the upper percentage-ranges to less than a third of the total number of

<sup>657</sup> In the Roman period, the provincial border between Maluenses and Apulensis roughly coincided with the Carpathian Range; Oltean 2007.

<sup>658</sup> The Wallachian Plain, the western part of which was included in the Roman Empire, has been the bread-basket of the modern Romanian state: Keefey *et al.* 1972, 35, 254-274; Bachman *et al.* 1990.

<sup>659</sup> Louis 1924, Figure 3.

<sup>660</sup> Keefey *et al.* 1972, 35.

<sup>661</sup> Gudea 1979, 63-87; Macrea 1967, 121-141.

<sup>662</sup> Modern mining in the area dates back to the second half of the last century, Bachman *et al.* 1990, 155.

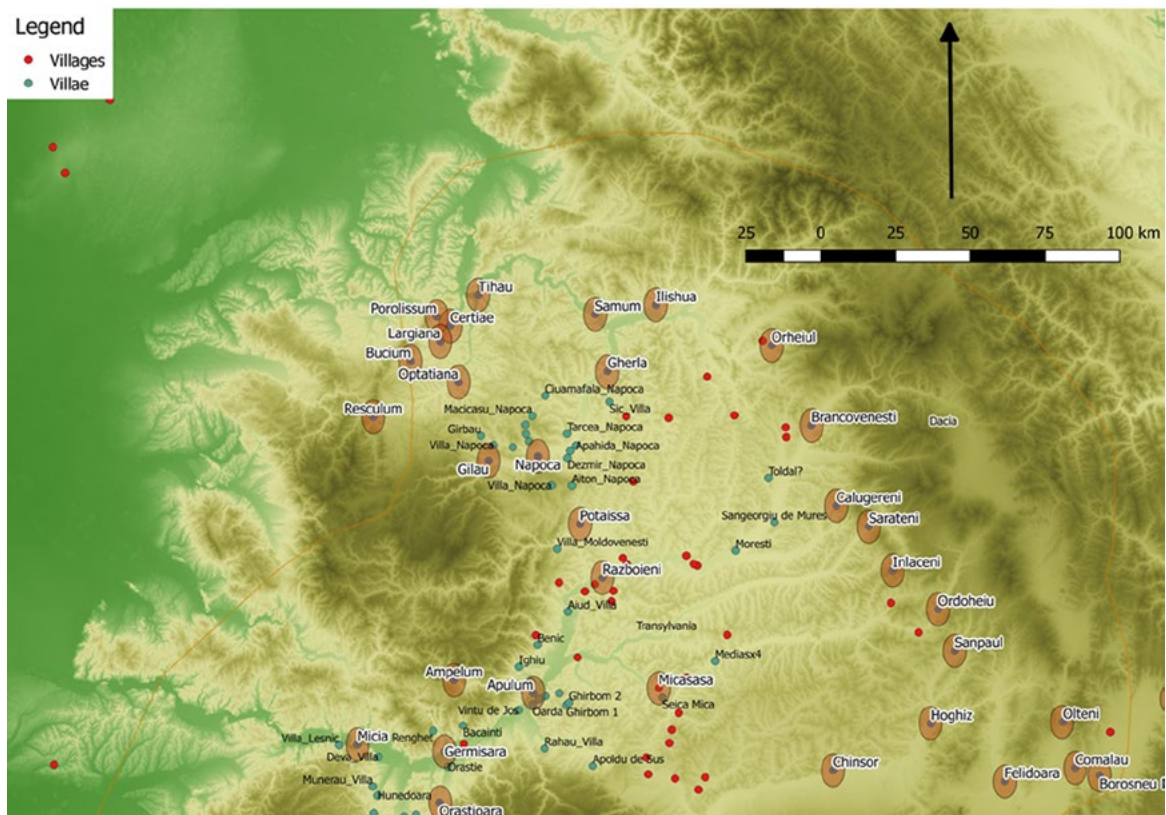
<sup>663</sup> Ferenczi 1967, 143-162; Gudea 1997.



Table V 9: Theoretical urbanization rates in the market catchments – ten km – of the towns and settlements in Dacia; the first two columns show the rates at urban densities of 150 per ha, the second pair of columns, the rates at 120 persons to the hectare. h=high estimates; l=low estimates.

| Name, ancient and modern   | h 150/<br>ha | l 150/<br>ha | h 120/<br>ha | l 120/<br>ha |
|----------------------------|--------------|--------------|--------------|--------------|
| Bulci Bulci                | 5.56%        | 1.39%        | 4.44%        | 1.11%        |
| Arcidava Varadia           | 4.35%        | 1.88%        | 3.48%        | 1.51%        |
| Aizisis Farliuga           | 5.26%        | 1.75%        | 4.21%        | 1.40%        |
| Dierna Orsova              | 250.00%      | 62.50%       | 200.00%      | 50.00%       |
| Praetorium Mehadia         | 39.71%       | 14.12%       | 31.76%       | 11.29%       |
| Ad Pannonio Teregovia      | 13.64%       | 3.92%        | 10.91%       | 3.14%        |
| Tibiscum Jupa              | 13.64%       | 5.68%        | 10.91%       | 4.55%        |
| Sarmizegetusa              | 175.78%      | 77.34%       | 140.63%      | 61.88%       |
| Micia Vetel                | 45.00%       | 38.57%       | 36.00%       | 30.86%       |
| Resculum Bologa            | 37.50%       | 12.50%       | 30.00%       | 10.00%       |
| Bucium Bucium              | 30.00%       | 11.00%       | 24.00%       | 8.80%        |
| Largiana Romansti          | 33.33%       | 11.11%       | 26.67%       | 8.89%        |
| Certiae Romita             | 90.00%       | 31.50%       | 72.00%       | 25.20%       |
| Porolissum Moigrad         | 111.11%      | 75.00%       | 88.89%       | 60.00%       |
| Unknown Tihau              | 22.50%       | 6.75%        | 18.00%       | 5.40%        |
| Samum Casieu               | 15.00%       | 4.67%        | 12.00%       | 3.73%        |
| Unknown Ilisua             | 16.88%       | 6.00%        | 13.50%       | 4.80%        |
| Unknown Orheiul Bistritei  | 13.24%       | 4.12%        | 10.59%       | 3.29%        |
| Unknown Brancovenesti      | 4.84%        | 1.61%        | 3.87%        | 1.29%        |
| Unknown Calugereni         | 10.00%       | 3.67%        | 8.00%        | 2.93%        |
| Unknown Sarateni           | 33.96%       | 11.32%       | 27.17%       | 9.06%        |
| Unknown Odorheiul Secuiesc | 18.75%       | 6.25%        | 15.00%       | 5.00%        |
| Unknown-Inlaceni           | 34.62%       | 11.54%       | 27.69%       | 9.23%        |
| Unknown Sanpaul            | 12.59%       | 4.20%        | 10.07%       | 3.36%        |
| Unknown Olteni             | 11.84%       | 3.95%        | 9.47%        | 3.16%        |
| Angustia Bretcu            | 12.10%       | 4.03%        | 9.68%        | 3.23%        |
| Unknown Borosneu Mare      | 7.23%        | 2.41%        | 5.79%        | 1.93%        |
| Cumidava Rasnov            | 8.29%        | 2.35%        | 6.64%        | 1.88%        |
| Unknown Hoghiz             | 20.00%       | 6.67%        | 16.00%       | 5.33%        |
| Unknown Cinshor            | 14.01%       | 1.17%        | 11.21%       | 0.93%        |
| Unknown Feldioara          | 3.66%        | 1.22%        | 2.93%        | 0.98%        |
| Caput Stenarum Boita       | 3.66%        | 1.10%        | 2.93%        | 0.88%        |
| Unknown Slaveni            | 14.57%       | 4.25%        | 11.66%       | 3.40%        |
| Romula Resca               | 43.37%       | 3.61%        | 34.70%       | 2.89%        |
| Acidava Enosesti           | 8.44%        | 0.77%        | 6.75%        | 0.61%        |
| Rusidava Drăgășani,        | 5.83%        | 1.46%        | 4.66%        | 1.17%        |

| Name, ancient and modern     | h 150/<br>ha | l 150/<br>ha | h 120/<br>ha | l 120/<br>ha |
|------------------------------|--------------|--------------|--------------|--------------|
| Buridava Stolniceni          | 7.55%        | 1.89%        | 6.04%        | 1.51%        |
| Castra Trajana Sombatesti    | 23.08%       | 5.77%        | 18.46%       | 4.62%        |
| Unknown Radacinesti          | 25.00%       | 6.25%        | 20.00%       | 5.00%        |
| Arutela Bivolari             | 30.00%       | 7.50%        | 24.00%       | 6.00%        |
| Unknown Titești              | 20.00%       | 5.00%        | 16.00%       | 4.00%        |
| Praetorium II Copaceni       | 85.71%       | 21.43%       | 68.57%       | 17.14%       |
| Pontus Vetus Caineni         | 96.43%       | 32.14%       | 77.14%       | 25.71%       |
| Pelendava Craiova            | 2.70%        | 0.72%        | 2.16%        | 0.58%        |
| Unknown Ratcari              | 3.69%        | 1.35%        | 2.95%        | 1.08%        |
| Unknown Catunele             | 11.04%       | 3.13%        | 8.83%        | 2.50%        |
| Unknown Bumbesti             | 8.51%        | 2.13%        | 6.81%        | 1.70%        |
| Unknown Gilau                | 29.03%       | 9.68%        | 23.23%       | 7.74%        |
| Unknown Gherla               | 16.27%       | 5.42%        | 13.01%       | 4.34%        |
| Unknown Germissara           | 12.54%       | 3.01%        | 10.03%       | 2.41%        |
| Unknown Orastioara de sus    | 22.06%       | 7.06%        | 17.65%       | 5.65%        |
| Salinae Razboieni            | 9.92%        | 3.31%        | 7.93%        | 2.64%        |
| Apulum Alba Iulia            | 155.84%      | 101.30%      | 124.68%      | 81.04%       |
| Potaissa Turda               | 50.28%       | 19.27%       | 40.22%       | 15.42%       |
| Drobeta Turnu Severin        | 104.08%      | 10.20%       | 83.27%       | 8.16%        |
| Napoca Cluj                  | 35.69%       | 22.30%       | 28.55%       | 17.84%       |
| Ampelum Zlatna               | 300.00%      | 50.00%       | 240.00%      | 40.00%       |
| Unknown Pojejena             | 45.00%       | 15.00%       | 36.00%       | 12.00%       |
| Unknown Cumalau              | 1.97%        | 0.20%        | 1.57%        | 0.16%        |
| Optatiana Sutor              | 18.29%       | 7.32%        | 14.63%       | 5.85%        |
| Sucidava Celei               | 25.35%       | 16.90%       | 20.28%       | 13.52%       |
| Unknown Islaz                | 5.14%        | 1.71%        | 4.11%        | 1.37%        |
| Alburnus Maior Rosia Montana | 29.41%       | 5.88%        | 23.53%       | 4.71%        |
| Ad Mediam Baile              | 45.00%       | 15.00%       | 36.00%       | 12.00%       |
| Unknown Campulung            | 25.00%       | 8.33%        | 20.00%       | 6.67%        |
| Unknown Sapata de Jos        | 3.14%        | 0.98%        | 2.51%        | 0.78%        |
| Unknown Urluieni             | 2.95%        | 1.08%        | 2.36%        | 0.87%        |
| Unknown Baneasa              | 2.90%        | 0.87%        | 2.32%        | 0.70%        |
| Unknown Micasasa             | 54.05%       | 27.03%       | 43.24%       | 21.62%       |
| Unknown Cristesti            | 2.07%        | 0.52%        | 1.66%        | 0.41%        |
| Unknown Sigishoara           | 18.42%       | 6.32%        | 14.74%       | 5.05%        |
| Avg                          | 35.47%       | 12.22%       | 28.38%       | 9.77%        |



Map V 15: Distribution of rural settlements in Dacia. Buffered dots are towns and garrison settlements.

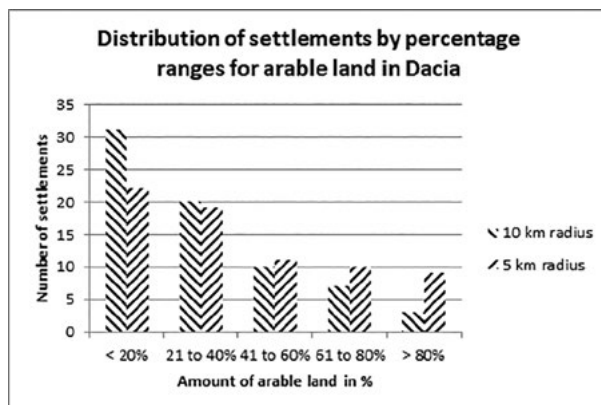


Figure V 25: Distribution of settlements across percentage ranges for arable land within the ten- and five-km catchment radii in Dacia.

settlements, the peak in the distribution falling at the lowest percentage-range.

For over half of the settlements, the increased catchment radius results in a reduction in the percentage of agricultural territory of more than five percent. This contrasts sharply to only ten settlements, or about 15%, whose agricultural territories increase,

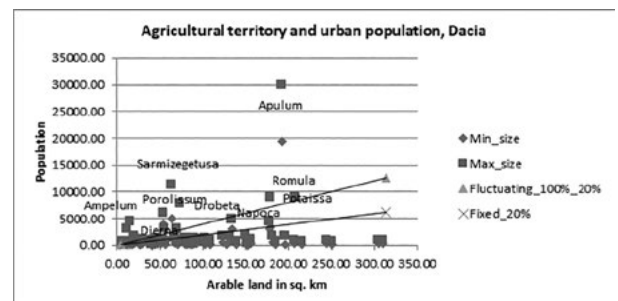


Figure V 26: Maximum population figures and estimates of arable land for the five-km catchment radius in Dacia.

usually by a tiny margin. Most of these settlements were located along the Dacian *Limes*, in areas of low settlement density, but the group also includes the mining settlements in the region of Alburnus Maior; in other words, those settlement categories whose primary concern were non-agricultural resources. Only a couple of these settlements were autonomous towns, both developing from garrison settlements.

In absolute numbers the gains of arable land with the extended catchment radius are sizeable. Almost 50% of all settlements add at least 50 square kilometres to



their agricultural territories. The majority of these are located in the flat sections of the Dacian interior.

As in the majority of the provinces in our study-area, there is no positive correlation between the settlement's size or status and the extent of the agricultural territories. For example, in the case of the autonomous towns, the plough-zone might include anywhere between five and 85% of the theoretical hinterlands. Similar fluctuations characterize the hinterlands of the garrison settlements that did not have an autonomous status. The fact that the towns and settlements of Roman Dacia occupied a wide range of niches, with a tendency to cluster in the medium size-ranges, signals that agriculture was not the most decisive factor in drawing the new settlement map of the province. Despite the much greater agricultural potential of the sub-Carpathian region, the core of Roman Dacia was in Transylvania and, even here, the accent was on the control of communications rather than on maximizing the amount of plough-land.

Into the matter of the local urbanization rates, Roman Dacia does not represent an exceptional case. Over two-thirds of the settlements have population figures that do not exceed 30% of the total population sustainable by the agricultural resources in their ten-km hinterlands. (Table V\_9) In fact, the population figures for the majority of these settlements are lower than 15% of the maximum population figures of their districts, even with the maximum estimates. With a few exceptions, these coincide with the third tier in the settlement hierarchy – settlements measuring less than 15 ha – strongly represented in Roman Dacia because of the large number of garrison settlements stationed there. The exceptions are the auxiliary *vici* located in the Transylvanian Iron Gates or in the Olt Defile, areas that are unlikely to have been densely populated. Higher district urbanization rates were also encountered among a small group of auxiliary forts on the northern Dacian *Limes*, an area of mountainous relief and short inter-site distances.

As elsewhere, the autonomous towns and the largest among the garrison settlements belong to a different class. Our estimates project minimum urbanization rates in the ten-km zone of no less than 30% for most representatives in this settlement category. It is useful to make a further distinction between the group of settlements containing up to 50% of the total population sustainable by the local agricultural resources and those exceeding the agricultural capacities of their surroundings. Most of the auxiliary *vici* that have exceptionally high local urbanization rates belong to the former group. These were the exceptions discussed in the preceding paragraph: the small garrison settlements located in Transylvanian Iron Gates or the Olt Defile. They are joined by a small group of

autonomous towns. The remaining autonomous towns are too large for their immediate surroundings, even if we discount the needs of the rural population. However, the considerable differences between the alternative size-estimates cannot be ignored. With the low size-figures, the populations of all but one autonomous town are smaller than the agrarian capacities of their hinterlands. Obviously, this has a visible effect on the average district rates. They range from about 12% with the minimum size-estimates to over 30% with the maximum size-figures. It is not easy to decide in favor of one of these scenarios. It is patent that the maximum size-figures overestimate the size of some of the autonomous towns as they refer to the walled areas in Late Antiquity, but the low figures almost certainly underestimate the true size of the garrison settlements. In order to balance between these two extremes, we shall evaluate the sustainability of the settlements the urbanization rates have been set at 20%.

We are almost entirely ignorant about the population density in the Dacian countryside and, as the archaeological data potentially relevant to this topic have not been produced by systematic surveys, there is no way of knowing if they reflect real variations in the density of rural settlement. It is nevertheless striking that the available studies of traditional rural settlements record only a handful of agglomerations within the ten-km radii of both civilian and garrison settlements and almost none within the five-km radius.<sup>664</sup> The *villae*, on the other hand, are almost entirely limited to the municipalized portions of Dacia, mostly along the Rivers Mureş and Someş and in the Haţeg Basin. (Map V\_15) Indeed, the wider surroundings of a number of Dacian towns in these valleys feature increased densities of *villae*, most of which probably were the property of the urban residents. These are particularly prominent in the hinterlands of Apulum and Sarmizegetusa, although an equally high density of *villae* have been discovered in the neighbourhood of Napoca, a town that could have secured its subsistence even when its hinterland is limited to the five-km radius.<sup>665</sup> This pattern can be read as evidence of high urbanization rates in the territories of the major towns, but the fragmentary nature of the data warrants a great deal of caution. As in Pannonia, the *villae* in the hinterland of Apulum were often accompanied by small hamlets, probably inhabited by tenant farmers.<sup>666</sup> Obviously, if this was the norm, the so-called villa-landscape is hardly a guarantee of a low population density in the countryside. It could merely disguise the fact that most of the land in the immediate surroundings of the towns had been appropriated by the urban elite.

<sup>664</sup> Protase 1980b, Figure 23.

<sup>665</sup> Oltean 2007, Gudea 2009, 187-319; Fodorean 2013.

<sup>666</sup> Oltean 2007, 143-144.



Most of the autonomous towns and major auxiliary *vici* were too large for the grain producing capacities of their five-km catchments (Figure V 26). This is true for about one-half of these settlements, even with the minimum size-estimates and discounting the needs of the rural population. With the exception of Apulum, none of these towns was of an exceptional size, but their catchments often included mountainous land or territory lying on the other side of the frontiers, depressing the local farming potential. Obviously, these settlements had never been conceived of as agrotowns. The fact that the remaining settlements were self-sustainable is entirely due to their small size. Most of them were garrison settlements and the agricultural aspect had no role in their siting. Theoretically, they could have functioned as purely agrarian settlements, but this is in no way telling of their actual economies. It is merely a symptom of the hampered settlement growth outside the category of autonomous towns.

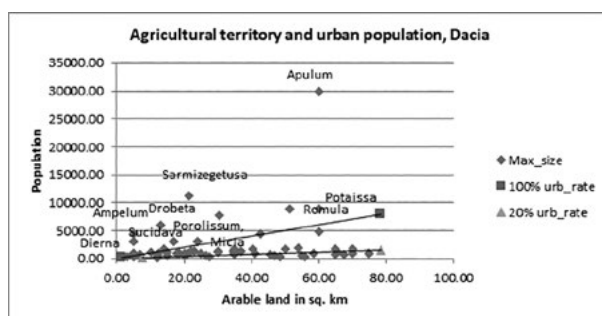


Figure V 27: Maximum and minimum population figures and estimates of arable land for the ten-km catchment radius in Dacia.

The settlements that featured local urbanization rates higher than 50% are oversized for the agricultural territories in their ten-km hinterlands (Figure V 27). As in other provinces, there is a big difference between the largest settlement and seat of the provincial governor, Apulum, and the remaining settlements that outgrew their immediate surroundings. Whereas for the latter, the deficit in arable land is not greater than 50-60 square kilometres with the minimum size-estimates, for Apulum, it is almost 300 square kilometres and it rises to over 550 square kilometres with the high size-figure. Similarly pronounced discrepancies have been observed in Pannonia, in which the top-ranking settlements were, like Apulum, double towns. The group is expanded when the maximum size-estimates and a constant urbanization rate of 20% are accepted, including the autonomous towns on the periphery of the provincial territory – Romula, Drobeta and Dierna – and the mining *municipium* Ampelum. With the exception of the latter, the land-shortages are insignificant and, in view of the low reliability of the high size-estimates, these cases do not merit any thorough deliberation.

Ampelum was the centre of the Dacian *auraria* and, if the maximum size-estimate is correct, much of its grain supply must have come from outside the mining district.<sup>667</sup> Although there are some indications that Ampelum was an autonomous town, it is likely that the grain procurement for the mining district was in the hands of the district procurator.<sup>668</sup>

It should not be overlooked that all of these towns, except Sarmizegetusa, were garrison settlements. Therefore, they were not entirely dependent on the size and fertility of their territories for the livelihood of their inhabitants. In the case of Porolissum, all that has to be done is to subtract the approximate number of permanently stationed troops from the total population estimate to shift this settlement below the sustainability threshold. However, this modification fails to solve the problem of Apulum's supplies. It merely reduces the land-shortage to about 400 square kilometres with the maximum, 145 with the minimum size-estimate. In the next chapter we shall see that both Sarmizegetusa and Apulum had extensive administrative territories, covering some of the most fertile sections of the Transylvanian Plateau. Apulum's territory was particularly large, extending over the Mureş Valley and the lower Târnava. The land shortages in the immediate surroundings of these towns could have been readily compensated by the large extent of fertile land available in their administrative territories. In addition to their large territories, the economic base of the elites of Sarmizegetusa and Apulum covered much of Transylvanian Dacia. The magistrates and professional associations of these towns left copious epigraphic evidence for their involvement in the mining districts and salt-pans of the province.

In Dacia, as in many other provinces of our study region, the highly urbanized belt only partly coincided with the agricultural heartland of the country. The extensive fertile stretches of territory south of the Carpathian Range were very sparsely urbanized and, even on a micro-regional level, the locations of the individual towns were not always optimal. The example of Sarmizegetusa is particularly illustrative. Located a short distance from the mountain pass that leads into the Transylvanian Iron Gates, only about 50% of its five-km hinterland was arable. Had this town been founded several kilometres to the northeast, in the central parts of the Haţeg Depression, at least 80% of the hinterland would have been arable. Apparently, proximity to one of the gateways leading into Roman Dacia had higher priority than the proximity to arable land in the eyes of the city-founders. This circumstance might hint at the

<sup>667</sup> Russu ed. 1975; Mrozek 1977, 95-109.

<sup>668</sup> For the status of Ampelum see the next chapter.

possibility that Sarmizegetusa did, after all, grow on the site of a temporary fort.<sup>669</sup>

Sarmizegetusa was not an exceptional case. Connectivity was an equally important locational factor for most of the Dacian towns along the imperial road in the west of the province and even more so for towns like Drobeta or Dierna, in the area of the Danube's Iron Gates. One important lesson from the survey of the Dacian urban hinterlands is that riverine transport was a profitable economic activity that attracted urban growth and offered a steady channel of supply from distant regions. However, for most of the settlements, their sub-optimal positioning in relation to the agricultural resources was not particularly troublesome, although ultimately, it did present a serious barrier to further growth. The majority of the Dacian settlements were small enough to secure their subsistence needs even from a limited catchment radius.<sup>670</sup>

## Conclusions

An important conclusion that emerges from this chapter is that the land to population ratio was not always sensitive to the economic profile of the settlements. The rolling countryside, the good pedologic and climatological conditions allowed a great deal of flexibility in the settlements' siting. On the other hand, economic specialization rarely coincided with high population figures; a telling sign that not everyone could rely on market supplies. Slightly more indicative of the possible implications of non-agricultural factors in the settlements' locations is the effect of the extended catchment radius on the size of the agricultural territory. This effect was regularly positive for the settlements located on the coast or along the *Limes*, while the predominantly agricultural settlements in the interior gained much smaller tracts of new arable land. However, this is not an overriding rule. In certain geographical zones, the settlements located in the interior also gained sizeable amounts of additional arable land with the extended radius, although their orientation was in all probability entirely agricultural. Likewise, this index is blind to the locational peculiarities of the majority of the mining settlements. Unlike the coastal or frontier settlements, the extended catchment radius rarely introduced new patches of arable land in the hinterlands of the mining towns. Too often, the factors that determined these variations were purely geographical and are more relevant to the nature of the local geography than to the economic strategies of the individual towns.

<sup>669</sup> Diaconescu 2004, 87–142; Petolescu 2011, 83–109.

<sup>670</sup> Ironically the possible exceptions, Dierna and Ampelum, are the only two towns in Roman Dacia for which we can hardly hope to acquire additional size-data. Learning from the situation in the mining districts in the west of the peninsula, we think it unlikely that these were particularly large agglomerations.

Most of the variations between and within individual provinces can be ascribed to the local geographical specifics. Hence, the consistent differences between the size of the arable hinterlands in Dalmatia and Thrace or between the southern and northern half of Pannonia Superior.

Because the overall tendency was to spread the settlements in the same category across a broad spectrum of settlement niches, there is no correspondence between the agricultural potential and the size or rank of the settlement. Here, we recall the example of Thrace, in which the urban network was primarily geared towards securing a full administrative coverage of the province. The autonomous towns were evenly spread across the provincial territory, regardless of the agricultural potential of the constituent micro-regions. Most of the garrison towns are found on the *Limes*, but they are also present in the agriculturally rich regions in the Balkan interior. Likewise, the majority of the *coloniae* and *municipia* were concentrated in the grain-producing sectors of the provinces, but a sizeable minority – including the most important urban centres in the region – emerged in the coastal zone or on the *Limes*. The consistently smaller agricultural territories of the frontier settlements were preconditioned by their peripheral position rather than their socio-economic profile.

However, a more balanced view is needed if we are to do justice to the topic treated in this chapter. It makes little sense to deny the limitations posed by the physical environment on the spread of urbanism or the growth of individual towns. However, the weight of the ecological factors can easily be overestimated. The mountainous areas rarely formed parts of the urban territories and, consequently, their effect on the variable extent of the agricultural territories was limited. At the same time, the presence of large and fertile valleys by no means guaranteed the emergence of a dense urban network or large towns. If anything, the study of the agricultural territories has demonstrated that settlement growth was not proportional to the grain-producing capacity of the hinterland. Instead, it can be argued that the micro-locations of the majority of the newly founded settlements were not determined by purely agricultural considerations.

As observed a number of times in this chapter, the urban map of the Balkan provinces almost never coincided with the agricultural heartlands of the provincial territories. In certain regions, there were neither autonomous towns nor large subordinate settlements, despite the relative fertility of these areas. These corners of our study-area will be discussed in a greater detail in the next chapter. For the moment, it is enough to point out the possibility that a proportion of the agricultural produce from these areas was

shipped to the zones that were known to be deficient in arable land. This would have been the most viable solution to the problem of supplying the large garrison settlements on the frontier or the few mining towns, especially in view of their low productivity or lowly status. Depending on the juridical status of the grain-producing areas, the grain was shipped directly to the *Limes* or was levied as a tax and redistributed by the central government.

The fact that the importance of the agricultural sector is not necessarily reflected in the micro-location of a settlement should not come as a surprise when the genesis of the great majority of newly founded towns is considered. Over one-third of the settlements in our study-area emerged near permanent garrison sites and a large number of big and important settlements were built at sites that had once been occupied by the military. Agricultural considerations could not have played a significant role in the siting of these settlements. Access to ports or control of land-traffic was a far greater concern to the town-founders, if we are to go by their choice of location. However, this circumstance does not diminish the significance of the agricultural sector in the economy of the Roman towns. That their micro-locations were often sub-optimal in relation to the agricultural resources merely indicates the patterns of land-ownership and exploitation. It is not an accident that the secondary agglomerations were on average better located than the majority of the autonomous towns. It cannot be expected that the Roman city would have behaved like the typical agro-town. The large and well-connected territories, in combination with the regime of land-lease, would have obviated the need for an immediate access to the productive territories.

Comparing the settlement size figures and the extents of their agricultural territories has indicated the minimum theoretical urbanization rates in the immediate hinterlands of the central place. This is both an index of the sustainability of the central place by the local agricultural resources and a means to project the maximum size of the rural population. The foregoing analysis also underlines the differences between the zones of pre-Roman urbanism and newly founded towns and settlements. In Roman Macedonia, coastal Dalmatia and the northern Adriatic, the minimum local urbanization rates within the ten km zones never dropped below 30%, even with the minimum size-estimates. In the Danube provinces and Thrace, they range between ten and 20% in the low size estimate, but as the minimum size figures are unlikely for the auxiliary *vici*, – the most dominant settlement category in these provinces – one suspects that the average local urbanization rates were closer to 20 than to ten percent. It is worth stressing that these projections are based on constant urban densities of 150 inhabitants

to the hectare that might prove too high, especially for the low-ranking settlements.<sup>671</sup> Moreover, the towns and settlements in the frontier provinces and Thrace have been assigned greater catchment areas than their counterparts in the western Balkan provinces. However, in no way do these remarks question the observed difference between the two principal zones in our study-area. There are a couple of exogenous factors that would have contributed to this divide. The rugged geography in the belt of pre-Roman urbanism, coupled with the high urban density would have given rise to local urbanization rates higher than in the frontier provinces, although the central places in the western Balkan provinces were much smaller than the towns in the latter regions.

It is far more difficult to grasp the implications of these differences for the economic profile of the settlements or for the agrarian relations in their territories. A possible consequence of the fact that at least one-third of the maximum population lived in the central place is that the average towns of Roman Macedonia or Dalmatia were more agriculturally oriented than their counterparts in Pannonia or Moesia. An unknown segment of these communities was possibly involved in farming, continuing the centuries-old tradition of agro-towns in these areas. Bearing in mind the reduced agricultural potential in the territories of these towns, the strong degree of centralization could have functioned as an efficient strategy of coping with land-shortages. On the other hand, most of the newly founded towns and settlements in the frontier provinces not only housed a smaller proportion of the maximum population of their hinterlands, but were also poorly positioned so that they could not take optimal advantage of the surrounding agricultural resources. On the surface at least, this circumstance seems to have favoured the indirect exploitation of their agricultural territories.

The differences between individual towns and settlements or between the different settlement categories within each of the two zones are likewise highly important. In all provinces the minimum local urbanization rate does grow with the increasing settlement size. In the great majority of the third-tier settlements – measuring less than 15 ha – it barely reaches ten percent, rising to 20-30% in the hinterlands of the autonomous towns and to more than 50% among the provincial capitals and the largest agglomerations in the provinces. The latter figure obviously does not pretend to reflect the demographic reality in the territories of these towns. The urbanization rates were probably similar to those on the territories of the autonomous towns, implying that the total population figures for these districts were greater than

<sup>671</sup> See the discussion in the introductory section.



their grain-producing capacity. Therefore, large and fertile administrative territories would have been the crucial prerequisite for the normal functioning of these towns. Only a minority of the towns and settlements upset the positive correlation between settlement size and the local urbanization rates. These are the settlements located in the narrow coastal zone, defiles or the mountainous parts of our study-region. Even though small in size, the urbanization rates in the territories of these communities were much higher than the urbanization rates normally projected for the settlements that belonged to the same size-categories. We are fairly confident that these figures are a good approximation of the small number of people who could live outside the central place in these areas of challenging terrain.

It is impossible to check the accuracy of these projections by confronting them with an independent set of evidence. Good survey data are available only for a handful of settlements – most of them included in this chapter – and even in these cases, the interpretation is not as straightforward as might be hoped. The key problem is that, in reality, the settlement patterns in the countryside primarily reflect the agrarian relations in the survey-area. They are only indirectly indicative of the size of the rural population. Nevertheless, despite all the difficulties arising from the intensity and scope of the surveys, the fact remains that not a single town in our study-area featured a large nucleated settlement within its ten- or 15-km catchment radius. This does not contradict the relatively high local urbanization rates predicted on the basis of our estimates of the settlement size and their agricultural territories. Moreover, it fits a historically well-attested and much theorized model, albeit more relevant to the Early Modern period than to Classical Antiquity.<sup>672</sup> In this scenario, the high degree of centralization in the urban hinterlands was maintained by continuous rural-urban migration that tallies with the differences between the theoretical district rates projected for the autonomous towns and secondary central places. The power of attraction of the latter was hardly comparable to that of the autonomous towns. More relevant to the central topic of this chapter, the constant influx of the rural population into the major towns in our provinces increased the labour productivity in the countryside and, at the same time, reduced the grain consumption of the rural population.<sup>673</sup>

It is questionable if this mechanism can be readily applied to the time-period studied. Large scale manufacture has been poorly evidenced in the Balkan towns and they had little to offer to the unskilled peasant in terms of employment. In this part of the

Roman Empire, the crucial factor that hampered the growth of the rural population in the urban hinterlands was the concentration of economic and political power in the official towns. The predominant pattern of land ownership and the monopoly on administrative, religious and market services prevented the emergence of large agglomerations in the urban hinterlands. The bulk of the peasant population would have been dispersed into small communities, attached to the estates of the urban elite. In these conditions, there would have been hardly any room for settlement growth in those parts of the countryside that belonged to the catchment areas of the autonomous towns.

Lower urbanization rates in the urban territories are possible, but not unless the projections for the size of the urban population are downsized or higher yields per hectare are supposed. With lower urbanization rates and high size-estimates or population densities of 150 inhabitants to the hectare, the number of settlements that were unsustainable by the local resources would nearly double in certain provinces in our study-area. This scenario is not very convincing. For the majority of the towns in the study-region, it is impossible to think of a realistic mechanism by which the grain deficit would have been overcome. The only viable alternative to the projected high district rates is to decrease the population density in the central place to at least 120 inhabitants per hectare, possibly less for certain categories of subordinate settlements.

Taking the maximum size-estimates and fluctuating urbanization rates, at least 90% of the settlements included in this study could have easily met their grain-demands of the land available in their immediate surroundings. We were surprised by the fairly large number of settlements – including large, autonomous towns – that could have secured their survival, even from the five-km catchments. The local socio-economic conditions – low population density, the modest wealth of the local elites – limited the growth of the majority of the Balkan towns long before they reached the ceiling of the agricultural capacities of their immediate surroundings.

The most prevalent strategy for coping with the agricultural shortages in many corners in our study-area was to limit the settlement size. This is clearly exemplified by the tiny port-towns on the Adriatic coast. The great majority of these settlements relied on a very narrow agricultural base. Fairly often, they came close to reaching their grain-producing limits, but they never really outgrew their theoretical hinterlands. For many of these settlements, the size-estimates are highly problematic and it is possible that, in many cases, we have simply over-emphasized the strain on the agricultural productivity. Of course, it should not be forgotten that the subsistence base of most port-towns

<sup>672</sup> Abrams, Wrigley eds 1978; Scheidel 2007, 38-86.

<sup>673</sup> Erdkamp 2005, 12-13.



was not limited to the small patches of arable land in the interior. All these settlements made full use of the maritime resources and cogently they specialized in cultivating olives and vines. Consequently, the land-to-population ratio derived from the estimates of the annual grain production and consumption rates is probably not the ideal yard-stick for this settlement category. The very large number of small port-towns, especially on the Dalmatian and Epirote coasts, proves that theirs was a viable economic strategy. Despite the limited amount of arable land, the coast remained a highly urbanized zone throughout Antiquity, whereas in the much larger grain-producing regions in the interior urban tendencies either struggled to take hold or failed to materialize.

Other communities known for their non-agricultural orientation – the few mining colonies and towns; the settlements that specialized in transport – can rarely be recognized by the size of their agricultural territories. With a few exceptions, the arable surfaces in the mining districts were visibly larger than in the coastal zone. In fact, some of the settlement niches in the mining districts could easily accommodate an agglomeration of 20 ha. Nonetheless, the key to the sustainable exploitation of these difficultly accessible and isolated corners of the area were the small, rural-like settlements. The pattern of small settlements was reinforced by the juridical status of these districts that was not very favourably inclined towards the emergence of large agglomerations. However, towns like *Municipium Dardanorum* or *Ampelum*, are examples that differential development was possible even in this sector, notwithstanding the problematic size-estimates for the two mining towns. We can only speculate about the areas from which these *municipia* procured their grain, but the most convenient source would have been the surplus-producing micro-regions within the same province; possibly the same areas that failed to develop an urban or urban-like centre. It is almost certain that the grain supply of these districts was at least in part controlled by the district or provincial procurator.

This brings us to the point that the garrison settlements were the only settlement category whose siting was completely unrelated to the local variations in agricultural potential. The grain-procurement for large segments of their population was in the hands of the provincial government, a situation that freed them from the limitations inherent in their physical setting. The great majority of the garrison settlements were located on the frontiers and often had access to less than 50% of their catchment radii. Even so, most of these agglomerations were of a size that allowed them to live off the resources available locally. It is no accident that, in nearly all the cases in which the garrison settlements outgrew the local agricultural resources, they were granted an autonomous status

and a generous stretch of territory. This act provided the material base necessary for the sustenance of the civilian community attached to the forts.

Most of the autonomous towns in our study-area were also of a size proportional to the agricultural potential of their immediate surroundings. Only a very small percentage of the second-tier settlements – those measuring between 15 and 60 ha – outgrew the agricultural capacity of their theoretical hinterlands and usually only by a narrow margin. The discrepancies are small and could have easily arisen from the imprecisions in the estimates of the settlement's size or territory. The possibility that population density was lower than 150 per hectare, even in many of the autonomous towns, also requires a serious consideration. However, even if these deficits are roughly accurate, there were mechanisms by which they were overcome. In the next chapter, we shall demonstrate that most of these towns were in control of fairly large territories. Admittedly, these did not always contain prime agricultural land, but nonetheless they did increase the tax-paying and rental income base and extended the outreach of the urban market. The scattered epigraphic and archaeological evidence suggests that some of the major autonomous towns – and particularly those that appear slightly too big for their hinterlands – were involved in manufacture and transport, and this would have certainly opened access to the resources of the neighbouring and more distant regions. As is shown in the next chapter, the elites of these towns were regularly involved in the exploitation of the mining districts and also possibly played a role in provisioning the army. But, for the majority of the autonomous towns that outstripped their immediate hinterlands, it was control of large administrative territories that sustained their relatively large populations.

Unexpectedly, although in hindsight it might seem obvious, the method of investigation adopted proved quite consistent in picking out the wealthiest and largest towns in the study-area. Only the largest and most important towns were far too big for the ten- or 15-km catchment areas. Regardless of the geographical conditions, the large size of these communities regularly exceeded the agricultural potential found within the market radius. When occupying locations marginal to the plough-zone – as was quite often the case –, the deficit in arable land was especially pronounced. It is very difficult to account for the size and longevity of these settlements unless it is assumed that they were in control of territories that extended well-beyond their market catchments, deployed a much wider and far-reaching scope of economic activities than the average provincial town and/or a privileged position in the political and economic system of the High Empire. Consequently, almost contrary to our initial expectations, the examination of

the arable land to population ratio did not highlight the group of settlements that featured highly-specialized economies, – with the exception of a few of the mining towns – but it never failed to isolate the top-ranking settlements in the regional hierarchies; a category whose economic base almost certainly included a strong agrarian component. In the frontier provinces, these were the legionary towns. It is true that, like the rest of the garrison settlements, they did not rely solely on the agricultural potential of their hinterlands, but for many of these settlements – especially the double towns – the corn shortage persists, even after the military segment is subtracted from the total urban population. In some of the provinces, like Pannonia Superior and possibly Dacia, – accepting the maximum population estimate for Sarmizegetusa – the legionary towns were joined by the seat of the financial procurator. In the demilitarized provinces, this role was assumed by the provincial capital in Dalmatia or the seat of the provincial assembly in Thrace. An attribute common to almost all of these towns was the high connectivity of their sites. In the preceding chapter, we pointed out that the majority of the largest towns in our study-area were located along the geometric periphery of the region. This pattern has secured a special role for the

largest towns in the wider urban network in this part of the Empire. Towns like Salona or Dyrrhachium were the vital nodes through which Italy was connected to the Balkan Peninsula, whereas the double towns on the Middle Danube were potential bases for further expansion and, by analogy, must have mediated the relations between the Empire and the *Barbaricum*. Most importantly they were crucial to the maintenance of peace on the frontiers and the political stability in Italy and the provinces. This highly sensitive political and military role secured their survival in spite of their large size and marginal locations. The specific reasons behind the growth of the military towns and the large Adriatic ports were obviously different, but their highly connected locations in conjunction with their accumulated wealth and privileges provided them with a sustenance base much greater than their theoretical hinterlands or administrative territories. After the collapse of the *Limes* in the middle of the 3rd century and the radical reorganization of the frontier defenses under the Tetrarchy, the military towns declined, while urbanism retreated to the agriculturally more optimal locations behind the frontier zone. On the other hand, the largest civilian towns in the interior maintained their importance and rank throughout Late Antiquity.

## Chapter VI

# Administrative Territories

### Introduction: The approach and the major problems in the data set

One of the defining features of the urban settlements of Antiquity was their role as political or administrative centres of their surrounding territories.<sup>674</sup> Secondary agglomerations, like larger villages or road-side settlements, often provided market and religious services for their respective micro-regions and in some cases, they even developed formal institutions, but they either lacked the capacity or were not granted the right to govern their surrounding areas.<sup>675</sup> Hence, the self-governing town was by definition the headquarters of the local government. It was the base from which justice was dispensed, taxes were collected and municipal laws were promulgated. This amounts to saying that all autonomous towns implied a separate, more or less clearly delimited territory.<sup>676</sup> However, when this equation is reversed it fails to work. Not all territorial units had a recognizable central place, even when they enjoyed some degree of autonomy. In this chapter, we shall turn to the territorial aspect of the urban settlements in our study-area, bearing in mind the opening remark that territoriality was neither an exclusive attribute of the official towns nor was it inherently urban-based.

The presence or absence of local government creates yet another divide between the settlements in our study-area, the last to be considered in the present study. From the outset it is important to emphasize that the compiling of a list of autonomous towns on its own is not the ultimate aim of this chapter. The goal is to take a step farther and make rough projections of the territorial extents of the urban units. We should begin by stating that is impossible to offer an accurate reconstruction of the municipal territories in the area at the time of the Severan dynasty. The bulk of this administrative geography is lost beyond recovery. In fact, we shall be pleased if we can catch only a glimpse of the divergent territorial extents of the urban units. Brief though it may be, this insight should already offer a reflection of the degree of administrative

coverage by self-governing communities in the region. Understandably, it is the implications these figures entail that matter. The extent of municipalization in the area is closely connected to the adoption of a whole set of socio-economic values and relationships by the local communities.<sup>677</sup> Those communities that retained their autonomy, whether by upholding their native institutions or by accepting Roman forms of local government, had a far better chance of preserving their identities and consequently benefiting from the overall economic growth and prosperity. Those that failed to develop some form of institutionalized self-government were relegated to the role of passive subjects, either closely supervised by the army or reduced to small enclaves of marginal economic significance. With the exception of the communities that achieved a municipal status, there are no references to the *civitates* apart from the official lists of tax-paying people created at the time of the conquest.<sup>678</sup> After the late 1st century, their elites are rarely mentioned. Their ethnonyms are almost exclusively encountered in military diplomas or other epigraphic documents as epithets of the auxiliary units or as the *origo* of individual soldiers. This is an indisputable indicator of their lowly place in the political economy of the High Empire. They were little more than pools of recruits for the military, and some scholars have even gone as far as to claim that the processes of municipalization in these areas were deliberately withheld by the provincial government in order to secure a steady stream of new recruits for the auxiliary units.<sup>679</sup> With so little surviving evidence, locating most of these peoples on the administrative map is a pretty forlorn hope. Nevertheless, in many instances, the areas attributed to these communities by modern scholars coincide with the later mining districts and imperial estates. As both their man-power and natural resources were considerably reduced, it is no wonder that the only surviving memory of the majority of these *civitates* are their obscure names.

This juxtaposition of the self-governing units and territories closely supervised or directly run by the agents of the state will be the dominant theme of the present chapter. By determining the respective extents

<sup>674</sup> Finley 1977, 305-327; Rich, Wallace-Hadrill eds 1991; Galsterer 2000, 344-360; Edmondson 2006, 250-280.

<sup>675</sup> Cf. Burnham, Wachter 1990; the *vici* of Moesia Inferior and their institutions: Suceveanu, Barnea 1991.

<sup>676</sup> Bekker-Nielsen 1989.

<sup>677</sup> E.g. Mócsy 1970; Sherwin-White 1980; Woolf 1998.

<sup>678</sup> For the Dalmatian *civitates*, see Wilkes 1969, more recently Dzino 2010.

<sup>679</sup> Mócsy 1969, 340-375.



of these two sectors, we hope to contribute to a better understanding of the different mechanisms by which our study-area was integrated into the political economy of the High Empire. In other words, the administrative divisions in the study area should reflect the various economic roles of its constituent sub-regions. Following K. Hopkins' distinction between tax-exporting and tax-importing provinces, an analogous divide on a regional level can be postulated between regions rich in natural resources and regions that enjoyed a privileged status and concomitant wealth.<sup>680</sup> Those regions that belonged to the zone of self-governing communities participated in the overall economy by converting their surplus wealth into taxes; the rest were either exploited directly by the government or indirectly by the elites of the neighbouring self-governing communities. If our points of departure are correct, this divide should be reflected in the variable growth and prosperity of the individual towns discussed in some of the preceding chapters. Admittedly, one lesson the experience of writing this study has taught is that it is often impossible to find simple, positive correlations between two given parameters. However, this finding does not necessarily challenge the validity of the point of departure. Instead, it points to the plurality and complexity of the factors that shape historical reality and are impossible to encapsulate in simple correlations. There are examples of well-established autonomous communities that failed to produce the expected urban growth and this fact indicates that the granting of autonomous status did not automatically generate urbanization. If other prerequisites like a strong demographic base or elites who were willing to spend their wealth on public works and construction were absent, it is unlikely that local autonomy would have automatically translated into urban growth. This argument can be reversed. In some cases, we have come across urban growth in the extra-municipal zones and this was often acknowledged by the central government that in a later stage did grant official charters to the towns that emerged in the mining districts or near the military camps. These 'aberrant' tendencies are pertinent reminders that we are dealing with dynamic subject-matter. The initial distribution of autonomous status was not always proof against the other forces at work in the development of the regional urban network.

The figures for the territorial sizes assume an even greater significance if they are viewed from a comparative perspective. This tactic is a promising way to examine the extent to which the time-period studied was exceptional. Below we shall take a brief look at the number of municipalities or counties in the constituent polities of our study-area during later periods of

history, including the present-day administrative divisions. These data are easily accessible in general encyclopaedias. It is essential to remain fully aware of the profound differences between the periods in question. A number of amenities offered by the public administration in modern societies – social services, public health and education – had no counterparts in Roman Antiquity.<sup>681</sup> Other sources make it plain that the size and capacities of both local and provincial administrations in the period of the High Empire were by any standard very limited.<sup>682</sup> It will emerge that these aspects have had very little bearing on the administrative divisions. Although there have been important changes in the distribution and extent of individual units, their numbers have remained more or less the same.

The 'proficiency' of the urban system can also be evaluated 'internally' by looking at the diachronic developments within the time-period studied and their epilogue in the period of Late Antiquity. The underlying assumption is that the direction of the changes observed will give some indication of the pitfalls and difficulties experienced in the period of the initial settlement; in other words, the subsequent changes are primarily read as reactions to or modifications of the inherent deficiencies. Admittedly, the available evidence allows us to achieve this goal only in a few extraordinary cases, but, even so, the overall congruence of the results of these case-studies has encouraged us to pinpoint a gradual shift to smaller administrative units. In most parts of our study area, this tendency survived the 3rd-century crisis and continued unabated throughout the 4th century.<sup>683</sup>

After some consideration it was decided not to put too much emphasis on exploring the possible correlations between territorial extent and settlement size or location. In the great majority of the cases, we simply cannot attain the fine resolution necessary to correlate these parameters. The margin of error for the size of the individual territorial units is often greater than the size-range for the built-up areas. However, even were we to possess a finely-honed administrative map of the provinces in our study-area, question marks could still be placed about the meaningfulness of the results reached by simply correlating territorial extents with settlement size or micro-locations. As argued earlier, territorial size was shaped by both endogenous and exogenous factors and it was not necessarily a guarantee of urban growth. It is therefore easy to predict that the wealth of the land or its place in the global constellation of power centres rather than the

<sup>680</sup> Hopkins 1980, 101-125; the full implications of Hopkins' suggestions are not necessarily valid in our case. It is still unclear how these regions did benefit from the increase in production.

<sup>681</sup> Eck 2000b, 238-265.

<sup>682</sup> Ott 1995, projects the number of *beneficarii* serving on the governor's staff.

<sup>683</sup> Cf. Brogiolo, Gauthier, Christie eds 2000.



sheer size of the territory were the main factors behind urban expansion.<sup>684</sup>

In view of the scarcity of data and their problematic character, the reconstruction of the administrative divisions of the area is not an easy undertaking. A number of practical and conceptual challenges that will resurface constantly in the main body of the chapter are still to be encountered and resolved. In order to avoid making into long digressions during the discussion of the data for the individual provinces, it is best to elaborate the approach to and the problematic nature of the evidence in the introductory section.

Obviously, before even thinking about the administrative divisions in the study-area, it is necessary to present a list of autonomous centres or communities that formed the main pillars of this geography. Even though, by now, we know that a considerable proportion of the area in question belonged to the state or was occupied by the military, there is no doubt that most of the land was assigned to self-governing communities. Although insufficient if taken in isolation, having a close approximation of the number of self-governing centres is the essential first step to reconstructing the administrative map of the study-region. At first sight, this should not have presented a particularly serious problem. The topics of local administration and urbanism have a long standing in the fields of ancient history and historical geography.<sup>685</sup> However, although for some provinces the lists of autonomous towns have been defined for quite some time, for others the differences between the conservative and optimistic counts are far more considerable and they virtually paralyze all attempts to arrive at a coherent conclusion. Difficult though this task may be, these discrepancies have to be dealt with. Unfortunately, in many instances it is impossible to reach an impartial conclusion on the basis of the surviving evidence. The bulk of it consists of examples of obscure *municipia*, known only from a few scattered sources as they have left no tangible traces in the archaeological record. Tackling the conundrum of the different categories of urban settlements or the settlement hierarchy, we concluded that the best course would be to make the reasonable assumption that most of these places were minor agglomerations. However, this does not necessarily apply to the extent of their administrative territories, as there are examples of *municipia* or *civitates* that does not seem to have had an identifiable central place and governed average- to large-sized territories. Little can be done to obviate this

problem, except to accept the existence of multiple scenarios and to explore their various implications.

In principal, there is little room to question what is stated in the literary and epigraphic evidence. If a certain settlement is explicitly recorded as a *civitas* capital or a *municipium*, this has to be accepted as a matter of fact, even when the site has eluded all attempts at identification in the archaeological record. For our present purposes, the far greater problem is the fact that, quite often, there is absolutely no clue to the possible locations of these territorial entities. All that can be done is to postulate that the town in question was located in the same province in which it was attested epigraphically and one probably not too far from the original find-spot of the inscription.<sup>686</sup> As drawing Thiessen polygons around the sites of the recognized autonomous centres has to remain our main tool for reconstructing the administrative geography of the study-area, the importance of this matter is overriding. Generally speaking, our solution has been to accept the conventional views about the locations of these settlements or communities. The towns that are yet to be located have simply been placed in an empty niche nearest to the find-spot of the inscription.

Despite the fact our lists of autonomous urban-based communities, *municipia* and colonies are more or less complete, the same cannot be said about those *civitates* that failed to develop an urban centre. With the exception of Dalmatia, Pannonia and, possibly, Macedonia, for which most scholars have placed full confidence in Pliny's list of *civitates*, for the other provinces, we lack a comparably detailed and reliable source.<sup>687</sup> This deficiency is particularly disconcerting, because its consequences touch the very core of the problem defined in the preceding paragraphs: What proportion of our study area was governed by autonomous communities as opposed to the areas governed directly by the state or the army? If we are to assume that the bulk of the historical data are superficial and deficient, we might as well abandon all hope of answering this question. In theory, this could be a valid claim. It is not inconceivable that the majority of the *civitates* encountered at the time of the conquest retained their native ways and left no written testimony about their native institutions and settlements. As we hear no more of the majority of the Dalmatian *civitates* after Pliny compiled his list, why should we automatically think that the same would have not been the case in the hypothetical *civitates* in the rest of the Balkan provinces that none of our sources mention?

<sup>684</sup> Cf. Keay, Earl 2011, 276-316; it should be noted that the set of parameters used to rank the urban territories in this study are not really intrinsic to the territories themselves. They relate instead to the settlement's micro-locations and settlement patterns in the countryside.

<sup>685</sup> Wilkes 2005, 124-225, provides the most exhaustive survey of the literature up to the beginning of the new millennium.

<sup>686</sup> See for example, the case of the *municipium* Spodent in Pannonia Inferior, Dušanić 1967, 67-82.

<sup>687</sup> Alföldy 1965; Wilkes 1977, 732-766; Papazoglou 1988a; Dzino 2010, 159-167.

Although the logic behind this argument seems sound, we remain unconvinced about its implications. Rejecting the possibility that the lack of evidence is a solid indication of a real absence of a certain process or phenomenon is to commit the same error as turning a blind eye to the validity of the positive evidence. It is important to stress that, in this particular case, we are not dealing with ephemeral phenomena, but with entire communities that represented the constituent blocks of the administrative system in the area. What was the essence of an autonomous community that left not a single dedication to the official state deities or the imperial household? In fact, notwithstanding their remoteness and economic or demographic insignificance, such behavior can easily be read as an open defiance of Roman authority in these areas. In spite of all the difficulties inherent in the traditional model that has assumed a gradual transformation of the *civitates peregrinae* into Latin *municipia*, we have not found any alternative explanation of their gradual disappearance from the written records.<sup>688</sup>

In any contemplation of the fate of the *civitates peregrinae* in the first couple of centuries after the conquest, one additional possibility needs to be taken into account. In the preceding chapters, we observed that the zone of garrison settlements is not entirely limited to the state frontiers. A number of forts have made a surprise appearance deep into the Balkan interior in nearly all provinces of our study-area. In some cases, their presence is easily explained by the strategic importance of the area, for instance, in some of the mining districts. However, this link does not supply the answer everywhere.<sup>689</sup> Leaving aside the possible role these outposts might have fulfilled, it is highly symptomatic that they often appear in areas that have been attributed by scholars to the *civitates peregrinae* or in regions known to have been the heartlands of late prehistoric cultures. A number of examples can be cited in support of this observation: Cabyle, one of the main centres in pre-Roman Thrace, became the garrison site of the Lusitanian Cohort;<sup>690</sup> Abritus in Moesia Inferior, a centre of a pre-Roman *strategia*, was the site of an auxiliary fort throughout the period of the High Empire;<sup>691</sup> Timacus Minus in Moesia Superior, although usually associated with the mining districts of eastern Serbia, was obviously named after the Timok Valley or the eponymous people recorded by both Pliny and Ptolemy;<sup>692</sup> Marsonia on the Sava in Pannonia Superior and the castle near Doboj on the Bosna River are both

located in areas traditionally associated with the Breuci and the Daesitiati, two large tribes that played a central role in the Pannonian Revolt of AD 6-9.<sup>693</sup> This list is not exhaustive, but it clearly illustrates the coincidence between the distribution of the auxiliary forts in the interior of the provinces and the hypothetical territories of various *civitates peregrinae*. The fact that in their locations, the choice of these sites also shows a clear preference for the major lines of communications does not necessarily contradict their possible role in controlling the adjoining regions.

Theoretically this is a plausible scenario, especially in view of the fact that the Romans were familiar with the idea of military administration as a form of local government.<sup>694</sup> It was widely practised in the west of our study area throughout the 1st century AD and there is no apparent reason to assume that this would have changed in the 2nd century AD.<sup>695</sup> However, as with the question of the status of the *civitates peregrinae* during the 2nd and 3rd centuries AD in general, the epigraphic record has so far failed to provide evidence that will support this thesis. The sources are silent and, with a few exceptions, nothing has been heard of either military *praefecti* or of the tribal princes or communities in the epigraphic heritage of the areas in question. More to the point, at a large number of these sites, evidence of military occupation prior to the Severan period is very scarce and some scholars have related the emergence of these outposts to the increased insecurity in the region in the aftermath of the Marcomannic invasions or the introduction of the *annona militaris* under Septimius Severus.<sup>696</sup> Intriguing as it is, resolving this question will have little impact on the goals of the present study. Regardless of whether the micro-regions surrounding these military camps belonged to the *civitates peregrinae* or had a different juridical status, the presence of the military indicates that they fell under the sector controlled or administered directly by the provincial government. At the very least, they mark the limits of the municipal authority, although we are inclined to think that they were more than just tiny enclaves surrounded by municipal land. In order to account for the putative presence of these districts, we shall include the sites of the auxiliary forts alongside those of the autonomous towns in the Thiessen polygon analysis.

The same problem is encountered in the mining districts and imperial estates. The centres of the securely attested mining districts are usually non-controversial.<sup>697</sup> In

<sup>688</sup> Mócsy 1974, applies this model to the Pannonian provinces and less successfully to Moesia Superior, Mócsy 1970.

<sup>689</sup> For example, Mócsy 1977, 373-401; explaining the involvement of the Pannonian armies in the mining operations in Dalmatia; Dušanić 2000, 343-363.

<sup>690</sup> Velkov 1989, 247-256.

<sup>691</sup> Ivanov 1980.

<sup>692</sup> Petrović ed. 1995; Dušanić 2000, 354-356.

<sup>693</sup> Marsonia: Bojanovski 1984, 145-264; Miškov 1997-1998, 83-101; Doboj: Čremošnik 1984, 23-84; the location of the Breuci and Daesitiati and their role in the Pannonian Revolt: Mócsy 1974, 14; Bojanovski 1988; Šašel-Kos 2005; Dzino 2010, 142-149.

<sup>694</sup> Cf. the case of Roman Britain, Mattingly 2006.

<sup>695</sup> Mócsy 1974, 49; Wilkes 1977, 742; Fitz 1980b, 141-159.

<sup>696</sup> Mócsy 1977, 384-385; Čremošnik 1984, fn. 30.

<sup>697</sup> For example, the *ferraria* in southern Pannonia, Bojanovski 1982, 89-121; see however, Hirt 2010.

the municipalized mining districts, the site of the *municipium* is equated with the centre of the district, notwithstanding the opaque relationship between the two.<sup>698</sup> Whether or not these *municipia* truly possessed some territory in the district is not very relevant to the present study, as long as the *municipium* was the seat of the mining administration and the district capital.<sup>699</sup> Far more challenging are those areas in which special fiscal districts are assumed to have existed solely on the basis of the mineral wealth, but in which there seem to be no clearly datable archaeological traces or finds of the usual votive and honorific inscriptions left by the *procurator* and his staff. So far, these remote areas have received very little scholarly attention and there is no way of inferring their status from the scant archaeological and epigraphic sources. The main challenge is not to decide if these were constituted as separate districts, but to determine whether they were attributed to the nearest autonomous towns or if they remained under governmental control. As with the controversial autonomous towns, we shall have to consider both possibilities.<sup>700</sup>

Predictably, the imperial estates are much more elusive phenomena, almost impossible to trace in the epigraphic and archaeological record.<sup>701</sup> In the few instances in which their presence has been epigraphically confirmed, we place a provisional point in the geometric centre of the micro-region or at the find-spots of the altars dedicated by imperial slaves or freedmen. We have no tangible reference to the possible size of these estates. There is a chance that, by including them in the analysis, we are risking a gross overestimate of their extent. However, this possibility is counterbalanced by the fact that their number must have been far greater than the few examples included in the present study.

There are a few possible approaches open to making a reconstruction of the territorial divisions in a given area.<sup>702</sup> Incontrovertibly the best way is to look for direct evidence in the written sources, in combination with a careful study of the physical geography and archaeology of the area under scrutiny. However,

fearing that, in a large number of towns and districts the epigraphic and historical evidence is non-existent, we have decided to rely primarily on the Thiessen polygons analysis.<sup>703</sup> At the very least, this approach guarantees a projection of the territorial divisions over the whole study-area and it avoids the trouble of marking out those areas for which data are missing. But the downside of applying mechanical divisions became obvious soon. For a small number of towns, the epigraphic and historical sources have offered irrefutable evidence of their territorial extent. These valuable sources made us rethink the approach initially adopted. One major setback of the unweighed Thiessen polygons is the principal assumption that the boundary between two neighbouring units will always be drawn halfway between their central places. This seemingly reasonable assumption is rarely supported by the empirical evidence. To take a relatively well-documented example, the boundary between the two colonies of Aquileia and Emona in the northeast corner of Italy X was drawn along a line passing only 15 km to the southwest of Emona, although the two colonies lay over 90 km apart.<sup>704</sup> The boundary between the two northern Liburnian communities, the Vegi and Orthoplini, over 25 km apart, was set only a couple of kilometres to the south of Orthopla, even encroaching on its five-km catchment radius.<sup>705</sup> The scholars who have published these boundary-stones maintain that, in both instances, the documents were either found *in-situ* or very close to their original sites.

These and other similar cases persuaded us to look into the integral corpus of inscriptions found in the countryside. These are composed of only a handful of boundary-stones and, even within this limited set, not all record boundary disputes between two autonomous communities.<sup>706</sup> Private individuals or subordinate communities are equally well represented. Likewise exceptional are the cases in which a building inscription explicitly states that the building consecrated was erected on the territory of a certain town or community.<sup>707</sup> All is not lost, other categories of inscriptions can also offer possible clues about which administrative centre governed a certain area, although it is essential to be acutely aware that this evidence is always indirect and context-dependent.<sup>708</sup> Because of the large number of inscription categories potentially relevant to the extent of the territorial units, it is impossible to give a brief overview of the guiding principles in the analysis of these finds. In

<sup>698</sup> The difficulties are illustrated by the examples of *Municipium Dardanorum*, Dušanić 2004b, 5-32; or *Municipium S*: Loma 2002, 143-179; Le Roux 2005, 261-266.

<sup>699</sup> Mócsy 1970, 45-46; Dušanić 1977a, 54-92; cf. Domergue 1990.

<sup>700</sup> Of course, for the goals of the present study, if there really was a separate office for the regions in question or instead, if they were governed by the *procurator* based in a different district is irrelevant.

<sup>701</sup> Imperial estates in Roman Dalmatia: Bojanovski 1988, 56-57; Škegro 2006, 149-173; in Moesia Inferior: Tačeva ed. 2004; in Moesia Superior: Dušanić 1977a, 52-94.

<sup>702</sup> As far as is known, there are no methodological treatises on the problem of reconstructing past administrative divisions, although individual case-studies abound. It has to be stressed that, when studying administrative territories, one is dealing with static phenomena to which the techniques devised by geographers and anthropologists are only loosely applicable, cf. Hodder, Hassal 1971, 391-407.

<sup>703</sup> Hagget 1965; for possible applications in studies of ancient settlement patterns, see Bekker-Nielsen 1989; Bintliff 1999b, 15-33.

<sup>704</sup> Šašel-Kos 2002, 373-382.

<sup>705</sup> Rendić-Miočević 1969, 63-74.

<sup>706</sup> Wilkes 1974, 258-274; Munteanu-Bârbolescu 1979.

<sup>707</sup> For instance, AÉ 1927: 49, commemorating the construction of towers in the territory of the Thracian colony Deultum.

<sup>708</sup> Kandler, Humer, Zabehlicky 2004, 11-66; point out the difficulties of using this body of evidence.

general, we are interested in inscriptions that refer directly to the community or to its magistrates.<sup>709</sup> These references might appear in official or private honorary inscriptions, votive reliefs or epitaphs, but, when viewed in isolation, they say little about which city governed the territory in question. It was not unusual for the local magistrates in the provinces in our study-area to assume high-office in more than one town and, in theory, nothing guarantees that they were buried in the territory of the towns in which they held office. Equally circumstantial is the evidence of votive inscriptions made at the behest of the city-magistrates or by a certain community. Nothing indicates that the sanctuary or the place at which the altar was dedicated was necessarily in the territory of the administrative unit represented by the dedicator.<sup>710</sup> As far as is known, no law prevented the city-magistrates from making a religious dedication in a sanctuary outside the territory of the towns in which they were domiciled. The same observation can be made about the inscriptions erected in honour of the emperors and their families. In a few cases, these monuments were erected by relatively undistinguished communities in a completely different corner of the province.<sup>711</sup>

Obviously, these documents cannot be taken at their face value and in isolation. In the end, it might turn out that the spread of inscriptions is more informative about the epigraphic behaviour - and perhaps, the economic preoccupation - of the urban elite than be of assistance in estimating the extent of the urban territories. In essence, most of the connections that tie the administrative centre to the territory under its jurisdiction are invisible, leaving no traces in the epigraphic and archaeological record. Technically speaking, the type of source material at our disposal is uninformative about territorial relations, but does document the type of activities that are more likely to have occurred within the limits of the municipal territories on a regular basis than in the neighbouring territorial units. The burial of members of the local aristocracy or the commissioning of votive or honorary inscriptions are acts that are more likely to have taken place in the territory of the domicile town and, in the majority of the cases, this should be reflected in the epigraphic record. At the very least, in cases in which the magistrates of more than one town are represented in the epigraphic record of a given area, it can be expected that the inscriptions erected by the

administrative centre in charge will be numerically superior.<sup>712</sup>

There are other potential indicators of the extent of the individual administrative units, but we cannot afford to discuss each of these sources separately. All we can do is point out the usefulness of certain toponyms, like those including an ethnonym or the road-stations designated with the definition *ad Fines*.<sup>713</sup> In those cases in which their approximate location is non-controversial, they can be read as a secure indication of the territorial limits. Equally helpful is the linguistic boundary between Latin and Greek that roughly followed the borders between Moesia Inferior and Thrace or Moesia Superior and Macedonia.<sup>714</sup> Pertinently, the councils of the old Greek colonies that maintained their civic status after the conquest continued to issue inscriptions in Greek and to use Greek terminology for their magistrates, even when they were located in a predominantly Latin-speaking province.<sup>715</sup> The distribution of certain site-categories, like stations for the collection of land-taxes, above all customs, also represent important co-ordinates in the determination of the territorial extent of the urban units, as they are most likely to have been set up close to the administrative boundaries.<sup>716</sup> Finally the changes introduced in the period of Late Antiquity, a period that from a topographical point of view is much better documented by the historical sources than the preceding era, usually respected the existing administrative divisions, so that the borders of the newly founded provinces were often drawn along the former municipal boundaries.<sup>717</sup>

Notwithstanding the difficulties surrounding the interpretation of the epigraphic documents and cartographic data, we were surprised by the wealth of information lying scattered throughout the hundreds of inscriptions or encoded in the obscure names of road-stations. The effort of systematically studying this material and plotting the relevant data was undeniably worthwhile. Nevertheless, we are still left with a large number of gaps in the administrative map of our study area. A number of towns and communities have left no epigraphic evidence in the countryside and in their case the Thiessen polygons are the sole base for projecting their territorial extents. But, for most parts of our study area, it has been possible to overlay the Thiessen polygons and the relevant epigraphic and cartographic

<sup>709</sup> The study of personal names could also help in making connections between an autonomous town and its surrounding area, but as this would have clearly been an impossible task within the time-frames of the current project, this corpus of data was ignored unless already introduced in the scholarly literature.

<sup>710</sup> See, for example, Mócsy 1970, 75.

<sup>711</sup> See for instance, Petrović ed. 1979, num. 69-71, *Res publica Ulpiana* salutes the family of Severus in Remesiana, located over 100 km away.

<sup>712</sup> Again, as a general rule this statement is not valid. The only evidence of the category of small *municipia* comes from the territories of other towns.

<sup>713</sup> Bojanovski 1976, 307-331.

<sup>714</sup> The famous Jireček line between the Latin and Greek sphere in the Balkan Peninsula, Jireček 1911.

<sup>715</sup> Greek colonies in Moesia Inferior: Pippidi 1975; Roman colonies in Thrace: Velkov 1980, 41-48.

<sup>716</sup> Ørsted 1985.

<sup>717</sup> A well-documented example is Late Roman Aquae, a *civitas* in Dacia Ripensis; Mirković 1968.



data. The result is a much-improved resolution of our territorial reconstructions. The Thiessen polygons are insensitive to linear features, like the provincial and state boundaries, therefore it is necessary to plot provisional points to account for the extra-municipal districts. On the other hand, the distribution of the epigraphic monuments illustrates the grey areas on the administrative maps more accurately, despite the fact that it often tends to exaggerate their extent.

As stated at the beginning of this section, we can only hope to catch glimpses of the administrative divisions in our study-area. The main goal is to make a rough determination of the scale of the individual territorial units and the degree of variation across different regions. Although the study of the epigraphic and cartographic sources does bring us only a little bit closer to the truth, it can offer no more than wide size-ranges. In the present climate of knowledge, this is as far as we can get in reconstructing the administrative map of the study-area. The studies of this topic do have parallels in the literature and tentative territorial reconstructions for nearly all the provinces in our study-area and for the majority of the individual towns can be found.<sup>718</sup> We believe that the present study has made at least one major advance. More often than not, the administrative maps of individual provinces show neat territorial divisions between the historically attested *municipia*. However, by ignoring the presence of the extra-municipal districts, these documents convey not only a highly simplified, but also a fundamentally flawed image of the system of government in the Roman provinces. Even in the most highly urbanized provinces, the territory was probably never 100% municipal. Including this extra-municipal sector does more than simply contribute to a more precise administrative map of the study area. It also reveals the different ways in which its constituent parts were incorporated into the system of Roman provincial government.

### Upper Macedonia and Epirus

One chief difficulty in the study of the administrative divisions in this province is the problematic status of the pre-Roman towns that were not promoted to colonies or *municipia* and never attracted a sizeable community of Roman citizens.<sup>719</sup> This was the part of the old urban network that was in decline, most of it located on the northern periphery of the province, in pre-Roman Paeonia and parts of the Illyrian kingdom. Although it was the usual practice of Roman imperialism to maintain the autonomy of the old *poleis*, it is impossible to be sure if the ancient Illyrian or Macedonian *oppida*

were truly autonomous communities prior to the Roman conquest.<sup>720</sup> If that were the case, it is unlikely that the existing autonomies were respected selectively. Quite the opposite, the Romans were more inclined to upgrade existing local institutions or recreate them where and when necessary. Consequently, the lack of evidence of urban growth in these towns cannot be tied to their administrative status. Nonetheless, in order to illustrate the effects of the reduced urban network, the maximum estimates based on the regional geography and Thiessen polygons exclude those settlements whose autonomous status is unconfirmed in the written sources.

In instances in which the autonomous status is non-controversial, the epigraphic evidence, especially that from the countryside, contains absolutely no clue as to the possible extent of the administrative territories. In contrast to the towns in the Latin provinces of our study-area, neither the town as a polity nor its political elites have left much written evidence of their activities in the countryside.<sup>721</sup> Only a handful of written sources point to the probable territorial extent of the individual towns and most of these were discovered in their immediate surroundings. Therefore, most of the estimates shown in Figure VI\_1 are derived from Thiessen polygons and, where possible, the geographical divisions in the area have been applied. The latter approach is well-suited to the character of the regional geography. Large parts of northern Epirus and Upper Macedonia are made up of sequences of small- to medium-sized river-plains or plateaus, separated by high, virtually impassible mountain ranges. Communication between these micro-regional units is only possible via high mountain passes or narrow defiles. The ancient authors were fully aware of this aspect of the regional geography.<sup>722</sup> In certain parts of the province, these natural divisions must surely have been respected and they would have constituted the framework for the political geography, at least in the pre-Roman period. However, it is impossible to be sure if this situation continued undisturbed after the incorporation of the area into the Roman Empire. The evidence of boundary-stones from other provinces seems to suggest that, at least in some cases, the provincial authorities chose to disregard the divisions imposed by the physical geography. In order to take this possibility into account, the maximum estimates based on the geographical conditions extend the territorial units beyond the limits of single drainages.

<sup>718</sup> Scupi: Mikulčić 1971, 463-484; see also the individual case studies in Šašel-Kos, Scherrer eds 2002-2004.

<sup>719</sup> For the *conventus* of Roman citizens in this province see Papazoglou 1986b, 213-237.

<sup>720</sup> The debate is succinctly summarized in Papazoglou 1986a, 438-448; Cabanes 1988, 480-487.

<sup>721</sup> See, for example, the corpus of inscriptions coming from Upper Macedonia, Papazoglou *et al.* 1999.

<sup>722</sup> Livy 31.34.6; Hammond, Walbank 1988.



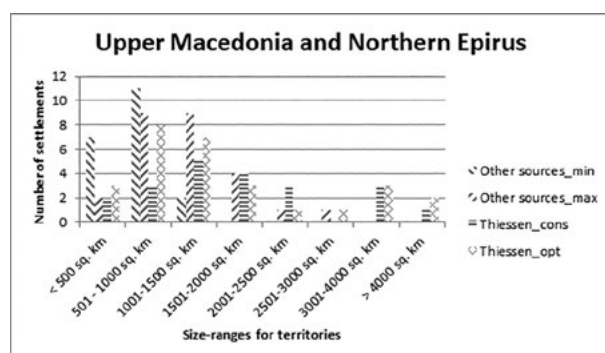


Figure VI 1: Distribution of territorial units in Upper Macedonia and Northern Epirus by size-ranges.

Regardless of whether the size of the regional units or the geometric divisions of the area into Thiessen polygons are chosen, the great majority of the towns of Roman Macedonia had territories falling within the range between 500 and 1500 sq. km. Excluding the projections based on the minimum number of Thiessen polygons, the other scenarios suggest that at least one-half of all towns in the area had territories smaller than 1500 sq. km. This could have easily been predicted by anyone with a vague knowledge of the regional geography or the intercity distances. The majority of the micro-regional units that constituted this part of the study-area were of roughly equal size. The large units in which urbanism survived the Roman conquest, like the Pelagonian Plain or the middle Vardar Valley, were regularly occupied by more than one autonomous town. Accepting the possibility that all settlements in which archaeological or epigraphic evidence suggests a continuous occupation after the Roman conquest retained their autonomous urban status, the distances between the neighbouring towns rarely exceed 30 km and, in some densely urbanized regions, like parts of Northern Epirus or the Middle Vardar Valley, they drop below 20 km. Either because of the intercity distances or the regional geography, the urban territories are limited to several hundred square kilometres. (Map VI\_1)

There are exceptions at both ends of the spectrum. Taking the minimum estimates, the majority derived from the size of the drainage basins, up to one-quarter of the towns have territories smaller than 500 sq. km. Bearing in mind the small size of some of these communities, this scenario cannot be discarded, although it implies a very limited administrative coverage. According to the maximum estimate, only a couple of towns would have belonged to this size-range and they both fall just below the arbitrary threshold of 500 sq. km. Urban territories larger than 1500 sq. km are predicted only if we use the maximum estimates, assuming fewer autonomous towns and a greater administrative outreach. Most of these are only slightly larger than 1500 sq. km, but a few fall in the

range between 2000 and 3000 sq. km. The two main questions that arise from these figures are whether the urban territories extended over more than a single micro-region, leading to a greater diversification of the territorial sizes, or whether the modular pattern dictated by the regional geography prevailed.

In the case of northern Epirus and Upper Macedonia, the maximum estimates are to be preferred to the conservative projections. Wherever evidence other than the sheer geographical constellation is available, it speaks in favour of the maximum projections. These include the Roman colony of Buthrintum, in which scholars who base themselves on the written testimonies have extended the territory of the town into the neighbouring Kalamas Valley, almost 30 km to the southeast, and Bylis, another Roman colony, that probably inherited the territory of the old *koinon* of the Bylliones, comprising a number of lateral valleys on both banks of the Middle Vjosa.<sup>723</sup> Styberra, a town in the northwest of the Pelagonian Plain, represents an even better-documented example. In the sources from the Hellenistic period, the town is attributed to an ancient people, the Derriopes, whose location along the Upper Crna has been accepted by most modern scholars.<sup>724</sup> At that time, the Derriopes had three *poleis*, of which only Styberra survived the Roman conquest. By chance we know that at least one of its neighbours, Alcomena, was demoted in status, as it is epigraphically attested as a *kome*.<sup>725</sup> It is a reasonable assumption that Bryanion, the third Derropian community, shared Alcomena's demotion.<sup>726</sup> The ephebic lists from Styberra, dating to the second half of the 1st and the early 2nd century AD, provide more evidence of the territorial size of this town. The editor of these documents observes that, in some years, the number of ephebes is remarkably high, implying a population figure of at least 12,000 inhabitants.<sup>727</sup> However, a community of this size would have required a minimum built-up area of 80 ha – assuming an urban density of 150 to the hectare – but even the most optimistic estimate for Styberra does not predict more than 25 ha.<sup>728</sup> This raises the question of whether these figures do not refer to the entire community of the Derriopes, rather than just those who lived in Styberra. At this point, it is useful to draw attention to the duality between the town and the people who inhabited the surrounding territory, a pattern observed in a number of cases in Roman Upper Macedonia: Lychnidos and the Dessareti, Heraclea and the Lynkoi or Styberra and the Derriopes.<sup>729</sup> What lay

<sup>723</sup> The location of Atticus' estates on the territory of Buthrint: Deaniaux 1988, 143-165; the territory of Bylis: Ceka 1984, 61-90.

<sup>724</sup> Strabo 7.7.9; Livy 39.53.14; Papazoglou 1988a, 292-297.

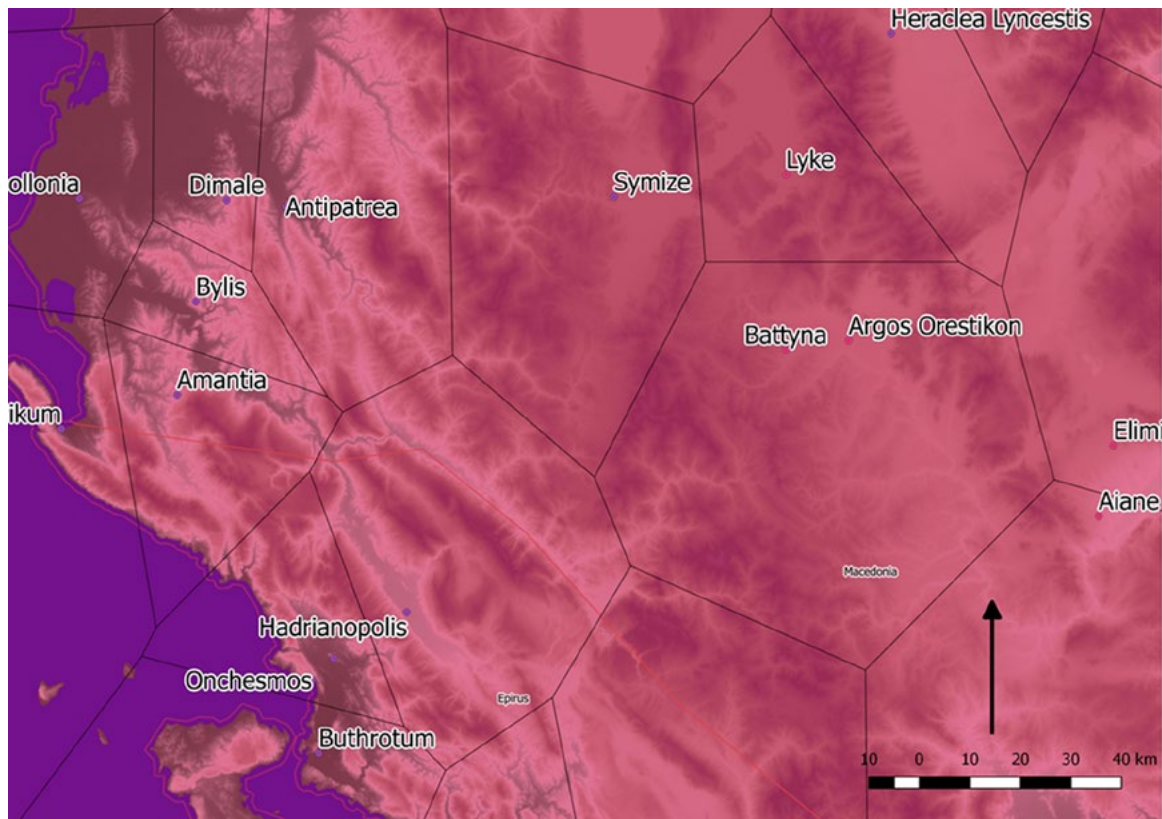
<sup>725</sup> Papazoglou 1988a, 302-303.

<sup>726</sup> Papazoglou 1988b, 233-270.

<sup>727</sup> Papazoglou 1988b, 243.

<sup>728</sup> See Chapter Four, the section on northern Epirus and Macedonia.

<sup>729</sup> Papazoglou 1988a, 262-263; Bitrakova-Grozdanova 1989.



Map VI 1: Thiessen polygons around the autonomous towns in northern Epirus.

behind this separation is still unclear, but the situation strongly suggests that the towns were in control of areas larger than the micro-regional units in which they were based. If the location of the Derriopes is correct, the territory of Styberra included both segments of the Pelagonian Plain and of the mountainous area along the Upper Crna and, if Heraclea was the capital of the Lynkoi, its territory must have extended over the entire southern half of modern Pelagonia.<sup>730</sup>

In other instances, other types of epigraphic evidence also hint at territories much larger than the minimum projections. At least two inscriptions from the roadside *vicus* of Ad Scampsia – modern Elbasan in Albania – make a direct reference to Roman citizens registered in the Aemilia tribe.<sup>731</sup> Aemilia was the founding tribe of the colony of Dyrrhachium and it is likely that these monuments were commissioned in the territory of the colony. Ancient Scampsia is situated over 60 km to the east of Dyrrhachium. (Map VI\_2) If this reasoning is sound, the territory of the colony must have stretched over an area of at least 2500 sq. km, reaching far inland to include a long section of the Via Egnatia. According to the conservative estimate, Dyrrhachium's territory

was limited to the coastal plain and the colony belonged to the group of towns with territories smaller than 500 square kilometres. Even the Thiessen polygon analysis, including only the towns whose autonomous status is certain, projects a size estimate much lower than indicated by the spread of the epigraphic sources. Nevertheless, there is a good reason to reject both these scenarios. In the preceding chapter, we saw that Dyrrhachium was too large for the agricultural resources available on the coastal plains. In view of the poor drainage in these areas in Antiquity, the *ager* of the colony could have only extended into the Valleys of the Erzen and the Shkumbin.

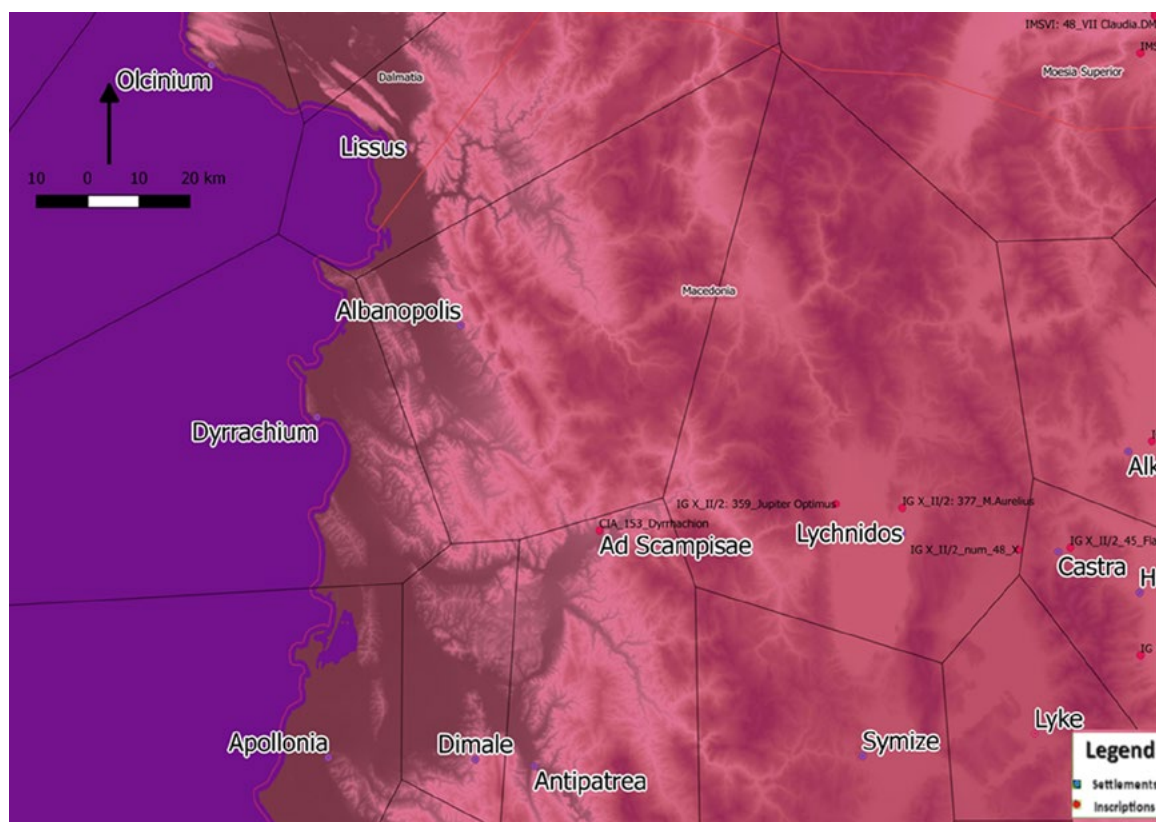
The other example comes from the eastern part of the province and also concerns a town of a major regional importance. This time the evidence is provided by a fragment of a religious dedication made on behalf of a Roman citizen based in Stobi by a group of people with non-Latin, teophoric names.<sup>732</sup> It was found on

<sup>730</sup> The territories of these peoples are briefly described in Papazoglou 1988a; Mikulčić 1999.

<sup>731</sup> Anamali, Ceka, Deniaux eds 2007, num. 153, 160.

<sup>732</sup> Papazoglou ed. 1999, num. 164; this inscription has not received the attention it deserves in the scholarly literature. The Roman citizen in question is called a *technites*, interpreted by some authors as a mining engineer, Mikulčić 1999, 91-93. This relation between mining experts or concessioners based in the major towns and the mining districts finds a number of parallels in this study-area. However, the term *technites* has most commonly been associated with masons or sculptors. Many thanks to Prof. Nade Proeva for discussing this term with me. This possibility does not challenge the relationship





Map VI 2: The territory of Dyrrhachium, Thiessen polygons and inscriptions.

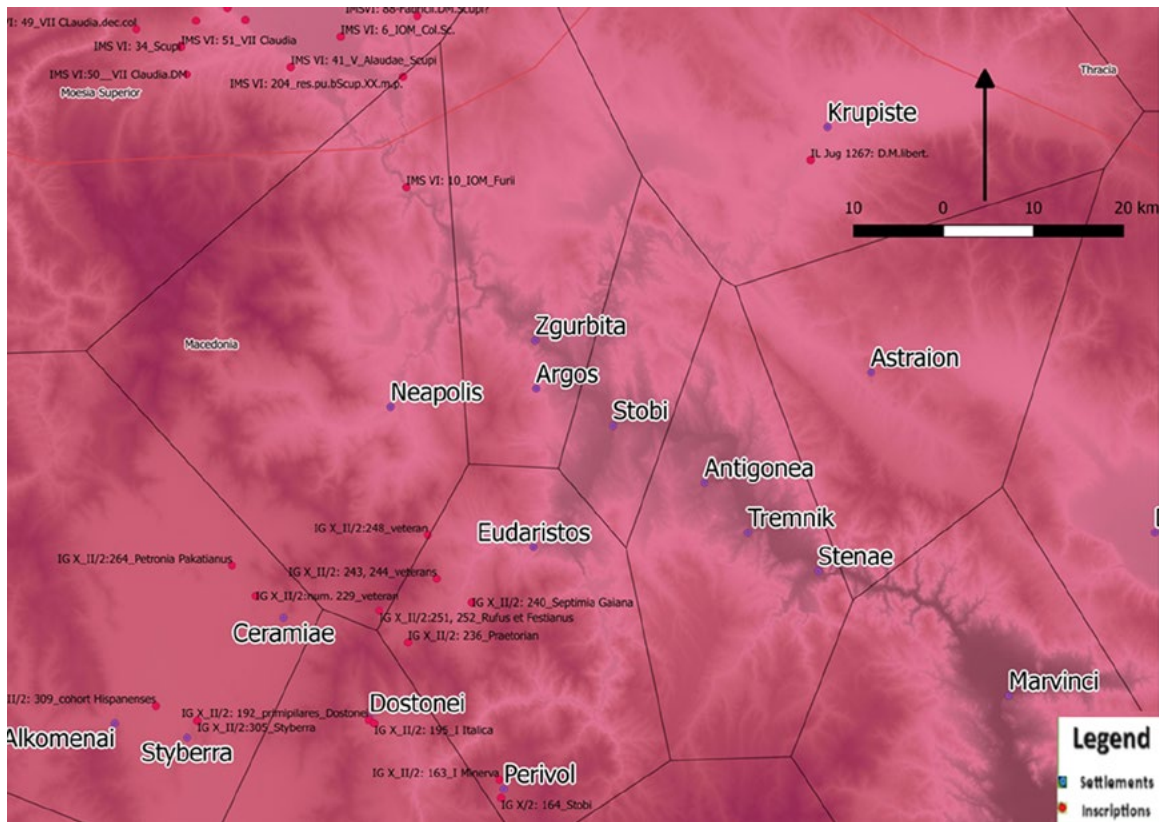
the Moriovo Plateau, at a site known as Perivol, over 40 km to the southwest of Stobi in an area rich in gold, copper and other minerals. (Map VI\_3) Admittedly, this monument is not as indicative as the funerary and honorary inscriptions from ad Scampsa, as it merely documents the relationship between the Roman citizen based in Stobi and the mountainous region of Moriovo. The region in question could very well have been administered by the government or by some of the neighbouring *civitates*, although there is not any tangible evidence to answer this question. The distribution of the securely attested autonomous towns in the area makes the expansion of Stobi's territory this far to the southwest even more of a problem, as at least one official town – albeit of minor importance – stands between Stobi and the Moriovo Plateau. It is striking that otherwise Stobi would have had one of the smallest territories in the province. Since it was surrounded by official towns on three sides – Argos on the Vardar to the north, Antigonea to the south and Eudaristos to the west –, the Thiessen polygons predict an area not larger than 450 sq. km, the bulk of it spreading over economically marginal land to the northeast. It is likely that the elite based in Stobi owned assets in the territories of the surrounding *civitates*. We shall

postulated between Stobi and the surrounding regions.

encounter more examples of strategically positioned Roman towns that apparently had surprisingly small administrative territories, but an extended economic outreach.

The majority of the differences between the projections for the urban territories derived from the physical geography and Thiessen polygons are moderate and, for a number of towns, the two estimates closely coincide. But in a small number of cases, the analysis assigns territories much larger than the average regional units in the area. Surprisingly, most of these are towns whose status is uncertain. If relatively undistinguished towns like Dimalë, Albanopolis or Antipatrea governed territories covering several thousand square kilometres, this fact was not reflected in their size or their physical appearance. The efficiency of these arrangements is doubtful, especially in view of the tiny epigraphic heritage of these towns, consisting of just a handful of official documents. Not a single inscription testifies to the activity of the town councils of Albanopolis or Antipatrea. In all these cases, it is evident that the Thiessen polygons merely mirror the low degree of urbanization in the mountainous parts of the province. Wherever the urban network came in contact with the mountainous zone, the urban territories double or triple in size. It should be stressed





Map VI 3: The territory of Stobi, Thiessen polygons and inscriptions.

that these are predominantly pastoral regions that were most probably sparsely populated and, apart from sporadic market-places, did not require a heavy urban infrastructure.<sup>733</sup>

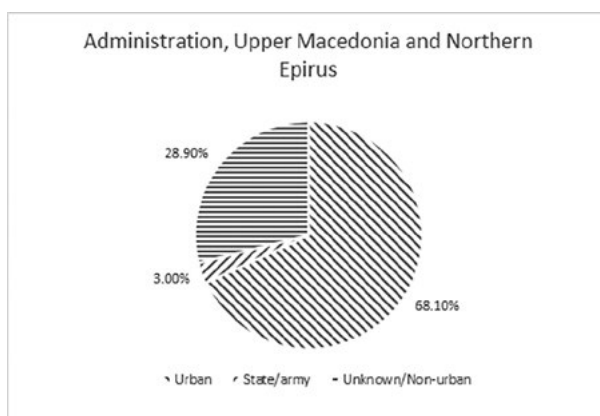


Figure VI 2: The share of the different types of administrative units in the local government of Upper Macedonia and Northern Epirus.

Taking the maximum estimates, the combined urban territories cover almost 70% of the provincial territory. (Figure VI\_2). In a nutshell, about one-third of the area was left out of the urban umbrella. The size of this sector seems to match the parts of the country lying at altitudes higher than 600 meters above the sea.<sup>734</sup> This geographical zone was deprived of the basic economic and demographic prerequisites to initiate autonomous urban development, but it is impossible to postulate if it was governed from the nearest urban centres or was brought under the control of the provincial government. There is very little evidence of the activity of either the *procurator* or the army in northern Epirus and Upper Macedonia. There are faint traces of a military presence in the northeast of the province, covering part of the region of the Upper Bregalnica and Mount Osogovo.<sup>735</sup> This is an area rich in silver and lead with abundant traces of ancient mining and it is possible that it was expropriated by the state after the conquest of Macedonia.<sup>736</sup> This region accounts for only

<sup>734</sup> The Naval Intelligence Division 1945, Figure 5.

<sup>735</sup> Josifovska-Dragojević ed. 1982, num. 236; is an epitaph of a centurion of an unnamed cohort from the Severan period and it does not necessarily imply a permanent military presence. For the purposes of the Thiessen polygons analysis, it is simulated by the *oppidum* near modern Krupište.

<sup>736</sup> AE 1973: 408, funerary monument to a *circitor*, a post often associated with the customs office, discovered in the same area. If

<sup>733</sup> For the natural resources and living conditions in the area in the Early-Modern period, see the account of the Naval Intelligence Division from 1920.

three percent of the provincial territory and hence is too small to compensate for the deficiencies in the urban network. It is possible that other regions rich in minerals – the Moriovo Plateau or Demir Hisar – were also governed directly by the provincial authorities, but evidence that would confirm this assumption is lacking. Moreover, the mountains in modern-day Albania are neither rich in valuable metals nor would they have been strategically important enough to require direct governmental supervision. Either the territories of the towns lying on the periphery of the network extended over these areas – as predicted by the Thiessen polygons – or they were constituted as hitherto unknown *civitates* that remained non-urban, leaving no traceable archaeological or written record.

In the preceding chapter, we saw that the urban core of northern Epirus and Upper Macedonia did not coincide with the most fertile parts of the province. Examining the individual units that constitute the ‘grey-zone’, it turns out that they were not exclusively composed of mountainous areas. Large fertile regions, like the Bregalnica Valley, the Polog Basin in the northwest of modern-day Macedonia<sup>737</sup> and possibly the Korça Basin, also belong to this zone. Cogently, they failed to develop an urban centre, even though they were located at distances of over 50 km of the nearest towns. Nothing in the written sources indicates that these areas were constituted as special fiscal districts.<sup>738</sup> It is not easy to find a reason for the fact that these fertile regions were left outside the urban network, whereas certain parts of the coastal zone or the Vardar Valley were over-urbanized, with administrative units not larger than 7-800 sq. km. We are either missing an important detail in the natural history of these regions or the data for their administrative status are deficient.

In order to explore these anomalies in the urban map of the province in more depth, it is useful to make a brief comparison of the number of towns in this area during the period of the High Empire with the number of prefectures in later periods in the territories of the modern nation-states of Macedonia and Albania. The comparison is complicated by the fact that the borders of the modern states do not coincide with the provincial borders. Nonetheless, if we focus on those parts of the province that overlap with the modern countries, it transpires that there were only ten administrative units for the entire territory of modern Albania, eight if we exclude those parts of the country that belonged to

Roman Dalmatia.<sup>739</sup> This compares to between nine and 12 autonomous towns during the period of the High Empire.

The geographical handbooks do not present comparative data for the territory of Macedonia in the early twentieth century, but we have come across an equally important source listing the number of *nahiya* or the smallest administrative units that were the seat of the judiciary under the Ottomans.<sup>740</sup> In the Late Ottoman period the country was divided into 17 units. If we exclude those parts of the country that belonged to Moesia in Antiquity, the number of administrative units on the territory that belonged to Roman Macedonia exceeded the number of autonomous towns in the area only by two or three. Going farther back in time the sources are less reliable, but it is striking that the numbers are surprisingly close to the Early-Modern period. In his historical and archaeological synthesis of the Medieval towns and forts in Macedonia, Ivan Mikulčić has counted no more than 14 regional centres in the parts of the country that belonged to Roman Macedonia.<sup>741</sup> During the High Empire, the same area had 11 or 12 towns with an ascertained autonomous status.

The differences are not particularly sharp, although it is evident that, by the time of Late Antiquity, the large territorial units of the preceding period had begun to break up. At least four new bishoprics emerged in the Albanian part of the province, although it is not certain how many of the old towns survived the end of the 3rd century. Towns like Antipatrea that, if not fully abandoned, must surely have been in decline in the period of the High Empire, underwent a renewed growth from the 4th century and thereafter. A similar tendency in urban growth compensating for the loss of some of the older towns can be observed in the Macedonian part of the province. The best example comes from the Bregalnica Valley. Scholars have long struggled to discover a central place in this fertile region during the period of the High Empire. However, it is undeniable that this area saw the establishment of no fewer than three bishoprics in Late Antiquity and there were important regional centres throughout the Middle Ages.

These shortfalls in the urban network of the region under the High Empire have less to do with the total number of towns than with their uneven distribution. In later periods there was a small increase in the number of towns, but the network had also been extended to some of the regions that were left out of the urban belt in the Roman period. Considering that

this person was employed at the office of the concessionaries of the Illyrian customs zone, it indicates that the area in question was not part of Roman Macedonia.

<sup>737</sup> Livy XLIII 19.3-5; mentions the names of three towns in these regions – Uscana, Oaeneus and Draudacum –, but none of them has been attested in the Roman period; Proeva 2014, 165-183.

<sup>738</sup> In view of the low conspicuousness of the imperial estates in the archaeological and epigraphic record, it is also possible that this land formed part of the imperial patrimony.

<sup>739</sup> The Naval Intelligence Division 1945, 129.

<sup>740</sup> Stojanovski 1989.

<sup>741</sup> Mikulčić 1996.

urban developments did not bypass these regions in other historical periods seems to exclude a purely ecological explanation for the absence of urbanism during the High Empire. Until fresh evidence is brought to light, the specific circumstances that dictated these developments will continue to baffle researchers, but they should be sought in the regional socio-economic realities.

### Dalmatia

The uncertainties about the exact number of autonomous units are particularly pronounced in Dalmatia. The optimistic scenario recognizes 38, while the conservative, 30 autonomous towns in this province. As in Roman Macedonia, the discrepancy is caused by a number of *oppida* whose autonomous status is only vaguely indicated by the written sources. The problem is exacerbated by the unknown fate of many of the *civitates* encountered at the time of the conquest or constituted soon after the creation of the province.<sup>742</sup> There is no way of telling which of these communities developed into separate *municipia* that were merged with their neighbours to create a larger, functional *municipium* or others, that retained their old laws and institutions throughout the period of the High Empire. Pliny lists at least 40 *civitates*, slightly more than our extended list of autonomous towns but, in reality, it is very difficult to find a full correspondence between the two lists.<sup>743</sup> Despite all scholarly efforts, Pliny's *civitates* have remained untraceable on the ground; a fact that suggests that these were non-urban communities. Ivo Bojanovski, whose intimate knowledge of the Dalmatian interior is virtually unparalleled, could only give a rough indication of their location, guided by the number of *decuriae* per *civitas* and assuming a geographical order in Pliny's description of the province.<sup>744</sup> However, in the absence of any tangible evidence, the whole effort descends into a game of filling-in the administrative gaps on the map. Having no way to decide if the micro-regions in question formed self-governing units or were attached to the territories of the neighbouring administrative centres, we have no choice but to account for both possibilities. This exercise will inevitably increase the discrepancy between the minimal and maximal projections.

In the Flavian period, Dalmatia became a *provincia inermis* but, as we saw in Chapter Three, much of the old

military infrastructure was maintained and there was a continuous military presence, whether in the form of permanently stationed auxiliary units and legionary detachments or just individual officers seconded to the governor's staff.<sup>745</sup> If the assumption that the presence of the military was incompatible with the civilian administration is accepted, their distribution in the interior of the province can be a valuable indicator of the territorial divisions.<sup>746</sup> This situation would imply that the territory of a given town did not extend beyond the site of the camp and it would probably have terminated at a certain distance from this site. If we go a step farther and assume that at least some of these military outposts played an active role in the administration of the non-municipalized communities of the Dalmatian interior, the securely identified auxiliary camps can be treated as the provisional centres of separate districts that remained outside the municipal divisions.<sup>747</sup>

Besides the self-governing and military districts, considerable segments of the territory of the province were composed of areas owned and/or managed directly by the state, like the mining districts and imperial estates.<sup>748</sup> The territorial extent of the majority remains elusive, but the fact that their presence and approximate location have been ascertained is already an important step towards a better understanding of the administrative divisions in Roman Dalmatia. The boundary-stones setting the limits of the imperial estates and the dedications made by the Imperial *procuratores*, freedmen and slaves are of paramount importance in this respect.

In any reconstruction of the administrative territories in Dalmatia the natural geographical divisions in the area cannot be ignored. Dalmatia was the province that featured the most contrasting geography in our study-area. Here, to an even greater degree than in Roman Macedonia, the individual river basins and plateaus are separated by mountain ranges rising to a relative height of several hundred metres. These geographical barriers had channelled communication and exchange for centuries prior to the Roman conquest. If they were so instrumental in shaping the political and ethnic map of the area in the pre-Roman period, this pattern must have been respected by the new rulers.<sup>749</sup>

The main source for the reconstruction of the territorial divisions in Roman Dalmatia is the epigraphic heritage

<sup>742</sup> Pliny HN 3.139-142; Wilkes 1969, 153-177; Wilkes 1977, 732-766; Vittinghoff 1977, 3-51; Dzino 2010, 164-167, Dzino 2014, 219-231.

<sup>743</sup> The idea that the general tendency was one of centralization and the merging of the smaller *civitates* into larger communities is suggested by Pliny's remark that, according to Varro, there were 89 *civitates* in the *conventus* of Narona alone, in the southeastern third of the province. Pliny HN 3.142; Bojanovski 1988, 47, dates the passage to the early reign of Augustus; for the possible sources used by Pliny see Vittinghoff 1977, 24-30.

<sup>744</sup> Bojanovski 1988, 75.

<sup>745</sup> Wilkes 2000, 327-341.

<sup>746</sup> Cf. Mattingly 2006.

<sup>747</sup> The presence of a permanent garrison site near modern Humac undermines this approach, as the surrounding micro-region had almost certainly belonged to the Roman colony of Narona, Wilkes 1969, 113; Bojanovski 1988, 116-128. See the section on Dacia for more examples.

<sup>748</sup> Bojanovski 1988; Škegro 2006, 149-173.

<sup>749</sup> For a detailed geographical description of the region see The Naval Intelligence Division 1944a, 43 ff.; Wilkes 1969, xxi-xxvii.





of the province. In contrast to Macedonia, in which it took a great effort to discover even one or two inscriptions referring to the autonomous towns, in Dalmatia the relevant epigraphic record from the countryside is abundant. It comprises a whole range of different types of inscriptions, including boundary inscriptions, funerary monuments, votive and honorific inscriptions that either point immediately to the possible territorial extents or at least indicate the economic and demographic relationships between the various parts of the province. Given the sizeable corpus of epigraphic data, only rarely did we have to rely on the geographical specifics or Thiessen polygons to reconstruct the administrative divisions of Roman Dalmatia.

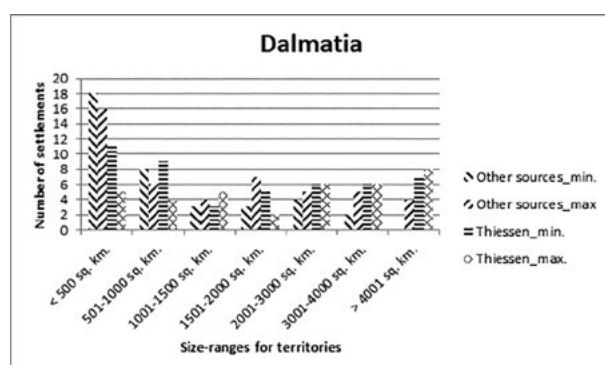


Figure VI 3: Distribution of territorial units in Roman Dalmatia by size-ranges.

Dalmatia is characterized by a large number of very small administrative units. Both scenarios agree that over one-third of the autonomous communities in this province, controlled territories smaller than 500 sq. km (Figure VI 3). This category was also prominent in Roman Macedonia but, in this instance, they represented about a quarter of all autonomous districts if the minimum estimates are taken. Moreover, many of these urban territories fell short of the 500 sq. km threshold by only a very small margin. Hence it was possible to point to the threshold of 500 sq. km as the bare minimum for the normal functioning of the autonomous towns in the area. The same cannot be said for Dalmatia, in which a relatively large proportion of the units measure less than 300 sq. km. These estimates are not easy to dismiss out of hand, as most of them refer to island or coastal communities. In these cases, because of the geographical limits and proximity of the neighbouring towns, there are simply no other possibilities. This is confirmed by the distribution of the boundary inscriptions, often implying surprisingly small territories. (Maps VI\_4, VI\_5)<sup>750</sup>

<sup>750</sup> Cf. however, the very small territorial sizes of the towns in Roman Baetica, Keay, Earl 2011, Table 10.1; or Apulia, De Ligt 2012, 236-237.

In view of the small size and poor quality of the land in their territories, it is surprising that these tiny communities were granted full autonomy. Evidence of the presence of magistrates or local councils in Liburnia is available for nearly all communities mentioned by Pliny.<sup>751</sup> This evidence might not always be decisive in determining their juridical status, but it cannot be entirely dismissed. As in other newly conquered territories, the Romans maintained the territorial divisions encountered at the time of the conquest, recognizing the autonomy of all the major constituents of the old federation.<sup>752</sup> The same approach was adopted in the southern Adriatic, in which the small *oppida* of Risinium and Acruvium and, possibly Buthoe and Oulcinium – former strongholds of the Illyrian dynasts –, were granted autonomy.<sup>753</sup> The results were the tiny municipal territories and the exceptionally large number of boundary-stones, plain testimony to the strained natural resources in the region.<sup>754</sup> Even Iader, a town of 20 to 30 ha and the only Roman colony in Liburnia, had to be content with a territory not larger than 750 sq. km and possibly dropping below the 500 sq. km threshold, if stricter criteria are applied. Until Late Antiquity, when only a fraction of these communities became episcopal sees,<sup>755</sup> the centralizing tendencies seem to have been kept in check by laws and regulations that protected local autonomy, despite the fact that the demographic and agricultural potential was limited. As we saw in the preceding chapter, this territorial regime was also made viable by the small size of the urban centres.

The differences with Roman Macedonia are also unmistakably apparent if we examine the other end of the spectrum. Whereas the former province contained only a couple of units measuring between 2000 and 3000 sq. km and none was larger than 3000 sq. km, in Dalmatia there are no fewer than five settlements with territories larger than 2000 sq. km, even adopting the conservative approach. Taking the maximum estimates, their number rises to 14 or nearly 30% of all autonomous units in the province. Almost all of these towns and communities were situated in the Dalmatian interior; the few examples lying close to the coast belonged to the southern half of Dalmatia. This is not a simple effect of the great intercity distances in these areas or the differences in the physical geography. Almost one-half

<sup>751</sup> Alföldy 1965, 71; Wilkes 1969, 192-219; Wilkes 2003, 233-241; believed that all *oppida* included in Pliny's list had been granted a municipal charter by the Flavian period, if not earlier. Other scholars remain sceptical, Suić 1976; Vittinghoff 1977, 30.

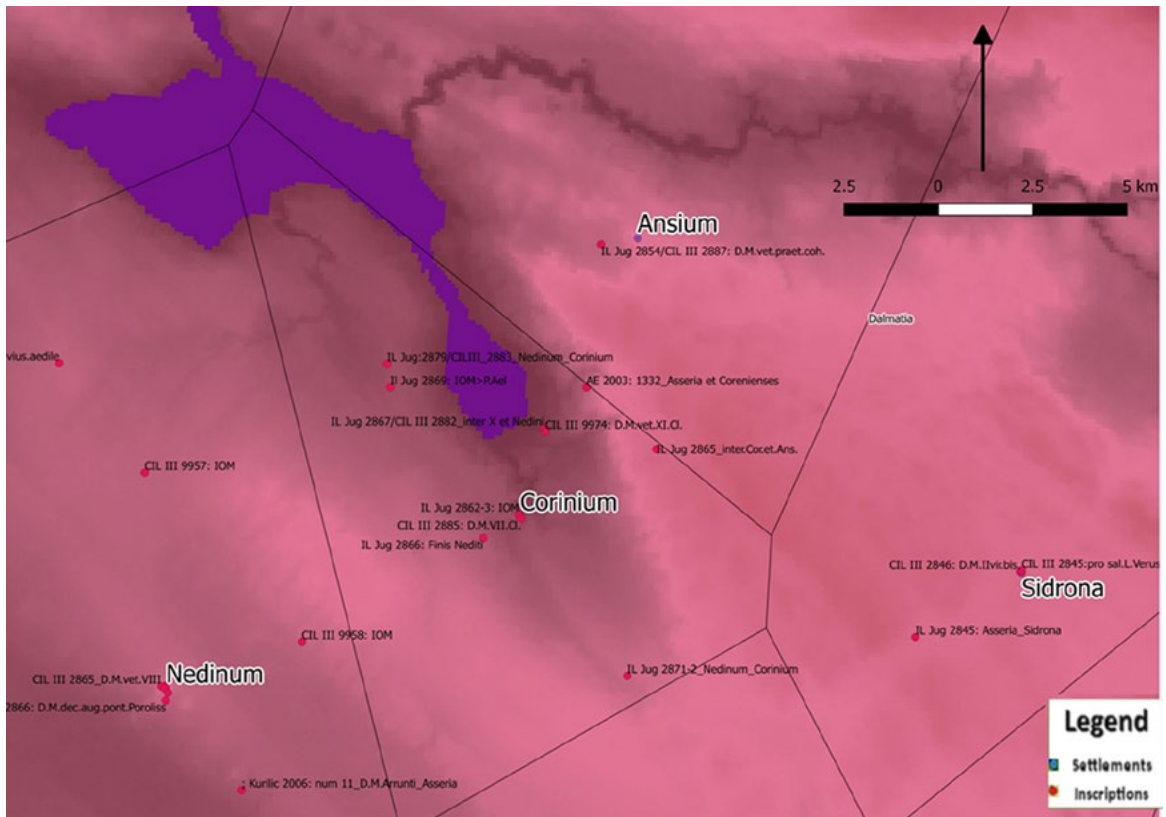
<sup>752</sup> For example, Čače 2007, 39-82; although he allows that some of the Liburnian *municipia* had lost their significance by the 2nd century AD. This raises the question if this decline would have automatically implied a loss of autonomous status.

<sup>753</sup> Suić 1976, 34-37.

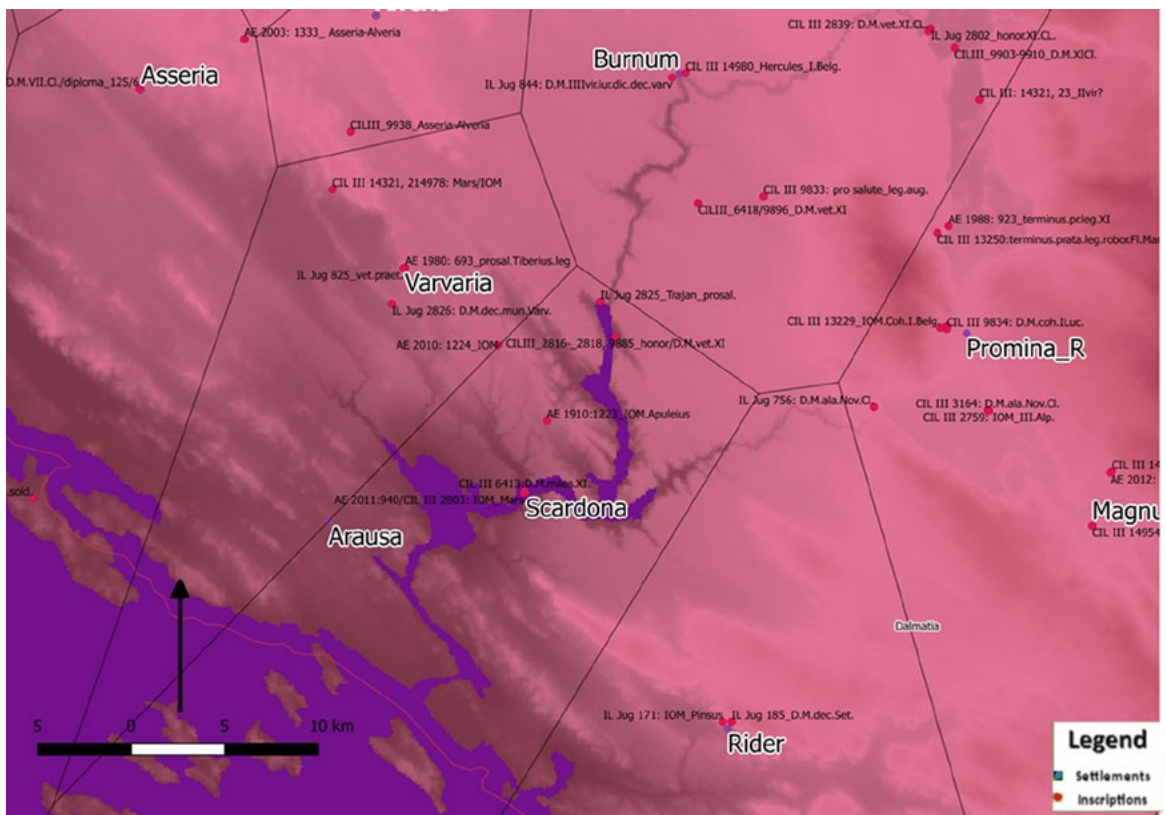
<sup>754</sup> Cf. the evaluation of the area from the perspective of natural resources by Chapman, Shiel, Batović eds 1996.

<sup>755</sup> Dzino 2014b, Map 1.





Map VI 4: Distribution of boundary-stones in Liburnia.



Map VI 5: Territorial reconstructions in Liburnia, Thiessen polygons and inscriptions.



Map VI 6: The territory of Doclea and the towns on the southern Dalmatian coast.

of these projections are based on information contained in the epigraphic and cartographic sources. Only the best documented cases will be mentioned below.

The territorial extent of the Docleatae, whose capital is attested to the north of modern Podgorica in Montenegro, is explicitly confirmed on a funerary monument for a *princeps* found in a *castellum* on the territory of this tribe. (Map VI\_6)<sup>756</sup> This *castellum* is situated about 60 km to the northwest of Doclea and it offers solid proof that most of the western half of modern Montenegro was centred on this Flavian *municipium*. The area in question is composed of a number of separate basins and karstic plateaus and extends over more than 4000 sq. km. The fact that the Docleatae had had no more than 33 *decuriae* a few decades prior to the founding of the *municipium* is striking evidence of the sparse population in the area, even were we to accept the possibility that the newly founded *municipium* included some of the smaller neighbouring *civitates*.<sup>757</sup>

In the case of Malvesia, the easternmost *municipium* of Roman Dalmatia and arguably one of the most isolated sub-regions in our study area, the distribution of the

funerary monuments erected for the city magistrates form a compact scatter measuring between 2500 and 3000 sq. km. (Map VI\_7)<sup>758</sup> The territory of the *municipium* stretched from the Lim in the west, to the upper basin of the Western Morava in the east and includes a number of different micro-regional units. Accepting the conventional identification of the municipal centre on the Middle Drina, Malvesia was located on the northern edge of its territory.<sup>759</sup> Obviously, for the central place access to roads and fertile land was of a greater importance than its accessibility from any given corner in the urban territory.

The series of *municipia* with epigraphically confirmed large territories continues with settlements whose names do not appear outside the general historical or archaeological monographs on Roman Dalmatia. According to the distribution of the relevant epigraphic sources, *municipia* like Bistua Nova and, possibly the one known solely by the initial letter S, had territories stretching over at least 2200 sq. km.<sup>760</sup>

<sup>756</sup> IL Jug 1853: Bojanovski 1988, 114-115.

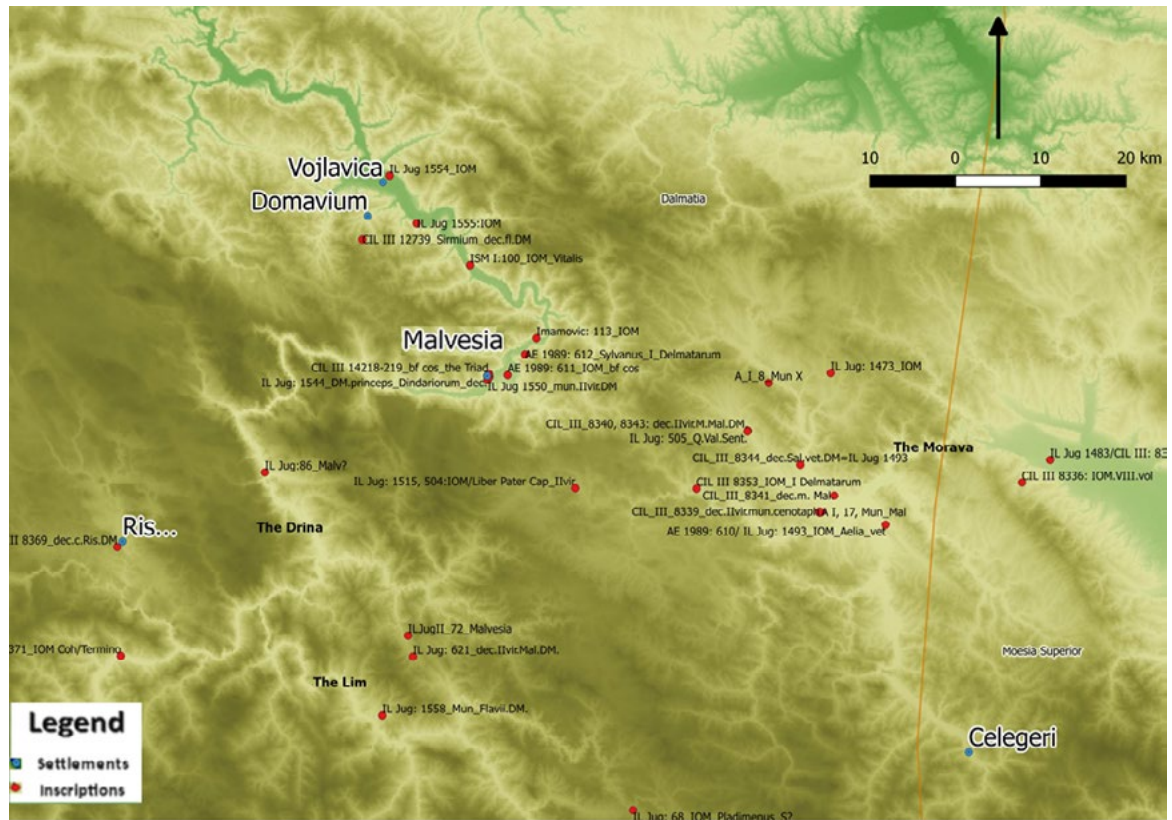
<sup>757</sup> Wilkes 1969, 166-167.

<sup>758</sup> Bojanovski 1968, 241- 261; Bojanovski 1988, 177-192; even though well attested epigraphically, the location of the *municipium* has yet to be established.

<sup>759</sup> For the different opinions about the location of Malvesia see Bojanovski 1988, 177-192.

<sup>760</sup> Bistue Nova: Bojanovski 1974, 1988, 155-168. The case for the large territory of *Municipium S.* is weaker, especially in view of the presence





Map VI 7: The territory of Malvesia in eastern Dalmatia.

Narona, the Roman colony founded on the site of a former Greek *emporion*, equals the territories of the Latin *municipia* in the interior of Dalmatia in size.<sup>761</sup> Narona's *ager* is well documented in the funerary inscriptions of veterans and town magistrates, spread over an area of 2500 sq. km. (Map VI\_8)<sup>762</sup> Judging by the settlement pattern and the occurrence of *gentilica* characteristic in the colony in the upper Neretva Valley, it is possible that its territory extended over an area of 3500 sq. km.<sup>763</sup> The remainder of the Roman colonies in Dalmatia apparently had much smaller territories. The territory of Epidaurum, located on the coast in the south of the province, extended up to 1700 sq. km according to the maximum estimate, but the few epigraphic monuments that can be directly related to this town come exclusively from the coastal zone and suggest

a territory not larger than 800 sq. km. (Map VI\_9)<sup>764</sup> Aequum, on the Cetinja River in the Salonitan *conventus*, had a similarly sized territory, ranging between 600 and 1000 sq. km. (Map VI\_10)<sup>765</sup> In comparison to Narona, both these colonies were much smaller, their territorial sizes commensurate to the size of their built-up areas.

Salona, another Roman colony and provincial capital, presents a very different case.<sup>766</sup> As we saw in Chapter Four, Salona was by far the largest town in Dalmatia, twice the size of the second largest town in the province. Like Dyrrhachium, Salona was too populous for its immediate habitat and it can be predicted that a large proportion of its subsistence needs would have been covered from the town's administrative territory. Despite this, all indices point to the fact that, by the Late Antonine period, it governed a territory not larger than 1400 sq. km, including all the islands in Salona Bay but Issa. (Maps VI\_11 and 12)<sup>767</sup> However, it has to be stressed that this estimate is derived almost entirely

of a *procurator* and imperial freedmen in the municipal territory, attested in official dedications. These seem to suggest that S. was yet another mining *municipium*, although its wide range of town-magistrates distinguishes it from most of the *municipia* that developed in the mining districts. As with the rest of the mining *municipia*, it is impossible to separate the municipal territory from the mines that belonged to the state treasury. Cermanović-Kuzmanović 1968, 101-107; Mirković 1975, 95-106; Loma 2002, 143-179; Dušanić 2004a, 254-255.

<sup>761</sup> Wilkes 1969, 245-252; Cambi 1978, 57-66; Marin ed. 2003.

<sup>762</sup> Dodig 2003, 233-252.

<sup>763</sup> Čremošnik 1955, 107-134; Bojanovski 1988, 116-128.

<sup>764</sup> Bojanovski 1988, 76-83; suggests the maximum estimate on the bases of political and administrative divisions in the area in the Middle Ages.

<sup>765</sup> Demicheli 2011, 69-97.

<sup>766</sup> Cambi ed. 1991; Wilkes 2002, 87-105.

<sup>767</sup> During the 1st and 2nd century AD, the territory of Salona was much larger, including the territory of the *municipium* of Novae, Bojanovski 1977, 97, 99, 134.

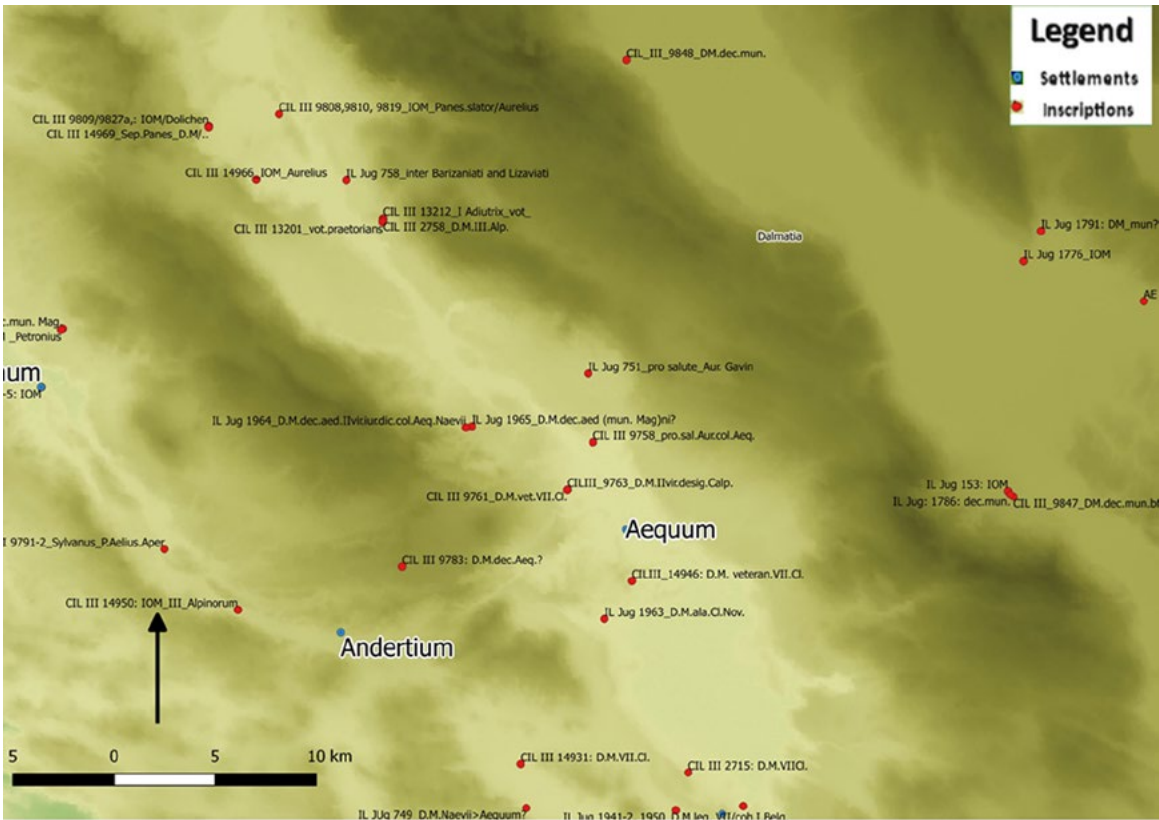


Map VI 8: The territory of Narona.



Map VI 9: The territory of Epidaurum.

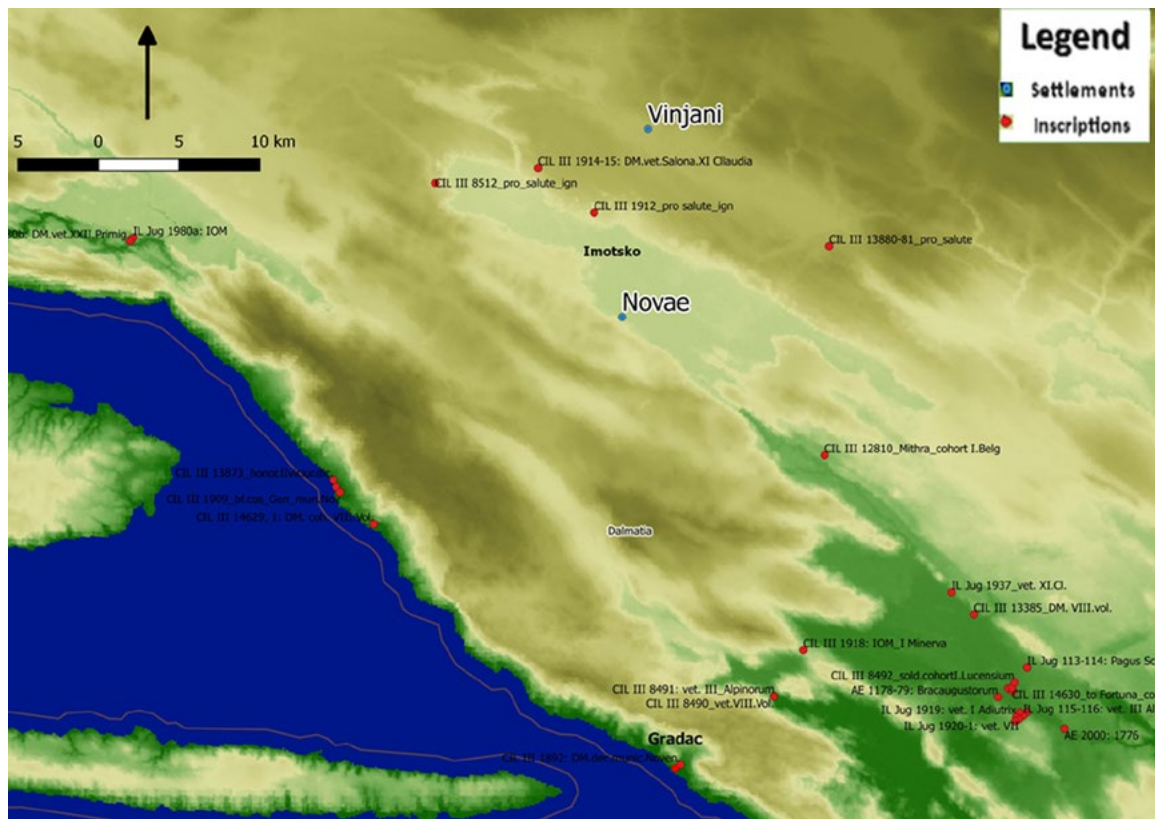




Map VI 10: The territory of Aequum.



Map VI 11: The territory of Salona.



Map VI 12: The territory of Novae.

from the distribution of the inscriptions documenting the possible extent of the neighbouring urban territories and the distribution of the military outposts at Tilurium and Andetrium.<sup>768</sup> Once the focus is shifted to the inscriptions referring to the *curia* of Salona, they are limited either to the immediate surroundings of the town or make rare appearances deep in the interior, at locations that belonged to different territorial units. Excluding the latter group of inscriptions, the epigraphic documents commissioned by the town magistrates are spread over an area not larger than 700 sq. km, coinciding perfectly with the most fertile portion of Salona's territory.<sup>769</sup>

Hence, the agricultural core of Salona's territory was of roughly equal size as that of the smaller colonies, Iader or Epidaurum. It is certain that the territory beyond this zone was also governed by the colony, but this would hardly have compensated for the relatively small *ager* as it consists mainly of barren uplands. The extremely scarce agricultural resources outside the narrower territory of the town could have only served

as a basis for a pastoral economy. As it is today, the population density was certainly low in this area and, given its lack of accessibility, it would not have been a very attractive tax pool. Despite the scarcity of arable land, Salona was an extremely popular location among the veteran settlers, and in contrast to the pattern in Narona, the great majority of them were buried in the urban necropolis.<sup>770</sup>

As pointed out in the preceding chapter, the widespread trade connections of the colony and the involvement of its elite in the mining districts in the interior of the province would have been Salona's chief economic assets.<sup>771</sup> This claim is substantiated by the large number of funerary monuments from either Salona itself or its immediate hinterland, set up by people who served as magistrates in other Dalmatian towns,<sup>772</sup> Aequum, Rider, Salvium, Bistue Nova, Splonum, plus a number of others. We even know of a *decurio* who served in Singidunum, in neighbouring Moesia Superior, and of another who took office in

<sup>768</sup> Cf. Wilkes 1969, 225-6; Bojanovski 1977, 83-151. Wilkes 1969, 231-3; has argued that the colony was founded in the territory of the Dalmatian *civitates* Pituntini and Narestae. The boundary-stones locate these peoples less than 15 km to the south of Salona.

<sup>769</sup> CIL III 13873, IL Jug 124, CIL III 13288; CIL III 3084, CIL III 2676, 2680.

<sup>770</sup> Wilkes 2000, 327-341; Ferjanić 2002.

<sup>771</sup> Wilkes 1969, 234-5; Bojanovski 1974, 175-181; emphasizing the early date of the road between Salona and the silver mines in eastern Dalmatia; Škegro 1998, 89-117.

<sup>772</sup> Wilkes 2002, 93–94; has related the phenomenon to the slow decline of the *municipia* in the interior of the province, but this is not the most plausible explanation.

Drobeta in Dacia.<sup>773</sup> These people were unmistakably members of the local aristocracy who had the financial means and the initiative to take on municipal duties in other towns in Dalmatia or the neighbouring provinces. It is almost certain that they would have also owned landed property in the territories of these towns. The size of Salona's administrative territory might have been unimpressive by the late 2nd century, but this belies the economic outreach of its elite that extended over much of the Balkan Peninsula. At this point, it is appropriate to mention that the aristocracy from the other important coastal communities also makes occasional appearances in the epigraphy of the interior of the province. The elites from Iader, another colony with a surprisingly small territory, were also evidently involved in the exploitation of some of the mining areas and also possibly of Risinium.<sup>774</sup>

Unlike Macedonia, Dalmatia had a large number of non-municipal districts. Even in the densely parcelled coastal zone, the epigraphic sources suggest that some of the islands belonged to the Imperial patrimony.<sup>775</sup> There is no way of determining their true number or extent, but the high urban density on the coast must have been a limiting factor. The same comment applies to the extent of the territories controlled from the military camps in Tilurium and Andetrium.<sup>776</sup> Located on the busy Aquileia-Dyrrhachium road, their actual territory was probably tiny. Although there is no tangible evidence, it probably did not exceed the areas enclosed by the market radius.<sup>777</sup>

Because of the low urban density, the extent of these special districts in the interior of the province would have been potentially much greater. Their traces have been identified in the hinterland of Epidaurum and in eastern Dalmatia, especially along the River Drina, along which there was at least one large imperial estate in the region of modern Ustikolina and a possible mining district in modern Rogatica. Unfortunately, the epigraphic evidence is extremely limited, so that even the existence of these districts has not yet been entirely established, let alone their territorial extents. Their territorial size could vary from less than 100 sq. km for the *fundus* located between the territories of Epidaurum and Doclea,<sup>778</sup> to over 1500 sq. km in the case

of the mining districts in the Upper Drina Valley. (Maps VI\_9 and 13)<sup>779</sup>

The silver-mining district based in Domavia on the Middle Drina is far less controversial.<sup>780</sup> It has been confirmed by a series of dedications erected on behalf of a district *procurator* under the Severan dynasty.<sup>781</sup> However, there are hardly any clues to the approximate extent of this district. (Map VI\_14) Some scholars have pointed to the possibility that it extended into neighbouring Pannonia.<sup>782</sup> This is a reasonable assumption considering the fact that the Pannonian provinces also included a silver-mining district that, unless identified with Domavia, eludes all other attempts to localize it. No other silver deposits are known in Pannonia. In that case, the silver-mining district on the Drina must have included most of the lower valley of the river, covering up to 5000 sq. km.<sup>783</sup>

A number of ancient authors writing at the time of the Early Empire refer to the gold riches of Roman Dalmatia.<sup>784</sup> These have been located, mostly thanks to the efforts of Austrian engineers surveying this remote area in the late 19th century, in the central parts of modern Bosnia, along the Upper Vrbas, Lašva and Fojnička.<sup>785</sup> Only archaeological remains testify to the gold-winning activities in this area. The absence of epigraphic evidence prevents us from determining the extent of this district or the location of its capital.<sup>786</sup> If we accept that Bistue Nova was at modern Bugojno, this region must have been, at least in part, municipalized.

More extra-municipal districts can be located along the problematic provincial frontier with Pannonia, on which traces of mining and metallurgical activities have

<sup>773</sup> IL Jug 2681; CIL III 2679.

<sup>774</sup> Iader: IL Jug 95; Risinium: CIL III 8369; for a different interpretation, Vittinghoff 1977, 18-19; *contra* Bojanovski 1988, 169-175, who maintains that there was a separate colony with a similar name in the interior of the province.

<sup>775</sup> Starac 2006, 111-112.

<sup>776</sup> These two military forts in the Dalmatian interior are usually associated with keeping control of the main Dalmatian transversal artery; Andetrium: Wilkes 1969, 135-144; Bojanovski 1974, 131-132; Tilurium: Sanader 2006, 59-71.

<sup>777</sup> Zaninović 1985, 63-79; assigns a much larger territory to the military camp Tillurium, but his argument is based almost entirely on analogies with Burnum.

<sup>778</sup> The *fundus* in the hinterland of Epidaurus: IL Jug 647; Čremošnik

1976, 41-164; has attempted to identify the archaeological remains of the villa that was the centre of this estate; Bojanovski 1988, 81-82.

<sup>779</sup> Ustikolina: IL Jug 1572; CIL III 8370-1; Bojanovski 1987, 63-174; IL Jug 85, is an IOM dedication by a *libertus*, discovered 15 km to the south of Ustikolina, the find-spot of one of the boundary-stones. So far, this might be the only epigraphic monument that has come from the region of the Upper Drina. Rogatica: CIL III 8369; see fn. 774. The elites based in Risinium were active in the territory of *Municipium S*, likewise known for its mineral riches.

<sup>780</sup> Dušanić 1977a, 52-94; Bojanovski 1982, 89-121; Hirt 2010; for the archaeological remains see Wilkes 1969, Figure 19; Bojanovski 1988, 193-203.

<sup>781</sup> Bojanovski 1982, 99-106.

<sup>782</sup> Dušanić 1977a, 65-66; discusses the problem of the Pannonian *argentaria*.

<sup>783</sup> Bojanovski 1988, 200-201, sets the northern limits of the districts on the assumed provincial border with Pannonia, but extends the western border almost to the area of modern Sarajevo. Against this interpretation, Hirt 2010, has pointed out the possibility that the mining districts did not necessarily form contingent strips of land, but consisted of smaller, isolated mining areas. This possibility cannot be discarded, but it would have required a very dense web of stations to control the transport of goods from and to the mining zones and it would have necessitated import of food-stuff and other basic resources from other administrative units.

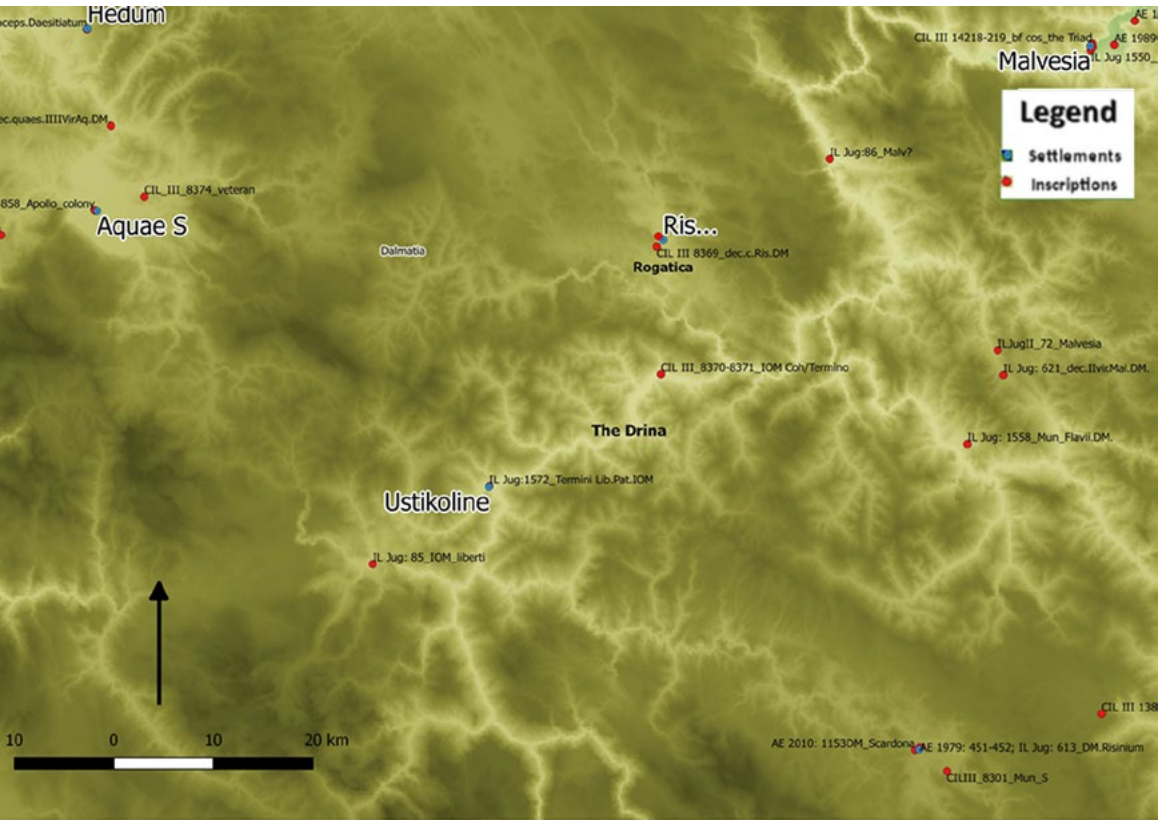
<sup>784</sup> For example, Florus 2.25. 12.

<sup>785</sup> Bojanovski 1982, 89-121; Škegro 2006; Hirt 2010.

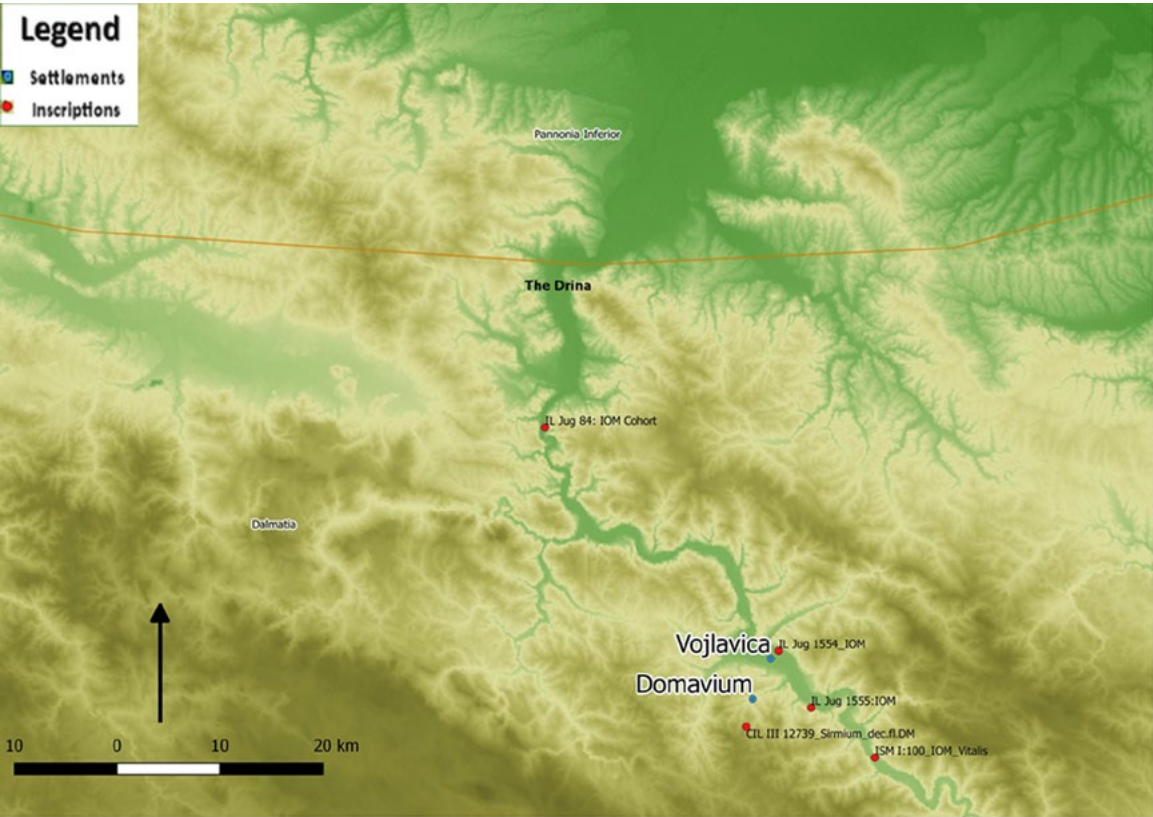
<sup>786</sup> Hirt 2010, has suggested that this auriferous zone was controlled by the financial procurator based in Salona.





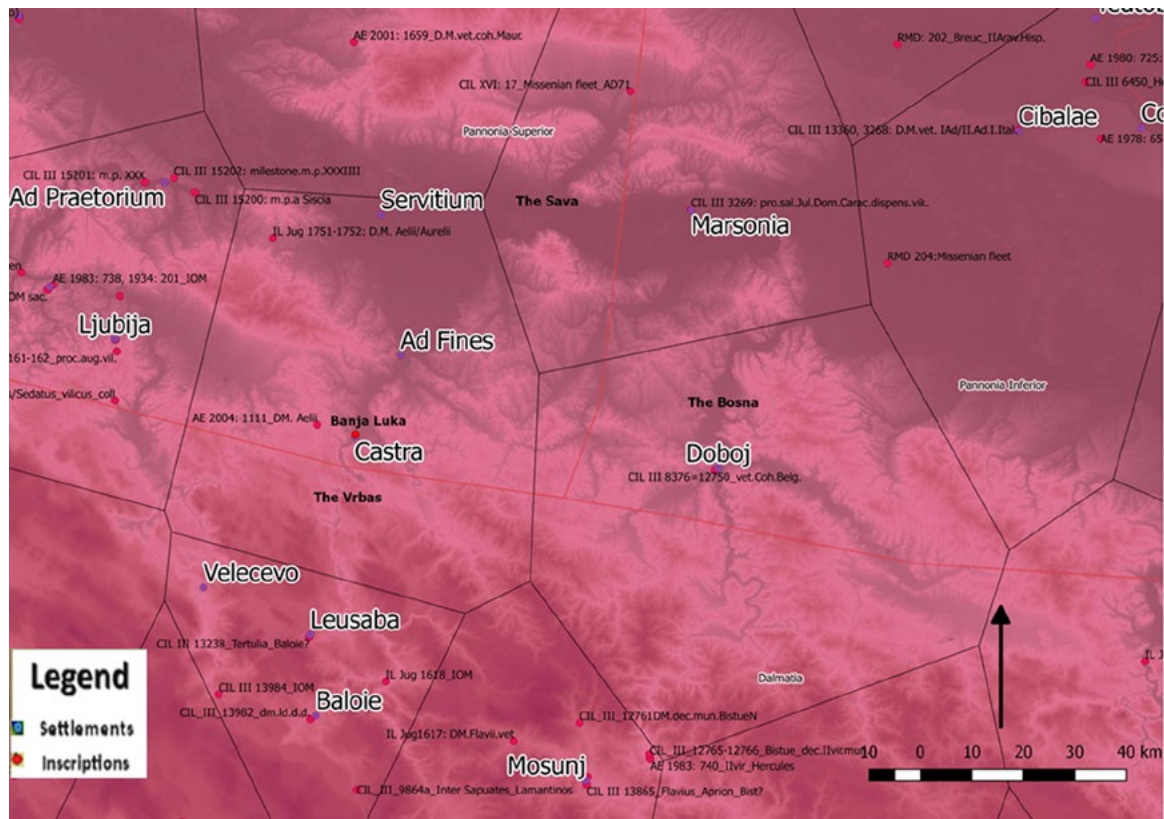


Map VI 13: The administrative districts in the Upper Drina.



Map VI 14: The Dalmatian *argentaria*.





Map VI 15: The administrative arrangements on the border between Pannonia and Dalmatia.

been located between the Vrbas and Sana.<sup>787</sup> Moreover, as we have seen in one of the preceding chapters, there was one, possibly two, military outposts in this area.<sup>788</sup> Both forts guarded the roads that leading off from the Sava Corridor ran into the interior of Dalmatia. (Map VI\_15)<sup>789</sup> Nevertheless, it is impossible to ignore the fact that these areas were precisely the heartland of those *civitates* that took the leading role in the Pannonian Revolt of AD 6-9.<sup>790</sup> The maintenance of road-security would surely not have been incompatible with the supervision of the areas that had had a history of trouble-making in the past and continued to be poorly integrated into the social and economic currents of the province. The small epigraphic corpus from this region is of very little help in determining the extent of these districts but, following the geographical divisions, the

combined areas of the supposed districts based in Doboj and Castra could have reached almost 8000 sq. km.<sup>791</sup> If we look at the Thiessen polygons, they become even larger, exceeding 10,000 sq. km.

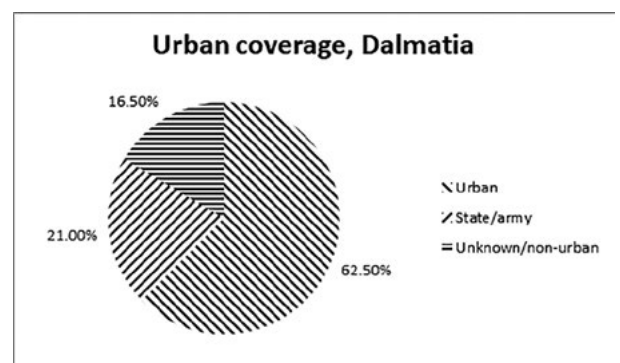


Figure VI 4: The share of the different types of administrative units in the local government of Dalmatia.

Figure VI\_4 is based on the maximum territorial estimates. If we were to assign a definite municipal or extra-municipal character only to those stretches

<sup>787</sup> The case for the Dalmatian *ferraria* is discussed in Dušanić 1977a, 68-69; Hirt 2010, evidence of ore-smelting in the area comes from Leusaba located near modern Mrkonjić Grad and Velečevo on the Sana, see Bojanovski 1988, 297-300.

<sup>788</sup> The anonymous auxiliary fort near modern Doboj: Čremošnik 1984, 23-84; Castra, modern Banja Luka: Bojanovski 1988, 300-303; the small finds and architectural remains from this site: Periša 1995-1996, 111-126.

<sup>789</sup> Bojanovski 1988, 355-364; Wilkes 2000, 332-334.

<sup>790</sup> The Breuci in the Lower, the Daesithiati on the Middle Bosna: Mócsy 1971b, 41-46; Bojanovski 1974, 182-183; Maezei in the Vrbas-Una Interfluvium, Bojanovski 1988, 266-273; Dzino 2010, 142-155;

<sup>791</sup> Cf. the size of the territory of the Maezei estimated by Bojanovski 1988, 266-269.

of land for which we have concrete evidence, it is likely that the percentage of municipal territory will decrease. However, despite the continuous presence of the military, it is unlikely that over two-thirds of the province remained outside the territories of the major towns and districts. It is certain that the maximum estimates over-estimate the size of the imperial estates and army districts and they are also likely to over-rate the extent of the urban territories, especially in the cases of towns for which the epigraphic evidence suggests direct control only over the regional units in which they were based.

The share of the urban sector in Dalmatia is slightly lower than in Macedonia, including between three- and four-fifths of the provincial territory. Over 30% of the land was either put under direct control of the government or was ruled by communities that retained their native institutions and/or never adopted the epigraphic habit. Evidently, the latter option is the most problematic. As it is based entirely on negative evidence, it is perhaps best seen as an unavoidable margin of error rather than as an actual element of the local government. The important difference is that, whereas the areas left outside the urban umbrella in northern Epirus and Upper Macedonia belonged almost entirely to the 'grey zone', in Dalmatia, about one-fifth of the land was run directly either by the state administrators or the army.<sup>792</sup> The special status of this land combined with the nature of the economic relations that linked it to the rest of the Empire would have prevented the establishment of self-governing communities, although this would not necessarily have expunged all urban-like features from this zone. For instance, the *argentaria* in the Drina Valley did develop a centre with recognizable urban characteristics and a number of larger *vici*.<sup>793</sup>

The relatively high degree of urban coverage in Roman Dalmatia is largely attributable to the big territorial scopes of obscure towns located on the periphery of the network. Unless it is assumed that these towns governed territories larger than 2000 sq. km, including several separate micro-regional units, the urban infrastructure remains patchy to say the least. The pattern of oversized territories is supported by the distribution of the epigraphic evidence and cartographic material. Moreover, parallels can be drawn with later historical periods. At the time of its liberation from the Ottomans, Scodra is known to have been functioning as the main market and administrative centre for the pastoral population that occupied the Prokletije Mountains, located over 60 km to the east.<sup>794</sup> There is no reason that

situation would have been any different in the Roman period. This suggests a low population density in the territories in question. Such arrangements would have relieved the burden on the remote local government and they also account for the absence of centrifugal tendencies in the large urban territories. This situation also explains the lack of correlation between the size of the town and its territory. The large territories of these towns were purely administrative solutions that failed to translate into a visible urban expansion. In contrast to this set-up, most of the large towns in Roman Dalmatia were associated with small- to medium-sized territories. Only in the cases of agriculturally orientated colonies, like Narona, did the administrative territories approach the size-ranges of the peripheral territorial units.

Even with the overstretched units in the periphery of the network, a large segment of Roman Dalmatia remained under direct state or military control. These regions include not only the areas of obvious economic importance, like the silver-mines on the Middle Drina, but also possibly those parts of the province inhabited by conservative communities that were unwilling or not prepared to adopt the Roman forms of self-government. Otherwise it is very difficult to understand the complete absence of urbanizing tendencies in the well-connected and agriculturally fertile micro-regions of the Middle Bosna or the Middle Vrbas.<sup>795</sup> There is also the strong possibility that large segments of these areas were expropriated by the imperial treasury, but this has yet to be confirmed by the epigraphic record. Adequate data to define the territorial extents of the individual districts are lacking, but this does not discount the possibility that some of these units belonged to the same size-ranges as the *municipia* in the interior of the province. This coincidence between large territorial units and zones of low population density or strategic resources will be a recurrent pattern in most of the provinces studied.

### The northern Adriatic

This small corner of our study area is probably the least controversial in relation to the extent of the constituent administrative units. The margins of uncertainty are greatly reduced by the regional geography. Many of the towns are located on small islands and their administrative prerogatives did not extend across the sea. Similarly, the territories of the towns located on the coast are unlikely to have extended beyond the soaring mountain ranges that rise to altitudes of over 1000 metres above sea level within a distance of three to four km from the coastline. Besides the extreme geomorphology, the small intercity distances would also

<sup>792</sup> The share of the governmental sector could in fact approach one-quarter of the provincial territory, if it were decided to treat *Municipium S.* as a mining *municipium*, see fn. 760.

<sup>793</sup> See Chapter Three.

<sup>794</sup> The Naval Intelligence Division 1944b, 43–44.

<sup>795</sup> Cf. the number of urban settlements in the area in the modern period, The Naval Intelligence Division, 1944b, 19–53.

have been a contributory factor. They rarely rise over 20 km and along certain sections drop to as little as five or six km. Even if the epigraphic heritage of the region is not particularly helpful in delimiting the territories of individual towns, the room for fluctuations in the territorial size-ranges is very limited.

The chief dilemma in this area is the status of the *oppida* situated on the eastern coast of Kvarner Bay, to the south of Senia, plus Tarsatica. Lopsica, Ortopla, Vegium and Argyruntum have all been mentioned by Pliny the Elder as *oppida*, and the Lopsi have also been included among the *civitates* of Liburnia.<sup>796</sup> A few of these communities are also attested on boundary-stones, some of which could post-date the Flavian period, but this cannot be taken as decisive evidence of their autonomous status.<sup>797</sup> The reality is that in none of these towns do we find explicit testimonies of their city-councils or magistrates. Each of these places has produced one or two inscriptions mentioning a city-magistrate, but without providing the essential link to the name of the town in which the office was held.<sup>798</sup> Therefore, the evidence for their autonomy is fairly poor. The problem is that even in the certainly attested towns of northern Liburnia, like Arba or Curricum, the epigraphic record is hardly more explicit.<sup>799</sup> Until more evidence is brought to light, the only option is to test both possibilities.

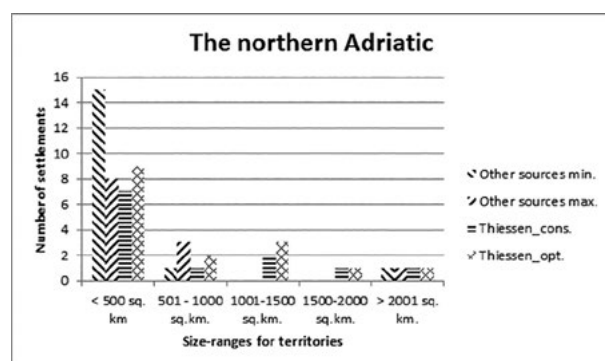


Figure VI 5: Distribution of territorial units in the northern Adriatic by size-ranges.

Regardless of which scenario is considered, the territories of the autonomous towns in the northern Adriatic belong to the lower end of the size-spectrum

<sup>796</sup> Pliny *HN* 3.139, 140; Alföldy 1965, 75-77; Wilkes 1969, 193-203, Appendix XIII; Wilkes 2003, 235; Starac 2006, 107-108; Suić 1992, 11-35, recognizes only three autonomous towns in the northern Adriatic, see also the critical remarks by Vittinghoff 1977, 11-20. The source of this passage in Pliny's *Encyclopaedia* is an unknown periphrasis rather than the official state records and it cannot be used as evidence for their autonomy.

<sup>797</sup> For example, IL Jug 9191, the boundary-stone between the Orthoplini and the Vegi, Rendić-Miočević 1969, 63-74.

<sup>798</sup> Vittinghoff 1977, 7-8.

<sup>799</sup> The corpus of inscriptions mentioning the officials of Arba is studied by Glavičić 2009, 57-66.

(Figure VI 5). Taking the minimum estimate – that assumes that all *oppida* mentioned by Pliny had become *municipia* by the end of the 1st century AD – over 90% of the towns have territories smaller than 500 sq. km. Their share is reduced to two-thirds taking the maximum estimate that eliminates the group of towns on the eastern coast of the bay and Tarsatica. One possibility – not taken into account in the final figures – is that the vacuum was entirely filled by Senia, the only securely attested town on this segment of the coast.<sup>800</sup> The upshot would have been that this Flavian *municipium* had an extremely elongated territory, stretched over a length of about 160 km. Pragmatically, it would not have amounted to a very efficient administrative unit, as communication along certain sections of the coastline is almost impossible by land. A more realistic scenario splits the area between Senia and Arba, the former controlling the northern part with the region of modern Rijeka; the latter the southern half. (Map VI\_16) Although an island community, Arba was in a much better position to govern this section of the coast than Senia. Pertinently, a similar arrangement has been attested during the Middle Ages when the coastal areas were under the bishop of Arba.<sup>801</sup>

It has to be stressed that there is absolutely no evidence in the epigraphic record that the administrative prerogatives of either Arba or Senia extended beyond their narrower territories. The solutions proposed on the basis of the maximum estimates are purely speculative and if we weigh up the available evidence, we have to conclude that the minimum estimates are probably more accurate in the case of the northern Adriatic. After all, similarly sized territories were encountered in the southern part of Liburnia and elsewhere in Dalmatia. In view of the number of precedents from the same area and the isolation of some of the coastal micro-regions, less scepticism should be shown towards the possibility that each of the *oppida* on Pliny's list became the centre of an autonomous community by the end of the 1st century AD.

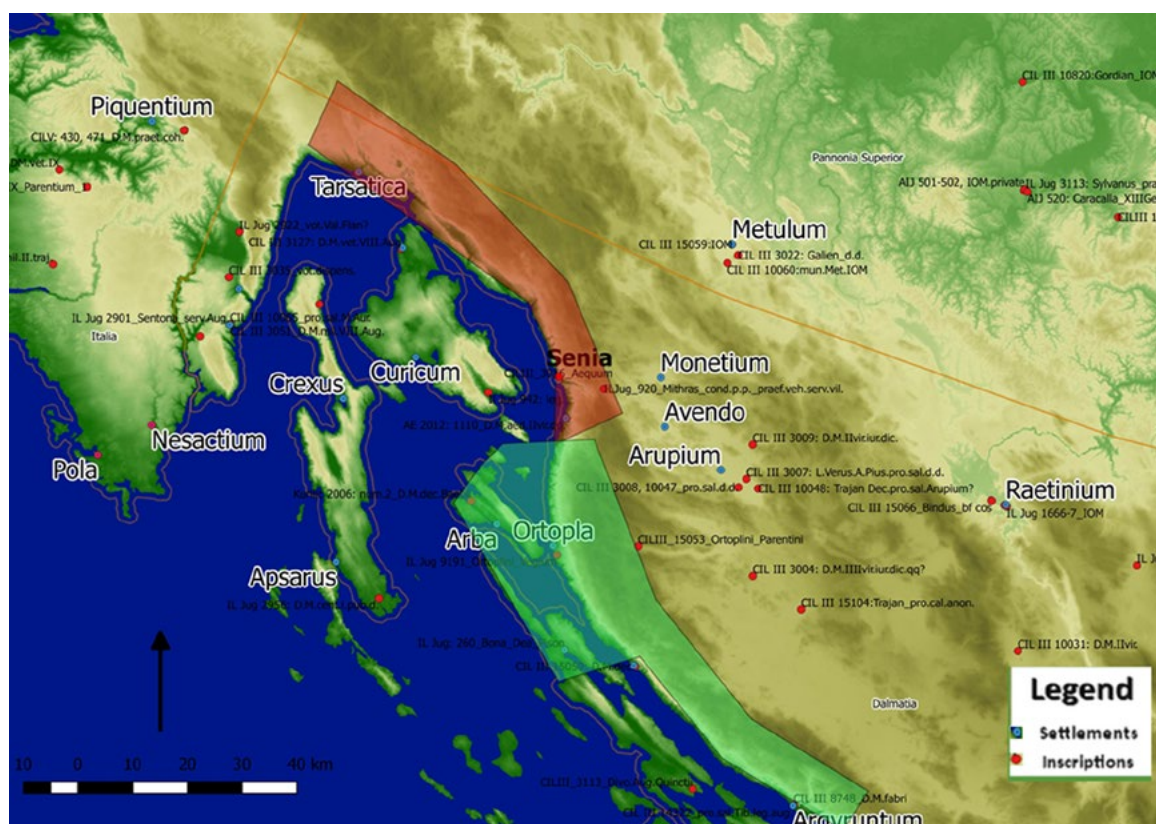
Though falling within the same size-range, the few Istrian towns that belong to our study area have slightly larger territories than their Liburnian neighbours. The territories of both Pola and Parentium measured about 500 sq. km, estimates based not only on the physical geography and intercity distances, but also the epigraphic record from the countryside and the traces of centuriation.<sup>802</sup> In comparison, the majority

<sup>800</sup> Alföldy 1965, 76; Wilkes 1969, 200; Vittinghoff 1977, 18; for the meagre archaeological remains from the assumed site of the *municipium* see Bartulović 2007, 265-296; Glavičić 1994, 41-58.

<sup>801</sup> Suić 1992, 28-29.

<sup>802</sup> Parentium: Baldini 1999-2000, 451-457; centuriation in the hinterland of Pola, Suić 1976, 100-101. Matijašić 1982, 53-64, Figure 14, includes Nesactium in the territory of the colony. This is contradicted by the 2nd century epigraphic evidence of self-governing institutions in this town. This is another possible example of the municipalization





Map VI 16: The territorial arrangements in the northern Adriatic.

of the Liburnian communities spread over territories not larger than 200-300 sq. km. This difference pales into insignificance if we think of the difference in size between the Istrian colonies and Liburnian *oppida*. However, whereas the Roman colonies in the western half of Istria controlled a highly fertile area, most of the small territories of the Liburnian *civitates* consisted of dry and barren karst. As was shown in the preceding chapter, many of the Liburnian communities had no more than ten to 15 sq. km arable land at their disposal, probably just enough to meet their grain demand.

Emona, the only continental town in this part of the study-area, belongs to a very different territorial size-category.<sup>803</sup> The epigraphic evidence consists of funerary monuments erected for or by the city-magistrates of Emona and Celeia and the inscription marking the boundary with Aquileia. These documents already provide us with fairly precise coordinates. (Map VI\_17) Equally pertinent are the names of the road-stations on the eastern and southern boundaries of Emona's *ager*.<sup>804</sup> These sources indicate an elongated

territory, extending from the Lake Bled in the north to the Krka Valley in the south. They enclose an area of about 2700 sq. km. This is the minimum estimate. It is quite probable that Emona's territory spread even farther north, including the entire upper course of the Sava and also the high plateaus to the south. This assumption is the basis for the maximum estimate of Emona's territory at nearly 3500 sq. km.

Even with the Thiessen polygons, the territories of most of these towns remain within the same size-range. (Map VI\_18) Only in four or five settlements do we see major deviations from the estimates based on other types of source-material, but these projections are not very likely. It is known that Vegium's territory did not include the Island of Pag, owned by senatorial families and later possibly by the imperial household.<sup>805</sup> It is equally unlikely that the small *municipium* of Fulfinium located on the northern tip of the Krk Island controlled the mountainous hinterland of modern Rijeka or that Flanona, rather than the colony Tergeste, was in control of the main east-west axis of the Istrian Peninsula. Nevertheless, these examples do point to the problematic parts of the study-area, the 'grey zones'

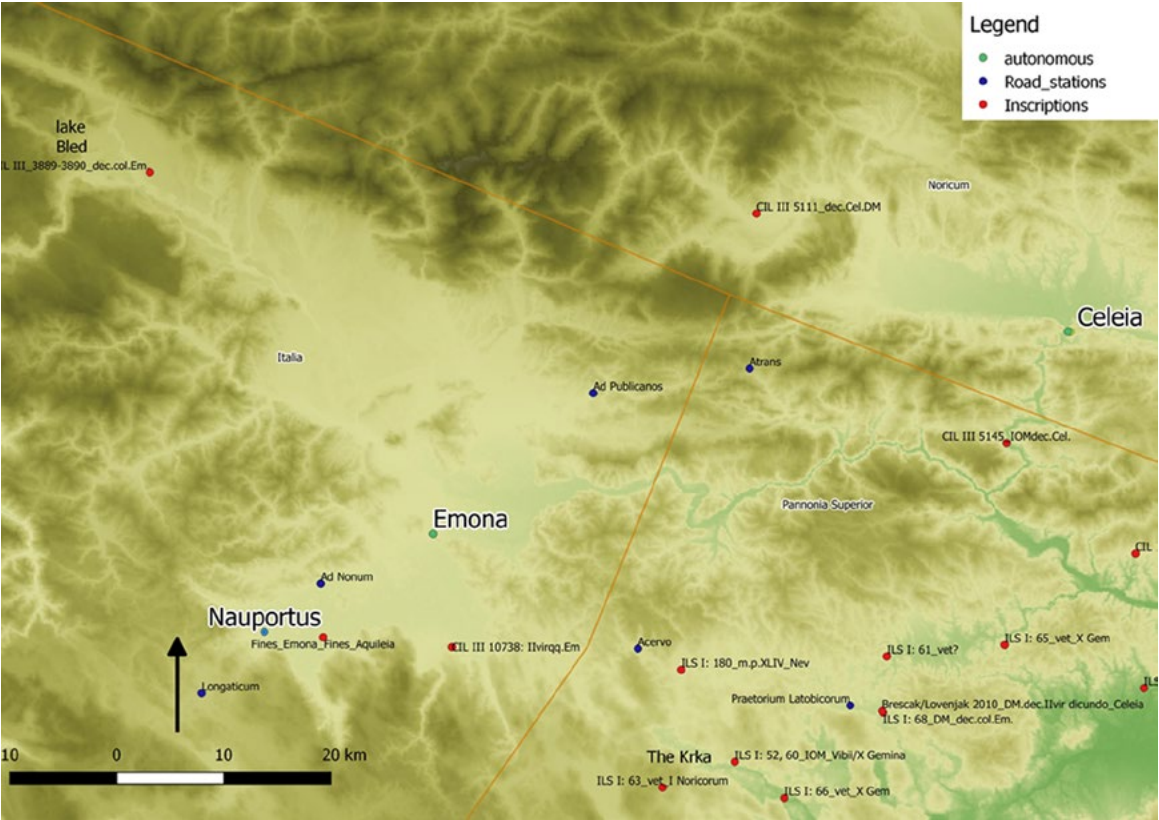
of the territories of the colonies, paralleled by Salona in Dalmatia. For an interesting comparison between the extent of the centuriated land in the hinterland of the Istrian and Dalmatian colonies see Begović-Dvoržak, Schrunck-Dvoržak 2004, 65-91.

<sup>803</sup> Šašel-Kos 2002, 376-379; Vičić 2003, 21-45.

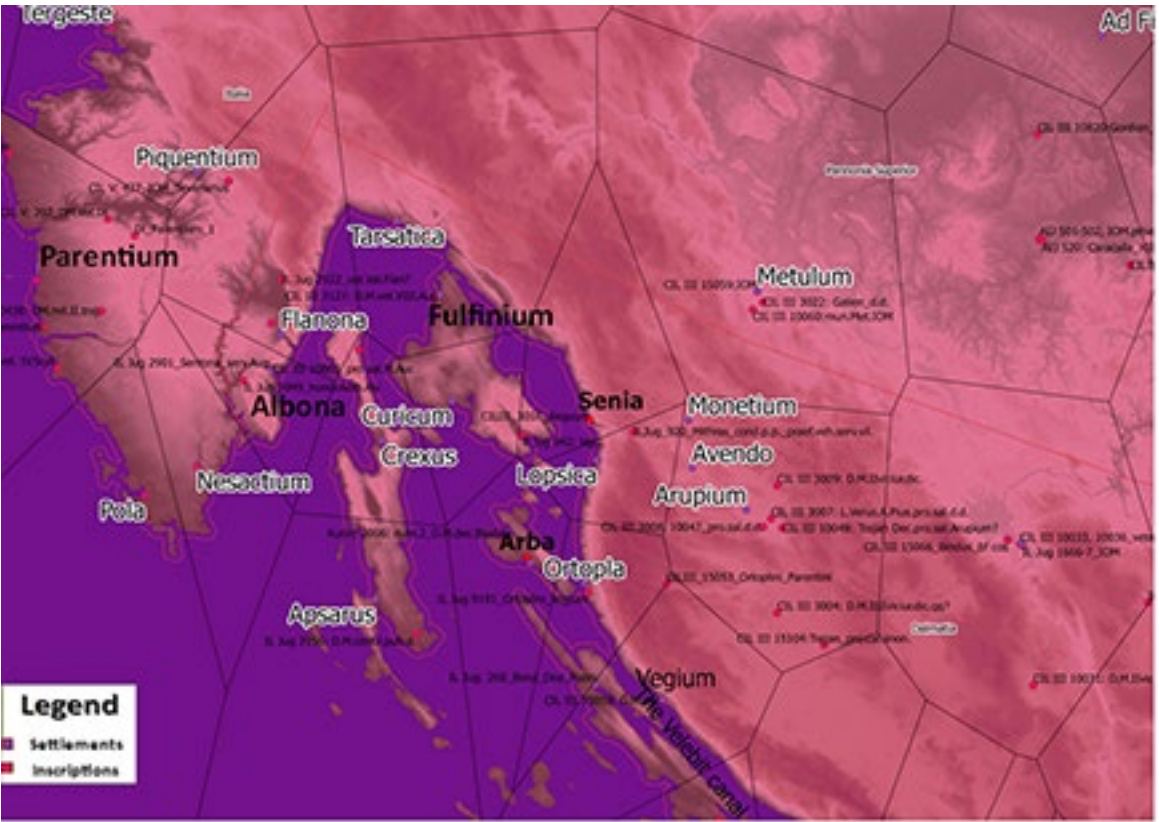
<sup>804</sup> Ad Publicanos: Ørsted 1989, 175-188; *Praetorium Latobicorum*: Lovenjak ed. 1998; 2003, 93-105.

<sup>805</sup> IL Jug 260; the status of Pag has been a controversial case, Sučić 1992, 11-35; Ilakovac, 1997-1998, 68-92, but recent excavations have failed to show traces of an urban settlement at the putative site of the town, Kurilić 2008, 368-369.





Map VI 17: The territory of Emona.



Map VI 18: Thiessen polygons around the autonomous towns in the northern Adriatic.



whose attribution to a particular administrative centre has so far been impossible because of the complete absence of evidence. As in Macedonia and Dalmatia, they coincide with the mountainous, sparsely populated micro-regions; in this particular case, the spur of the Julian Alps that separates the Appenines from the Balkan Peninsula. Historically, this region belonged to the Iapodes, an important regional factor at the time of the Roman conquest and, in all probability, a separate administrative unit.<sup>806</sup> This is yet another reason to incline towards the minimum estimates for the size of the administrative units in the northern Adriatic.

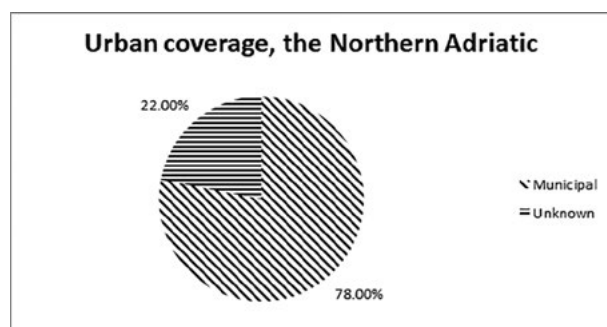


Figure VI 6: The share of the different types of administrative units in the local government in the northern Adriatic.

Taking the minimum estimates, the share of the 'grey sector' increases to at least 20% of the total area, comparable to the situation in Roman Dalmatia and Macedonia (Figure VI 6). We might never learn how this area was parcelled out among the existing autonomous communities. There is no evidence of non-municipal fiscal districts in the northern Adriatic. Although some of the maritime estates that formerly belonged to senatorial families were later possibly expropriated by the imperial treasury, they could not have occupied very large territories.<sup>807</sup> It is likewise evident that there was no permanent military presence in this area. Parts of the mountainous hinterland of Tarsatica might have been included in the temporary military zone known as the *praetentura Italiae et Alpium* at the time of the Marcomannic crisis, but there are no traces of military installations in the region prior to Late Antiquity.<sup>808</sup>

The sharp divide between the towns of the coastal zone and the interior observed in Dalmatia continues into the northern Adriatic. It is important to stress that this is not simply side-effect of the much lower urban density in the interior, as the large extent of Emona's

territory is confirmed by solid epigraphic evidence. In other words, the epigraphic and cartographic material strongly indicates that the large intercity distances in the Balkan interior were dealt with primarily by expanding the urban territories. How this impacted the efficiency of the local government has to remain a matter for conjecture. At present, apart from Ljubljana, the successor to Emona, the western half of modern Slovenia has at least one other city and a dozen small towns. However, if we look at the ecclesiastical arrangements in the area beginning from the period of Late Antiquity, Ljubljana was the only diocese in this area.<sup>809</sup> In the early 20th century, the entire territory of Slovenia, excluding the coastal area, was split between two administrative units centred on Emona and Maribor, the geographical successor to Roman Poetovio.<sup>810</sup> At the time of the High Empire, the southern half of the early 20th century prefecture was governed from a separate town, the *municipium* Neviodunum. Although Emona's territory includes a section of the strategically important Amber Road, it is a country of high mountains and consequently the population density must have been modest. With such demographic and geographical conditions, it is possible that there was simply no potential, and maybe no need, for more than a single self-governing unit.

### Pannonia Superior

There are only minor disagreements about the number of autonomous towns in Pannonia Superior. Some of the uncertainties have arisen because scholars can only guess at the approximate border-line between Pannonia Inferior and Pannonia Superior in the early 3rd century AD.<sup>811</sup> In AD 214, it was moved at least 30-40 km to the west to include the legionary camp and *municipium* of Brigetio in Inferior.<sup>812</sup> Apart from Brigetio, the extended province would eventually include at least one, possibly two, towns formerly located in Pannonia Superior.<sup>813</sup> The *municipium* Faust(o), known solely from an inscription found in Siscia, causes an additional problem.<sup>814</sup> No more is heard of this town and modern scholarship tended to omit Faust(o) from the list of autonomous towns in Pannonia Superior. However, no *municipia*

<sup>806</sup> Some ancient writers have even attributed parts of the coastal area to the Iapodes, Strabo 4.6.10; Čače 1987-1988, 65-92; Šašel-Kos 2005, 321-329.

<sup>807</sup> Begović-Dvoržak, Schrunck-Dvoržak 2004, 68; discuss a number of maritime villas owned by senatorial families off the west Istrian coast.

<sup>808</sup> Šašel 1974, 225-233; for the archaeological remains see Blečić 2001, 65-122; Višnjić 2010, 457-461.

<sup>809</sup> Bratož 1989, 2345-2388. Carnium in the Upper Sava was an important centre in the Middle Ages, but its status in Late Antiquity is unknown; Kosi 2010, 8-44.

<sup>810</sup> The Naval Intelligence Division 1944b, Figure 67.

<sup>811</sup> Mócsy 1974, 198-199; Fitz 1975, 351-355; Mócsy 1977, 376-7; Soproni 1980a, 57-63; Gudea 2013, 459-658.

<sup>812</sup> The rearrangement has been seen primarily as a political and strategic move, reducing the number of legions under the *legatus* of Pannonia Superior and a strengthening of the troublesome Sarmatian front of the *Limes*, Fitz 1980a, 125-140. Cf. Chapter Three.

<sup>813</sup> Volgum, one of these towns, is yet to be located, but epigraphic sources indicate that it had probably belonged to Inferior from the outset. Mogentiana and its territory was also possibly attached to Inferior under Caracalla's reforms, Mócsy 1977, 3777. Including Mogentiana among the settlements in Superior does not have any consequences on the arguments of this study.

<sup>814</sup> CIL III 3974; Mócsy 1969, 349-350.

with a similar name are known from the neighbouring provinces and, given the fact that the name appears on a funerary inscription of a magistrate based in Siscia, it was probably located somewhere in the southern half of the province. These unresolved questions posed by the historical geography of the province amount to a difference of one or two *municipia*, a result that does not have any major effect on the administrative map of the province.

Matters become somewhat more complicated once we move on to consider the evidence of other forms of local self-government. Again, the key problem is the fate of the Pannonian *civitates* as autonomous administrative units in the period after the final incorporation of the region into the Empire.<sup>815</sup> In comparison to Dalmatia, Pliny's list of the peoples of the Pannonian provinces tends to be somewhat less informative.<sup>816</sup> There are fewer indications of the locations of the individual *civitates* as the greater part of the list is alphabetical. There is no information about the number of *decuriae* per *civitas*, a fact that, in the case of Dalmatia, hints at the possible size of these communities. Nonetheless, combining the data contained in the works of Pliny the Elder, Ptolemy and other ancient authors, modern scholarship has managed to assign a rough location to nearly all the communities known from the written sources.<sup>817</sup>

According to the generally accepted view, by the middle of the 2nd century AD, most of the Pannonian *civitates* had been transformed into *municipia*.<sup>818</sup> This claim is supported by the written evidence. After the reign of Hadrian, mentions of the military *praefecti* or the native *principes* are few and far between.<sup>819</sup> Moreover, in at least two *municipia* of Pannonia Superior there is an explicit link to the earlier *civitates* in the names of these towns.<sup>820</sup> Of course, it would be a different matter if there had been a full emancipation of the Pannonian *civitates* or if the granting of municipal

status had completely erased all traces of the pre-municipal identities and institutions. The evidence from Pannonia Inferior suggests that this process was not all-encompassing.<sup>821</sup> Furthermore, as in Dalmatia, it is impossible to find a corresponding *municipium* or a colony for every individual *civitas* mentioned by Pliny or Ptolemy. In some parts of the province there are too many *civitates*, in others too few.<sup>822</sup>

As in Dalmatia, there is no way of deciding if the *civitas* continued to exist as a separate administrative entity alongside the *municipium* or if it was completely incorporated into the urban territory. For the moment we are more inclined to accept the latter view. With a few notable exceptions, nothing in the written record suggests that the Pannonian *civitates* continued to function as separate administrative units after the early 2nd century. However, whenever there is a clear reference to a *civitas* as an administrative entity, as in the few examples from Pannonia Inferior, we have felt compelled to assign them a separate piece of territory. Furthermore, we also need to consider the *civitates* named after or giving their name to auxiliary forts, like the Arabiates in Superior or the Cornacates in Inferior. These examples offer further support to the hypothesis that some of the *civitates* continued to function as separate administrative units under close military supervision.<sup>823</sup>

The most important source for the reconstruction of the administrative map is the inscriptions discovered in the countryside and the information contained in the itineraries and other cartographic sources. Needless-to-say, the margin of error will remain considerable. Most of these finds mark out the minimum size of the urban territories, while the status of the outlying areas, that made up a massive portion of the provincial territory, remains problematic. The few examples in which the presence of large territories is confirmed by tangible evidence suggest that as in the interior of Dalmatia, the Roman administrators were not loath to carve out very large territorial units.

The administrative units of Pannonia Superior are much larger than those in the eastern Adriatic or in Macedonia. The group of very large urban territories dwarfs even the *municipia* in the interior of Dalmatia. Depending on the estimate, only 13 or 20% of the

<sup>815</sup> Mócsy 1974, 134-139; this author's view on the complete municipalization of the *civitates* is more or less widely accepted; Lengyel, Radan eds 1980; Kandler, Vetters eds 1986; Migotti ed. 2012 – but see the section on Pannonia Inferior and the question of the survival of the *civitas Eraviscorum* after the Marcomannic Wars.

<sup>816</sup> Pliny HN 3.147-148; Mócsy 1974, 66; Fitz 1980b, 141-142; Domić-Kunić 2012, 29-69; Colombo 2010, 171-202.

<sup>817</sup> Ptol. Geog. 2.14.2; 2.15.2; Mócsy 1974, 68-69; Colombo 2010, 171, 197.

<sup>818</sup> Mócsy 1974, 134-135; notwithstanding the observation that the onomastics of the magistrates of the Pannonian *municipia* indicates a strong Italian element: Mócsy 1974, 137; Fitz 1980b, 147-149; presence of Italian settlers in the countryside of Pannonia, Nagy 2002, 299-318.

<sup>819</sup> Hild ed. 1968, num. 157 is a funerary monument of a *princeps* of the Boi, dated to the first third of the 2nd century AD; Kušan-Špalj 2015, 50-55, for a recently discovered honorific inscription attesting the *praefect* of the Scordisci, the Breuci and the Iasae, dated to the second half of the 1st century AD. Inscription num. 76, in the same volume mentions the *civitas Varciani*. This monument can be broadly dated to the 2nd century AD, but the reading is not certain.

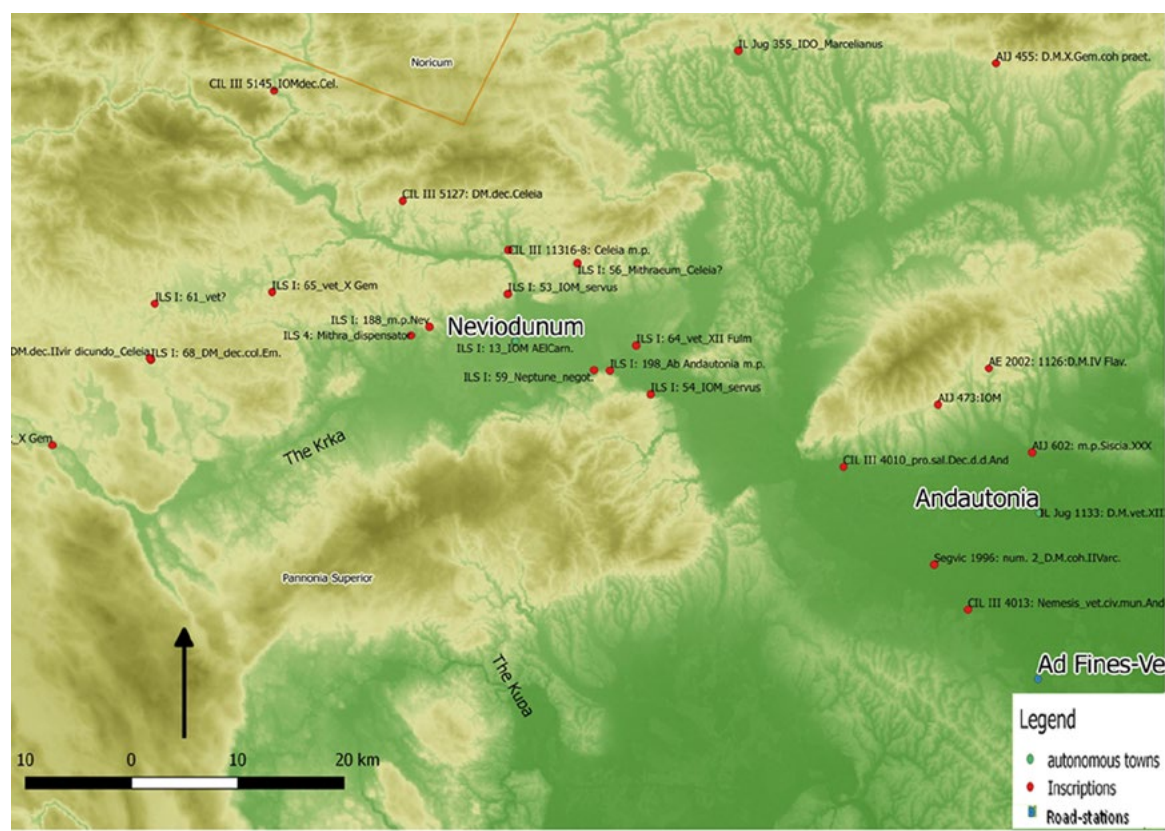
<sup>820</sup> Aqua Balissae = *Municipium Iasorum*: Schejbal 2004, 99-129; Neviodunum = *Municipium Latobicorum*: Lovenjak 2003, 93-105.

<sup>821</sup> See the next section.

<sup>822</sup> Therefore, the territory of the Boi was divided between three, possibly five, autonomous towns, Mócsy 1969, 349-350; Kovács 1999, 278-295.

<sup>823</sup> Oddly enough, Mócsy 1974, 135; has suggested that the auxiliary fort Arabona was the base from which the Boi and the Azali were controlled. As their name was obviously derived from the name of an auxiliary fort, the Cornacates are traditionally seen as a post-conquest creation of the Romans, Mócsy 1971b, 43; Domić-Kunić 2012, 35-36; Colombo 2010, 195-196, has argued that the name is native, derived from the name of the central place of this people.





Map VI 19: The territory of Neviodunum.

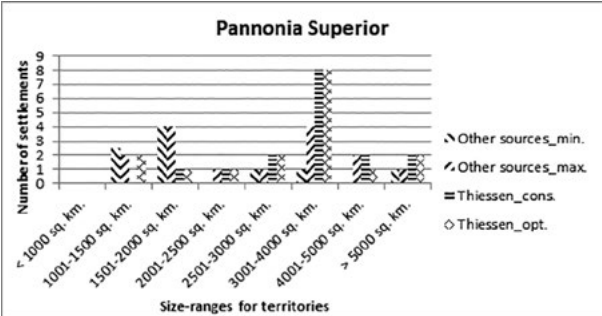


Figure VI 7: Distribution of territorial units in Pannonia Superior by size-ranges.

administrative units in Pannonia Superior were smaller than 1500 sq. km, a size category that encompassed the great majority of the territorial units in Dalmatia or Macedonia (Figure VI 7). What were considered exceptional cases in these two provinces, becomes almost the norm in Pannonia Superior. Nearly half of the units in this province have territories larger than 3000 sq. km, if the maximum estimates are accepted. Using the Thiessen polygons, they comprise over two-thirds of all urban and non-urban districts in the province. These territorial extents are unsurprising in view of the large intercity distances in Pannonia

Superior. Although larger than the part of Roman Macedonia included in our study-area, Pannonia Superior has only half the number of territorial units, including the problematic extra-municipal districts. In many parts of Macedonia and Dalmatia, the distances between the autonomous towns were smaller than 20 km, in Pannonia Superior they rarely fell below 50 km.

If we look at the size-estimates derived from the epigraphic and cartographic sources, it is possible to observe two distinct clusters. One group of territorial units measures between 1000 and 2000 sq. km, equalling the average-sized unit in Roman Dalmatia. These are moderately sized territories with radii not larger than 30 km. This sort of arrangements would have meant that the hypothetical central place was accessible in a day's walk from any corner of the area. The group is heterogeneous, including the civilian *municipia*, garrison towns and centres of military districts. (Maps VI\_19 and 20)<sup>824</sup> It is the other, equally numerous group, that distinguishes Pannonia from the western Balkan provinces. It comprises urban territories larger than 3000 sq. km, even though some of these towns were small and insignificant.

<sup>824</sup> Neviodunum: Lovenjak 2003, Figure 1; Mursella: Szőnyi 2004, 85-97; the estimate for Arrabona is based on the Thiessen polygons.





Map VI 20: The territory of Mursela.

Both Carnuntum and Aquincum, two of the largest three settlements in the province, belong to the former group. Their territories were limited by the Danube *Limes* and the provincial frontier with Noricum that passed only ten to 15 km to the west of Vindobona.<sup>825</sup> In addition, there are a number of epigraphic finds that offer positive evidence of the extent of the municipal territories. (Map VI\_21) The entire area between the Ödenburg Gate to the south and the Danube to the north is marked by votive reliefs and epitaphs of soldiers and veterans of *legiones* X and XIV Gemina and the magistrates of Carnuntum. To the south, the cluster extends to a distance of slightly over 15 km from Scarbantia.<sup>826</sup> This group of monuments continues to the east of Lake Ferto, although it becomes visibly sparser and is made up principally of votive inscriptions. This distribution seems to indicate that Carnuntum's territory spread to the auxiliary fort of Gerulata to the east. There are no other indications in the epigraphic record. Neither Mursella nor Scarbantia have been implied in the epigraphic sources from this area. Even

if we exclude the marshy eastern shore of Lake Ferto, the combined territories of Carnuntum and Vindobona remain within the same range between 2500 and 3000 sq. km.

The epigraphic finds do not indicate the approximate borderline between Vindobona and Carnuntum. No mention of the *curia* of Vindobona exists outside its urban necropolis, whereas veterans of the two legions were found in equal numbers in the hinterlands of both legionary camps.<sup>827</sup> Because only the magistrates of Carnuntum are represented in the local epigraphic record, this has been interpreted as an indication that, during most of the 2nd century, the civilian settlement near Vindobona was a *vicus* on the territory of Carnuntum.<sup>828</sup> After the *vicus* was granted a municipal charter, sometime in the Severan period, it was assigned an unknown share of Carnuntum's territory, although it is likely that the members of Carnuntum's elite continued to own property in the territory of Vindobona.<sup>829</sup> We suspect that the area was split in two, with Carnuntum receiving a slightly larger portion.

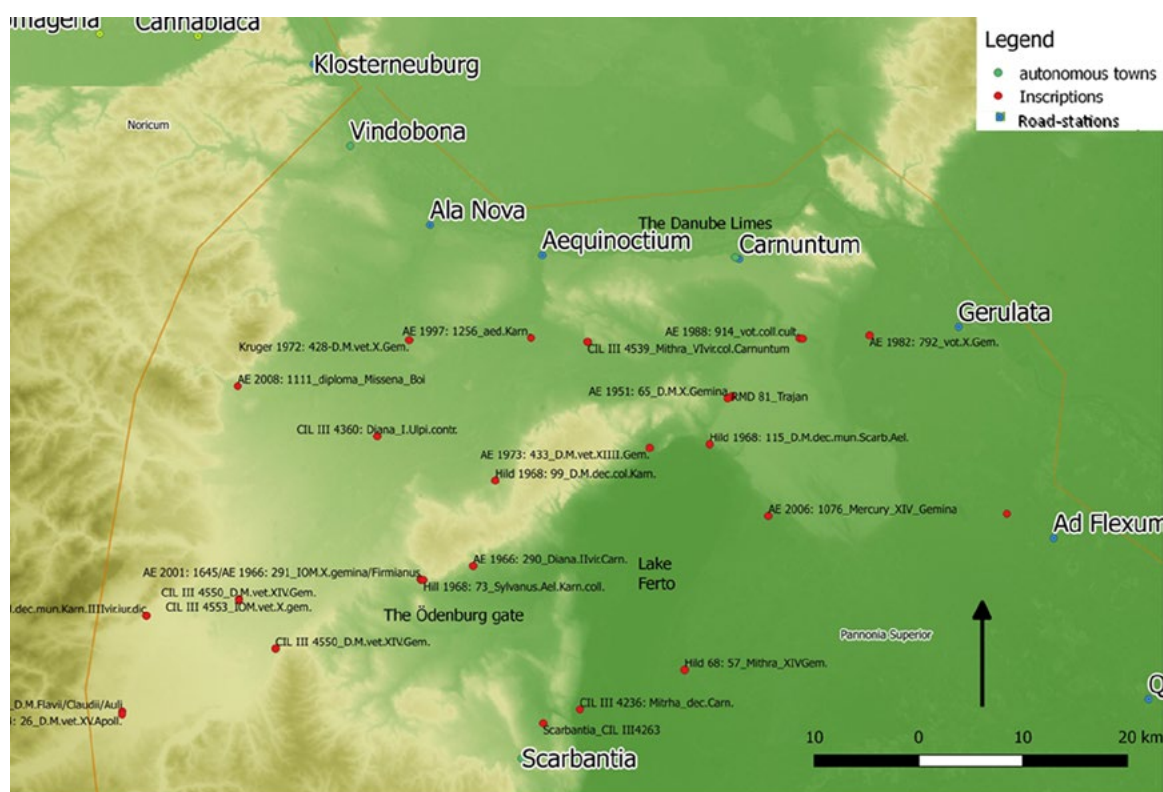
<sup>825</sup> Neumann 1968; Kandler, Humer, Zabehlicky 2004, 24-26, Map 8.

<sup>826</sup> Neumann 1968, Kalliedt, Rümelin, Zabelinsky 2004, 24–26, Map 6.  
CIL III 4236, found only nine km to the north of Scarbantia is an exception, but Gömöri 2008, 109–122; has taken this monument as evidence that the area belonged to the *Municipium Carnuntum*. However, we have seen that the occurrence of epigraphical evidence of magistrates of the provincial capitals in distant parts of the province is nothing unusual.

<sup>827</sup> Kandler, Humer, Zabehlicky, 25-26.

<sup>828</sup> Neumann 1968, 13; Neuman 1973, 255-262.

<sup>829</sup> Only a couple of inscriptions attest the *Municipium Vindobona*. On the basis of analogies, the granting of the status is dated to the early 3rd century, Neumann 1966, 13; Neumann 1973, 255–262.



Map VI 21: The territories of Carnuntum and Vindobona.

In a nutshell, in Pannonia Superior we encounter the same anomaly that confronted us in Dalmatia. The largest towns in the province that could not secure their subsistence needs from the land available within their hinterlands did nevertheless not control particularly large territories. The large garrison towns of Pannonia Superior were in a more advantageous position than their Dalmatian counterparts, as most of their sizeable administrative territories were at least arable. However, it is obvious that the growth of the legionary towns was not based on the size or fertility of their administrative territories. Political and geostrategic considerations were the motor that enabled the growth of these urban centres and maintained their size over a period lasting more than two centuries. Without the direct subvention of the central government, it is unlikely that towns of this size would have emerged on the frontiers of the state.

Rather surprisingly, the largest municipal territories in the province were governed from towns whose remains are difficult to pin-point on the map.<sup>830</sup> Admittedly,

<sup>830</sup> Mogentiana: Nagy 2004, 75–83; Aquae Balissae: the location of this town at modern Daruvar in Croatia has not been contested, but its topography is utterly confused: Schejbal 2004, 106–108; Salla: Redó 1989, 405–433; Redó 2003, 191–235; the *municipium* was little more than a road-side *vicus*, possibly abandoned after the Marcomannic Wars.

most of these estimates are derived from Thiessen polygons but, in at least two instances, these oversized territories are supported by the epigraphic evidence.

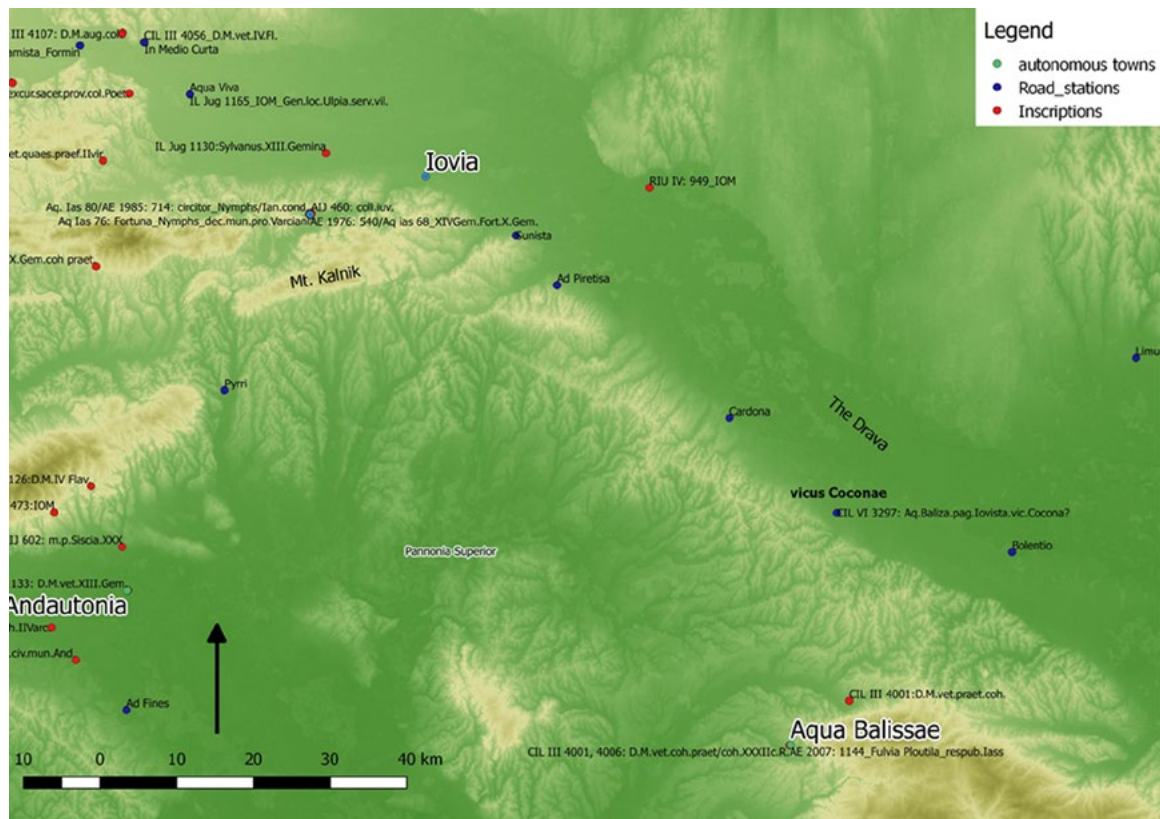
There are a couple of indications of the possible extent of the territory of Aquae Balissae. The point of departure is that this *municipium* inherited the integral territory of the *civitas Iasorum*.<sup>831</sup> This will put the northern limit of the Iasae over 90 km to the north of the *municipium*, to include the healing sanctuary and the Late Roman town of Aquae Iasae. (Map VI\_22) Most scholars attribute Aquae Iasae to the territory of Poetovio<sup>832</sup> but, as the cluster of inscriptions commissioned by the *curia* of this colony stops on the other side of Mount Kalnik, it is likely that the territory adjoining the basin of the Bednja to the south belonged to the *Municipium Iasorum*. Far more explicit is the inscription found in Rome. It is a funerary monument of a soldier of the Praetorian Guard, revealing the name of his native *vicus* to which have been added the name of the *pagus* and the *municipium* to which it belonged.<sup>833</sup> Luckily, the name of the *vicus* is identical to the name of a road-station located in the Drava Valley, 30 to 40 km to

<sup>831</sup> For the connection between the Iasae and Aquae Balissae, see Schejbal 2003, 393–416, Domic-Kunić 2012, 34–35.

<sup>832</sup> Rendić-Miočević 1992, 67–76; followed by later studies, Horvat 2003, 153–189; Kušan-Špalj ed. 2015, 33.

<sup>833</sup> CIL VI 3297; Schejbal 2004, 101–102.





Map VI 22: The territory of Aquae Balissae.

the east of Aquae Balissae.<sup>834</sup> These documents set the minimum estimate for the territory of Balissae at about 5000 sq. km and, if we allow for wider margins, it could be extended to a maximum of 7000 sq. km.

Equally surprising is the case of Mogentiana. This *municipium* whose central place remains archaeologically invisible features one of the most extensive scatters of monuments commissioned by the town magistrates. (Map VI 23) It extends from the northern shore of Lake Balaton to the Danube in the north, further confounding attempts to localize this town.<sup>835</sup> Perhaps most intriguing of all is the fact that not a single inscription has come from the western foot of the Transdanubian Mountains, although this is the area in which the itineraries locate Mogentiana.<sup>836</sup> Because most of the monuments have been found on what would later become the territory of Brigetio, some scholars have argued that these finds were dislocated from their original find-spots.<sup>837</sup> In view of the relatively large number of inscriptions and

the fact that they were found at different locations, this explanation is not very convincing. The civilian settlement near the legionary camp of Brigetio became an autonomous town only during the Severan dynasty, whereas Mogentiana was founded by Hadrian.<sup>838</sup> It is therefore possible that, during the 2nd century AD, the hinterland of Brigetio was governed from Mogentiana, situated 85 km to the southwest of the legionary camp. Some of the magistrates of the *municipium* were veterans of *legio* I Adiutrix stationed in Brigetio.<sup>839</sup> They received their land plots in the Little Hungarian Plain close to the legionary camp, but served as magistrates in Mogentiana. If this interpretation is correct, the territory of Mogentiana extended over an area of 6000 sq. km during the 2nd century AD. After Brigetio was constituted as a *municipium* under the Severans, Mogentiana's territory was withdrawn from the Little Hungarian Plain and the northern half of the Transdanubian Mountains. It is no accident that the spread of the inscriptions commissioned by the magistrates of the new *municipium* overlaps perfectly with the outlying cluster of inscriptions referring to Mogentiana. Even after this contraction, Mogentiana

<sup>834</sup> Vicus Coconae is a *mutatio* on the Drava Road between Poetovio and Mursa, the Pleiades database, ID num. 197215; <https://pleiades.stoa.org/>

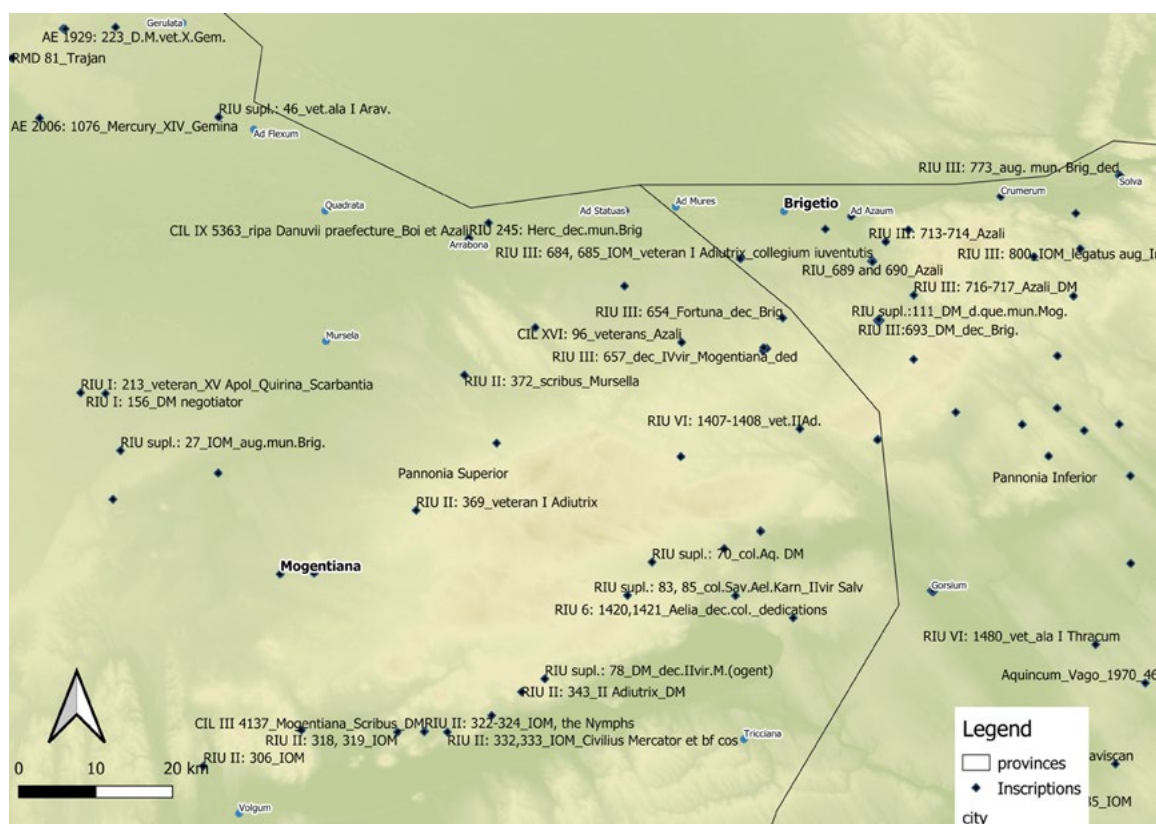
<sup>835</sup> Barkóczi, Mócsy eds 1976; Nagy 2004, 75.

<sup>836</sup> The distribution of these monuments is briefly discussed in Nagy 2004, fn. 2.

<sup>837</sup> Barkóczi, Mócsy eds 1976, 13–19.

<sup>838</sup> Mócsy 1974, 144, 221.

<sup>839</sup> Barkóczi, Soproni eds 1981, num. 660, 707.



Map VI 23: The territories of Mogentiana and Brigetio.

would have been left with a fairly large territory of about 4000 sq. km.<sup>840</sup>

These unexpected discoveries are not easily explained, although they were paralleled in Dalmatia and Macedonia, in which large municipal territories appeared on the periphery of the urban network. Pannonia was obviously a very different sort of countryside, although both Aquae Balissae and Mogentiana were located in the hilly parts of the province with a less propitious agricultural potential. When Brigetio became an autonomous town, it probably took away the most fertile part of Mogentiana's territory. The other discrepancy arises from the fact that the urban core of Pannonia did not coincide with the geometric centre of the province. The large and important towns were located on the periphery of Pannonia Superior. They are almost entirely limited to the Amber Road, traversing the western edge of the province and the northern Pannonian *Limes* – yet another manifestation of the ring-pattern. There were no major towns in the central parts of Pannonia and the urban density was low. This is illustrated by the

distribution of the Thiessen polygons, those located in the central part of the network being much larger than the peripheral units. (Map VI\_24)<sup>841</sup>

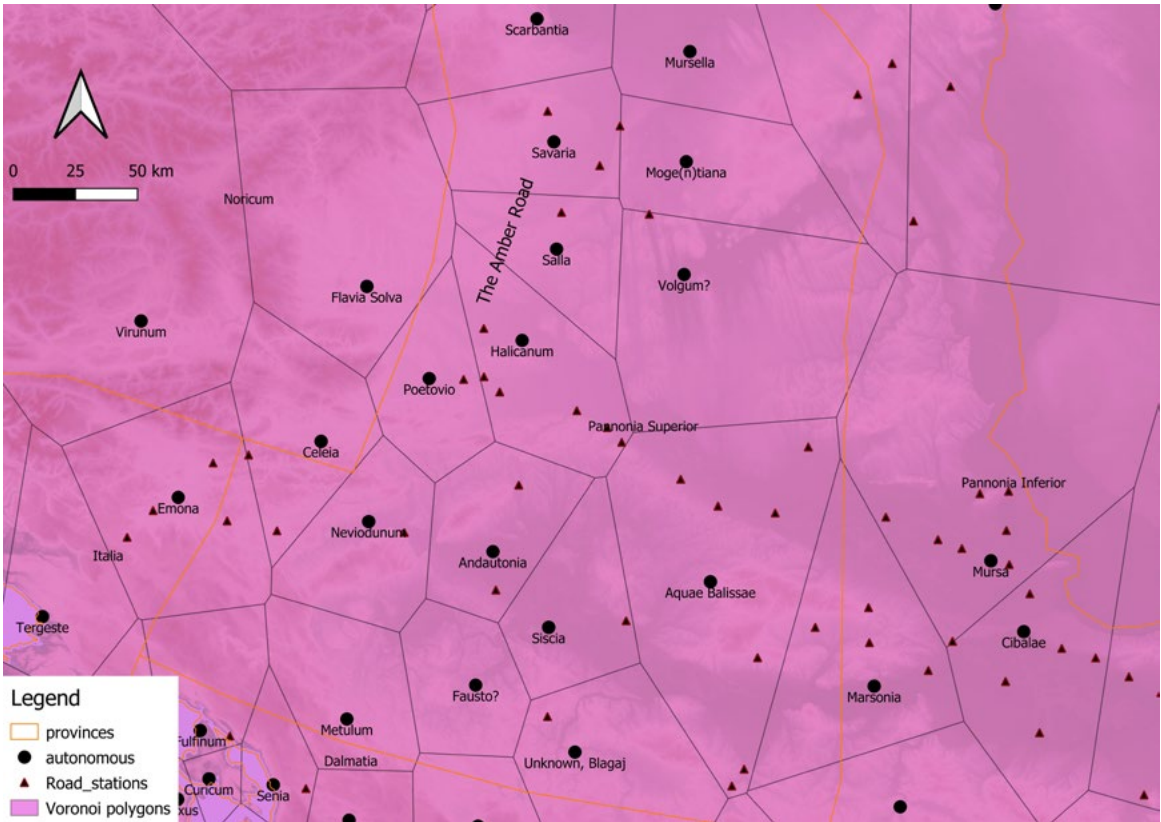
The three civilian colonies in Pannonia Superior fall in-between these two size-categories. (Maps VI\_ 25-27) Their territories are visibly larger than those of the majority of the *municipia* and garrison towns, but they are smaller than the largest territorial units in the central parts of the province. The examples are too few to draw any far-reaching conclusions, but it is not prudent to exclude the possibility that the consistently large territorial extents of these towns were preconditioned by the agrarian focus of the communities of veteran soldiers. The *agri* of all three colonies measure between 2500 and 3000 sq. km, rising to 4000 for Siscia if the maximum estimates are used.<sup>842</sup>

Despite the very large size of some of the urban territories in Pannonia Superior, a big segment of the

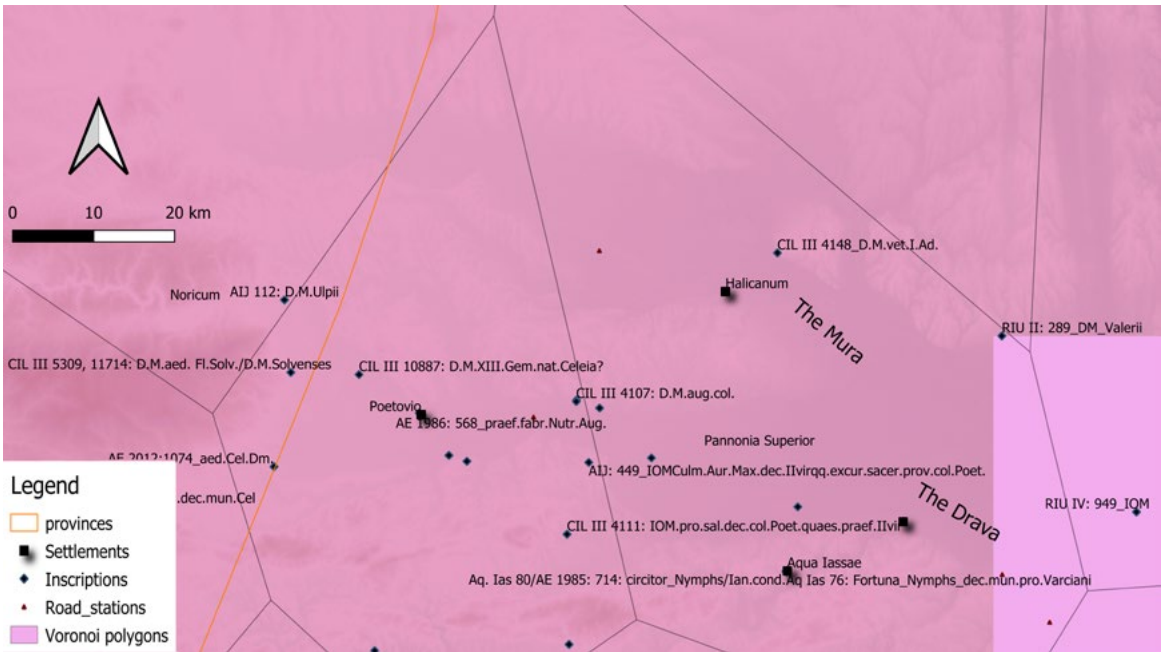
<sup>840</sup> That the younger *Municipium* Brigetio inherited the northern end of the territory of Mogentiana remains no more than a plausible hypothesis. The chronology of the inscriptions is too imprecise to offer a solid support for this suggestion.

<sup>841</sup> See also Nagy's remarks on the location of Mogentiana, Nagy 2004, 75-76.

<sup>842</sup> Poetovio: Horvat 2003, Figure 1; draws the eastern boundary of the colony on the Mura, most recently Ragolič 2014, 323-351; Siscia: Durman 1992, 117-133; Šegvić 1996, 283-289; Lolić 2003, 131-152; the key documents are CIL III 10820, IL Jug 3117, CIL III 10821. Savaria: Barkóczy, Mócsy eds 1972; Tóth 1974, 155-185. Scherrer 2003, 53-77; Bődöcs 2013, 59-67.

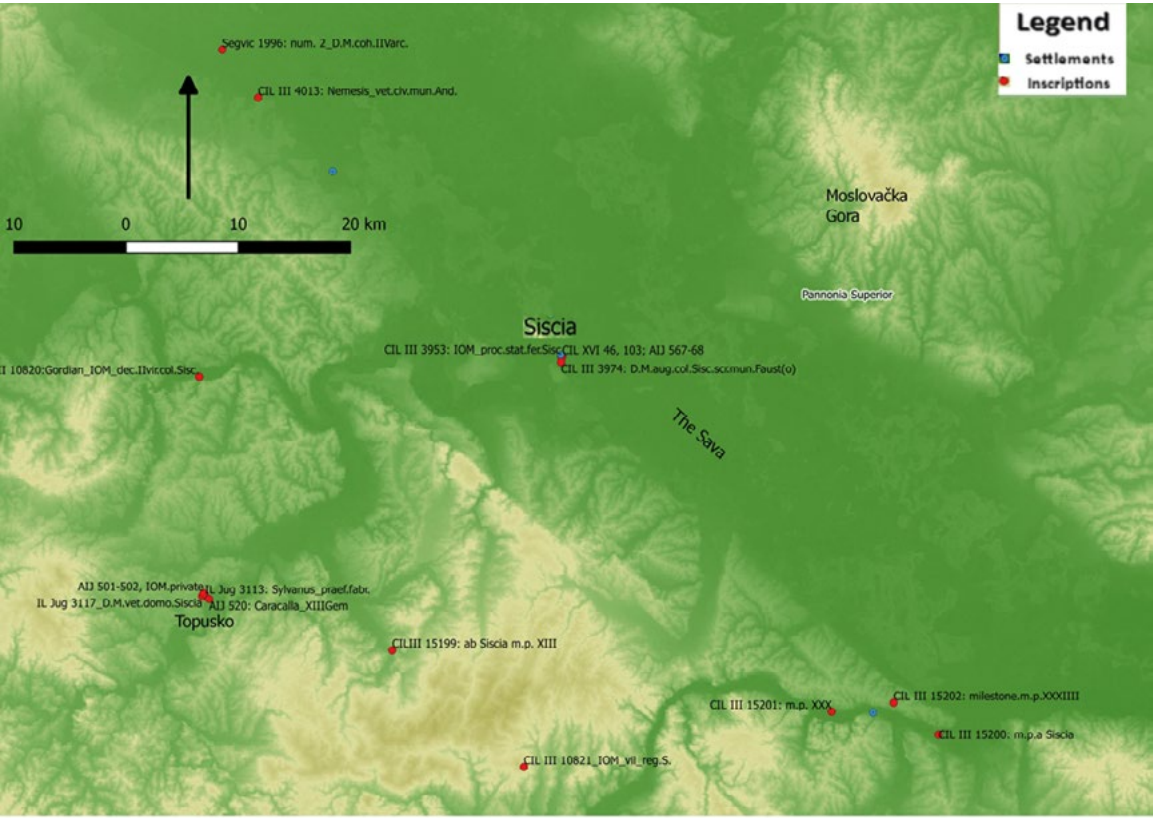


Map VI 24: Thiessen polygons around the autonomous towns in Pannonia.

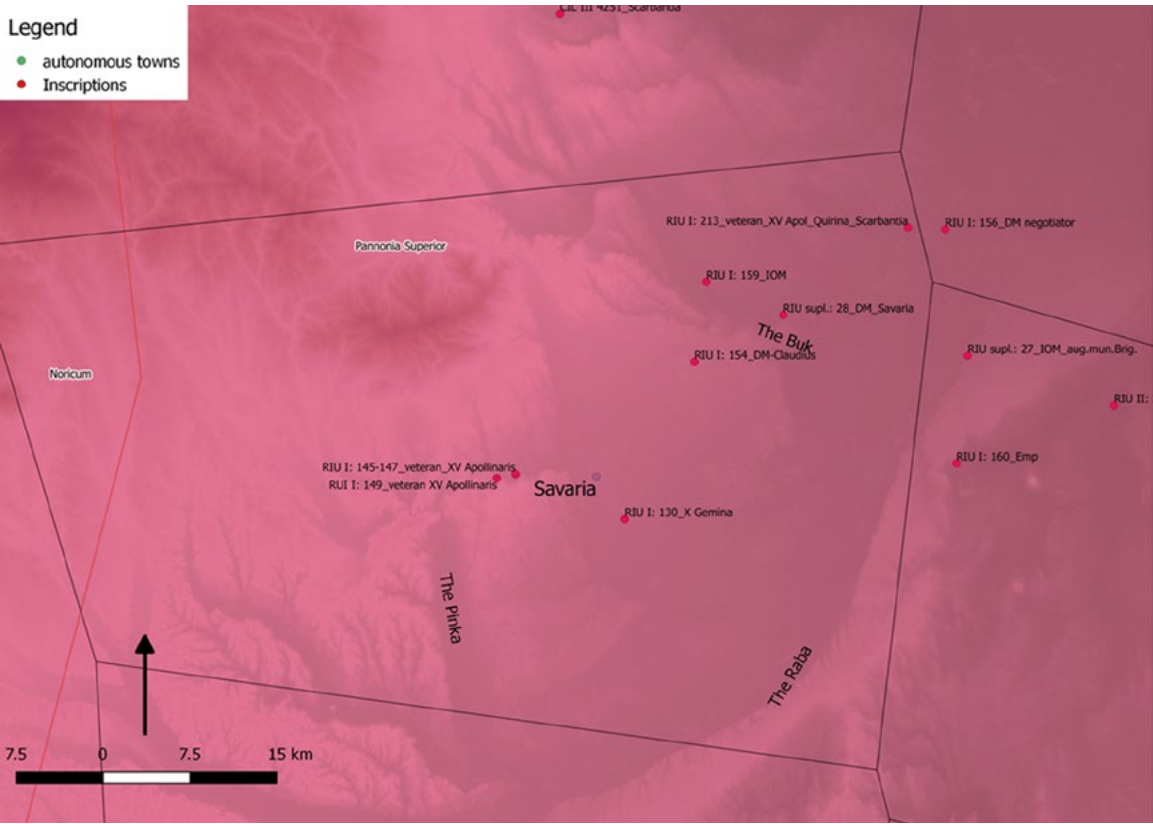


Map VI 25: The territory of Poetovio.

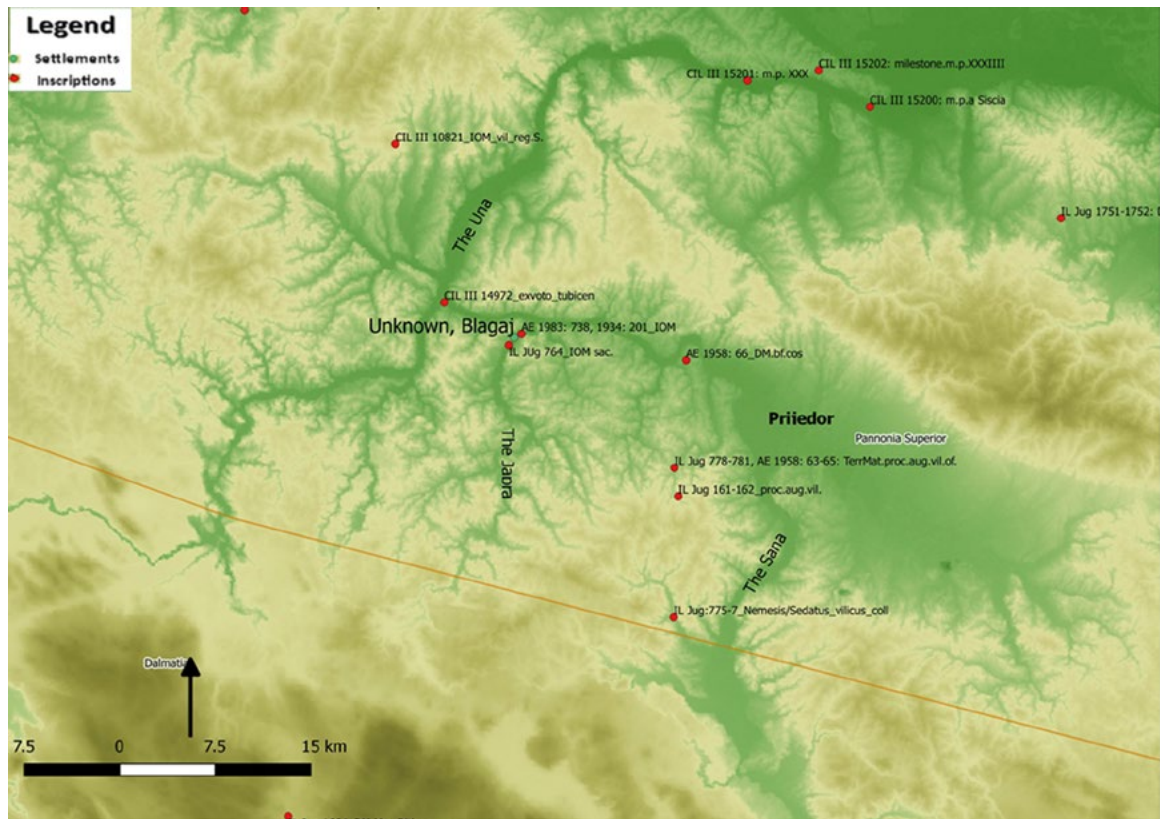




Map VI 26: The territory of Siscia.



Map VI 27: The territory of Savaria.



Map VI 28: The Pannonian iron-mining district.

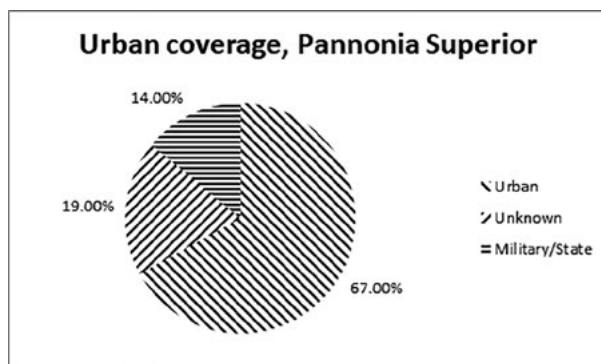


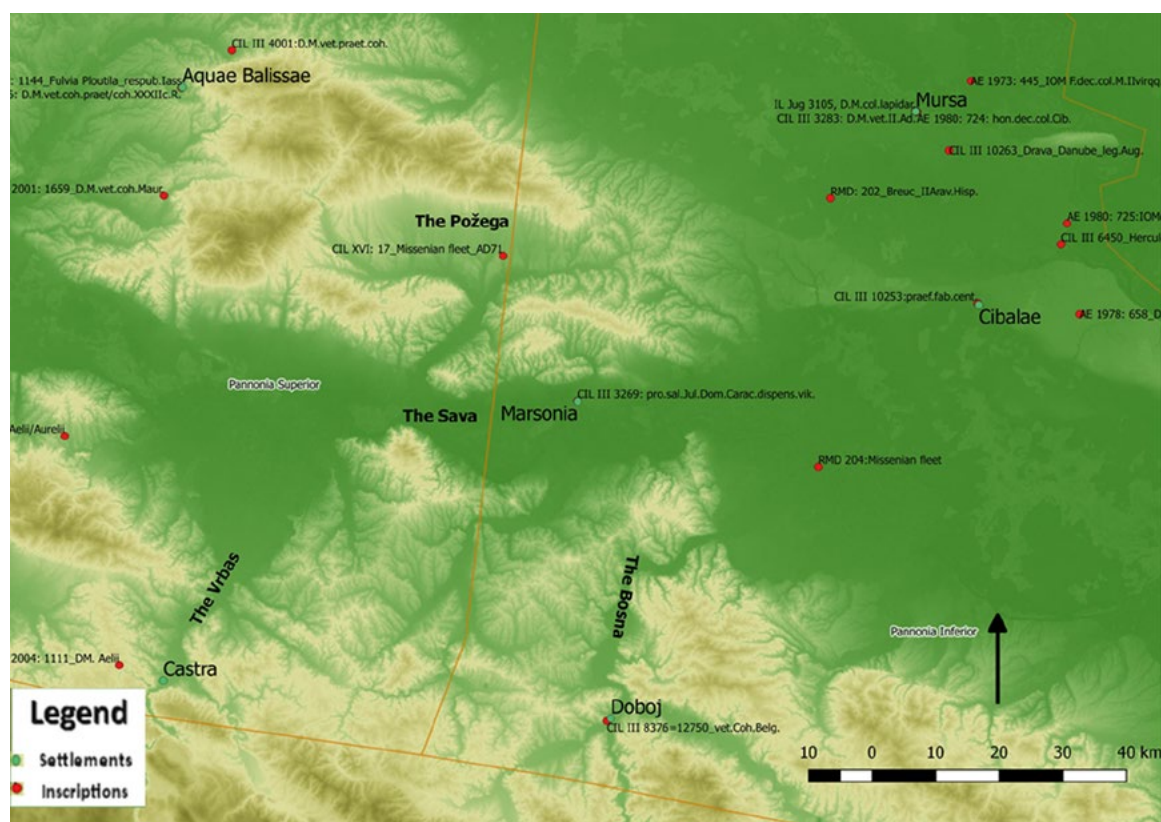
Figure VI 8: The share of the different types of administrative units in the local government of Pannonia Superior.

Danube *Limes*, with the exception of those segments that belonged to the municipal territories of Vindobona and Carnuntum. Overall, however, this strip of land did not necessarily extend over more than a few hundred square kilometres. From a territorial point of view, far more significant was the iron-mining district in the Sana-Japra Interfluvium and the regions dominated by the military outposts in the Sava Valley and in the Lower Raba.<sup>843</sup> Tangible evidence of their territorial extent has so far not been found but, according to the Thiessen polygons, they equalled or exceeded the size of the average urban territory. They range from slightly less than 1500 sq. km for the *civitas* of the Araviates, to over 3000 for the mining district and the *civitas* or *civitates* overseen by the military authorities based in Marsonia. (Maps VI\_23, 28 and 29)

province remained outside the municipal territories, even when the maximum estimates are accepted. If we draw the eastern provincial boundary roughly along the western shore of Lake Balaton, almost one-third of the province is not included in the municipal territories. In the minimum territorial estimates, the 'grey area' will consume almost one-half of the provincial territory. A significant portion of this land was probably governed by provincial authorities. This was certainly the case with the narrow zone along the

<sup>843</sup> The Pannonian *ferraria*: CIL III 3953; Sergejevski 1963, 85-102; Fitz 1972b, 213-225; Bojanovski 1982, 106-112; Hirt 2010. Dušanić 1977a, 65-66; has argued that the district extended beyond the provincial border with Dalmatia. Archaeological traces of metallurgical production in the region: Pašalić 1954, 47-72; Bojanovski 1988, 297-300. Marsonia: Bojanovski 1984, 184-185; Buzov 2011, 355-374. The *civitates* in this part of Pannonia: Mócsy 1971b, Map 1; Bojanovski 1988, 330-340; Dzino 2010, 165-166. Military diplomas: RMD 204; Miškiv 1999-2000, 103-107. The Araviates: Colombo 2010, 174-175; Arrabona: Gabler 1971, 83-91; Szönyi 1990, 667-674.





Map VI 29: The territories under military control on the Middle Sava.

In total, these extra-municipal units comprise about 14% of the provincial territory. (Figure VI\_8) This is somewhat less than in Dalmatia, in which we estimated that slightly over 20% of the province was controlled either by the army or state administrators. It is impossible to be certain about the significance of this difference, especially in view of the wide margin of error. More significantly, in both provinces the reach of the municipal government covers about two-thirds of the provincial territories, when the maximum estimates are used. In this respect, the two provinces exhibit very similar profiles, a totally unexpected outcome in view of the differences between them in the level of connectivity and pace of romanization. Apart from the extra-municipal districts governed by the provincial authorities, both provinces had quite extensive ‘interiors’ parcelled out between small, undistinguished *municipia*. One wonders how efficient *municipia* like Halicanum or Aquae Balissae were in governing territories comprising at least 3-4000 sq. km. Only a handful of magistrates are known from these towns, a fact that has been associated with the scarcity of qualified men among the local elites.<sup>844</sup> We have encountered a similar phenomenon of magistrates

holding offices in multiple towns in Dalmatia. In the latter instance, it was related to the economic activities of the elites based in the larger towns. The provincial elite was small and closely knit and it was not unusual for the small towns to rely on the economic interest or the good will of the magistrates based in the larger and wealthier towns.<sup>845</sup> We do not know how this impacted on the efficiency of the individual administrative units, although the area was certainly far more urbanized than it was in the succeeding period, for example, when only one bishopric is attested for the entire region of southern Pannonia.<sup>846</sup>

## Pannonia Inferior

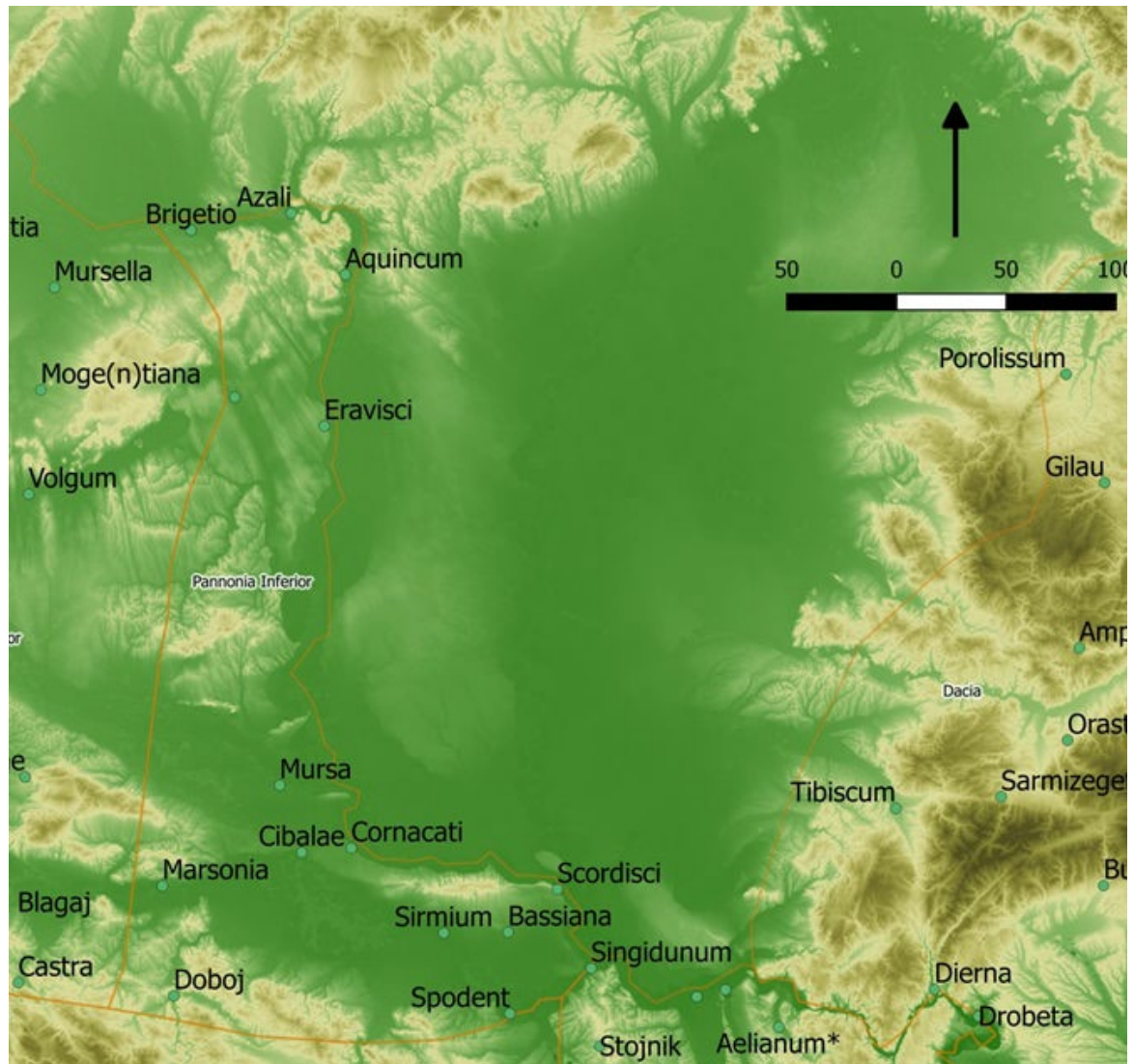
As we have seen in the preceding chapters, there are considerable differences between the urban maps of the two Pannonian provinces. Yet, one aspect common to both provinces and of particular importance to the administrative divisions is the position of the main axis of communication. In Pannonia Inferior, as in the neighbouring province, this artery ran along the periphery – in this case the Danube *Limes* – bypassing the geometric centre or the interior of the province. This arrangement implies that the bulk of the traffic

<sup>844</sup> Mócsy 1974, 217; The limited spread of the epigraphic habit among the leading citizens could be added to bolster this argument, cf. Mattingly 2006.

<sup>845</sup> Fitz 1980b, 147.

<sup>846</sup> Gračanin 2014, 1-12.





Map VI 30: The autonomous towns and communities in Pannonia Inferior.

must have passed through the military zone, limiting the scope of the civilian towns to the poorly connected interior districts. This is most clearly reflected in the northern half of the province, in which there was but one, possibly two, urban settlements in the area behind the *Limes*. (Map VI\_30)

The key problem that arises from this peculiar circumstance is to determine how the northern half of the province, measuring over 20,000 sq. km, was administered. The issue is inextricably related to one of the greatest controversies in the study of the municipalization of Pannonia Inferior. This is the status of the *civitas Eraviscorum* after the establishment of the *municipium* near the legionary camp of Aquincum in the early 2nd century AD.<sup>847</sup> The case of the Eravisci does

not fit the conventional model in which all *civitates* had been transformed into *municipa* by the late 2nd century. Unlike the great majority of the *civitates* in the study-area, the Eravisci are well-attested in the epigraphic record as late as the time of the Tetrarchy.<sup>848</sup> Moreover, there are a number of inscriptions referring to the magistrates of the *civitas* that post-date Aquincum's promotion to a *municipium*.<sup>849</sup> The close connections between the *civitas* and the *municipium* are undeniable, especially after Aquincum became a honorary colony, but the Eravisci maintained some degree of integrity throughout the 2nd and 3rd centuries.<sup>850</sup>

<sup>848</sup> Tóth 2003, 385–438; the latest dedication for the well-being of the *civitas* is dated AD 282.

<sup>849</sup> RIU: 1066, RIU: 1347, CIL III 10408.

<sup>850</sup> Nagy 2003, 439–449. Tóth 2003, 411; has pointed to the possibility that the exceptional place of the Eravisci was predetermined by their privileged status as a *civitas foederata*.

<sup>847</sup> Kovács 1999, 278–295, provides an exhaustive overview of the debate; see also Szabó, Tóth eds 2003.

With the exception of the Eravisci, the rest of the *civitates* in the province are attested as separate administrative units only in inscriptions predating the reign of Hadrian and the commencement of the municipalization process.<sup>851</sup> They include the Azali on the northern Pannonian *Limes* and the Scordisci in the far south of the province.<sup>852</sup> We can also take the Cornacates into account, as their name bears an obvious relationship to the auxiliary fort of Cornacum.<sup>853</sup> The conventional view is that, by the reign of Hadrian, all of these *civitates* had either been transformed into *municipia* or attached to the territories of the neighbouring autonomous towns. However, the very process by which the *civitates* were replaced by *municipia* and colonies – the expropriation of parts of the land driving the natives into the peripheral sectors of their former territories – already implies their persistence even if only as small and ephemeral administrative units.<sup>854</sup> Their possible survival into the 3rd century AD is acknowledged in the list of minimum estimates.

An additional problem in assigning a concrete territory to the *civitates* is the absence of a recognizable central place. This is evident even in the case of the well-attested Eravisci, in which all the evidence points to the pre-Roman *oppidum* at Gellért Hill to the south of Aquincum or to one of its successor settlements at its foot.<sup>855</sup> The rub is that this site is too close to Aquincum and, judging by the distribution of the epigraphic sources, almost certainly belonged to the territory of this town. (see Map VI\_31) Those scholars who view the Eravisci as a separate unit tend to locate them farther south, without specifying a location.<sup>856</sup> For the purposes of the present study, the presence of the Eravisci is simulated by the auxiliary fort of Intercisa. This is not an entirely arbitrary choice, as the *civitas* and its magistrates are well-attested in the epigraphic heritage of this site.<sup>857</sup> On similar principles, we have located the centre of the Azali and Scordisci in Solva and Acumincum. In all of these cases, the connections between the *civitates* and the auxiliary forts have been epigraphically confirmed.<sup>858</sup>

<sup>851</sup> Kovács 1999, 279–280; Nagy 2003, 439–440.

<sup>852</sup> RIU: 790, RIU Suppl.: 117, refer to a *princeps Azalorum*; IL Jug 280, is the only reference to a *princeps praefectus* of the Scordisci. Mócsy 1973, 377, fn. 46; Barkóczi, Soproni eds 1981. For the Scordisci in the period after the Roman conquest, I follow Dušanić 1967, 67–81 and Dušanić 1977b, 180–191.

<sup>853</sup> Mócsy 1971b, 43–44; Fitz 1980b, 141; Kovács 1999, fn. 12, points out the reference to a *cives Cornacatum* on a military diploma from AD 154, but this term could merely denote the place of origin of the recruit.

<sup>854</sup> See, for example, the fate of the natives after the founding of the colony of Savaria, Mócsy 1974, 78–79; Kovács 1999, 280; Dušanić 1977b, 181–182; Tóth 2003, 409–415; the latter two scholars have openly argued in favour of the co-existence of the *municipium* and the *civitas*.

<sup>855</sup> Fitz 1980b, 141; Kovács 1999, 288–289.

<sup>856</sup> For example, Fitz, 1971, 47–57.

<sup>857</sup> Fitz ed. 1991.

<sup>858</sup> Some scholars have remarked that, due to security reasons, the *civitates peregrinae* were removed from the frontier zone, Gabler 1991, 51–73; but the same study points to the strong peregrine enclave at

The territorial relationships in Pannonia Inferior are also complicated by the uncertain status of Gorsium and the problematic locations of the *municipia* of Volgum and Spodent. The minimum estimates based on the Thiessen polygons take the possible autonomous status of Gorsium into account, even though the arguments in favour of this thesis are far from convincing.<sup>859</sup> On the basis of the evidence available at present, it is impossible to assign specific locations to either Volgum or Spodentium. The locations adopted in this study are hypothetical. (Map VI\_30)<sup>860</sup>

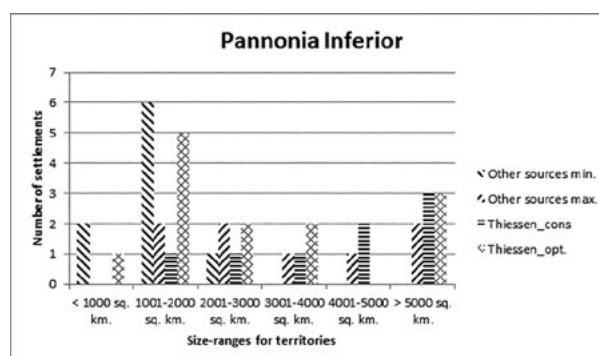


Figure VI 9: Distribution of territorial units in Pannonia Inferior by size-ranges.

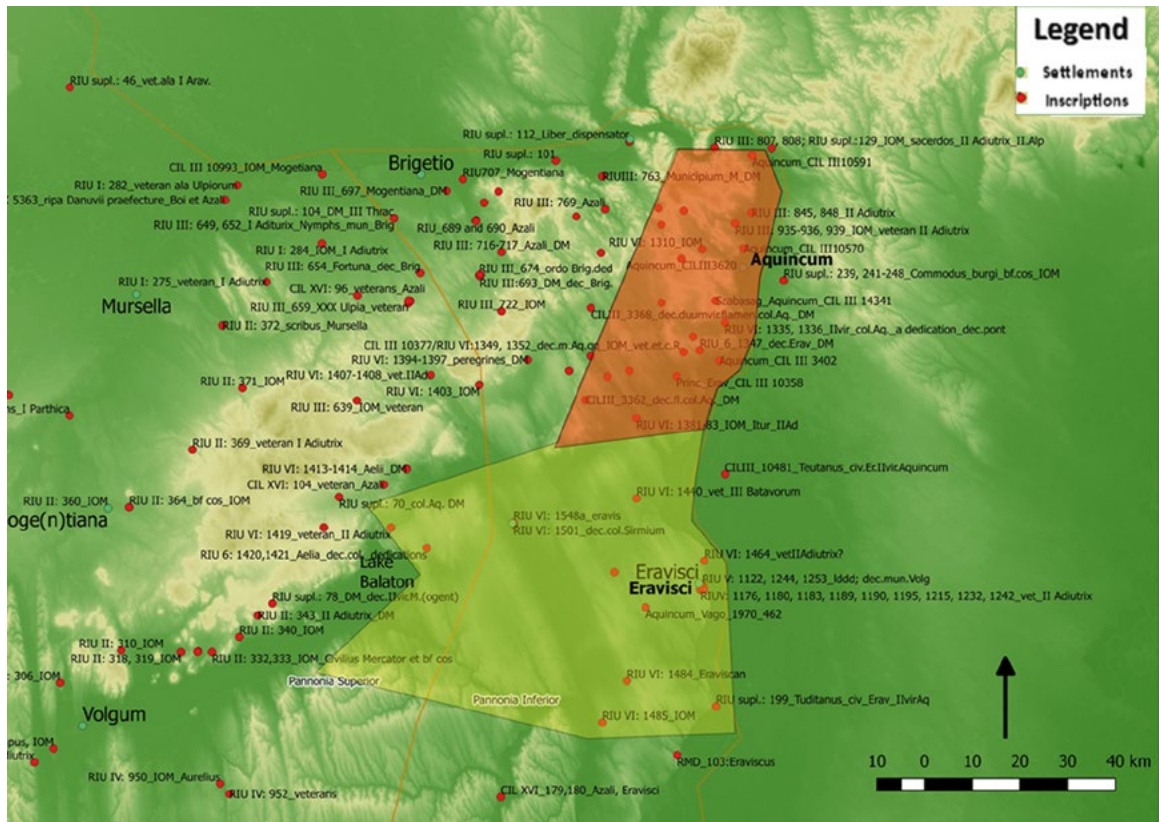
The apparent discrepancies between the maximum and minimum estimates for the territorial sizes in Pannonia Inferior can be attributed to the large number of units with an uncertain status (Figure VI 9). Although some of these, like Gorsium, are truly problematic, it is not easy to contest the integrity of the *civitas* Eraviscorum or the *civitates* under military control in the south of the province. At the same time the maximum estimates can only be applied in individual cases, Brigetio, possibly Mursa and Sirmium. All in all, there is very little positive evidence in support of the maximum estimates for the majority of the urban centres. We shall shortly see that, even using the minimum estimates, the province did have a satisfactory urban coverage. In order to simplify the discussion, we shall not comment on the maximum

Solva.

<sup>859</sup> Fitz 1972a, 3–52; criticized by Mócsy 1973, 382; in later studies Fitz has moderated his initial view on the status of Gorsium. The town is included in the monograph on the autonomous towns of Pannonia, but its status is not discussed in greater detail, Fitz 2003, 197–207. The key documents supporting the autonomous status of Gorsium are RIU: 1495, 1527, 1540; all are funerary inscriptions dedicated to *duumviri* and *augustales* of an unnamed *municipium*; cf. to at least five funerary monuments of town-officials from Aquincum from the same site: RIU: 1502, 1504, 1506, 1541 and 1552a.

<sup>860</sup> Volgum at Keszthely: Mócsy 1969, 349–50; later research at this site has proved that the earliest remains date only to the late 3rd century, Heinrich-Tamáska ed. 2011; in other studies, the *municipium* is located roughly in the land of the Hercuniates, Tóth 1985, 121–136. The only attestations to Volgum are RIU 1244, 1253, found in Intercisa on the Danube *Limes*. Spodentium at Obrenovac on the Sava: Crnobrnja 2011, 373–388. The single epigraphic testimony to this *municipium* is IL Jug 1048; Dušanić 1967, 70–71; Dušanić 1977b, 183.





Map VI 31: The territories of Aquincum and the Eravisci.

figures, but refer briefly to their proponents in the footnotes.

According to the minimum estimates, nearly all administrative units in Pannonia Inferior fall within the size range between 1000 and 2000 sq. km. Only the hypothetical *civitas* of the Azali and Mursa fall just outside this range, with 960 and 2500 sq. km respectively. The evidence for every individual town is not equally distributed. In the case of Sirmium and Bassiana, in the south of the province, the epigraphic monuments referring to the towns' magistrates form compact clusters in the Sava-Danube Interfluvium. (Map VI\_32)<sup>861</sup> They delineate moderately-sized territories in the range of 1500 to 2000 sq. km. The territory of the provincial capital, Aquincum, is also relatively well-defined by the inscriptions referring to its *curia* although, in this particular case, there are outliers appearing as far as Intercisa to the south and Gorsium and the northern shore of Lake Balaton to the southwest. (Map VI\_31)<sup>862</sup> Taking into consideration

that the bulk of the inscriptions come from the area to the north of the road Aquincum-Gorsium and, if we accept the independent status of Gorsium, the Eravisci and the Azali, the territory of the provincial capital is limited to about 1500 sq. km.

Like the rest of the large urban settlements in our study-area, Aquincum controlled a moderately-sized administrative territory. Admittedly, the alternative estimate predicts a much larger territory for Aquincum, but this projection assumes that the *civitas Eraviscorum* belonged to the *municipium*, a view that is difficult to defend in the face of the available evidence. Aquincum was not necessarily an exception among the large towns in our study area. Its administrative territory was relatively fertile and it could have supported the civilian segment of the urban population even with its minimum extent. Aquincum boasts a long list of magistrates serving in the smaller towns of the Pannonian provinces, indicating that its elite owned property throughout the Middle Danube region.<sup>863</sup>

One common feature of those civilian towns in Pannonia Inferior that have left epigraphic testimonies in the

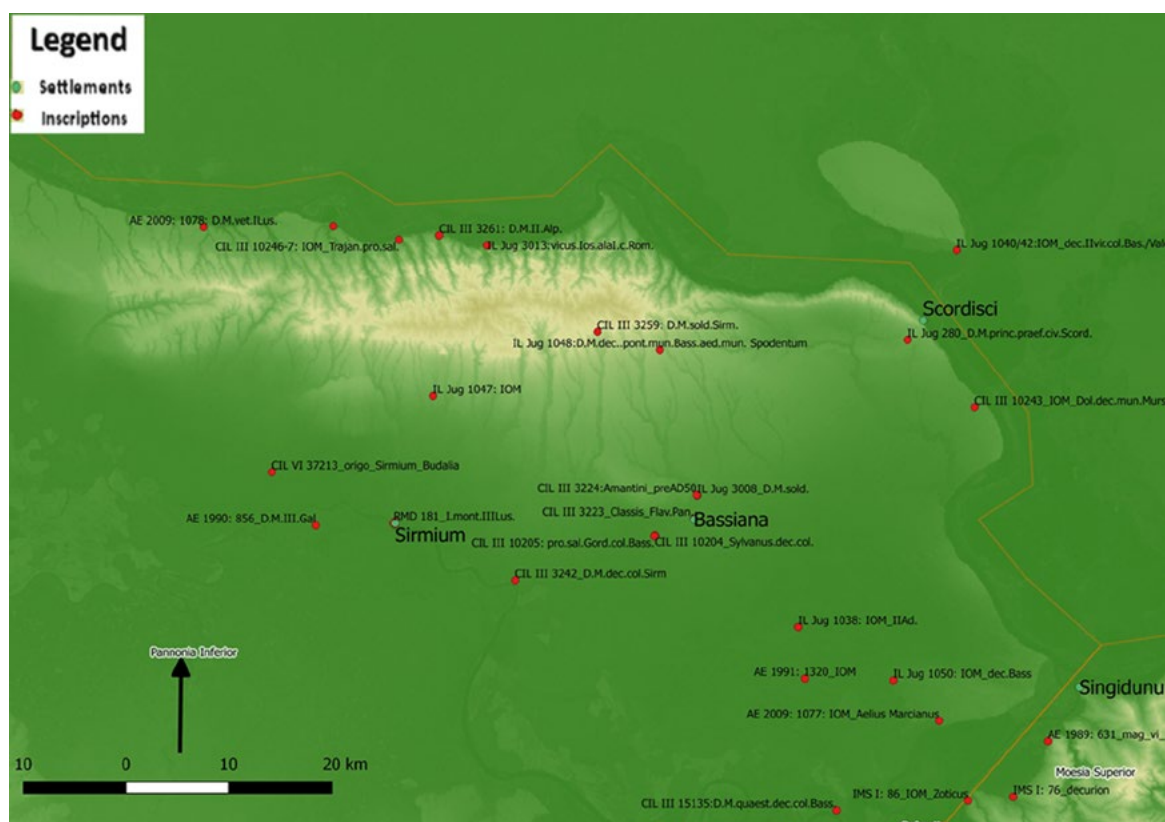
<sup>861</sup> The territories of Bassiana and Sirmium are discussed by Dušanić 1967, 70; Mirković 1971, 5–90; Mirković 2004, 145–156. These authors have argued that the territory of Sirmium spread to the south of the Sava Basin, reaching a size of over 3000 sq. km.

<sup>862</sup> The evidence is gathered by Fitz 1971, 50–57; for a different interpretation see Mócsy 1969, 349; Mócsy 1977, 378; Kovács 1999, 280–286. RIU 356, 1421, and possibly 1420, on the northern shore of Lake Balaton, RIU 1163, CIL III 10305, from Intercisa are for the greater

part dedications rather than funerary monuments. The alternative view would imply a maximum territory of over 5000 sq. km.

<sup>863</sup> Singidunum: CIL III 10495; Brigetio: CIL III 10533–10534; Mogentiana: CIL III 15166.





Map VI 32: The territories of Sirmium, Bassiana and the Scordisci.

countryside is the distribution of these monuments. Most of them are concentrated on the *Limes* and in the adjacent areas. The few inscriptions erected by the magistrates of Cibalae and Mursa that lay outside the urban centres come from the banks of the Danube, whereas the only documents referring to the *municipium* of Volgum have been found in the auxiliary fort of Intercisa. (Map VI\_33)<sup>864</sup> These documents cannot be taken as markers of the territorial extents, as it is unlikely that the state frontier would have coincided with the border of the urban territories.<sup>865</sup> Instead, their value lies in pointing out the close relations between the civilian and military sectors in the frontier zone, whose nature is still poorly understood. By far the greatest number of inscriptions mentioning the magistrates of Mogentiana come from the hinterland of the legionary camp of Brigetio. We have drawn attention to the possibility that the members of the *curia* of this town were recruited among the veterans of *Legio I Adiutrix*. Nevertheless, there also was a flow in the opposite direction. By the middle of the 2nd century, the autonomous towns located behind the frontier

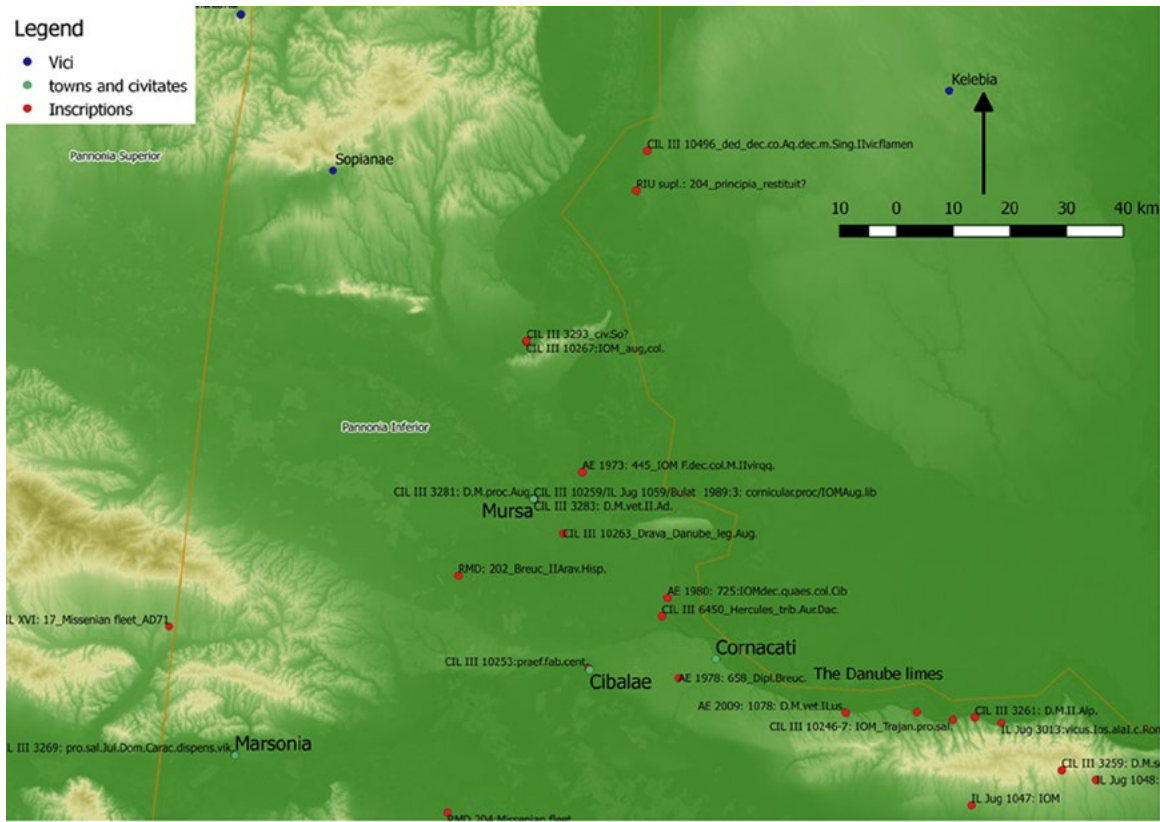
zone had become the main bases for the recruitment of Roman citizens for the legions. It seems reasonable to assume that these relations also had a strong economic component, the civilian towns supplying the military sector with goods produced in the urban territories.<sup>866</sup>

This pattern of distribution of the epigraphic monuments leaves a large segment of the interior of the province in the 'grey zone', in which it is impossible to indicate any particular urban centre or administrative entity. Accepting the minimum estimates for the urban territories, only about one-third of the provincial territory was governed by autonomous towns. This gap is only partly filled if we assign an autonomous status to some of the non-urban *civitates*. The majority of them are located in the frontier zone and their territorial integrity would have often only been possible at the expense of the territorial extent of the autonomous towns. For example, the Cornacates and Scordisci can only be located in the narrow belt between the Danube and the territories of Cibalae and Bassiana. (Maps VI\_32 and 33) Besides their ethnonyms, the only indications of the putative locations of these entities are the rare

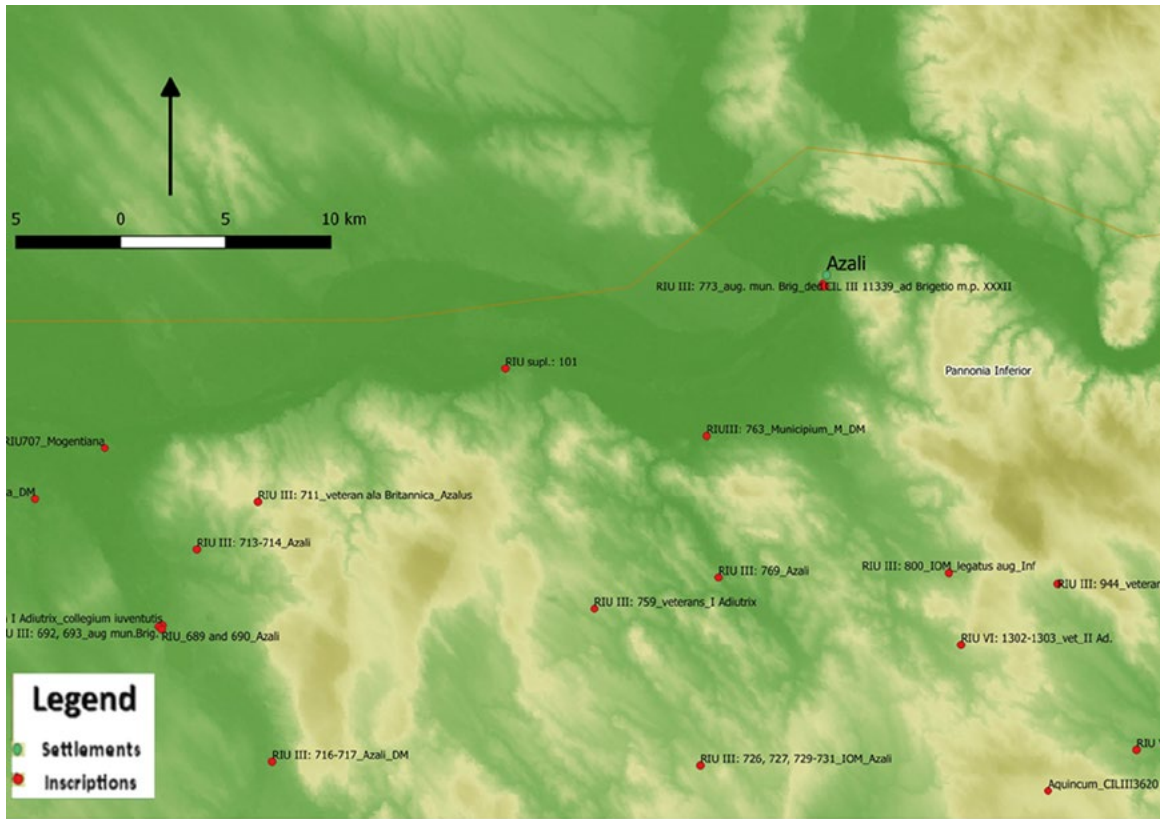
<sup>864</sup> AE 1980: 725, Cibalae, AE 1973: 445; for Volgum, see fn. 860.

<sup>865</sup> Oddly enough this implication has not been considered by those scholars who extend the municipal territories to the state frontier, e.g. Mirković 1971, 16; Dušanić 1977b, 183, have divided the auxiliary forts in the south of the province between Sirmium and Bassiana.

<sup>866</sup> See, for example, the economic relations between Nicopolis ad Istrum and the legionary camp of Novae on the Lower Danube; Poulter 1999, 1-54.

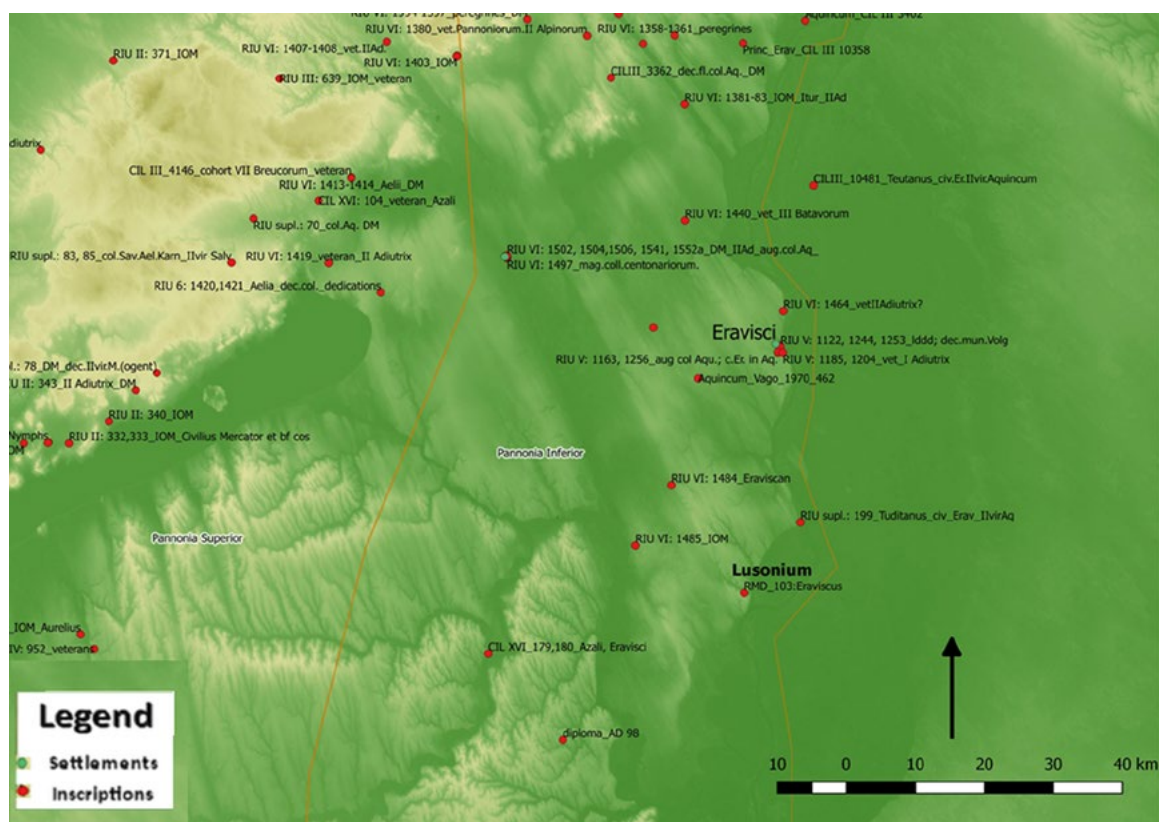


Map VI 33: The territories of Mursa, Cibalae and the Cornacati.



Map VI 34: The territory of the Azali.





Map VI 35: The territory of the Eravisci.

inscriptions commissioned by their aristocracy on the *Limes*. This leaves them with territories not larger than 1000 sq. km. We have somewhat better co-ordinates for the location of the Azali, whose territory is indicated by the name of the auxiliary fort, Ad Azaum, and the dedications by their *princeps* in the auxiliary fort of Solva.<sup>867</sup> Taken in conjunction with the peculiar onomastics of this people, distinguishing them from the rest of the Pannonian population, these documents enclose a territory not larger than 1000 sq. km. (Map VI 34)<sup>868</sup>

A similarly sized territory can be ascribed to the Eravisci. The majority of the inscriptions that refer to the pre-municipal institutions of the *civitas* come from the northeast corner of Roman Pannonia, in the later territory of *Municipium Aquincum*. (Map VI.31)<sup>869</sup> However, there is a second cluster of inscriptions mentioning the Eravisci, centred on the important auxiliary fort of Intercisa, but also spreading as far

as Lusonium to the south. (Map VI\_35)<sup>870</sup> If we draw a contourline around the inscriptions referring to the *civitas*, we end up with a territory not larger than 750 sq. km. Like their neighbours occupying the narrow frontier zone, the autonomous Eravisci were confined to a small segment of their former territory.<sup>871</sup>

If they are so defined, the territories of the four *civitates* add up to not more than 4000 sq. km and together with the urban territories, they barely cover one-half of the province. Of course, we still have to take into account the territories of Volgum, Gorsium and Spodentium. The epigraphic evidence is not very helpful in drawing the boundaries of the territories of these towns. Gorsium is epigraphically unattested but, to judge by the character of the inscriptions found in its hinterland, it did not differ from the rest of the regions behind the frontier. (Map VI.31) The two inscriptions from Intercisa mentioning the *municipium* of Volgum say nothing about the possible extent of its territory.

<sup>867</sup> Barkóczy, Soproni eds 1981.

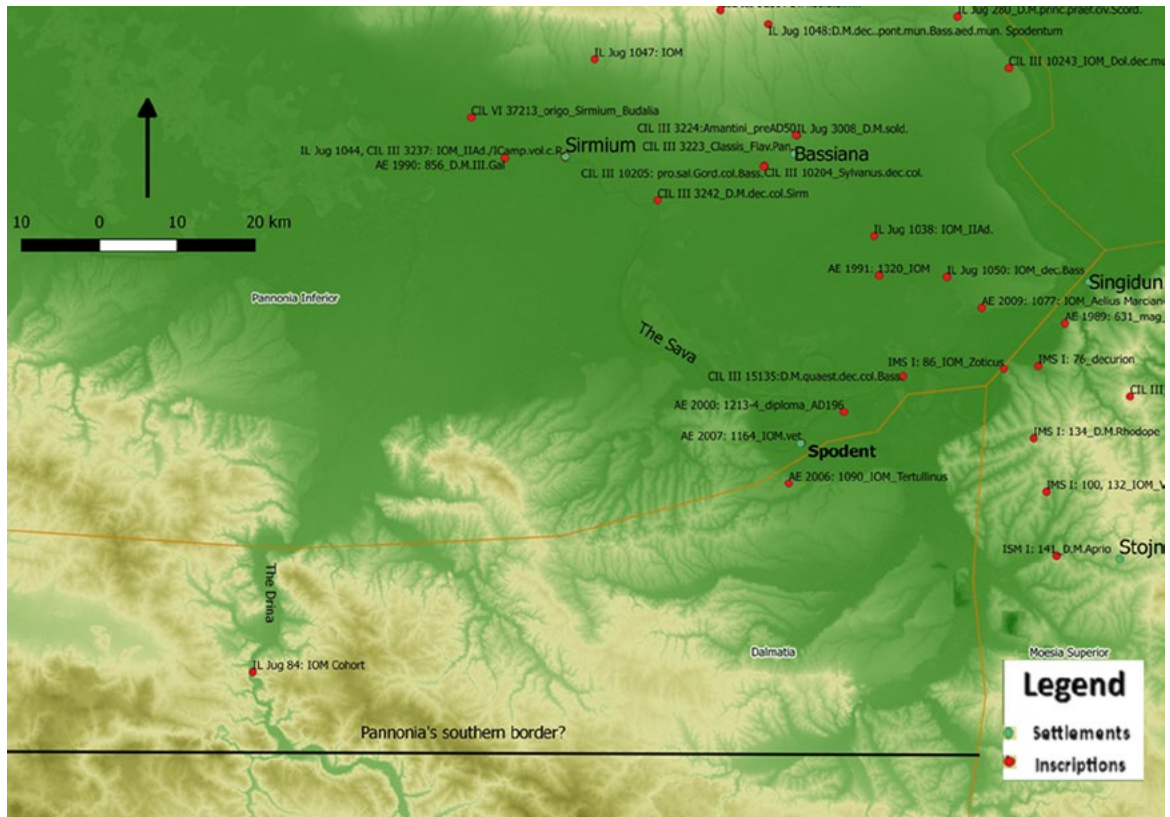
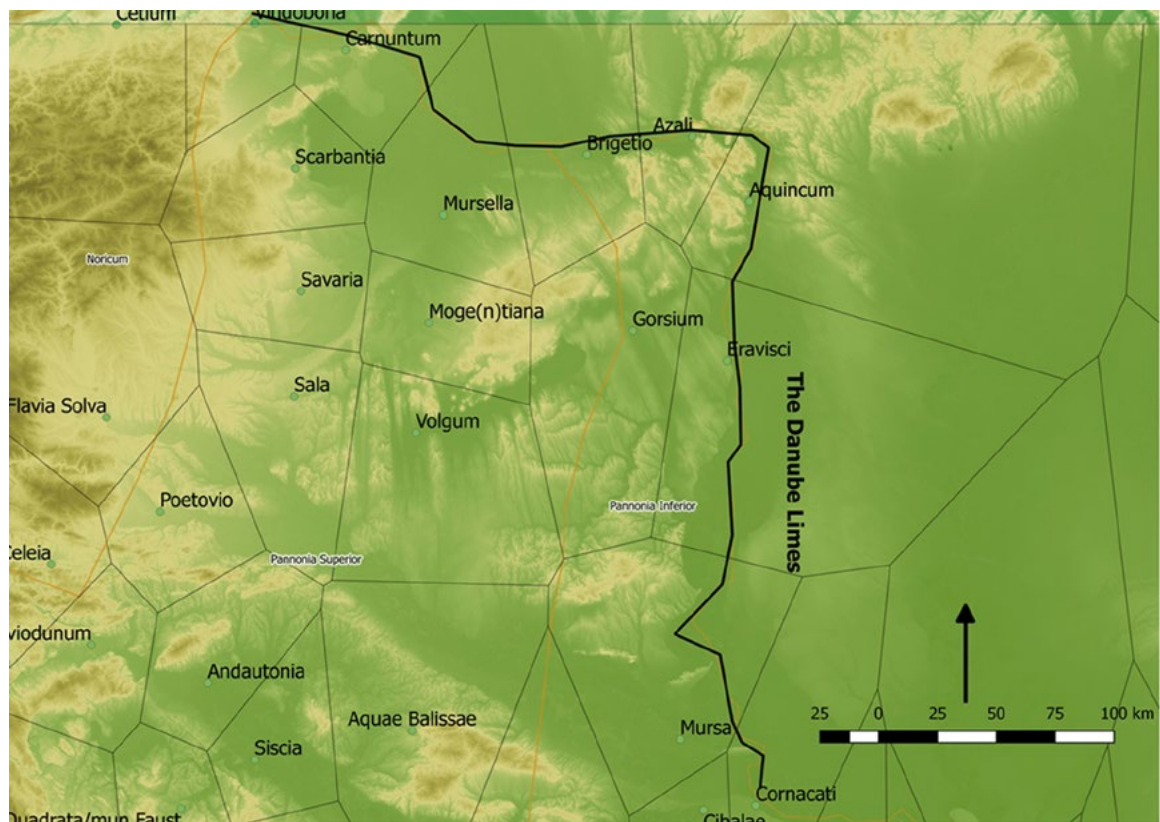
<sup>868</sup> Mócsy 1974, 55; has maintained that the Azali were a Pannonian or Illyrian enclave in the predominantly Celtic Transdanubia; this view has recently been challenged, Colombo 2010, 185, fn. 86.

<sup>869</sup> RIU 838, 1347, CIL III 10358; this is the chief argument in favour of the view that the *civitas* was replaced by the *municipium* during the reign of Hadrian, Kovács 1999, 292–293.

<sup>870</sup> RIU 1066, 1148, 1484; RIU Suppl.199; this group of monuments alongside the sparser pattern of *villae* on the territory to the south of the Aquincum-Gorsium Road has been seen as the main indicator of the territorial integrity of the Eravisci after the founding of the *municipium* at Aquincum. Fitz 1971, 49–50.

<sup>871</sup> Fitz 1971, 57; has extended their territory to the eastern shore of Lake Balaton, but even so, the maximum estimate for the Eravisci is not much higher than 1500 sq. km.



Map VI 36: The territory of Municipium *Spodent*[...].Map VI 37: Thiessen polygons around the towns and *civitates* in Pannonia Inferior.

They merely suggest that Volgum was located in the vicinity of the Eravisci, close to the Danube *Limes*. A similar dearth of evidence plagues the *municipium* of Spodent[...]. However, assuming that it was located to the south of the Sava, its proximity to the provincial borders with Moesia Superior and Dalmatia would have limited its territory to less than 2000 sq. km. (Map VI\_36) For Gorsium and Volgum we only have the estimates derived from the Thiessen polygons and, predictably, they are much larger than the minimum estimates for the rest of the territorial units in the province. (Map VI\_37) As they are located in the empty area behind the *Limes*, their combined territories are as large as the sum of the minimum estimates for the rest of the urban territories. This will automatically increase the coverage of the municipal government to at least two-thirds of the provincial territory, comparable to the rest of the provinces considered so far. As we have seen in the sections on Pannonia Superior and Dalmatia, such arrangements are not unparalleled. The principal reason we still remain skeptical is the unclear status of Gorsium.

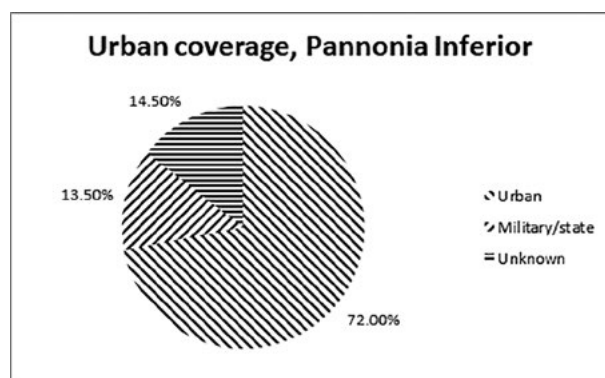


Figure VI 10: The share of the different sectors in the local administration of Pannonia Inferior.

With the exception of the *argentaria* accounted for in the section on Dalmatia, there are no mentions of special fiscal districts in Pannonia Inferior.<sup>872</sup> In the written sources there are indirect references to imperial domains in this province, but the lack of epigraphic testimonies prevents us from determining their size and distribution.<sup>873</sup> Finally, the absence of permanent military bases in the interior of the province suggests that the zone under military control was confined to the Danube frontier. But, although limited to the territories of the *civitates* that remained under military control, the governmental sector would have

<sup>872</sup> There is an isolated mention of a *procurator* in Mursa, CIL III 3281. The evidence for *procuratores* in Pannonia Inferior has been collected by Fitz, 1972b, 213-225.

<sup>873</sup> A possible exception is CIL III 10275; Mócsy 1974, 266; imperial kilns in Mursa, Pinterović 1978, 54; the vineyards of Emperor Probus: Pinterović 1978, 85.

still covered at least 13.50% of the provincial territory, comparable to the situation in Pannonia Superior and Dalmatia (Figure VI 10). It is possible that we have underestimated the military sector by excluding the possible districts centred on the auxiliary camps of Matrica and Vetus Salina.<sup>874</sup> The true status and extent of these units is controversial, but their actual locations preclude particularly extensive territories.<sup>875</sup>

In view of the predominantly military character of this province, the high percentage of urban coverage in Pannonia Inferior was rather unexpected. Note that taking the maximum estimates – eliminating all districts governed from the auxiliary camps – the governmental sector all but disappears, whereas the urban coverage increases to at least 85% of the provincial territory! This distribution is just as surprising in view of the great intercity distances. In the southern part of the province they are on the same level as in Pannonia Superior, ranging between 30 and 70 km, but to the north of Mursa they rise to over 100 km, even if we were to recognize the autonomous status of Gorsium. Obviously, in such conditions, high urban coverage is only possible through the extension of the individual territorial units. It is no accident that the main dividing line between the territorial sizes in Pannonia Inferior coincides with the north-south divide of the province. (Map VI\_30) Whether the minimum or maximum estimates are accepted, only the towns in the northern half of the province have territories larger than 3000-3500 sq. km. As in Pannonia Superior and Dalmatia, territories extending over several thousand square kilometres were governed from towns that have rarely appeared in the archaeological or written records.

With the exception of the maximum estimates for Mursa and Aquincum – the latter is particularly controversial – the largest towns in Pannonia Inferior controlled territories that were moderately-sized by regional standards. Nonetheless, as in other provinces, the elites of these towns did not limit their activities to the urban hinterlands. In one way or another, they must have been involved in provisioning the frontier garrisons, a zone that almost certainly remained outside the urban territories. We think that the vast spread of the monuments that refer to Aquincum and its officials is better understood as marking the economic outreach of the town's elites rather than its administrative territory.

If we are to judge from the developments on the urban map in the subsequent period, the high urban coverage in Pannonia Inferior was by no means an index of the high degree of urbanization. At least two

<sup>874</sup> Matrica: RIU 1429; Vetus Salina: CIL III 10305. Mócsy 1980, 365-376.

<sup>875</sup> The different views on this topic are summarized by Bérard 1992, 75-105; see the sections on Moesia Inferior and Dacia.

new bishoprics and three larger fortified settlements of an unknown status appeared in the northern half of Pannonia Inferior in the period of the Tetrarchy.<sup>876</sup> This last wave of urbanization in the eastern part of Roman Pannonia coincides with the thorough-going military and administrative reforms in this phase of Roman history. These late developments point to some of the factors that might have impeded the progress of urbanization in the area in the earlier period, namely, the large territories of the autonomous towns or - if our reconstruction of the administrative map is wrong - the extensive zone under military control.

### Moesia Superior

The zone of low intercity distances and the increased presence of the military affected most of Moesia Superior.<sup>877</sup> In a number of large and fertile sections in the interior of the province, the only recognizable central places were the garrison sites and the settlements that grew up around them. As in other provinces, these outposts occupied highly strategic points, but this does not necessarily exclude their role in the control and administration of the surrounding micro-regions. It is no accident that at least two of the known *civitates* in Moesia Superior have ethnonyms that bear an obvious relation to the auxiliary forts in their respective areas. These are the Timachi and the auxiliary fort, Timacum Minus, and possibly the Tricornenses and the outpost Tricornium on the Danube.<sup>878</sup> Furthermore, Ptolemy explicitly connects the garrison town of Naissus with the Dardanians, the dominant polity in the south of the province.<sup>879</sup>

However, the chief cause of the sparse urban network in Moesia Superior was the large number of mining districts.<sup>880</sup> On the basis of the epigraphic and numismatic evidence, Dušanić has identified at least eight or nine separate micro-regions organized into an unknown number of fiscal units.<sup>881</sup> In some of these districts, like the Ibar Valley or Mount Kosmaj, the activity of the *procurator* is recorded epigraphically, but in other areas there are only vague clues in the archaeological and written records.<sup>882</sup> Undeniably,

the question of whether a given region known for its riches in mineral ore or archaeological remains of mining activities constituted a separate district is not of particular relevance for the present study. As far as we are concerned, both the mining districts and micro-regions gravitating to the military outposts in the interior belonged to the military/governmental sector. The specific ways in which they were administered are beyond the scope of this study. Instead, the key problem is to decide if these mining areas were governed by the imperial legates or from the nearby colonies and *municipia*.

By the end of the 2nd century AD, two *municipia* had been founded in the mining districts of modern Kosovo, Ulpiana and *Municipium Dardanorum*.<sup>883</sup> A recently discovered inscription from Ratiaria confirms earlier suspicions of the presence of yet another *municipium*, Aelianum, founded by the middle of the 2nd century AD.<sup>884</sup> By analogy with Ulpiana, the name of the town indicates that it was founded on a land that belonged to the imperial treasury, probably the mining district in the Pincum Valley, in the north of the province.<sup>885</sup> It is impossible to obtain a clear view of the territorial relations in the mining districts after the founding of these *municipia*. In some of these regions the epigraphic sources hint at the presence of dual communities: the *municipium* constituted by the concessioners of the mines and the colonies of miners recruited from the local *peregrini* or convicted criminals and war captives pressed into service.<sup>886</sup> If this arrangement entailed territorial divisions within the individual districts, we are still unable to pinpoint them. In this study, the territories of the *municipia* have been equated to the mining district, although such an arrangement would have presented a legal paradox. The *municipia* were obviously the central places of the mining districts, even if the latter were organized as separate fiscal units.<sup>887</sup> They were the largest and the only urban agglomerations in these areas and, at least in some cases, they were definitely the seat of the *procurator* and his staff. Although the mining shafts and galleries were probably kept separate from the peregrine land, the two units were complementary.

What is more important to decide is if the municipalized districts belonged to the autonomous

<sup>876</sup> Mócsy 1977, 391; Soproni 1978; Barkóczy 1980, 114-115; Tóth 1985, 121-127.

<sup>877</sup> Certain forts in the Iron Gates on the Danube were apparently evacuated in the early 2nd century, but there was no wholesale abandonment of the military infrastructure; individual forts: Petrović 1982-1983, 129-134; Kondić 1982-1983, 234-251; Popović 1982-1983, 265-284; in general, see Vasić, Kondić 1986, 542-560 and Chapter Three.

<sup>878</sup> Dušanić 2000, 354-363; Dušanić 2004b, 24-25; has stressed the fact that, although most of the mining districts were expropriated from the *civitates peregrinae*, the latter continued to play a major role in the ore extraction and processing.

<sup>879</sup> Ptol. Geog. 3.9.4; and also, CIL VI 32937; Petrović ed. 1979, 33-36.

<sup>880</sup> Mócsy 1970, 37-41; Dušanić 1977a, 69-79; Dušanić 2004a, 247-270.

<sup>881</sup> Dušanić 2004a, 255-260; however, see Hirt 2010; for a different interpretation of the numismatic evidence.

<sup>882</sup> *Metalli Dardanici*: Dušanić 1971, 241-259; Dušanić 2004b, 5-32; the

unnamed district in modern Kosmaj: Mirković, Dušanić eds 1976.

<sup>883</sup> The founding date of the *Municipium Dardanorum* cannot be determined on the basis of the epigraphic evidence, Mócsy 1970, 34-35, dates it to the reign of Aurelius; Dušanić 1997, 31-42, to the Severan period.

<sup>884</sup> IL Jug 527, AÉ 2010: 1391; Mócsy 1970, Figure 15, wrongly locates the centre of the district to the south of Viminacium.

<sup>885</sup> This is suggested by the name of the mining district, Aeliana Pincensia, Dušanić 2004a, 259-260, fn. 58.

<sup>886</sup> Dušanić 1997, 31-32; Dušanić 2004b, 25-30, pointing to the parallels with the territory of the *Municipium S(plonum)*. Loma 2002, 143-179.

<sup>887</sup> Dušanić 2004b, 29-30.





or to the governmental sector. Their position in this respect is inevitably ambiguous, as the *municipia* were obviously the bases of the state administration and, at the same time, they had fully developed local institutions. Admittedly the range of securely documented municipal offices is rather limited in all three mining *municipia*.<sup>888</sup> We hear only of *decuriones* and their *ordo*, a defining characteristic of the small Pannonian *municipia*, but in this case one wonders if this particularity might not have reflected the special status of the towns in the mining districts. Were the *duumviri* incompatible with the procuratorial office? Furthermore, the epigraphic corpus from the *Municipium Dardanorum* refers to a *princeps*, a title which is more usual among the peregrine communities than in the Latin *municipia*.<sup>889</sup> In this respect, the mining *municipia* approach the semi-autonomous communities that developed in the *canabae* near the legionary camps or in the *vici* in the eastern half of the peninsula. In both instances, we see the emergence of quasi-municipal institutions in settlements that were founded on land controlled by the army or the government and did not enjoy a territorial integrity.

A very similar dilemma is presented by the *municipia* that developed near the garrison sites in the interior of the province. By the early 3rd century AD, both Horreum Margi and Naissus were granted municipal status, paralleling similar developments on the Danube *Limes* and in Dacia.<sup>890</sup> Horreum Margi has been poorly studied, but in the case of Naissus it is certain that the army was present in the area even after the granting of the municipal charter.<sup>891</sup> It is therefore impossible to decide if Naissus was an autonomous town, a garrison settlement or both. By the time these settlements were promoted to *municipia*, the divide between the military and civilian sector that marked the earlier period was slowly fading away. Obviously, we would be inconsistent in denying the autonomous status of these towns if we do accept the *municipia* that developed from the *canabae legionis* on the Danube *Limes* and in Dacia. Nevertheless, it should be pointed out that, during most of the period

of the High Empire, the areas that gravitated towards these towns were under military supervision and, in at least some cases, the military remained even after the town had been granted autonomous status. As with the mining towns we shall have to consider these examples as special cases.

In comparison to some other provinces in our study area, the epigraphic evidence in Moesia Superior is neither particularly abundant nor very helpful in deciding the extent of the separate territorial units. A wider range of sources needs to be considered, including the known territorial divisions from the Late Roman period and, when this is relevant, the physical geography of the area.

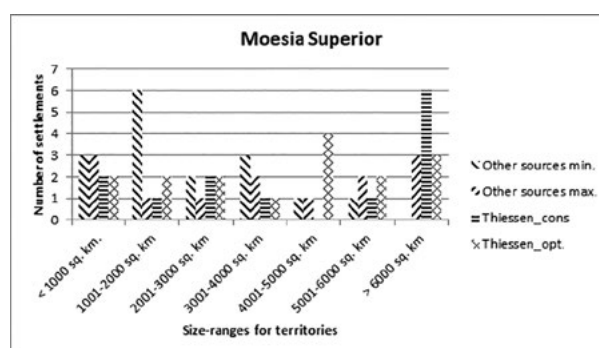


Figure VI 11: Distribution of territorial units in Moesia Superior by size ranges.

The size-ranges of the territorial units in Moesia Superior are almost evenly distributed (Figure VI 11). Only with the minimum estimates derived from the epigraphic or cartographic sources and the maximum estimates based on the Thiessen polygons do we see a clear clustering of the territorial units, albeit at the opposite ends of the scale. Taking the other two approaches – maximum number of Thiessen polygons and the maximum projections based on the epigraphic and cartographic sources – the territorial sizes are spread in groups of two or three across all size-ranges. These pronounced divergences between the different approaches are understandable when the number of mining districts and poorly attested *municipia* in Moesia Superior is taken into consideration. The territorial extent of a town like Horreum Margi, known from just one single inscription found in a different province has to be pure guesswork. The only point on which the different approaches converge is the wide range of variations between the individual territorial units. This tendency is a real reflection of the peculiar territorial arrangements in Moesia Superior.

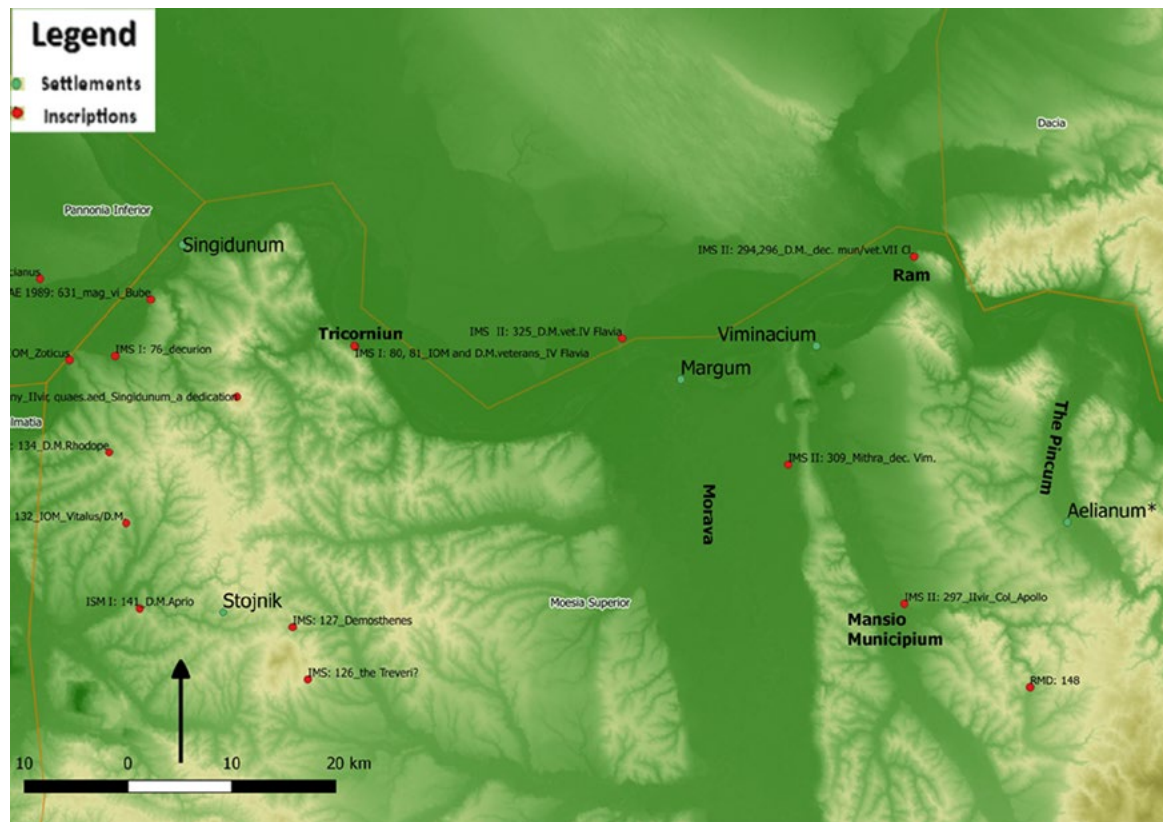
According to the minimum estimates, that assume a maximum number of territorial units and demand stricter criteria in the drawing of the territorial

<sup>888</sup> Dardanorum: CIL III 8297, IL Jug 503, refers to the *ordo colonorum*; Dušanić 1997, 31-42; Aelianum: IL Jug 527, AÉ 2010: 1391; Ulpiana: AÉ 1978:702, IL Jug 532, IL Jug 1380, 1418; IL Jug 1420 mentioning a *duumvir* and AÉ 1981:734 referring to an *aedilis* seem to set Ulpiana apart from the rest of the *municipia*, but the reading is uncertain; Mirković 2007, 60-62; the latest excavations at the site of this town are briefly summarized by Feraudi-Gruénais, Teichner 2014, 275-283.

<sup>889</sup> See AÉ 2004: 1226; Loma 2002, 155-160; Dušanić 2004b, 11-15; for further parallels from the western half of the peninsula. *Principes loci* or *principes vici* have also been attested in Moesia Inferior, ISCM V: 4; AÉ 1957: 99; ISCM V: 77; the latter giving evidence of a *princeps* of a *territorium*; Doruțiu-Boilă ed. 1980.

<sup>890</sup> Horreum Margi: CIL III 7591; Naissus: IMS IV: 10.

<sup>891</sup> The limited excavations at the site of the *Municipium* Horreum Margi have confirmed the presence of the military in the area, but only in the period of Late Antiquity, Vasić, Kavajin-Mundrić, Popović 1989, 7-37. Earlier levels have not yet been discovered, although second-century pottery has been identified, Petković, Tapavički-Ilić 2011, 251-267. Naissus: Petrović 1976; see also Petrović ed. 1979, 31.



Map VI 38: The territories of Singidunum, Viminacium and Margum.

boundaries, almost one-half of the *municipia* and fiscal districts in Moesia Superior extended over less than 2000 sq. km. Importantly these include some of the most reliable reconstructions, like the towns on the short section of the Danube frontier. The sparse epigraphic sources in conjunction with the distribution of the centres in the neighbouring units and the state frontier narrow the range of possibilities. The group is not homogeneous, but it does include the two largest agglomerations in the province, the *municipia* that developed from the *canabae* of the legionary camps of Singidunum and the provincial capital Viminacium.<sup>892</sup> Located in the northwest corner of the province, on the frontier with the *Barbaricum* and the provincial border with Pannonia Inferior, Singidunum's administrative territory could only expand into the interior of the province. (Map VI\_38) In this direction any growth would have been hampered by the proximity of the mining district centred on Mount Kosmaj<sup>893</sup> and the

*municipium* of Margum. These obstacles would have confined its territorial extent to 600-700 sq. km.<sup>894</sup>

The few epigraphic monuments found in the countryside of Viminacium, plus its proximity to its neighbouring administrative centres and military forts limit the territory of the provincial capital to not more than 800 sq. km.<sup>895</sup> To the south, a road-station called Municipium probably marked the southern limit of Viminacium's territory.<sup>896</sup> Particularly striking at both Singidunum and Viminacium is the dearth of funerary inscriptions of veteran soldiers on what were fairly restricted territories.<sup>897</sup> In contrast to Aquincum or Carnuntum, at which the veterans of the legions and the local magistrates left their mark on the surrounding territory with a large number of inscriptions, any evidence of colonization in the hinterlands of

<sup>892</sup> Singidunum: Mirković 1968, 37-49; Mirković, Dušanić eds 1976, 23-41; for the more recent rescue-excavations see Ivanišević, Nikolić-Đorđević 1997, 65-150; Nikolić, Pop-Lazić 2005, 7-43. Viminacium: Popović 1967, 29-49; Mirković 1968, 56-73; Mirković ed. 1986, 21-57; brief reports on the research carried out over the past decade is available at <http://www.viminacium.org.rs/>

<sup>893</sup> The territory of this district is discussed in Mirković, Dušanić ed. 1976, 111-117.

<sup>894</sup> Even this estimate assumes that the Tricornenses, a people mentioned by Ptolemy, were included in the territory of Singidunum: Mirković, Dušanić eds 1976, 37; Dušanić 1977b, 180-191; however, in his later studies Dušanić has attributed Tricornium to the mining district in modern Kosmaj, Dušanić 1990, 217-224; Dušanić 2004a, fn. 47, 57.

<sup>895</sup> Dedications: IMS II: 297, 309; epitaphs: IMS II: 294, 296.

<sup>896</sup> Mirković ed. 1986, 54-57, has suggested that the name of the *mansio* indicates that one has entered the territory of the *municipium* Viminacium. This is the site erroneously identified with the *municipium* Aelanium by Mócsy 1970, 30.

<sup>897</sup> The veteran inscriptions from these two towns have been collected by Ferjanić 2002.



Map VI 39: The hypothetical territories of the mining districts of Kosmaj and Rudnik.

Singidunum or Viminacium is literally very thin on the ground. The latter is a surprising discovery in view of the limited agricultural capacity of their immediate hinterlands. One possible solution suggested is that until the legionary towns were promoted to colonies in the early 3rd century, the veterans received plots of land in the colonies of Scupi and Ratiaria in the south of the province.<sup>898</sup> The absence of epigraphic material in the small urban territories is a strong clue that the economic focus of these communities lay outside the agrarian sector. The urban elites of Viminacium or Singidunum apparently were not interested in making their mark on the countryside. The intriguing factor is that this difference cannot be ascribed to the local socio-cultural particularities, because Viminacium and Singidunum were, like Carnuntum and Aquincum, legionary towns. Instead, what sets the legionary towns of Moesia apart from their Pannonian counterparts, is the absence of double towns. In neither Singidunum nor Viminacium was there a separate municipal centre to host a local land-owning elite.<sup>899</sup>

<sup>898</sup> Cf. Brigetio and Mogentiana. This suggestion seems highly probable in view of the large number of veteran inscriptions from Scupi. Mirković ed. 1986, 57-59; on the large number of second-century epitaphs of the VII Claudia in the territory of Scupi, Mócsy 1970, 68-69; Ferjanić 2002, 70-78. Another possible explanation is that they received money rather than plots of land upon discharge.

<sup>899</sup> The question of the civilian towns near the legionary camps on

Typically, it is virtually impossible to draw the limits of the mining districts solely on the basis of the epigraphic record. Most of the inscriptions referring to or commissioned by the district *procuratores* are concentrated in the administrative centres. The distribution of the known mining-sites is the only indicator of their possible extents. Good examples are the mining regions of modern Rudnik, possibly governed by the *procurator* based in neighbouring Kosmaj,<sup>900</sup> the *metalla Aelia Pincensia*<sup>901</sup> and the *Municipium Dardanorum*. (Maps VI 38-40)<sup>902</sup> The estimates range from 1500 and 1800 for the *Aelia Pincensia* and the district of modern Rudnik to a maximum of 3000 sq. km for the Dardanian mines.

There is more tangible evidence in the case of the unnamed district in the region of modern Kosmaj,

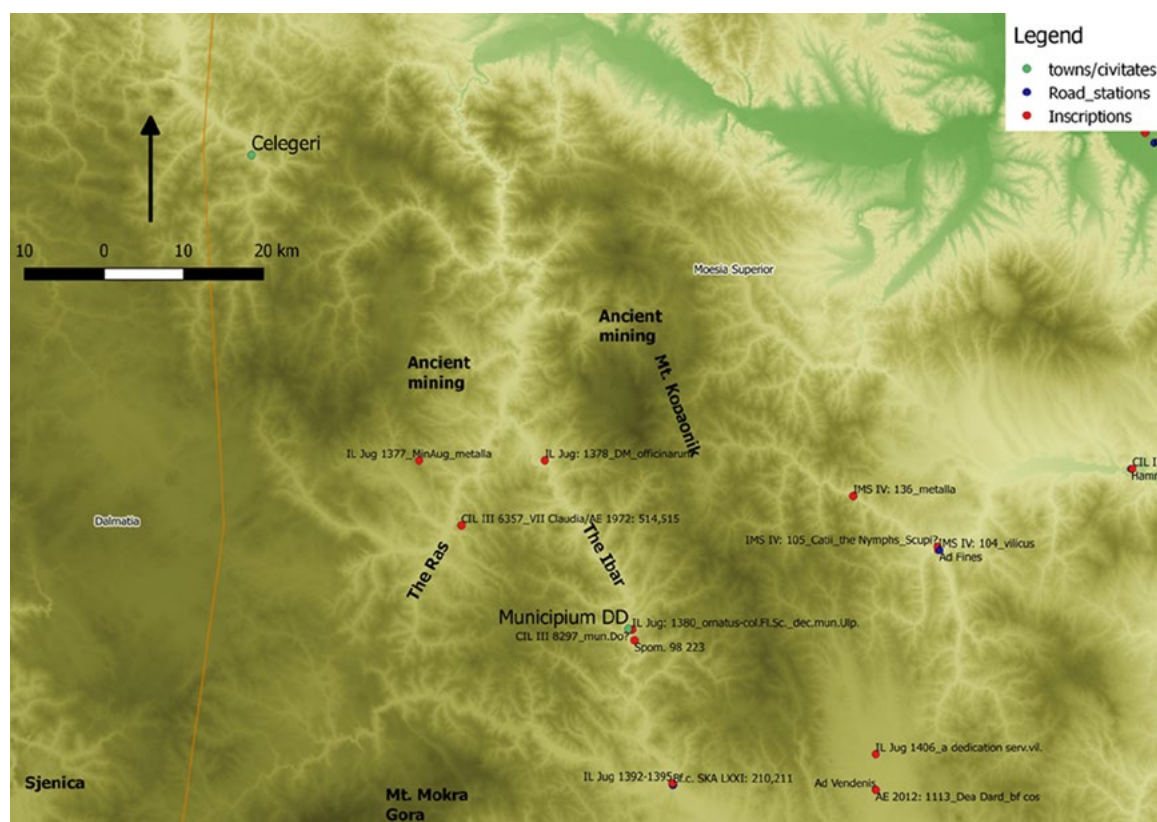
the Lower Danube is discussed in Chapter Four.

<sup>900</sup> Mirković, Dušanić eds 1976, 114-117; Dušanić 1990, 219-221; points out the possibility that the district *procurator* based in Mount Kosmaj governed a much wider area, with a direct access to the Danube and Velika Morava.

<sup>901</sup> Mladenović 2014, in press.

<sup>902</sup> IL Jug 1377, 1378. It should be made clear that neither of these documents refers specifically to the *municipium* but, unless the presence of a hitherto unknown centre in this area is postulated there are no other options. The known sites of mining operations have been helpfully collected in the Pleiades database, <https://pleiades.stoa.org/>.





Map VI 40: The territory of the Dardanian mining district.

in which, thanks to the relatively large number of epigraphically confirmed settlers from the East, it is possible to estimate the minimum extent of the district in the region of 1200 sq. km. (Map VI\_39)<sup>903</sup> There is no clear evidence of the presence of a separate *procurator* for the area of the Timok Valley.<sup>904</sup> Judging by the name of one of the Moesian *civitates* mentioned by Pliny, this micro-region might have initially been constituted as a *civitas* kept under military surveillance.<sup>905</sup> The only document that sheds some light on this area is Procopius' work, *De Aedificiis* that contains an inventory of all the forts either newly built or reconstructed by

Justinian I in the region of Aquae. Most of the forts mentioned cannot be located on the modern map. The few names that have been associated with specific sites merely confirm that the district in question included the Timok Valley.<sup>906</sup> Assuming that the territorial integrity of the mining district was maintained in the Late Antique period, this hypothesis will put its territory in the region of 5000 sq. km. This is only the minimum estimate, discounting the not entirely groundless claims that the district extended over the upper course of the Timok and into Nišava Basin.<sup>907</sup> These micro-regions are all part of the same metalliferous zone<sup>908</sup> but, as they were constituted as a separate region known as Remesiana in the Late Antique sources, it is possible that this arrangement dated back to the period of the High Empire.<sup>909</sup> If this was the case, Remesiana could have stretched over an area of 3500 sq. km in the southeast corner of the province. (Map VI\_41)<sup>910</sup>

<sup>903</sup> Mirković, Dušanić eds 1976, 101-117; for the prominence of Easterners in the mining districts of Illyricum, see Dušanić 1971, 254-259.

<sup>904</sup> Dušanić 1977a, 69-70; has located the *metalla Aureliana* in this area, implying that they were founded under Aurelius. The early history of the auxiliary camp, Timacum, is not entirely clear. The moveable finds excavated at this site and the epigraphic monuments suggest that the army units were present in this area as early as the Flavian period; IMS III/2: 23; Petrović ed. 1995, 37-45. See now, Diers 2018, 126-143. IMS III/2: 31, is the only source that possibly does make a mention of a *praefect* of the territory, but the reading is problematic, Petrović ed. 1995, 37. According to Hirt 2010, the official in question was a *praefectus territorii*, a title usually associated with military commanders in charge of peregrine land. This reading supports the idea that Timacum Minus was initially founded as the centre of a peregrine territory. Further evidence is adduced by Dušanić 1990, 589-591; Dušanić 2004a, fn. 54.

<sup>905</sup> Pliny HN 3.149; Mócsy 1970, 26; Mirković 2007, 43-45.

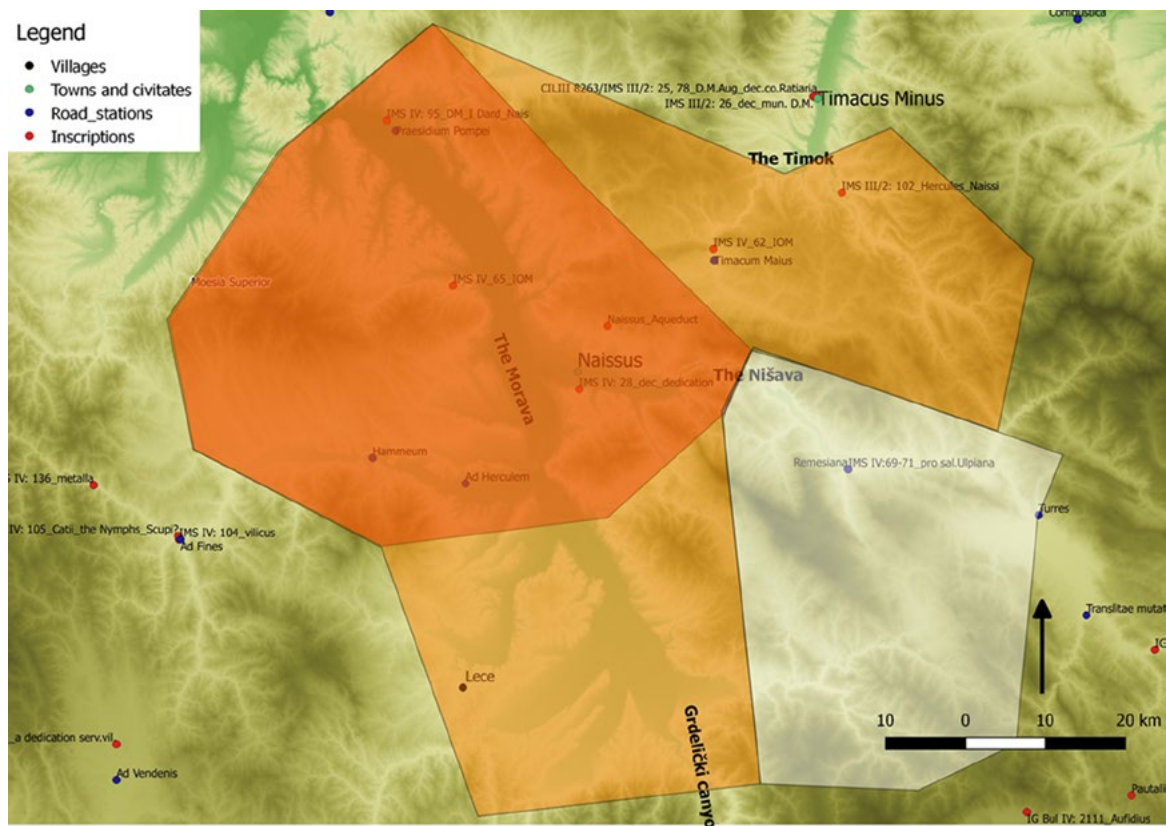
<sup>906</sup> Proc. De Aed. 4.3; Mirković 1968, 85-89; Petrović ed. 1995, 27-29; Dušanić 2004a, fn. 59, has argued that the area was always centred on Aquae on the Danube.

<sup>907</sup> IMS III/2: 102 and the comment by the editor. Cf. Petrović ed. 1976, 112.

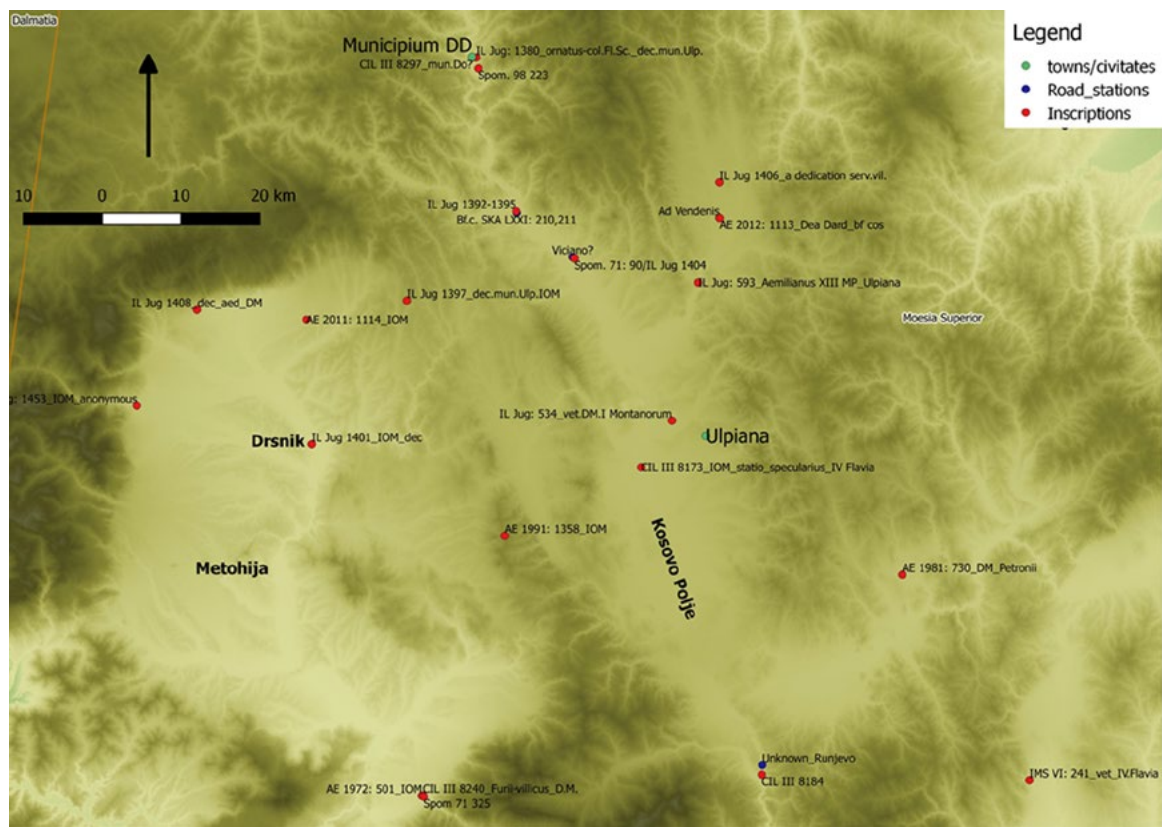
<sup>908</sup> Dušanić 1977a, 73; Petrović ed. 1995, 37.

<sup>909</sup> Proc. De Aed. IV.4; Petrović ed. 1979, 51-57; Mirković 2007, 103-107; Dušanić 1977a, 73-74; Dušanić 2004a, 258, consider that it was a separate district under the Principate.

<sup>910</sup> The key documents pointing to the extra-municipal character



Map VI 41: The territories of Naissus, the Timok district and Remesiana.



Map VI 42: The territory of Ulpiana.





Map VI 43: The territory of Scupi.

The territorial extent of Ulpiana is just as elusive. The question is made more difficult by the possible role of Ulpiana as the centre of several mining districts<sup>911</sup> but, above all, by the status of the Metohija Plain, in which some scholars have posited the presence of another unnamed *municipium*, located near modern Drsnik. (Map VI\_42)<sup>912</sup> The evidence is not particularly convincing, as most of the inscriptions mention an anonymous *municipium* that might refer to Ulpiana. Other epigraphic sources also support the view that the Metohija Basin belonged to Ulpiana.<sup>913</sup> Even if this region, fertile but poor in mineral resources, is excluded, Ulpiana's territory will still stretch over an area of almost 5000 sq. km, the bulk of the land extending to the north and east of the *municipium*.<sup>914</sup>

of the region of Remesiana are the three dedications by the provincial governor and the *res publica* Ulpiana, IMS IV: 69, 70, 71; Petrović ed. 1979, 55-57.

<sup>911</sup> This possibility is discussed by Dušanić 2004a, fn. 51, but it is based solely on the Remesiana inscriptions, see the preceding footnote.

<sup>912</sup> IL Jug 1401, 1408; Čerškov 1969, has already pointed out the possible existence of another *municipium* near modern Drsnik; Mirdita 1975, 69-81, pointing to other candidate sites; Mirković 2007, 70-71.

<sup>913</sup> Mócsy 1970, 32; Josifovska-Dragojević ed. 1982, 32-37; Šašel 1992, 152-159.

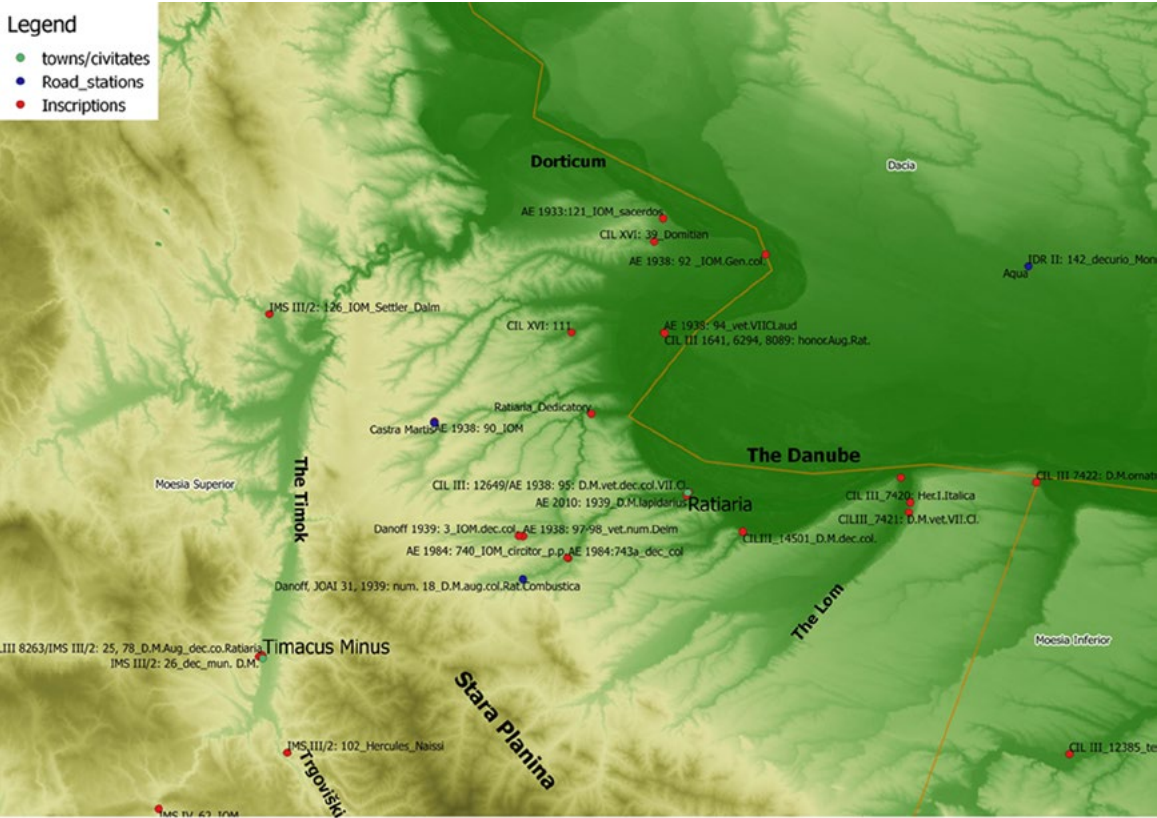
<sup>914</sup> Most of the epigraphic testimonies for the mining district come from these micro-regions rather than the Metohija Basin: IL Jug 1406, AE 1912: 1113.

We can have far more confidence in the estimates of the territorial extents of the two colonies in Moesia Superior, Scupi and Ratiaria. The conservative estimates, based on epitaphs and dedications referring to the town officials, predict territories in the range of 2000 to 2500 sq. km for both colonies. (Maps VI\_43, 44)<sup>915</sup> The uncertainties are caused by a small number of monuments referring to the elites of the two colonies that have been found in the mining regions in the South Morava and Timok Valleys.<sup>916</sup> If these are interpreted as markers of the administrative territories of the two towns, their territories will double in size. Militating against this assumption is the fact that the maximum estimates are not very likely in this case. They would not only negate the integrity of the mining districts, but also ignore the involvement of the urban aristocracy in the mining sector that was a recurrent phenomenon in our study-region. These monuments are more

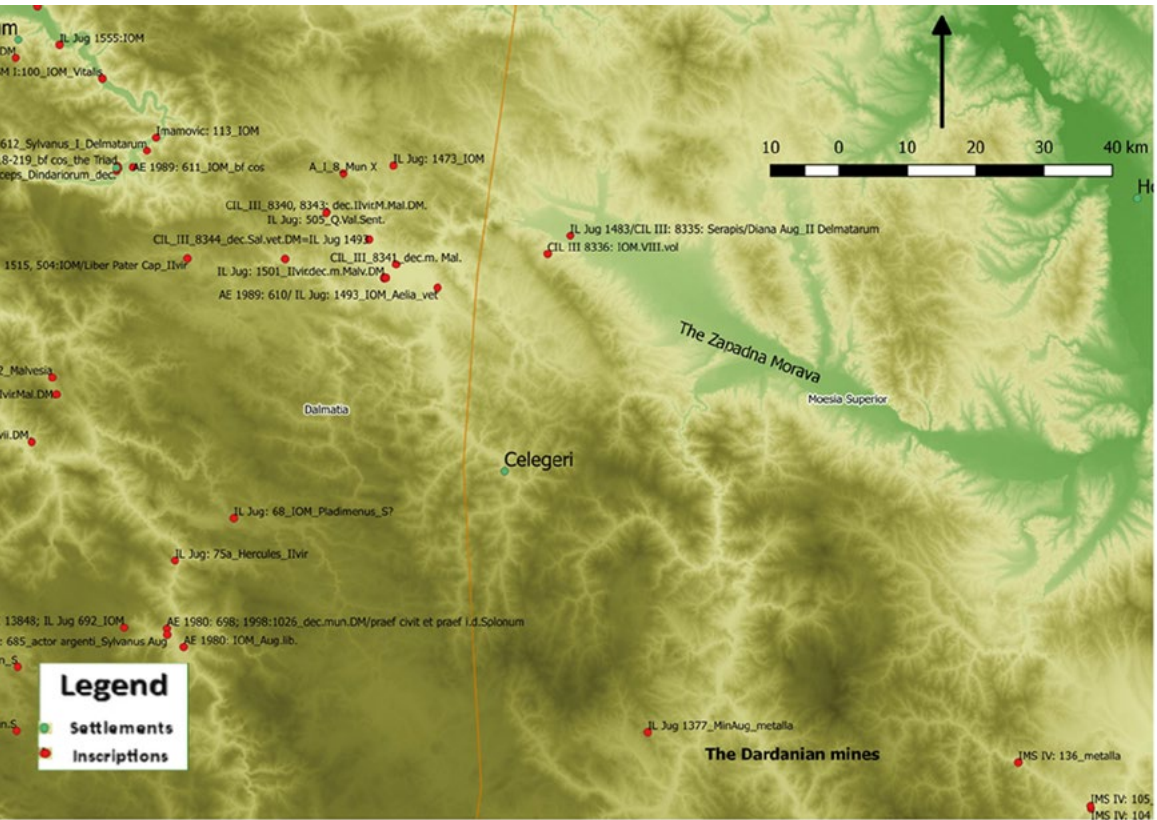
<sup>915</sup> Scupi: Mikulčić 1971, 465-485; Josifovska-Dragojević ed. 1982; Proeva 1989, 77-84; Ferjančić 2002, 70-78; Ratiaria: Velkov, Atanasova 1967, 143-156; Velkov ed. 1980, 61-83; Gerov 1997, 69-80; Ivanov ed. 2014. The similarities with the territorial extents of most of the Roman colonies in the region are striking. Cf. the size of the *agri* of the Pannonian colonies.

<sup>916</sup> Scupi: IMS VI: 27, IMS IV: 120, 121; Mócsy 1970, 75. Ratiaria: CIL III 8263, IMS III/2: 25, 78; a number of scholars include the Timok Valley in the territory of Ratiaria: Mirković 1968, 81; Velkov ed. 1980, 63; Gerov 1997, 69-70; and in later publications, Luka 2014, 50-64.

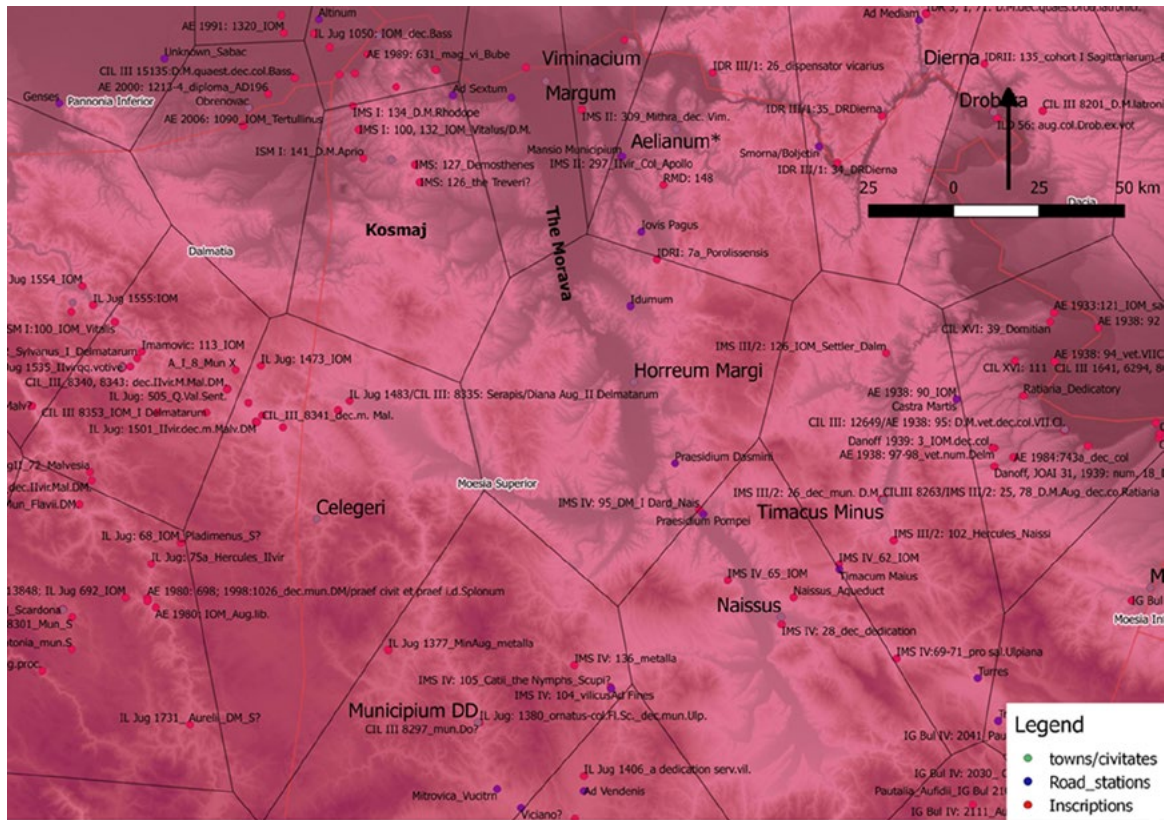




Map VI 44: The territory of Ratiaria.



Map VI 45: The territory of Municipium Celegororum.



Map VI 46: Thiessen polygons around the towns in Moesia Superior.

indicative of the economic than the administrative territories of the Moesian colonies.

Having only isolated epigraphic references at our disposal, it is impossible to reconstruct the territories of *municipia* like Horreum Margi or *Municipium Celegerorum*. (Maps VI.46 and 45)<sup>917</sup> This high degree of uncertainty is reflected in the great differences between the minimum and maximum estimates, ranging from not more than 1500 to 6000 sq. km, in the case of Horreum Margi. Admittedly, the maximum estimates are derived from Thiessen polygons, but they have parallels in the small Pannonian *municipia*. Similarly sized territories were not unusual in Moesia Superior. This is illustrated by the somewhat better documented example of Naissus.<sup>918</sup> Like Aquae and Remesiana, Naissus was a centre of a separate district in the 6th century AD.<sup>919</sup> Among the forts reconstructed by Justinian I, Procopius mentions the names of the old road-stations that the itineraries locate over 50 km to the north of the town. (Map VI.41) This distribution would already extend the territory of the *municipium* to

at least 4000 sq. km and, if the maximum estimates are accepted, it will grow to over 7000 sq. km, rivalling the territorial extent of Ulpiana.<sup>920</sup>

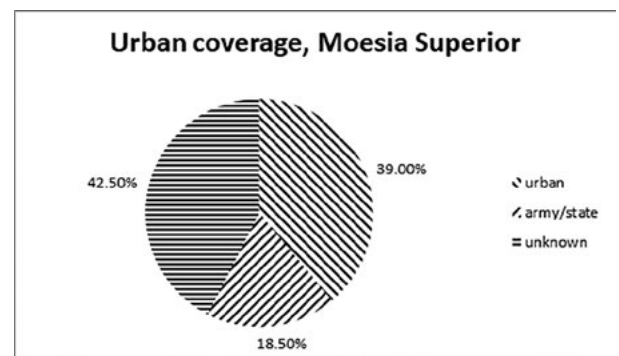


Figure VI 12: The share of the different administrative sectors in the administration of Moesia Superior.

<sup>917</sup> Horreum Margi: Petrović ed. 1979, 50–51; *Municipium Celegerorum*: Pliny HN 3.149; CIL III 14610; Mócsy 1970, 27–28, 36; Mirković, Dušanić eds 1976, 107.

<sup>918</sup> Petrović 1976, 81, 111-114; Petrović ed. 1979, 50-51.

<sup>919</sup> Proc. *De Aed.* 4.4; Petrović ed. 1979, 42.

<sup>920</sup> Most problematic is the region to the south and southwest of the town that according to some authors belonged to the Dardanian mining districts, Dušanić 2004a, 259, fn. 56. This region had become the hinterland of Justiniana Prima by the middle of the 6th century and, in view of the fact that most newly created towns appeared in the territory of the governmental districts and colonies, it is very plausible that the region belonged to the mining districts at the time of the High Empire. For the status of the Upper Timok Valley see Petrović ed. 1995, 35–36.



On account of its limited urban coverage, Moesia Superior stands clearly apart from the rest of the provinces considered so far. Admittedly Figure VI\_12 takes into account the minimum estimates. However, taking the maximum estimates, the urban coverage will increase to over 60%, while the combined territories of the mining districts and military regions will account for slightly over 20% of the provincial territory. This approach brings Moesia Superior closer to the rest of the provinces in our study-area but, even so, the extra-municipal districts will still make-up almost 40% of the territory, visibly higher than anywhere else. Furthermore, a large portion of the municipal sector belonged to the mining *municipia* or the *municipia* that emerged near garrison sites. However, it can be argued that the decision to add these towns to the governmental sector is equally justifiable. If this solution is chosen, understandably the only urban districts in Moesia Superior would have been the colonies of Scupi and Ratiaria, the mysterious *Municipium Celegerorum* and - with some reserve - the small urban territories on the Danube. Even taking the maximum estimate, they barely add up to one-fifth of the provincial territory. This organization would obviously have placed too heavy a burden on the provincial government and its tiny administration, even if it had made maximum use of the peregrine institutions and the army units stationed in the interior at its disposal. When these conditions had to be confronted, the tendency to municipalize the areas that had initially been brought under the control of the government or the military is fully comprehensible.

Turning to the relationships between sizes of territories and city sizes, Moesia Superior does not deviate from the pattern found in the rest of the provinces studied so far. The largest and most prosperous towns on the Danube controlled territories smaller than 1000 sq. km, comparable to the average *polis* in Roman Macedonia or the coastal *municipia* of Dalmatia. Three of the 11 autonomous towns in Moesia Superior were located on the 80-km-long section of the Danube *Limes* between Singidunum and Viminacium. Even though these towns had very small territories, their elites remained focused on the urban centre rather than on the countryside.<sup>921</sup> In this respect they are different to their Pannonian counterparts, Carnuntum, Brigetio and Aquincum. It is possible that the limited territorial extent of the Moesian legionary towns also kept their population size at levels lower than in the Pannonian legionary towns.

In the interior of the province 80 km would have been the average intercity distance. This fact implies that either the territories of the autonomous towns and districts were many times larger than their counterparts

on the *Limes* or that large section of the provincial territory remained outside the municipal umbrella. The evidence examined in the preceding passages stacks the cards in favour of the former scenario. As in the Pannonian provinces and the Dalmatian interior, it was not unusual for the municipal or district territories to extend over areas of 4000-5000 sq. km. Despite their exceptionally large territorial sizes, at least three of the *municipia* in the interior of the province still cannot be located with certainty and others underwent very little expansion prior to the Late Roman period. The exceptions are the two colonies in the far south of the province and possibly Ulpiana. In all likelihood, the territories of the colonies were somewhat smaller than those of the small *municipia* in the interior, but their economic privileges would have often extended into the territories of the latter. Both the lack of full autonomy and the privileged social position of the residents of the two colonies would have inhibited urban growth in the area prior to the period of the Tetrarchy.

The sparseness of the urban network in Moesia Superior was still in evidence in the period of Late Antiquity, when an increase in population density possibly further accentuated this problem.<sup>922</sup> We have already pointed out the two newly founded bishoprics in the towns of Aquae on the Danube and Remesiana in the southeast of the province that had been created by the mid-4th century AD.<sup>923</sup> In the early 6th century, two new bishoprics are recorded by Hierocles in the territory of Ratiaria, Castra Martis and Bononia and one, Merion, in the territory of Scupi or in the former mining districts.<sup>924</sup> Finally, this source also mentions one or two new bishoprics in Late Roman Moesia Margensis although, in this instance, Margum and Aelianum are not included in Hierocles' list.<sup>925</sup> The process continued under Justinian I with the founding of the new metropolis of Justiniana Prima. If we confine ourselves to the number of towns known to Hierocles and discount the old mining districts that had presumably been abandoned, we see an increase of almost 30% in the number of the administrative units in the era of the High Empire. The comparison is somewhat complicated by the fact that in the period of Late Antiquity, the western half of the province is literally a blank spot on the administrative map. No more is heard of the *municipia* of the Dardanians or the Celegeri. Most of the new towns were founded in the newly created provinces in the south and east of Moesia Superior, Dacia Ripensis and Dardania, either in the former mining districts or in the territories of the colonies. As yet, it is difficult to recognize an urban growth in this area in the 4th century AD. Therefore, the tendencies that marked this period could perhaps

<sup>921</sup> Another possibility is that the high population density in the countryside of these towns made the purchase of land difficult.

<sup>922</sup> I am referring to the retreat from Dacia and its impact on the territories to the south of the Danube, Gerov 1980, 38-39.

<sup>923</sup> Mirković 1968, 85-89, Petrović ed. 1979, 51-57.

<sup>924</sup> Hier. *Synec.* 655.3.5, 656.1; Ivanov ed. 2003, 11-22.

<sup>925</sup> Hier. *Synec.* 657.2.





be better described as focusing on and reorganizing the available potential than as urban expansion. Regardless of how we interpret these tendencies, they cannot be read as a simple reaction to the patchy urban infrastructure of the preceding era.

### Moesia Inferior

Although there are a number of ambiguities in the list of autonomous units in Moesia Inferior, they can be classed into two general categories. The first involves the districts centred on some of the auxiliary camps on the Lower Danube. In the epigraphic record they are referred to as *regiones* or *territoria* and, in some cases, they reveal evidence of the presence of local magistrates, including *decuriones* and *quinquennales*.<sup>926</sup> This sort of reference is not specific to Moesia Inferior. Names of communities derived from the name of the auxiliary forts and their adjacent *vici* have also been attested in Pannonia Inferior and in Dacia.<sup>927</sup> The precise nature of these communities has been closely bound up with the controversy about the status and extent of the military territories.<sup>928</sup> It is possible that their names simply refer to the *vici* near the auxiliary camps that developed local institutions but remained subordinate to the camp's *praefectus*. There are numerous examples of parallel developments from the interior of Moesia Inferior, especially from the area of the Late Roman province of Scythia Minor. These *vici* were either located in the territory of the nearest town or in the military districts and did not enjoy a full autonomy.<sup>929</sup>

The other possibility is that they grew into separate administrative units, in which taxes were collected by civilian administrators.<sup>930</sup> In view of the quantity and nature of the evidence, this is the less likely scenario. Nonetheless, in at least two cases in Moesia Inferior, Aegyssus and Capidava, the rare epigraphic sources are fairly explicit in delineating the territorial integrity of the unit.<sup>931</sup> Another convincing example in which the *curiales* of the territory of Sucidava are attested comes from Dacia Inferior.<sup>932</sup> We suspect that a similar process or tendency led to the formation of *municipia* from the *canabae legionis* on the Lower Danube.<sup>933</sup> It is possible

that, in the case of Aegyssus or Capidava, we are seeing *municipia* in the making. Therefore, we have included them as separate territorial units in the conservative estimates for the territorial size.

Without exception these ambiguous examples all represent small territorial units and their inclusion will result only in minor shifts in the administrative map of the province. More to the point, their civilian status remains uncertain and, like the mining *municipia*, it is difficult to place them either in the autonomous or in the state-run sector. Of far greater significance to the administrative divisions in this province are the effects of the different readings of the epigraphic sources scattered throughout the Moesian countryside. In contrast to Moesia Superior, these are both more numerous and more indicative of the territorial extents of the individual administrative entities. Unfortunately, they are usually open to more than one interpretation. A study of these sources gives rise to the familiar dilemma of whether the urban territories were limited only to the areas demarcated by the dense clusters of funerary and votive inscriptions set up by the town magistrates or whether they extended to the nearest military outposts and stations or to the provincial borders. As we shall shortly see, the differences are considerable and they impact not only on the specific territorial organization, but also heavily influence the respective shares of the autonomous and state-run sector in the administration of the province. A number of funerary inscriptions or military diplomas that reveal the place of origin of deceased or discharged veterans suggest that the urban territories were much larger than indicated by the group of inscriptions referring to the magistrates of particular towns or districts. However, it is important to bear in mind that the epigraphic record of Moesia Inferior refers to imperial estates whose exact location and extent still remain beyond our grasp.<sup>934</sup> References to *regiones* in the interior of the province add to the confusion, as it is impossible to decide if these were extra-municipal units or separate districts within the enlarged urban territories.<sup>935</sup>

Equally troublesome are the vestigial mentions of the *civitates* in Moesia Inferior, the second group of units of uncertain status. Both Ptolemy and Pliny are very vague in their descriptions of the communities of this province.<sup>936</sup> Pliny cites only two entities on the territory of the later province, the *Moesi* and *Thracēs*.<sup>937</sup>

<sup>926</sup> Kovács 2001, 42–66. See *infra* for further references to specific case studies.

<sup>927</sup> Mócsy 1980, 365–376; Glodariu 1977, 950–988; Nemeti 2014. These are easily confused with the *civitates* with an eponymous auxiliary fort; for example, Protase 1980b.

<sup>928</sup> Vittinghoff 1971, 299–318; Mócsy 1972, 134–138; Bérard 1992, 75–105; the latter study reviews the different opinions and collects the entire epigraphic corpus related to this issue.

<sup>929</sup> Suceveanu, Barnea 1991; Avram 2007, 91–109.

<sup>930</sup> Bérard 1992, 91–92; Kovács 2001, 49–50.

<sup>931</sup> Capidava: IScM V: 77; Doruțu-Boilă ed. 1980; Suceveanu, Barnea 1991, 51; Suceveanu, Barnea 1993, 159–179; Aegyssus: AÉ 2004 1281, is an explicit testimony to a *decurio* of the territory.

<sup>932</sup> IDR II 190.

<sup>933</sup> The point is disputed by scholars who maintain that the *municipia* could have developed only outside the area marked by the *leugma* radius; cf. the case of Durostorum, Ivanov 2003d, 75–86; Donevski

2009, 105–130; for the *leugma* radius rule see Piso 1991, 131–169.

<sup>934</sup> IL Bulg 16, CIL III 13722; Gerov 1997, 87–88; Velkov ed. 1980, 1–16; Dinčev 1997; Tačeva ed. 2004, 115–136.

<sup>935</sup> Examples of individual *regiones* are given below and in the section on Thrace; Gerov 1980, 273–283; Avram 2007, 99–100.

<sup>936</sup> Pliny HN 3.149; Ptol. Geog. 3.10; Jones 1937, 491–501; Gerov 1998, 411–418.

<sup>937</sup> Moesi: Papazoglou 1969; Tačeva 2005, 185–194; Thracēs: Jones 1937, 1–27; Velkov ed. 1979; Tačeva 1987; Valeva, Nankov, Graninger eds 2015.



These are ancient ethnonyms that are not easy to associate with a particular region and, moreover, they remain poorly attested in the written sources from the period of the High Empire. Some scholars have attempted to reassert the validity of Pliny's account by associating the names of these peoples with a series of boundary inscriptions found between the legionary camp of Novae and Nicopolis ad Istrum, as well as with the *Thracēs* mentioned on the boundary inscription found in the hinterland of Odessos on the Black Sea.<sup>938</sup> This study adopts the conventional view and treats these documents as the provincial boundary-markers between Moesia and Thrace and between Thrace and the territory of the Greek *poleis* that were situated in Thrace but enjoyed a certain degree of autonomy that exempted them from the authority of the Thracian governor.<sup>939</sup>

The names of the peoples listed by Ptolemy are unknown from the other written sources - the Krobyzi or the Troglodytoi - or refer to the newly founded communities based near the auxiliary camps and stations on the Danube - the Dimenses, Appiarienses and Utenses.<sup>940</sup> Ptolemy's laconic description is not a great help in deciding whether these names refer solely to the communities that emerged near the military outposts and stations or if they indicate separate territorial units based on the auxiliary camps.

This obscurity in the ethnography of Moesia could reflect either that both Pliny and Ptolemy were poorly informed about the lands on the Lower Danube or that the individual tribal entities were not as strong as their counterparts in the western half of the peninsula.<sup>941</sup> Given the background, it can be surmised that the domination of the proto-state formations of the Thracians and Getae in the pre-Roman period could have contributed to the weakening of the earlier tribal formations in this part of the Balkan Peninsula.<sup>942</sup> Nor should the evidence for low population density in the area, suggested by the frequent references to communities being introduced from Thrace or from the land to the north of the Danube, be overlooked.<sup>943</sup> There is no way of knowing if these peoples were constituted as autonomous *civitates* or assigned to existing administrative centres in their new homeland. To judge by the majority of the epigraphic sources from the Dobroudja Plateau in the eastern half of the province, most of them were small communities settled in *vici* in the territories of the Greek colonies or in the zones

under military control.<sup>944</sup> However, this same area has produced the only direct testimony to *civitates* in Moesia Inferior, reaffirming the possibility that at least some of these peoples were constituted into distinct territorial units. This is the late-second-century boundary-stone between the *Ausdecenses* and the *Daci*, found near Tropaeum Trajani.<sup>945</sup> Apart from indicating the possible presence of *civitates peregrinae* in Moesia Inferior, this unique document is of little help in reconstructing the administrative divisions of the province. For the purposes of the Thiessen polygon analysis, it can only be speculated that they were located in the empty zone to the south of Tropaeum. The best that can be done at the moment is to see them as negative indicators of the extension of the territory of Tropaeum Trajani. For the time being, these two and an unknown number of other *civitates* seem doomed to remain in the 'grey zone' on the administrative map of Moesia Inferior.

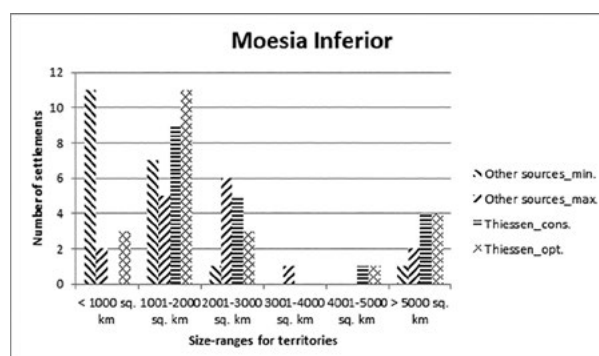


Figure VI 13: Distribution of the territorial units in Moesia Inferior by size-ranges.

The east-west divide within the province is immediately apparent in the bar-chart that shows the distribution of the administrative territories by size ranges. (Figure VI\_13) On the left are the *poleis* and districts in the eastern part of the province that composed up to two-thirds of all administrative units, regardless of the method applied. On the right are the autonomous towns and military districts in the western half of Moesia Inferior, representing no more than one-third of all administrative entities. Taking the maximum projections, the average territorial unit in the east measures around 1500 sq. km, whereas in the west, it increases to nearly 3500 sq. km. Similar differences have been observed in other provinces in our study area and they are chiefly related to the variations in urban density. Moesia Inferior is not an exception in this respect. Along certain sections of the Black Sea coast, the distances between neighbouring towns do not exceed 30 km. In the inland parts of the later province

<sup>938</sup> Kolendo, Božilova eds 1997; Tomas 2007, 31-47; Tomas 2017.

<sup>939</sup> Gerov 1998, 437-467; Gerasimova-Tomova 1987, 17-21; Tačeva ed. 2004, 58-78.

<sup>940</sup> Ptol. *Geog.* 3.10.4; Gerov 1997, 20-21; Ivanov 1992, 26-31.

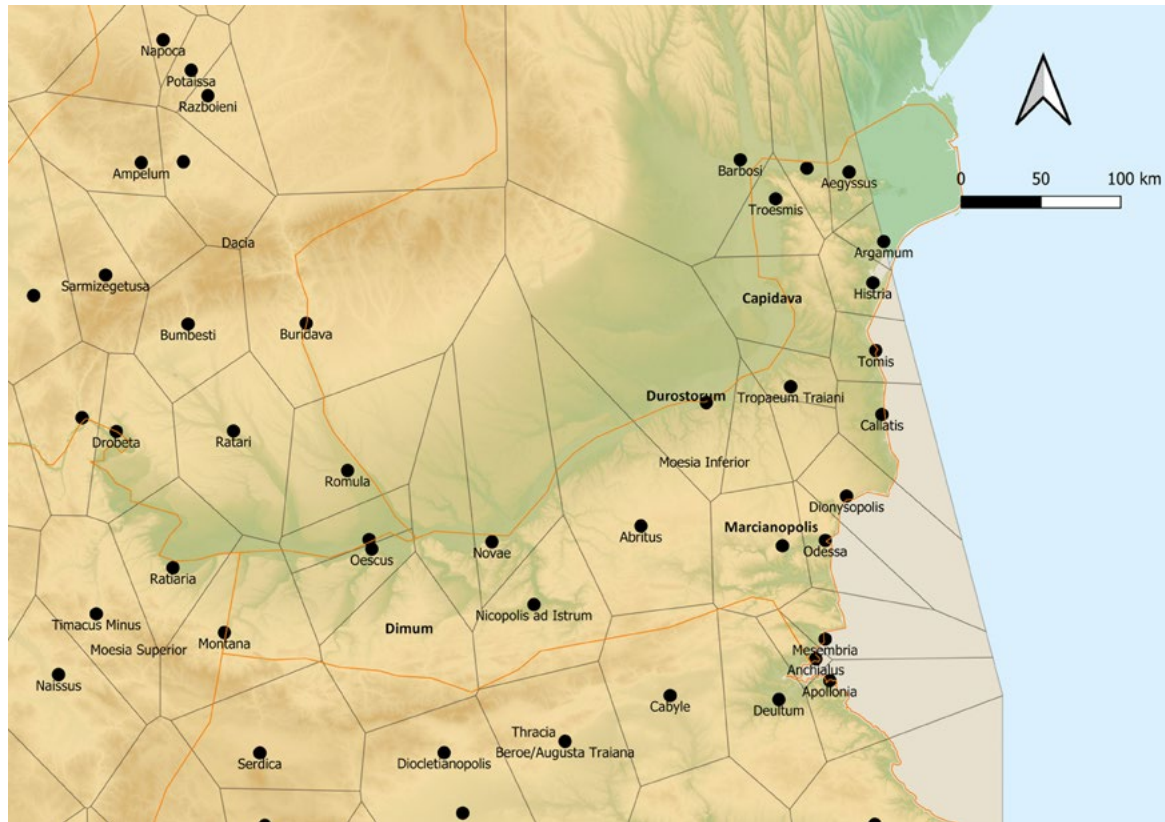
<sup>941</sup> Jones 1937, 497-501; Sarnowski 2007, 15-23.

<sup>942</sup> Jordanov 1974, 208-217; Bodor 1981, 7-22.

<sup>943</sup> Gerov 1997, 50-52; Tačeva ed. 2004, 124-125; and from an archaeological perspective, Poulter ed. 1995; Tomas 2007, 38.

<sup>944</sup> Doruțiu-Boilă 1980b, 281-287; Suceveanu, Barnea 1991, 45-46; Avram 2007, 99-101.

<sup>945</sup> AE 1957: 333; Popescu 1979, 273-292; Suceveanu, Barnea 1991, 54-55.



Map VI 47: Thiessen polygons around the towns in Moesia Inferior.

of Scythia Minor, they increase to an average of 40-50 km, rising to 80 km in the western half of Moesia Inferior. (Map VI\_47)

No other obvious characteristics can be observed in the territorial size categories. The group of units with territories smaller than 1000 sq. km includes one or two of the Pontic colonies and the hypothetical special districts that can be assumed to have developed around some of the military camps on the Danube. In most of these cases – Capidava, Noviodunum, Aegysus and the unnamed district centred on modern Barboși - the territorial reconstructions are based on intercity distances and on proximity to the Danube frontier.<sup>946</sup> However, the estimate for Odessos has been derived from the distribution of the boundary inscriptions and dedications made by a member of the staff of the provincial governor. (Maps VI\_48)<sup>947</sup> The territories of these units range from as little as 200 sq. km for Barboși, to almost 1000 sq. km in the case of Noviodunum. Tomis, possibly the largest town in the Moesian section of the Pontic coast and the provincial

capital, had a slightly larger territory extending to about 1200 sq. km.<sup>948</sup> This information is derived from a handful of inscriptions, almost exclusively limited to the 20-km radius from the town. (Map VI\_49)<sup>949</sup>

The rest of the towns in the eastern half of the province have territories in the range of 1000 to 2000 sq. km. The group is extremely heterogenous, including the remaining colonies on the Black Sea coast, the Scythian *municipia* of Troesmis and Tropaeum Traiani, Marcianopolis, a town founded on Hellenistic principles in southern Dobroudja, and the two *civitates* of the Daci and Ausdecenses. (Maps VI\_50-53)<sup>950</sup> For most of these units, the estimates based on the Thiessen polygons and the spread of the epigraphic finds agree. However, there is a reservation. This statement is true only if we accept the minimum estimates, that is, the semi-autonomous status of the regions based around the

<sup>946</sup> Capidava: IScM V: 6, 77, Doruțu-Boilă ed. 1980, 30-32; cf. Suceveanu, Barnea 1991, 77-79, 99-100; Avram 2007, 96-99; Noviodunum: AE 1990: 867; Barnea 1988, 51-60; Baumann 2008, 189-206; Aegysus: AE 2004: 1281; Suceveanu, Barnea 1991, 191-192; Petculescu 2006, 31-41; Barboși: IScM V: 296; mentions a *quinquennalis* of an anonymous entity in this area. Suceveanu, Barnea 1991, 79-80.

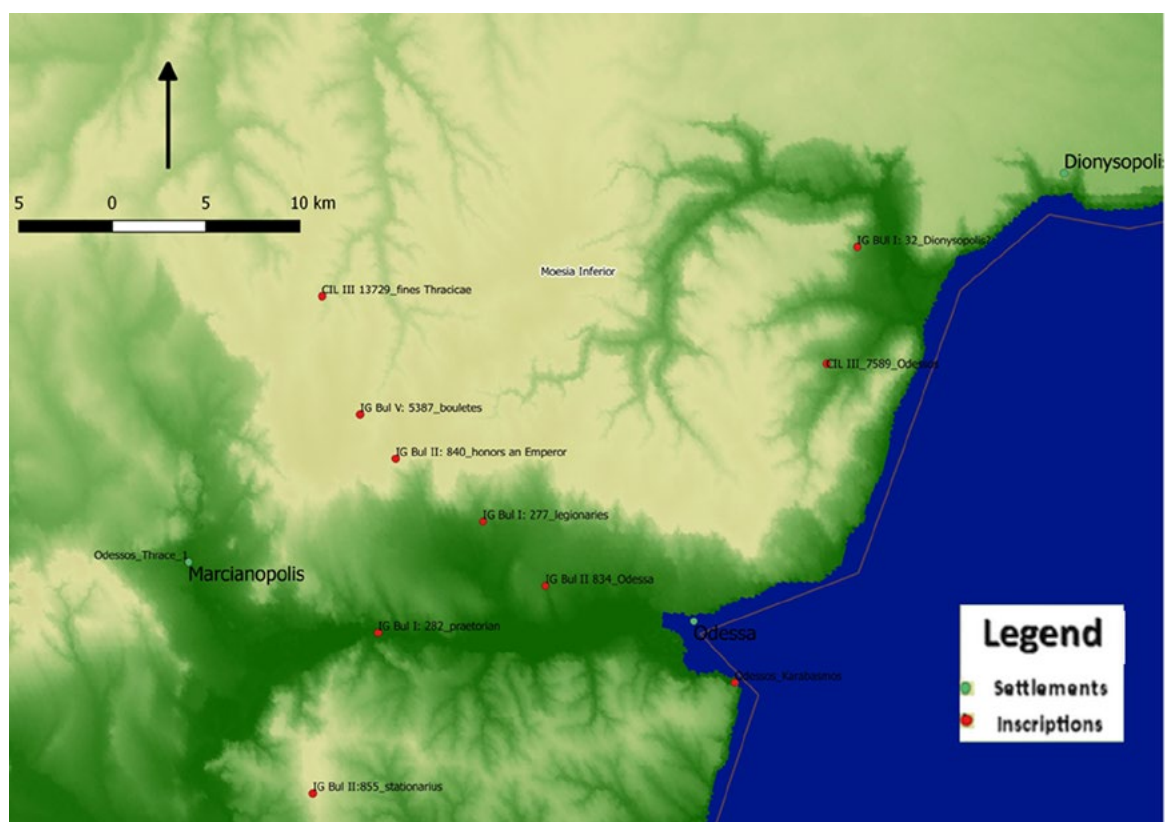
<sup>947</sup> Gerov 1980, 289-312.

<sup>948</sup> Inscriptions commissioned by the provincial governor: IScM II 41, 43-45, 56-57; Gerov 1997, 38-39; Suceveanu, Barnea 1991, 27.

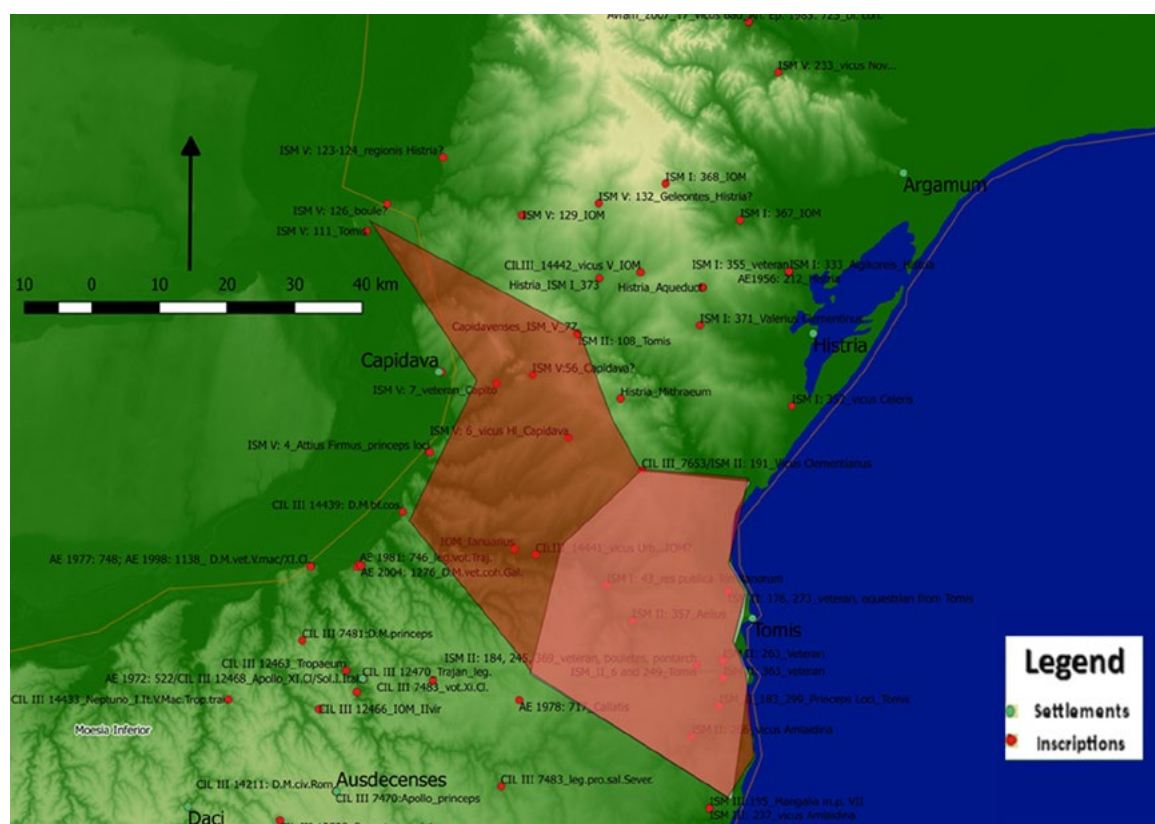
<sup>949</sup> IScM II 43, 249, 299.

<sup>950</sup> Callatis: IScM III 241, AE 1978: 717; Doruțu-Boilă 1971, 325-333; Avram 1991, 103-137; Avram ed. 1999; Dionysopolis: IG Bul 16, 32; Mihailov ed. 1970; ISM III 241; CIL III 7589. Dionysopolis' borders are also partly documented in a *chorothesia* – IG Bul 5011 – but from the time of the Thracian client kings; Avram 1991, 105-108; Slavova 1998, 57-62; Tačeva 2001, 77-84; Histria: IScM I 329, 333, 373; Avram 2006, 66-67; Tropaeum Traiani: CIL III 12466; AE 1964: 243 and possibly CIL III 12463; indirectly CIL III 14211; Marcianopolis: AE 2000 1268, Gerov 1980, 289-312; possibly RMD 140; Troesmis: IScM V 219, 239; Doruțu-Boilă 1972, 133-144.





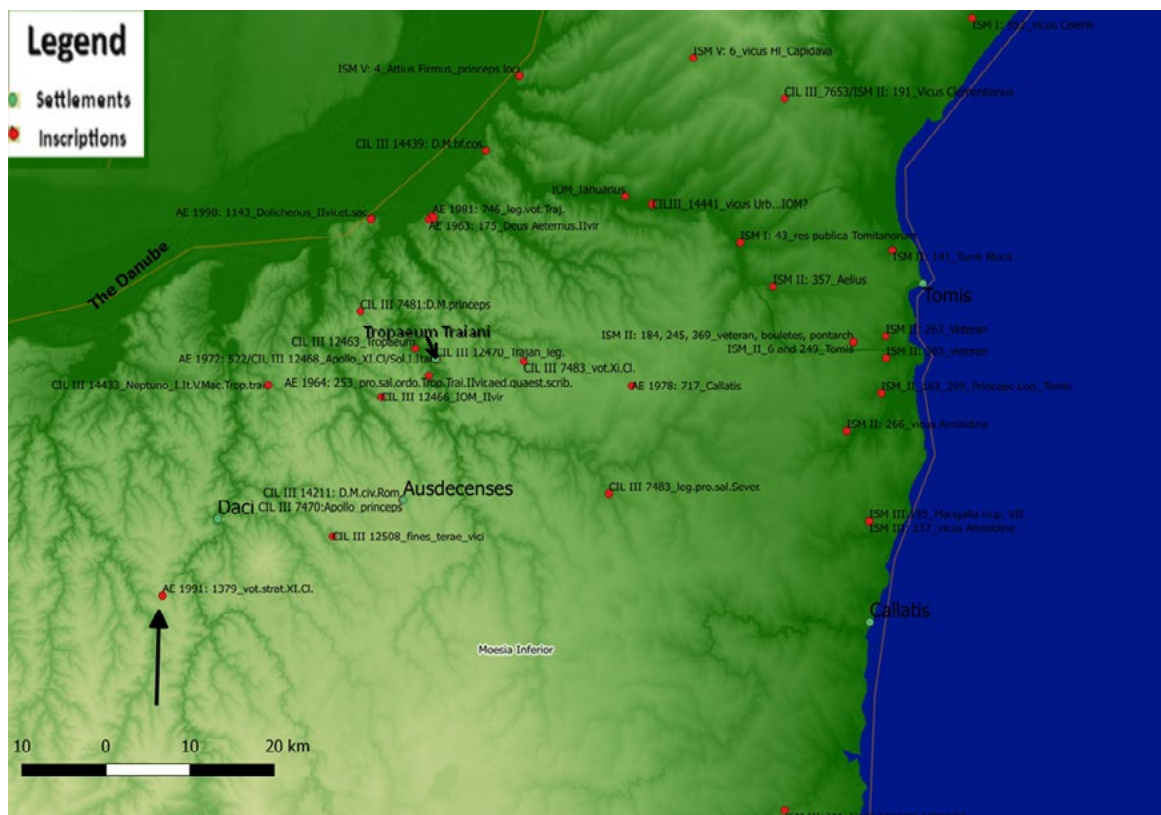
Map VI 48: The territory of Odessa.



Map VI 49: The territories of Tomis, Capidava and Histria.



Map VI 50: The territories of Troesmis, Noviodunum and the military districts on the Lower Danube.

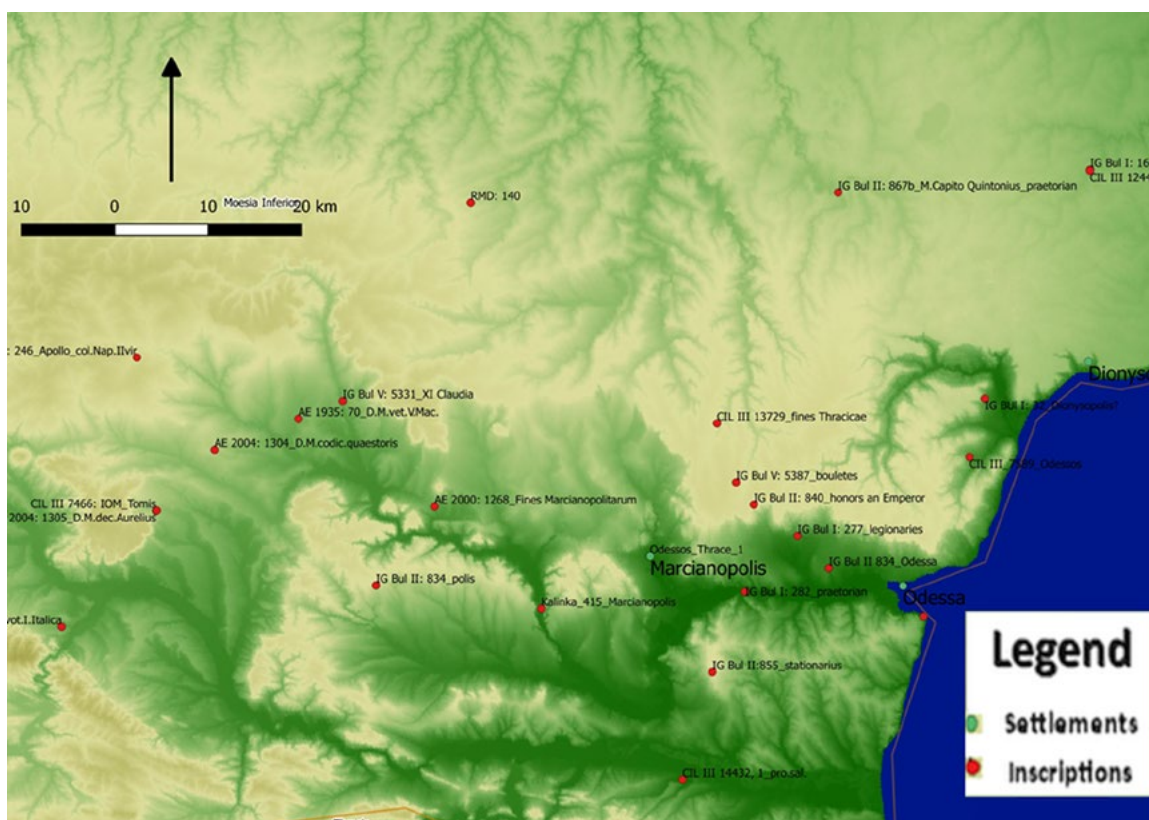


Map VI 51: The territories of Callatis, Tropaeum Traiani, the Daci and Ausdecenses.





Map VI 52: The territory of Dionysopolis.



Map VI 53: The territory of Marcianopolis.



auxiliary camps on the Danube. However, here there is a hitch. A small number of inscriptions discovered in some of the auxiliary camps on the Danube shed some doubt on the validity of this reconstruction. These are dedications commissioned by town officials of Histria, Troesmis and Tropaeum Trajani and honorific decrees voted by the *boule* and *demos* of an unnamed *polis*.<sup>951</sup> Their appearance on the Lower Danube has given rise to the opinion that the area behind the Danube *Limes* was governed from the autonomous towns in the Scythian interior and on the Black Sea coast.<sup>952</sup> Pertinently, this interpretation is corroborated by the conventional reading of the document known as the *chorothesia* of Histria, issued for the last time in the late 2nd century AD.<sup>953</sup> If the territories adjacent to the Danube *Limes* were constituted as separate *regiones* under the jurisdiction of the colonies on the western Pontic coast, the urban territories would have extended over more than 2000 sq. km. This possibility is acknowledged in the maximum estimates although, in the case of Histria,

Some scholars have suggested that these monuments were brought to the Danube *Limes* from the interior of the province during the rebuilding of the defences in the Late Roman period.<sup>955</sup> This explanation seems wide of the mark. These inscriptions indicate either that the regions along the Danube frontier fell under the jurisdiction of the urban authorities or, conversely, they point to the economic orientation of the urban elite and are not indicative of the administrative outreach of the towns. The involvement of the urban aristocracy on the Danube *Limes* is nothing unusual in our study-region. The same pattern can be observed from the Pannonian section of the *Limes* to the Danube Delta. It cannot be taken as a proof that the boundaries of the urban territories coincided with the Danube *Limes*, but neither can it simply be discarded on the pretext that the finds were removed from their original find-spots.

The administrative units that constituted the western continental half of Moesia Inferior were on a slightly different scale. The only possible exception in this area

<sup>955</sup> Doruțiu-Boilă ed. 1980, 140-152.



Map VI 55: The territories of Nicopolis ad Istrum and Novae.

is the poorly documented example of Dimum.<sup>956</sup> There is some evidence to suggest that Dimum was the centre of a special fiscal district along the former border between the Illyrian and Thracian customs zone.<sup>957</sup> A small number of votive inscriptions set up by the members of the station's staff indicate that the jurisdiction of these officials extended over an area of 1000 to 1500 sq. km. (Map VI\_54)<sup>958</sup> The other autonomous districts in the western part of the province were considerably larger, but only according to the maximum estimates. As in the eastern half of the province and in the other provinces included in our study-area, there is a considerable discrepancy between the territorial sizes indicated by the dense clusters of funerary and votive inscriptions from the areas enclosed by the 15-20 km radius from the central place and a small number of outliers from more distant locations. We are fairly confident that the variable densities in the epigraphic documents primarily reflect the pattern of land ownership practised by the urban elite. In a nutshell, the high-density areas mark out the zones in which a

large proportion of the land was owned by the urban aristocracy, while the peripheral belts of low density point either to areas brought under the jurisdiction of the town or simply indicate that the economic interest of the elite extended beyond the boundaries of the urban territory. Accepting the distribution of the former group of monuments, the urban territories were not much larger than those in the eastern half of the province. The territories of both Nicopolis ad Istrum and Oescus were limited to areas not larger than 2000 sq. km in the fertile valleys of the Rosica and the Vit. (Maps VI\_55 and 56)<sup>959</sup> However, the distribution of the outlying inscriptions referring directly to these towns or their magistrates increases the extent of their territories for up to 75%, taking them in the range of 3000 to 3500 sq. km.<sup>960</sup> Both interpretations are possible although, in view of the evidence from neighbouring Thrace, we are inclined to accept the maximum estimates.

<sup>956</sup> Ptol. *Geog.* 3.10.5; IL Bul 237 and in the Histrian *chorothesia*, IScM I 67, 68; for the archaeological remains see Mitova-Džonova 2003, 47-48.

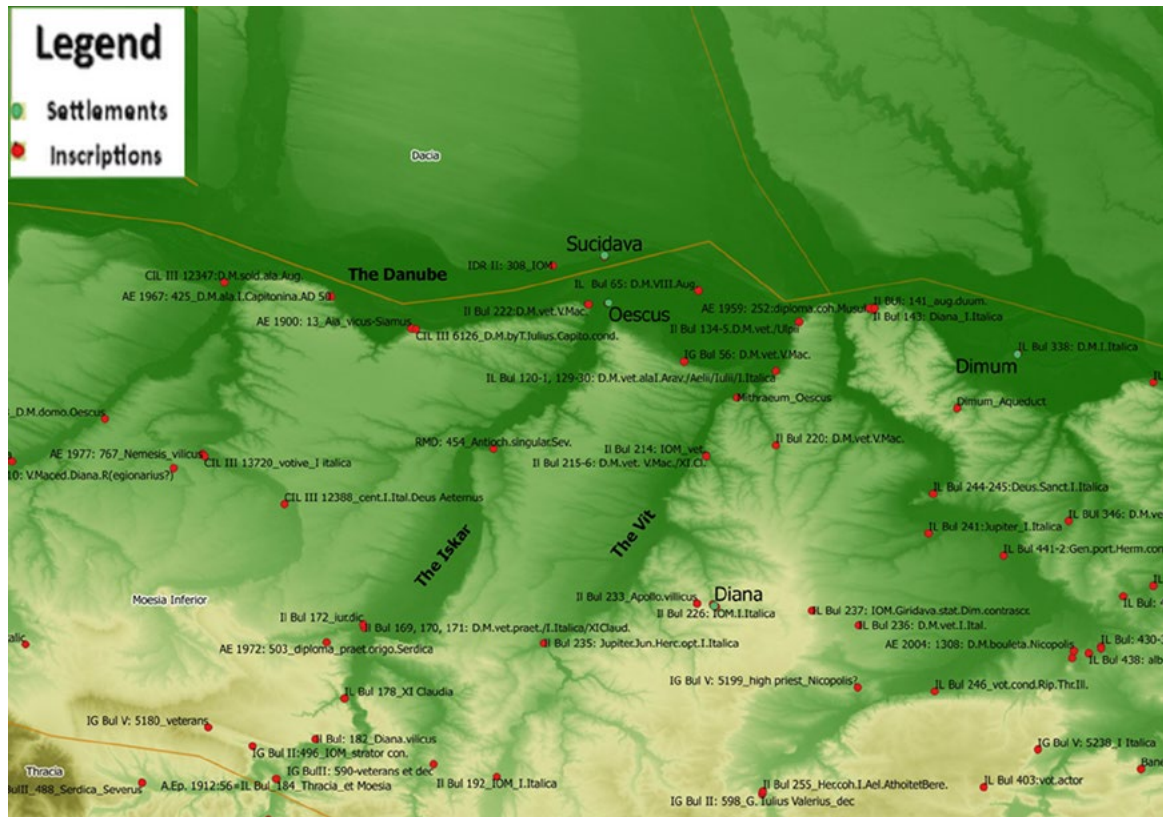
<sup>957</sup> CIL VI 32549; Mitova-Džonova 2003, 41; points out a reference to a region with this name in the histories of Theophylact Simocatta.

<sup>958</sup> IL Bul 237, 336, 441-442.

<sup>959</sup> Nicopolis ad Istrum: IL Bul 378, 382, 391, 405; IG Bul 701, Gerov 1997 108-109; the territory of this town has been primarily discussed in the light of the series of border-stones erected by the provincial governor Anteius Rufus, see fn. 938-939; Poulter 2003, 203-213; Tačeva ed. 2004, 58-78, Ruscu 2007, Figure 2; Oescus: IG Bul 56; IL Bul 214-216, 220; Gerov 1997, 90-91; Ferjanić 2002, 84-90.

<sup>960</sup> Nicopolis ad Istrum: IL Bul 405-406, IG Bul 764, IG Bul V 5199; AE 2004 1308; Oescus: IL Bul 172; Gerov 1997, 84.





Map VI 56: The territories of Oescus and *regio Dianensium*.

There is much less evidence of the territorial extents of the *municipia* that developed from the *canabae* of the legionary camps of Novae and Durostorum. Of the two, Novae is a much better documented case-study, on account of the cluster of veteran inscriptions discovered in the hinterland of this town.<sup>961</sup> They are spread out over an area of about 1800 sq. km. The maximum territorial extent would not have been much greater given their relative proximity to the neighbouring auxiliary forts. There are no adequate sources from the rural districts near the second legionary camp of Durostorum, but the intercity distances limit the territory of this town to no more than 2000-2500 sq. km. (Map VI\_57)<sup>962</sup>

Even when the high estimates are accepted only one-half of the territory of Moesia Inferior would have fallen under the jurisdiction of self-governing units (Figure VI 14). It is very unlikely that we have underestimated the percentage of urban coverage in Moesia Inferior. In a number of individual cases the maximum extents

<sup>961</sup> IL Bul 346, 351, 354; Gerov 1980, 113-118. The funerary monuments of veterans of this legion are scattered throughout the province, but this dispersion is related to the fact that the detachments of *Legio I Italica* were garrisoned at a number of forts along the Danube and in the interior of the province.

<sup>962</sup> Some scholars have pointed to the boundary inscription discovered some 12-13 km to the southwest of the camp, but this document probably concerns a territorial dispute between private parties, AE 1969-70: 567; Velkov ed. 1980, 111-116.

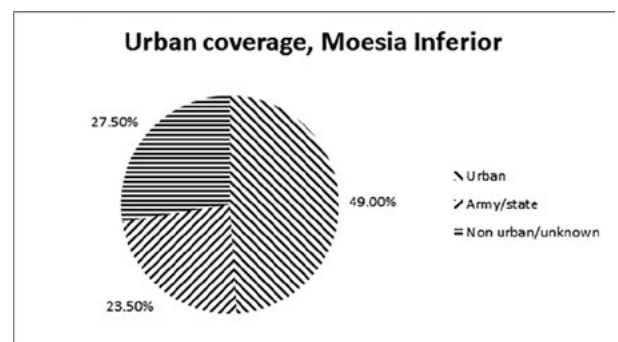
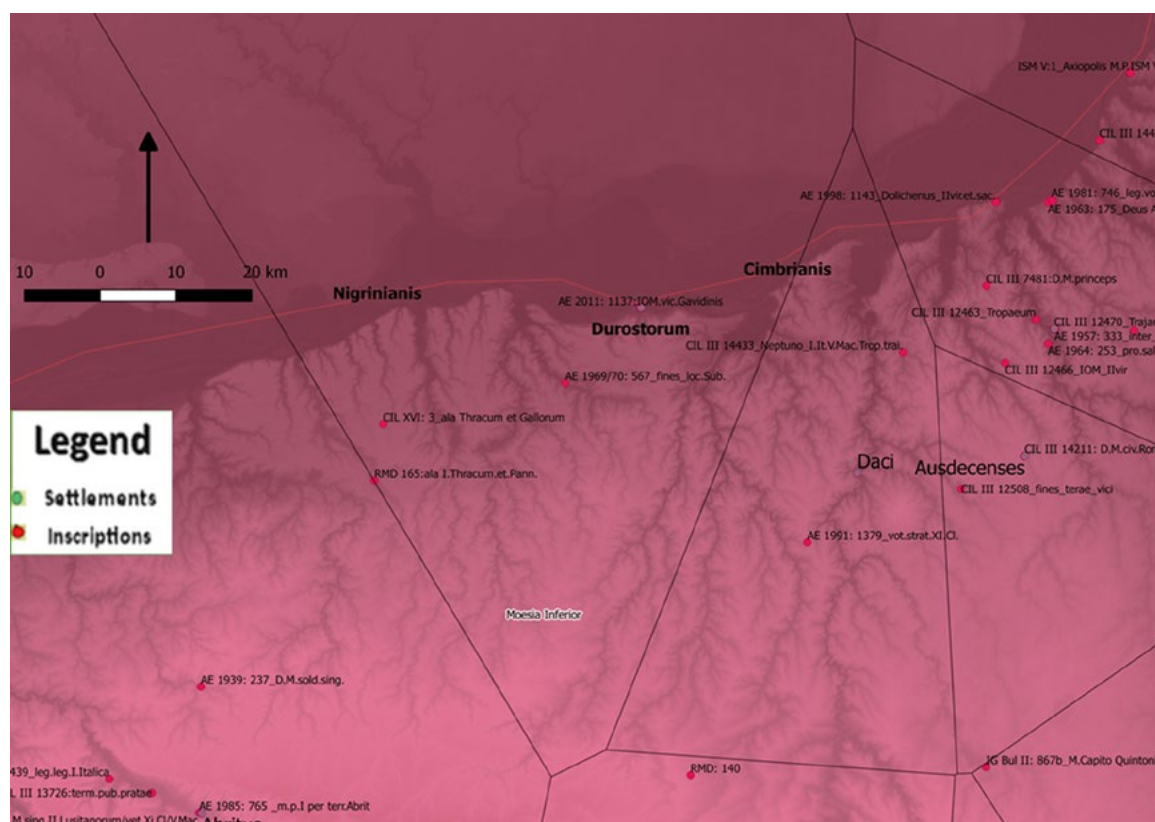


Figure VI 14: The share of the different administrative sectors in the government of Moesia Inferior.

were simply drawn along the known provincial or state-frontiers or they happened partially to coincide with the Thiessen polygons. As elsewhere, the bulk of the epigraphic evidence comes from the immediate hinterlands of the towns, leaving aside wide swathes of land whose place in the administrative arrangements is still impossible to determine. If we follow stricter criteria in delineating the individual administrative districts, the share of the self-governing units will drop to only one-third of the provincial territory. Some of the maximum estimates will have to be reviewed





Map VI 57: The territory of Durostorum.

in the light of future research. It is conceivable that future evidence will point to the presence of more *civitates peregrinae* similar to those of the Daci and the Ausdecenses. If these communities were fully exempted from military supervision, they will increase the share of the autonomous sector, but the share of the urban-centred units is unlikely to change.

From this point of view, Moesia Inferior is much closer to its Moesian neighbour than the rest of the provinces studied so far. Superficially this similarity sits uneasily with the other aspects of the administrative maps of the two provinces. Whereas Moesia Superior included at least four separate mining districts, only one has been identified in Moesia Inferior. Moreover, Moesia Inferior boasted at least 15 autonomous towns, as opposed to the 11 towns - including the *municipia* that are attested only epigraphically - of the slightly larger Moesia Superior. Whence the similarity between the profiles of these two provinces?

Although fewer in numbers, the pieces of epigraphic evidence suggest that the state-run districts of Moesia Inferior were much larger than those in the neighbouring province. This is especially evident for Montana, the only known mining district in Moesia Inferior. Epigraphic references to this district and its officials appear as far as the Danube to the north and

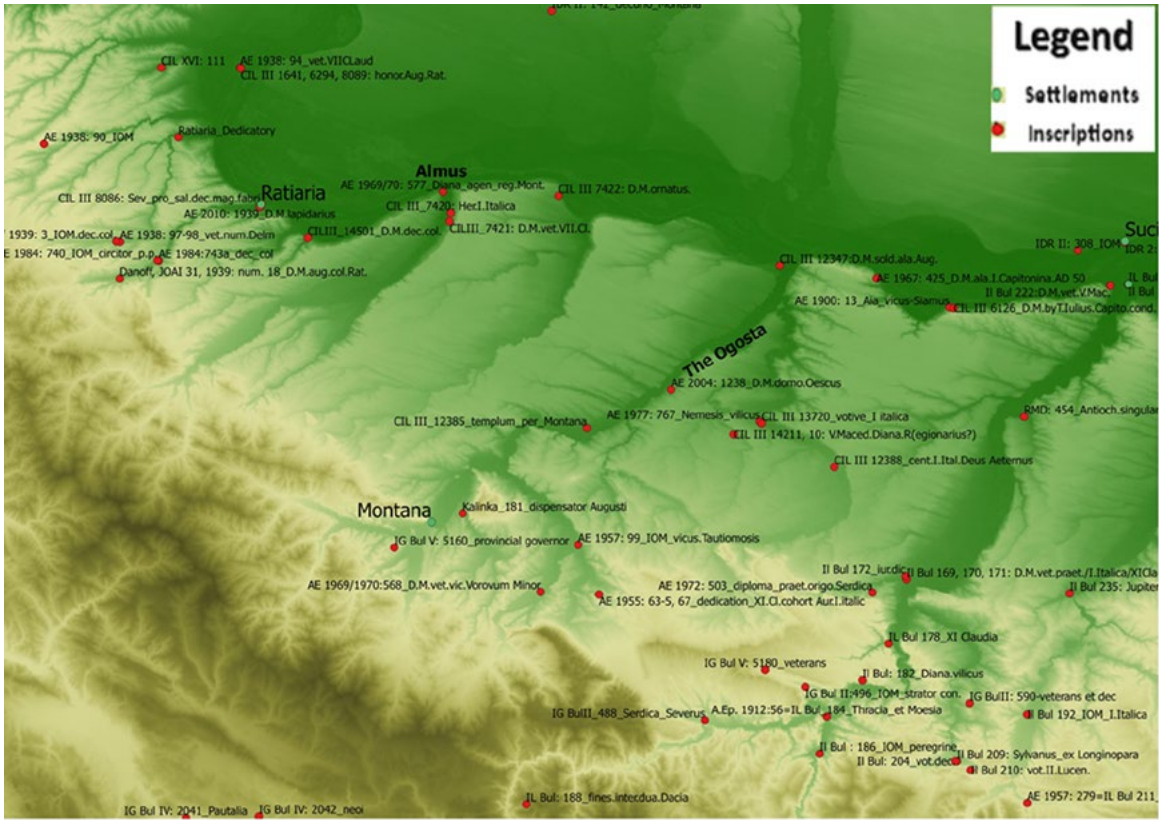
the Lom to the west. (Map VI\_58)<sup>963</sup> When these are considered in conjunction with the traces of ancient gold-washing activities and the ancient toponomy, they extend its territory to at least 3500 sq. km.<sup>964</sup> Abritus, the other military outpost in the interior of the province, was the centre of a large region that cannot be attributed to any of the neighbouring self-governing towns. (Map VI\_59) So far, there is no positive evidence of the presence of a separate fiscal district in this area, but the occurrence of rare inscriptions commissioned by the officials from distant towns, like Tomis or Napoca in Dacia Porolissensis, was a typical feature of the extra-municipal districts in the rest of our study-area.<sup>965</sup> Furthermore, Abritus was probably a centre of one of the Thracian *strategeiai* and, judging by the relatively large number of inscriptions erected by people with Thracian names, it remained a strong peregrine enclave throughout the period of the High Empire.<sup>966</sup> In this

<sup>963</sup> The status of Montana: AE 1927 95; CIL III 12376; Rankov 1983, 40-73; Tačeva 1996, 177-182; the territory of the district: CIL III 12385; AE 1969/70 577.

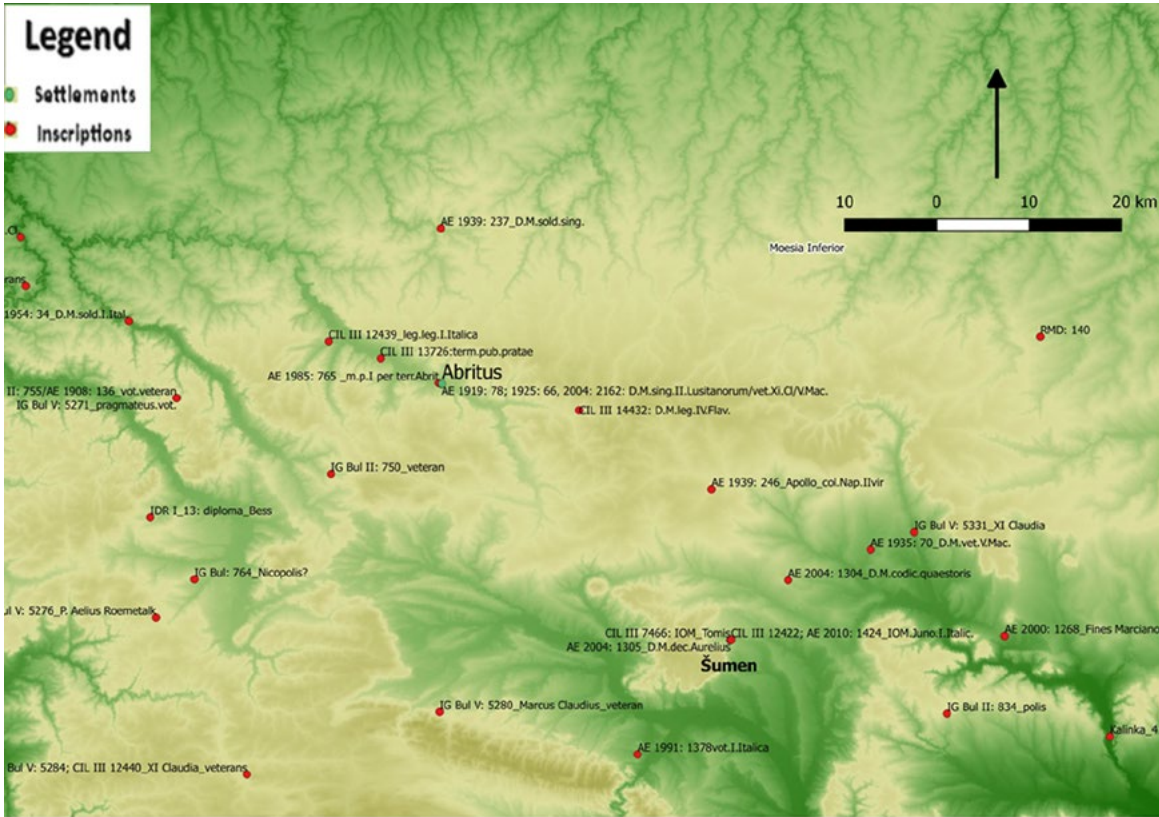
<sup>964</sup> Aleksandrov 1994, 50-51. This is a reference to the name of the auriferous River Augusta.

<sup>965</sup> AE 1939 246; CIL III 7446; these finds were discovered in the region of modern Šumen, to the southwest of Abritus. This area did not necessarily belong to the same district as Abritus, but it is likely that both micro-regions remained outside the municipal territories, Aladžova 2003, 149-159.

<sup>966</sup> IG Bul 743; Mihailov ed. 1958, 153-155.



Map VI 58: The territory of the mining district of Montana.



Map VI 59: The military district and the putative imperial estates near Abritus.



respect it resembles the large territories on the border between Pannonia Superior and Dalmatia, attributed to some of the largest tribes in this area. Common to these micro-regions is the presence of permanent army camps and the absence of urban centres.

The territory surrounding the auxiliary camp of Abritus and the neighbouring Šumen Plateau occupies between 6000 and 8000 sq. km and in conjunction with the district of Montana, these regions make up almost one-quarter of the provincial territory. This is almost certainly an underestimate as it does not take into account the increased presence of the military in the area between the territory of Oescus and the border with Thrace. The epigraphic record from this peripheral region also hints at the presence of yet another *regio* probably called *Dianensium*. (Map VI\_56)<sup>967</sup> If this was another state-governed district rather than an urban region, the share of the extra-municipal sector will rise to almost one-third of the provincial territory.

Despite these considerations, at present a large portion of Moesia Inferior can be attributed neither to the governmental nor to the autonomous sector. In fact, it is impossible to attribute the large empty area in the southern Dobroudja between the legionary camp Durostorum and Marcianopolis, as well as the mountainous country along the new provincial border between Moesia and Thrace to any of the known administrative entities. If these areas did fall under the jurisdiction of the civilian sector, they were either constituted as separate regions on the periphery of the nearest towns or governed by hitherto unknown *civitates*. Whatever their formal status, they remained under-urbanized throughout the period of the High Empire. The chief reason for the relatively large extent of this 'grey zone' in Moesia Inferior is that the epigraphic sources limit the administrative outreach of the autonomous urban centres to no more than 2000 sq. km on the Dobroudja Plateau and to 3500 sq. km in the western half of the province. There are no securely attested examples of very large urban territories as in Moesia Superior or in the Panonian provinces. From this point of view, the estimated coverage of self-governing centres in Moesia Inferior conveys a more accurate image of the degree of urbanization in this province than in some other provinces of our study area, in which the high degree of urban coverage is only possible by attributing very large territories to small and insignificant *municipia*.

In the following period, the discrepancy between the highly urbanized east of the province and the

predominantly rural west was accentuated even further. Most of the new bishoprics appeared in Scythia Minor, the area that already displayed high urban density.<sup>968</sup> These sees were founded on the sites of auxiliary forts that were either attributed to the territories of the western Pontic colonies or had already been established as centres of separate districts. Pertinently, three of the new bishoprics appeared precisely in the non-urban sector between Abritus and Appiaria and in the hinterland of Durostorum.<sup>969</sup> The most plausible explanation for these choices would be that the underprivileged status of these communities thwarted the processes of urbanization during the period of the High Empire.

### Thrace

The number of autonomous urban centres in the part of Thrace that belongs to our study-area has been more or less ascertained. After the border between Thrace and Moesia Inferior was pushed southwards to the ridge of Mount Haemus under Septimius Severus, eight autonomous towns remained in the Thracian portion of the study area; ten if we include Hadrianopolis and Byzantium that are in modern Turkey but for whose territories we have also managed to collect relevant data. Some of the old pre-Roman centres, like the Greek colony of Apollonia or Cabyle in the Thracian interior, although showing traces of continuous occupation after the conquest, might have lost their autonomous status.<sup>970</sup> Their demotion was not necessarily related to the incorporation of the area into the Roman Empire under Claudius. For example, Apollonia's autonomy had already been reduced by the Thracian dynasts, when the town is known to have been a part of a *strategia*.<sup>971</sup> However, an official dedication to the imperial family from the Severan period made by the *boule* and *demos* suggests that Apollonia regained its earlier status by the early 3rd century.<sup>972</sup> Moreover, the numismatic evidence shows that the town briefly minted coins in the period between the reigns of Pius and Severus.<sup>973</sup> Apollonia is therefore included in the list of the minimum territorial estimates.

What happened at Cabyle is clearer, as there are no mentions of its institutions among the small number of inscriptions that can be dated to the period of the High

<sup>967</sup> IL Bul 223; the large number of votive offerings made by soldiers and officers of *Legio I Italica* on active service - IL Bul 192, 235, 256 - alongside the fairly high concentration of *villici* - IL Bul 182, 233 - also point to the special status of this region, Gerov 1997, 84, 88.

<sup>968</sup> Suceveanu, Barnea 1991, 154-207; Suceveanu, Barnea 1993, 173-179.

<sup>969</sup> For the list of bishoprics in the territory of present-day Bulgaria I follow Beševliev 1966, 207-223; an increase in the number of urban settlements in the area is also argued by Dinčev 1998, 16-23.

<sup>970</sup> This is indicated by the rare archaeological traces surviving from the Roman period in Apollonia, Lazarov 1972, 153-158; Panajotova, Draževa 2003, 215-234. Cabyle: Velkov ed. 1982.

<sup>971</sup> IG Bul 743; Ognenova, Lazarov 1962, 197-202; Gerov 1980, 229-238.

<sup>972</sup> IG Bul 396; Mihailov ed. 1970, 343-347.

<sup>973</sup> Mihailov ed. 1970, 345.



Empire.<sup>974</sup> More to the point, Cabyle was the home of an auxiliary unit throughout the 2nd and 3rd century AD, a fact that is difficult to reconcile with its supposed autonomous status.<sup>975</sup> Prior to the 3rd century crisis and the Gothic invasions, arrangements like this would have been unparalleled in the demilitarized provinces of our study area. The presence of the military also makes it unlikely that Cabyle and its surroundings were divided between the territories of the neighbouring towns. In the analysis that follows, Cabyle is included as the centre of a district under military surveillance.

Cabyle is not an isolated example in Thrace. More evidence of the presence of the military comes from the western parts of the province, the hinterland of Pautalia and the Upper Bregalnica Valley.<sup>976</sup> It should be emphasized that the evidence of the presence of the military in these micro-regions consists exclusively of rare epigraphic monuments.<sup>977</sup> The remains of the camps have not been located and therefore it is impossible to be certain about the size of these units or the length of their stay.<sup>978</sup> Nonetheless, the significance of these documents should not be overlooked. Cogently, the Late Antique developments at these military outposts repeat the pattern observed in the other provinces of our study area. Both Germania and Cabyle, like Abritus in Moesia Inferior, became bishoprics in the Late Roman period, implying that the areas that gravitated towards these sites had become relatively populous and prosperous by the end of the preceding era.<sup>979</sup>

Under the Odrysian dynasts, Thrace was divided into administrative units known as *strategieai*, headed by *stratego*.<sup>980</sup> There is very little information about the character of these units, but their names are often derived from the names of tribes known from the written sources.<sup>981</sup> In this sense, they are roughly equivalent to the *civitates* in the Latin provinces of the Empire although, in the case of Thrace, they were the administrative units of a large territorial polity rather than independent communities. Perhaps this circumstance contributed to their complete demise soon after the first autonomous towns were founded by Trajan. By the reign of Pius, all references to the old *strategieai* or their corresponding ethnonyms disappear from the written records.<sup>982</sup> In the corpus of

military diplomas from the province and in dedications commissioned by Thracians serving in the Praetorian Cohorts in Rome, the towns had replaced the *strategieai* as an indicator of a soldier's origin.<sup>983</sup>

Most modern scholars agree that, by the middle of the 2nd century, the process of urbanization of the province and the demise of the old administrative units was complete.<sup>984</sup> Although by and large this view is valid, it is not fully borne out in the epigraphic sources. We have already pointed out the evidence of a military presence in this province that in some instances can be related to the areas attributed to some of the Thracian tribes or to major agglomerations, like Cabyle. Even though the epigraphic and cartographic sources indicate that the Roman towns of Thrace had unusually large territories, considerable sections of the provincial territory cannot be ascribed to any of the recognized urban centres. It is therefore conceivable that some of the *strategieai* continued to exist as functional administrative units alongside the urban territories. The obvious temptation is to look for these administrative relics in the mountainous parts of the province like Mount Rhodope, the home of the *Bessi* and *Digeri*, but the activities of these *strategieai* have not been recorded in the epigraphic sources found so far.<sup>985</sup> Because so few of the known Thracian *strategieai* have been located, it is very difficult to account for this factor in the administrative map of the province. It is equally plausible to postulate that considerable areas were expropriated by the imperial treasury, although concrete evidence of imperial slaves or freedmen is once again lacking.<sup>986</sup> In the absence of direct testimonies to the earlier *strategieai* and special fiscal districts, their presence can merely be surmised to have been located in the areas that cannot be attributed to a particular urban unit.

As in the rest of the Hellenistic provinces, the urban elites rarely advertised their activities in the countryside by recording them in inscriptions. Evidence of epitaphs commissioned for or by the town magistrates are almost non-existent, even in the rare Roman colonies in the province like Deultum.<sup>987</sup> Luckily this is counterbalanced by a number of inscriptions that contain detailed geographical references and official dedications made by the local authorities along the main roads. These two categories of evidence have proven far more valuable as sources of information about the territorial divisions in the province than the funerary inscriptions in the Latin provinces. We have seen that the majority of the latter indicate only the minimum

<sup>974</sup> Mihailov ed. 1964, 164-165; Mihailov ed. 1997, 283-284.

<sup>975</sup> Velkov 1989, 247-256.

<sup>976</sup> Gerov 1998, 72-184, 437-467.

<sup>977</sup> CIL III 12339, AE 1934 212.

<sup>978</sup> Ivanov 1980, 211-212; see also the section on Thrace in Chapter Three.

<sup>979</sup> Germania: Hier. Synec. 654, 5; Mihailov ed. 1966; Cabyle: Hier. Synec. 635, 8; Mihailov ed. 1964, 167; Dimitrova 1974, 135-146.

<sup>980</sup> Pliny HN 4.40; Ptol. Geog. 3.11.6; Jones 1937, 491-501; Velkov ed. 1979, 286-296; Gerov 1980, 229-238; Tačeva ed. 2004, 32-47; 105-114.

<sup>981</sup> Gerov 1980, 319-348.

<sup>982</sup> There is some evidence to suggest that the number of *strategieai* began to decline immediately after the annexation of the kingdom, but the sources are not completely reliable, Mihailov ed. 1966, 29-292;

Gerov 1980, 235-236.

<sup>983</sup> Tačeva 1997, 199-210; Tačeva ed. 2004, 155-179.

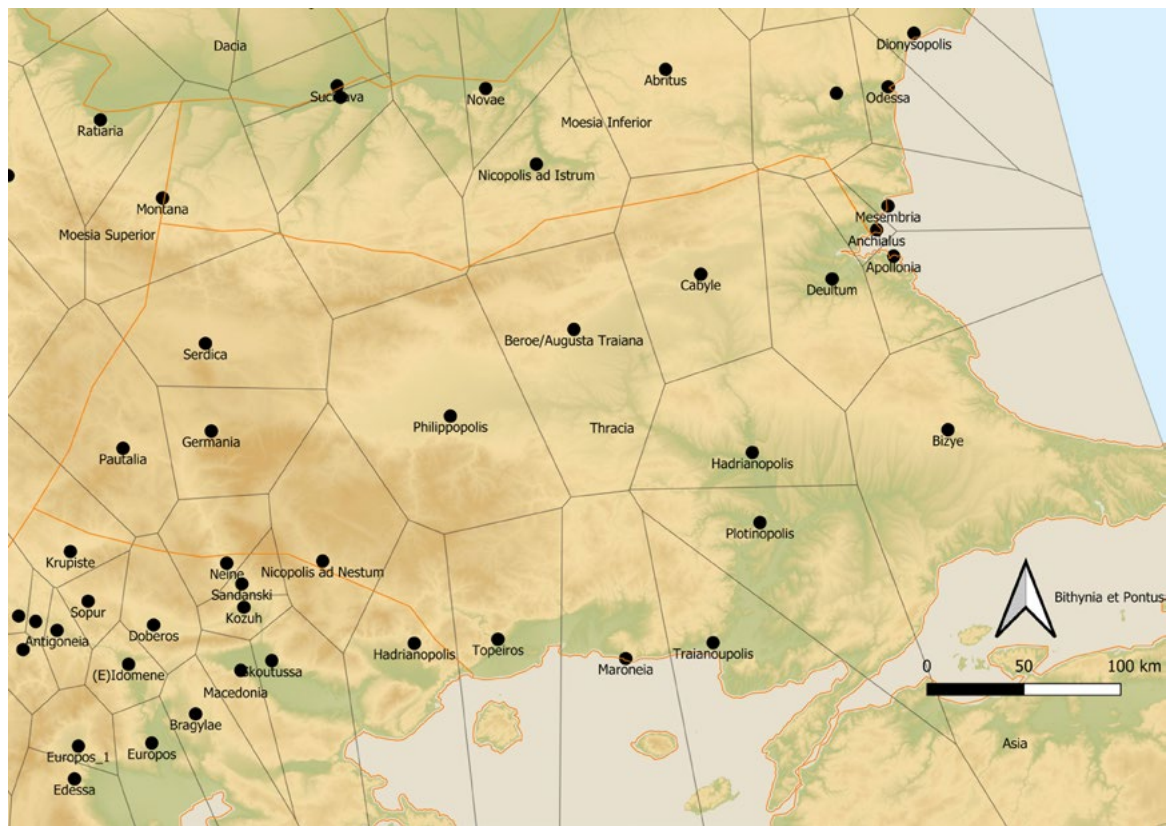
<sup>984</sup> Lozanov 2015, 75-90.

<sup>985</sup> Tačeva ed. 2004, 111-112.

<sup>986</sup> See, for instance, Velkov ed. 1980, 137-149.

<sup>987</sup> Mihailov ed. 1964, num. 1835-1869.





Map VI 60: Thiessen polygons around the Thracian towns.

extent of the administrative territories. In contrast to this, the official road-side dedications erected by the town authorities and the building inscriptions with detailed geographical indications offer more explicit testimonies and they often come from the peripheries of the urban territories. Their original find-spots are therefore important markers of the maximum extent of the administrative units. This specific feature of the epigraphic record has already enabled the editor of the corpus of Greek inscriptions found in Bulgaria to present the material by urban territories.<sup>988</sup> Needless-to-say the evidence of every individual town is not of equal quality but, from a comparative perspective, the territorial extents of the administrative units of Thrace are among the best documented in this study-region.

The divide between the territorial extents of the Greek colonies and the towns in the interior, observed in Moesia Inferior is even more pronounced in Thrace. (Figure VI\_15) The difference is particularly noticeable if we focus on the maximum estimates or the projections based on the Thiessen polygons. The small group of towns on the left of the bar-chart with territories smaller than 2000 sq. km consists exclusively of the Greek colonies on the coast. The majority of the towns in the interior of the province belong to size categories

<sup>988</sup> Mihailov ed. 1958, 1964, 1966, 1970.

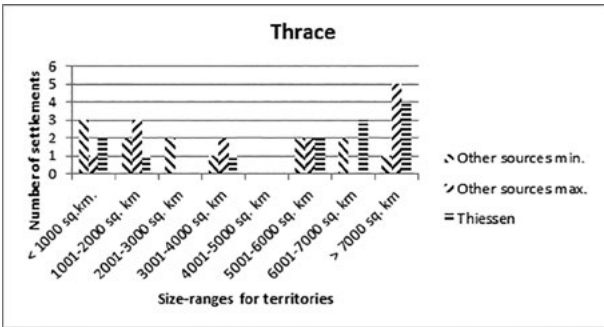
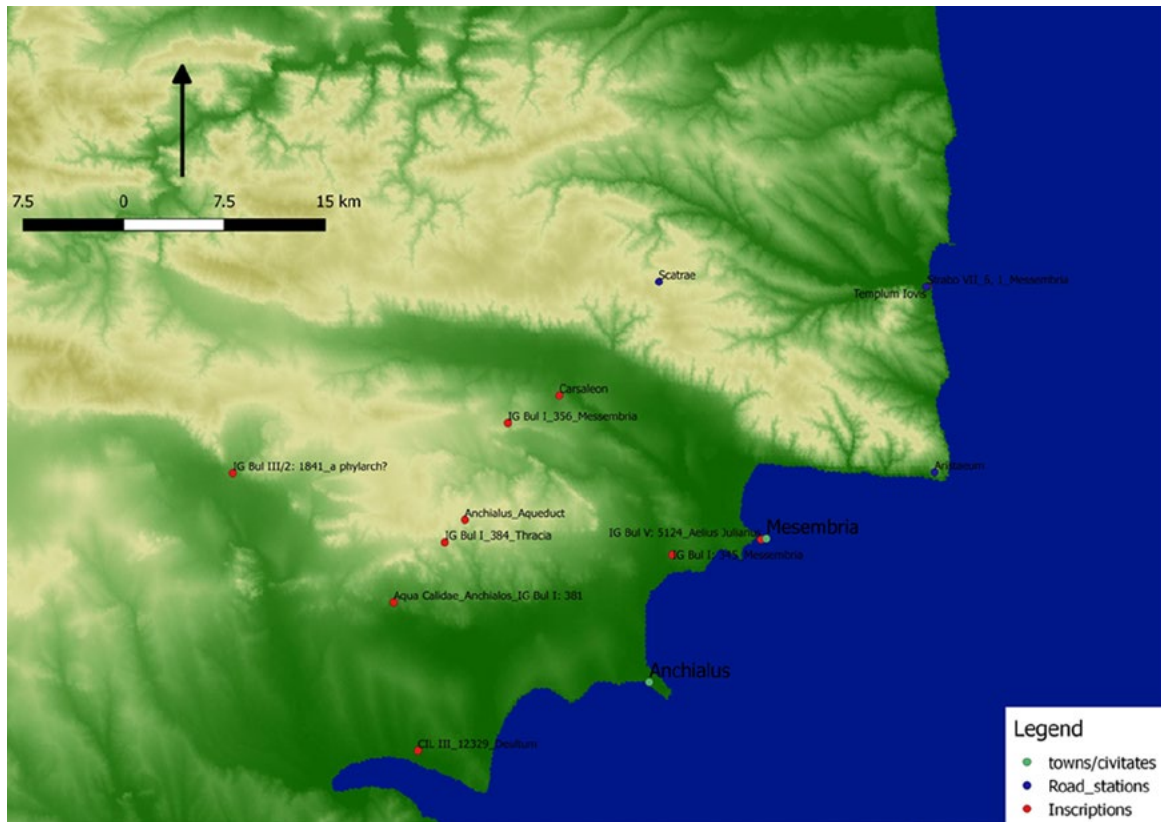


Figure VI 15: Distribution of territorial units in Thrace by size-ranges.

that are several times larger than those of their coastal neighbours, in a number of cases exceeding the 5000-square-kilometer threshold. Only a few of the towns in the west of the province, located close to the provincial border with Moesia Superior and Macedonia, have moderate territorial extents. (Map VI\_60)

These variations are chiefly determined by the intercity distances, increasing from less than 30 km along the coast to over 80 km in the interior, reaching over 100 km in certain parts of the province. Fluctuations of a similar scale have often been observed in areas in



Map VI 61: The territories of Mesembria and Anchialus.

which the belt of pre-Roman urbanism met the zone of newly founded towns. The fact that in Thrace, as in Moesia Inferior, they are present in the same province underlines the low degree of integration between the coastal and inland districts. The early presence of the Greek colonies on the Black Sea coast had a very limited urbanizing effect on the Thracian interior prior to the Roman conquest, and the two areas remained only loosely connected after the incorporation of the Thracian kingdom.<sup>989</sup> This situation is reflected in the administrative arrangement in the Roman provinces, under which the coastal towns were exempted from the authority of the provincial governors. The Greek colonies in Thrace and Moesia Inferior formed a separate *koinon* that existed side by side with the Thracian *koinon*, centred on Philippopolis.<sup>990</sup>

Our territorial estimates for the coastal towns are not based solely on intercity distances. The epigraphic corpus from the countryside is rather poor, but in general it accords with the limits drawn on the basis of the short intercity distances. The scatters of epigraphic monuments, together with the scant cartographic data,

indicate that the two Greek colonies, Mesembria and Apollonia, governed territories occupying not more than 1200-1300 sq. km. (Maps VI\_61 and 62)<sup>991</sup> These are the maximum estimates for the territories of these two towns. They fall in the same range as the minimum estimates for the territories of the Greek colonies in the Moesian section of the Black Sea coast. These towns shared a similar status at the time of the Roman conquest, and the fairly modest territories of the Greek colonies in Thrace seem to support the minimum estimates for the Greek colonies in Moesia Inferior. Although it had a different history, Anchialus' territory was of a similar extent. (Map VI\_61)<sup>992</sup> Along the entire coastline of our study area, the urban density was much higher than in the interior and the urban territories were consequently small, regardless of the status and chronology of the individual towns.

This observation is supported by the example of Deultum, the only Roman colony in the part of Thrace included in our study-area. Located near the head of the Bay of Burgas, Deultum belonged to the coastal zone and according to the minimum estimate, its

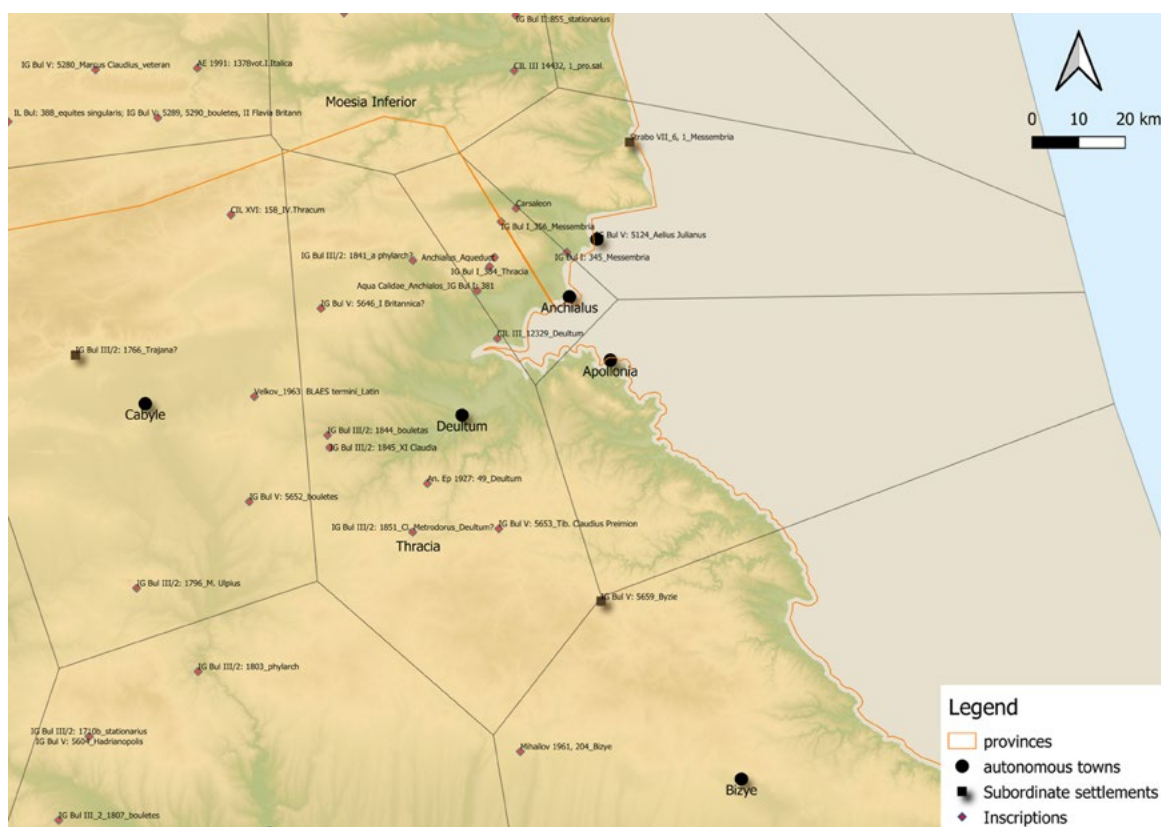
<sup>989</sup> Fol 1965, 309-317; Velkov ed. 1979, 304-312; Gerov 1980, 338-339; Bouzek 2005, 1-7.

<sup>990</sup> The Pontic *pentapolis*: Pippidi 1975, 141-150; Popescu 1979, 273-292; Bărbulescu 2007, 139-145; the Thracian *koinon*: Velkov ed. 1979, 307-308, 336; Andreeva 2013, 31-41.

<sup>991</sup> Mesembria: IG Bul 345, 356; Venedikov ed. 1969; Mihailov ed. 1970, 307-308; the estimate for the territory of Apollonia is based solely on Thiessen polygons.

<sup>992</sup> IG Bul 369, 378, probably IG Bul 381, CIL III 12329; Mihailov ed. 1970, 334, Velkov ed. 1980, 41-48.





Map VI 62: The territories of Deultum and Apollonia.

territory comprised no more than 1700 sq. km. (Map VI\_62)<sup>993</sup> Admittedly, the maximum estimate projects a territory of almost twice that size, but there is very little evidence that the *ager* of the colony included the northern half of Mount Strandja.<sup>994</sup> The extent and location of Deultum's territory seem to encapsulate the destiny of most of the earlier *strategieai* in Thrace. Regardless of which estimate is accepted, it is evident that the *ager* of the colony was carved out of the territories of two *strategieai*, Anchialus and Astike.<sup>995</sup> Deultum's territory to the northwest extended to about 18 km from Anchialus, and it must have been made up of parts of the former *strategiea*. Moreover, Pliny is fairly explicit in placing the *strategiea* of Astike across the entire breadth of eastern Thrace, from the Bay of Burgas on the northeast to the Sea of Marmara and Perinthus on the southwest.<sup>996</sup> As Apollonia was also a part of this *strategiea*, it is reasonable to suppose that it included Mount Strandja. Anchialus and Apollonia belonged to two different *strategieai*, and the founding of Deultum in the hinterland of these two towns would have only been possible by disregarding the integrity of the earlier administrative units.

As elsewhere in our study-area, there is hardly any positive evidence of the extent of the territories that were kept under military supervision. Their extents are barely marked by the few official dedications made by army officers.<sup>997</sup> The testimonies to the possible sizes of these districts are mostly negative, consisting of the official dedications made by the members of the *curia* of the neighbouring towns.<sup>998</sup> These finds suggest that the territorial extents of the military districts were not uniform. They range from 1200 sq. km in the case of Germania and the unnamed district in the Upper Bregalnica Valley, to a maximum of 3200 sq. km in the case of Cabyle. (Maps VI\_63 and 65) Cabyle was one of the seats of the Thracian dynasts and its large territory suggests that it had been composed of an integral *strategia*.<sup>999</sup> The evidence of a military presence in the other two districts dates to a later period, possibly implying that the area under military control was limited to segments of the pre-Roman administrative units. Evidence of permanent garrisons in the region of Mount Rhodope, the home of the most warlike Thracian

<sup>993</sup> AÉ 1927 49; Mihailov ed. 1964, 204-205; Tačeva ed. 2004, 180-188; IG Bul 1844, 5652.

<sup>994</sup> IG Bul 1851, 5653; Mihailov ed. 1964, 210-211; Velkov ed. 1979, 314.

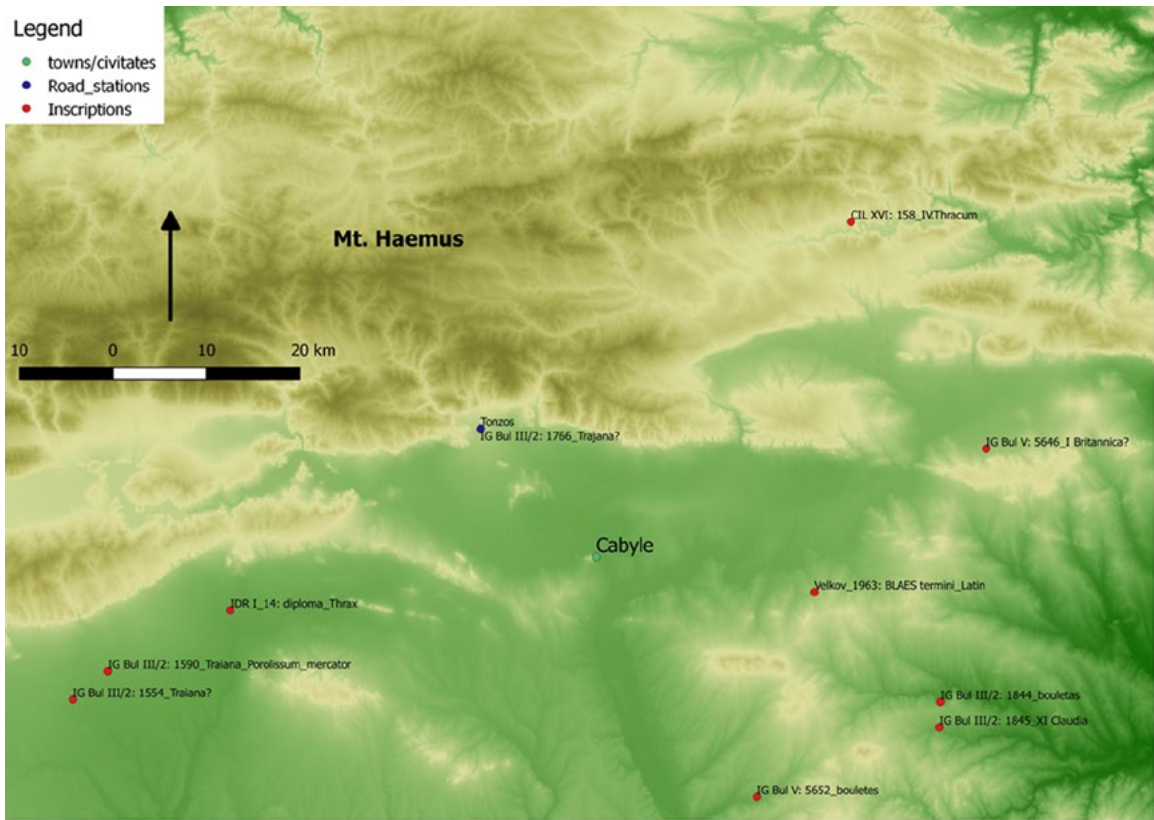
995 Gerov 1980, 231.

<sup>996</sup> Pliny *HN* 4.11.45; Gerov 1980, 230-231.

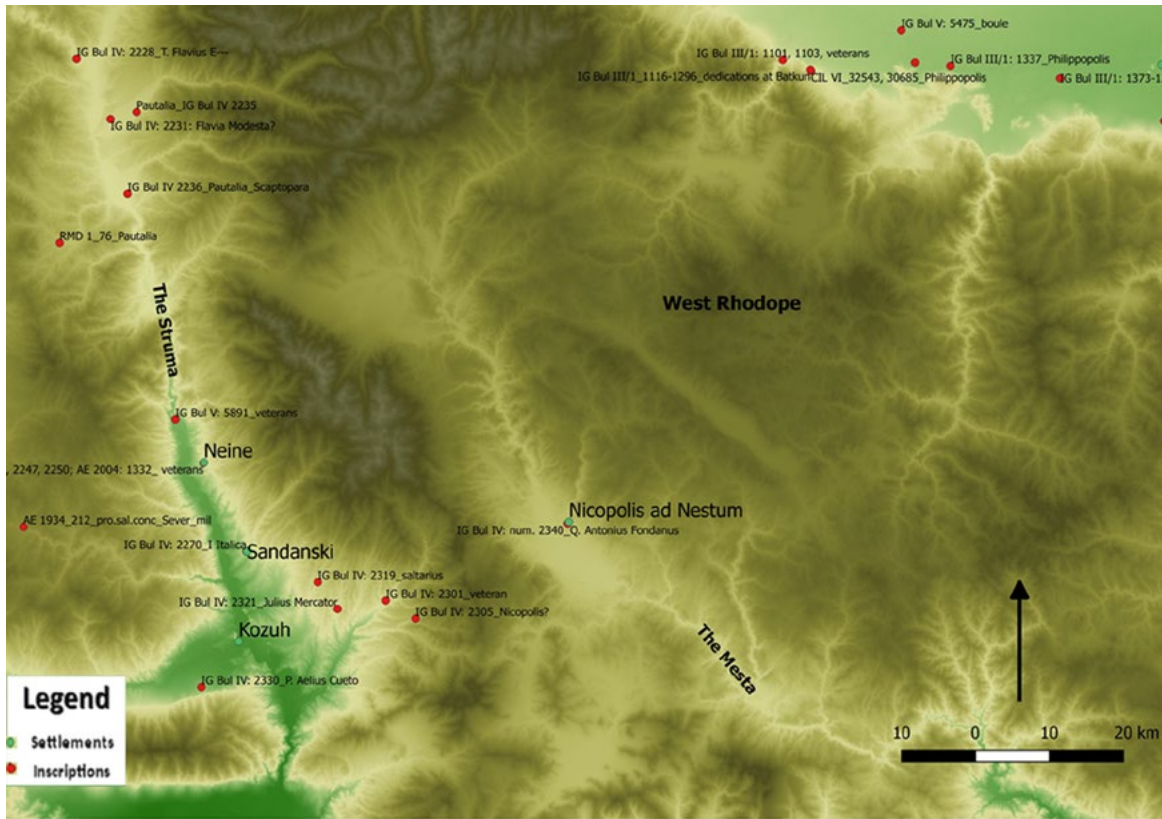
<sup>997</sup> The Upper Bregalnica: AÉ 1934 212; Mihailov ed. 1966, 210-211; Gerov 1998, 150; Germania: CIL III 12337-9, IG Bul 2135; Cabyle: IG Bul 1845, 5646, possibly CIL XVI 158.

<sup>998</sup> Germania: IG Bul 2192, 2214, 5867; cf. Gerov 1998, 91–95, 148–150; Božkova, Vâlčeva 2002, 153–169, who claim that the fort was located in the territory of Pautalia; Cabyle: IG Bul 1766.

<sup>999</sup> See fn. 975.

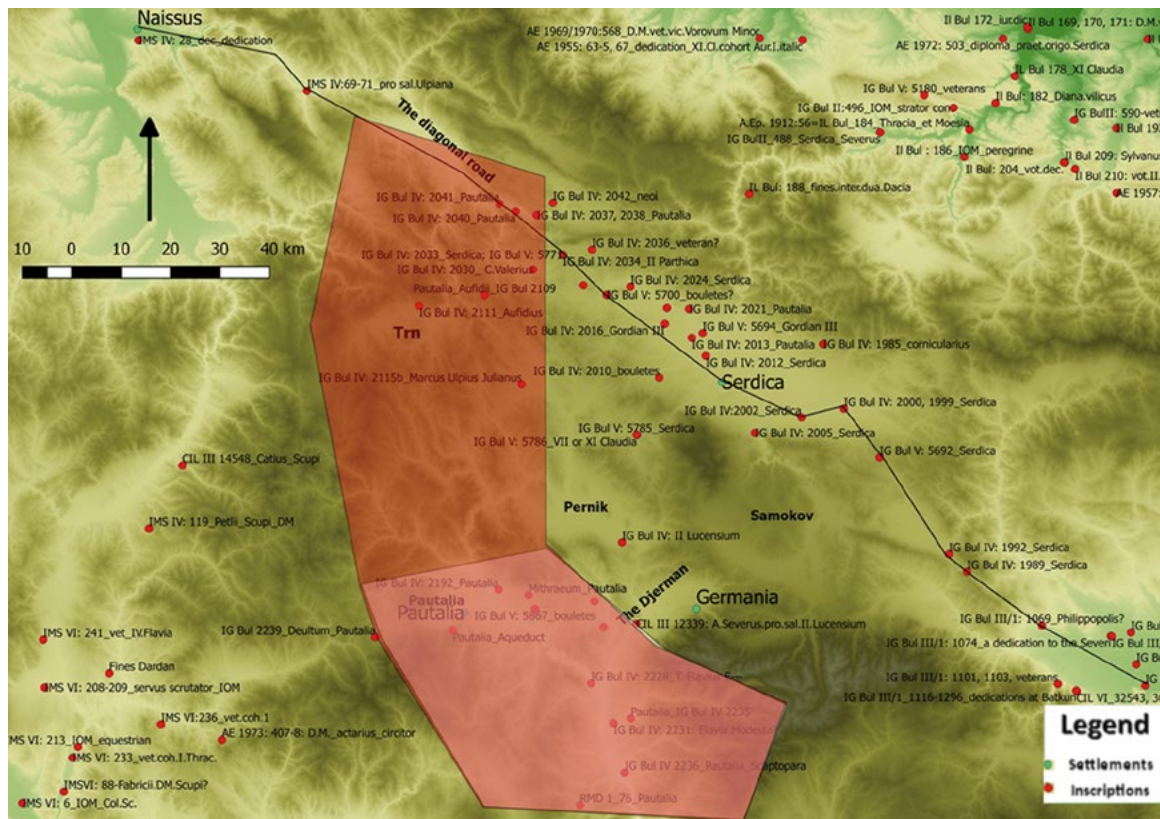


Map VI 63: The military district around Cabyle.



Map VI 64: The territory of Nicopolis ad Nestum.





Map VI 65: The territories of Pautalia and Germania.

tribes, would have been expected, but these have yet to be discovered.<sup>1000</sup>

The territories of the remaining Thracian towns are on an entirely different scale. The only possible exceptions are Nicopolis ad Nestum and Pautalia although, in these cases too, the maximum estimates project territories in excess of 5000 sq. km, whereas in the minimum estimates, their territories are at least twice the size the territories of the coastal towns. (Maps VI\_64 and 65)<sup>1001</sup> Nicopolis ad Nestum is simply a poorly attested example, but the discrepancies between the minimum and maximum estimates for Pautalia can be attributed to the uncertain status of the mining region in the northwest of the province, in the area of modern Trn. The scant evidence from this micro-region is extremely ambiguous and, although it has been adduced in support of the thesis that the area in question belonged to Pautalia, it can just as well be read as evidence to the contrary.<sup>1002</sup>

Because of the regular patterning of the road-side dedications erected by the *poleis* in the Thracian interior, the territories of the other Thracian towns are less controversial.<sup>1003</sup> The proposed reconstructions are also supported by the building inscriptions commemorating the construction of military outposts in the hinterlands of Serdica, Philippopolis, Augusta Trajana and Byzie. (Maps VI\_66-69)<sup>1004</sup> In all of these cases, the texts explicitly state that the buildings were constructed in regions located within the urban territories. These inscriptions not only confirm that the territories of these towns were made up of areas of over 5000-6000 sq. km, they also shed light on the composite nature of the urban territories, consisting of an unknown number of sub-units or regions.<sup>1005</sup> The valuable evidence that comes from the Thracian countryside is highly relevant to one of the central problems of this chapter. It definitely tips the scale in favour of the view that the urban territories extended well beyond those areas in which the properties of the urban elite were concentrated.

<sup>1000</sup> Tačeva 1997, 199-210, Gerov 1998, 411-428.

<sup>1001</sup> Nicopolis ad Nestum: IG Bul 2305; Mihailov ed. 1966, 285, Gerov 1998, 60-71; Pautalia: IG Bul 2192, 2214, 5867, IG Bul 2235, 2236, possibly RMD 76; Mihailov ed. 1966, 113-114, 211; Gerov 1998, 151-156.

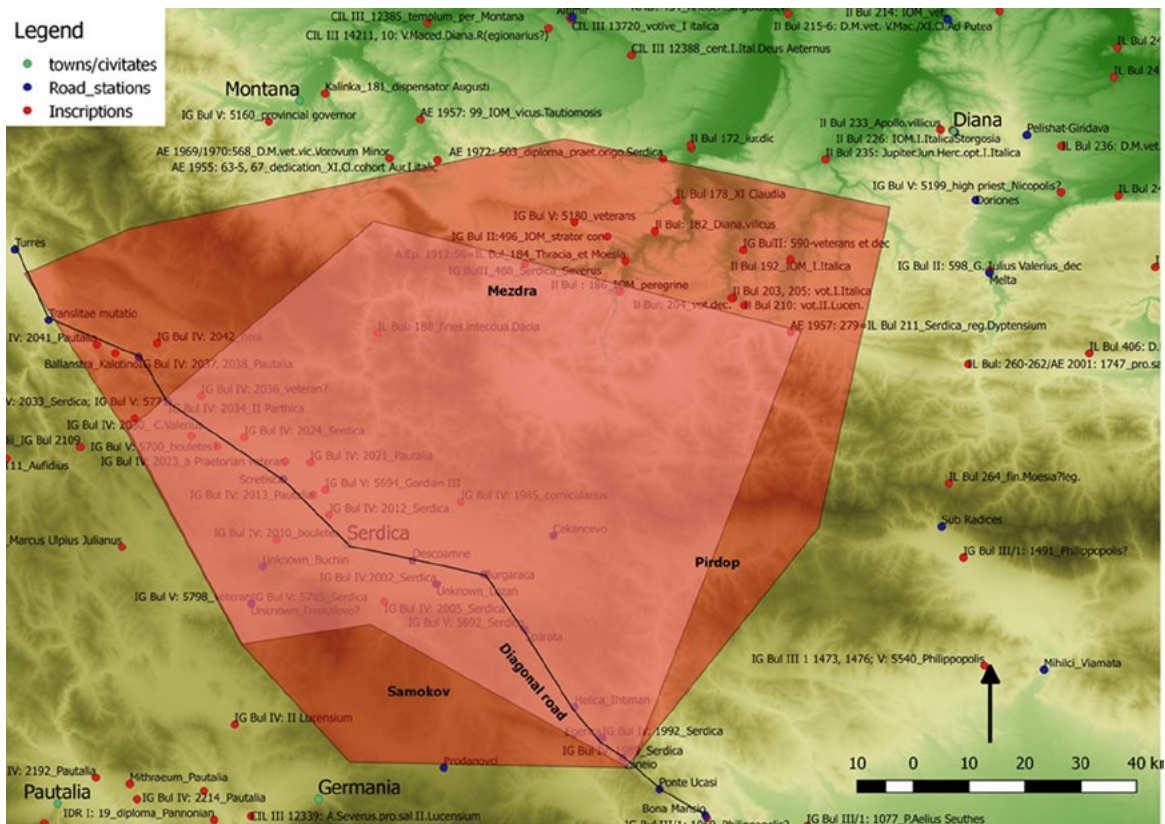
<sup>1002</sup> Stajkova 2003, 259-261; the documents in question are IG Bul 2109, 2111, 2239. More evidence has been sought among the road-side dedications. IG Bul 2013, 2037-38, 2041.

<sup>1003</sup> Serdica: IG Bul 488, 1992, 2005, 2024, 2033, 1989; Philippopolis: IG Bul 1069, 1515, 1491; Augusta Trajana: IG Bul 1690 1706, 1710, 1756; Hadrianopolis: IG Bul: 5604.

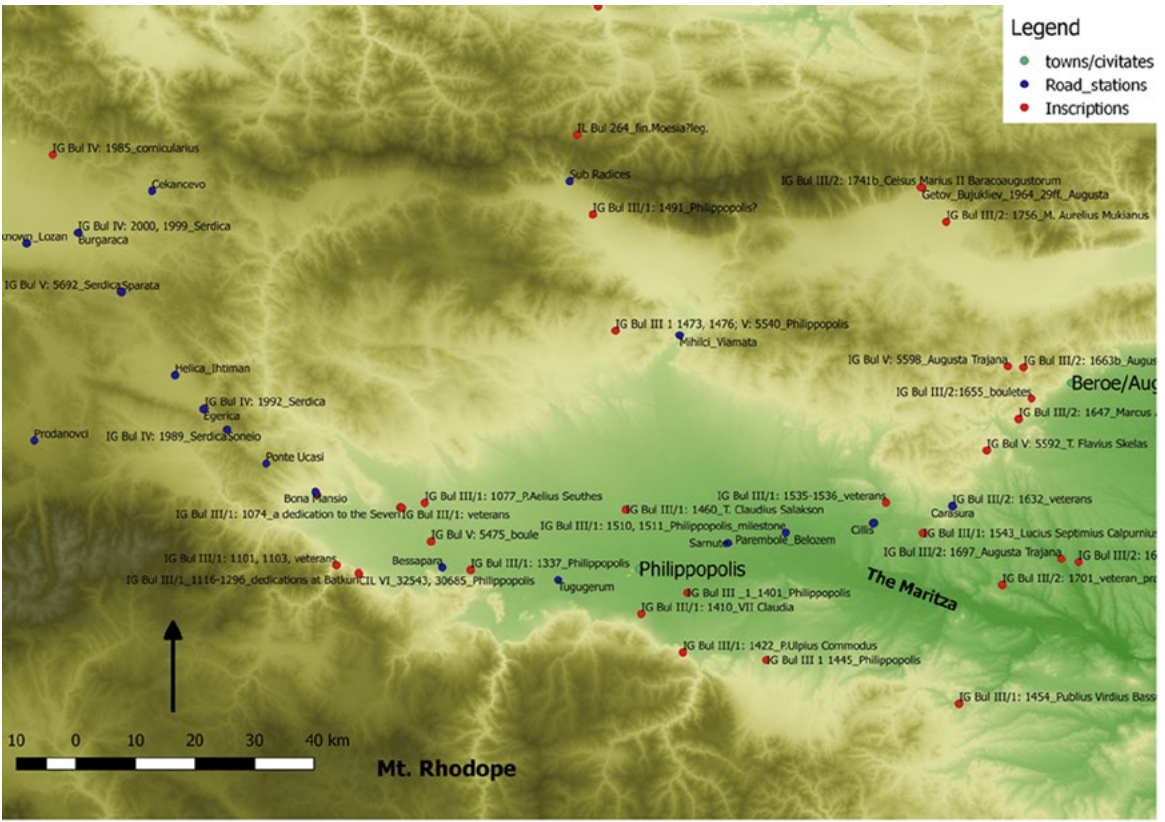
<sup>1004</sup> Serdica: IL Bul 211; Gerov 1998, 70; Augusta Trajana: IG Bul 1741b; Byzie: Velkov 1978, 174-181.

<sup>1005</sup> Gerov 1998, 407-410.



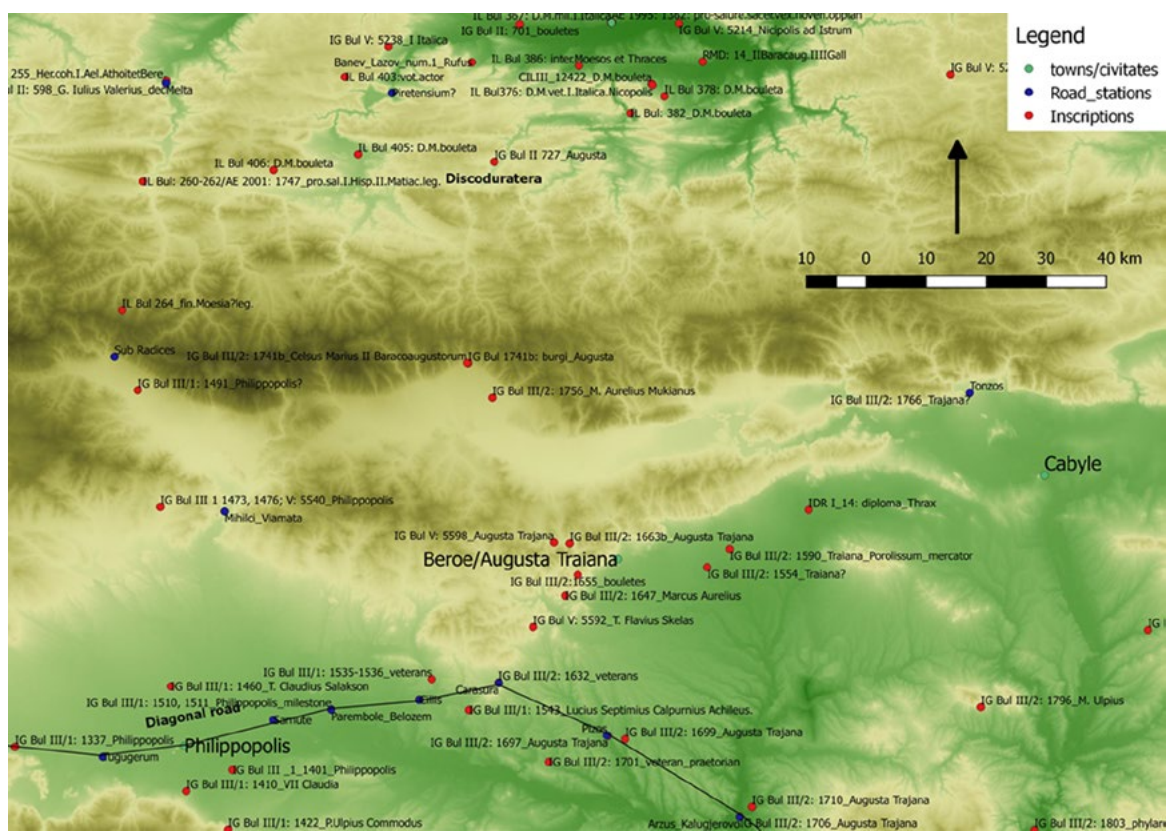


Map VI 66: The territory of Serdica.

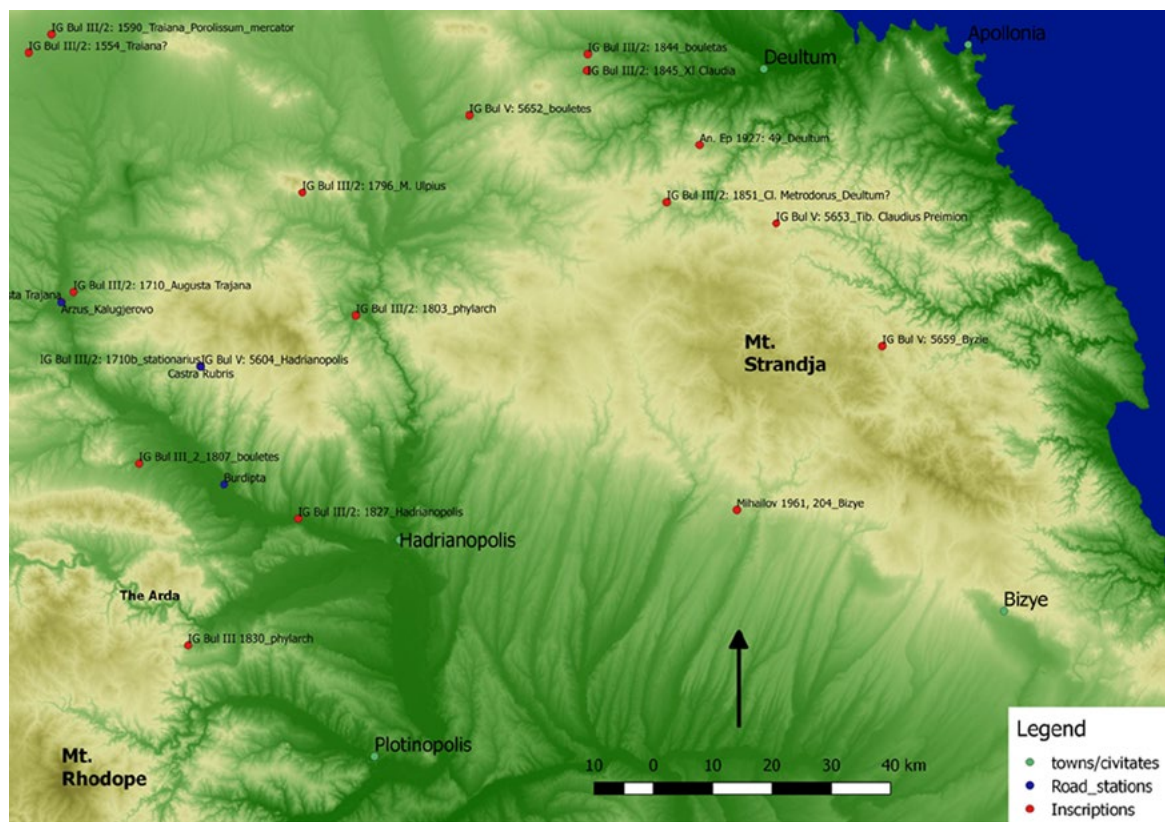


Map VI 67: The territory of Philippopolis.





Map VI 68: The territory of Augusta Traiana.



Map VI 69: The territories of Byzie and Hadrianopolis.

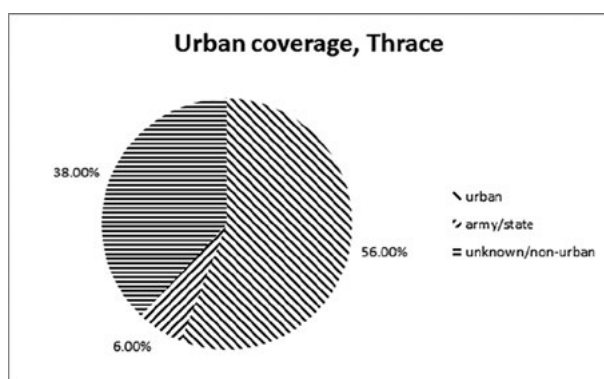


Figure VI 16: The share of the different administrative sectors in the government of Thrace.

Despite the very large territories projected for a number of Thracian towns, almost one-half of the provincial territory was not part of the autonomous sector. From a comparative perspective, Thrace joins the two Moesian provinces, characterized by a reduced urban coverage limited to one-half of the provincial territories. The obvious difference is the restricted size of the sector run by the military or the government. However, it is worth remembering that unless these districts were assigned to separate procuratorial posts, there is no hope of finding epigraphic confirmation of them. Hence, we suspect that this sector was more extensive, spreading over parts of the area that remained outside the urban territories. By adding the parts of the Strandja Massif that belong to our study area and the mountainous region along the border with Moesia Superior to the equation, the share of the sector run by the government will increase to almost 15%, comparable to the situation in most of the provinces in our study-area.

Figure VI\_16 is based on the minimum territorial estimates. These should be preferred for Thrace, because most of the evidence cited in support of the maximum estimates is less convincing. It offers hardly any clues to suggest that the territory of Nicopolis ad Nestum extended over the western part of the Rhodope or that Philippopolis controlled the central parts of this massif. The finds that do suggest the view that Pautalia controlled the entire territory up to the Diagonal Road on the north or that the territory of Augusta Trajana spread over the ridge of Mount Haemus can also not be said to be particularly conclusive. Accepting these arguments, the urban coverage of the provincial territory in Thrace would increase to almost 85%, more than in any other province in our study-region. However, the only argument that supports this reconstruction is the observation that the minimum estimate fails to explain the complete absence of written testimonies to special fiscal districts or non-urban *civitates* in this province. This is indeed problematic as, even after the share of the military and mining sectors is increased to

15%, the 'grey zone' still makes up almost 30% of the provincial territory.

In the absence of positive evidence, the mechanisms by which these micro-regions were governed can only be guessed at. Theoretically, they can be attributed either to the nearest autonomous town or military outpost or to an unattested *civitas*. As just said, bearing in mind that the administrative outreach of the urban centres in Roman Thrace is relatively well-documented in the epigraphic sources, we are inclined towards the reconstruction of administrative divisions based on the minimum estimates. This view naturally implies that the traditional, non-urban administrative entities were preserved, at least in the mountainous corners of the province.<sup>1006</sup> Of course, it is possible that it is sheer chance that they do not appear in the written sources. Their inconspicuousness might also be taken as a token of the low degree of emancipation of these communities and their demographic and economic insignificance. The situation is reminiscent of the numerous *civitates* in Dalmatia and Pannonia known exclusively from Pliny's *Natural History* or the 'small *municipia*' known from only one or two inscriptions. Even the largest and most important *civitates* in the western part of the study-area have left very few traces in the archaeological and written records.

The evidence provided by the epigraphic sources from the Thracian countryside suggests that, even if the minimum estimates are accepted, the territorial units were too large for the urban centres. The building inscriptions commemorating the construction of *burgi* and *praesidia* in the distant regions of the Thracian *civitates* are particularly informative in this respect. These texts discovered on the territories of four Thracian cities date to the time of Antoninus Pius and they are usually related to the unrest in Thrace during the otherwise peaceful reign of this emperor.<sup>1007</sup> The scale of these measures carried out by the provincial government has to be appreciated. The inscription from the *regio Dyptensis* in the territory of Serdica lists no fewer than four *praesidia*, 12 *burgi* and over 100 *phrouria*!<sup>1008</sup> Cogently, in nearly all of these cases, the regions in question were located on the edge of the mountainous zone, probably coinciding with the line separating the intensively exploited areas owned directly by the urban elites and the untamed mountainous regions whose economic importance was marginal. The principal function of these military outposts was probably keeping the communities in the

<sup>1006</sup> Gerov 1980, 234-235; Kolendo, Božilova ed. 1997, num. 72; Tačeva ed. 2004, 111-112.

<sup>1007</sup> In Bulgarian scholarship opinions differ about the role of these forts. The road security and urban territories: Ivanov 1980, 202; internal strife: Tačeva ed. 2004, 182-183; Barbarian invasions: Velkov ed. 1979, 294-296.

<sup>1008</sup> Gerov 1998, 70.



isolated corners of Roman Thrace under surveillance; a position that would have brought them closer to the sector controlled by the military than to their civilian counterpart.<sup>1009</sup>

If this reading of the data is correct, it obviates the question of whether or not the urban territories extended beyond these defensive lines. In theory, it is possible that the authority of the local administration did extend over parts of the mountainous regions, but in practice, they would have evidently been hard-pressed to guarantee the peace even in the low-lying sections of their territories. The control of these poorly integrated and hostile regions was a logistically demanding exercise and it would have brought few benefits to the urban centres. It stands to reason that these expenses could not have been met by the recently established Thracian towns and the support of the provincial government would have been necessary to maintain law and order in the very large territorial units. The example of the Thracian towns and their territories is an outstanding example of the ambiguous relationship between the size and importance of the urban centre and the extent of its administrative territory. In a nutshell, a territorial unit of a very large size was not necessarily a guarantee that its potential was put to full use, nor is the extended urban coverage symptomatic of a high degree of urbanization in a given area.

One final possible indicator of the overstretched extent of the urban territories in Roman Thrace is the development on the urban map in Late Antiquity.<sup>1010</sup> On the Thracian coast, densely urbanized during the period of the High Empire, the *Synecdemos* of Hierocles records only two bishoprics.<sup>1011</sup> Apollonia and Mesembria, the two Greek colonies, are not on his list even though they survived the Slavic and Avar invasions at the end of Antiquity.<sup>1012</sup> Conversely, in the predominantly rural interior we hear of four, possibly five, new bishoprics alongside the existing pre-Christian *poleis*. Two of these new establishments, Germania and Cabyle, renamed Diospolis, replaced the old military districts. However, Diocletianopolis, Sebastopolis and, possibly, Kereopyrgos emerged at sites whose character in the preceding period is unknown.<sup>1013</sup> These towns are located in the Late Roman provinces of Thrace and Rhodope and their territories must have been carved out of some of the oversized administrative units that existed in the 1st to 3rd century AD.<sup>1014</sup> Although the

number of newly established ecclesiastical centres is not particularly stunning, they still represent an increase of almost 25%.

### Dacia

All in all, there were ten *municipia* or colonies in the three Dacian provinces, including the towns founded in the mining districts and near the military camps.<sup>1015</sup> We have already observed that these categories of urban settlements were special in one way or another and it is not easy to decide if they should be assigned to the civilian or the military sector. In view of their size and importance, as well as confirmation of the full spectrum of town magistrates and institutions, they have been attributed to the civilian sector despite the fact that, technically speaking, they were garrison towns. The gradual municipalization of the frontier zones and mining areas was a general tendency in our study-region that commenced from the 2nd century AD and, by including the territories of these towns in the military sector we ran the risk of de-emphasizing this important development on the periphery of the urban network.<sup>1016</sup> These processes suggest a gradual demilitarization of the frontier zone that was accompanied by increased population densities and economic prosperity. Although it does seem paradoxical, the frontier zone proved far more susceptible to the process of municipalization than the territories of the *civitates* in the interior of the provinces.

We believe that a similar process led to the constitution of *regiones* and *territoria* centred on some of the auxiliary forts along the Dacian *Limes*. Evidence of such *territoria* comes from the auxiliary camp near modern Ilişua, identified with Arcobadara, as well as from Samum and Micia, on the northern and western Dacian frontiers.<sup>1017</sup> Most convincing of all is the evidence pertaining to Sucidava in Dacia Maluensis, on the provincial border with Moesia Inferior.<sup>1018</sup> These territories were not governed by civilian institutions and, with the exception of Sucidava – that might have been a civilian settlement prior to Late Antiquity –, they are included in the governmental sector.

There have been no finds in the countryside that might point to the extents of these districts. One possible

belonged to Philippopolis. For the archaeological remains and possible genesis of Diocletianopolis, see Madžarov 1993.

<sup>1009</sup> Gerov 1980, 273–275.  
<sup>1010</sup> Beševliev 1966, 209.

<sup>1011</sup> Hier. *Synec.* 635.9–14; Janin 1959, 136–149.

<sup>1012</sup> However, both towns appear on the lists of bishoprics compiled in the Middle Age, by which time Anchialus has lost its status and importance, Janin 1959, 136–149.

<sup>1013</sup> Hier. *Synec.* 635.3–8, Thrace, and 635.1–2, Rhodope.

<sup>1014</sup> This is certain in the case of Diocletianopolis, founded on the northern periphery of the territory of Philippopolis; IG Bul 1473, 1476; reused in the Late Roman walls indicate that the area formerly

<sup>1015</sup> Branga 1980; Ardevan 1998; list 11, counting the double town Apulum twice.

<sup>1016</sup> Vittinghoff 1971, 301–303; Mócsy 1980, 365–376; Bérard 1992, 88–95.

<sup>1017</sup> Ilişua: AÉ 2006 1130; Nemeti 2014; Samum: AÉ 1957 326–328; Nemeti 2014, 89–90; Micia: IDR III/3 69, 80–83; Russu, Floca, Wollmann eds 1984.

<sup>1018</sup> Sucidava: IDR II: 190, possibly IDR II: 211; Tudor 1965; Florescu, Petolescu eds 1977, 101–102; Petolescu 2011, 83–109; for the socio-economic make-up of Sucidava see Chapter Three.



indicator is the fact that two of the known regions in Dacia were centred on neighbouring auxiliary forts, Samum and Ilişua, that stood only several kilometres apart. (Map VI\_70) If these were autonomous units, their territories must have been very small, probably in the region of a few hundred square kilometres. The limited extent of their territories was also a characteristic of these districts in Moesia Inferior. In the end, the recognition of their autonomous status is unlikely to have had a major effect on the ratio of the civilian to military sector.

In contrast to the western provinces of the Empire, the *civitates*, if ever constituted, did not play a major role in the administration of Roman Dacia.<sup>1019</sup> This argument is based on the fact that not a single *civitas* is mentioned in the post-conquest epigraphic or written sources.<sup>1020</sup> However, as in Moesia Inferior, the silence of the written sources cannot be taken as a sure sign that the native communities played no part in the administrative divisions of the province. Their failure to leave traces in the written sources is hardly surprising in view of the situation in the other Balkan and Danube provinces.<sup>1021</sup> The invisibility of the Dacian *civitates* merely points to the sluggish and only partial emancipation of the peregrine communities. Even if these peoples were granted a certain degree of autonomy, they probably remained under close military supervision throughout the Roman period.

There are a number of auxiliary forts in the interior of Dacia. Almost always situated at locations of high strategic importance, these outposts are normally seen as a constituent segment of the Dacian *Limes*.<sup>1022</sup> In our opinion this does not cancel their potential role as bases for the administration of the extra-municipal portions of the province, but there is no way of determining the approximate extent of these units on the basis of the epigraphic record. We face an almost identical problem in determining the limits of the individual mining districts, salt-pans and pastures.<sup>1023</sup> All that can be done is to point to their likely locations, and therefore their territorial extents are based solely on the Thiessen polygons. A common feature to these districts is that they fell under the direct jurisdiction of the provincial government, their status indicated by the presence of permanent military garrisons or the activity of *conductores*.

One of the major methodological assumptions underlying this study is the principle that the urban territories did not include those sites that were permanently occupied by the military. Even in the case of the legionary towns, the immediate surroundings of the forts and *canabae* did not belong to the municipal territory, but were constituted as an extra-municipal island held by the military.<sup>1024</sup> A securely established chronology is of crucial importance if we are to apply this approach consistently. Unfortunately, only a small portion of the auxiliary forts in Roman Dacia have been systematically excavated and it is impossible to be certain if all of the known sites were used simultaneously.<sup>1025</sup> The example of the Transalutian *Limes* and some of the forts in the interior of the province shows that the network of military camps underwent a complex and poorly understood evolution.<sup>1026</sup> It is even less clear if all garrison settlements retained their military character throughout the period of Roman domination. These are problems that we cannot hope to solve. All that can be done is to point to those cases in which the chronology of the fort is uncertain or in which inscriptions that might have been commissioned by the military are lacking.

Compared to Thrace and some of the Latin provinces of our study area, the epigraphic evidence from the Dacian countryside is of limited value in determining the extent of the individual self-governing units. The number and character of the finds varies greatly from town to town but, as a whole, neither the epigraphic nor cartographic sources are very informative about the extent of the urban territories. An additional problem is posed by the strong connections that existed between the elites of the different towns in the province.<sup>1027</sup> The phenomenon of holding offices in multiple towns was not unusual in Roman Dacia and quite often it is impossible to link the act commemorated on an inscription or its find-spot to a particular town.

In Roman Dacia there are considerable differences between the estimates based on the epigraphic sources and those derived from the Thiessen polygons (Figure VI 17). The reason for this is the reduced radii of the clusters of inscriptions discovered in the Dacian countryside. Whether we consider the minimum or maximum estimates based on the epigraphic evidence, the discrepancies with the projections based on the Thiessen polygons remain considerable. The epigraphic finds suggest that over one-half of the territorial units of Roman Dacia measured less than 2000 sq. km, whereas the Thiessen polygons predict that the

<sup>1019</sup> Carbo-García 2002, 115-138; Ruscu 2004, 76-87; Ardevan 2005, 1-11; Oltean 2007; see, however, Bogdan-Cătănciu 1990, 223-234.

<sup>1020</sup> Ptol. Geog. 3.8; mentions the names of about 15 peoples in Roman Dacia, but their locations are unknown and Ptolemy's testimony could have referred to Dacia prior to the Hadrianic withdrawal in AD 118-119; Gostar 1980, 25; Bogdan-Cătănciu 1990, 230-234.

<sup>1021</sup> Cf. Protase 1980b.

<sup>1022</sup> Gudea 1979, 63-87; Gudea 1997.

<sup>1023</sup> Glodariu 1977, 950-988; Benea 2007, 41-46.

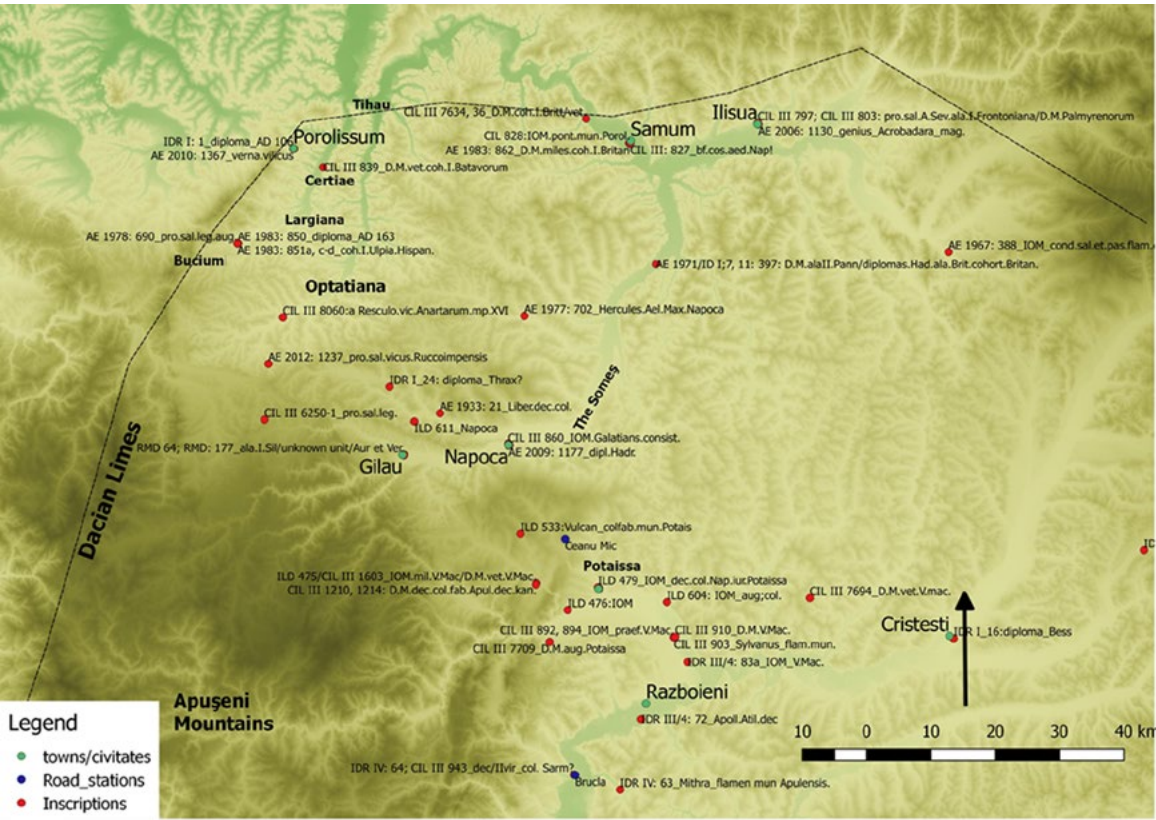
<sup>1024</sup> Piso 1991, 152-155.

<sup>1025</sup> Gudea 1997, 2.

<sup>1026</sup> Tudor 1974b, 235-246; Bogdan-Cătănciu 1986, 461-468; Gudea 2005; Bogdan-Cătănciu 2009, 159-203; Gudea 1997, num. 73, 93-94, 102.

<sup>1027</sup> Balla 1977, 51-58; Piso ed. 2001.





Map VI 70: The military districts on the northern Dacian frontier and the territories of Napoca and Potaissa.

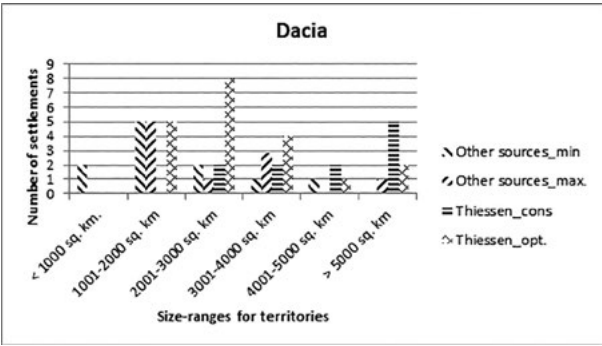


Figure VI 17: Distribution of territorial units in Dacia by size-ranges.

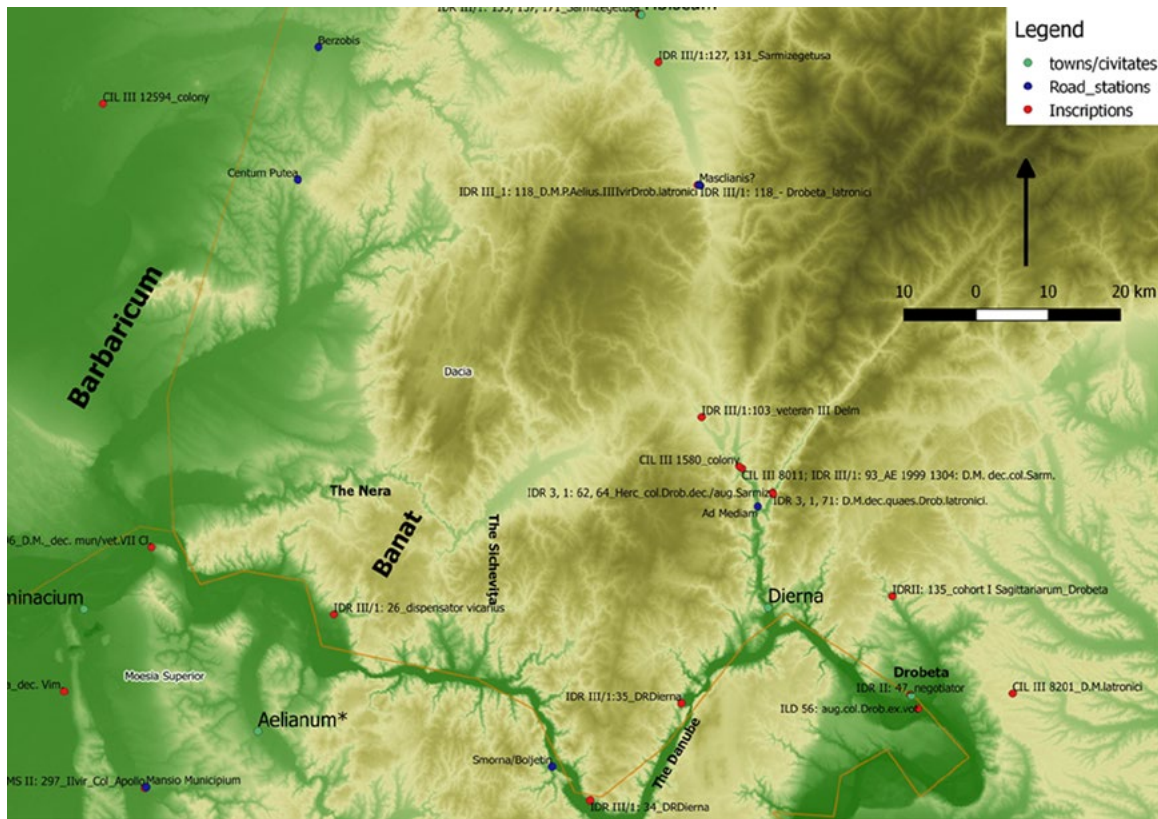
majority fell in the range between 2000 and 4000 sq. km. These projections are valid only if we recognize the territorial integrity of the areas that gravitated towards the auxiliary forts in the interior. By restricting the number of territorial units to the autonomous towns, almost one-half will extend over more than 5000 sq. km. The key factor behind these discrepancies is not the method used to measure the territorial extent, but rather the number and character of the units with a recognized territorial integrity. If we opt for the view that the permanent garrison sites in the interior of the province were centres of separate districts, the

differences between the two sets of projections are visibly diminished.

Where available, the epigraphic scatters in the countryside usually limit the range of activities of the urban aristocracy to areas not larger than 2000 sq. km. Nearly one-half of the administrative units in the Dacian provinces belong to this category. The funerary and votive inscriptions referring to the *curia* of Napoca, the capital of Porolissensis, are scattered over an area of 1000 sq. km.<sup>1028</sup> If the distribution of the garrison sites is taken into account, the maximum territorial extent of this town would be limited to less than 1500 sq. km. (Map VI\_70) The distribution of inscriptions set up by the veterans of *Legio V Macedonica* and the few epigraphic references to town officials place Potaissa's territory in the same range. (Map VI\_70)<sup>1029</sup> Dierna and Porolissum governed similarly sized territories, although in the case of these towns the reconstructions are based entirely on the constellation of auxiliary forts and their proximity to the imperial and provincial boundaries. (Maps VI\_70 and 71)<sup>1030</sup>

<sup>1028</sup> AE 1933 21; AE 1977 702; ILD 533, provides solid negative evidence. The economic outreach of the elite of Napoca was much greater.  
<sup>1029</sup> CIL III 910, 7694; cf. Fodorean 2013, 45-49; CIL III 903, 7709.  
<sup>1030</sup> Porolissum: possibly, but not very likely CIL III 828; the minimum estimate predicts a much smaller territory for this *municipium*; Dierna: CIL III 8011; IDR III/1 93; AE 1999 1304; IDR III/1 75, all of these





Map VI 71: The territory of Dierna.

The relatively large epigraphic corpus from the countryside of Sarmizegetusa provides not only a solid basis for a reconstruction of its territory towards the end of the 2nd century AD, it also gives an important insight into the process of municipalization of Roman Dacia.<sup>1031</sup> These sources suggest that, in the early 2nd century, the entire territory of the later province of Dacia Apulensis was attributed to Sarmizegetusa, extending its territory over at least 8000 sq. km. In the course of the 2nd century AD, this vast territory was gradually sub-divided into smaller administrative units, centred on the newly founded *municipia* of Apulum and Tibiscum. The newly promoted urban communities inherited segments of Sarmizegetusa's territory, together with the *ius Italicum*.<sup>1032</sup> When this process of municipalization of Sarmizegetusa's *ager* was completed, the old Dacian capital remained in control of no more than 2200 sq. km, limited to the fertile Hațeg Depression and the Strei and Mureș Valleys; a territory only slightly larger than that of Napoca or Potaissa. (Map VI\_72)<sup>1033</sup> The *ferrariae* near modern Deva was probably exempted from the jurisdiction of the colony,

as were possibly, the Oraștie Mountains, the core of the old Dacian kingdom.<sup>1034</sup> Undeniably, this reconstruction is not without its problems, but it parallels closely the situation in Dalmatia, in which a new *municipium* was founded on the territory of the provincial capital and in Pannonia Superior, in which Carnuntum's territory was reduced after the founding of the *municipium* of Vindobona. This process continued into the Late Roman period, with a number of new towns emerging on the large urban territories of the preceding era.<sup>1035</sup>

It is possible that the remaining Dacian towns did have much larger territories but, unlike in Thrace, this claim is not substantiated by the epigraphic sources. The best documented example is Apulum, the seat of the governor of the three Dacian provinces and the commander-in-chief of the Dacian army. (Map VI\_73) The funerary and votive inscriptions referring to the town's magistrates or business and religious associations are spread over an area of 3100 sq. km, the minimum estimate for Apulum's territory.<sup>1036</sup> Taking into account the outlying

documents provide negative evidence.

<sup>1031</sup> Piso 1995, 63-82.

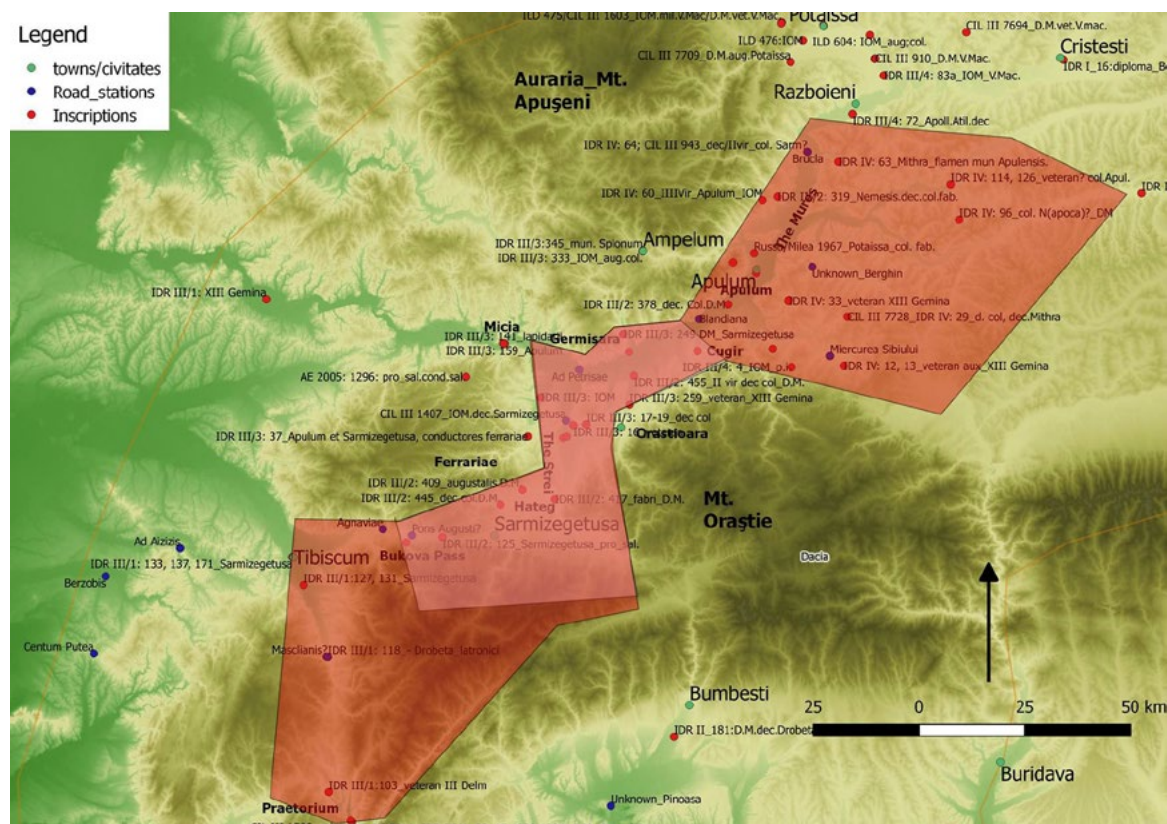
<sup>1032</sup> Piso 1995, 63-64, 76.

<sup>1033</sup> Piso 1995, Figure 1; excludes the mountainous parts of Sarmizegetusa's territory, reducing it to no more than 1200-1300 sq. km.

<sup>1034</sup> Iron mining in the region to the north of Sarmizegetusa: IDR III/3: 37; Balla 1979, 135-143; Piso 1995, 82; the Oraștie Mountains: Piso 1995, Figure 1.1, does not include it in the territory of the colony.

<sup>1035</sup> A more distant parallel comes from Carthage in Africa Proconsularis, Corbier 1991, 211-239.

<sup>1036</sup> CIL III 7788; IDR III/4: 60, 63; IDR III/4: 8, 12, 13, possibly IDR III/2: 319 and 389.



Map VI 72: The territory of Sarmizegetusa.

inscriptions and the estimates based on the Thiessen polygons will raise the territory of this town in the region of 5000 sq. km.<sup>1037</sup> It should be emphasized that this is also predetermined by the central position of Apulum in the urban network of Transylvanian Dacia. The territories of the mining district centred on Ampelum and the *municipium* of Tibiscum are poorly documented in the epigraphic record. The distribution of the mining sites and Thiessen polygons indicate that these units covered between 3000 and 4000 sq. km. (Maps VI\_74 and 75)<sup>1038</sup>

Only two autonomous towns are known from the parts of Roman Dacia lying to the south of the Carpathian Range and the Iron Gates. Because of the low urban density in this province, the Thiessen polygons predict territories in excess of 5000 sq. km for both Drobeta and Romula. (Maps VI\_76 and 77) However, the projections are not supported by the spread of the epigraphic evidence. This is scarce and uncertain in the case of Drobeta and non-existent for Romula on the River Olt.<sup>1039</sup> Taken in conjunction with the distribution of the auxiliary forts on the Olt *Limes* and in the interior of the province, these finds indicate that the territories of Drobeta and

Romula were smaller, ranging between 1500 and 2500 sq. km, in the case of Romula, and between 2500 and 4000 sq. km, in the case of Drobeta.

As noted above, the territories of the few epigraphically confirmed districts in the Dacian provinces, like Arcobadara, Ansamensium or Micia, were much smaller.<sup>1040</sup> If these were indeed separate territorial units, they did not extend over more than several hundred square kilometres. Sucidava in Dacia Maluenses is a possible exception.<sup>1041</sup> Although there is no evidence of the extent of its territory, the liminal position of the central place and the distribution of the auxiliary forts in the area confine it to no more than 1750 sq. km.

We have no way of telling the approximate extent of the districts that remained under governmental or military control in Roman Dacia (Figure VI 18). The rare epigraphic sources merely indicate the possible locations of these regions. Only the *procurator* of the gold-mining district in western Dacia is securely attested in the epigraphic record but, as the district had either been in its entirety or in part promoted

<sup>1037</sup> IDR III/4: 126, possibly IDR III/4: 114.

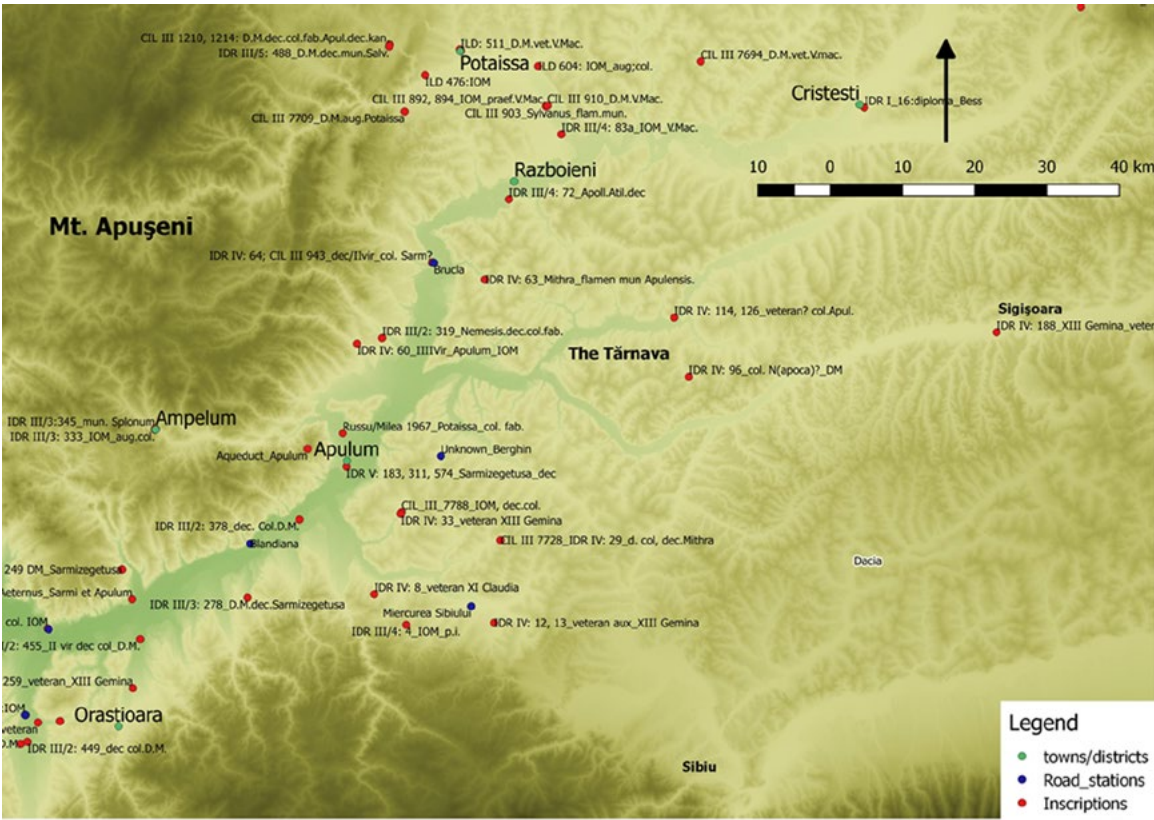
<sup>1038</sup> Gold-mining sites in Dacia: Mrozek 1977, 95-109;

<sup>1039</sup> IDR III/1: 62, IDR II: 135; possibly IDR III/1: 71 and IDR II: 181.

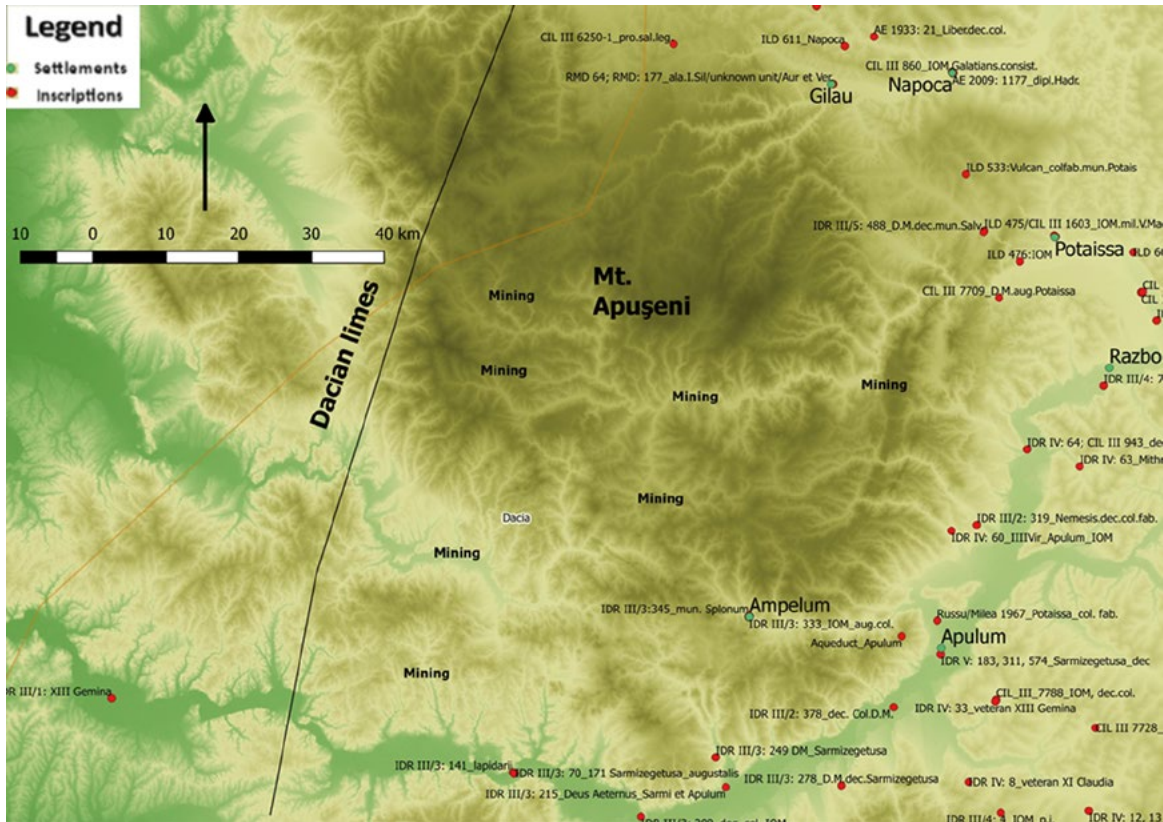
<sup>1040</sup> Arcobadara, Ansamensium: see fn. 1017; Micia: IDR III: 69, 80, Piso 1995, 72-73.

<sup>1041</sup> See fn. 1018.





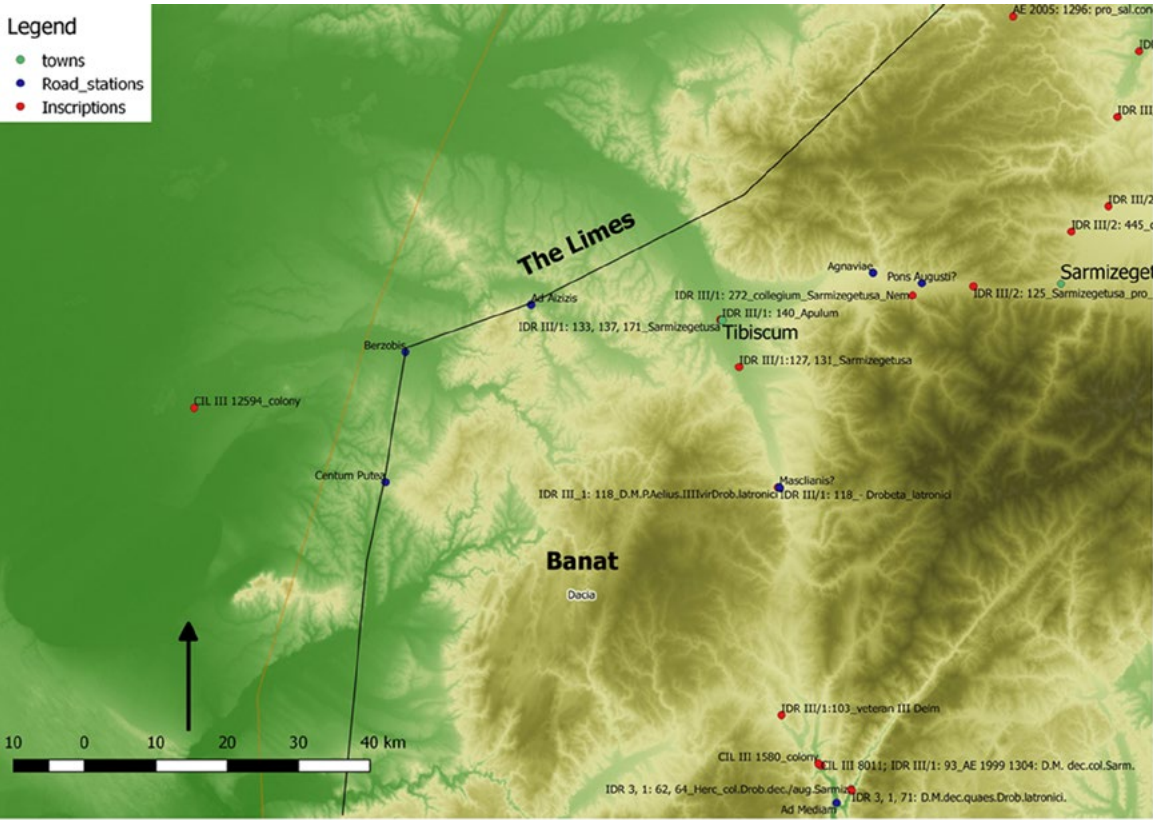
Map VI 73: The territory of Apulum.



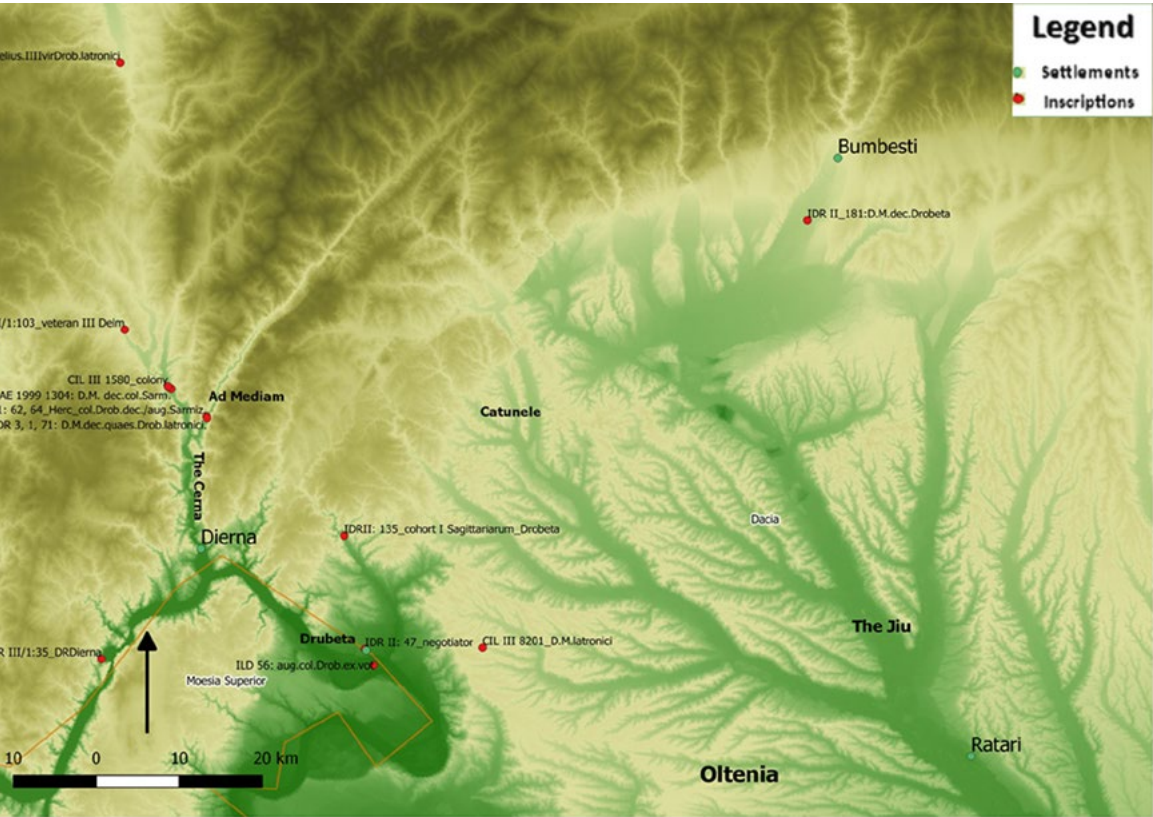
Map VI 74: The Dacian auraria.



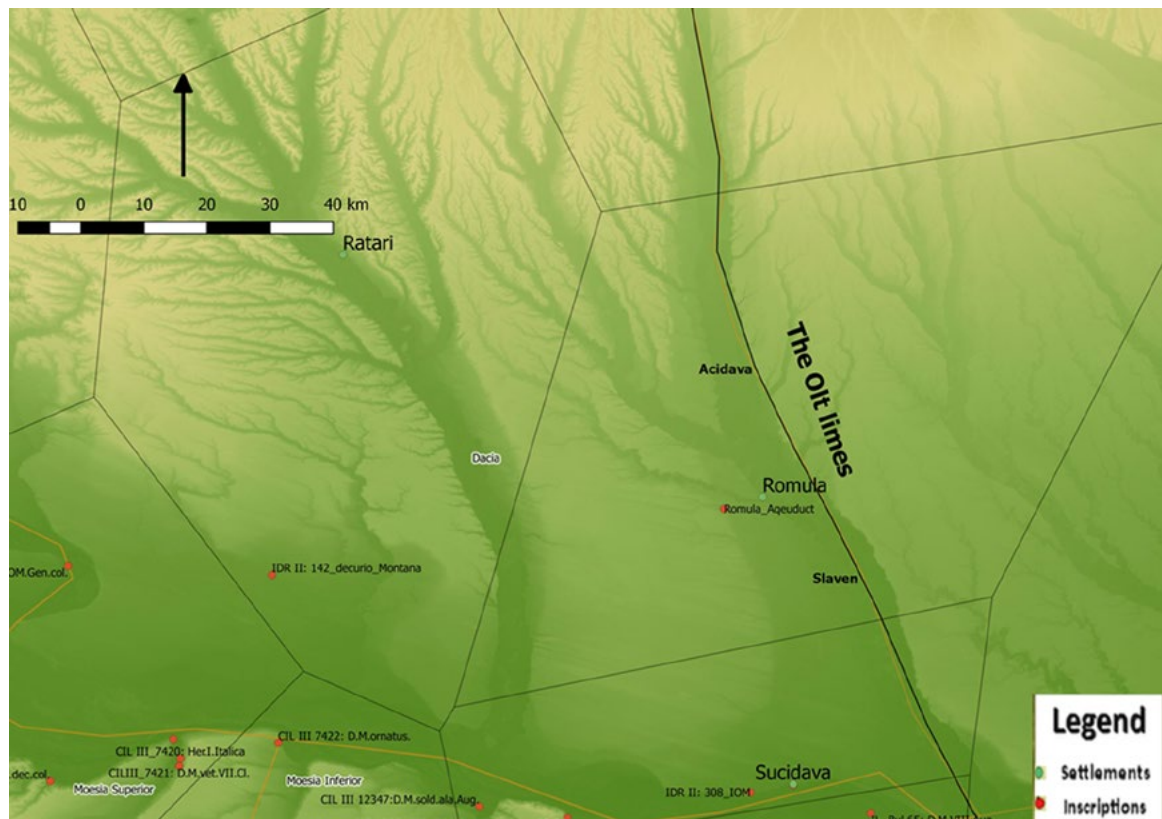




Map VI 75: The territory of Tibiscum.



Map VI 76: The territory of Drobeta.



Map VI 77: The territorial arrangements in Dacia Maluensis.

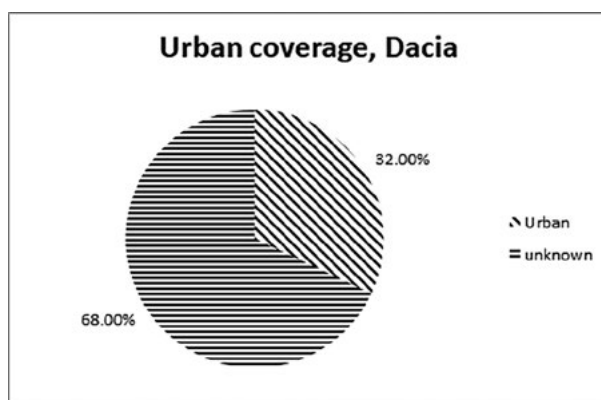


Figure VI 18: The share of the different administrative sectors in the government of Dacia.

to a *municipium* by the Severan period, this unit has been assigned to the civilian sector.<sup>1042</sup> Besides the gold-mines in the mountains of western Dacia, the Dacian provinces were also rich in iron ore, extensive pastures and salt-pans. Pertinently, these resources

<sup>1042</sup> The district *procurator*: CIL III 1312; IDR III/3: 281, 285; the *Municipium Ampelum* and its institutions: CIL III 1293, 1308.

were not only economically less important than the gold mines, they were also probably more wide-spread and did not require a separate procuratorial office. Nevertheless, the rare references to the *conductores* of the iron-mines, salt-pans and pastures prove that these resources were state-owned rather than municipal property.<sup>1043</sup> We also need to consider the iron-mining areas in modern Banat and Hunedoara, in the west of the province.<sup>1044</sup> Excluding the official dedications of the concessionaires of the salt-pans and pastures that have been found in the vicinity of the main traffic-nodes and commercial centres of the province, Apulum and Micia, the rest of the evidence for the Dacian *salinae* comes from eastern Transylvania. (Map VI\_78)<sup>1045</sup> In view of the environmental conditions in eastern Transylvania, it is very likely that the pastures leased by the provincial government were located in the same part of the province.<sup>1046</sup> Not only were there no official towns in this part of the province, but so far there is very little epigraphic evidence referring to magistrates of other Dacian cities.<sup>1047</sup>

<sup>1043</sup> Balla 1979, 175-182; Benea 2008, 410-430.

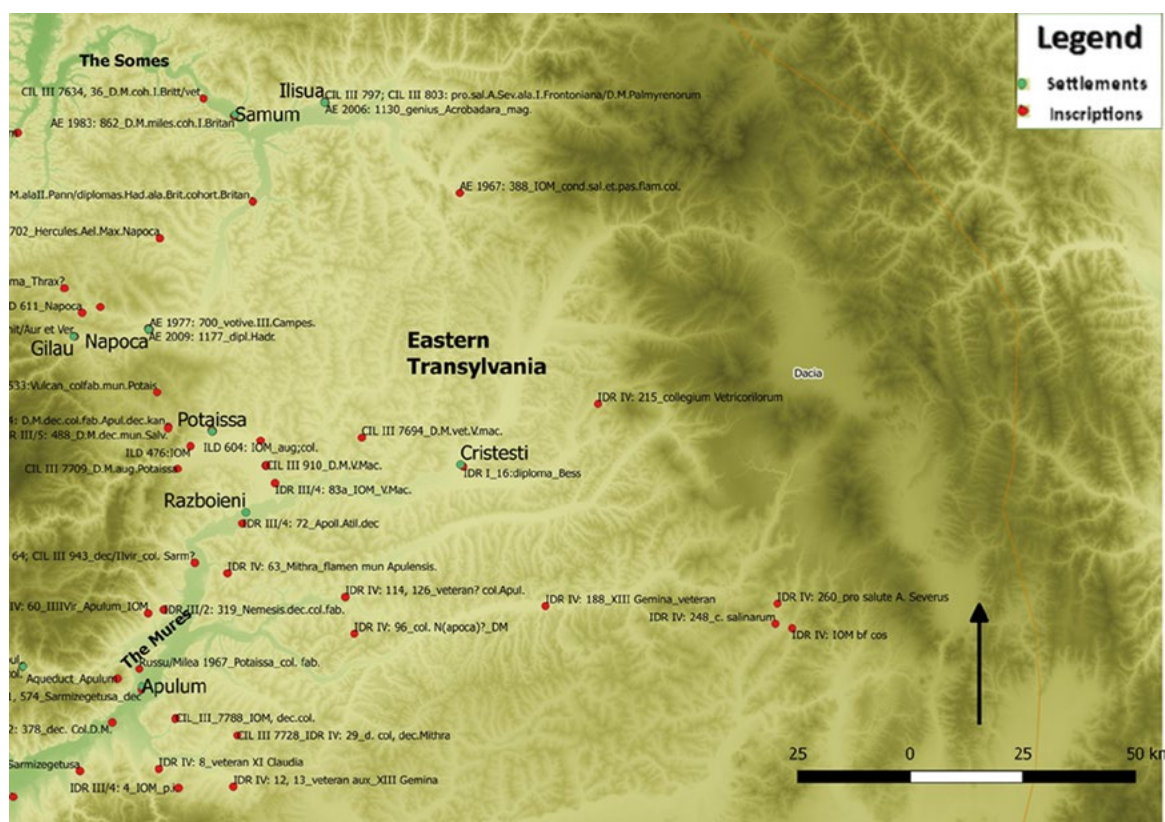
<sup>1044</sup> Balla 1979, 180-182; Benea 2008, 416-417.

<sup>1045</sup> Benea 2007, 41.

<sup>1046</sup> Keefe 1972; Benea 2010, 50, also points out the grazing potential in the southwest of the province.

<sup>1047</sup> Russu ed. 1988.





Map VI 78: The territorial arrangements in eastern Dacia.

Of course, this does not necessarily imply that the whole of eastern Transylvania and large portions of sub-Carpathian Dacia were imperial property. In most of the provinces of our study-area, the state-run sector comprised between ten and 25% of the provincial territories, but this arrangement cannot be applied to Roman Dacia, a province that was exceptional in many other aspects, without due considerations.<sup>1048</sup> Nonetheless, it is impossible to exclude the possibility that considerable portions of the provincial territory were assigned to peregrine communities that remained under military supervision. The numerous auxiliary forts in the interior of the province certainly hint at this possibility, although a military presence was the rule rather than the exception in most of the state-run districts. Even if we allow that the peregrine communities constituted separate administrative units in Roman Dacia, the fact that not a single reference to their names and institutions survives in the written record clearly underlines their limited role and inferior juridical status in the provincial society.

<sup>1048</sup> Piso 1995, 68; estimates that only about ten percent of the provincial territory was governed by the army and the provincial government, a statement difficult to reconcile with his projections for the size of the urban territories.

The only alternative solution is to assume that the whole of eastern Transylvania and Oltenia were subdivided between the autonomous towns of Dacia. In practice, this would imply that the provincial territory was divided into extremely elongated strips of land, stretching from the Mureş Valley to the eastern Carpathians in Transylvanian Dacia and from the Jiu to the Olt and Danube in sub-Carpathian Dacia. This scenario would increase the average extent of the administrative unit to 9000 sq. km. This is simply a hypothesis, unsupported by the archaeological and written sources. The evidence of *regiones* within the urban territories attested so frequently in Thrace and Moesia Inferior is so far missing in Dacia and the urban constellation in this province – with 80% of all towns located on a single road in the west of the province – would have been rather ill-suited to a similar arrangement.

The vast extent of the governmental and military sector in Roman Dacia appears far more credible in view of the fact that nearly 80% of all major settlements in this province grew up near army camps. The bulk of the human resources was dedicated to the defence of the long Dacian *Limes* and the exploitation of the natural resources. The civilian sector was limited to



the fertile Mureş and Someş Valleys and to the Danube. Unquestionably, the autonomous towns of Dacia were instrumental in the exploitation of the mineral riches, but the regions in which these assets were located remained outside the municipal jurisdiction. The large number of permanently stationed troops offered a ready pool of administrators needed for the large tracts of land that remained under governmental control.

The withdrawal from Dacia in the second half of the 3rd century AD means that there is no opportunity to look at the developments in the Late Antique period. We can only guess at the direction in which the Dacian experiment would have evolved after the reforms of Diocletian and Constantine. To judge by the developments in later historical periods, the urban geography of Roman Dacia was to a large extent exceptional. Five of the seven fortified towns in Medieval Transylvania are located in the eastern half of the Roman province, a region in which not a single urban centre developed under the Roman Empire.<sup>1049</sup> In contrast, the urban core of Roman Dacia was located in an area that was well-connected to the provinces on the right bank of the Danube. It was an extension of the dense urban constellation along the Danube, geared towards the exploitation of the natural resources of the province rather than securing a full administrative coverage of the territory.

### Conclusions: The correlates of territorial size and the administration of the study-area

The considerable variations in the size of the administrative units is one of the hallmarks of Roman urbanization in our study-area. The differences are dramatic, even if we confine ourselves to the minimum estimates. They range from less than 500 sq. km in the northern Adriatic to 5000 sq. km in the Thracian interior. It is important to stress that territorial size was irrelevant to the role of the urban centres. From an administrative point of view, both the smallest insular town in the northern Adriatic and the largest Thracian *civitas* were autonomous units of the same rank. Most of this chapter has been dedicated to presenting the evidence of the proposed territorial reconstructions. Inevitably, we have also tried to explore the ways in which this variability is related to the other aspects of the urban settlements. At the end of this long chapter a brief synthesis is in order, to ensure that the main points of the study are not lost from sight.

The principal divide obviously lies between the western and eastern half of our study-region, roughly coinciding with the zones of pre-Roman and newly founded towns. (Figure VI\_19) On account of the Greek colonies on the western Pontic coast, Moesia Inferior is the area that

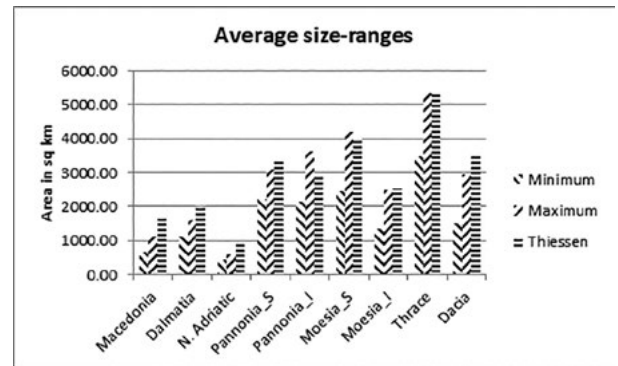


Figure VI 19: Average sizes of the administrative territories per individual province.

lies in-between the two groups. By contrast in Thrace, the few coastal towns are completely overshadowed by the very large units in the interior of the province. The fact that these differences of scale are reflected both in the estimates based on geographical conditions or epigraphic sources and in the Thiessen polygons is a clear indicator that one of the underlining causes behind this divide were the variations in intercity distances between the two segments of the study-region. In the zone of pre-Roman urbanism, the distances between neighbouring towns almost never exceeded 30 km, whereas in most provinces in the interior of the peninsula they rarely fell below 50 km. The two main causes of this divergence are the different socio-economic conditions in the coastal areas and the interior at the time of the conquest and the evolution of Rome's imperialist policies. By and large, the Romans maintained the existing urban networks in ancient Epirus, Macedonia and on the Adriatic coast, recognizing and protecting the status of even the smallest self-governing communities. In the other provinces, there was neither a stable pre-existing infrastructure nor an urban tradition comparable to the coastal zones. The only tangible framework in the interior of the Balkan Peninsula and the Danube provinces at the time of the conquest was that provided by the fluid tribal divisions and it is still unclear to what extent they were incorporated into the administrative maps of the provinces. In not a single province did it prove possible to find a full correspondence between the number of *civitates* and the later *municipia*. There is no way of telling if this was a result of the incomplete process of municipalization of the provinces or the merging of two or more *civitates* into a single administrative unit. The odd fact that does stand out is that the administrative units in the belt of newly founded towns were in any case much larger than the urban-based communities in the coastal zones or in the southern part of the peninsula.

<sup>1049</sup> Petrovics 2011, Figure 1.

The variable ecological conditions between the two principal zones of our study-area would have also been a very influential factor in the differences in the size of the administrative units. The island communities of the northern Adriatic occupied geographical niches that were several times smaller than the average micro-regional unit in ancient Epirus or Macedonia, that in their turn were dwarfed by the vast expanses of the Pannonian or Thracian plains. However, the large urban territories in the Dalmatian interior or in western Thrace demonstrate that the rugged relief was not the essential precondition for the emergence of small territorial units. Most of the *municipia* in these mountainous regions encompassed several different micro-regional units, often belonging to more than one drainage basin. In fact, the distribution of the extant boundary-stones demonstrates that outside the belt of pre-Roman urbanism, the physical geography rarely dictated the limits of the urban territories.

Closely related to this finding is the observation that most of the administrative units in the zone of pre-Roman urbanism were centred on towns that were much smaller in size than the newly founded colonies and *municipia* in the interior. In the preceding chapter, we have seen that these urban centres and their dependent communities could have easily provided themselves with enough food from the small patches of fertile land within one- or three-hours' walking distance from the central place. As a territorial entity, the pre-Roman town was on a different scale to the newly founded *municipia* and *civitates*. The old towns were both the administrative and economic centres of physically well-defined micro-regions. Breaking away from this pattern, the primary function of the newly founded towns in the Balkan interior was to be the administrative centres of large regional units. Because of their large territories and their excentric locations they would not have been in position to provide market services to every corner of their administrative territories. In theory, their large territories should have enabled them to outgrow the pre-Roman *poleis*, but in a number of cases this projected outcome failed to materialize.

On a more general level, the investigations in this study demonstrate the lack of positive correlation between the rank and built-up areas of the towns and their territorial sizes. Three or four of the five largest agglomerations in our study-region had average sized administrative territories, measuring less than 2500 sq. km.<sup>1050</sup> Even in the top ten, no more than two urban centres had territories larger than 3000 sq.

km. More to the point, the size of the population in most of these settlements would have exceeded the agricultural potential of their immediate hinterlands. The most extreme examples are the *municipia* that developed near the legionary camps on the Danube, like Singidunum or Viminacium, with territories smaller than 1000 sq. km. These examples only serve to highlight the special place and privileges enjoyed by the military agglomerations and their independence of the agrarian potential and other natural riches in their hinterlands. The most sensible conclusion to be drawn from this juxtaposition of the territorial sizes and built-up areas is that, although an average to large territorial size was an essential precondition for the existence of a large town, it was not necessarily the decisive factor behind urban growth.

In some cases, the most valuable resource in the urban territories were the inter-regional roads that passed through the area or the presence of good natural harbours, or a combination of both.<sup>1051</sup> It stands to reason that towns like Dierna or Stobi would have made maximum use of their locations on important regional cross-roads. The proximity to their neighbouring towns or to the provincial and imperial frontiers would have confined the territorial extent of these towns. Neither Dierna nor Stobi can be qualified as a large town, but they were nevertheless slightly too big for their territories and a considerable segment of their urban populations must have been involved in trade or transport. These two examples serve to underline the absence of a positive correlation between the size of the territorial units and their genesis or geographical location. The micro-locations of some of the urban settlements, taken in conjunction with the small territorial extent suggest that, in addition to agriculture, these communities were involved in other export-oriented economies.

It has already been stressed that the military agglomerations did not have to rely solely on the resources available on their territories, as they had access to other channels of supply. However, there were other mechanisms that secured settlement growth among the top settlements of the regional hierarchy. Evidence of the activity of the aristocracy residing in the principal civilian towns has often been discovered throughout the provincial territories and, in some cases, beyond the provincial borders. They have been most prominently associated with the extra-municipal territories, the mining districts and frontier zone, but they were also regularly represented among the *curiales* of the neighbouring, smaller towns. The majority of the epigraphic sources that confirm these connections are irrelevant to the administrative divisions, but they are highly valuable as indicators of the scope and

<sup>1050</sup> It is important to stress that the territories in question belonged to the civilian towns that emerged near the legionary camps. If detached from the legionary camps and *canabae*, these settlements would belong to the same size-range as the average autonomous town in the Balkan and Danube provinces.

<sup>1051</sup> Cf. Keay, Earle 2011, Table 10.1.

range of economic activities undertaken by the elites of the major towns. These documents suggest that the economic foci of the urban elites – whether that be the extraction of natural riches or provisioning the army – were located beyond the territory of their *civitas*. Likewise, the shortages of arable land in the urban territory could have been compensated by land ownership in the territories of other towns. This implies yet again that, as long as the chief economic assets were accessible to its elites, the territorial extent was not of crucial importance to the size and prosperity of a given town. Herein lays a possible reason for the stunted urban development in certain parts of our study-area. A large proportion of the economic profit from the areas endowed with valuable resources was siphoned off to the provincial capitals and major ports, while the costs of administering the large, rugged territories of the mining districts had to be shouldered by the native communities, often under the watchful eye of the provincial government. The political economy of the region largely revolved around these arrangements. Town-like settlements emerged only in a few of the extra-municipal districts – Domavia and Ampelum – and this was often a late development co-inciding with the withdrawal of private contractors and an increase in the involvement of the government. Looked at from this angle, the small to moderate size of the territories of some of the major towns in the region would have been an advantage rather than a handicap.

The correlation between the territorial size-ranges and the socio-juridical status of the central places was equally small. Only in the territories of some veteran colonies is it possible to observe a consistent tendency of the territorial sizes to cluster in the range between 2000 and 3000 sq. km. Pertinently, this group is relatively extensive, including at least one or two colonies from every province of our study area. Too little is known about the economy of these towns to claim that they form a truly coherent group and the epigraphic record from their countryside indicates that the composition and the economic interests of their elites could be variable. This should not blind us to the possibility that the colonies with a predominantly agrarian orientation would have required a certain minimum of arable land that should have produced similarly sized territories. The fact that many of the veteran colonies were of roughly equal size serves to underline this point.

Looking at their territorial sizes, the *municipia* make up by far the most heterogeneous group of urban settlements. They are spread across virtually the entire spectrum of size-categories, from the tiny *municipia* on the eastern Adriatic coast to the Latin *municipia* that were the centres of vast territorial units in the continental parts of the study-area. From a purely logistical point of view, the persistence of the small territorial unit – smaller than 1000 sq. km – entails

neither particular difficulties nor does it require special conditions. The great majority of these *municipia* were small communities that could live comfortably off the land and the resources available in their immediate hinterlands. In this respect, the juridical status is irrelevant to the territorial extents of these towns. Both in terms of built-up area and territorial size, they are in the same basket as the pre-Roman *poleis*, although the group has been extended to include some *municipia* that emerged near the strategic points on the imperial and provincial frontiers. Even though they were no less autonomous than the veteran colonies, the authority of the elites based in these *municipia* was far more restricted. Both groups enjoyed the same juridical status, even though their economies and administrative apparatus are not readily comparable.

Far more intriguing is the group of Latin *municipia* that occupied the opposite end of the territorial size spectrum. These are the large urban territories that, with the mining districts, made up much of the interior of the provinces. Most notable is the fact that this group often included the so-called ‘small *municipia*’, communities known only from a handful of inscriptions and, in some cases, lacking a recognizable central place. At first sight, it seems impossible to try to disentangle the paradox of vast extents of difficult land governed by towns whose only surviving memory are their obscure names.

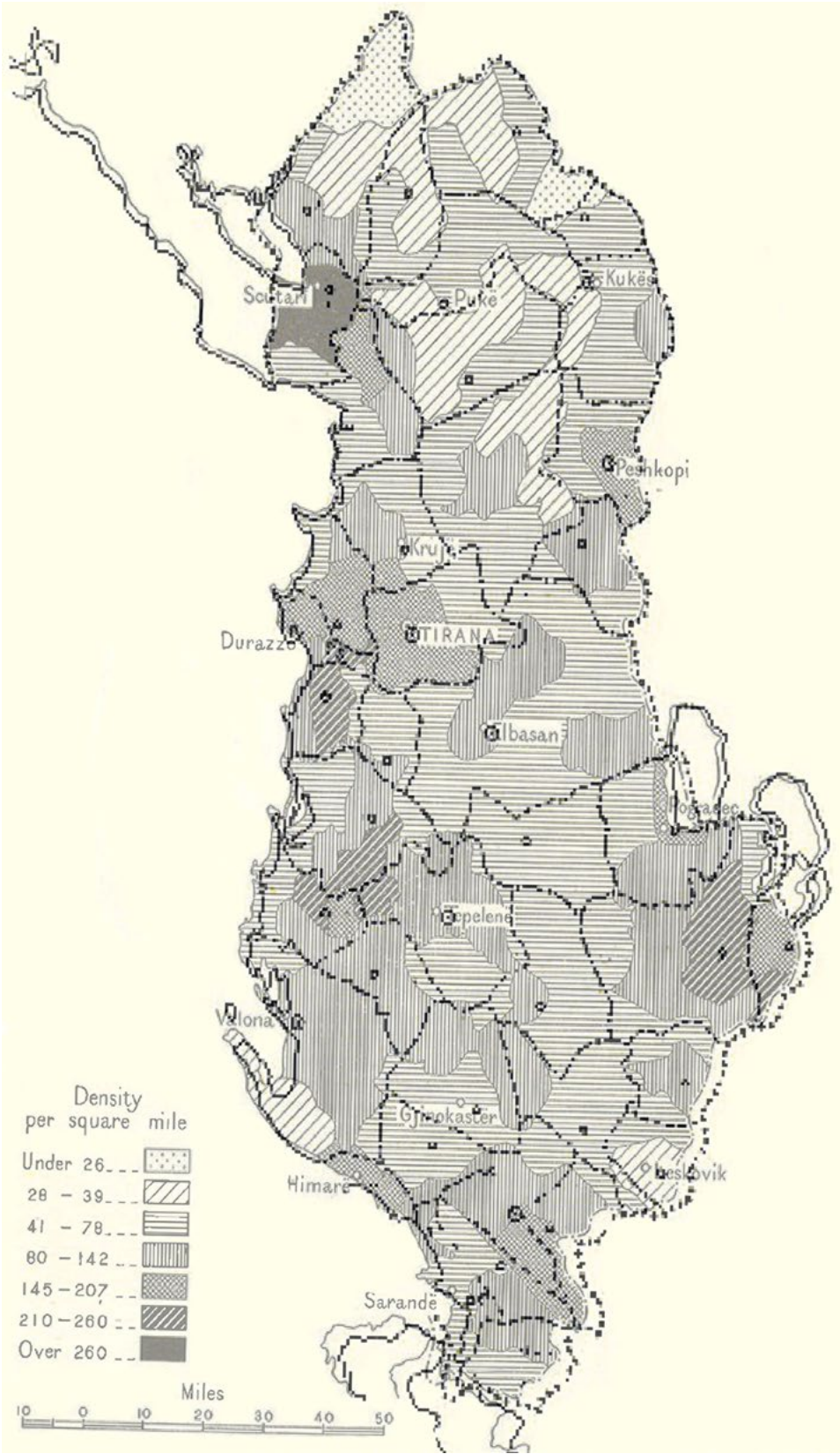
At this stage we are convinced that the explanation for this phenomenon lies outside the size, status or economic profile of these urban centres. Looking at the maps of population densities of the different nation-states that constitute our study-area reveals that the regions featuring low population densities coincide with marked regularity with the largest administrative units. The higher the population density, the smaller the size of the administrative unit or the higher the number of sub-units. There seems no reason that the same principle should not have applied in Antiquity. The largest prefectures in early 20th century Albania were located in the mountainous, continental parts of the country.<sup>1052</sup> The territorial units on the coastal plains were two to three times smaller, with Tirana, the capital and most populous town in the country, governing by far the smallest administrative unit. (Map VI\_79) A similar tendency can be observed on the administrative map of the kingdom of Yugoslavia in the 1920s. (Map VI\_80)<sup>1053</sup> The largest prefectures or *oblasti* were located in the western half of the country, coinciding with the karstic regions of the Dinaric Alps, namely, inner Dalmatia and parts of Moesia and Pannonia Superior. In contrast to Antiquity, the smallest administrative units were located in the fertile

<sup>1052</sup> The Naval Intelligence Division 1945, cf. Figures 41 and 25.

<sup>1053</sup> The Naval Intelligence Division 1944b, Figure 67.

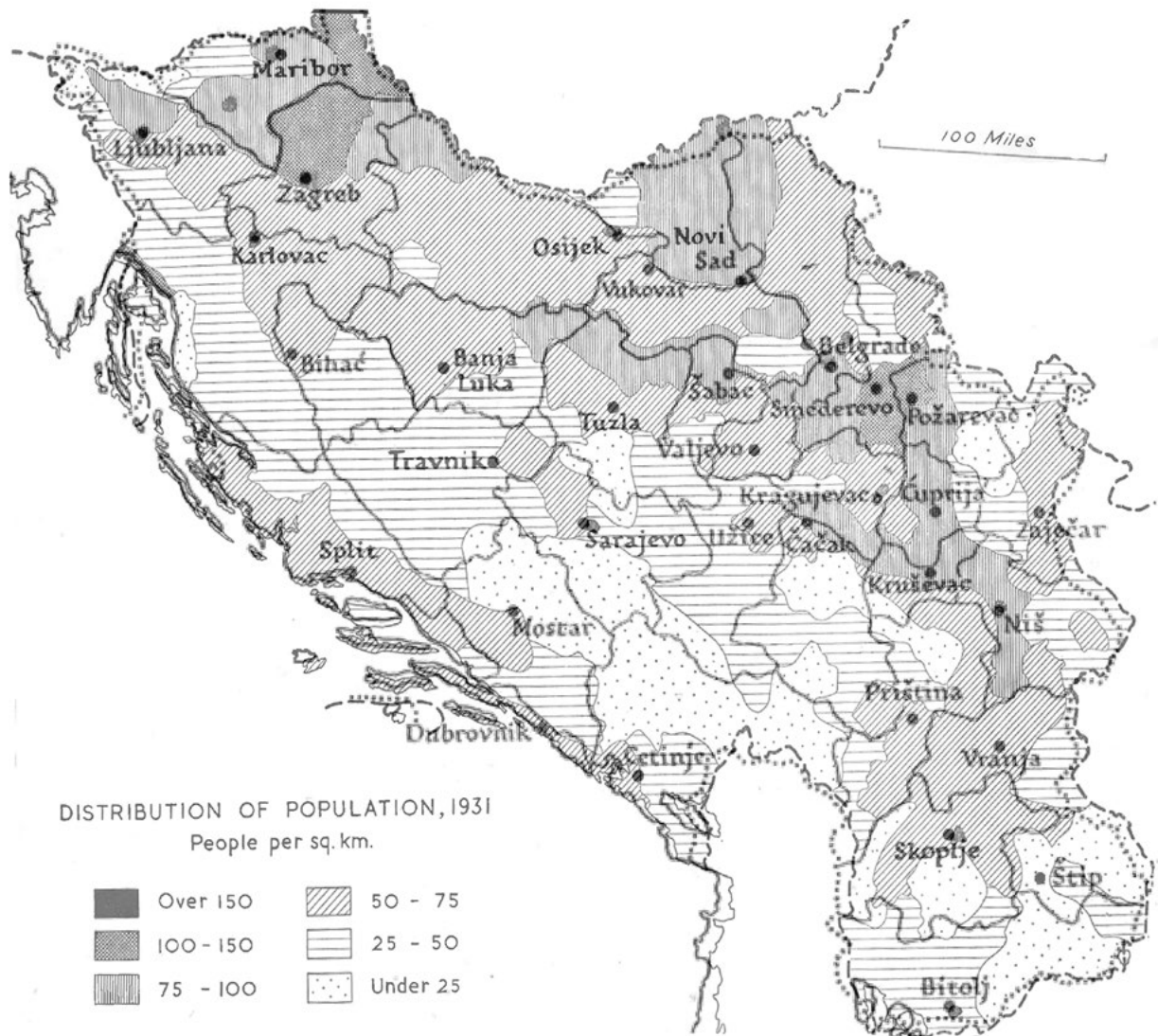






Map VI 79: Administrative and population density maps of early twentieth-century Albania juxtaposed.





Map VI 80: Administrative and population density maps of early twentieth-century Yugoslavia juxtaposed.

and densely populated valleys of the Morava and Sava rather than on the Adriatic coast, on which population densities were comparable to those found in the Dalmatian interior.<sup>1054</sup> In this particular case, the lack of continuity between Antiquity and the modern period is not necessarily related to changes in the demographic map of the province, but to the disadvantageous juridical status of the communities that lived in these valleys. Nevertheless, the negative correlation between population density and the size of the administrative units persisted.

<sup>1054</sup> The Naval Intelligence Division 1944b, Figure 1; a similar tendency can be observed on the administrative map of the Austrohungarian Empire in the late 19th century: <http://www.historicaltextarchive.com/hungary/counties.html>; note that the large counties occupy roughly the same parts of the country as they did in the Roman period.

It is not too difficult to account for this coincidence between the oversized territorial units and low population density. The sparsely populated mountainous parts of the Balkan Peninsula offered a very limited base for urban growth, regardless of the time-period in question. The persistence of the ancient tribal identities might also have been an additional inhibitive factor, as this organization favoured the survival of multiple micro-regional centres and prevented potential investment in a single regional centre. It is no accident that the known examples of territorial fissions and the emergence of new administrative units occurred almost exclusively in the moderately sized territories of the largest and most prosperous towns rather than in the overstrained territories of the 'small *municipia*' of the Balkan interior. This paradox seems inexplicable unless the implications of the variable population densities are considered. High population density implies both high

urban densities and small urban territories. In the cases of the 'small *municipia*', the large territorial extents are a symptom of the weak demographic potential often coupled by a scarcity of natural resources. Judging by the degree to which the provincial government involved itself in the internal affairs of these towns, the cost of governing these extensive stretches of difficult terrain would have outweighed any potential benefits. This is reflected in the ubiquity of the *curatores* and *beneficarii* in the epigraphic corpus of the Balkan towns and, even more directly, by the heavy investment in defensive infrastructure in the large territories of the Thracian towns.<sup>1055</sup>

There was a great deal of continuity in the administrative map of the region between the first few centuries of the Roman Empire and later historical periods. Admittedly, in many provinces we have observed that, in the Late Roman period a number of new towns were introduced, chiefly in the territories of the largest urban centres or in the districts under military or governmental control. However, in most of the provinces the number of newly founded towns was limited and, without further studies, it is impossible to be certain if this growth was accompanied by urban contraction and decline in the existing urban settlements.<sup>1056</sup> Overall, the stability in the number of autonomous units over long periods of time is striking. Where the differences are more pronounced, as in Dacia or Moesia Superior, it is likely that the shortage of autonomous towns was compensated for by an unknown number of state-governed districts. This long-term stability in the number of administrative districts in the region points to their primary role as administrative and tax-collecting units.

Far more significant than the changes in the number of administrative units were the transformations in their spatial distribution in the post-Antique period. Although no development would fit each case, two major trends can be observed. One is the urban withdrawal from the coastal areas, observed both on the Adriatic and the Black Sea coasts.<sup>1057</sup> Both regions underwent a period of urban decline after the end of Antiquity, although the timing and pace of this process differed between the two littorals. The other pronounced trend was the renewed urban growth in certain parts of the

Balkan interior, often datable to the beginning of Late Antiquity. In a way, this last wave of urbanization was a rectification of the anomalies in the urban map of the previous era rather than any expansion into a new ecological zone. For regions like the Morava Valley, the Drava or the Bosnian Valleys, the period of the High Empire was truly exceptional. These productive, well-connected regions show no evidence of autonomous towns in this period, although they had been densely populated in earlier periods and boasted at least one urban centre in later centuries. Although the Roman Empire introduced urban life to most parts of the Balkan Peninsula and the Danube, the urban map of the era preserved many of the features of the pre-Roman urban geography. Disregarding the military sector along the frontier, the urban core of the region remained within the coastal zone. The true urbanization of the interior took hold only with the emergence of the land-locked polities in the Middle Ages.

This uneven distribution of the autonomous towns meant that the urban coverage rarely surpassed 70% of the territories of individual provinces. This is true even of the demilitarized provinces, in which evidence of the presence of imperial domains or mining districts is scarce. The differences between the individual provinces are not inconsiderable. Again, there is an apparent divide between the western half of the study-area, in which the coverage by autonomous administrative units ranges between 60 and 70%, and the eastern half of the peninsula and Dacia in which it drops below 50% of the provincial territories. This is a fair indicator of the variable degree of urbanization of the provinces that constitute our study-area. The number of towns in provinces like Moesia Superior or Dacia barely reached ten, whereas in Dalmatia even the pessimistic estimate predicts no fewer than 30 autonomous towns. The sheer number of autonomous units in Dalmatia compensates for the presence of large mining districts and regions under military supervision in the continental parts of the province. On the other hand, in Thrace or Moesia Superior even the partial urban coverage is only made possible by extending the areas governed by the municipal authorities over very large swathes of territory. It is tempting to relate this difference to the varying roles of these groups of provinces in the regional economy. However, in the preceding chapters it has been demonstrated that the variable urban densities were dictated chiefly by the divergent histories of the urban networks in the western and eastern halves of the peninsula.

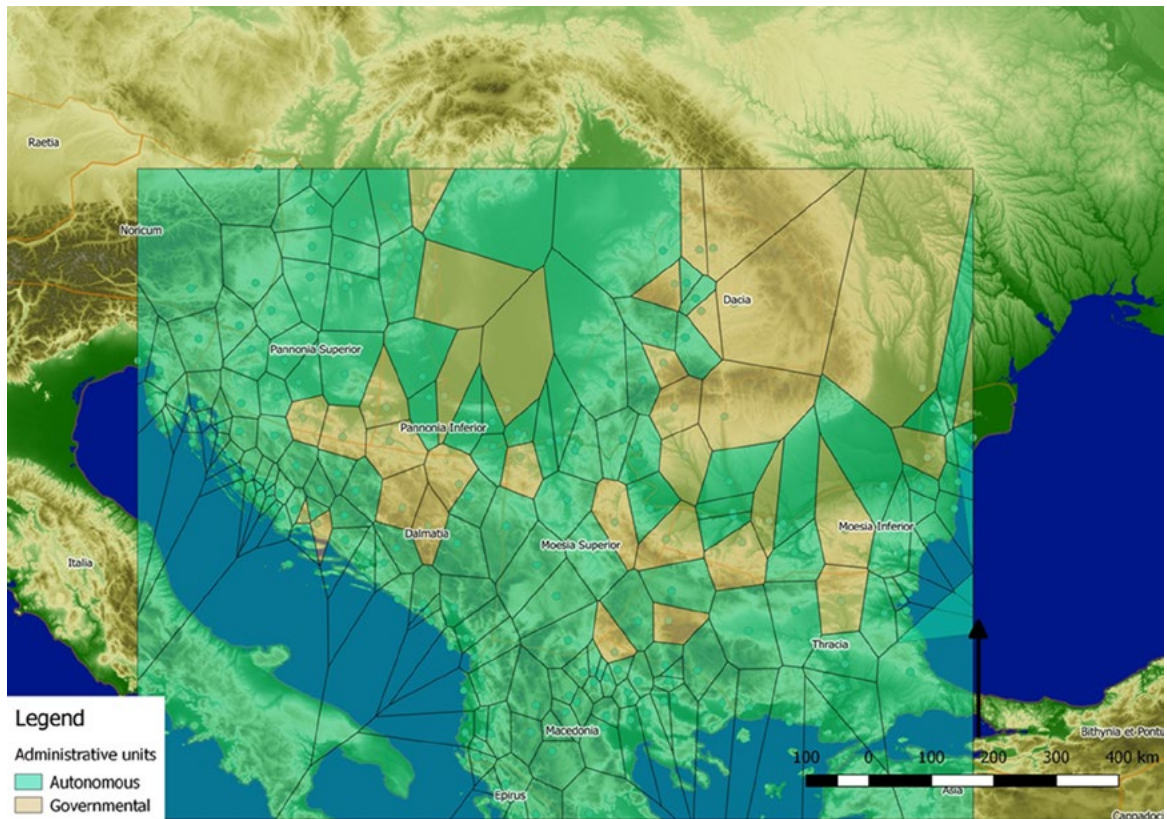
The study of the epigraphic sources has demonstrated that, in the majority of the provinces in our study-area, between 15 and 25% of the territory was under direct governmental control, excluding the specific cases of the *municipia* that developed in the mining

<sup>1055</sup> Evidence of *curatores*: Dacia: Petolescu 2011, 83-109; Moesia Inferior: Suceveanu, Barnea 1991, 97; Dalmatia: Bojanovski 1988, 56-57. The Balkan and Danube provinces feature the highest number of urban *stationes* in the Roman Empire: Ott 1995, 88-100; this author presupposes a fairly narrow range of duties assigned to these officers, nevertheless they remain the only representatives of the provincial government outside the provincial capital.

<sup>1056</sup> Cf. Poulter 2002, 99-135.

<sup>1057</sup> This change was far more dramatic on the Adriatic than on the Black Sea coast, on which some of the coastal towns survived until the Ottoman period. The western Pontic coast: Poulter 2002, 114-115; Crampton 2005, 29-33. In Dalmatia there had been a drastic reduction in the number of coastal towns by Late Antiquity: Dzino 2014b, Map 1.





Map VI 81: Distribution of the governmental and autonomous sectors in the study-region.

districts or near the military camps. (Map VI\_81)<sup>1058</sup> Of course, it might be sheer chance that such districts are not attested in greater numbers in Dacia or Thrace, provinces in which the autonomous administrative units covered no more than half of the provincial territory. Even in the parts of Italia X included in our study area and in Upper Macedonia and northern Epirus, the only senatorial province in this region, the existence of special fiscal districts cannot be excluded. Therefore, it is a reasonable conclusion that the share of the governmental sector has surely been minimized.

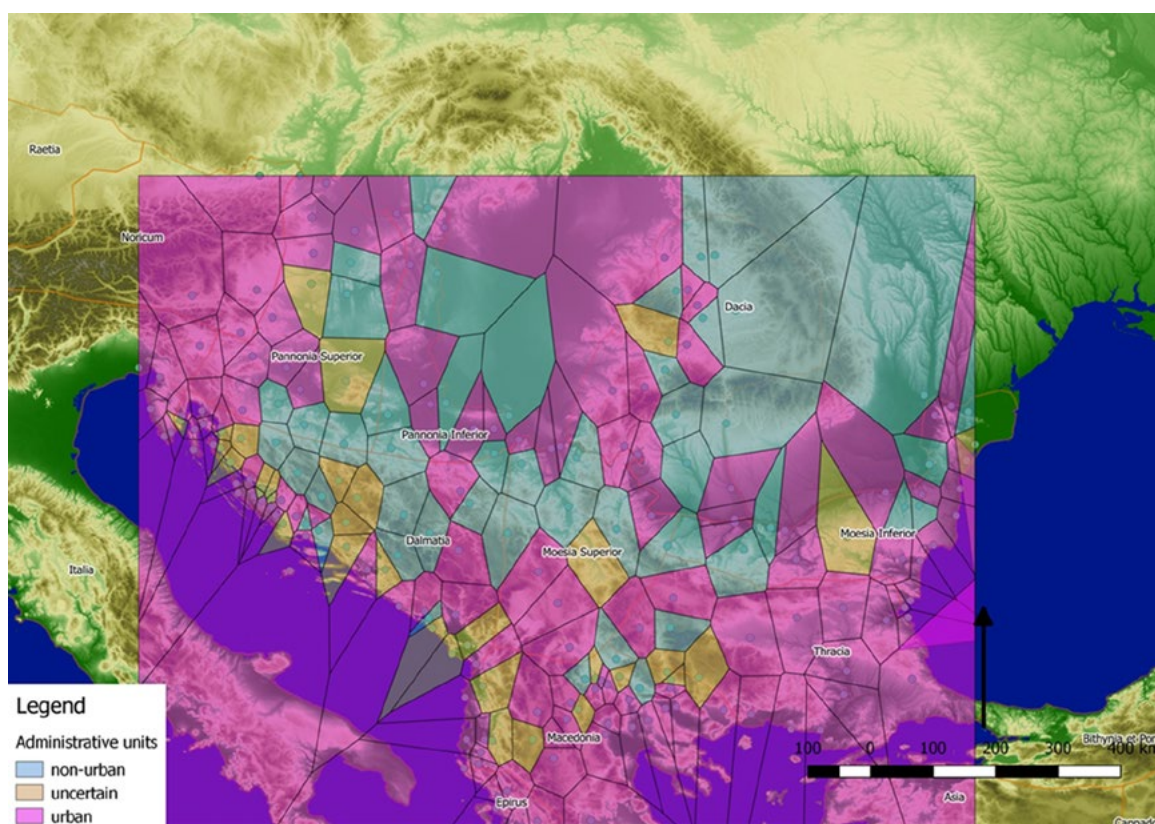
In contrast to the autonomous towns, those districts that were brought under direct military or governmental control were evenly spread between the individual provinces of our study-area. They form a discontinuous arch, stretching from the Pannonian *ferrariae* in the northwest to the Black Sea coast in the southeast and over most of Roman Dacia. The best illustration of this is the distribution of the mineral resources. The provincial boundaries often cut through the wealthiest metalliferous regions of the Balkan Peninsula.<sup>1059</sup> These arrangements can hardly be ascribed to chance. As with the distribution of the military units, the

prevalent tendency was to avoid the concentration of power in single administrative posts and to spread the concessions for ore-extraction evenly among the urban elites of the individual provinces. This makes it almost impossible to make a clear differentiation between the individual provinces in terms of their place and role in the political economy of the study-area. The inequalities in access to capital and resources were confined to individual provinces or smaller regional units. It is very difficult to recognize such disparities on a broader regional scale, a telling sign of the low degree of economic integration between the provinces of our study-area. Every individual province was made up of a densely urbanized core and outlying areas that either underwent minimum urban growth or remained under governmental or military control. The divide between the areas that exported taxes and raw materials postulated at the beginning of this chapter might not have been played out on a regional level, but it was the main organizing principle of the provincial economies.

The bulk of the territories of most of the provinces fell under the control of the autonomous administrative entities. However, urban coverage should not to be confused with the degree of urbanization. The civilian sector includes all territories in which municipal institutions have been attested, regardless

<sup>1058</sup> Cf. Piso 1995, 68.

<sup>1059</sup> Dušanić 1977a, 65–66.



Map VI 82: Distribution of the urban and non-urban sectors in the study-region.

of the presence of archaeologically identifiable urban centres. A slightly different image emerges when we try to distinguish between the autonomous units that developed an urban centre and those that remained non-urban, that is, the areas in which the central place is either archaeologically invisible or failed to emerge from under the shadow of the military fort. (Map VI\_82) This exercise will throw a different light on the urban map of the peninsula, unmasking the veneer of urbanism cast by the large extent of the self-governing sector and simultaneously pointing to the areas in which the lack of autonomy did not prove a hindrance to the emergence of towns. In other words, one final distinction has to be made between the urban and non-urban administrative units in order to delineate the two principal components of the regional economy more sharply; the communities entitled to capital and privileges and those endowed with valuable natural resources.

On the surface, the differences between the map showing the extent of the autonomous and governmental sector and that showing the distribution of the urban and non-urban districts are not spectacular. With a few exceptions, the zone of non-urban administrative units overlaps chiefly with the spread of the governmental and military districts, following the metalliferous

zone along the Dinaric Alps, Mount Haemus and the Carpathian Range. It has merely become more compact and somewhat more extensive, engulfing much of eastern Dalmatia and nearly half of the territory of Moesia Superior. The close coincidence between the state-governed and non-urban belts is no accident. Cogently most of the non-urban *civitates* were adjacent to the mining districts or the areas under military control and this is another essential feature of the urban systems in our study-area. The efforts made to municipalize some of the mining regions or the outlying areas rarely resulted in any perceptible urban growth. At least until Late Antiquity, the area marked in blue on Map VI\_82 continued to figure as the rural outback of our study-region. At the same time, there are only a few shifts in the opposite direction. Only a handful of extra-municipal districts feature an identifiable urban centre unrelated to a military fort.

Once the number of autonomous units that failed to develop an archaeologically recognizable central place are considered, the belt of non-urban *civitates* expands into the Pannonian provinces and the areas of high urban density, coastal Dalmatia, northern Epirus and Upper Macedonia. Although, both the 'small *municipia*' of the Balkan interior and the declining *poleis* in the pre-Roman urban belt enjoyed an autonomous status,

they hardly deserve an urban label. At both ends of the territorial spectrum, a fairly large number of self-governing units are encountered that failed to develop a central place that would meet the urban standards of their time. It was essential to consider this aspect of the administrative units in order to arrive at a fairer image of the level of urbanisation in our study-area.

The number of autonomous units without an urban centre outnumbers the districts under governmental or military control by almost 50%. Although the underlining tendency of the Roman government was to promote self-government on a local level, the variations in the distribution of labour, natural resources and privileges set a rigid limit to urban growth.



## Chapter VII

### Conclusions

#### The genesis of the settlement map: towns and imperialism

Until the end of the Republic, Roman rule over the Balkan Peninsula spread almost by osmosis, following the path of least resistance. The principal goals on which Roman imperialism had set its sights in the early 2nd century BC were the Illyrian and Macedonian kingdoms and the northern Adriatic.<sup>1060</sup> Both regions were conquered at about the same time and they became the principal bases for further expansion into the Balkan interior and the Danube Valley. In its expansion, the Republic wanted to be sure that it had secured control over the main routes to the Apennine Peninsula. It was a move that made sense in a foreign-policy strategy in which defence and aggression were juxtaposed.<sup>1061</sup> The Roman presence in the eastern Adriatic was maintained indirectly, through alliances with the Issaeans and some of the polities on the Adriatic littoral.<sup>1062</sup> The occupation of the Dalmatian coast proved to be a much more gradual process, peppered with a number of military setbacks. The close connections between the coastal zone and the plateaus of the Dinaric Alps meant that direct control of the littoral would remain tenuous as long as Rome had no influence in the Dinaric Alps. Rome had no known precedents for such an arrangement in the eastern Adriatic. Earlier Greek colonists had either failed to establish a firm foothold on the coast or they had simply never contemplated it.<sup>1063</sup> Nor had the Roman Republic been very much more successful in this respect. Narona might have become a Roman base as early as the middle of the 2nd century BC, but the struggle for Salona continued into the middle of the 1st century BC.<sup>1064</sup> In fact, the Dalmatian coast was finally secured only after Octavian's campaign in 35-33 BC.<sup>1065</sup> Similar patterns can be observed on the western Black Sea coast, a region in which environmental conditions were very different to those in the Adriatic. Rome conquered the coastal zone after the fall of Mithridates VI, but its authority in this area was finally asserted only

in the first years of the Principate.<sup>1066</sup> In the inland, the Thracian kingdom retained its nominal independence until the reign of Claudius.<sup>1067</sup> Nearly century and a half separated the Roman victory over ancient Macedonia and the conquest of the central Balkans.<sup>1068</sup>

Modern scholarship has often been imprecise in its claims that this dynamic of conquest was dictated by the varying degree of integration of the conquered areas in the Mediterranean cultural and economic sphere.<sup>1069</sup> It is dubious if the peoples who inhabited the central Balkans or the Dalmatian interior were any more prepared to become a part of the Roman world in the late 1st century BC than they had been one century earlier. Many parts of the Balkan Peninsula still had difficulty in shaking off their Iron Age heritage until well into the 3rd century AD.<sup>1070</sup> Nevertheless, this is not to say that the native societies had not evolved prior to the Roman conquest. However, it should be emphasized that an equally fundamental transformation had also occurred on the other side of the Adriatic. Up until the middle of the 1st century BC, signs of direct Roman involvement in the subjugated parts of the Balkan Peninsula are very few and far between. There are no traces of army camps and – with the exception of the Via Egnatia – major infrastructural projects in these areas in the period between the time of the conquest and the Battle of Actium. Until the early 2nd century AD, no new towns were founded in the regions captured prior to the Principate. The swift imposition of direct rule on these parts of the Balkan Peninsula could only be achieved because of the political and economic institutions already established there, reinforced by urban development and the existing road network. There was no need to commit large military and administrative resources to areas that were capable of managing their own affairs. The initial terms of agreement after the Battle of Pydna in 168 BC stipulated that the Macedonians organize their own defences against the marauding tribes of the central Balkans.<sup>1071</sup> The Roman soldiers, administrators and entrepreneurs

<sup>1060</sup> Hammond 1968, 1-21; Wilkes 1969; Mócsy 1974; Hammond, Wallbank 1988; Šašel 1992, 408-431; Bandelli 2004, 95-139; Dzino 2010.

<sup>1061</sup> Šašel-Kos 2005; Eckstein 2008.

<sup>1062</sup> Wilkes 1969, 29-36; Čače 1991, 55-71; Šašel-Kos 2005, 291-334; Dzino 2010, 44-60; 61-79.

<sup>1063</sup> Suić 1976; Kirigin 2002, 363-385; Kirigin 2006, 17-26.

<sup>1064</sup> Suić 1976, 132; Dzino 2010, 64.

<sup>1065</sup> On Octavian's accomplishments in Dalmatia see Šašel-Kos 2005, 455-471; Dzino 2010, 99-116; discusses the opinions of earlier scholars.

<sup>1066</sup> Pippidi 1975; Velkov ed. 1979; Suceveanu, Barnea 1991; Avram ed. 1999.

<sup>1067</sup> Velkov ed. 1979, 280-286; Velkov 1981, 473-483; Tačeva ed. 2004.

<sup>1068</sup> Papazoglou 1969; Gerov 1980, 147-167; Mirković 2007.

<sup>1069</sup> Velkov 1981, 473; Bojanovski 1988.

<sup>1070</sup> Gerov 1980, 349-359; Josifovska-Dragojević 1982; Bojanovski 1988, 72-73; Oltean 2007.

<sup>1071</sup> Livy XLV 29.14; Papazoglou 1988a.



had no difficulty moving into and settling in towns that provided the basic amenities of urban living. Whether one believes that strategic planning played a part in Rome's foreign politics or not, undeniably a great number of immediate benefits were enjoyed from the conquest of these areas.

It is not that the continental Balkans or the Danube region were lacking in developed settlement hierarchies in the centuries prior to the Roman conquest. Despite the vexing chronology, in certain parts of the study-region – Dacia, Pannonia – there are clear signs of differentiation between the settlements in terms of size, architectural elaboration and economic activities.<sup>1072</sup> Intriguingly, only a handful of sites were retained from the pre-conquest settlement network in these regions. The strongholds in the core of the Dacian kingdom were destroyed in the course of Trajan's wars of conquest and were never again reoccupied.<sup>1073</sup> There is no evidence of a violent end to occupation at the systematically researched *oppida* in Pannonia and Dalmatia. Most of these settlements were gradually abandoned in the first century after the Roman conquest.<sup>1074</sup>

It is uncertain a search for a general cause behind the divergent developments in the coastal areas and the Balkan interior is a justifiable exercise. A process of gradual decline leading to a final abandonment was also observed among a number of Epirote or Illyrian *poleis*, areas in which much of the pre-Roman settlement network was maintained after the conquest. In the great majority of cases these were towns and town-like settlements located in the marginal and less productive corners of the province<sup>1075</sup>. Even more significant is the fact that most of these sites were off the main corridors that linked the region to Italy. Rome's conquest of these areas disturbed the hierarchical order of the pre-existing road-networks. Micro-regions that were relatively important on a local or regional level were completely marginalized after the establishment of the new network of roads, port-towns and shipping lanes that tied the conquered corners of the Mediterranean to Rome. Data that might provide some explanation of the abandonment of the integral settlement network in the continental Balkans and the Danube region had yet to be unearthed. Nonetheless, in some areas – the Dalmatian hinterland, the core of the Dacian kingdom – it is obvious that the constellations of hill-forts or settlements perched on high terraces served the political and strategic interest of the regional power-players.<sup>1076</sup>

Adding to the problem is the fact it is impossible to be sure if the emergence of these strongholds was supported by an autonomous productive sector or whether it was entirely dependent on the local political and ideological arrangements. If the main centres of Late La Tène Pannonia or Classical Dacia were little more than strongholds of the local dynasts, the demise of the complete settlement network with the loss of political independence is not hard to understand.<sup>1077</sup> It is striking that literally all Pannonian settlements that were integrated into the new settlement map – Siscia, Poetovio, Mursa – occupied sites of major strategic importance to the Roman Empire.

Other factors might also have had a hand in the radical transformations of the regional settlement maps after the Roman conquest. Two important points that should be remembered is the small size of the pre-Roman *oppida* and their inaccessible sites. Regardless of the particular factors that prompted these developments, the fact remains that the incorporation of the Balkan interior and the Danube Valley would have been untenable had the same methods applied in the case of ancient Macedon or the coastal areas been used. The military campaigns of conquest were only the first step in the long process of subjugation and occupation of the barbarian segment of our study-area. The final incorporation of this zone into the provincial administrative system of the Roman Empire required massive investments in troops, material resources as well as technical and administrative personnel. The early chronology of the large infrastructural projects in Dalmatia, the Iron Gates in Moesia and Thrace suggests that these measures were the basic prerequisite for securing full military control over these mountainous areas and setting up the mechanisms that would enable the efficient exploitation of their resources.<sup>1078</sup> The large number of permanently stationed troops had to be garrisoned in camps built specifically for that purpose and the abandonment of the old civilian centres meant that new urban bases were needed for the settlement of veteran soldiers and the administration of the demilitarized parts of the region. In other words, the conquest of the areas that fell outside the borders of the Hellenistic *koinon* and had not yet developed any stable, state-organized societies was a far more expensive proposition than the incorporation of the *polis*-dominated coastal zone or the highly urbanized societies of ancient Illyria, Macedonia or Liburnia. Not only were the conquest and subsequent control of the inland areas logistically demanding, the benefits to be accrued from governing these untamed regions were dependent on a long series of expensive

<sup>1072</sup> Daicoviciu ed. 1981; Lockyear 2004, 33-74; Oltean 2007, 60-118; Majnarić-Pandić 1984, 23-34; Gabler 1991, 51-73; Hüssen, Irlinger, Zanier eds 2004; Maráz 2008, 65-93; Dizdar 2016, 31-48.

<sup>1073</sup> Lockyear 2004, 43-44; Oltean 2007, 207-213.

<sup>1074</sup> Bojanovski 1974; Nováki, Pető 1988, 83-99; Gabler 1991, 51-73; Slapšak 2003, 243-257.

<sup>1075</sup> Irmaj; Prendi, Budina 1972, 25-54; Margelić; Davis et al. 1998-2002; Shpuza 2009, 481-502.

<sup>1076</sup> Benac 1985; Oltean 2007, Figure 4.1.

<sup>1077</sup> Cf. Fol 1965, 309-317.

<sup>1078</sup> Petrović 1970, 31-38; Tudor 1974a; Bojanovski 1974, 15-18; Šašel 1977, 237-244; Petrović 1986, 41-53; Mirković 2007, 21-24; Madžarov 2009.



infrastructural and administrative measures that would have been impossible to implement without a stable political system and indisputable chain of command. Consequently, it is no accident that the final push for the conquest of the continental Balkans was launched only under Augustus and his successors. The extension of the frontiers of the Empire to the banks of the Danube required a major shift in imperialist strategies and methods.<sup>1079</sup>

The different paths by which the coastal and inland zones were brought under Roman rule were inevitably reflected in the regional urban networks and settlement patterns. Even in areas in which the continuity from the pre-Roman period was merely topical, the territorial and settlement sizes differed significantly from those encountered in the Balkan interior and on the Danube. It is possible to observe certain tendencies towards homogenization between these two zones, – see below – but, generally speaking, the divide persisted until the period of the Late Empire at least. However, if the aim is to make a fair assessment of the origin of the regional settlement network, the pre-Roman-Roman divide should not be taken as read. Although it is technically correct to state that 30% of all settlements included in this analysis were pre-Roman foundations, – a high percentage in view of the fact that the coastal zone and Roman Macedonia comprise less than 15% of our study-area – actual topographic continuity has been observed in fewer than ten percent. Only residual remains survive from the pre-Roman phases of the remaining settlements that trace their roots to the pre-conquest period. Their size and importance in pre-Roman times must remain matters of conjecture. The urban fabric of these towns was unquestionably created after the Roman conquest and they probably formed part of a new regional hierarchy. Full continuity was limited to the coastal sections colonized by the Greeks, Epirus, parts of Roman Macedonia and Liburnia.

Therefore, the newly founded settlements held by far the greater share in the settlement network of our study-area. Depending on the number of settlements classed as uncertain, the post-conquest settlements comprised between 50 and 65% of the integral settlement network, excluding the sites known only from the written sources. Even if two-thirds of the settlements included in this study are dated to the post-conquest period, their share is low relative to the size of the belt of newly founded towns and settlements. In this context it should not be overlooked that the great majority of the new foundations were settlements of minor size and rank: road-side and auxiliary *vici*, ports of call and *emporía*. Focusing solely on the towns with a securely attested autonomous status, both segments of the network contribute a roughly equal number of

towns; a striking testimony to the differences in urban density between the two principal zones of our study-area.

The advance of the Roman legions in the direction of Central Europe terminated on the Danube. The relatively early date of the first military installations and major infrastructural projects in this region – predating the founding of the first civilian settlements in the regions behind the *Limes* – leave absolutely no doubt that the Danube was the main military objective at the time of the conquest of the Balkan interior. However, it is not possible to make a step farther and decide if the river was perceived as a convenient, defensible line of demarcation or if it simply happened to coincide with the limits of imperial expansion by accident.<sup>1080</sup> Whichever of these two reasons comes closer to the truth, the establishment of full military control over the entire length of the river and the large engineering projects in the Iron Gates transformed the Danube Valley into one of the most highly frequented corridors in this part of the Roman Empire. The Danube was naturally connected to the Mediterranean Basin through the Black Sea, and a number of major roads traversing the Balkan Peninsula opened links to the Aegean, the Adriatic and northern Italy. In later historical periods the river was not navigable along its entire course. Only in the late 19th century did modern engineers succeed in repeating the Roman achievement with the construction of a navigable canal that bypassed the cataracts in the Iron Gates.<sup>1081</sup>

The high level of connectivity of the Danube Valley was crucial to the maintenance of the extensive military sector. Over 40% of all newly founded settlements and almost one third of all settlements included in this analysis grew up next to military camps. Over half of these settlements were located on the Danube *Limes*, amounting to about 22% of all newly founded settlements in the study-area. This count is conservative because it excludes those civilian settlements that emerged at the sites of former military camps plus the few settlements founded on the left bank of the Danube in Roman Dacia. The density of settlement in the Danube corridor was among the highest in the study-region. Distances between neighbouring settlements rarely went beyond 30 km, approaching the urban densities in the coastal areas. Although the great majority of these settlements were small military outposts, they do include seven of the ten largest agglomerations in the study-region. Even in this densely occupied landscape, there was room for no fewer than three *coloniae* and two *municipia* in those sections of the Danube that did not face the *Barbaricum*.

<sup>1080</sup> Fulford 1992, 294-305; Whittaker 1994; Bennett 1997; Rankov 2005, 175-181.

<sup>1081</sup> Petrović 1970, 35-36; Šašel 1973, 80-85.

<sup>1079</sup> Erdkamp ed. 2007; Dzino 2010, 23.



Of course, the military sector was not limited to the Danube frontier. In all frontier provinces as well as in Thrace and Dalmatia, a small number of garrison settlements were located away from the actual frontier itself. These areas were not crucial to the defence of the Empire, but they were either strategically too important to be left in the hands of the local elite – because of their natural riches or position in the regional road network – or failed to develop local institutions suitable to carry the burden of self-government. Roman Dacia was an exceptional case, as over 70% of the agglomerated settlements in this province grew up next to military camps. This is not related solely to the length of the Dacian *Limes*.<sup>1082</sup> Almost two-thirds of the settlements in the interior of the province were also attached to army camps. Such was the legacy of the violent campaigns waged during the conquest. Most of the native aristocracy had perished in the wars against Rome, leaving Roman Dacia with a greatly reduced urban substrate.<sup>1083</sup> Nevertheless, the most important implication of this extension of the military sector beyond the confines of the frontier zone is its limiting effect on the categories of civilian settlements. By usurping the micro-regions that were endowed with valuable natural resources and by replacing or superseding the local institutions, the military reduced the base for independent urban growth.

There is a danger of over-emphasizing the importance of the military sector. As in making the distinction between the pre-Roman and newly founded settlements, the dividing line between the categories of garrison and civilian settlements is blurred. In a number of cases, the civilian settlements that emerged a short distance from the military camps or from certain parts of the *canabae* were granted town charters and local autonomy. It was in the government's interest to promote local autonomy, wherever socio-economic conditions were ripe for it.<sup>1084</sup> The partial municipalization of the extensive military sector would have been welcomed with open arms by the provincial government, because it guaranteed a tax-income and simultaneously lowered the costs of administration. Far more significant is the often-raised objection that the size of the military sector, expressed as the share of the garrison settlements in the integral settlement network, is out of proportion to the percentage of the total population made up by soldiers and the civilian communities that regularly accompanied them. We are not in position to advance concrete estimates for the number of permanently stationed soldiers and still less for the total population of the provinces. However, it is possible and indeed highly recommended that the implications of the extreme scenarios be considered.

The size of the army in the frontier provinces in the Severan period can be estimated to have been in the range of 110,000 to 135,000.<sup>1085</sup> Assuming that the soldiers' families and the communities of small entrepreneurs that followed the army units amounted to three times the size of the military personnel,<sup>1086</sup> and that there was a total population of 4.4 million in the frontier provinces,<sup>1087</sup> the military sector will be limited to no more than 13%. It is possible to lower the projection for the total population and increase the proportion of the military sector, but not by more than seven or eight percent. Therefore, even in the most militaristic projections of the settlement and demographic structure of the frontier provinces, the percentage made up of the garrison settlements was higher than the share of the military community in the total population of the frontier provinces.

This discrepancy between the estimates expressed in population numbers and number of settlements does not undermine the preponderance of the military sector. It actually emphasizes the ubiquity of the military on the settlement map of our study-area. No more than one-fifth of the population in the frontier provinces dominated about 40% of all major, non-agrarian settlements. Besides underlining the degree of dispersal of the military sector, this ratio also reflects its conspicuousness in the archaeological record. There can be no doubt that the civilian sector was more extensive than that of the military, but the number of civilian agglomerations that left traces in the archaeological record was much lower in comparison to the garrison settlements. This fact was determined either by the small size or by the poor architectural heritage of the settlements that belonged to the civilian sector of the provincial societies. Outside the category of autonomous towns, it is very difficult to recognize those civilian settlements that belonged to the non-agrarian sector. Hence, the conclusion that the histograms in Chapter Three do not reflect the true structure of the settlement system. However, what

<sup>1082</sup> Gudea 1997.

<sup>1083</sup> Ruscu 2004, 76-87.

<sup>1084</sup> Vittinghoff 1968, 132-142; Piso 1991, 131-169.

<sup>1085</sup> Pannonia: Visy 2003; Gudea 2013, 459-658; Dacia: Petolescu 1980, 51-60; Protase 1980a, 253-257; Diaconescu 2004, 87-142, gives somewhat higher estimates; Cupcea, Marcu 2006, 175-194; Moesia Superior: Cupcea, Marcu 2006 191-192; Moesia Inferior: Gerov 1997, 3-84; Gudea 2005, 317-566.

<sup>1086</sup> Cf. Carrington 2008, whose projection for the civilian-to-soldier ratio in the frontier zone is closer to 2.5.

<sup>1087</sup> The projections for the total population of the Danube provinces are based on our city-size estimates and the variable rates of urbanization of between ten and 20%. Only the size-estimates for the autonomous towns are taken into account and the urban density is fixed at 150 inhabitants per hectare. Depending on the values of the basic parameters, the total population of these provinces at the time of the Severan dynasty falls in the range of 2 to 4.4 million. We have opted for the high estimate because it is a close match for the estimates advanced by Frier 2000, 787-816; Scheidel 2007, 38-86, derived from the estimated carrying-capacity of these regions. However, other scholars have proposed more conservative estimates, see, for instance, Gerov 1997, 50-52, projecting not more than a quarter of a million people in Moesia Inferior!



they do offer is an accurate image of the distribution of monumentality and urban appearance across the different settlement categories. In a nutshell, the military might not have been the strongest sector numerically, but archaeologically, its settlements are the most conspicuous.

Three distinct zones can be recognized in the urban geography of the Balkan Peninsula and the Danube Valley. These correspond to the areas subjugated at different stages of the Roman conquest of the region, or to areas in which different administrative and exploitative mechanisms were used. The areas identified are the coastal belt of old urbanism, inherited from the preceding era, and the frontier zone, coinciding with the Danube Valley and the Dacian provinces. The untamed Balkan interior and Trans-Danubia constitute the third zone on the urban map of the study-region. It was the control and exploitation of this third segment of the area in which the Roman conquerors almost met their match. The difficulties of governing this vast, mountainous region are epitomized in the Great Pannonian Revolt of AD 6. Obviously, the Romans underestimated not only the sheer size of the area, but also the capability of the native population to mobilize its manpower and material resources without the assistance of a stable state apparatus.<sup>1088</sup> Radical measures like colonization, relocation of the troublesome native groups and expensive investments in infrastructure were essential prerequisites if a firm hold over the Balkan interior was to be secured.

The founding of the civilian towns was but one component in the long-term imperialistic policy. The founding dates of the towns in the Balkan interior hint at their role in the administration and economy of the region. With the exception of a few Claudian foundations – Aequum, Savaria – spread along the western edge of the region, most of the colonies in the continental Balkans were created under the Flavians, at about the same time as the defences on the Middle Danube were consolidated. The urbanization of the interior followed a similar path in the eastern half of the peninsula. Here it coincided with the conquest of Dacia and the establishment of the Lower Danube *Limes*. Up until that point, the basic administrative units in this part of the peninsula had been the Hellenistic *strategieiai* inherited from the Thracian kingdom.<sup>1089</sup> The chronological coincidence between the establishment of the frontier zone and the founding of the first towns in the interior reflects the strategic connections between these two segments of the urban map.<sup>1090</sup> The security of the interior of the Balkan provinces depended heavily

on the control of the Danube corridor but, without urban bases in the background of the Danube *Limes*, its maintenance would have been demanding logistical impossibility. There are grounds for supposing that this purely strategic link between the military and civilian sectors was transformed into stable socio-economic relations that continued at least until the period of the Tetrarchy.

All the Roman colonies in the interior of the Peninsula were situated at major inter-regional crossroads. They were the crucial link between the frontier zone and the Roman bases on the eastern Adriatic coast. Furthermore, they were also preordained to become the main pillars of Roman power in the Balkan interior. The colonies were more than just centres in which loyal citizens could live and from which recruits for the legions could be drummed up. They were extremely instrumental in the exploitation of the natural riches of the Balkan interior and assisted in the administration of the area. Later in the conclusions, in the discussion of the possible causes of the differential growth between the settlements studied, the special role of the colonies in the regional economies will be revisited. Theirs was an undertaking that clearly set them apart from the other categories of urban settlements.

The network of Roman colonies in the Balkan interior was too sparse to have provided full administrative control of the area. This segment of the urban map of the peninsula was the weakest link in the chain that connected the frontier zone to Italy. At the time of the Flavian dynasty, there were only half a dozen colonies in the continental Balkans, spaced hundreds of kilometres apart.<sup>1091</sup> The next stage in the urbanization of the region, the municipalization of the Balkan interior and Trans-Danubia, was a part of an effort to extend the urban network to the most remote corners of the area and to fill in the large gaps between the colonies. This was a gradual process and, as has been seen throughout this study, it was not always brought to a successful conclusion. The locations of the settlements that belong to this urban category, in conjunction with the stagnation in their urban growth, suggest that the primary role of these offshoots of the urban network was local administration.

The secondary agglomerations and special-purpose settlements – road-side settlements, ports of calls, mining *vici* and thermal baths – were the final block in the urban architecture of the region. Although too little is known about these settlement categories, the small amount of information available suggests that

<sup>1088</sup> Šašel-Kos 2005, 99–114.

<sup>1089</sup> Jones 1937, 10–11; Gerov 1980, 83–92; 229–238; Tačeva 2004, 58–78, 105–114.

<sup>1090</sup> Cf. Poulter 1980, 729–744.

<sup>1091</sup> It is no wonder that some scholars have compared the urban network of the region in the first couple of centuries AD to what are known as corridor systems, originally attested in early colonial America; Burghardt 1979, 1–20.

they were not only newly founded, but that they often post-dated the establishment of the civilian towns. It is impossible to be sure about the extent of the network of secondary agglomerations. The best that can be done is to make a rough projection of their number on the basis of the ratio of self-governing towns to auxiliary *vici* in the military sector, the only segment of the urban map for which we can claim a complete reconstruction. Alas, this projection is not particularly reliable as it is deduced from the patterns observed in a linear settlement system – the Danube *Limes*. The expectation would be that the patterns in the interior would have been two-dimensional and, consequently, that the number of secondary agglomerations would have been much greater than what we have predicted.

An alternative explanation is that this economically discrete sector was not attached to distinct settlement categories but that its bases were distributed among the existing rural settlements. This interpretation is supported by a couple of important epigraphic documents from Roman Thrace and it is paralleled in later historical periods in this region. In principle, the question of whether a separate category of special-purpose settlements actually existed or whether these functions were attached to the agrarian sector is not very relevant to the present study. The very fact that these settlement categories are often impossible to distinguish from the average farming settlements is a strong indicator of their rank and station in provincial society. Even if there was a separate category of secondary agglomerations, in terms of size and architecture, they would have been indistinct from the ordinary village. Hence, it is interesting to mention that there is hardly any evidence of spontaneous growth in this segment of the settlement network. In the few instances in which we have come across sites that belong to this settlement category, the evidence tends heavily towards state-sponsorship rather than growth from below.<sup>1092</sup>

On that note, we have to conclude that the genesis of the settlement network in the Balkan and Danube provinces was a process driven primarily by military and strategic considerations. The incorporation of the pre-Roman settlement network in the Hellenized parts of the Balkan Peninsula was an element of the expansionist politics of the Roman Republic. The underlying principal of contemporaneous Roman imperialism was to expand into areas that had developed stable local institutions and produced taxable surpluses. These preconditions were absent in most corners of the Balkan interior and the Danube Valley and therefore their assimilation by the Roman Empire required a systematic campaign of colonization of the area; an undertaking that would have been

impossible without large infrastructural projects. It was essential to break up the existing settlement and road-networks and re-integrate the newly conquered region along a different set of axes.<sup>1093</sup> This goal was so crucial it could not be left to the whims of the autonomous demographic and economic developments. The radical transformation of the regional settlement maps could only be achieved within a reasonable time-frame by the direct intervention of the central government and the military. The army provided a ready pool of administrators for the conquered regions and it created most of the urban and road infrastructure. In the Balkan interior and Trans-Danubia, this role was taken over by the Roman colonies, often occupying the former military bases. However, in the Danube region, Dacia and in the interior of most of the Balkan provinces, the military continued to play a major role in the local administration. Even in the regions dominated by the peregrine communities, the *municipia* were founded at previously unoccupied locations, and settlers from Italy were an influential element in the epigraphically attested segment of the population. Traces of central planning are visible in all tiers of the newly established settlement hierarchy.

### Charting settlement size: the distribution of wealth and population

By all standards, the pre-Roman town in the Hellenized parts of the Balkan Peninsula was small. With a few exceptions, the built-up areas of the majority of the pre-Roman *oppida* fell within the size range of five to 15 ha. Firmly anchored on its acropolis and occupying settlement niches that offered only limited space, most of these towns did not expand after the Roman conquest. There is very little evidence of the emergence of lower towns, and the small number of new constructions and traces of repairs to the extant public buildings suggest that the old urban cores were respected. Even the few newly founded towns in the zone of pre-Roman urbanism or the towns that were thoroughly rebuilt after the Roman conquest did not exceed the size of the average pre-Roman *oppidum*. Only a handful of towns – representing between ten and 15% of the urban network – were larger than a central place typical of this region, but the margin was rarely greater than 100%. These were the principal bases of Roman colonization in this area and, strikingly enough, they correspond to the Roman colonies – roughly speaking the second-tier settlements – in the newly founded segment of the network. Any extraordinary growth – a label appropriate to settlements larger than 50 ha – was limited to the settlements in the top-tier of the regional hierarchies, the provincial capitals and the largest port-towns.

<sup>1092</sup> IG Bul III/2: 1690; Mihailov ed. 1964; Gerov 1980, 319–348.

<sup>1093</sup> Cf. Burghardt 1979, 6.





The high urban density in the zone of pre-Roman urbanism limited the room for the emergence of special purpose settlements or subordinate central places. Because of their close spacing, the old *poleis* and *oppida* would be able to perform most of the services usually associated with these settlement categories. The few road-side *vici* and ports of call that have been identified archaeologically fall in the lower end of the size-range for the average *polis* and, in some cases, they covered less than five ha. Many would argue that these were ordinary rural settlements that performed certain non-agrarian functions.

In the zone of newly founded towns and settlements, the settlement-sizes are scattered across a much wider range and they are greater on average than in the zone of pre-Roman settlement. This is unsurprising in view of the differences in the art of town-founding between the two chronological zones of the settlement map. The greatest contributors to the discrepancies between the size-ranges of the pre-Roman and newly founded settlements are the legionary agglomerations. The legionary camps on their own already rank as medium-to large-size settlements in the zone of pre-Roman urbanism. Most importantly, no permanent legionary camp existed in isolation. As soon as the construction of the fort was complete, irregularly planned agglomerations would begin to surround the camp on all sides except that facing the enemy lines. These settlements, known as *canabae*, were three to five times the size of the legionary camp and, although building activity was sparse in the initial phases, gradually, they were densely packed with buildings.<sup>1094</sup> The legionary camps-cum-*canabae* were agglomerations unparalleled in terms of size and physical appearance in the zone of newly founded towns and settlements. The La Tène *oppida* and earlier prehistoric settlements were many times smaller and size-ranges approaching them were not reached in the Danube area prior to the High Middle Ages.<sup>1095</sup> If it is decided that the civilian *vici* or town that in some cases arose a short distance from the camp formed a part of the same agglomeration, the legionary settlements will qualify as large even from an Empire-wide perspective.<sup>1096</sup>

Despite being two to three times smaller than the legionary agglomerations, the largest of the civilian

towns – composed of almost exclusively Roman *coloniae* – were also exceptionally big by the standards of the Balkan interior. They were as large as the top-tier settlements in the zone of pre-Roman urbanism and regularly outstripped the largest of the *poleis*. Regularly laid out on level ground, these settlements defied the rugged geography characteristic of most corners of our study-region. In contrast to this, the pre-Roman *oppida* and *poleis* always conformed to the size and shape of the micro-topographic units they occupied. On account of their layout and micro-locations, the newly founded civilian towns also had great potential to outgrow their original urban limits, although admittedly evidence of quarters outside the *pomerium* is not particularly abundant. This could be an intimation that the walled areas were never fully built-up, but the quality of research at most of these sites is such that that future research might bring to light evidence of the existence of suburbia in the major Balkan towns.

The remaining civilian towns in the Balkan interior and the Danube Valley fall into size-ranges comparable to those encountered in the zone of pre-Roman urbanism. The majority of them coincided with the Latin *municipia* or the newly-founded Thracian towns. The position of this size-category in the settlement hierarchies of the frontier provinces is ambiguous. This ambiguity is not only because of their small size in relation to the major civilian towns. A small group of secondary agglomerations – mostly made up of auxiliary *vici* – equalled the civilian town in size or even outgrew the smallest among them. Together they formed a separate category that, *qua* size, fell in between the major autonomous towns and the base of the settlement hierarchy, consisting mostly of auxiliary *vici* and other special-purpose settlements. This differentiation had little or no consequence for the formal settlement hierarchy in the provinces, as the largest among the auxiliary *vici* were often granted local autonomy. The settlements that belonged to this intermediary size-category were not subordinate to the major autonomous towns. Both categories performed a similar range of functions, although there is certainly a reason for arguing that the strength and extent of their economic bases were not equal.

Had it not been for the presence of the auxiliary *vici*, the base of the settlement hierarchy in the frontier provinces would have been extremely reduced. In the absence of town walls or public buildings, the secondary agglomerations of civilian character are archaeologically invisible in the Balkan interior and the Danube Valley. Because over 80% of the known auxiliary *vici* were concentrated in the frontier zone, it is virtually certain that data are missing for the great majority of the settlements that functioned as secondary agglomerations. It would not be too wide off the mark to assume that these were road-side settlements not

<sup>1094</sup> Aquincum: Gabler, Wellner 1976, 3-77; Zsidi, Furger eds 1997. Carnuntum: Kandler 2008, 90-108.

<sup>1095</sup> Size-estimates for pre-Roman *oppida* in Pannonia: Majnarić-Pandić 1984, 25-26; Károlyi 1985, 391-419; Szabó, Guillaumet, Cserményi 1994, 107-126; Maráz 2008, 65-93; Maráz 2009, 121-124; post-Roman: Holl 1979, 105-145; Kubinyi 1981, 161-178; Hoššo 1996, 471-487; Štefanovičová 1996, 463-470; Sándor 1996, 443-453; Torma 1996, 399-411; Syklósi 1996, 375-397; Holl 1997, 95-101; Horváth 1997, 79-90; Procházka 1997, 67-77; Niedermaier 1997, 55-66; Fabini 1997, 43-53; Heitel 1997, 39-42; Entz 1997, 35-38.

<sup>1096</sup> Pounds 1969, 135-157; cf. De Ligt 2012, for the size-estimates for the Italian towns at the time of Augustus.

larger than ten ha with no stone-built architecture. Hence, the recovery rate for this settlement-category is certainly much lower than for the garrison settlements.

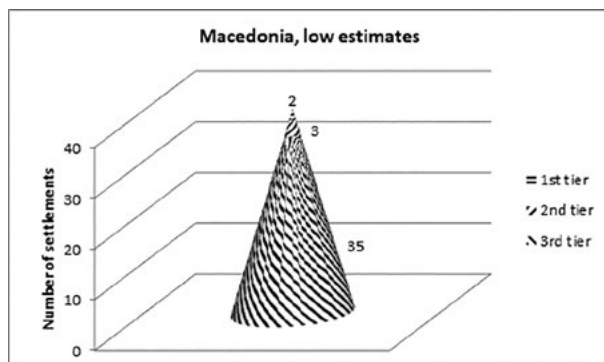


Figure VII 1: The settlement hierarchy in Upper Macedonia and Northern Epirus (low estimates).

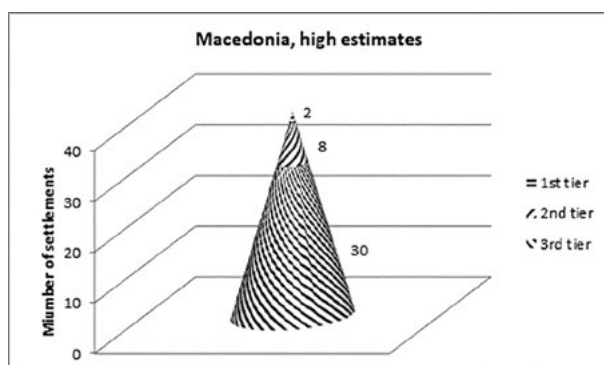


Figure VII 2: The settlement hierarchy in Upper Macedonia and Northern Epirus (high estimates).

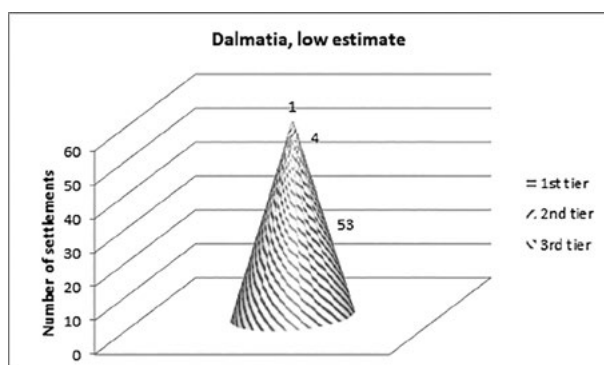


Figure VII 3: The settlement hierarchy in Dalmatia (low estimates).

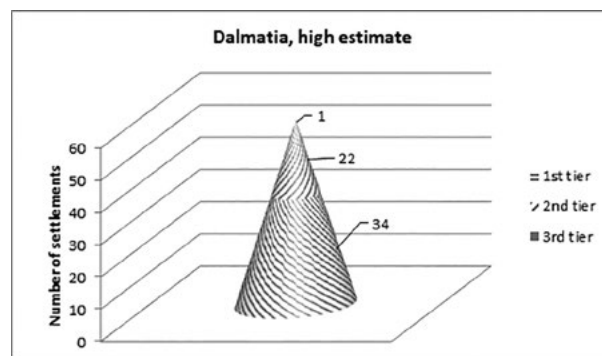


Figure VII 4: The settlement hierarchy in Dalmatia (high estimates).

The settlement-size distributions in the two urban zones in the study-region – the belt of pre-Roman and newly founded towns – formed similar settlement hierarchies, although there were differences in the composition of the individual tiers. In both areas it has been possible to distinguish a hierarchical base of varying width and two or three higher settlement-tiers, each composed of a small number of larger towns and settlements. (Figures VII\_1-16) In general, the hierarchies derived on the basis of the settlement size distributions do reflect the formal settlement hierarchies determined by the variable distribution of juridical status and administrative prerogatives. With a few exceptions, the *coloniae* were always larger than the Latin *municipia*, while a *polis* with a large *conventus* of Roman citizens was regularly larger in extent than the predominantly peregrine *polis*. The provincial capital was invariably the larger of the two legionary agglomerations in the frontier provinces. This statement would imply that the settlement systems were fairly rigid, the size and importance of the individual settlements were determined largely by their juridical status. The most apparent symptom of this inertia is the presence of multiple settlements in the top-tier of the settlement hierarchy. Despite the short distances that separated the legionary settlements, their political importance guaranteed a roughly equal volume of investments in both agglomerations, and this would have kept them within the same size-range. Of course, in almost every province there were a few exceptions – either autonomous towns that joined the base of the settlement hierarchy because of their small size or secondary agglomerations that exceeded the 15-ha threshold –, but overall, there was a positive correlation between juridical status and settlement size. Most of the communities whose juridical status was low lived in small- or averagely-sized settlements that had no monumental architecture. Large settlement size and monumental architecture were exceptional outside the group of autonomous towns and military agglomerations.

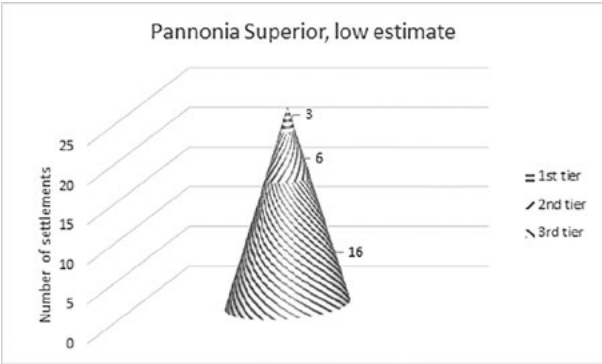


Figure VII 5: The settlement hierarchy in Pannonia Superior (low estimates).

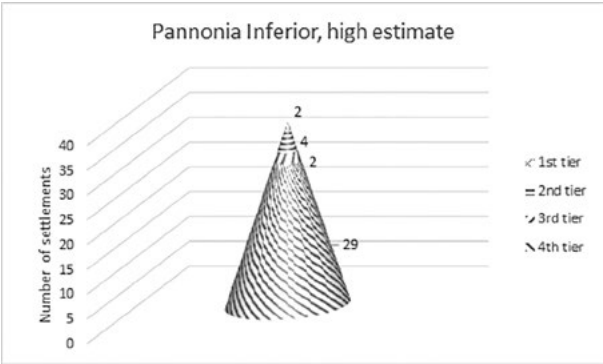


Figure VII 8: The settlement hierarchy in Pannonia Inferior (high estimates).

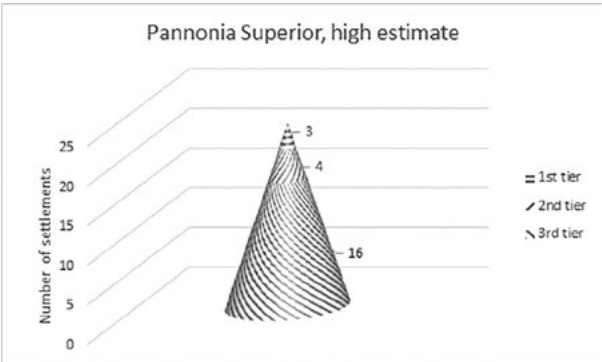


Figure VII 6: The settlement hierarchy in Pannonia Superior (high estimates).

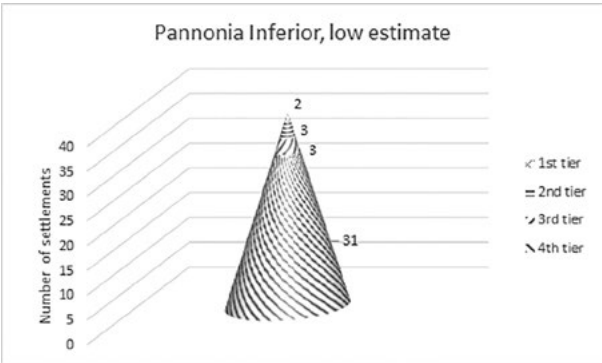


Figure VII 7: The settlement hierarchy in Pannonia Inferior (low estimates).

Despite the apparent similarities, it has to be stressed that there was at least one important difference between the hierarchies in the two settlement zones of the study-area. It lay in the composition of the bases of the settlement hierarchies. In the zone of pre-Roman urbanism, the great majority of the third-tier settlements were autonomous towns but, in the continental Balkans, the bulk of this size-category was made-up of subordinate central places and rural settlements.<sup>1097</sup> This difference is obviously a legacy of the divergent paths by which the settlement networks in the two zones had been created. There was neither any room nor any need for secondary agglomerations in the highly urbanized belt of pre-Roman urbanism. In contrast to this, the secondary agglomerations would have been crucial to the organization of economic life in the sparsely urbanized zone of newly founded towns and settlements. Moreover, it is certain that the pre-Roman *oppida* and *poleis* that belonged to the bottom tier of the settlement hierarchy were not much larger than their counterparts in the Balkan interior. However, as befits their greater age and renown, they are better represented in the archaeological and written record than the newly founded road-side and mining *vici*. Consequently, there is a case for arguing that the base of the settlement hierarchy was more urban in the zone of pre-Roman urbanism than in the zone of newly founded towns and settlements. On account of their autonomous status, even the smallest pre-Roman *poleis* kept their urban appearance. Conversely, urbanism failed to reach the newly founded secondary agglomerations, even when they functioned as market and service centres for areas not much smaller than the territory of the average *polis*. Yet again, juridical status has proved to be the crucial variable. Important economic functions did lead to increased settlement size and wealth, but only when they are found in conjunction with autonomous status.

<sup>1097</sup> Cf. the case of Roman Egypt in which most of the settlements that would qualify as urban by their size in other Roman provinces were villages, Tacoma 2006, 21-68.



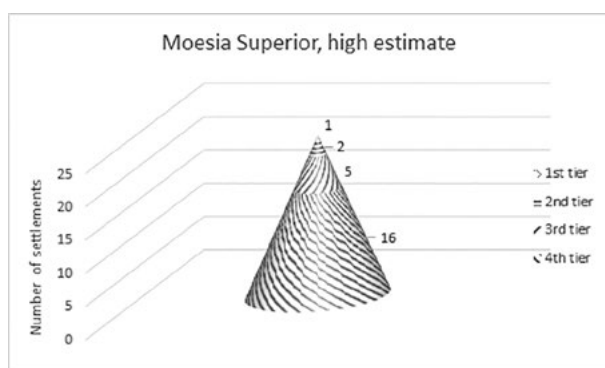


Figure VII 9: The settlement hierarchy in Moesia Superior (low estimates).

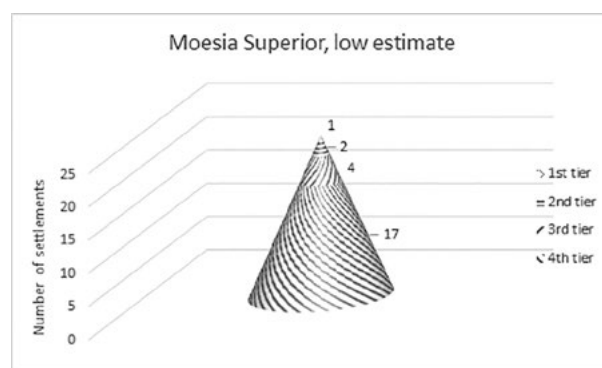


Figure VII 12: The settlement hierarchy in Moesia Inferior (high estimates).

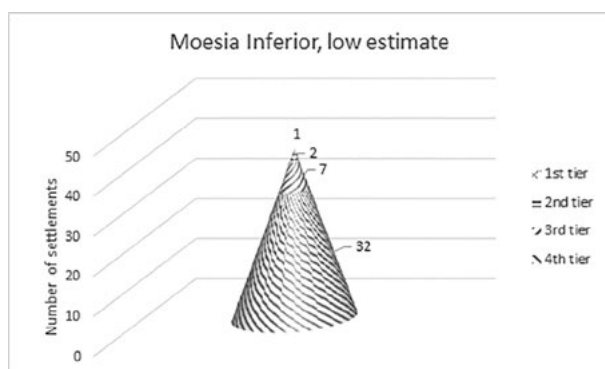


Figure VII 10: The settlement hierarchy in Moesia Superior (high estimates).

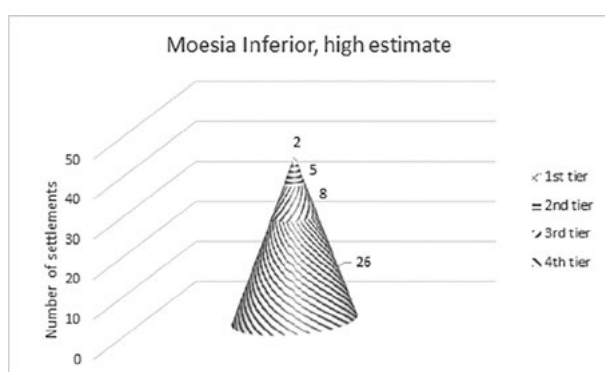


Figure VII 11: The settlement hierarchy in Moesia Inferior (low estimates).

Approaching the end of this study, it seems reasonable to accept the view that the settlement size distributions are roughly coterminous with the distribution of wealth.<sup>1098</sup> This is not necessarily a general feature of all settlement systems, but taking into consideration the principals of town-founding and civic munificence, it is very appropriate to the Classical Mediterranean civilizations and the Early Roman Empire in particular. Among other factors, the secondary agglomerations in our study area were consistently smaller than the autonomous towns because they were not home to an urban elite. The main urban substrate in the period of the High Empire was the landowning aristocracy. Hence the postulation, that the larger the town, the more numerous and wealthier its urban elite would be, and the higher the number of towns that qualify as large by regional standards, the more even the distribution of wealth. It would be extremely illustrative to compare the share of the major towns - coinciding with the first- and second- order settlements - in the overall settlement networks of the individual provinces of our study-area. Unfortunately, this would not be an easy undertaking, because there are no reliable data on which to establish an accurate picture of the share of the bottom tier of the settlement hierarchy. There will always be a degree of uncertainty about whether the small number of low-ranking settlements is a result of the rural character of this segment of the settlement hierarchy or if it is just a reflection of the low degree of research in the Balkan countryside. However, regardless of this problem, a couple of interesting observations can be made if we accept the figures at their face value. Ignoring the hierarchical pyramids of Thrace and the northern Adriatic that are grossly incomplete, and considering the conservative size-estimates, the percentage of settlements that belong to the first two orders of the settlement hierarchies ranges between seven and 13%. (Figures VII\_1-16)<sup>1099</sup>

<sup>1098</sup> See, for example, Lo Cascio 2009, 87-106.

<sup>1099</sup> Macedonia 25% according to the maximum, 12.5% according to the minimum size estimates; Dalmatia 40.3% according to the unlikely maximum, 8.6% according to the minimum size-estimates,

The differences between the individual provinces are subtle, tending if anything to underline the overall uniformity of the settlement hierarchies. Nonetheless, the first- and second-tier settlements participate with somewhat higher percentages – between 12 and 13% - in the settlement systems of Pannonia Superior and Macedonia. In the remaining provinces in the study-area, the large towns made up less than ten percent of the settlement network. This estimate is not affected by the relatively narrow bases of the settlement hierarchies in Pannonia Superior and Macedonia; at least not in the case of Roman Macedonia, in which the third settlement tier is better represented than in the frontier provinces. Pannonia Superior was exceptional with its three settlements in the top settlement-tier and the large size of its colonies, whereas Macedonia had numerous micro-regional centres that outgrew the provincial average. Both provinces had a strong civilian sector and – if the Dalmatian coast and the Danube *Limes* are excluded - were among the most urbanized parts of the study-region.

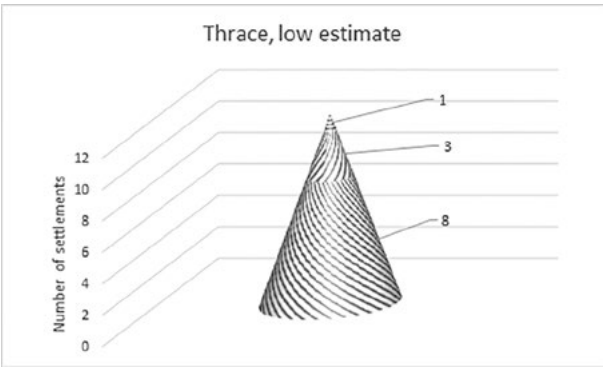


Figure VII 13: The settlement hierarchy in Thrace (low estimates).

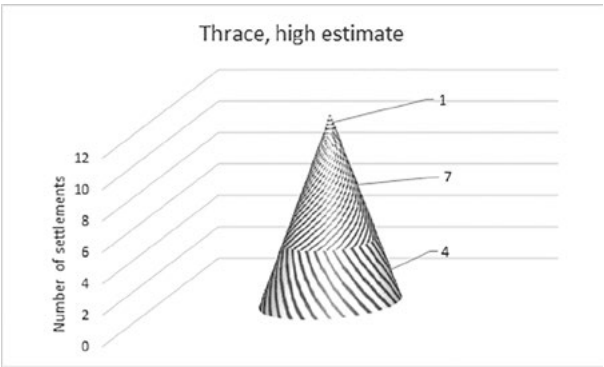


Figure VII 14: The settlement hierarchy in Thrace (high estimates).

Pannonia Superior, 17.3% with the maximum, 12% with the minimum size-estimates; Pannonia Inferior, 7.6% with both estimates; Moesia Superior 7-8% in both scenarios, Moesia Inferior 17% with the maximum, 7.1% with the minimum size-estimates; Thrace 20% with the maximum, 16.6% with the minimum estimates, Dacia 9.5% in both scenarios.

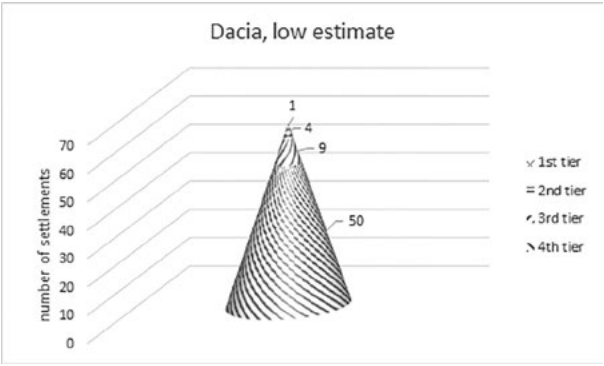


Figure VII 15: The settlement hierarchy in Dacia (low estimates).

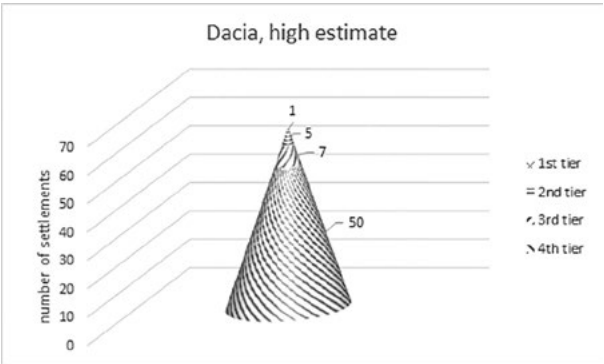


Figure VII 16: The settlement hierarchy in Dacia (high estimates).

The individual province is not an ideal unit of analysis. Throughout this study it has often proved a struggle to formulate concise observations, precisely because different segments of the settlement zones were united in the individual provinces. The provincial borders were not always drawn along the lines that separated the zones of pre-Roman and newly founded towns and settlements. The settlement systems of Dalmatia, Moesia Inferior and Thrace had mixed origins. This divergence has proved a major obstacle to trying to observe consistent differences in the quantitative properties of the pre-Roman and newly founded settlement systems. Other factors, like the extent of the military sector or the local geographical conditions, also exerted an equivalent influence in the shaping of the rank-size graphs for the individual provinces. Consequently, it is very difficult to attribute certain tendencies in the rank-size distributions to the chronology of the settlement network or the variable shares of the military and civilian sectors.

By far the most common trait shown in the rank-size graphs of the individual provinces of the study-area has been their concave shape. Concave rank-size graphs

have been encountered in both the demilitarized and frontier provinces, but they are the outcome of different sets of circumstances and, cogently, they also display important differences. In the demilitarized provinces, the rank-size graphs remained entirely above the power trend-line and the slope-gradient of the best-fit line was gentler than in the frontier provinces, in which half of the curve fell below the power trend-line. Settlement size decreased at a much lower pace in the demilitarized provinces, reflecting the uniformity of the settlement systems that were made up of towns that were the centres of similarly sized micro-regions and were loosely related to each other. The mountainous character of the western Balkans would have considerably pushed up the cost of movement between the different corners of the region. The upshot was that the settlement network in this area was a conglomerate of more or less largely independent cells. This state of affairs was reinforced by the Roman government that respected the independence of even the smallest autonomous unit; a policy that can be traced back to the conquest of the area. Under these conditions there was little room for predatory behaviour and differential growth between the old *poleis*.<sup>1100</sup>

The potential for differential growth was not limited only by endogenous factors. What determines the concave shape of the rank-size graphs is the size of the top-ranking settlement, always smaller than predicted by Zipf's Law.<sup>1101</sup> This was not necessarily determined by the relatively even distribution of wealth and resources between the individual settlements. To some extent, this scenario can be transferred to Macedonia, but not to Dalmatia, a province that included a large number of newly founded settlements and non-urban territories. Although it is impossible to speak of equity among the administrative units of Roman Dalmatia, the provincial capital and top-ranking settlement was much lower than predicted by Zipf's Law. The reason for this discrepancy was the role of the Dalmatian capital in the wider urban system of the Roman Empire. Salona was Rome's *emporium* on the eastern Adriatic coast and only a proportion of the wealth extracted from the Dalmatian interior remained in the provincial capital.<sup>1102</sup> In spite of the fact that the settlement system and economy of Roman Dalmatia cannot be defined as poorly integrated, it can be argued that the difficult terrain would have reduced the intensity of the horizontal relations between the individual settlements. In this province, the concave rank-size graphs indicate that its settlement system was a segment of a much wider dendritic network centred on Rome. Of all the provinces in the study-region, Dalmatia was the one most highly integrated with Rome.

Whereas the concave shape of the rank-size graphs in Dalmatia can be attributed to the system partitioning, a more feasible explanation for the concavity of the rank-size graphs in some of the frontier provinces – the Moesian provinces and Dacia – is that they are a result of pooling in parts of different settlement systems.<sup>1103</sup> In these provinces, the cause of the gentle slope gradient in the upper halves of the graphs was not the small size of the top-ranking settlements – often twice as large as the second-ranking settlements – but the high frequency of the settlements falling in the high and medium size-ranges. In fact, there are more settlements in the upper size-ranges than predicted by the power-law. The most obvious example is the settlement system of Moesia Inferior, uniting the newly founded settlements along the Danube frontier and the Greek colonies on the Black Sea coast. The settlement system of Roman Dacia also consisted of three separate sub-systems, one of which belonged to a different geographical area. In all of these instances, we see duplication in size and rank between the settlements in the higher size-ranges. If separate rank-size analyses are carried out for the Dacian provinces, the shape of the resultant curves becomes more convex than concave. This regularity has also been observed in the case-studies of Roman Macedonia and Thrace. Limiting the rank-size analysis to the settlements that belonged to discrete historical segments of the Roman provinces, always results in a departure from the pronouncedly concave pattern. A similar explanation can be offered for the rank-size graph for the urban system in the integral study-area. (Figure VII\_17) It represents a typical example of a concave pattern, almost 100% of the size-figures falling above the power trend-line. This result goes some way towards confirming our doubts about the integrity of the study-region that were raised in the opening chapter of this study. The Balkan and Danube provinces were never conceived of as a compact socio-economic unit of the Roman Empire, even though they formed a distinct strategic frontier at the time of their conquest and were later united into a single customs-zone. Nor were the individual provinces conceived of as compact socio-economic systems.

Only the settlement systems of the two Pannonian provinces deviate from the predominantly concave rank-size graphs observed in the other provinces and in the study-area as a whole. The hybrid shapes of the rank-size graphs of the Pannonian provinces hint at a duality in their settlement systems; one that could be plausibly argued was inherent in all frontier provinces, but that was distorted by the composite nature of the settlement systems of Dacia and the Moesian provinces. In the rank-size graphs for both Pannonian provinces, there was a visible gap between the settlements that belonged to the upper and lower size-ranges. The

<sup>1100</sup> Cf. De Ligt 2016, 17–51.

<sup>1101</sup> Johnson 1980, 234–247.

<sup>1102</sup> Cf. Marzano 2011, 196–228.

<sup>1103</sup> Johnson 1980, 240–241.





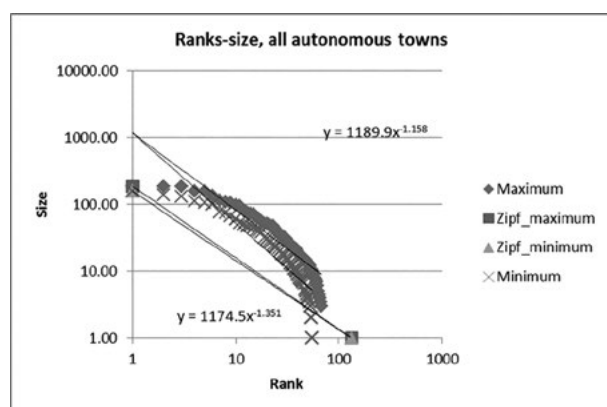


Figure VII 17: Rank-size graph for all autonomous towns in the study-region.

trends in the upper and lower halves of the graphs appear disconnected that brings them very close to the so-called double concave patterns associated with settlement systems in which a new urban substrate was superimposed on an existing layer of low-ranking settlements.<sup>1104</sup> In the Pannonian provinces, although there is no chronological divide between the two urban substrates, there is a strong case to argue that the largest settlements in these provinces – the legionary agglomerations and major civilian towns – formed a separate sub-system that was only very loosely integrated into the group of low-ranking settlements. The principal demographic and economic currents in these provinces tended to be carried out between the legionary agglomerations and the largest of the civilian towns. The remaining towns and settlements played only a minor role in these transactions and hence they formed a separate settlement sub-system with a shallow hierarchy.

The observations that can be made about the spatial distribution of the different size-categories are extremely insightful, especially as they allow us to get rid of the bonds of the administrative divisions. Freed of these restrictions, a few general patterns can be singled out. Broadly speaking, the settlements in the western Balkan provinces were smaller than those in the frontier provinces, a difference that happened to coincide with the divide between the zones of pre-Roman urbanism and newly founded settlements. To a large extent this division was dictated by the contrasting environmental conditions in the two principal settlement zones in the study area. Quite clearly, the newly founded settlements in the pre-Roman urban belt did not grow any bigger than their pre-Roman neighbours, and indeed some of the rare pre-Roman settlements in the belt of newly founded

towns were among the largest urban settlements in the entire study-region. Because the great majority of the settlements were largely dependent on local resources, there is a consistent difference between the size of the settlements in the Dinaric region of the Balkan Peninsula and in the Danube provinces and Thrace.

Far more revealing is the distribution of the settlements that belong to the highest size-ranges. Three-quarters of the settlements that measured 50 ha or more were located on the periphery of the study-region. This distribution cannot be attributed wholly to the fact that over half of the largest settlements were represented by the legionary agglomerations located on the Danube *Limes*. The largest of the civilian towns were also located on the edges of the study-region – the Adriatic and Ionian coasts and along the Amber Road. The peripheral parts of the study-region were not only the most densely populated sections, they also included the largest settlements in the regional system. This urban preponderance of the periphery is one of the defining features of the settlement map of the Balkan and Danube provinces. Wealth and population were concentrated along the main axes that connected the region to Italy and the Mediterranean and – on account of its strategic importance – the Danube *Limes*. The most outstanding feature on the regional settlement map were the gateway communities that channelled the flow of resources from the Balkan interior to Italy and the principal bases of military and political power, and not as might be expected, the administrative and economic centres in the interior of the area. This coincidence between extraordinary settlement growth and peripheral locations in the regional networks can also be observed among the low-ranking settlements. The largest among the auxiliary *vici* were those that were located on the natural exits from the regional units of which the frontier zone was made up. As already pointed out, the settlements that dominated the central parts of the study-region were in control of the main inter-regional crossroads that linked the peripheral belts of the system. They were more or less evenly distributed across the Balkan interior, indicating that their primary role was the administration and the exploitation of the natural riches of the region. The relatively small number of settlements that belong to the latter category in conjunction with their moderate size encapsulates the rationale behind the settlement system of the Balkan and Danube provinces in the period of the High Empire. Its primary goals were the defence of the external frontiers and the uninterrupted flow of taxes and natural resources from the Balkan Interior to Italy. The major civilian towns in the Balkan interior – the true Balkan towns it could be said – were just ancillary elements, indispensable to the normal functioning of the regional system, but reduced to the minimum. It was a system in which wealth and resources were siphoned off from the geometric centre

<sup>1104</sup> Falconer, Savage 1995, 37-58; Savage 1997, 233-244.

of the region through a small number of valves and were then channelled towards its main poles and from there beyond its limits.

### **Towns and territoriality: the working of the Roman towns**

Neither the pre-Roman *polis* and *oppidum* nor the newly-founded town could be said to have occupied an optimal location for exploiting the agricultural resources in their surroundings. The choice of either hill-top locations or access to the sea usually meant that the pre-Roman towns had to make do with reduced agricultural territories. Only rarely did the arable zone extend over more than 50-60% of the areas enclosed by the five-km catchment radius. Because of the sizeable military sector – the majority stationed along the *Limes* – it could be argued that the siting of almost one-half of the newly founded settlements – including the civilian towns that developed from former military camps – was not determined by agrarian considerations alone. The majority of these settlements were located on the frontier, meaning that about one-half of their theoretical hinterlands would have been located on the other side of the frontier. Furthermore, as the civilian towns in the interior often grew up beside river-crossings, unknown proportion of their catchments was probably covered by marshes. This situation is a sharp contrast to many of the subordinate central places and settlements that acquired urban status only in Late Antiquity, often in control of hinterlands that were almost 100% fertile. A trait common to nearly all urban settlements in the study-region, regardless of their origin and socio-economic profile, is that their role was not as purely agrarian settlements.

This is not to say that agricultural considerations played no part in the siting of the Roman towns. Looking at the urban geography on the Dalmatian coast, the conclusion has to be that literally all major coastal plains were occupied by autonomous towns or port-settlements, but not every natural harbour attracted permanent settlements. Only the towns that controlled the largest and most fertile valleys in Epirus and Macedonia survived the conquest and retained their urban character under the Empire. Nearly all of the newly founded civilian towns were located in the centres of large, agriculturally productive micro-regions. The municipalized portion of Roman Dacia coincided with the fertile Mureş Valley and the Haţeg Depression rather than the eastern Transylvanian Plateau. High agricultural productivity and high population density were the basic prerequisites for the emergence and normal functioning of the ancient town and undeniably ancient urbanism and agricultural fertility seemd to be the two sides of the same coin.<sup>1105</sup> Although the micro-

locations of the majority of the Roman towns failed to ensure access to larger agricultural territories, this does not mean that the agricultural base of the urban economies was squeezed. It merely indicates that most of the urban population was not directly involved in farming. Judging by their micro-locations, only a small number of Roman towns actually functioned as agrotowns, although there is a good case to think that an unknown proportion of the urban population were at least part-time farmers.

Reviewing the data, we have discovered that there was no point in comparing the agricultural potential in the theoretical hinterlands of the different settlement categories included in this study. The local agricultural riches were determined primarily by the character of the regional geographies. Regardless of their rank and juridical status, the settlements in the western half of the peninsula were always more hindered by the lack of agricultural resources in their immediate surroundings than the settlements in the Danube region or in the Great Thracian Plain. The amount of arable land in the immediate surroundings of the settlements was dictated chiefly by the ruggedness of the local terrain and hence had less to do with their economic orientation. Far more indicative in this respect is the effect of the increased catchment radius on the size of the agricultural territories. Prior to the invention of mechanized transport, specialized production closely followed the distribution of raw materials. Indeed, most of the settlements that were fully dependent on the local agricultural resources would have made only marginal gains with the extended catchment radius. Those focused on the exploitation of non-agricultural resources would usually have increased their agricultural potential, both in absolute terms and in percentages. However, this was not a general rule. The effect of the increased catchment radius was also directly related to the character of the regional geography. Most of the Pannonian settlements would have gained sizeable quantities of new arable land with the extended catchment radius, even when there was no evidence of a strong non-agrarian sector. More importantly, because the settlement categories that were involved in specialized economies were normally those without autonomous status, it is unlikely that they would have had access to the areas located beyond the five-km catchment radius. Although the size of the agricultural territories was not particularly sensitive to the economic orientations of the settlements, it proved quite revealing in all other respects.

Only a small number of settlements were too big to have been wholly supplied by the agricultural resources of their immediate surroundings. The great majority of the settlements for which the archaeological and written evidence suggests economic specialization – road-stations, mining *vici* and thermal baths – were small

<sup>1105</sup> Bosserup 1965; Scheidel 2007, 75; Lo Cascio 2009, 88.



enough to have lived off the resources available locally. Non-agricultural production was not concentrated in large urban centres. There were no large mining or manufacturing towns in the Balkan and Danube provinces. The maximum size-estimates of the few mining *municipia* that are attested archaeologically are extremely unreliable. The small size of these settlement categories was a logical solution to the problem of exploiting the metalliferous corners of the study-region or providing transport services in the narrow gorges of the major Balkan rivers. Having proved the worth of this economic strategy, there was no incentive for the areas of variable agricultural productivity to cultivate the emergence of strong horizontal relations. Most of the settlements that specialized in non-agricultural economies could meet their grain demand from the limited agricultural capacity of their immediate surroundings. Even if they grew too big for the agricultural resources of their hinterlands, their food supply was not left to the whims of the market forces. The micro-regions that abounded in rare natural resources or were strategically important were administered directly by the provincial government that, presumably, took care of the grain supply for the communities that were involved in the exploitation of these areas. In view of the remote locations of these micro-regions, most of the imported grain must have come from the neighbouring surplus-producing areas.

The minimum urbanization rates in the hinterlands of the secondary agglomerations reveal they comprised no more than ten percent of the maximum population that could have been supported by the local agricultural resources. In reality, this percentage must have been somewhat higher, but even so, the low land-to-population ratio is another confirmation that data for a large number of settlements that belonged to this sector are still few and far between. It is unlikely that the small number of mining settlements included in this analysis were the only agglomerations of this type in the study-area. The productivity of the mining districts was to a large extent dependent on the availability of skilled labour. The communities of miners must have been distributed among permanent or seasonal camps, the remains of which are difficult to identify in the archaeological record.<sup>1106</sup> By the same token, there is a good case for arguing that the auxiliary *vici* – especially those in control of the fertile micro-regions that were not located in the frontier zone – were the most conspicuous, but not the only – nor even the largest – agglomerations in their catchment areas. The continuous presence of the army at sites located hundreds of kilometres from the Danube *Limes* is difficult to explain unless it is assumed that the areas in

question were of a high strategic importance and well populated.

Small settlement size was not an exclusive attribute of the category of special purpose settlements. The dense urbanization on the eastern Adriatic coast – one of the densest urban systems in our study-area – was only possible at the cost of the size of these towns. Their agricultural territories were greatly reduced by their proximity to the sea and the narrow coastal zone. These settlements belonged to the same size-range as the secondary agglomerations, but they were much larger than the latter in proportion to their agricultural territories. Even taking the minimum size-estimates or projecting a lower population density in the port-towns, their population would still have amounted to at least 30% of the agricultural capacity of their market catchments. This is a plausible projection for the degree of centralization in the coastal areas, especially in view of the limited agrarian resources and the high urban density. There was no room for an extensive rural sector on the Dalmatian littoral and this could have been one of the crucial elements in the persistence of the dense urban system in this agriculturally marginal zone. A relatively large number of coastal settlements did overstrain the grain production capacity of their immediate surroundings by a small margin, although they never really outstripped them. Obviously, the coastal zone could always fall back on other types of food resources that often provided higher amounts of calories per unit of arable surface than grain.<sup>1107</sup> Furthermore, the high connectivity of these settlements offered access to the produce of the entire Adriatic Basin, although it is difficult to see what sorts of products – apart from raw materials – could have been offered by these areas in exchange for grain. Comparative evidence from the Black Sea coast suggests that the coastal towns often turned to the Balkan interior in times of grain shortages.<sup>1108</sup> It is possible that similar patterns of trade prevailed in the western Balkans, although it has to be said that the Dalmatian interior had a much lower agricultural productivity than inland Thrace. In the end, the balance seems tipped in favour of seeing these settlements as largely self-sustainable. Their small size in conjunction with the high local urbanization rates and intensive farming of the small agricultural territories would have secured the survival of these towns throughout the period of Antiquity.

Provisioning on the basis of the local agricultural resources was a problem only in the case of the major autonomous towns and legionary agglomerations. Hence these two categories must be examined separately because, while most of the autonomous towns had to

<sup>1106</sup> Miners' camps are attested in the epigraphic record from Alburnis Maior in Dacia, Russu ed. 1975; cf. Domergue 1990.

<sup>1107</sup> Jongman 2007, 592–618.

<sup>1108</sup> Pippidi 1975, 31–55, 65–80.



rely on their own resources and produce, the grain supply for a large segment of the population of the legionary agglomerations was the responsibility of the provincial government. There was also a considerable difference in the grain deficits. Most of the autonomous towns – with the exception of the largest port-towns and provincial capitals – merely touched the productive ceilings of their agricultural territories. In contrast, the legionary agglomerations, the so-called double towns in particular, exceeded the agricultural potential of their limited catchment areas by 200 to 300%.

The legionary agglomerations were obviously not dependent on the local agricultural resources, nor were they rooted fully in the economic system of the region. Their size and micro-locations were determined entirely by their strategic and political importance. The cost of supplying these giants was shared between the government and the provincial communities. A number of possible mechanisms for the grain supply of the army camps – not necessarily mutually exclusive – could be resorted to by the provincial government.<sup>1109</sup> One possibility was that the grain for the legionary camps was imported from outside the study-region, implying that these settlements were largely independent of the provincial societies. Most of the legionary agglomerations were located on the Danube and supplying them with foodstuffs produced in the wider Mediterranean Basin should not have presented an insurmountable logistical problem for the provincial government, although it should be mentioned that the grain imports from distant regions would have been expensive even if they were intended for army consumption. A much cheaper alternative would have been to purchase or requisition the grain provisions from the surplus-producing areas in the interior of the provinces.<sup>1110</sup> Many of the civilian towns and areas under military supervision had the potential to produce sizeable surpluses that could have covered at least a portion of the grain demand of the military. If this mechanism was ever put into practice, it would have resulted in much stronger economic ties between the military and civilian sectors than the first scenario would allow. Obviously much depends on the modalities of these transactions. If the grain was purchased privately, it would have opened the local landowning elites wonderful opportunities to make a profit. Conversely, if it was requisitioned, it would have been a severe drain on the provincial economies.<sup>1111</sup> One final possibility is that most of the grain demand of the legionary agglomerations was met by the agricultural produce of the territories of the civilian towns that emerged on the edge of the *prata legionis* or from parts of the *canabae*. The population of these towns was not

more than 50% of the total population sustainable by the resources available within their catchments and they were in control of large and fertile administrative territories.

The largest among the civilian towns – Dyrrhachium, Salona and Poetovio – had grain deficits comparable to those showed by the legionary agglomerations. These towns were not entitled to the special subsidies from the provincial government, but able to fall back on their privileged status and role in the regional settlement system, they could rely on other channels for their food-supply. One possibility was that they procured a proportion of their grain on the open market. Both Dyrrhachium and Salona were major gateway communities on the Adriatic coast, trading hubs through which natural resources and raw-materials were siphoned off from the Balkan interior and finished goods were imported.<sup>1112</sup> If this were so, the elites based in these towns would have had access to the agricultural produce of areas much larger than their immediate hinterlands. The problem is that there is very little positive evidence of the existence of large manufacturing sectors in either Dyrrhachium or Salona. By virtue of their locations, it is feasible to assume that these towns were primarily middlemen and also perhaps service centres, but there is nothing in the archaeological and written record to suggest that these were great manufacturing centres.<sup>1113</sup> Poetovio shows somewhat better evidence of being a major centre for production, but this town was disadvantaged by its land-locked position.<sup>1114</sup> Although located on the very busy thoroughfare of the Amber Road, the transportation of bulky products from the Adriatic ports would have been too expensive. A likelier scenario is that the grain for these communities came from a source much nearer home. All three towns were autonomous communities that governed territories extending over couple of thousand square kilometres. These territories were many times the size of the immediate urban hinterlands and included large fertile sections, some of whose produce, would have ended up in the central administrative centre in the form of rents and taxes or offered on sale at the market. In cases when the administrative territories were limited or included agriculturally marginal areas – Salona – the wealthy landowners could have always purchased extra land in the territories of neighbouring towns or invested in farming in the governmental districts. (see below)

The local urbanization rates in most of the large civilian towns – larger than 30-40 ha – were high, ranging between 30 and 50%. This agrees with the small corpus

<sup>1109</sup> Roth 1999; Erdkamp ed. 2002; Stallibrass, Thomas eds 2008.

<sup>1110</sup> Herz 2002, 19-46.

<sup>1111</sup> Cf. Mattingly 2006.

<sup>1112</sup> Cabanes, Drini eds 1995; Santoro 2008; Cambi ed. 1991.

<sup>1113</sup> Marin 2002, 9-23; argues that Salona was the main centre for the quarrying and dressing of stone on the central Dalmatian coast.

<sup>1114</sup> Horvat *et al.* 2003, 153-189.



of archaeological evidence so far obtained for the settlement patterns in the hinterlands of the Balkan towns. In most of the urban territories that have been studied by modern survey techniques or have had a long-standing history of research, the predominant settlement form is the isolated villa or farm.<sup>1115</sup> This is especially prominent in the areas enclosed by the market radius, in which major agglomerated settlements are rare. A villa-landscape does not necessarily mean that there are no agglomerated settlements at all, but these are usually tiny hamlets attached to the largest of the *villae*.<sup>1116</sup> The predominant pattern of settlement in the urban territories is first and foremost a reflection of the local agrarian relations. Most of the land in the surroundings of the towns was owned by the urban-based elites who had the capital wherewithal to make large investments in their rural estates. However, this dispersed pattern is also an important pointer to moderate population levels in the urban hinterlands. Rather than by taxing communities of small land-holders, the preferred method for the extraction of resources from the countryside was direct exploitation using either hired labour or tenant farmers. Unsurprisingly, the Early Roman village in the Balkan provinces is as untraceable in the archaeological record as the secondary agglomerations. The majority of the farmers who worked the land in the vicinity of the urban centres must have been based in the small hamlets that accompanied the large villa-estates. The centripetal tendencies in the urban catchments – the elite dominated countryside, the concentration of services in the central place – were too strong to allow the emergence of stable agglomerated settlements.

This section opened with the argument that, even though the majority of the Roman settlements in the study-area did not enjoy an optimal relationship with their arable zones, the settlement network as a whole covered most of the agriculturally productive micro-regions. However, towns or major central places did not tend to develop in every fertile corner of the study-region. In virtually every province there were fertile or well-connected micro-regions by-passed by the urbanization process. Nevertheless, towns had evolved in many of these areas by the Late Roman period and this local urban tradition was revived in later historical periods. In some instances, these parts of the study-area had been put under military surveillance, – implying either a lack of or at most a limited autonomy – but quite often they included neither major settlements nor military outposts. In the absence of tangible evidence, it is impossible to say much about the specific

factors that held the urbanization of these areas back. However, it is another story when it comes to discussing the situation in the mining districts, in which towns or major agglomerated settlements appeared only in a few exceptional cases and this bears looking into. Quite clearly, the legal status of this land not only precluded the emergence of fully autonomous towns, it also represented a huge disincentive for any investment in permanent residences or workshops. Of course, it is legitimate to ask if the same conditions that blocked the urbanization of the mining districts were also not at work in the non-urban parts of our study-region that were not blessed with valuable mineral resources. One crucial point is certain in any explanation of the situation, it is possible to exclude the environmental factors as these areas were urbanized in later historical periods.

One possible role of the non-urban zones in the regional economy is revealed in the context of the overall distribution of the urban network in the study-area. As has indisputably emerged throughout this study, the chief urban cores of the Balkan Peninsula and the Danube were located in agriculturally marginal areas – the coastal zone and the *Limes* –, while many of the large and fertile valleys in the Balkan interior remained under-urbanized throughout the Principate. This unbalanced distribution of the towns and major settlements would have required a mechanism for the redistribution of the agricultural surplus on a regional level. Although impossible to prove at this moment, it stands to reason that both the non-urban segments of the region and the areas in which towns failed to achieve their full potential could have still contributed to the provisioning of the excessive military sector. Admittedly, this scenario is entirely hypothetical, but it would have been the most rational way of securing at least a proportion of the subsistence needs of the overgrown legionary towns or the centres of some of the mining districts. Taking this a step further, if both agricultural surplus and recruits for the auxiliary units were continually being extracted from these micro-regions, the absence of urbanizing tendencies becomes slightly more intelligible. The retreat of urbanism from the Danube *Limes* to the vacant interior of the provinces in Late Antiquity does seem to point in the same direction.<sup>1117</sup>

What proportion of our study-area formed part of the non-urban sector and how is it related to the different zones identified on the settlement map? The study of the epigraphic sources has demonstrated that the combined territories of the areas under either direct governmental control or military supervision and the areas that could not be ascribed to any of the known administrative units or belonged to non-urban

<sup>1115</sup> Liburnia: Chapman, Shiel, Batović eds 1996; Aquincum: Németh 1997, 47-55; Apollonia in Illyria: Davis *et al.* 1998-2002; Istrian Peninsula: Tassaux 2011, 431-440; Carnuntum: Kandler, Humer, Zabehlicky 2004, 11-66; Ployer 2009, 1437-1447; Sarmizegetusa: Oltean 2007, Figure 5.2, 5.17; Napoca: Gudea 2009, 187-319.

<sup>1116</sup> Oltean 2007, 148-149.

<sup>1117</sup> Cf. Poulter 2002, 99-135.

*civitates* made up between 20 and 40% of the provincial territories in the western Balkan and Pannonian provinces and between 40 and 60% in the eastern Balkan provinces and Dacia. This difference becomes far more pronounced if the coastal belt and the Balkan interior are examined separately. It seems that this divergence is closely related to the variable intercity distances, rarely exceeding 30 km in the pre-Roman urban belt and in parts of the Pannonian provinces, rising to over 70 km in the belt of newly founded towns and settlements. Importantly, the governmental sector was not necessarily more extensive in the latter group of provinces. In fact, the presence of special fiscal districts in the eastern Balkan provinces is poorly attested. What has been determined of the extra-municipal sector in these provinces is largely based on negative evidence; it begins where evidence of the activity of the local government ends. Despite the vast expanses of the urban territories in continental Moesia and Thrace and in Roman Dacia, large segments of these provinces still remained outside the municipal umbrella.

Far more important than the apparent dichotomy between the eastern and western halves of the Peninsula is the coincidence between the non-urban zone and the third segment of the regional settlement map – the Balkan interior. Most of the mining districts, areas under military control and non-urban *municipia*, were located in the segment of the network that separated the coastal zone from the Danube *Limes* and in Roman Dacia. This is yet another testimony to the irregularity and variable density of the regional settlement system. Large settlement size and high urban density were pushed to the periphery of the network, even if such move meant that they could not be provisioned from the local agricultural resources. Conversely, the network was at its thinnest in the central parts of the region, despite their relative agricultural fertility compared to the coastal or frontier zone. To test our hypothetical model for a regional economy in which natural resources and labour were channelled from the centre to the periphery, it will be of crucial importance to study the levels of productivity in these areas under the Principate.<sup>1118</sup> Reading through the small volume of studies that discuss this topic gives the impression that production was intensified only towards the end of the Principate and during the Late Empire. Thinking this through, it could have also been related to a change in the manner of exploitation, namely: the mounting involvement of the provincial government from the time of the Severan dynasty.<sup>1119</sup>

<sup>1118</sup> Mladenović 2014 in press; is an important contribution to our understanding of the volume of ore extracted from the mines in the western Balkan provinces.

<sup>1119</sup> Dušanić 1989, 148-156; Dušanić 1989-1990, 217-224; contra Edmondson 1989, 84-102.

Pertinently, the size of the administrative units could also, in part at least, have been determined by exogenous factors, namely: the regional geography and the variable population density. This would explain the lack of positive correlation between settlement size and the extent of the urban territories. As pointed out, the large civilian towns required large administrative territories to meet their subsistence needs but, from a comparative perspective, these were not the largest administrative units in the area. Surprisingly enough, the higher end of the spectrum of the territorial sizes was often reserved for the units that were only nominally urbanized or could even be qualified as non-urban. Although vast in size, these territories did not abound in natural resources, either agricultural or mineral, and were sparsely populated. The principal urbanogenic forces – a wealthy landowning class and an autonomous productive sector – were too weak in these micro-regions and these same factors obviated the need for a heavy urban or administrative infrastructure. This postulation is confirmed by the few instances of territorial fissions in our study-region in the period of the High Empire and, especially, in the subsequent period. These break-ups are almost entirely confined to the colonial *agri* and were very rare among the overstretched territories of the Latin *municipia*. Once again in this matter, the divide between the civilian towns in the interior of our study-region looms: the *coloniae*, the main pillars of the urban network, and the Latin *municipia*, the secondary branches of the network, whose main function was the administration of the marginal areas.

A large territorial size was not an exclusive feature of the 'small *municipia*' or the non-urban districts. Because of the low urban density in the Balkan interior, extending the administrative outreach of the towns would have been the only viable way of establishing a satisfactory degree of administrative coverage. The best example of this are the vast urban territories of Roman Thrace, in which the military sector was too narrow to have compensated for the small number of urban units. From a long-term perspective, the administrative arrangements in the Balkan and Danube provinces were by no means exceptional, although the number of administrative units was somewhat lower than in later time periods. What differentiated the Early Roman provinces from the later state-organized societies in this region is the distribution rather than the number of administrative units. As a consequence of the high urban density on the periphery of the network, the administrative units in the interior were many times the size of the coastal units. This is not a simple outcome of the greater intercity distances; our reconstructions of the administrative map of the study-region are also based on the distribution of the relevant epigraphic sources. The towns that governed the large districts in the Balkan interior were too far



flung to have functioned as efficient market centres of their large territories. Their primary function would have been local administration and the levying of taxes. They would play hardly any role in the organization of economic life on a micro-regional level. However, this situation does not challenge the efficiency of the urban network. Its size might have been restricted, but it managed to fulfil its basic duties without causing any major changes throughout the period of the High Empire.

One of the recurrent themes in this study has been the opposition between the military-governmental and civilian sectors. It is easy to fall into the trap of thinking that the reduced urban density in the study-region can largely be attributed to the all-pervasive presence of the army, usurping the physical space and the potential for the emergence of autonomous urban centres. This observation is not incorrect, but it fails to take account of the other side of the coin. It is not enough to underline the fact that the garrison settlements were often more receptive to the processes of urbanization than the civilian secondary agglomerations. After all, the great majority of the settlements that acquired urban status after their foundation were auxiliary *vici*. However, in order to obtain a better understanding of the settlement system in this corner of the Roman Empire, the military sector has to be re-inserted into the regional administrative and economic architecture. The military and governmental sector was not just a complement to the civilian segment of the settlement network. These two spheres actively collaborated. It was not unusual for the provincial government to offer the autonomous towns its military and financial support. A very good indication of this is the regular presence of *beneficiarii* in the urban centres or the construction of military defences in the territories of the Thracian towns.<sup>1120</sup> Conversely, the epigraphic evidence from the Danube *Limes* strongly indicates the involvement of the urban elites in the economic life of the frontier zone. Even if the possibility that the urban aristocracy did play any part in the food supply of the garrisoned units is denied, the army would have still represented a large and attractive market, demanding a wide range of other goods and services, besides food. In short, the civilian sector would have surely been indispensable to the normal functioning of the Danube *Limes*. Without the presence of productive and enterprising towns, maintaining the long frontier zone would have overloaded the resources of the Empire. At this point, the fact that the rank-size graphs of the frontier provinces also hint at a closer integration between the military and civilian towns should be underlined.

The economic interest of the urban elites was not focused solely on the Danube *Limes*. Despite the presence

of large army contingents in the region, the provincial government simply did not have the capacity to assume full responsibility for the exploitation of the sizeable extra-municipal sector. The major civilian towns in the Balkan interior played a key role in the operation of the mining districts, providing the capital necessary for the extraction and processing of the ore. Legal documents have revealed that the urban aristocracy was still being expected to perform this role as late as the 4th century AD.<sup>1121</sup> The partnership between the provincial government and the urban elites remained one of the main principles on which Rome based its administrative and economic control of the region. The involvement of the urban aristocracy in the mining districts is well-attested in the rather poor epigraphic record from these areas. It is important to stress that the names of only a few chosen towns are mentioned. These are almost exclusively the settlements that belonged to the first or second tier of the settlement hierarchies, often coinciding with the earliest Roman colonies in the Balkan interior, founded soon after the establishment of the Danube *Limes*. Unlike the typical *municipia*, these towns were the main economic bases of the Empire in the regions behind the *Limes*. Their sphere of economic interest was not limited to the mining districts and the frontier zone. Members of their *curiae* are also represented in the epigraphy of areas that have been associated with the imperial treasury and in the territories of the smaller towns. Their appearance in areas located hundreds of kilometres away from the territories of towns in which they were domiciled is most readily explained by their role as contractors or, in cases in which they appear in the territories of smaller towns, as local landowners and benefactors. These are the only towns in the study-region whose economic outreach went beyond the limits of their administrative territories. We believe that this was one of the principal factors behind the differential growth of the autonomous towns. Privileged access to capital and resources was reserved for the autonomous communities of Roman citizens. The centres of the peregrine communities, even after they had been granted municipal charters, would have been of little importance outside their administrative territories.

The most tangible threads that kept the settlement system of our study-region together were those linking the frontier zone to the major civilian towns and the latter to the non-urban segments of the network. We suspect that certain sectors – the frontier zone or the large port-towns on the Adriatic littoral – maintained a closer relationship with Rome and Italy than to the Balkan interior. Despite the fact that this claim is unsupported by concrete evidence, it is implied in many aspects of the urban geography of the Balkan Peninsula and the Danube. It is only because of their position in

<sup>1120</sup> Gerov 1980, 273–283; Ott 1995.

<sup>1121</sup> *Cod. Theod.* I. 32, 5; Dušanić 1989, 149.

relation to Rome and Italy that some of Adriatic towns were larger than the towns from the Balkan interior, whereas the principal basis for the large size of the legionary agglomerations, and the military sector in general, was its importance to the security and the political stability of the Empire. The fact that the towns whose existence was fully rooted in the regional demographic and economic currents and that were the principal binding element between the coastal zone and the Danube frontier lagged behind the towns in the latter areas in terms of size and importance is an extremely good indicator of the exploitative nature of the system. The framework of the settlement system consisted of a set of vertical relationships between the frontier and civilian settlements and the civilian settlements and secondary agglomerations. These relationships were mediated chiefly by the central and provincial government. Almost nothing is known about the intensity of trade relations between the individual towns and sub-units of the region, but it has emerged that, theoretically, there was not much incentive for regular economic interactions on a regional level. Notwithstanding the paucity of research on this subject, there is no evidence of structural horizontal links between the Balkan towns and settlements. Until

proven otherwise, the possibility that the average Balkan town was an inward looking, micro-regional centre will have to be borne in mind.

It is striking that the only effective sinews of the settlement system were essentially the same relationships that connected Rome to its tributary kingdoms in the region at the time of the Late Republic. The newly established network of towns and settlements in the Balkan provinces was intended to replace the web of tributary kingdoms and tribal alliances that preceded the Roman conquest. Although formally incorporated into the Roman Empire, no significant changes were made to the role of this region in the political economy of the Empire. It was a functional system of administrative and economic control that endured over a long period of time. Major changes arrived only at the dawn of Late Antiquity and, rather than being a conscious effort to reform, they were initiated by the global shifts in the political and economic map of the Roman Empire: the emergence of the new capital on the Bosphorus, the decline in the Trans-Adriatic relations and the radical transformations in the defensive system of the Late Empire.

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## Abbreviations

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- CIL *Corpus inscriptionum latinarum*.
- IG Bul *Inscriptiones Graecae in Bulgaria Repertae* = Mihailov, G. (ed.) (1958, 1961, 1964, 1966, 1970, 1997). *Inscriptiones Graecae in Bulgaria Repertae I-V* (Sofia, BAN).
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- IL Bul *Inscriptiones Latinae in Bulgariae repertae* = Gerov, B. (ed.) (1989) *Inscriptiones Latinae in Bulgariae repertae* (Sofia, University Kliment Ohridski).
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# Appendix

## A Catalogue of Towns and Settlements, Built-up Area, Agricultural and Administrative Territory

### Northern Epirus and Macedonia, autonomous towns

#### 1. Albanopolis

Albanopolis is mentioned by Ptolemy, III. 13. 23 and in IMS VI: 142. These documents confirm its autonomous status in the second century AD. Archaeological excavations have shown that Albanopolis had been founded by the fourth century BC and was possibly abandoned in the course of the second century AD. The town has been identified with a hill-top settlement near modern Krujë, in Albania. (Map VI\_2) The walled area is estimated at 8.5 (aerial photos) or ten ha. (Islami 1972) About 50% of the ten-km catchment radius or 130 square km is arable. The Thiessen polygons predict an administrative territory of over 4000 square km, but given that the prerogatives of the local *curia* were limited to the surrounding micro-region, it could have measured as little as 800 square km. (Josifovska-Dragojević 1971, 513-522; Islami 1972, 217-233; Islami 1975, 425-427).

#### 2. Allantes

This *civitas* is mentioned in Pliny, IV. 35 and in earlier sources. (Papazoglou 1988, 23-30) Its exact location is still unknown. The town was possibly located in the Lower Vardar Valley, in modern Greece, and it did not belong to our study-region.

#### 3. Amantia

The earliest written reference to this town dates to the Hellenistic period, Ps. Skyl. 26. Amantia is mentioned in a number of sources from the Roman period: Caes. B.C. III 12, 40; Pliny IV.35, Paus. 22. 3 Ptolem. II. 16. (Anamali 1972, 67-148) The area of the acropolis, clearly visible on aerial photographs, measures about five ha. However, the slopes of the hill were also occupied. Karaiskaj, 1980 has estimated the walled area at 13 ha. Amantia was located about 20 km to the southeast of Vlorë, in a mountainous area. (Map VI\_1) Consequently, there are no more than 50 square km of arable land in its immediate hinterland. On the basis of the inter-city distances in this part of Epirus, the administrative territory can be estimated in the range between 1200 and 1600 square km.

#### 4. Antigonea on the Vardar

The earliest known reference to this town is in Pliny, IV 34, but its name suggests that it had been founded by the Antigonids. (Papazoglou 1988, 41-43, 322-326) The acropolis walls enclose an area of only 3.5 ha, but it is likely that the built-up area is larger, up to eight ha.

(Mikulčić 1999, 171-172) Antigonea is located in a fertile region but, because of the short inter-city distances, its agricultural territory occupied between 30 and 50% of the catchment area. (Map VI\_3) The Thiessen polygons predict an administrative territory of about 800 square km. The latest excavations at this site have shown that the town had been abandoned by the third century AD.

#### 5. Apollonia

Apollonia was a Corcyran colony, founded in the early sixth century BC, six km to the west of modern Fier. (Map VI\_2) Ps. Skyl. 26, Strab. VII. 5.8; App. III. 54-55 and Pliny III 145 are only some of the ancient authors who mention Apollonia. (for a full overview, see Cabanes, Drini eds. 1995) According to the majority of the archaeologists, the walls of Apollonia enclose an area of 130 ha. (Karaiskaj 1980, 49-50, figure 21; Ceka 1982, 35) However, when the polygon enclosed by the walls was measured in GIS, it turned out that Apollonia's walled area was slightly under 100 ha. (cf. Cabanes, Lamboley, Vrekaj 2002, 646-658) The built-up area of this town was certainly smaller in the Roman period. Concrete estimates in the published literature are lacking, but judging by the detailed topographical studies carried out by the French mission, it occupied between 60 and 70 ha (see Lamboley *et al.* 2012, 1-33, who has argued that the entire complex around the old *agora* had been abandoned by the Roman period; Cabanes, Lamboley, Vrekaj 2000, 620-630, point out that there are no traces of occupation in the southern part of the *acropolis*) Apollonia had an excellent agricultural potential. Almost 100% of its theoretical hinterland is arable. Its administrative territory was limited by the low intercity distances in the area. It measured about 1000 square km according to the Thiessen polygons or 700 square km, if we follow the natural limits of the micro-region centred on Apollonia.

#### 6. Argos on the Vardar

It is possible that the territory of this town is referred to in Livy XXVII 33, in the context of the Dardanian inroads in Macedonia, after the Second War between Rome and Macedonia. (for further references in the epigraphic sources, see Papazoglou 1988, 311-312) Argos had become a bishopric by the time of Late Antiquity. (Hier. Synek. 641. 3) According to the latest research at this site, the walls enclose between eight and ten ha, but the ceramic site was limited to no more than seven to eight ha. (Donev 2018, 51-78) The agricultural territory of Argos is small. This was the market and administrative centre of a predominantly pastoral region and only

about 15% of its theoretical hinterland is arable. (Map VI\_3) There is no positive evidence of the extent of the administrative territory. The Thiessen polygons predict between 800 and 2000 square km. Argos was in control of a micro-region that measures between 300 and 500 square km.

### 7. *Astraion*

The town is mentioned in Livy 40. 24 and Ptol. III 13.27. (Papazoglou, 1988, 333-335) It still existed in the sixth century as a bishopric (Hier. Synek. 641). Apart from these scattered references, nothing else is known about Astraion. Some scholars have located this town on a volcanic cone, 17-18 km to the south of modern Štip. (Map VI\_3) The flat sections of the hillock measure 13-14 ha, an estimate that equals Mikulčić's figure for the walled area. (Mikulčić 1999, 183-184) The agricultural potential in the theoretical hinterland is slightly higher than 40%, in both the farming and the market catchments. According to the Thiessen polygons, the territory of Astraion could have ranged anywhere between 1000 and 2000 square km, but the lower estimate is the likelier.

### 8. *Buthrotum*

This town is mentioned by Strabo VII 324, Caes. B.C. 3. 16, Pliny HN. IV. 4 and in a number of other sources. (Pollo 1989, 125-133; Deniaux 2005, 507-515) Buthrotum is located about 13 km to the south of modern Saranda. (Map VI\_1) The built-up area, including the suburb on the mainland, is not greater than 15 ha. (Hansen, Hodges, Leppard eds. 2013) Buthrotum occupies a peninsula and, cogently, the agricultural potential of its theoretical hinterland is limited to 15-20%. The *ager* of the colony was not larger than 600-700 square km.

### 9. *Byllis*

One of the earliest written references is Ps. Skyl. 22. Pliny HN. IV 35 mentions the Roman colony of Byllis. (Ceka 1984, 61-90) The town survived and retained its status until the end of Antiquity. (Ceka 1987, 246-247; Muça 1989, 292-293) Both the walled and built-up areas have been estimated at about 30 ha. (Ceka 1984, 81-82) Over 50% of the town's theoretical catchment is arable. (Map VI\_1) The estimates for the administrative territory range between 600 and 900 square km. (cf. the estimates of the territory of the *koinon* of the Bulliones, Ceka, 1984, 79-80)

### 10. *Dimalë*

The town played an important role in the wars between Rome and Macedon, Livy 29. 12.13. Archaeological excavations at this site have demonstrated that Dimalë was a town of considerable age. The earliest urban phase has been dated to the fourth century BC. (Dautaj 1975, 149-157; Fenn *et al.* 2010) Dimalë belongs to the same size-range as the majority of the micro-regional centres

in northern Epirus and Macedonia. Its built-up area measures about ten ha. (Fenn *et al.* 2010; Dautaj 1975, 189-199, gives a figure of 20 ha, but this is not supported by tangible evidence) The town was in command of a fertile area. Almost 80% of its immediate hinterland is arable. Most estimates of the administrative territory – assuming that Antripatrea continued to function as an autonomous town after the Roman conquest – range between 600 and 1400 square km. (Map VI\_1) But if Antipatrea had lost its former status, the Thiessen polygons predict that Dimalë's territory would have had extended over more than 4000 square km.

### 11. *Doberos*

Doberos was an ancient town in Paeonia recorded in Thuc. II 98.2; 99.1; Strabo VII 36 E; Pliny HN. IV 35 and Ptol. II 12.25. (Papazoglou 1988, 328, 330) Although mentioned frequently in the written sources, the site of this ancient town is still undetermined. Traditionally, Doberos has been located in the basin of modern Strumica. If this hypothesis is confirmed by future research, Doberos must have had access to a large agricultural territory. Given that the town was located in the Strumica Basin, the size of its administrative territory would have ranged between 1200 and 2000 square km. (Mikulčić 1999)

### 12. *Dyrrhachium*

Dyrrhachium is known from the writings of Thuc. I. 24. 2; Ps. Skyl. 25; Aris. Politics V 4, 6, 1304; Plutarch 29; Caes. B.C. I 25, 27; Pliny HN. III 145, IV 36 and Dio Cas. 51.4.6, but the list of historical sources referring to this town is much longer. (see Cabanes, Drini ed. 1995) Once colonized by the Corcyrans in the late seventh – early sixth century BC, the site has been occupied continuously, up to the present-day. Because of this circumstance, little is known about the topography of Hellenistic and Roman Dyrrhachium. Most problematic is the northernmost extent of the Roman town. The principal dilemma is whether the town spread to the north of the boulevard Dëshmorëve or, if the finds from this part of the modern town are the scattered remains of suburban *villae*. The study of the Early Roman city-walls (Gutteridge, Hoti, Hurst 2001, 391-410, Gutteridge, Hoti, Reynolds 2003, 367-379) and the distribution of the funerary monuments (Tartari 1997, 243-269) indicate that the urban core was limited mostly to the south of the boulevard. This translates into a built-up area of 40 to 50 ha, smaller than Apollonia. However, geophysical research and rescue excavations have brought to light thick archaeological deposits and architectural remains to the north of the Dëshmorëve Boulevard. (Zeqo 1988, 258-260; Tartari, Myrto 1988, 260-262; Kapllani, Avxhiu 1989, 277-282; Santoro 2008) If this zone is added to the built-up area of the town, it will increase the size of Dyrrhachium to over 90 ha. Typically for all coastal settlements, the agricultural territory of Dyrrhachium was limited to about 25-30%

of its theoretical hinterland. (Map VI\_2) Dyrrhachium had a large administrative territory, including a long section of the Via Egnatia along the Shkumbin Valley. It extended over more than 3000 square km. Lately, it has been suggested that the territory of Dyrrhachium extended to the Fan Valley to the north (Shpuza 2014; the claim is based on a fourth century source, Vibius Sequester, and it implies that Albanopolis was not an autonomous town at that time.)

### 13. Eidomene

Eidomene was a Paeonian town mentioned alongside Atalante, Doberos, Europos and Gortinia by Thuc. II 100.3 and later by Strabo VII 8.5 and Pliny HN. IV 35. (Sokolovska 1986; Papazoglou 1988, 177-180.) It has been located in the Lower Vardar Valley, at the site of Isar, Marvinci, north of Gevgelija. (Map VI\_3) It is difficult to give a concrete estimate for the size of this town in the Roman period. The terraced sections of the hillock measure seven to eight ha. The excavations in the area of the acropolis have revealed that the centre of the town was thoroughly transformed towards the end of the second century AD, when a temple to Commodus was erected by a member of the local *curia* and a high priest of the Macedonian *koinon*. (Sokolovska 1986, 97-109, plan 6). About 30% of Eidomene's catchment area is arable. The Thiessen polygons predict an administrative territory of about 1200 square km.

### 14. Eudaristos

Eudaristos is recorded as a town by Pliny HN. IV 35, and a station on the road between Heraclea Lyncestis and Stobi, Tab. Peut. IV 8. (Mikulčić 1983, 211-218; Papazoglou 1988, 23; Mikulčić 1999, 157-160) According to Mikulčić, the settlement expanded to about 17 ha in the Hellenistic and Roman periods. In our view, the conservative estimate is the likelier. Unless it is assumed that the steep hill-sides were occupied, the inhabitable space at this site was limited to not more than 12-13 ha. Up to 35% of Eudaristos' catchment area is arable. The estimates derived from the Thiessen polygons suggest that Eudaristos' administrative territory ranged between 700 and 1000 square km. (Map VI\_3)

### 15. Europos

Europos is one of the towns in the Lower Vardar Valley mentioned already by Thuc. I 100. 1-4. This town was included in the study by mistake. It is located in modern Greece and judging by the remains visible on Google Earth, it belongs to a size-range typical for this part of the study-region, between 5 and 15 ha.

### 16. Foinike

According to Polybius II 8. 1-4, Foinike had been the most prosperous town in Epirus prior to the Roman conquest. This town was the capital of the Chaonian *koinon* and it retained its role of a micro-regional centre after the Roman conquest. (Rambaldi 2003, 99-108) In the Late

Antique period, Foinike possibly moved to a different site. (Procopius Aed IV I, 37-39; Bogdani 2003, 119-125) This information has been read as evidence of a new town, founded at the foot of the Hellenistic acropolis in the Early Roman period. (de Maria, Jongecaj eds. 2005) There is very little archaeological evidence in support of this claim. Most of the public buildings and residential objects have been discovered within the walled area of the Hellenistic town, measuring between 18 and 35 ha. (Giorgi 2003 127-133; Karaiskaj 1980, Figure 34, 58-59 and Budina 1986, 111-121, give areas of 64 and 57 ha respectively, but these estimates seem to include the steep slopes of the hill) Up to 30% of the hinterland of Foinike is arable. The town occupied the centre of a micro-region that measures 800 square km and a similar figure is projected by the Thiessen polygons.

### 17. Hadrianopolis

This town is not mentioned in the written sources prior to Late Antiquity, when it is attested as a station on the road between Apollonia and Nicopolis in the Tab. Peut. and a bishopric in the Synekdemos of Hierocles. (652, 4) The excavations at this site have demonstrated that Hadrianopolis was one of the rare new urban centres in northern Epirus. (Map VI\_1) More precisely, it evolved from an open settlement of a rural character, founded by the early third century BC. (Perna 2010, 22-34; Perna 2014, 935-944). The geophysical survey at this site has determined that the town extended over an area of ten to 12 ha. (Perna 2010, Figure 16) Between 25 and 30% of the theoretical hinterland is arable. Hadrianopolis was located in the centre of a micro-region that measures approximately 1200 square km. However, the Thiessen polygons add the neighbouring valleys to the core territory of Hadrianopolis, extending its administrative prerogatives over more than 3000 square km.

### 18. Heraclea Lyncestis

The earliest secure reference to this town in the historical sources is Strabo VII 323, although it is possible that Heraclea had been founded much earlier, by Philip V or even Philip II. (Papazoglou 1988, 259-268) Heraclea was an autonomous town and a bishopric until the end of Antiquity. (Hier. Synec. 640) The size of the built-up area has not been established. It probably ranges between seven-eight and 16 ha. (Mikulčić 1999) This town was located near modern Bitola, on the edge of the fertile Pelagonian Plain and 50% of its hinterland is arable. (Map VI\_1) Heraclea was the central place of the Lyncae and its administrative territory was in the range between 1100 and 1700 square km.

### 19. Lychnidos

The earliest reference to this town is in Livy XXVII 32, 9, referring to events from the late third century BC. More references can be found in Strabo VII 7.4; Ptolemy III 12. 29 and the Late Roman sources. (Papazoglou 1985; Bitrakova-Grozdanova 1989; Papazoglou ed.1999) IG X



2/II 373, confirms the autonomous status of Lychnidos at the time of the High Empire. Ancient Lychnidos is covered by modern Ohrid and the size of the ancient town is not easily established. (Map VI\_1) It probably experienced some growth in Late Antiquity, but in the Early Roman period it seems that it was confined to the acropolis, occupying not more than 16 ha. (Bitrakova-Grozdanova 1989, plate 2) Only about 20% of the theoretical hinterland is arable. Lychnidos was the central place of the Dessareti and its territory must have extended over the neighbouring micro-regions. On the basis of the regional geography, it has been estimated at about 1000 square km, but the Thiessen polygons predict a much larger territory, in the region of 5000-6000 square km.

## 20. Neapolis

A dedication to Hera by the *polis* *Neapoleiton* is the only written reference to this town. (Spom. 1971: 63) Mikulčić has tried to identify Neapolis with the Hellenistic to Late Roman hill-top settlement in the Babuna Valley, but this thesis is not supported by positive evidence. (Map VI\_3) It simply follows from the fact that the inscription referring to this community was discovered a few km to the south of the putative site of Neapolis. (Mikulčić 1999, 187-188) The acropolis measures only about 3.5 ha. There is no mention of a lower town but, if Neapolis was really located at this site, the built-up area must have extended beyond the acropolis. The putative site of Neapolis had access to 50-60 square km of arable surface. The Thiessen polygons predict an administrative territory of 1400 square km, but this estimate includes a number of neighbouring micro-regions.

## 21. Neine

This town is known only from the epigraphic sources. IG Bul. IV: 2247 records the construction of a temple to Isis and Serapis by the citizens of Neine. (Gerasimova-Tomova 1980, 19-26, Angelov 2003, 138-142) Other inscriptions also hint at the presence of a *polis* in the region of the Middle Struma, but do not reveal its name. The presumed site of Neine has not been researched systematically. Judging by an old descriptive account, it measures only about 4-5 ha. (Velkov 1963) Located in the area of the exit of the Kresna canyon, its agricultural potential would have been limited to 30% of the theoretical hinterland. (Map VI\_64) The surrounding micro-region measures about 700 square km, but the Thiessen polygons extend its administrative territory over an area of 3000 square km.

## 22. Pelagonia

In the period prior to the founding of the Roman province, Pelagonia was the capital of the IV Macedonian district. (Livy 45 29) This indicates that the town had been well-established by the time of the conquest, although in most Hellenistic sources, Pelagonia is a

name of a region or a kingdom. (Papazoglou 1988, 276-292) The town survived throughout Antiquity. Sixth century sources record Pelagonia as a bishopric. (Hier. Synec. 641. 4) The location of this town still stirs controversies. (Papazoglou 1988, 287-289; Mikulčić 1999, 83-84, 86-87) For the purposes of the present study, Pelagonia is located at the Hellenistic to Roman period site near the village of Mojno. (Mikulčić 1970, 325-347) The extent of this settlement cannot be determined without a systematic field research. Our size-estimate pertains primarily to the micro-topographic unit occupied by this site. It measures about eight ha. It is unlikely that the entire surface area was occupied, but the possible extension of the settlement beyond this unit must be taken into account. In other words, this is the minimum estimate. Pelagonia was a district capital and most probably, it outsized the average *poleis* in this part of the Balkan Peninsula. About 35% of the theoretical hinterland is arable. All figures for the size of the administrative territory fall in the interval between 1000 and 1300 square km.

## 23. Stobi

Strabo VII frag. 4 and Livy XXXIX 53. 14 provide precise coordinates for the location of this town at the confluence of the rivers Crna and Vardar. (Map VI\_3) Thanks to this information, Stobi has been known to the archaeological community since the middle of the nineteenth century. There are frequent references to Stobi in the written sources reflecting its strategic importance, but none dates prior to the wars between Rome and Macedon. (Livy XXXIII 19.3, XL 21.1, XLV 29.13; Pliny HN. IV 34; Ptolemy III 13.4; for a full overview, see, Papazoglou 1988, 313-323). The walled area of the town in the Early Roman Period was approximately 20 ha. (Mano-Zissi, Wiseman eds. 1973; Mikulčić 1999, Figure 108) However, the possible presence of suburbia, especially on the western side, should not be dismissed. In Late Antiquity, the walled area decreased by about 25%. Between 30 and 40% of Stobi's hinterland is arable. Because of the high urban density in this part of the Vardar Valley, the administrative territory was not greater than 350-400 square km.

## 24. Styberra

Strabo's account (Strab. VII 7.10) locates the town in the Upper Crna Valley, in the land of the Deuriopes. (Map VI\_3) Styberra was an important base at the time of the Second War between Rome and Macedon. (Livy XXXI 39. 5; for a full overview, see, Papazoglou 1988, 292-297, Kalpakovska 1999, 155-171) The town declined in the third century AD and, in later periods, it continued to exist as a mere station on the road between Heraclea Lyncestis and Stobi. The city-walls, possibly dating to the Hellenistic period, enclose an area of 14-15 ha, but the town expanded at the foot of the hill in the Roman period and, assuming that the acropolis was also occupied at the time, it grew to about 25-26 ha.

(Mikulčić 1999, 55-72, Figure 31) Vučković-Todorović, who carried out the first systematic research at this site, gives a figure of 36 ha for the settlement's (built-up?) area. (Vučković-Todorović 1964) Styberra has an excellent agricultural potential. Over 80% of its theoretical hinterland is arable. In the Roman period, this town was the central place of the Deuriopes. This is implied in the list of *epheboi* dated to the late first and early second century. (Papazoglou 1988b, 233-270) If its territory is equated to the region of the Deuriopes, the administrative area of Styberra will measure between 900 and 1200 square km. The Thiessen polygons predict territories greater than 2000 square km.

### 25. Unknown, Sandanski

This was an anonymous urban settlement in the Middle Struma Valley, located under modern Sandanski. (Map VI\_64) The ancient name has not been preserved, but some scholars have identified this town with Gariskos (Gerov 1980, 74-75), others with Particopolis. (Papazoglou 1988) The ancient remains are buried under the modern town and little is known about the size or the topography of this ancient town. (Ivanov, Serafimova, Nikolov 1969, 105-205) The excavators have estimated the walled area between 15 and 20 ha, but this estimate refers to the Late Roman town. The agricultural potential of the settlement under modern Sandanski is mediocre, slightly higher than 20% of its catchment radius. The Thiessen polygons estimate the administrative territory of the town between 600 and 1200 square km.

## Northern Epirus and Macedonia, subordinate settlements and settlements of uncertain status

### 1. Ad Scampisae

This settlement is mentioned in Ptolemy III 13.23, the Late Roman itineraries, Malchus Frag. 250, 21, 251, 1 and Procopius *De Aed.* IV 4.3. The fortification walls that enclose an area of about nine ha had been built by the late third-early fourth century, with evidence of sixth century repairs – the reference in Procopius. Scampisae enjoyed access to a large agricultural territory in the Shkumbin valley, up to 200 square km, but only on the premise that this section of the valley was not flooded. (Map VI\_2) According to Hierocles, Synec. 653.2, the town was a bishopric in the sixth century. (Cerova 1997, 285-304; Amore, Bejko, Cerova, Gjipali 2001, 381-389)

### 2. Alkomena

Alkomena is mentioned in Strabo VII 7.9 and Livy 39. 53.14. After the Roman conquest, the town lost its autonomous status. IG X II/2 347 records this settlement as a *kome*. The walled area of the pre-Roman town has been estimated at 12 ha. (Papazoglou 1988, 302-303; Mikulčić 1999, 56-57) Because of the high urban density in this region and its location on the edge of the

Pelagonian Plain, only slightly over ten percent of the ten-km catchment is arable. (Map VI\_3)

### 3. Antipatrea

According to Livy, XXXI 27. 3-4, Antipatrea was captured and destroyed in the course of the Second War between Rome and Macedon. Archaeological research at the Medieval castle in modern Berat has revealed residual remains from the (Late?) Roman period. (Spahiu 1975, 495-501) The Medieval walls, following the line of the Hellenistic enceinte, enclose an area of nine ha. The site has an excellent agricultural potential. Over 30% of the theoretical hinterland is arable. The Thiessen polygon analysis indicates that the administrative territory of the town extended over an area of almost 2900 square km. However, if we are to go by the size of the micro-regional units, it was closer to the provincial average or between 800 and 1700 square km. (Map VI\_1)

### 4. Castra/Parembolē

Castra was a road-station on the Via Egnatia, 11 Roman miles to the west of Heraclea Lyncestis. However, the ancient name of this particular site is uncertain. It is possible that it parallels the developments at Ad Scampsae, farther west on the Via Egnatia. All evidence from this site dates to the Late Antique period. (Papazoglou 1988, 268-270) The Late Antique fort near the village of Dolenci measures slightly over one ha, a size typical of the *praesidia* constructed under the Tetrarchy. If this settlement existed in earlier centuries, it could not have been larger than five ha. The site is located in the middle of a mountain pass and the agricultural potential is limited to less than 20% of the catchment area.

### 5. Ceramiae

Ceramiae was a station on the road between Heraclea Lyncestis and Stobi, recorded in the Tab. Peut. (Map VI\_3) The site occupies the foot of a Hellenistic hill-top settlement. Almost nothing is known about the size and appearance of this open settlement. The hill-fort occupied less than five ha and it is unlikely that the road-side settlement was larger than its predecessor. (Šašel ed. 1976; Mikulčić 1999, 90). Nearly 50% of its immediate surroundings are arable.

### 6. Dostonei

The scattered literary evidence suggests that the Dostonei were a non-urban *koinon* in Pelagonia, attested in IG X II/2: 191-192. (Papazoglou ed. 1999) Their central place has been identified with a hill-top settlement on the Moriovo Plateau (Gradište near the village of Dunje, Mikulčić 1999, 90-1), but this identification is not very convincing. (Map VI\_3) The site in question measures only about four ha. Less than ten percent of its theoretical hinterland is arable.

### 7. Onchesmos

This port-town, located under modern Saranda, had been founded by the first century BC, when it is mentioned by Strabo, VII 7. 5. Most of the excavated remains date to Late Antiquity, a period in which Onchesmos became a bishopric in Epirus Vetus. (Hier. Synec. 652) The walled area of the Late Roman town is slightly over six ha and it is unlikely that its Early Roman and Hellenistic predecessors were larger. This view is reinforced by the low agricultural potential of the surroundings of this coastal settlement. (Map VI\_1)

### 8. Orikum

Orikum was a *polis* in the bay of Vlorë, established by the fifth century BC, Ps. Skyl 27. It is mentioned in Caes. B.C. III 11, and Ptolemy, III 3 14. 2, but it is unclear if it had preserved its autonomous status under the High Empire. (Shpuza 2006, 481-502) The walled area of the town is nine ha. Like the majority of the coastal settlements, Orikum has a poor agricultural potential. Less than ten percent of its catchment area is arable. The Thiessen polygons project no more than 350 square km for the administrative territory of this town.

### 9. Stenae

Stenae is mentioned in the *Tab. Peut.* on the road along the Vardar Valley, between Scupi and Thessaloniki. (Papazoglou 1988, 323-326; Mikulčić 1999, Map VI\_3) The site grew up at the foot of a pre-Roman fortified settlement. According to Mikulčić's description, this was a fortified, low-lying settlement, spread over an area of ten ha. There is evidence of monumental architecture and sculpture. (Mikulčić 1999, 176-182) Stenae guarded the northern entrance into the narrow gorge of Demir Kapija, (yet another Iron Gate on the Balkan rivers) and its agricultural potential is limited to about 12% of its theoretical hinterland.

### 10. Tauriana

Tauriana was a station on the road between Scupi and Thessaloniki. (Papazoglou 1988, 350, fn. 127) It was an open settlement that attracted the attention of archaeologists because of the numerous finds, including relief steles and an Early Christian basilica. As in the case of the other road-stations, most of these remains date to the Late Roman period. However, in contrast to Scampisae, Tauriana never became a bishopric. There is no information about the built-up area of this site, but from a comparative perspective it could not have exceeded five to ten ha.

### 11. Zgurbita

Zgurbita is recorded as a station on the road along the Vardar Valley, linking Scupi, Stobi and Thessaloniki. (Map VI\_3) This was possibly a high-ranking settlement in the Hellenistic period, with a walled area of seven to eight ha. (Mikulčić 1999, 152-154) In the Roman period, it had apparently lost its urban status and it

has not been included in Papazoglou's monograph on the ancient towns in Macedonia. This settlement had a humble agricultural potential, with only about 50 square km of arable land in its catchment area.

### 12. Unknown, Golem Grad

This was an island settlement in Lake Prespa. The entire island measures less than 2 ha, but the architectural remains at the site of the ancient settlement – including an Early Christian basilica – indicate that this was not an ordinary village. The site had been occupied continuously between the Hellenistic to the Late Roman period. (Bitrakova-Grozdanova 2011)

### 13. Unknown, Kožuh

This was a fortified settlement, located on a low hillock in the Middle Struma Valley. (Domaradski *et al.* 2001, Map VI\_64) The rich finds from the necropolis and the discovery of relief steles and architectural sculpture have underlined the urban character of this settlement. (Božinova 2002, 77-81; Dimitrov, Ivanov 2007, 142-149) A funerary stele referring to the *civitas Heracleotarum* has given rise to the thesis that this is the site of Heraclea Sintica. (Pliny HN. IV 35; Mitrev, Tarakov 2002, 25-32) This does not tie-in with the information provided in the itineraries, and other scholars tend to identify this site with some of the towns mentioned by Strabo in the land of the Maedoi. (Strabo VII frag. 36; Gerov 1980, 67-75; Gerov 1998, 159-214; Manev 2006, 220-226) The size estimates available in the published literature are problematic. Domaradski has estimated the built-up area of this town at 70-80 ha. (Domaradski *et al.* 2001, 17-18, Figures 61-62) The area of the acropolis is smaller than five ha and it is unlikely that the lower town was as large as implied in this estimate. We believe that this town was not larger than ten to 12 ha, matching the size of the average town in this part of the province. This settlement has an excellent agricultural potential, almost 50% of its catchment is arable. The Thiessen polygons project the administrative territory in the region of 800-900 square km.

### 14. Unknown, Krupište

This was a Hellenistic to Roman settlement in the Middle Bregalnica Valley. (Aleksova 1989, 73-75; Mikulčić 1999; Map VI\_3) The name of the settlement has not been preserved. Some scholars have identified it with the station of Astibo, located on the road between Stobi and Pautalia, *Tab. Peut.* VII 5. (Aleksova 1989, 74) It is worth noting that the neighbouring regions are rich in lead and silver. Unfortunately, the archaeological remains at this site have suffered greatly during the preparation of the terrain for rice-fields. The area of the presumed acropolis on the top of the two hills, located to the west of the settlement, is about four ha. The built-up area of the settlement was probably two to three times larger. Over 60% of this settlement's catchment is arable.



**15. Unknown, Suvodol**

This is one of the possible locations of ancient Pelagonia. It is an open settlement, spread over an area of ten ha. It abounds in architectural sculpture and monumental architectural remains, but most of the finds have been dated to the Late Roman period. (Šašel ed. 1976, 123) The agricultural potential ranges between 20 and 30% of the theoretical hinterland.

**16. Unknown, Symizë**

This site is a fortified settlement from the Hellenistic period, located on the western rim of the Korça Basin. (Lera 1975, 473-477, Map VI\_1). The city-walls and monumental architectural remains – a building with a colonnaded porch – have been dated to the Hellenistic period. The excavator mentions a thin layer of (Late?) Roman material and new walls built in mortar, but the character of this phase is uncertain. The acropolis walls enclose an area of 1.5 ha. There is no data for the settlement's built-up area. Almost 50% of its hinterland is arable.

**17. Unknown, Tremnik**

This site near modern Tremnik in the Middle Vardar Valley is a hilltop settlement, occupied chiefly in the Hellenistic period. (Map VI\_3) Earlier scholars believed that this could have been the site of Antigonea on the Vardar. (Papazoglou 1988, 324) Although it occupies a hilltop, this settlement does not have proper fortification walls. It was built on terraces and measured approximately eight ha. (Mikulčić 1999, 171-172) Some scholars have claimed that Tremnik had been abandoned by the end of the Hellenistic period, (Sokolovska 1986, 47) and this has been confirmed by the latest excavations at this site. The surroundings have an excellent agricultural potential but, because of the small intercity distances, the size of the agricultural territory is reduced to less than 20% of the theoretical hinterland.

**18. Unknown, Perivol-Vitolište**

This is an open settlement in the Moriovo Plateau (Map VI\_3) – a pastoral region, rich in ore – indicated by the finds of sculpture and inscriptions. (Mikulčić 1999, 91-93, Papazoglou ed. 1999 = IG X II/2: 162-164) Little is known about this site but, because of its location, it has been associated with mining. This claim is corroborated by the involvement of a Roman citizen from Stobi in this region, a pattern recurring throughout the study-area. (IG X II/2: 164, however, the term *technites* is not necessarily associated with mining) On the basis of an unsystematic survey, the size of this settlement has been estimated at ten ha. Needless to say, the agricultural potential is meagre. Only about five percent of the hinterland is arable.

**Dalmatia, autonomous towns****1. Acruvium**

The earliest reference to this settlement in the written sources is in Pliny *HN*. III 144. Pseudo Skylax does not know about Acruvium, although he does refer to the neighbouring coastal settlements. The town entered the historical record as an *oppidum civium Romanorum*. CIL III 1710, dated to the middle of the second century, records it as a *municipium*. The location of Acruvium has not been established. (Mijović 1962-1963, 27-47; Parović-Pešikan 1962-1963; Martinović 1967, 29-38; Map VI\_6; the location given on this map is provisional) There are strong indications that this was a dispersed settlement, (Pušić 1967, 65-68) but in view of the fact that it was attested as an *oppidum* and the small size of the neighbouring coastal towns, we believe that Acruvium was a small coastal community rather than a non-urban *municipium*. Seen from a comparative perspective, the town could not have been much larger than five ha. According to the Thiessen polygons, the administrative territory measured between 500 and 900 square km.

**2. Aenona**

This town was first mentioned in one of the sources used by Pliny the Elder. (Pliny *HN*. III 140) However, archaeological research has demonstrated that Aenona was a much older settlement, dating to the Early Iron Age. (Batović 1968, 7-33) The walled area of the town is almost 16 ha but, most likely, it was not built-up entirely. (Batović 1977, 201-225) The agricultural potential of Aenona is limited by the sea and the proximity to Iader. (Map II\_11) About 10-15% of the immediate hinterland is cultivable. Aenona's administrative territory was in the region of 300 square km or about the same size as its theoretical hinterland.

**3. Aequum**

Aequum was the first colony in the Dalmatian interior. It was founded by Claudius, immediately after the failed coup of AD 41. (Alföldy 1965; Wilkes 1969.) The walls of the colony enclose an area of 15 ha. (Bojanovski 1974, 56-59) About 30% of the immediate hinterland is arable, but only if it is accepted that the hydrological conditions in the Cetina Valley were more propitious than in the Early Modern period. (Map III\_9; VI\_10) The spread of inscriptions referring to the colony and its *curia* indicate that its *ager* measured between 600 and 1000 square km.

**4. Aquae S**

According to earlier scholars, Aquae S was a spa-town in the Sarajevo Basin, founded by the late first century AD. (Pašalić 1959, 113-136; Bojanovski 1988). A recently discovered inscription confirms that the settlement had become a *municipium* by AD 170. (AE 2006 1022) The research carried out at this site prior to the 1990s,

has revealed an agglomeration of residences, without a clearly defined urban centre. The constraints posed by the local topography limit the built-up area to 12-15 ha. (Map III\_9) Aquae S has a solid agricultural potential. Almost one-half of the theoretical hinterland of this settlement is productive. (Map VI\_13) On the basis of the distribution of veteran inscriptions in this area, the administrative territory of the town extended over 2500 square km, although the Thiessen polygons predict much larger territories, in excess of 5000 square km.

### 5. Arupium

This name refers to an Iapodian people and their central place. (App. Ill. IV 16; Olujić 1999-2000, 59-64) It is located in Lika, in Croatia, near modern Prozor. (Map VI\_16) By the late first century AD, Arupium had been promoted into a *municipium*. (CIL III 3006) Alongside Metulum, Arupium was probably the largest Iapodian settlement. Its acropolis is small, measuring slightly over one ha, but the built-up area might have extended to 12 ha or more. (Bižić-Drechsler 1986, 107-127) About one-fifth of its theoretical hinterland is arable. If Arupium was the only autonomous town in the land of the Iapodes, its administrative territory could have extended over an area of 5000 square km. The scatters of inscriptions in the countryside already place the administrative territory of Arupium in the range of 4000-4500 square km.

### 6. Asseria

Asseria was the eponymous central place of an autonomous *civitas* in Liburnia. (Pliny HN. III 139 Čače 2001, 7-43; Map VI\_5) The date of the granting of the municipal status is not established precisely, but most scholars have dated it to the period of the Julio-Claudian dynasty. (Čače 2001, 13; Kurilić 2006, 7-72). The walled area is slightly larger than five ha, but it is unclear if there was a lower town at the foot of the hill. Asseria had access to about 50-60 square km of arable land in the ten-km catchment radius. Given that all Liburnian *oppida* were centres of autonomous communities, Asseria's territory would have been limited to 150-250 square km. However, it should not be excluded that some of the smaller *civitates* in the area had been joined to Asseria, in which case, its administrative territory would have increased to 800 square km.

### 7. Bistue Nova

Bistue Nova was a *municipium* known exclusively from the epigraphic sources and itineraries. (Bojanovski 1974, 134-146, Bojanovski 1988, 155-168) The town survived until the end of Antiquity preserving its autonomy. (Škegro 2009, 191-204) The location of Bistue Nova is disputed. Ivo Bojanovski has located it in the Upper Vrbas Valley, following the data contained in the itineraries. (Bojanovski 1974, 134-146; Map III\_9) However, the site in question has very little to offer in

terms of archaeological remains or inscriptions. The size-estimate ranges between 15 and 20 ha, (Bojanovski 1988, 160) a typical size-figure for an average town in continental Dalmatia. The assumed site of Bistue has a good agricultural potential. Almost 30% of its theoretical hinterland is arable.

### 8. Bistue Vetus (Delminium)

The location of the *municipium* of the Delmati is one of the most hotly debated issues in the archaeology of Roman Dalmatia. (Bojanovski 1974, 233-244, Škegro 1999-2000, 395-403) One of the earliest theses, introduced by Carl Patsch, is that the *municipium* was located in modern Tomislavgrad. (Map III\_9; VI\_8) This is supported by the discoveries of monumental architecture at this site and the sheer size of the agglomeration, extending over an area of 15 ha. (Bojanovski 163-165) The main problem with this interpretation is that this same site coincides with a road-station known as Bistue Vetus in the itineraries. Equally problematic is the absence of Late Antique finds at this site, although the literary sources suggest that Delminium had survived as a bishopric until the end of Antiquity. This location has a relatively solid agricultural potential. About one-fifth of the hinterland is arable, but the validity of this observation depends on the hydrological conditions in the past. The administrative territory of Delminium, regardless of its exact location, measures no more than 700-800 square km.

### 9. Burnum

Like so many other civilian towns in this region, Burnum was founded by the army. During much of the first century AD, it was a legionary camp of the XI Claudia and IV Flavia. (Wilkes 1969, Zaninović 1974, 301-319) It is possible that the XX Valeria Victrix had already been stationed in this area at the time of the Pannonian Revolt, but there is no material evidence of its presence. (Zabehlicky-Scheffenecker, Kandler eds. 1979) Burnum was founded in the territory of the Burnistae, one of the Liburnian *civitates* recorded by Pliny. (Pliny HN III 139) By the reign of Hadrian, the settlement which grew up at the site of the former legionary fort and *canabae* was granted a municipal status. (IL Jug 845) Geophysical surveys have helped determine the size of the built-up area at about 20 ha. (Campedeli 2011, 33-64) Because it was located in a dry karstic area, only about 15% of Burnum's catchment is arable. (Map VI\_5) The municipal territory occupied between 900 and 1300 square km.

### 10. Diluntum

Diluntum is a Latin *municipium* associated with the territory of the Daorsi. (Bojanovski 1988, 88-102) The granting of the municipal status is dated roughly to the period between the Flavians and Hadrian, mostly on the basis of the *gentilica* attested in this region. (AE 1980: 677) There is hardly any alternative evidence. The town

is located at modern Stolac in western Herzegovina, but this is by no means certain. (Bojanovski 1988, 98, fn. 55; Map VI\_8). If we are to go by the local topographic conditions, the built-up area could have ranged anywhere between 5 and 25 ha. Only about one-fifth of the theoretical hinterland is agriculturally productive. The town had a large territory. The minimum estimate predicts 1800, the maximum over 3200 square km. (Bojanovski 1988, 92-94)

### 11. Doclea

Doclea was the largest town in the southern half of Dalmatia and the eponymous centre of the Docleatae. (Pliny HN. III 143) It was founded as a *municipium* in the Flavian period, at modern Podgorica, the capital of modern Montenegro. (Srejšović 1968, 88-99; Wilkes 1969, Kuzmanović-Cermanović, Velimirović-Žižić, Srejšović 1975; Map VI\_6) The town measured between 25 and 32 ha. The distribution of the urban *necropoleis* leaves hardly any room for suburbia. Despite the mountainous character of this micro-region, Doclea has a solid agricultural potential. Over one-third of the theoretical hinterland is arable. The administrative territory of the *municipium* is well-documented. (IL Jug 1852, 1853) It occupied between 4000 and 5000 square km.

### 12. Domavium

Domavium was the central place of the silver mining district in eastern Dalmatia. (Wilkes 1969, Bojanovski 1988, 193-203; Hirt 2010) It is possible that this settlement was granted a limited autonomy towards the end of the second century or later. Its *ordo* is documented in the epigraphic record dating to the early third century. (CIL III 12728-29) According to the available plans and the topographical conditions, the built-up area of Domavium measures between seven and ten ha. (Wilkes 1969, Figure 19, Bojanovski 1988, 199) There was less than ten square km of arable land with the ten-km catchment radius of Domavium. (Map III\_7; VI\_7) Positive evidence of the size of the mining district is not available but, according to some scholars, it extended over 4000 to 5000 square km. (Dušanić 1977, 52-94, Bojanovski 1988, 200; see however Hirt 2010). It has to be stressed that these reconstructions rest entirely upon indirect evidence: the fact that the sources refer to Pannonian *argentaria* – impossible to locate unless it is accepted that a part of the mining district was put under the authority of the Pannonian procurator – and the distribution of lead and silver mines in this region.

### 13. Epidaurum

It has been suggested that, like most of the pre-Roman communities on the eastern Adriatic coast, Epidaurum was as an *oppidum civium Romanorum* at the time of the Republic. (Alföldy 1965, 139) By the Flavian period, at the latest, it had been promoted into a Roman colony. (Pliny HN. III 144, CIL III 12694-5, might imply

an Augustan date) The maximum built-up area of this peninsular agglomeration is slightly over ten ha, possibly less. (Faber 1966, 25-38) Like most coastal settlements, the agricultural potential was limited to less than ten percent of the theoretical hinterland. (Map VI\_9) According to most estimates, the *ager* of the colony extended over an area of 1200-1400 square km. (Bojanovski 1988, 76-83)

### 14. Iader

The earliest mention of the eponymous people, the Iadastini, could date to the time of Caesar, but the issue is still debated. (Suić 1995, 269-282; Čače 1997-1998, 57-87, Dzino 2010) Iader is securely attested as a colony in Pliny HN. 140. (ILS 9389) The town survived until the early sixth century, when it was destroyed by the Goths, but was quickly reoccupied in the Early Middle Age. (Gazić-Jović 2011, 473-488) Its walled area measures 32 ha, but if the public buildings and the free space are taken into account, the built-up area must have been smaller, probably around 25 ha. (Suić 1981) Iader has a good agricultural potential of almost 100 square km in the area enclosed by the ten-km catchment radius. (Map II\_11) Because of the high urban density in Liburnia, the administrative territory must have been of a relatively modest size or about 700 square km. (Suić 1981)

### 15. Issa

Issa was a colony of Syracuse, founded on an island in the central Adriatic, in the middle of the fourth century BC. (Čargo 2004; Map VI\_11) The earliest written reference to this town is in the *periplous* of Pseudo-Skylax, 23. Issa was a major regional centre in the Hellenistic period, controlling much of the Dalmatian coast. (Suić 1996, 169-282; Dzino 2010) Although a Roman ally, after the founding of the colony of Salona, Issa had lost its prominence and, possibly, its autonomy. (Suić 1976, 31-32) It is possible that its status changed later in the Principate. A funerary inscription dated to the second century AD mentions a family of *decuriones* that held office in both Salona and Issa. (CIL III 2074) The town had a walled area of 8.5 ha, whereas the built-up area was somewhat larger, probably around ten ha. Issa was located on a small island with an area of 100 square km. Less than ten percent of this surface is arable. It is unlikely that the administrative territory of Issa extended over the neighbouring islands.

### 16. Lissus

According to one written source, Lissus was another Greek colony on the eastern Adriatic coast, but the reference in Diod. Sic. 15.13 is uncertain and could refer to Issa rather than Lissus. (Prendi, Zhaku 1972, 239-268) Most literary sources mention this town in the context of the wars between Rome and Macedon and Macedon and Illyria. (for instance, Polyb. 8.15) It has been suggested that Lissus was promoted into a *municipium* by Caesar but, in Pliny HN. III 144, the town is recorded



as an *oppidum civium Romanorum*. (Prendi 1981-1982, 153-164) The walls enclose an area of approximately 20 ha. It is unlikely that this area was built-up fully, but because the town had a suburb, it is reasonable to surmise that the figures for the walled and built-up area were similar. (Prendi, Zheku 1972, Figures 2, 3a). Over one-fifth of Lissus' hinterland is arable. (Map VI\_2) The administrative territory was in the range of 500 to 1500 square km, but the Thiessen polygons predict a much larger territory.

### 17. Magnum

Magnum was a second-century *municipium* which had replaced a pre-Roman *oppidum*; possibly Syndonion, destroyed in Octavian's Dalmatian campaigns. (App. Ill. 27, IL Jug 1965; CIL III 14957) The exact location of this *municipium* has not been established securely, but for the purpose of the present study, we have accepted the location at Bajina Glavica. (Glavaš 2012, 93-103; Map III\_9) There is no concrete information about the size of this settlement. Our estimates are based on the observations of the available space at the top and at the foot of the hill. The hill-top section measures 3.5, the foothills up to 18 ha, but the latter is the unlikely maximum size. Less than 20% of the theoretical hinterland of Magnum is arable. Its administrative territory measured between 600 and 1000 square km.

### 18. Malvesia

The founding date of this *municipium* cannot be established with certainty. It is dated between the Flavian and the Late Antonine period. (Alföldy 1965; Bojanovski 1968, 241-261; Bojanovski 1988, 177-192) If we are to go by a funerary monument of a local aristocrat, the *municipium* was founded on the territory of the Dindari. (Il Jug 1544) The location of Malvesia is debatable. (Papazoglou 1957, 114-122; Bojanovski 1968, 241-261) If the thesis that the *municipium* was located in the Middle Drina, near modern Skelane is accepted, its built-up area was limited to no more than 15 ha. (Map III\_11, VI\_13) About 20% of the town's theoretical hinterland is arable. The distribution of the epigraphic monuments in the countryside indicates that Malvesiatum was in control of an area of about 3000 square km.

### 19. Metulum

Metulum was a stronghold of the Iapodes, captured by Octavian during the Dalmatian campaign. (App. Ill. 19-21; Olujić 1999-2000, 59-64; Šašel-Kos 2005; Map VI\_16) By the third century AD, Metulum had been granted a municipal status, probably one of the last promotions in Dalmatia. (CIL III 3022, 10060) Until the last couple of decades, no systematic research has been carried out at Metulum. (Pavišić 1990, 83-91; Olujić 2007, 53-69) With the help of satellite photographs, it has been possible to estimate the size of the hill-top section at about five ha. The settlement at the foothill could have measured up

to 15 ha. In view of the strong topical continuity among the settlements in this region, (Bižić-Drechsler 1986, 107-127) the minimum figure is the likelier. Almost 20% of Metulum's catchment is arable. The size of its administrative territory was in the range of 500 to 1200 square km, although the Thiessen polygons predict much larger territories.

### 20. Municipium S

The processes that led to the founding of this *municipium* and its institutions are poorly understood. (Alföldy 1965, 108; Loma 2002, 143-179) *Municipium S* had a complex ethnic and social composition. The epigraphic record reveals the presence of entrepreneurs and magistrates from the towns on the Dalmatian coast, people from the Dalmatian *civitates peregrinae* and the Romanized native population. In this respect, *Municipium S* is very much like the rest of the mining *municipia*, and this connection is further underlined by the evidence of mining activities in its territory and the official dedications by the *procurator*. (Mirković 1975, 95-106; AE 1998: 1027) The settlement located at Komini, near modern Pljevlja in eastern Montenegro, had been granted a municipal status by the second half of the second century. (AE 1971:303; Map III\_7) The continuity of the native *civitas* after the founding of the *municipium* is uncertain. (Loma 2002, 160-162). Equally problematic is the relation between the *municipium* and the mining district. The walls of the town enclose an area of 14.5 ha. (Cermanović-Kuzmanović 1968, 101-107) Less than 20% of its catchment area is agriculturally productive. The question of the territorial extent of *Municipium S* is closely related to the question of the existence of the *civitas* and the mining district after the founding of the *municipium*. If the latter two survived as separate territorial units, the municipal territory would have been in the region of 2400 square km. In case they were joined to the municipal territory, it would have extended over more than 5000 square km.

### 21. Narona

Most scholars have argued that Narona was a Hellenistic *emporium* in the Neretva Delta. (Suić 1976, Cambi 1978, 57-66; Map VI\_8) The town is mentioned by Pseudo Skylax 24, but the earliest archaeological finds from the urban core do not predate the middle of the second century BC. (Marin 2003, 11-65) Hence, Narona could belong to the same wave of urbanization of the Adriatic coast as the *emporia* of Epetion and Tragurion, founded by Issa or Pharos in the Late Hellenistic period. Very soon, by the second half of the second century BC, the town was established as the main Roman base in the middle Adriatic. (Dzino 2010, 64) By the time of Caesar, or more likely Augustus, Narona had been founded as a Roman colony. (CIL III 12695, Alföldy 1965) It survived until the beginning of the seventh century. Narona measures between 17 and 25 ha. (Cambi 1978, 58) Almost 20% of its theoretical hinterland is arable. The

minimum extent of Narona's administrative territory is 2500 square km. If the *ager* spread into the upper course of the Neretva, its size could increase to over 3500 square km. (Bojanovski 1988, 116-128).

## 22. Nedinum

Nedinum was one of the Liburnian communities that possessed the *Ius Italicum*. (Pliny *HN*. III 130) This passage in Pliny has been debated. (Suić 1976, 20-21; Vittinghoff 1977, 29-30, is more sceptical) There is a general consensus that, in the course of the first century AD, Nedinum had been granted a municipal status alongside Asseria and Varvaria. (Čače 2001, 7-43, Kukoč 2011, 189-221) However, it has to be admitted, that not a single document refers to the municipal status of Nedinum. It is equally symptomatic that there are hardly any public buildings in this hill-top settlement. (Chapman, Shiel, Batović eds. 1996) According to the plan of this site, (Chapman, Shiel, Batović eds. 1996, Figure 94) Nedinum measures over 30 ha. This estimate includes the site's impact zone – areas of rubbish disposal, workshops, gardens etc. In all likelihood, Nedinum belonged to the same size-range as the rest of the Liburnian towns, measuring between eight and 12 ha. Over one-third of the theoretical hinterland is arable. Depending on the status of the neighbouring towns, Nedinum's administrative territory measured between 400 and 1000 square km. (Map III\_9, VI\_4)

## 23. Novae

The earliest testimonies to Novae as a *municipium* are in a small group of inscriptions dated to the second half of the second century AD. (Bojanovski 1977, 83-151, dates the founding of the *municipium* to the reign of Aurelius) Novae is located near modern Runovići, on the road between Salona and Narona. (Map VI\_8) Almost nothing is known about the topography of this *municipium* but, judging by the local topographic circumstances, this was a road-side settlement that measured no more than ten to 15 ha. About 15% of Novae's theoretical hinterland is arable. The territory of Novae was carved out from the southern part of Salona's *ager*. This is indicated by a funerary monument of a veteran soldier and *decurio* from Salona, dated to the early second century. (CIL III 1914, Bojanovski 1988, 134) This document was discovered a short distance to the north of the *municipium*, in an area that was almost certainly a part of the municipal territory in later centuries. According to most estimates, the administrative territory of Novae occupied between 1500 and 2000 square km.

## 24. Raetinium

Raetinium was an *oppidum* of the Iapodes, mentioned in the context of the Great Pannonian Revolt of AD 6-9. (Dio 56. 11.3-7) The status of this settlement after the Roman conquest is unclear. There is no evidence of municipal institutions. (cf. Bojanovski 1988, 304-

323) Most of the official dedications were made by the native aristocracy, the *praepositi* and *principi*. (CIL III 14324-14325) Raetinium has been identified with a palafittic settlement in the Middle Una, near modern Bihać. (Map VI\_16) It measures about seven ha, but it is possible that the settlement spread over more than one palafitte. Needless to say, it is impossible to clarify the stratigraphy of this site-category. (Ranuning 2003, 269-276) Almost 20% of Raetinium's catchment area is arable. There are no clues about the territorial extent of Raetinium in the epigraphic sources. If the limits of the territory followed the natural geographic divisions, it would have extended over 2000 square km. According to the Thiessen polygons, it was greater than 3000 square km.

## 25. Rider

Like a number of other Dalmatian towns, Rider has its origins in the Iron Age. Although it is not mentioned in the literary sources, it has produced a relatively large number of inscriptions (Miočević-Rendić 1962, 315-334; Alföldy 1965; Loma 2002, 143-179) Rider was promoted into a *municipium* in the Flavian period and its aristocracy played an important role in the urbanization of the Dalmatian interior. As elsewhere in Dalmatia, occupation of the hill-top settlement continued after the conquest, probably spreading to the foot of the hill. The acropolis is tiny, measuring between one and 2.2 ha, but if the hillside was occupied, the built-up area could have extended to over 12 ha. (Zaninović 1978, 17-29; Pedišić 1999-2000, 521-527) This town is located in a karstic area and its agricultural potential is limited to about ten percent of its theoretical hinterland. (Map VI\_5) The municipal territory was in the region of 600-700 square km. (cf. Rendić- Miočević 1962, 320-321)

## 26. Rhizinium

Rhizinium was one of the four *oppida civium Romanorum* mentioned by Pliny on the southern Dalmatian coast, in modern Montenegro. (Pliny *HN*. III 144; Map VI\_6) The town was possibly much older however, because the *periplous* of Pseudo-Skylax 24, mentions a river called Rhizous. The exact juridical status of this town in the Roman period is uncertain, (see the section on subordinate settlements, entry num. 11, Col. Ris...) but its autonomy is indisputable. (CIL III 12695; Alföldy 1965, 184-187; Vittinghoff 1977, 3-51) Like its neighbours, Rhizinium was a tiny settlement, measuring between five and seven ha. This is predetermined by the local topography. Only about five percent of its agricultural territory is arable. The town's administrative territory spread over an area of 450 - 500 square km. The Thiessen polygons predict a much larger territory, but this contradicts the distribution of the epigraphic sources in the interior. These sources indicate that the inland areas were governed by Doclea, not the coastal towns.

## 27. *Salona*

Salona was a Roman colony and the capital of Dalmatia. (Alföldy 1965; Rendić-Miočević 1986, 529-545; Cambi ed. 1991; Mardešić 2006, 81-90; Jeličić-Radonić, Sedlar 2011, 67-86) According to the literary sources, Salona was a pre-Roman settlement, (App. *Ill.* 11) but this phase is represented only by stray finds from the site of the Roman forum. (Clairmont *et al.* 1975) It is possible that pre-Roman Salona was situated elsewhere. (Marin ed. 2002) After the Marcomannic invasions, the town's walled area was 72 ha, but this surface was not built-up entirely. The area occupied by buildings measured around 53-54 ha. (Mardešić 2006, 83) Salona had a respectable agricultural potential for a coastal settlement, with about 50 square km of arable land in its theoretical hinterland. (Map VI\_11) The epigraphic sources suggest that, after the founding of the *municipium* of Novae, Salona's *ager* had been reduced from over 3000 square km to less than 1500 square km. (Bojanovski 1977, 83-151)

## 28. *Salvium*

This town is recorded in the Antonine itinerary and in a small group of inscriptions, found in Salona and in the neighbouring micro-regions. (Bojanovski 1988, 233-249) The location of Salvium has not been determined securely. (Map III\_9) Some scholars have postulated a duality, similar to that attested in the land of the Delmati, between the administrative centre and the main epichoric settlement. (Bojanovski 1979, 115-126; Bojanovski 1982, 15-40, see the section on Vrba) Salvium had been promoted into a *municipium* sometime in the second century AD. (Bojanovski 1988, 233-235) On the basis of the local topographic conditions and the remains visible on aerial images, the site measures 15 ha, at the most. (cf. Bojanovski 1988, fn. 31-32) Given that the hydrological conditions were optimal in the past, Salvium had almost 40 square km of arable land in its theoretical hinterland. The municipal territory spread over 1800-2000 square km.

## 29. *Scardona*

Scardona was a pre-Roman settlement, located near the mouth of the river Krka. (Strabo VII 5.4; Map VI\_5) The status and importance of this town increased after the Roman conquest, being proclaimed the capital of the Liburnian *conventus*. (Pliny n.H. III 139) Scardona was granted a municipal status under the Flavians. (CIL III 2802; Glavičić, Miletić 2011, 113-150) Almost nothing is known about the topography of this town. (Pedišić 1978, 63-66; Glavičić, Miletić 2011, 144-150) Only the physical conditions and the distribution of the necropolis finds put this settlement in the size range between eight and 16 ha. About 10% of Scardona's hinterland is arable. If its neighbour Arausa was an autonomous town, the administrative territory of Scardona must have been smaller than its theoretical hinterland, measuring

slightly over 200 square km. The maximum estimate is 400 square km.

## 30. *Scodra*

Scodra was the seat of the last Illyrian king Genthius. (Livy XLIV 31.2) After the Flavian period, Scodra was founded as a Roman colony, (Pliny III 144, records it is an *oppidum civium Romanorum*; CIL III 12695; Alföldy 1965, 184-187; Islami *et al.* 1985) but it had produced only a couple of records of its magistrates and institutions. The topography of the Early Roman town has been lost under the remains of the Late Antique and Medieval town. Most of the remains datable to the period of the High Empire have been located at the foot of the Hellenistic fort. The size of this settlement ranges between 12 and 15 ha. (Hohxa, Lahi 1988, 262-264 Hohxa, Lahi 1989, 295-296) Nearly one-half of Scodra's theoretical hinterland is cultivable, mostly in the western half of its catchment area. There are no data about the extent of its administrative territory, but the Thiessen polygons predict that it governed an area of over 4000 square km.

## 31. *Splonum*

The name of this settlement has been preserved in the written accounts of the Great Pannonian Revolt. (Dio 56 11.1-12.1) Scholars who have studied Germanicus' campaign in Dalmatia in AD 9, tend to locate Splonum in the valleys of the Sana and Una, in northwest Bosnia and Herzegovina. (Pašalić 1956, 245-300, Alföldy 1965; Bojanovski 1974, 212-219; Map III\_9). These studies contradict the claims that Splonum is actually the full name of the *Municipium S.*, located in southeast Dalmatia. (Wilkes 1969, Loma 2002, 143-179) Nonetheless, Splonum has still not been identified with a specific site in northwest Bosnia. Assuming that the *municipium* was located in the Middle Unac Valley, near modern Drvar, (Bojanovski 1975, 265-271) its municipal territory measured between 2000 to 2800 square km. There is no positive evidence of the administrative outreach of this town. These projections rely entirely on the Thiessen polygon analysis.

## 32. *Varvaria*

Varvaria was one of the Liburnian communities who had been granted the *Ius Italicum* by the Flavian period. (Pliny *HN.* III 130, 139) Some scholars believe that Varvaria was promoted into a *municipium* already by Caesar or Augustus, but it is difficult to accept their arguments. (Suić 1968, 217-234; Starac 2006, 107-114; cf. Čače 2007, 39-82, who has argued that the municipalisation of these *oppida* had taken place in the later part of the Julio-Claudian dynasty) The town has been identified and excavated by the beginning of the last century. (Suić 1968, 223-224; Batović 1977, 201-225; Zekan 2009, 547-549) The walls of the hilltop settlement enclose an area of 7.2 ha and the built-up area is only slightly smaller. Up to 15% of the catchment of this settlement



is arable. Varvaria was a land-locked community and, judging by the territorial reconstructions, like Asseria, it did not have access to the Liburnian coast. (Ptolemy II. 15, Varvaria is an inland community; Map VI\_5) It governed a territory not larger than 300-400 square km.

### **Dalmatia, subordinate settlements and settlements with an uncertain status**

#### **1. Alveria**

This settlement is referred to in a boundary inscription dating to the reign of Nero. (AE 2003: 3333; Kuntić-Makvić, Šegvić 1989, 49-63) In this document it is labelled as a *res publica*, but it is unclear if it had been promoted into a *municipium* later in the Principate. (Čače 2001, 7-43) Traditionally, Alveria has been located at Bjelina in the interior of Ravni Kotari, but this identification is by no means certain. (Kuntić-Makvić, Šegvić 1989 57, fn.38; Čače 2001, 26-27) If the town was located on the hill-top near Bjelina, its walls would have enclosed an area of 3.5 ha. (Map III\_9) Less than ten percent of its agricultural hinterland is arable. If Alveria was an autonomous town, its territory could not have been larger than 150 square km.

#### **2. Andetrium**

The earliest written reference to Andetrium is in Pliny III HN. 142. Andetrium was an auxiliary fort on the Dalmatian *Limes*. (Zaninović 1976, 169-184; Wilkes 2000, 327-341) The site in question is a hillock, but very little of the archaeological remains has been unearthed or documented. (Bojanovski 1974, 131-132) Regardless of the exact location of this garrison settlement, it can be assumed that the fort was not larger than 1.5 ha and that, together with the adjacent *vicus*, they measured about five ha, at the most. Only about ten percent of the immediate hinterland of this site is cultivable land. (Map III\_9; VI\_10)

#### **3. Ansium**

Ansium is possibly mentioned as a *civitas* by Pliny HN. III 140, given that his *civitas Pasini* refers to their eponymous central place. (Vittinghoff 1977, 3-51) There is no evidence of a municipal status in later centuries. Ansium is located near modern Kruševo in the northern part of Ravni Kotari. (Map VI\_4) The walled area of the hill-top settlement measures slightly over seven ha. (Kukoč 2011, Figure 9) There is no information about its built-up area. Typically of this part of Dalmatia, only about ten square km of Ansium's hinterland was cultivable. The territory of this *civitas* was probably not larger than a couple of hundred square km, although the Thiessen polygons predict a larger territory. (Šeparović 2005, 63-72)

#### **4. Arausa**

This settlement is not among Pliny's list of *oppida* and *civitates*. However, it is mentioned by Ptolemy II 15, and

the discoveries from the *necropolis* of this settlement indicate that it survived into the Roman period. (Kukoč 2009, 11-80, Map VI\_5) The hill-top settlement measures slightly over three ha. (Kukoč 2011, 189-221). About 20% of Arausa's hinterland is agriculturally productive.

#### **5. Avendo**

Avendo is an *oppidum* that guards the entrance into Hrvatsko Polje, in Lika, Croatia. (Map VI\_16) This settlement is mentioned by Appian in the context of Octavian's Dalmatian campaigns. (App. Ill. IV 16; Šašel-Kos 2005) There is no evidence of an autonomous status after the Roman conquest. This town was located on an isolated hillock, measuring not more than two ha. (Bižić-Drechsler 1975, 71-81) There is no evidence of a lower town. Because it was located on the edge of the plain, only between five and ten percent of the immediate hinterland is arable.

#### **6. Baloie**

The character of this agglomeration is still veiled in mystery. (Map III\_9, VI\_15) Baloie is not mentioned in the written sources and some authors have seen it as another garrison settlement, close to the border between Dalmatia and Pannonia, whereas according to others, it was a *municipium* that had developed from a native settlement. (Cremošnik 1991, 355-364, Bojanovski 1988, 287-292) Both theses rest on isolated epigraphic finds and more research is needed before the character of this settlement is clarified. In any case, Baloie is recorded as a bishop's seat in Late Antiquity. (Škegro 2009, 191-204) The predominant feature at this site – visible on aerial images – is an enclosure measuring 220 by 190 meters that could accommodate a mounted or a double cohort, but it could equally represent the remains of a small urban centre. Some of the sites associated with finds of inscriptions or sculpture are much larger, one measuring almost 17 ha. About 15% of the theoretical hinterland of this site is arable. Whatever the true juridical status of Baloie, it stood at the centre of a large regional unit that occupied almost 2000 square km. The Thiessen polygons predict a much larger administrative territory, in the region of 4000 square km. (Cremošnik 1991)

#### **7. Bigeste**

The name of this site is known from the Late Roman itineraries. (Bojanovski 1973, 303-311) It has been identified with a site in the Trebižat Valley, north of Narona. (Map III\_5) Because of the discovery of a building interpreted as a *praesidium* of a military camp and the inscriptions set by serving soldiers, most scholars have seen Bigeste as an auxiliary camp. (Wilkes 2000, 327-341) However, as in the case of Andetrium, so far, no solid evidence of the presence of a military camp in this area has been presented. The putative site of the auxiliary camp has access to about 30-40 square km of arable land within the ten-km catchment. This is an

unlikely maximum, because an unknown portion of the valley floor was probably flooded.

### 8. Blandona

Blandona was a Liburnian hill-top settlement mentioned in the Antonine itinerary. (Miletić 1993, 117-150; Čače 2008, 11-28) There are no secure testimonies to its juridical status and it is unlikely that this was an autonomous town after the Roman conquest. (Čače 2007, 39-82) The hill-top settlement measured between four and six ha. (Kukoč 2011, 189-221) In comparison to most other Liburnian towns, Blandona has a sizeable agricultural territory, with access to almost 70 square km of arable land or one-quarter of the theoretical hinterland. (Map III\_9)

### 9. Bouthoe

Buthoe was a port-town founded in the Hellenistic period. (Rendić-Miočević 1959, 5-43) It is mentioned by Ps. Skyl. 24-25, but there is no evidence that it had been founded by Greek colonists. (Map VI\_6) Like its neighbours, Rhizinium, Acruvium and Olcinium, Buthoe was an *oppidum civium Romanorum*. (Pliny HN. III 144) Its autonomous status in the Roman period is uncertain. According to an old plan of the town, its walled area was slightly larger than three ha. (Suić 1976, Figure 78b) Buthoe was located on a small peninsula and it is unlikely that the built-up area exceeded the walled area. Like most other coastal settlements, its agricultural potential is limited. Less than five percent of the theoretical hinterland is cultivable land. The Thiessen polygons suggest that Bouthoe governed an area of 550 square km.

### 10. Castra

According to the itineraries, there was a station called Castra on the road between Salona and Servitium in the Sava Valley. (Bojanovski 1974, 95-97) This has not been substantiated by archaeological and epigraphic evidence. So far, only stray finds have been found at the putative site of this station and the epigraphic monuments are too few to indicate permanently stationed army troops. (Periša 1995-1996). The site has an excellent agricultural potential. (Map VI\_15) Over 50% of its theoretical hinterland is cultivable.

### 11. Col. Ris...

The controversies surrounding this hypothetical town in the Upper Drina Valley are not easily resolved. The key document is CIL III 8369, a funerary monument of a *decurio* from col. Ris[...]. Some scholars believe that the abbreviation refers to a hitherto unattested autonomous town in the Drina Valley. (Bojanovski 1988, 169-175; Mesihović 2009, 55-72) Others have argued that the inscription was commissioned by an official from Rhizinium; the title indicates that the town had been promoted into a colony in the course of the second century AD. (Vittinghoff 1977, 18-19) Members

of Rhizinium's *curia* do appear in other mining regions in eastern Dalmatia, while the founding of a colony deep in the Dalmatian interior, in a region dominated by mining districts and Latin *municipia*, would have been unusual. However, quite a few inscriptions from this area refer to officials from an anonymous town. (CIL III 14616; IL Jug 624) If these magistrates served in faraway towns, the names of their *civitates* would have been stated explicitly in the inscriptions. The only key to answering this dilemma is a systematic field research at the supposed site of this town, in modern Rogatica. (Map VI\_13) This site could measure up to 16 ha and the accidental finds of sculpture are indeed promising. Its agricultural potential was limited to 20% of the theoretical hinterland. The hypothetical town occupied the centre of a region that measures between 1200 and 1500 square km.

### 12. Corinium

Corinium is referred to as an *oppidum* by Pliny HN. III 140, a fact that does not necessarily imply that it was the centre of an autonomous community. (Vittinghoff 1977, 3-51) A series of boundary-inscriptions that delimit Corinium's territory can be used as an argument in support of Corinium's autonomous status. (Čače 2001, 7-43; Map VI\_4). However, these monuments date to the pre-municipal period of Liburnia and it is possible that, at the time, all Liburnian *oppida* were equal from an administrative point of view. (Čače 2007, 39-82) Regardless of its official status, Corinium was a small settlement that measured only slightly over four ha. (Suić 1976, 20) Only about five percent of the theoretical hinterland is arable, whereas the boundary-stones confine the town's administrative territory to less than 60 square km.

### 13. Delminium (pre-Roman)-Borčani

According to earlier scholars, this settlement was the pre-Roman centre of the Delmati, continuing as a subordinate central place after the Roman conquest. (Benac 1975, 81-93, for different opinions, see Bojanovski 1974, 233-244, Škegro 1999-2000, 395-403; Šašel-Kos 2005, 303-306; Map III\_9) The hill-top settlement measures between four and five ha. Theoretically, the foothill could have accommodated a much larger agglomeration, measuring up to 20 ha, but this is unlikely in view of the local hydrological conditions. Only about five percent of the theoretical hinterland of this site is arable.

### 14. Epetion

Epetion, together with Tragurion, was an *emporium* of the Syracusan colony of Issa. (Polyb. 32. 9.1-2; Suić 1995, 269-282; Čače 1997-1998, 57-87, Dzino 2010) Most of the finds from modern Strobeč, near Split, date to the Hellenistic period. (Suić 1976, 22; Ugarković, Neuhauser 2013, 55-58) Pliny HN. III 142, mentions the community of the Epetini. If this settlement survived the founding

of the colony of Salona (it is mentioned by Ptolemy II. 15), it must have continued as a subordinate settlement. Epetion's walls enclose an area of 4.5 ha. (Ugarković, Neuhauser 2013, Figure 1)

### 15. Haedum

Haedum is mentioned in a building inscription dated to the reign of Tiberius. (CIL III 3201; Bojanovski 1974, 192-195) This settlement is recorded as a *castellum* in the territory of the Daesitiati. (Map VI\_13) It is unclear if Haedum continued to exist throughout the Roman period. A funerary monument of a *princeps* of the Daesitiati found near this site and dated to the second century AD indicates that the settlement was as a subordinate central place. Haedum was a hill-top settlement and it measured only a couple of hectares, but it is possible that there was a lower town. About 30% of its hinterland is arable.

### 16. Leusaba

Leusaba was a road-side (and a mining?) *vicus* on the road between Salona and Servitium. (Bojanovski 1974, 105-107) Its name is known solely from the Antonine itinerary and the *Tabula Peutingeriana*. This site has not been studied systematically. On the basis of the information contained in the itineraries, Leusaba has been located to the north of modern Mrkonjić Grad in northern Bosnia. (Map VI\_15) It was as an irregular agglomeration, measuring between ten and 20 ha. (Bojanovski 1974, 106) The traces of smelting activities suggest that the settlement had been involved in the exploitation of the northern Bosnian *ferraria*, but almost nothing is known about the scale of these activities. About 20% of the theoretical hinterland of Leusaba is arable.

### 17. Monetium

Strabo lists Monetium among the towns of the Iapodes captured by Octavian in 35-33 BC. (Strabo VII 5.4) This town is not mentioned by the authors writing at the time of the High Empire. It has been assumed that life had continued on this settlement after the conquest, but because of the absence of systematic research, its rank and character are poorly understood. (Bižić-Drechsler 1975, 71-81) The walls of the hill-top settlement are clearly visible on aerial photographs. They enclose an area of about 5.5 ha. It is possible that another five hectares were occupied at the western foot of the hill, but this cannot be established without detailed topographic studies. Typically of this part of Dalmatia, only slightly over ten percent of Monetium's hinterland is arable. (Map VI\_16)

### 18. Olcinium

The earliest secure reference to Olcinium or Oulkinion is in Pliny HN. III 144. This town has been recorded as an *oppidum civium Romanorum*, alongside Rhizinium, Acruvium and Bouthoe. (Map VI\_6) However, in

contrast to Rhizinium and Acruvium, there are no later references to the autonomous status of this town. Very little is known about the topography of Olcinium. It has been assumed that the Roman town is located beneath the Medieval castle, implying a walled area of three ha. (Mijović 1987, 29-39) Less than ten percent of the theoretical hinterland is arable. If this was an autonomous town, its administrative territory could not have extended over more than 500 square km.

### 19. Oneum

Oneum was a settlement mentioned by Pliny HN. III 142 and Ptolemy II. 15. According to Pliny, Oneum was, like Petuntium and Narestes, a *castellum*. All three were the eponymous centres of communities known from boundary inscriptions. (CIL III 12794) None of these communities were autonomous. (Kučan-Jadrić 2012, 41-66) They belonged to the *ager* of Salona. (Map VI\_11) There is no information about the topography of this settlement. Because of the local topographical circumstances, it could not have measured more than ten ha. Like most coastal settlements, Oneum's catchment area contained only about ten square km of arable land.

### 20. Pardua

Pardua was a station on the road between Salona and Dyrrhachium recorded in the Late Roman itineraries. (Sergejevski 1962, 111-113; Bojanovski 1973, 137-185; Map VI\_8). One scholar has estimated the size of this road-side *vicus* at about ten ha. (Bojanovski 1973, 158-159) We suspect that the built-up area was closer to five ha, commensurate to the limited agricultural capacity of its surroundings. Only about five percent of the theoretical hinterland of Pardua is arable.

### 21. Pharos

Pharos was a Parian colony, founded on the island of Hvar in the early fourth century BC. (Kirigin 2006; Map VI\_11). The Greek colony is archaeologically well-attested. The town is mentioned by Pseudo-Scylax 23 and other Hellenistic writers. Pharos was one of the main Illyrian strongholds at the time of the Second War between Rome and Illyria and it was captured in 219 BC by the Romans. (Polyb. III 18-19) This town is included in Pliny's description of the Eastern Adriatic. In this document, it is recorded as an *oppidum*. (Pliny HN. III 152) Cogently, the dominant scholarly opinion is that Pharos had been rebuilt after the Roman conquest. (Suić 1976, 30-31; Zaninović 1989, 35-49) Some have even argued that it had been promoted into a *municipium* at the time of the Julio-Claudian dynasty. (Zaninović 1979, 493-495; Zaninović 1989, 45) Not much evidence can be cited in support of the thesis that Pharos was re-founded as a *municipium*. The period of the High Empire is hardly represented in the archaeological record of this town. (Jeličić-Radonić 1999-2000, 77-82) If Pharos had been rehabilitated after the Roman conquest, it must have



been a minor coastal settlement, smaller than the Greek colony whose walled area is estimated at five or six ha. The arable territory of Pharos was limited to ten to 15 square km.

## 22. Promona/Promina

Promona was a Liburnian stronghold captured by the Delmati in the middle of the first century BC. (Zaninović 1988, 43-67; Dujmušić-Bilić 2006, 41-58) Presumably, it had been a centre of some importance, because it played such a prominent role in Octavian's Dalmatian campaign. (App. *Ill.* 25-27) The settlement was also possibly mentioned by Strabo VII 5.5. However, after the Roman conquest, it had lost its former role. An epigraphic monument (CIL III 14969) refers to Promona as a *pagus*, whereas the *Tabula Peutingeriana* records it as a station on the road between Aquileia and Dyrrhachium. (Map VI\_5) There is no information about the size of Promona in the Roman period. It is likely that this settlement moved to a different site, because the location of the road-station does not conform to Appian's description of the Liburnian stronghold. (Dujmušić-Bilić 2006, 44) It is unlikely that this road-side *vicus* was greater than a few hectares. About 20% of its hinterland is arable.

## 23. Salthua

Salthua is known from an inscription found in modern Riječani, in western Montenegro (Map VI\_6; IL Jug 1852). In this document, Salthua is recorded as a *castellum*, whereas another inscription from the same site records a *princeps* of the Docleatae. (IL Jug 1853; see the section on Doclea for the relevant literature) There is very little information about the topography of this site. (Parović-Pešikan 1972, 63-71) The local topographic conditions limit the built-up area of this settlement to five or six ha. Less than ten percent of the theoretical hinterland is arable.

## 24. Setovia

Setovia was a stronghold of the Delmati mentioned in the description of Octavian's Dalmatian campaigns. (App. *Ill.* 6. 27) The scholarly consensus is that this settlement was located near modern Sinj, in the Cetina Valley. (Wilkes 1969, Bojanovski 1974, 130-132) If this view is correct, the outreach of the old Delmatian stronghold had been greatly reduced after the founding of the colony of Aequum. (Map V\_5) Setovia is not on Ptolemy's list of towns in inland Dalmatia and it must have lost its former role in the settlement geography of this region.

## 25. Sidrona

Sidrona is listed among the towns of inland Liburnia by Ptolemy II 15. There is an earlier reference to the Sidrini in a boundary-stone with the Asseriates, dated to the time between the reigns of Claudius and Nero. (IL Jug 2845; Map VI\_4) This could imply that the two

communities were autonomous at that time, but it says little about the administrative status of Sidrona in later centuries. (Čače 2001, 7-43) The hill-top settlement measures between eight and ten ha. In view of the meagre agricultural potential, the built-up area must have been smaller. If Sidrona was an autonomous town, its territory could have extended over not more than 250 square km.

## 26. Stanecli

This settlement was a station on the road linking the Dalmatian capital Salona with the silver mining districts in the Middle Drina Valley. (Bojanovski 1974). Stanecli is known only from the *Tabula Peutingeriana*. It is located in the Lašva Valley, near Mali Mošunj, but scholarly opinion is divided on this issue. (Bojanovski 1974, 174-179; Imamović 2002, 457-466; Map VI\_15) Notwithstanding the exact location of this settlement, Stanecli was a typical road-side *vicus* that measured less than ten ha. The agricultural potential in the Lašva Valley is excellent by the standards of the region. Almost 30% of the catchment area is arable.

## 27. Tilurium

Tilurium was the legionary camp of the VII Claudia in the period between the Great Pannonian Revolt and the end of the Julio-Claudian dynasty. (Wilkes 1969, Wilkes 2000, 327-341) The legionary camp is mentioned in Pliny, alongside Burnum and Andetrium. (Pliny *HN.* III 142; Sanader 1998, 243-255; Map III\_5) Tilurium guarded an important crossing over the river Cetina that opens access to the coastal section near Salona. (Map VI\_11) Like Burnum, the legionary camp measures about 11-12 ha. (Sanader, Tončinić 2010, 33-52) The problem of the civilian settlement and the transformation of the legionary fort into a civilian settlement, after the *Legio VII* had left, have not come into the focus of research at this site. Tilurium remained a garrison site and we suspect that, both the civilian settlement and the military camp, were located within the area of the former legionary camp. About one-quarter of the theoretical hinterland is cultivable, but only if it is assumed that the flood zone along the Cetina was limited.

## 28. Tragurion

Most scholars agree that Tragurion was an *emporium* of the Issaeans, founded by the middle of the third century BC. (Suić 1976; Čače 1997-1998, 57-87; Dzino 2010) The town is mentioned by Polybius 32 9. 1-2, Strabo VII 5.5 and Pliny *HN.* III 141, but it is omitted in Ptolemy II. 15. According to Pliny, Tragurium was an *oppidum civium Romanorum*, but this cannot be taken as evidence of its autonomous status. (Suić 1976, 35) In fact, the evidence of colonization of veterans based in Salona in the coastal plain to the east of Tragurion, strongly suggests this was a subordinate settlement in the territory of Salona. (Suić 1958, 11-38; Ferjanić 2002;

Map VI\_11) The remains of the ancient settlement lie hidden beneath the medieval and modern town. In all probability, Tragurion was about the same size as Epetion or four to five ha.

### 29. *Unknown, Beretinova Gradina*

This was an anonymous hill-top settlement near modern Radovin, in the northern part of Ravni Kotari. (Suić 1976; Batović 1977, 201-225; Map III\_9) Beretinova Gradina had been occupied continuously, from the Early Iron Age to the end of Antiquity. The fact that the settlement survived the Roman conquest would seem to imply that this was a centre of some importance, but without more research it is impossible to characterize the Roman phase at this site. The visible surface remains measure 2.8 ha. Almost 30% of its theoretical hinterland is arable. (Batović 1977, 201-225)

### 30. *Unknown, Crvenica*

This site is one of the possible locations of ancient Delminium. (Bojanovski 1974, 233-244; Benac 1975, 81-93; Map III\_9) It is a so-called twin hill-fort whose beginnings date to the Iron Age, but the exact character and date of the Antique remains have not been clarified. (Bojanovski 1974, 239-240) Too little is known about its size and chronology. The hill-top settlement is not larger than a couple of hectares, but at the foot of the hill there is room for a 20-ha large agglomeration. In view of the poor agricultural capacities – only ten percent of the catchment area – the minimum estimate is the likelier.

### 31. *Unknown, Doboj*

During the Principate, an unknown auxiliary unit had been stationed permanently in the Middle Bosna Valley, near modern Doboj. (Map VI\_15) The site of this camp has been excavated and we know something about the civilian component of the garrison site, located to the west of the fort. (Čremošnik 1984, 23-84) The combined area of the fort and the *vicus* measure slightly over six ha. Over 40% of the immediate hinterland of this fort is arable. The settlement boasted a large bath, but there were few other buildings constructed in solid material. This fort has been associated with the roads leading to the mining districts, but we have called attention to the fact that it is located in a region dominated by large peregrine communities. (Bojanovski 1988)

### 32. *Unknown, Drenovik*

This was an anonymous road-side settlement on the road between Naronia and the Sarajevo Basin. (Bojanovski 1978, 51-125; Map VI\_8) It is located in Herzegovina, in Nevesinjsko Polje. The settlement area has been estimated at ten ha, but the chronology of the site is confused and it is possible that this estimate refers to the joint areas of sites that were not contemporary. About one-third of this settlement's immediate surroundings is arable.

### 33. *Unknown, Kacuni*

This was a mining settlement on the road-section linking the Lašva and Bosna Valleys. (Bojanovski 1974). It was located on the same road as the road-station Stanecli, nearly 20 km to the south. (Map III\_7) No visible surface remains can be spotted on aerial photographs. The size of this settlement has been estimated at 15 ha. (Bojanovski 1974, 179-180, fn. 166) About 20% of the immediate surroundings of this site is arable.

### 34. *Unknown, Kolovrat*

The remains of this site, located about 25 km to the east of *Municipium S[...]*, in the Lim Valley, (Map III\_7) were noticed by nineteenth century travellers and archaeologists that had visited this remote part of the Balkan Peninsula. (Mirković 1975, 95-106; Bojanovski 1987, 63-174) Kolovrat is known mostly because of the corpus of epigraphic monuments and its necropoleis. (Cermanović-Kuzmanović 1980-1981, 103-107) Most scholars think that it was a mining *vicus* in the territory of the nearby *municipium*, but there are different opinions about its status. (Bojanovski 1987, 110-111; Loma 2002, 143-179) There is no concrete information about the size of this settlement. The micro-topographic unit occupied by this site measures a maximum of 17 ha. It can be assumed that the built-up area was much smaller. Almost one-fifth of the catchment area of this settlement is arable.

### 35. *Unknown, Ustikoline*

The site near modern Ustikoline, in the Upper Drina Valley, has been interpreted as a road-side and a mining *vicus*. (Bojanovski 1981, 63-174; Škegro 1998, 89-117; Map VI\_13) Only descriptive accounts of the surface remains at this site are available in the published literature. One scholar has estimated the site-area at 12-14 ha, but this is the unlikely maximum. It is noteworthy that the same author points to a separate complex measuring 150 by 150 meters. (Bojanovski 1981, 122) The size of this site is much closer to the size-figures for the typical road-side settlements. About ten percent of its catchment area is arable.

### 36. *Unknown, Velečevo*

According to Ivo Bojanovski, this was the largest agglomeration in the Upper Sana Valley, measuring nearly 15 ha. (Bojanovski 1988, 284-285) No further information about the topography of this settlement is provided. The author has discounted the possibility that this was a mining *vicus* or a road-station. A settlement of that size in the Dalmatian interior could readily qualify as a *municipium* or a *civitas* capital. Up to one-third of the theoretical hinterland is arable. (Map VI\_15)

### 37. *Unknown, Vinjani*

This site was a station on the road that led from the Aquileia-Dyrrhachium transversal to the Dalmatian interior. (Bojanovski 1977, 83-151; Map VI\_12) It has

been described as a five-ha large agglomeration, with remains of stone architecture and mosaics. In the Early Roman period this was probably the central place of the plateau, now centred on Posuški Gradac in western Herzegovina. About ten percent of its theoretical hinterland is arable.

### 38. *Unknown, Višnjica*

This anonymous settlement near modern Višnjica, located at the confluence of the Fojnička and the Lepenec, (Map III\_7) was an important communication node and a mining *vicus*. (Bojanovski 1974; Bojanovski 1981, 125-197; Škegro 2006, 149-173) Some scholars have identified this site with the road-station Stanecli on the Salona-Argentaria road. (Imamović 1974, 223-235) There is little information about its size and topography. We have estimated its size at about five ha. Višnjica has a solid agricultural potential. About 25% of its hinterland is arable.

### 39. *Unknown, Vojlavica*

This large site near modern Vojlavica is located a short distance to the east of Domavium. (Bojanovski 1981, 125-197; Map VI\_7) It has been variously interpreted as a miners' colony or an ore-processing complex. (Bojanovski 1981, 189, identifies it with the road-station Argentaria; Bojanovski 1987, 63-174, ore-processing complex; Zotović 2002). The first archaeologists that had visited this site, described it as a 25-ha large agglomeration, including a fortified complex of 3.6 ha. (Bojanovski 1981, 146) If this size-figure is validated by future research, the anonymous *vicus* near modern Vojlavica will join the group of Dalmatian top-ranking settlements. The other aspects of this site are hardly indicative of a high-ranking settlement. Only a couple of inscriptions are known from Vojlavica and, apart from the remains of a small temple, there is no evidence of other monumental buildings. (Zotović 2002, 28-29) Of course, none of this excludes the possibility that this settlement measured over 20 ha, but we are more inclined to see this figure as the unlikely maximum. Vojlavica has an excellent agricultural potential. At least one-third of its theoretical hinterland is arable.

### 40. *Unknown, Vrba*

Eleven kilometres to the south of the putative site of the *municipium* Salvium, near modern Vrba, archaeological surveys have brought to light another large agglomeration dated to the time of the High Empire. (Map III\_9) This site is known thanks to the relatively large number of funerary reliefs and inscriptions, found mostly in secondary use in the Early Christian basilica at this site. (Bojanovski 1979, 115-126, Bojanovski 1982, 15-40; Bojanovski 1985-1986, 79-108; Škegro 1997, 85-116) Traditionally, the *municipium* has been located at the site of the road-station Salvium, whereas Vrba has been associated with the main epichoric settlement. (Bojanovski 1979, 115-126) In his latest account of the

urban geography of the area, Ivo Bojanovski has located the *municipium* at Vrba, qualifying the site traditionally associated with the *municipium* as a road-station. (Bojanovski 1988, 233-249) This claim is deduced from the widely accepted principle that *municipia* can only develop from epichoric settlements and it is not substantiated by positive evidence. According to Bojanovski, the built-up area of the site near Vrba was close to 15 ha, although on the plan made by an earlier researcher, the size of the built-up area is smaller than ten ha. (Bojanovski 1988, 238-239, fn. 31-32) The hinterland of Vrba has a lower agricultural potential than its northern neighbour. Only between ten and 15% of the catchment area is arable.

## The northern Adriatic, autonomous towns

### 1. *Albona*

Albona was a Liburnian stronghold, located on the Eastern Istrian coast. (Map VI\_18) The town is among the *oppida* mentioned by Pliny *HN*. III 140. Albona was promoted into a *municipium* during the Flavian period. (Starac 2006, 107-114) Almost nothing is known about the size of this settlement. The available space at the foot of the Liburnian stronghold sets the limits to the built-up area to approximately seven ha. Less than ten percent of its theoretical hinterland is agriculturally productive. The municipal territory measured between 150 and 250 square km.

### 2. *Apsarus*

Apsarus is recorded by both Pliny and Ptolemy as a town on the island of Lošinj. (Pliny *HN*. III 140, Ptol. II. 15; Map VI\_16) The date of the grant of the municipal status cannot be determined precisely. The monuments that refer to this *municipium* have been roughly dated to the period between AD 50 and 150. (CIL III 15102; Vittinghoff 1977, 3-51 Starac 2006, 107-114) The site of this town had been occupied continuously throughout the periods of Antiquity and the Middle Age. (Čaušević-Bully 2008, 354-356; Jurković 2009, 444-446) Given that the Roman town coincided with the area enclosed by the medieval walls, it measured about five ha. Less than ten percent of its agricultural hinterland is arable. Apsarus governed a territory of 200-250 square km.

### 3. *Arba*

In comparison to the rest of the communities in the northern Adriatic, Arba is well-attested epigraphically as a *municipium*. (CIL III 10118; 13292; Glavičić 2009, 57-66). The town is included, both in Pliny's list of *oppida* on the Liburnian coast and in Ptolemy's account of Liburnia. (Pliny *HN*. III 140, Ptol. II 15; Map VI\_16) The municipal status was granted by the Julio-Claudians, perhaps under Augustus. (Glavičić 2009, 57; Vrkljan-Lipovac, Šiljeg 2012, 5-34) Typically of this part of the Adriatic, Arba has been occupied continuously until the present day. We can only assume that the Roman



town did not expand beyond the limits of its medieval successor, measuring not more than eight ha. Only about five to seven percent of the island is arable. Arba's territory was not necessarily limited to the island, measuring slightly over 120 square km. During the Middle Age, the bishop of Arba controlled certain sections of the coast and the neighbouring islands. (Suić 1992, 11-35)

#### 4. Crexus

Crexus was an ancient town located in the northern half of the island of Lošinj. (Map VI\_16) It is one of the Liburnian *oppida* mentioned by Pliny the Elder. (III 140) It had been promoted into a *municipium*, by the Flavian period. (Suić 1976; Vittinghoff 1977, 25-26; Starac 2006, 107) Roman Crexus is located underneath the medieval town and it probably measured less than five ha. (Blečić 2005, 163-164) The agricultural potential is average for this region, although only ten percent of its theoretical hinterland is productive. The administrative territory was limited to a couple of hundred square km, in the northern half of the island.

#### 5. Curicum

Curicum was the centre of one of the Liburnian communities with Italic rights. (Pliny HN. III 139) The town had certainly been founded by the time of Caesar, when its city-walls were built. (CIL III 13295, Čače 1993, 1-35) By the end of the 1st century AD, the town had been granted a municipal status. (CIL III 13294; Suić 1976, Starac 2006, 107-114) The walled area of Curicum is 12 ha, (Batović 1977, 201-225) but almost nothing survives of its ancient topography. (Starac 2009, 418-421) Curicum has access to about 25-30 square km of arable land in the south of the island. (Map VI\_16) It governed the southern half of the island or an area of 200-250 square km.

#### 6. Emona

Emona was a Roman colony located in Pannonia by Ptolemy, (Ptolemy 8 15.7; Map VI\_17) although other sources indicate that it belonged to the tenth region of Italy. (Šašel-Kos 2003, 11-19) The founding date of the colony and its character – veteran or civilian – are issues that are still debated. (Mráv 2001, 81-98; Gaspari 2010; Šašel-Kos 2012, 79-104) Emona's walled area of 20 ha was only slightly bigger than its built-up area. About one-third of its theoretical hinterland is arable, depending on the hydrological situation in the area in the past. (Vičić 2003, 21-45) Emona's administrative territory ranged between 2700 and 3500 square km (cf. Vičić 2003, Figure 4, who assigns a smaller territory to the colony), although the Thiessen polygons predict a much larger territory.

#### 7. Flanona

Flanona was one of the Liburnian *oppida* mentioned by Pliny the Elder. (HN. III 140) It is unclear if this *oppidum*

was the central place of the Flanates, mentioned by the same source as one of the communities that possessed the *Ius Italicum*. (Pliny HN. III 139; Suić 1976, 21; Vittinghoff 1977, 29-30) Apart from a small number of inscriptions, very little survives of ancient Flanona. (Map VI\_18) It has been assumed that the ancient town is buried underneath its medieval successor. (Suić 1976, 18-19; Serventini, Jurjević 2013, 195-213) If this thesis is proven correct, Flanona's minimum size was limited to a couple of hectares, but the area at foot of the hill can accommodate an agglomeration of nearly 18 ha. Between ten and 15% of Flanona's hinterland is arable. By the second half of the first century AD, this coastal town had been promoted into a *municipium*. Like its neighbours, it governed a territory not larger than 200-300 square km.

#### 8. Fulfinium

Fulfinium or Fertinatum was the central place of the eponymous community who had been granted the Italic rights by the middle of the first century AD. (Pliny HN. III 139, 140; Vittinghoff 1977, 27-30; Starac 2006, 107-114) The town is located on the northern coast of the island of Krk, near modern Omišalj. (Map VI\_18) Unlike the majority of the Liburnian *oppida*, Fulfinium occupied a relatively open site and, judging by the distribution of the preserved or excavated buildings, it measured about a dozen hectares. (Čaušević-Bully 2007, 290-292; Čaušević-Bully 2009, 410-413) Only about five percent of the town's theoretical hinterland is arable and, assuming that Fulfinium had grown to its maximum size, it would have been hard-pressed to satisfy its grain demand from the agricultural resources available in its catchment area. Fulfinium was proclaimed a *municipium* under the Flavians. (Rendić-Miočević 1975, 47-53) Its territory was limited to the northern half of the island of Krk.

#### 9. Lopsica

Lopsica was the central place of an ancient community located on the northern Liburnian coast, in Gorski Kotari. (Ps. Skyl. 21; Map VI\_18) At the time of the Early Empire, the Lopsi were an autonomous community, freed from taxes. (Pliny HN. III 139; Vittinghoff 1977, 27-30) It is unclear if the town had been promoted into a *municipium* in later centuries. (Glavičić 1997, 45-70) The micro-location of the Roman town and its predecessor are unknown, (Faber 2003, 629-648) but none of the possible sites in the area of modern Sv. Juraj is larger than five or six ha. Less than ten percent of the site's catchment is arable. If the Lopsi had preserved their autonomy after the municipalisation of Liburnia, their territory must have been limited to less than 200 square km. (Glavičić 1997, 45-70)

#### 10. Nesactium

Nesactium is mentioned in Pliny's description of the Istrian Peninsula as an *oppidum*, located on the border

with Liburnia. (Pliny *HN*. III 129; Map VI\_16) It is possible that, by the late second century AD, Nesactium had been granted an official town charter. This possibility is not taken into account by the scholars who have studied this region, but it is strongly suggested by the epigraphic sources. (cf. Suić 1976; AE 1902: 51) The size of the hill-top settlement is about 8.5 ha. (Suić 1976, 16). About 15% of Nesactium's catchment area is arable. If Nesactium was really an autonomous town, its territory must have measured between 350 and 500 square km.

### 11. Ortopla

Ortopla or Ortoplinia is one of the *oppida* on the Liburnian coast, mentioned by Pliny *HN*. III 140. (Map VI\_18) The community is also attested in a couple of boundary-stones, dated to the first century AD. (CIL III 15053; IL Jug 919; Miočević-Rendić 1969, 63-74) It is unclear if Ortopla had been transformed into a *municipium* in later centuries. (Vittinghoff 1977, 3-51; Zaninović 1984, 29-40) This was a tiny coastal settlement, smaller than five ha. (see, Glavičić 1982, 63-90, for the location of the necropolis) Less than ten percent of Ortopla's catchment area is arable, whereas the *civitas* extended over an area of 200-250 square km.

### 12. Parentium

Most scholars have argued that Parentium was founded as a Roman colony during the reign of Tiberius, (Suić 1976; Šašel 1992) but according to Pliny's account, the town was an *oppidum civium Romanorum*. In fact, the earliest epigraphic reference to the colony dates only to the second century AD. (Pliny *HN*. III 129; Matijašić 2008, 265-281) Archaeological research at the site of the town has confirmed that it had been occupied continuously, ever since the Early Iron Age. (Baldini 1999-2000, 451-457) The size of the Early Roman colony has been estimated at ten ha. (Baldini 1999-2000, 452) Nearly 20% of the Parentium's catchment area is arable. The scatters of inscriptions in the countryside, together with the traces of centuriation, indicate that the *ager* of the colony measured about 500 square km.

### 13. Pola

Pola was a Roman colony founded at the site of an Istrian stronghold, on the Western Istrian coast. (Strabo V 1.1; VII 5.4; Pliny *HN*. III 129, 133, 140; Map VI\_18) This Roman town was founded by Caesar or Augustus. (Mlakar 1978) Its walls enclose an area of about 25 ha. (Starac 2002, 153-203) Pola was located in the most fertile part of Istra and, although it was a coastal settlement, almost one-third of its theoretical hinterland is arable. On the basis of the centuriation marks and the local intercity distances, Pola's *ager* extended over an area of 400-500 square km.

### 14. Senia

Senia was one of the Liburnian *oppida* mentioned by Pliny the Elder. (Pliny *HN*. III 140) Because the people of

Senia were inscribed in the voting tribe of Sergia, and because of the epigraphic testimonies to *sacerdotes*, it has been suggested that Senia was founded as a Roman colony by Caesar or Augustus. (Alföldy 1965, 76; Wilkes 1969, 200; Vittinghoff 1977, 18) However, there is very little evidence of Senia's local institutions. (CIL III 3017) It is possible that, by the end of the first century AD, the town had been granted a municipal status. (Bartulović 2007, 265-296) Typically of most coastal settlements, Senia's built-up area was not larger than five ha. (Glavičić 1994, 41-58) Less than five percent of this settlement's catchment is arable. Depending on the status of the neighbouring *oppida* on the northern Liburnian coast, Senia's administrative territory could have ranged anywhere between 150 and 900 square km. (Map VI\_16)

### 15. Vegium

Like Senia and Tarsatica, Vegium was an *oppidum* on the Liburnian coast. (Pliny *HN*. III 140; Map VI\_18) Scholars who study this part of the Adriatic coast seem to argue that virtually all *oppida* mentioned by Pliny had been promoted into *municipia* by the end of the first century AD. (Zaninović 1984, 29-40; Starac 2006, 107-114; Suić 1976 is more cautious; see also Vittinghoff 1977, 3-51) Only a single inscription from Vegium refers to a *decurion*, who had served in an unnamed town. (CIL III 10027) The micro-location of this settlement is unknown, (Zaninović 1984, 38) but the available space in the area of modern Karlobag implies that it was smaller than five ha. Less than five percent of Vegium's catchment is arable. The boundary inscription between Ortopla and Vegium, (Rendić- Miočević 1969, 63-74) in conjunction with the intercity distances, confine the municipal territory to 200-300 square km.

## The northern Adriatic, subordinate settlements and settlements with uncertain status

### 1. Aegida

Aegida was a small port-town on the Western Istrian coast. In Pliny's Natural History it is recorded as an *oppidum civium Romanorum*. (Pliny *HN*. III 129) At the time of the High Empire, Aegida was a subordinate *vicus* in the territory of Tergeste. (Tassaux 2011, 431-440) This site has been continuously occupied until the present day and little is known about its size and topography. Like the majority of the settlements on the eastern Adriatic coast, it probably measured not more than five ha. About 20% of the agricultural hinterland of this site is arable.

### 2. Argyruntum

Argyruntum was one of the *oppida* mentioned in the anonymous *periplous* that was used as a source by Pliny the Elder. (Pliny *HN*. III 140) The town is also included in Ptolemy's list (II.15), but its status in the period of the High Empire is not entirely clear. (Map VI\_16) There is

only one reference to a *decurio* in the epigraphic corpus from Argyruntum (CIL III 9972), but no information is given about the town in which the office was held. The walled area of Argyruntum is approximately four ha and it is likely that it equalled the settlement's built-up area. (Dubolnić 2007, 1-58) Less than five percent of the town's immediate surroundings is arable. If Argyruntum was an autonomous town, its territory could not have spread over more than 250 square km. The Thiessen polygons extend the territory of this town over the land of the Iapodes, but in view of the fact that the latter had been constituted as a separate entity within the Scardonitan *conventus*, this projection is unlikely. (Pliny HN. III 139)

### 3. Nauportus

Nauportus was one of the earliest Roman commercial bases on the other side of the Ocra Pass, near modern Vrhnika. (Mikl-Curk 1971, 273-277; Horvat *et al.* 1990; Map VI\_17) This settlement was mentioned by a number of writers at the time of the Late Republic and Early Empire. (Strabo VII 5.2; Pliny HN. III 128; Tac. I 20.1) Tacitus, referring to the time towards the end of Augustus' reign, qualifies Nauportus as a *municipium* in the making. (Šašel-Kos 1990, 21) Modern archaeological research at this site has demonstrated that, after the founding of Emona, it had lost its former importance, continuing as an ordinary *vicus* on the Amber Road. (Horvat *et al.* 1990; Mušić, Horvat 2007, 219-283) Nauportus measures between four and eight ha. Up to one-third of its theoretical hinterland is arable, but because an unknown portion of the catchment was waterlogged, it is possible that the agricultural potential was closer to ten-15%.

### 4. Piquentium

Piquentium was an inland town on the Istrian Peninsula, located near modern Buzet. (Ptol. III 1.24; Map VI\_18) It was a hill-top settlement, founded in the pre-Roman period. (Tassaux 2011, 431-440) The top of the hill measures about three or four ha. Its micro-location offers access to about 40 square km of arable land or about 15% of its theoretical hinterland.

### 5. Tarsatica

The earliest reference to Tarsatica in the written sources is Pliny's list of *oppida* on the Liburnian coast. (Pliny HN. III 140; Map VI\_18) The historical sources do not reveal Tarsatica's juridical status at the time of the High Empire. IL Jug 253 refers to a *duumvir* and *sacerdot*, hinting at the possibility that the town had been promoted into a *municipium* by the Flavian period. (Blečić 2001, 65-122) In Late Antiquity, the settlement was transformed into a military base, and only small fragments of the Early Roman town have survived. The area enclosed by the Late Roman walls measures about nine ha and this has to be taken as the maximum figure for the Early Roman town. (Blečić 2001, 82-86)

Only about five percent of Tarsatica's catchment is arable. If this was an autonomous town, it governed a predominantly mountainous area of about 900 square km.

### 6. Unknown, Pag

Among the island communities of Liburnia, Pliny the Elder mentions an *oppidum* called Gissa. (Pliny HN. III 140) Some scholars have looked for this town on the island of Pag, opposite the northern Liburnian coast. (most notably, Škunca 1991, 1-20; Ilakovac 1997-1998, 69-82; contra Suić 1992, 11-35) Recent research at the putative site of this settlement has demonstrated that this was not an agglomerated settlement, but a cluster of maritime *villae*. (Kurilić 2008, 368-369; Kurilić 2009, 451-453) Moreover, an inscription commissioned by a representative of a large senatorial family shows that the island was most probably not an autonomous territory. (IL Jug 260)

## Pannonia Superior, autonomous towns

### 1. Andautonia

Andautonia was a Flavian *municipium* located near modern Zagreb, in the southern half of Pannonia Superior. (Belančić-Vikić, Gorenc 1980-1981, 125-131; Nemeth-Ehrlich, Špalj 2004, 107-129; Map VI\_24) The earliest reference to this town in the historical sources is Ptol. 8 15.4. The earliest archaeological remains at the site of the *municipium* date to the first century AD. Andautonia was founded as a major road-side *vicus*, measuring ten ha, but there is evidence that the town had expanded to nearly 30 ha in the second century AD. (Nemeth-Ehrlich, Špalj 2004, Map 4; Groh 2013, 89-113) Over 60% of Andautonia's market catchment is arable, but it is possible that a portion of this area was waterlogged. There are only a few indications in the epigraphic record of the size of the municipal territory. It could have measured anywhere between 1500 and 3000 square km.

### 2. Aquae Balissae

Aquae Balissae was promoted into the central place of the Iasae, after the Roman conquest and the founding of the colony of Poetovio. (Schejbal 2003, 393-416; Schejbal 2004, 99-129; Map VI\_24) The earliest evidence of municipal institutions dates back to the early second century AD. (AIJ 586-7) This site has not been researched systematically and very little is known about its topography. (Schejbal 2004, 114-118, Figure 22) If we are to go by the local topographic conditions, it can be surmised that the settlement occupied an area not larger than 15-20 ha. About 40% of the 15-km catchment of Balissae is arable. The municipal territory was vast, even by regional standards. A funerary monument of a praetorian soldier and the name of the spa-town of Aquae Iasae indicate that it extended over an area of almost 7000 square km! (CIL VI 3297) Even



if we assume that the *civitas* existed side-by-side with the *municipium*, the latter governed a territory of about 4000 square km.

### 3. Carnuntum

Carnuntum was a legionary camp and a *municipium* on the northern Pannonian *Limes*. (Map VI\_21) It was the seat of the legionary commander and provincial governor. (Kandler, Humer, Zabehlicky 2004, 11-66) The earliest period of permanent military occupation has been dated to the middle of the first century AD, although there is written evidence that this site had been used as a winter camp as early as the first decade of the first century AD. (Fitz 1989, 533-558; Kandler 2008, 90-108) Like the other legionary camps on the Pannonian *Limes*, Carnuntum was a double town and its topography is very complex. The combined size of the legionary camp, *canabae* and civilian town is almost 180 ha. (Doneus, Gugl, Doneus 2013) The walls of the civilian town, located slightly over two km to the west of the camp, enclose an area of over 60 ha, partly carried away by the Danube. (Gugl 2011, 1-7) Although approximately one-half of Carnuntum's theoretical hinterland fell on the other side of the frontier, over 300 square km of arable land are available in the town's 15-km catchment area. Carnuntum's administrative territory ranged between 1500 and 2000 square km, but prior to the founding of the *municipium* in Vindobona, it had possibly extended over more than 3000 square km.

### 4. Fausto[...]

Fausto[...] was a Pannonian *municipium* known only from a single inscription (CIL III 3974), discovered in Siscia. The archaeological remains of this town still have not been identified. If Fausto was located in the southwest of the province, its territory extended between 1700 and 2500 square km. (Map VI\_24)

### 5. Halicanum

Halicanum is recorded as a *municipium* only in AE 1979: 472; a funerary inscription discovered in Aquincum. The town has been identified thanks to the fact that it was located on the Amber Road, and it is included in the Antonine itinerary. (Tomičić 1979, 40-43; Gračanin 2010, 9-69; Map VI\_24) It can merely be surmised that Halicanum occupied an area not larger than five ha. (Migotti ed. 2012) Evidence of monumental, public or residential buildings is sparse and the epigraphic heritage of this town is meagre. Almost 60% of Halicanum's 15-km catchment was arable. According to the Thiessen polygons analysis, the municipal territory extended over 4000 square km.

### 6. Mogentiana

Mogentiana was a *municipium* in the interior of Trans-Danubia. (Map VI\_24) It is known solely from the itineraries and a series of funerary and votive inscriptions discovered in the Little Hungarian Plain.

(Nagy 2004, 75-83) There is very little information about the topography of this town, but the distribution and the character of the architectural remains suggest that this was a minor settlement, not larger than an average road-side *vicus*. Nearly 70% of Mogentiana's market radius is arable. The distribution of the inscriptions that refer to the *municipium* or its *curia* extend the municipal territory over an area of almost 6000 sq. km. Accepting the conservative estimate of 4000 to 5000 square km does not make Mogentiana's territory look any smaller. The disproportion between the size of the municipal territory and the size and renown of this town is particularly striking.

### 7. Mursella

Mursella is yet another *municipium* in the Pannonian interior, mentioned only in the Antonine itinerary and in a couple of inscriptions. (Szönyi 2004, 85-97; Map VI\_23) The remains of the ancient town have been known since the nineteenth century, but systematic excavations have not been carried out at this site prior to the middle of the last century. According to the topographic plan, the site extended over an area of almost 50 ha. (Szönyi 2004, Figure 1) This is the unlikely maximum figure, pertaining to the Late Roman period, a period in which Mursella, alongside a few other settlements from the Pannonian interior, experienced a period of growth. (Szönyi 1981, 87-119) We suspect that, in the preceding period, Mursella had been of a size similar to that of the other Pannonian *municipia* located off the main roads in the province. Over 60% of Mursella's agricultural territory is arable, even if we exclude the potentially marshy stretches along the Raba. On the basis of the epigraphic record, it is possible to estimate the extent of the municipal territory at about 1500 square km. (Szönyi 2004, 85-86)

### 8. Neviodunum

Neviodunum was a Latin *municipium* in southwest Pannonia, created in the territory of the Latobici. (Pliny HN. III 148; Lovenjak 2003, 93-105; Map VI\_24) This settlement was possibly founded as a *vicus* on the Sava Road, in the first half of the first century AD, and was granted a municipal status under the Flavian emperors. (Lovenjak ed. 1998) Neviodunum's built-up area measures between seven and ten ha. Slightly over 25% of the town's catchment is arable, but the municipal territory extended over an area of 1500 to 2000 square km. The Thiessen polygons and the reconstruction by Lovenjak (Lovenjak 2003, Figure 1) imply a much larger territory.

### 9. Poetovio

Roman Poetovio had begun as a permanent legionary base on the Amber Road. (Tacit. III 1; Horvat et al. 2003, 153-189) That the legionary camp occupied the foot of a La Tène *oppidum* highlights the strategic importance of this site, located at a major crossing over the Drava.

(Map VI\_24) Poetovio was founded as a Roman colony under Trajan. (Ferjanić 2002; Horvat *et al.* 2003, 156) This was probably the largest civilian town in the Balkan Peninsula and the Danube provinces. Because of the composite layout of the town and the shifting riverbed of the Drava, it is impossible to offer a precise estimate of the size of Poetovio's built-up area. The plan of the excavated remains – including the *vici* on the right river-bank – depicts an agglomeration of at least 120 ha. There is evidence that the settlement extended over more than 180 ha, but these segments of the designated site-area were covered by workshops and cemeteries and residential density must have been low. (Horvat *et al.* 2003, Figures 3, 5, 7; Mráv 2002, 15-57) Poetovio was well positioned in relation to the agricultural resources in the region. Parts of the Drava Valley were possibly waterlogged, but almost 60% of its 15-km catchment would have been arable. The *ager* of the colony measured between 1700 and 2500 square km. (Ragolič 2014, 323-351)

#### 10. Sala

The earliest reference to Sala as a *municipium* is in a dedicatory inscription from Aquae Iasae, dated to the middle of the second century AD. (AIJ 461) However, the earliest archaeological remains of this settlement have been dated to the early first century AD. (Ptol. 8 15.4; Redő 2003, 191-235) It was founded as an auxiliary camp on one of the branches of the Amber Road, under the Julio-Claudians. (Redő 2003, 202-204; Map VI\_24) The army had left the camp by the Flavian period, but the site continued as a civilian settlement. By the reign of Hadrian, it had been transformed into a *municipium*. There are serious signs that, after the Marcomannic invasions, this town was almost abandoned. If we are to go by the plan of the excavated remains, Sala was a road-side *vicus* with very little evidence of public buildings. (Redő 2003, 206-207) The excavated remains extend over an area of ten to 15 ha. (The excavator has suggested that the settlement could have spread over an area of almost 40 ha, but there is very little evidence in support of this claim; Redő 2003, 206; see also the excavation reports: Redő 1989, 405-433; Redő 1982, 323-362) Almost one-half of the town's catchment area is arable at present, but the local agricultural potential might have been reduced because of poor drainage in the past. (Bánffy 2005, 13-19) The Thiessen polygons predict that Sala had a large administrative territory, extending over 4000 square km. (cf. Redő 2003, Figure 1)

#### 11. Savaria

Savaria was the first Roman colony in Pannonia. It was founded by Claudius on the Amber Road, in the western part of Pannonia, annexed recently from the Norican kingdom. (Pliny *HN.* III 146; Scherrer 2003, 53-77; Map VI\_24) The urban core extended over an area of 45 ha, but there is evidence of suburban districts to the west and south of the city walls. (Scherrer 2003, Figure 1) In

Late Antiquity, the suburban quarters were included in the town's walled area and Savaria's size increased to almost 70 ha. (Tóth 1973, 117-137) Over 80% of Savaria's 15-km catchment area is arable, underlining the importance of the agricultural considerations in the siting of this colony. With the help of the traces of centuriation and the distribution of veteran inscriptions, Savaria's territory can be estimated in the range between 3000 and 3300 square km. (Scherrer 2003, 58; Bödöcs 2013, 59-67)

#### 12. Scarbantia

Scarbantia was one of the earliest civilian strongholds of the Romans on the Amber Road. (Map VI\_21) Pliny the Elder records it is an *oppidum civium Romanorum* (Pliny *HN.* III 146) and, by the Flavian period, it had been promoted into a *municipium*. (Gömöri 2003, 81-92) The contours of the ancient town are easily recognizable on an aerial photograph of modern Sopron. The Late Roman walls enclose an area of ten ha and, because of the distribution of the *necropoleis*, it is unlikely that its Early Roman predecessor was any larger. (Póczy 1971, 93-110; Gömöri 2008, 109-122) As in other parts of Pannonia, because of the uncertain extent of the marshes in Antiquity, it is not easy to estimate the arable land in the settlement's hinterland. Given that the hydrological conditions were not much different from those of today, about one-half of Scarbantia's 15 km catchment could have been arable. The distribution of the epigraphic monuments and the regional geographical divisions imply that the municipal territory measured between 1300 and 2000 square km. The Thiessen polygons predict larger territories, but these projections transgress the provincial borders.

#### 13. Siscia

Roman Siscia was founded at a site of a major geo-strategic importance. (Map VI\_24) Siscia was a river-port and one of the most important crossroads in southern Pannonia. (Durman 1992, 117-133) This is evidenced by the fact that during the Late Republic, Siscia was the main goal of the Roman campaigns across the Alps. (Hoti 1992, 133-163; Dzino 2010) This settlement was an important garrison site at the time of the Great Pannonian Revolt in AD 6-9, (Vel. Pat. II 113) and it had remained a permanent military base throughout the first half of the first century AD. (Lolić 2003, 131-152) Siscia was founded as a colony under Vespasian. (Lolić 2003, 133-135) The walled area measures nearly 40 ha and there were additional seven to ten ha on the right bank of the Kupa, at the site of the pre-Roman *oppidum*. (App. *Ill.* 22-24; Lolić 2003 Figure 3) Siscia's agricultural potential was limited by the marshy terrain along the Sava and the Kupa but, without specialized studies, it is impossible to offer a concrete estimate. The distribution of the epigraphic monuments suggests that town's administrative territory measured at least 3000 square km.

#### 14. Vindobona

Vindobona was established as a permanent legionary camp in the later part of Domitian's reign. (Kronberger ed. 2005) Like the rest of the legionary camps on the Pannonian *Limes*, (Map VI\_21) Vindobona was a double town. (Mócsy 1974; Piso 1991, 131-169) The *canabae legionis* experienced a period of growth under the Severans and it is possible that, by the same time-period, the civilian settlement located a short distance to the east of the camp had been proclaimed a *municipium*. (Neumann 1967; Kronberger ed. 2005, 19-26; Mader 2002, 585-589) The combined areas of the legionary camp and the *canabae* can be estimated at 70-80 ha. The civilian settlement measured around 30 ha. (Kronberger ed. 2005, 29-33; Figure 3; Mader 2004, 67-74) Over 40% of Vindobona's 15-km catchment is arable. The territory of the *municipium* could have extended over an area of 1200-1500 square km.

### Pannonia Superior, subordinate settlements and settlements with uncertain status

#### 1. Ad Fines

There were at least two road-stations called Ad Fines in this part of the Balkan Peninsula. (Map VI\_15; VI\_19) One was located on the road between Emona and Siscia, the other on the road that linked Salona to the Sava Valley. (Bojanovski 1976, 307-331; see, however, Bojanovski 1974, 41-48, who argues that Ad Fines in the former case could have also designated a territorial boundary) A third station with this name has been postulated on the road Senia-Siscia on the southwest border of Pannonia, but this claim has not been accepted by everyone. (Durman 1992, 117-133; cf. Bojanovski 1976, 311-312) None of these sites represent a major agglomeration of urban character.

#### 2. Ad Flexum

Ad Flexum was an auxiliary *vicus* and a road-station on the northern Pannonian *Limes*, located near modern Magyarovar. (Map VI\_21; Mócsy 1977, 373-401; Soproni 1980, 219-238) The walled area of the fort measures slightly over one ha. The combined areas of the fort and the *vicus* can only be guesstimated. On the basis of comparative evidence, we have predicted that the total built-up area of the settlement was five ha. Because of its marginal location and the hydrological conditions in the region, less than ten percent of the hinterland of this settlement is arable.

#### 3. Ad Praetorium

Ad Praetorium was a road-station on the Sava Road; a *bivium*, at which the road coming from Siscia joined the road that linked the Sava Valley to the mining district in the Japra and the Sana. (Bojanovski 1984, 145-246) The site has been described as a large *mansio*, a bath and a road-side *vicus*. (Bojanovski 1984, 163-166) There is no specific information about the built-up area of this site,

but it could not have been larger than five ha. At least 25% of the market radius of this settlement is arable.

#### 4. Aequinodium

Aequinodium was an auxiliary *vicus* on the northern Pannonian border located between Carnuntum and Vindobona. (Map VI\_21) The remains of the fort, located at the confluence of the river Fischa in the Danube, have not been discovered. It has been assumed that the *vicus* was located a short distance to the east of the camp. (Kandler, Vetter eds. 1986; Doneus, Gugl, Doneus 2013) The combined area of the fort and the *vicus* was in the region of three-four ha. Over one-quarter of its 15-km catchment area is arable.

#### 5. Ala Nova

Ala Nova was the garrison site of the *Ala Thracum victrix*. The camp was founded under the Flavians or Trajan. (Kandler, Vetter eds. 1986, 187-192) Its walls enclose an area of slightly over three ha. In view of the evidence from better researched forts, the combined size of the *vicus* and the fort can be estimated at eight to nine ha. Almost one-quarter of the 15 km-catchment of this site is agriculturally productive. (Map VI\_21)

#### 6. Aquae Iasae

Aquae Iasae is known mostly thanks to the large number of dedications and reliefs found at the site of this spa-town. (Rendić-Miočević 1992, 67-76) Archaeological research at Aquae Iasae has mostly been focused on the complex of thermal baths and temples occupying the highest point of this settlement. This settlement was built on terraces: the highest terrace was reserved for the healing baths, the lower terraces for the residential buildings and workshops. (Gorenc, Vikić 1979, 32-49; Nemeth-Ehrlich, Kušan-Špalj 2014, 133-140) However, the lower terraces are occupied by modern houses and this reconstruction is hypothetical. If it is proven correct, the settlement's built up area could not have been larger than ten ha. About one-third of the settlement's 15-km catchment is arable. (Map VI\_25)

#### 7. Arrabona

Arrabona was one of the earliest permanent camps in the Trans-Danubian section of Roman Pannonia. (Map VI\_23) The earliest phase of occupation is dated to the first half of the first century AD. (Mócsy 1971, 41-46; Mráv 2013, 49-100) Arrabona has a great geostrategic value. CIL IX 5363 reveals that the camp was the seat of the *praefectus ripae Danuvii et civitatum duarum Boiorum et Azaliorum* in the first century AD. Nevertheless, the name of this fort is obviously related to the people called the Araviates. (Pliny HN, III 148) It is possible that it continued to function as the administrative centre of the people on the Lower Raba, governing a sizeable territory of over 1500 square km. Arrabona was an *ala*-fort, measuring slightly over three ha. (Mráv 2013,



Figure 21) The size and topography of the *vicus* have been lost under the remains of the Medieval and modern town. Rescue excavations have located the necropolis at a distance of 800 meters from the southern wall of the camp. (Gabler 1991, 51-73) Most probably, this was a ribbon-shaped settlement, spreading along the road that led from the camp's southern gate. But even if we suppose that this *vicus* measured only 100 meters across, it would have brought the size of the built-up area in the range of ten ha. Arrabona has an excellent agricultural potential, notwithstanding the possibility that a portion of its hinterland was flooded.

### 8. *Gerulata*

The camp known from the itineraries as *Gerulata* had been established sometime in the Flavian period, at an important crossing of the Danube. (Map VI\_21; Radnóti, Gabler 1982, 47-71; Pichlerova 1990, 657-666; Varsik 1997, 75-83) *Gerulata* was an *ala*-camp and only its walled area measured about three ha. Together with the two *vici* on the southern and western side of the camp, the agglomeration extended over a maximum of 12 ha. (Varsik 1997, 76) About 15% of the 15-km catchment of this settlement is arable.

### 9. *Iovia*

The *Tabula Peutingeriana* records a station called *Iovia* on the road along the Drava Valley, more precisely on the section between Poetovio and Mursa. (Map VI\_22; Gračanin 2010, 9-69) This settlement should not be confused with the *civitas Iovio*, located in the Late Roman province of Pannonia Valeria. (Tóth 1985, 121-136; Fitz 1989, 533-558) The station *Iovio* on the Drava had either evolved into or had been founded as a small, town-like agglomeration in Late Antiquity. At that time it occupied an area of 3.4 ha. (Migotti 2014, 105-117) Earlier phases have been attested, but too little is known about the settlement at this time to propose a concrete size-figure. Like most Pannonian settlements, *Iovia* on the Drava had a great agricultural potential. Almost two thirds of the town's 15-km catchment is arable.

### 10. *Quadrata*

*Quadrata* was an auxiliary camp on the northern Pannonian frontier. (Map VI\_23) Excavations at the site of the fort have revealed that the earliest traces of stone fortification date only to the Severan period, although the evidence of stamped tiles suggests that *Quadrata* had been transformed into a permanent camp by the reign of Trajan. (Soproni 1980, 219-238; Lőrincz 1987, 337-345) *Quadrata* was a *cohors'* camp and its walled area measures slightly over one ha. (Mócsy 1969, 340-375) The combined area of the fort and *vicus* was probably not larger than five ha. Depending on the local hydrological conditions, up to 30% of the settlement's catchment radius is arable.

### 11. *Servitium*

*Servitium* was a road-station that occupied the junction of the Sava Road with a road coming from the Dalmatian capital *Salona*. (Map III\_11; Bojanovski 1974; Bojanovski 1984, 145-264) Ptolemy mentions a settlement called *Serbinum*, (Ptol. 8. 16.6) but it is located in Pannonia Inferior not in Superior. In the fourth century list of dignitaries in the Western Empire, (Not. Dig. 141.35) *Servitium* is recorded as the seat of the Sava fleet. This seems to suggest that *Servitium* was a settlement of some importance or it had gained in prominence by the time of the Late Empire. However, the archaeological remains of this settlement, located in modern Gradiška, in Bosnia and Herzegovina, still have not been discovered. (Bojanovski 1984, 173) It can merely be supposed that, like the majority of the road-stations, *Servitium* measured between five and ten ha. About 45% of *Servitium's* 15-km catchment is arable.

### 12. *Unknown, Blagaj*

The site in question is a complex of residential buildings and ore-processing facilities, located in the Japra Valley, in the Pannonian iron-mining districts. (Map VI\_28; Sergejevski 1963, 85-102; Bojanovski 1982, 89-121; Basler 1977, 121-216) Most of the standing remains have been dated to Late Antiquity. The area enclosed by the Late Antique walls measures about eight ha. (Basler 1977, Figures 2 and 3) This site has a good agricultural potential. Approximately 25% of its 15-km catchment area is arable.

### 13. *Unknown, Klosterneuburg*

This was an auxiliary camp in Pannonia Superior, located a few kilometres to the east of the border with Noricum. (Map VI\_21) The ancient name of this fort is unknown. (Kandler, Vetters eds. 1986) The walls of the auxiliary camp enclose an area of 2.2 ha. (Kandler, Vetters eds. 1986, 167-173) On the basis of comparative evidence and in view of the narrow space between the Danube and the Hermannskogel, the combined size of the auxiliary camp and *vicus* could not have measured more than six ha. The catchment radius of this settlement is greatly reduced by the proximity to the *Limes* and the provincial boundary with Noricum.

### 14. *Unknown, Ljubija*

*Ljubija* was the find-spot of at least seven altars dedicated by the *procurator* of the Pannonian and Dalmatian *ferraria*. (Sergejevski 1963, 85-10; Bojanovski 1982, 89-121; Hirt 2010) *Ljubija* was the likely administrative centre of the Pannonian iron-mining district – paralleled by *Domavia* in Dalmatia – but apart from traces of ancient mining, there is no evidence of a permanent agglomeration in this area comparable to *Domavia*.

### 15. Unknown, Skugrić

This was a large road-side *vicus* on a vicinal road in the Bosna Valley, in the north of Bosnia and Herzegovina. An impressionistic account of the size of this settlement estimates it at around 30 ha. (Bojanovski 1984, 242) However, we think that the chief contributor to this high figure was the dispersed layout of this site. The site near modern Skugrić has not been associated with remains of monumental architecture or inscriptions. Like most other farming settlements, the agricultural potential of the *vicus* was high. Nearly 50% of the 15-km catchment is arable.

### 16. Unknown, Strebersdorf

Modern Strebersdorf in Lower Austria was a site of a permanent auxiliary camp in the first century AD. (Groh 2009, 59-64; Mráv 2013, 49-100) By the Flavian period, the auxiliary unit had left this camp and it continued as a civilian *vicus* on the Amber Road. This anonymous settlement is located almost exactly halfway between Savaria and Scarbantia and it could have functioned as a road-station. The civilian settlement spread over the area of the former auxiliary camp and *vicus*, measuring about four ha. (Groh 2009, 59-64) Slightly over 40% of the 15-km catchment area of this settlement is arable.

### 17. Unknown, Strigova

This was a site of a *vicus* on the road that links the iron-mining district in southwest Pannonia with the Sava Valley. (Map III\_11; Bojanovski 1984, 145-264) It consisted of a small agglomeration and an isolated building – the putative *mansio* –, located on the other side of the road. According to the scholar who studied this site, it measures about nine ha. This is the maximum extent. It is possible that the settlement was smaller.

### 18. Unknown, Topusko

Topusko was the site of a spa-settlement and road-side *vicus* on the road between Senia and Sicia. (Map VI\_26) It has been identified with the road-station Quadrata, although there are disagreements between the scholars who study the road-network in this part of the peninsula. (Durman 1992, 117-133) Topusko is mostly known for its numerous dedicatory inscriptions and reliefs and rich burials. (Šarić, 1979-1980, 125-149; Šegvić, 1996, 283-289) There is very little evidence of the presence of a large agglomeration at this site. (Jakaša-Borić, Bilušić-Dumbović 2008, 269-284) If such settlement ever existed in Topusko, the local topographic circumstances would have limited its area to three or four ha. Almost 20% of the 15-km catchment of this settlement was arable.

## Pannonia Inferior, autonomous towns

### 1. Aquincum

Aquincum was the garrison site of the *Legio II Adiutrix* and the capital of Pannonia Inferior. (Póczy 1969; Mócsy 1974; Zsidi *et al.* 2003, 209-230) The strategic

importance of this site had been underlined by a series of military installations that preceded the founding of the legionary fort and the civilian *vicus*. (Nagy 1971, 59-80; Németh, Kérdő 1986, 384-388; Zsidi 2013, 129-150). The civilian *vicus* had been promoted into a *municipium* by the time of Hadrian and a colony by the time of the Severan dynasty. (Nagy 1971, 59-80; Szabó, Tóth eds. 2003) Like Vindobona and Carnuntum, Aquincum was a double town and one of the largest urban agglomerations in this part of the Roman Empire. If we are to go by the plan of the town, the combined areas of the military and civilian town measure over 180 ha. (Zsidi *et al.* 2003, Figure 25) It has been all the more striking to discover that Aquincum had an agricultural territory that was modest by regional standards. (Map VI\_30) Only slightly over 20% of its territory is arable. The question of the extent of the administrative territory of this town is inextricably related to the questions of the continuity of the *civitas Eraviscorum* and the autonomous status of Gorsium. (the different scholarly opinions are summarized by Kovács 1999, 278-295) According to the low estimate, Aquincum's administrative territory measured about 2200-2300 square km. The high estimate projects a territory larger than 5000 square km.

### 2. Bassiana

Bassiana was a *municipium* and an honorary colony located less than 30 km to the east of Sirmium. (Ptol. 8 16.8; Map VI\_30) The fact that the name of the town is derived from a personal name has given rise to the opinion that Bassiana had emerged at the centre of a private estate. By the end of the second century AD, the town had been granted a municipal status and, in the first half of the third century, it was promoted into an honorary colony. (IL Jug 1048; IL Jug 1040; Milin 2004, 253-268) The Late Antique walls of Bassiana – visible on aerial photographs – enclose an area of about 20 ha. The built-up area of the Early Roman town could not have been much larger. Nearly 100% of Bassiana's 15-km catchment is arable. The administrative territory of this *municipium* extended mostly to the north and east of the town and occupied between 2000 and 3000 square km. (Milin 2004, Figure 2)

### 3. Brigetio

Brigetio was the second legionary town in Pannonia Inferior. (Map VI\_30) By AD 118-119, it had been occupied permanently by the *Legio II Adiutrix*. (Borhy *et al.* 2003, 231-251) At about the same time, a civilian settlement was founded *ex novo* on the edge of the *prata legionis*. (Borhy *et al.* 2003, 235-241; Hárshgyi 2004, 113-121) Like the other Pannonian legionary camp, Brigetio was a double town. Its built-up area exceeded 150 ha. (Harsányi, Kurovsky 2002, 151-169) Over 300 square km or almost 50% of Brigetio's 15-km catchment is arable. By the Severan period, the civilian town had been promoted into a *municipium* and assigned a

territory of about 1800 square km. (Barkóczy, Mócsy ed. 1976) The distribution of the epigraphic monuments seems to suggest that Brigetio's territory was carved out from the territory of the *municipium* Mogentiana. (Map VI\_23)

#### 4. Cibalae

Cibalae was founded at the site of a Late La Tène *oppidum*, in the southern, civilian half of the province. (Map VI\_30; Iskra-Janošić 2004, 169-195) Most of the written sources that refer to this town date to Late Antiquity, a time of growth and prosperity for Cibale and the other southern Pannonian towns. (Gračanin 2005, 287-298) Cibale had been granted a municipal status by the reign of Hadrian, and it was promoted into an honorary colony under the Severans. (Iskra-Janošić 2004, 170-171) The gradual growth of Cibale is reflected in the changing size of the walled area. The first earth-and-timber walls of the town enclosed an area of 38 ha, the later stone fortification about 56 ha. (Iskra-Janošić 2004, Map 10; Rapan-Papeša 2011, 189-225) It can merely be surmised that the built-up area was slightly smaller than the walled area. At present, up to 75% of Cibale's market catchment is arable, but an unknown proportion of this land could have been marshy and unsuitable for cultivation. (Iskra-Janošić 2004, 169) If we are to go by the inter-city distances and the proximity to the *Limes*, Cibale's territory was in the range between 1000 and 1800 square km. (Iskra-Janošić 2004, 177)

#### 5. Mursa

If we ignore the honorary colonies promoted under the Severans, Mursa was the last colony founded in Pannonia. (Map VI\_30) It was founded by Hadrian, at the closure of the Early Roman wave of urbanization of the study-region. (Pinterović 1978; Suić 1985, 57-70; Filipović 2003, 157-168) The walls of Mursa enclose an area of slightly over 40 ha. (Filipović 2003, Maps 5 and 6) It should not be excluded that the walled area was surrounded by a zone of sub-urban *villae*. Given that the local hydrological conditions were propitious, almost 40% of Mursa's 15-km catchment could have been arable. Depending on the status of the territory of later Sopianae, the territory of Mursa could have ranged anywhere between 2500 and 5500 square km.

#### 6. Sirmium

The beginnings of Sirmium are obscured by the continuous occupation of this important site over the past two millennia. (Map VI\_30) This town had entered the written record as an *oppidum civium Romanorum* (Pliny HN. III 148) and it is referred to in the context of the Great Pannonian Rebellion of AD 6-9, albeit by a late source. (Dio Cass. 55 29.3-4; see Mirković 1971, 5-90) Sirmium was promoted into a colony under the Flavians, possibly under Domitian, but there is no evidence of organized colonization. (Mirković 1971,

15; Dušanić 1977, 180-185) In these aspects, Sirmium does not differ from the other colonies in the southern half of Pannonia, but unlike Siscia or Poetovio, there is evidence of neither military presence nor of a pre-Roman phase at Sirmium. (Jeremić 1985, 69-89; Mirković 2003, 145-156) The late third-early fourth century city walls enclose an area of about 60 ha. (Jeremić, Popović 2003-2004, 281-288) It is unlikely that the Early Roman town grew beyond these limits, although Late Roman Sirmium was definitely larger. (Jeremić 1985, Plan 1; Popović 1971, 119-133; Vujadin Ivanišević, personal communication) Notwithstanding the marshes that surrounded the town on three sides, over 90% of the land within the 15-km catchment is arable. Depending on the status of the land to the south of the Sava, the *ager* of this colony could have extended anywhere between 1500 and 3000 square km.

#### 7. Spodent [ium]

Spodent is mentioned in a single inscription, discovered in the territory of Basianae. (AE 1965:303) In this epitaph, it is recorded as a *municipium*, but its archaeological remains have not been located. Scholars have looked for Spodent along the Sava Road and, recently, this *municipium* has been identified with a specific site, near modern Obrenovac, about 45 km southeast of Sirmium. (Dušanić 1977, 180-185; Crnobrnja 2011, 373-388; Map VI\_30) It has been suggested that the built-up area of this settlement extends over more than 70 ha, but the interpretation of the archaeological remains is not very convincing. In all likelihood, the site in question was a road-side settlement paralleled by the *municipia* of Sala and Halicanum in Upper Pannonia. If this localization of Spodent is accepted, almost 70% of its 15-km catchment area would have been arable. There is no evidence of Spodent's administrative territory. If the town was located in the southern end of the province, the provincial boundaries would have limited its territory to about 1500 square km.

#### 8. Volgum

Volgum was a Pannonian *municipium* known only from a couple of inscriptions, found in the auxiliary camp of Intercisa. (Map VI\_30; RIU 1244, 1253) The location of this *municipium* has not been determined. Earlier scholars have suggested a possible location near modern Keszthely, on the western shore of Lake Balaton. (see, for example, Tóth 1985, 121-136) This site was one of the fourth century fortifications in inner Pannonia and it has been assumed that the Late Roman fort had been built on top of the earlier *municipium*. However, systematic excavations at this site have demonstrated that the Late Roman fort had been built *ex novo*. (Heinrich-Tamáská 2011) Unlike the majority of the Late Roman forts in Pannonia, the one near Keszthely has a humble agricultural potential. Slightly over 20% of the 15-km catchment is arable. The Thiessen polygons analysis suggests that Volgum's



administrative territory was vast, occupying 7000-8000 square km.

## **Pannonia Inferior, subordinate settlements and settlements with uncertain status**

### **1. Acumincum**

Acumincum was an auxiliary fort on the Danube *Limes* in southern Pannonia, near modern Stari Slankamen in Vojvodina. (Map III\_11) The fort occupies a highly strategic location, opposite the mouth of the river Tisza – the main corridor that linked the Danube to the Great Hungarian Plain. Most of the references in the written record date to the period of Late Antiquity, (Amm. Marc. 19 11.8; Not. Dig. Occ. IX) but Acumincum is a rare example of an auxiliary fort built on top of a pre-Roman *oppidum*. (Dimitrijević 1960, 243-245; Piletić 1989, 79-101) The size of the *oppidum* – visible on satellite images – is about 2.5 ha, but the evidence from other auxiliary forts suggests that the size of the built-up area was three to four times bigger. Acumincum was an *Ala*-camp. One inscription confirms that the *Ala [I Campanorum] civium Romanorum* was stationed in this fort during the Severan period. (IL Jug 3013) Over 20% of the 15-km catchment radius of this settlement is arable. A funerary stone of a *princeps* and a *praefect* of the *civitas Scordischorum* has been discovered near the fort, indicating that the territory of the Scordisci was possibly governed from Acumincum. (IL Jug 280)

### **2. Ad Azaum**

Ad Azaum and Odiava refer to the same site on the northern Pannonian frontier, near modern Almásfüzitő. (Map VI\_23) More precisely, Ad Azaum has been associated with the site of the auxiliary fort and Odiava with the auxiliary *vicus*. (Fitz 1989, 533-558; a dubious solution in view of the lack of parallels) Ad Azaum was the garrison site of an *ala milliaria*, a fact that explains the large size of this fort. (Lőrincz, Visy 1987, 337-345; Gudea 2013, 459-658) Its walls enclose an area of over three ha. (Mócsy 1977, 373-401) Like for the majority of the auxiliary *vici*, the extent of the built-up area can only be surmised. Because of the proximity to the *Limes* and the neighbouring forts, the catchment radius of this fort was reduced to less than ten km.

### **3. Ad Militare**

Ad Militare was an auxiliary fort in the southern half of the Pannonian *Limes*, near modern Batina, in Croatia. (Map III\_7) This settlement has been located mostly with the help of the data contained in the itineraries and the evidence of stamped tiles. (Gračanin 2010, 9-69) The results of the excavations carried out in the 1970s have not been published fully, but a recent geophysical survey at this site has hinted at the possibility that Ad Militare was an *ala*- or a double *cohors*-camp. (Vukmanić, Mušić 2015, 871-879) Unfortunately, only a small segment of the fort has been covered by this

survey, and the exact size of the walled area is still undetermined. In all likelihood, this settlement did not differ from the other auxiliary forts on the Pannonian *Limes*. Its built-up area is unlikely to have extended over more than nine ha. Because of the peripheral location of this site – surrounded by the *Barbaricum* on three sides – its catchment radius must have been greatly reduced.

### **4. Ad Mures**

Ad Mures was an auxiliary fort on the northern Pannonian frontier, near modern Ács in Hungary. (Map VI\_20) This site garrisoned an unknown unit, but in view of the size of the fort – 2.26 ha – it could have housed a double *cohors*. (Lengyel, Radan eds 1980; Gudea 2013) There are no clues about the size of the auxiliary *vicus*. About 26 square km of its 15-km catchment is arable.

### **5. Ad Novas**

Ad Novas is the name of an auxiliary fort and a road-station on the *Limes* Road. (Gračanin 2010, 9-69; Gudea 2013, 459-658) According to the itineraries, it should be sought in the southern half of the Pannonian *Limes*, on Croatian soil. The archaeological remains of this site have not been identified, but it is safe to postulate that it belonged to the lowest size-range of five to ten ha. Intercity distances are low along this section of the *Limes* and this would have confined the agricultural territory of Ad Novas to about ten percent of its 15-km catchment.

### **6. Ad Saldum**

Ad Saldum or Ad Saldisae was a station on the Sava Road mentioned in the Peutinger Table. (Map III\_7; Bojanovski 1984, 145-264) The site has been located, but there is very little information about its topography. Ad Saldum has been described as a road-side *vicus* not larger than five ha. (Bojanovski 1984, 208-211) About 30% of its 15-km catchment is arable.

### **7. Ad Statuas I**

Ad Statuas was an auxiliary fort on the northern Pannonian *Limes*, located between Arrabona and Brigetio. (Map VI\_20) The fort had been built by the time of Trajan and it had been renewed a number of times in the course of the second century. (Gabler 1989) Its walled area is slightly over one ha and the built-up area was most probably smaller than five ha. The low agrarian potential is predetermined chiefly by the peripheral location of this fort in relation to the provincial borders.

### **8. Ad Statuas II**

There was a second auxiliary fort with the same name in Pannonia Inferior. The itineraries locate it on the eastern Pannonian *Limes* but, so far, the site of this fort has not been found. (Gudea 2013, 459-658) If the general location of the fort near modern Vardomb in Hungary

is proven correct, (Map III\_8) up to 20% of its 15-km catchment would have been arable.

### 9. *Alisca*

Probably the most problematic section of the Danube Limes is the one between Ad Militare and Lugio, on the eastern Pannonian frontier. (Visy 1988; the different opinions are summarized in Gudea 2013, 459-658) Traditionally, the fort near modern Öcsény has been identified with Alisca, but some scholars have argued that these were the remains of the station-fort Ad Latus. (Map III\_8) Others have yet postulated the existence of two separate forts of Alisca and Ad Latus that guarded two parallel branches of the Limes Road. (Gudea 2013, 468) The fort near Öcsény measured over three ha and it is possible that the built-up area covered up to ten ha. Because of the proximity to the Limes and the low inter-site distances, the agricultural territory of this settlement was small by Pannonian standards. It measures about 70 square km.

### 10. *Alta Ripa*

Alta Ripa is another auxiliary fort on the eastern Pannonian Limes still awaiting its discovery. Following the inter-site distances on the Limes Road recorded in the itineraries, scholars have suggested that it was located somewhere near modern Tolna (It. Ant. 244, 5; Gudea 2013, 594; Map III\_8). This fort has been associated with a mounted unit and its walled area must have been at least two ha. The size of the auxiliary vicus can only be guessed at. The agricultural potential of the surroundings of modern Tolna is fairly high, but the short inter-site distances and the proximity to the frontier, limit the agricultural territory to slightly over 20% of the 15-km catchment.

### 11. *Altinum*

Altinum is one of the better-researched auxiliary forts in the southern half of the eastern Pannonian Limes. (Map III\_8) The site of this fort has been located and partly excavated. (Visy 2003, 134; Gudea 2013, 603-605) It was founded towards the end of the first century AD. Although it has been assumed that *cohors*-units were garrisoned in Altinum, the fort measured over three ha. It is possible that more than one unit were station at this site. The auxiliary vicus has not been researched. Nearly 35% of the 15-km catchment area of this site is arable.

### 12. *Annamatia*

Annamatia was an auxiliary fort on the eastern Pannonian Limes, 55 miles to the south of Aquincum, near modern Baracs. (Map III\_8; It. Ant. 245, 5) It was a *cohors*-camp, enclosing an area of 1.6 ha. Its founding has been roughly dated to the second half of the first century AD. (Kovács 2001, 55-80; Gudea 2013, 590-591) The size of the auxiliary vicus has not been determined. There are indications in the epigraphic record that the

vicus boasted at least one temple. Over 40% of the 15-km catchment area of Annamatia is arable.

### 13. *Basante*

Ad Basante is recorded as a road-station and a settlement on the Sava Road in the Tabula Peutingeriana. (Bojanovski 1984, 145-264) It is located near modern Županja, on the river Bosut in the territory of Cibalae. (Map III\_7) According to the only available account of the archaeological remains at the putative site of this road-station, it measures almost 30 ha! (Bojanovski 1984, 195-199) In the absence of any evidence in support of this estimate, it cannot be accepted at a face value. We are inclined to think that this high figure was influenced by the dispersed nature of this roadside settlement. Up to 40% of the 15-km catchment of Basante is arable.

### 14. *Bononia*

Roman itineraries, in conjunction with the epigraphic evidence, indicate the existence of an *ala*-fort called Bononia, near modern Beočin in Serbia. It has been suggested that Bononia was a euphemism that had replaced the earlier name of this site Malata, but the evidence is not particularly convincing. (Malata on Map III\_7; It. Ant. 242, Tab. Peut. VI 3; Gudea 2013, 609-610) However, archaeological research has failed to discover the remains of an auxiliary fort and its vicus in the environs of Beočin. Because it was an *ala*-fort, Bononia's walled area must have measured at least two ha. Assuming that the fort was located in modern Beočin, about one-third of the 15-km catchment of this settlement would have been arable.

### 15. *Burgenae*

Burgenae was an auxiliary fort on the Danube Limes, located less than ten km northwest of Singidunum and the border with Moesia Superior (Map III\_7). Most of the archaeological remains discovered at this site, as well as the few written sources that refer to it, date to the fourth century. (Dimitrijević 1956-1957, 299-308; Gudea 2013, 614-615; Not. Dig. Occ. XXXII) The auxiliary fort still has not been discovered but, given the fact that it garrisoned a *cohors*-unit, it could not have been larger than 1.5 ha. (Gudea 2013, 614) Consequently, the built-up area must have been in the region of five to six ha. According to a nineteenth century account, the site measures about 30 ha, but this datum is far from reliable. (Gudea 2013, 614) Almost 35% of the 15-km catchment area of this settlement is arable.

### 16. *Campona*

Campona was an auxiliary fort on the eastern Pannonian Limes, located at Nagytétény, 15 km to the south of Aquincum. (Map V\_7; Gabler 1999, 75-86; Gudea 2013, 569-571) The written sources indicate that it survived as a military outpost until the second half of the fourth century. (Not. Dig. Occ. XXXIII) Campona was

an *ala*-camp and its walled area measures over three ha. (Mráv 2008, 199-228; Gudea 2013, 569-571) Comparative evidence suggests that the built-up area could have measured up to ten ha. Because of the low inter-site distances, the arable land in the 15-km catchment of this site is lower than 100 square km.

### 17 Cirpi

This is the northernmost fort on the eastern Pannonian *Limes*, situated in the Danube knee. (Ptol. 8 16.4) *Sigillata* discovered at this site, dates the beginnings of Cirpi to the reign of Claudius or in the Flavian period, (Gabler 1999, 75-86) but the earliest stone fort has been dated to the reign of Hadrian. (Visy 2003, 96; Gudea 2013, 545) Although Cirpi has been associated with a double-*cohors*, the walled area measures only 1.8 ha. The combined area of the fort and the *vicus* has been projected at about six ha. Because of its location in the Danube's knee, only about five percent of Cirpi's market catchment is arable.

### 18 Cornacum

Cornacum was an auxiliary fort in the southern half of the eastern Pannonian *Limes*, located approximately 20 km east of Cibalae, modern Vinkovci. (Map VI\_33; Ptol. 8 16. 2, 5) The archaeological remains of the fort have not been identified, and its walled and built-up area can only be guessed. (Gudea 2013, 608-609) In this study, it was predicted that the auxiliary *vicus* was larger than average, - the combined area of the *vicus* and fort measuring up to 12.5 ha - because Cornacum has been seen by some scholars as the centre of the *civitas* Cornacates. (Leleković, Ilkić 2011, 299-306; Kovács 1999, 278-295) About 35% of the 15-km catchment of this settlement is arable. If Cornacum was the centre of an autonomous *civitas*, its administrative territory could have extended over 1650 square km.

### 19 Crumerum

Crumerum is a poorly known auxiliary fort on the northern Pannonian *Limes*. (Not. Dig. Occ. XXXIII) It was founded near modern Nyergesújfalu. (Map VI\_23) The walled area of the fort measures slightly over one ha and it is unlikely that the combined area of the *vicus* and the fort exceeded four ha. (Gudea 2013, 638-639) About 17% of Crumerum's 15-km catchment radius is arable.

### 20 Cuccium

Cuccium is the name of an auxiliary fort in the southern half of the eastern Pannonian *Limes*. (Not. Dig. Occ. XXXII) Conventionally, it has been identified with modern Ilok in Croatia. (Map III\_11) However, it has to be stressed that this fort has not been located and some scholars even doubt the existence of Cuccium at the time of the High Empire. (Gudea 2013, 609) It has been suggested that Cuccium was the garrison site of a *cohors*-unit, implying that its walled area measures

between one and 1.5 ha. (Rendić-Miočević 2009, 79-103; Gudea 2013, 609) Comparative evidence suggests that the built-up area would have been two to three times greater than the walled area. About 30% of Cuccium's 15-km catchment is arable.

### 21 Gorsium

To a great extent, Gorsium still presents an unsolved puzzle for modern scholarship. (Map III\_37) The juridical status of this settlement or the size of its built-up area are hotly debated issues. (Fitz 1999, 187-203; Mócsy 1973, 375-401; see the summary in Kovács 1999, 278-295) Admittedly, these aspects are unknown for the majority of the settlements in the study-area, but these are almost exclusively small settlements. However, the size of Gorsium has been estimated at over 100 ha and the evidence of monumental, public architecture is untypical of subordinate settlements. (Fitz 2003, 197-207) The problem is that there is very little positive evidence of either the autonomous status of Gorsium or that it was the seat of the provincial assembly. It is all the more striking that the only historical sources that refer to Gorsium are the Late Roman itineraries. (It. Ant. 264-265) Some scholars have argued that Gorsium was an unplanned agglomeration of *villae* that grew next to a ceremonial centre and a site of an auxiliary camp, which had been abandoned by the end of Trajan's Dacian campaigns in AD 106. (most notably, Mócsy 1973, 375-401) However, the excavator of this site has avidly defended the autonomous and urban character of Gorsium. (Fitz 2003, 198-199) Nonetheless, this scholar's estimate of Gorsium's built-up area at over 100 ha is not substantiated by solid evidence. Even if it is possible to follow the remains of isolated buildings over this entire stretch, it is unlikely that it was built-up entirely. We have therefore lowered the maximum estimate to 60 ha. The monumental core of this settlement measures about nine ha and this has been accepted as the minimum size-estimate. Over 50% of Gorsium's market catchment is arable. The Thiessen polygons project a vast administrative territory for this town, extending over more than 6000 square km.

### 22 Intercisa

Intercisa was an auxiliary camp and a customs duty station on the eastern Pannonian *Limes*, situated north of modern Dunaújváros. (Map V\_7) The camp occupied a highly strategic point on the *Limes* Road, at the junction with the road that led across the Great Hungarian Plain to Dacia. (Barkóczy *et al.* 1954; Lörincz, Visy 1980, 681-701; Gudea 2013, 580-590) This is one of the best-researched auxiliary forts in the Danube provinces. Although the chronology is not clarified entirely, the founding of the fort has been dated to the late first century. The period of the greatest prosperity of this site coincided with the Severan dynasty, with a second peak in the early fourth century. (Gabler 1999, 75-86) The walled area of the fort at the time of the Severan dynasty measured almost 3.5



ha and its built-up area extended over 14-15 ha. Less than 20% of Intercisa's 15-km catchment is arable.

### 23 Iovia

Iovia is one of the four fourth century fortifications in inner Pannonia. (Map V\_7) It is unclear if this fortified settlement had had a direct predecessor in the Early Roman period. (Soproni 1978; Tóth 1985, 121-136; Fitz 1989, 533-558) Like most of the fourth century foundations in Pannonia, Iovia was located in a highly productive region. Over 80% of its 15-km catchment is arable.

### 24 Lugio

The first traces of Roman occupation at Lugio have been dated to the Claudian period, but the earliest remains of permanent architecture date to the early second century. (Visy 2003, 132; Gudea 2013, 598-603) Like Intercisa, Lugio occupied a crossing of the *Limes* Road and a road that cut through the Great Hungarian Plain and linked Pannonia with Dacia. (Map III\_8; Gudea 2013, 471-472) Lugio is one of the rare auxiliary camps that show evidence of continuity from the Late La Tène. (Gabler 1991, 51-73) The walled area measures 1.7 ha, but there is no information about the size of the *vicus*. (Gudea 2013, 598-603) Slightly over 20% of the 15-km catchment of this settlement is arable.

### 25 Lusonium

Lusonium was an auxiliary fort on the eastern Pannonian *Limes*, located nearly 70 miles to the south of Aquincum, near modern Kömlöd. (Ptol. 8 16.4; It. Ant. 245, 1; Map III\_8) In view of the length of one of the walls of the camp, the walls of this fort must have enclosed an area larger than three ha. (Visy 2003, 122-124; Gudea 2013, 591-594) This estimate is corroborated by the fact that a mounted unit was garrisoned at this site. (Gudea 2013, 592) There is no information about the size of the *vicus*, but the micro-topographic unit occupied by the fort measures about nine ha. A settlement of this size matches the comparative evidence from the Danube provinces. About 45% of the 15-km catchment of Lusonium is arable.

### 26 Marsonia

Only isolated finds of military equipment indicate the existence of an auxiliary camp at the site of ancient Marsonia. (Miškov 1979, 23-24; Bojanovski 1984, 145-264; Miškov 1997-1998, 83-101) It has been assumed that the ancient fort is buried under the Medieval and Early Modern fort, a fact that underlines the geostrategic importance of this location on the Sava Corridor. (Map III\_11) Given that the walled area of the Roman fort equalled the walled area of the Medieval and Early Modern fort, it must have measured between two and three ha. The built-up area can only be guessed at. Marsonia was located in an area dominated by large Pannonian *civitates*. (Mócsy 1974, Zaninović 2003, 443-

449) It should not be excluded that this was a centre of a major military district, measuring at least 3000 square km. Slightly over 30% of Marsonia's market catchment is arable, possibly less, if the hydrological conditions were similar to those in the Early Modern period.

### 27 Matrica

Matrica is one of the better-researched forts on the eastern Pannonian *Limes*. It is located near modern Százhalombatta, south of Budapest. (Map V\_7) The town is mentioned only in the Antonine Itinerary and the Notitia Dignitatum. (It. Ant. 245, 4; Not. Dig. Occ. XXXIII 37) The walled area measures slightly less than 2.5 ha. (Kovács 1995, 81-106; Gudea 2013, 571-576) Excavations in the area of the auxiliary *vicus* have revealed an agglomeration spread over more than 12 ha. (Topal 1981) About 35% of the market radius of this settlement is arable. It is possible that, by the Severan period, Matrica had evolved into a centre of a separate administrative district. (Mócsy 1980, 365-376)

### 28 Rittium

Very little is known about the archaeology of ancient Rittium. (Milin 2003, 262-263; Gudea 2013, 613-614) The remains of the auxiliary fort – sought near modern Surduk, south of Acumincum (Map III\_11) – have not been found. Nonetheless, the quantity of tiles produced by the military and the funerary inscriptions of army officers do indicate that there was an auxiliary fort on the Danube *Limes* near modern Surduk. If the suppositions that Rittium was the garrison site of an *ala*-unit prove correct, it is likely that its walled area measured at least two ha. Only about 15% of the hinterland of this settlement is arable.

### 29 Solva

Solva was one of the earliest auxiliary forts on the northern Pannonian frontier. Its remains have been discovered at the Medieval citadel of Esztergom. (Map VI\_23) Unlike the majority of the Pannonian forts, Solva was founded at the site of a Late La Tène *oppidum*. (Gabler 1991, 51-73) The earliest remains of the earth-and-timber fort are dated to the reign of Claudius. (Gabler 1999, 75-86) Solva was occupied until the end of Antiquity in Pannonia. (Not. Dig. Occ. XXXIII) Because of the intensive construction in later historical periods, the Roman fort is accessible only through windows. There is no information about the size of the auxiliary fort and the adjacent *vicus*. (Gudea 2013, 639-641) Our size estimates of one or two ha, for the auxiliary fort, and six to seven ha, for the combined areas of the fort and the *vicus*, are little more than educated guesses. Only about ten percent of Solva's market catchment is arable. A couple of inscriptions point out the possible connection between Solva and the *civitas* of the Azali. (RIU: 790; RIU Suppl: 117) If these people were autonomous at the time of the Severan dynasty,

their territory could have extended over an area of 900 square km along the northern Pannonian frontier.

### 30 *Sopianae*

There is no evidence of the autonomous status of Sopianae prior to Late Antiquity. (Fülep 1984; Gábor *et al.* 2004, 269-294) If we exclude the possible reference to Sopianae as a *civitas* in a third century funerary inscription, (CIL III 3293) the only other written sources that mention Sopianae are the itineraries. (Gábor *et al.* 2004, 170-171) Therefore, it is possible that, like Basianae or Mogentiana in Superior, the town grew up near a road-station, at an important crossing of the Pannonian Diagonal Roads. (Map VI\_33) If we are to go by the distribution of the archaeological remains that pre-date the fourth century in the centre of modern Pécs, the built-up area of the town measured up to 20 ha. (Gábor *et al.* 2004, Map 1) Sopianae is located in one of the most fertile parts of Pannonia. Over 60% of the 15-km catchment area of this town is arable.

### 31 *Taurunum*

Taurunum was a station of the Sava fleet and a possible auxiliary fort near the border between Pannonia Inferior and Moesia Superior. (Dimitrijević 1996, 143-157; Gudea 2013, 615-618) In view of the fact that Taurunum is mentioned by Ptolemy, it could have been an important settlement at the time of the High Empire. (Ptol. 8 16.5) The remains of this site are buried under modern Zemun, the western suburb of Belgrade, and almost nothing is known about its archaeology. The size of the walled and built-up areas can only be surmised. Because it is located on the edge of the provincial territory, only about ten percent of Taurunum's 15-km hinterland is arable.

### 32 *Teutoburgium*

Teutoburgium was an auxiliary fort in the southern half of the eastern Pannonian *Limes*. It has been located near modern Dalj in Croatia. (Map III\_11) This settlement is mentioned by Ptolemy, but the archaeological remains of the fort have not been found. (Ptol. 8 16.5) Teutoburgium has been located on the basis of the data contained in the itineraries and the numerous finds of stamped tiles and military equipment. (Radma-Livaja 2005, 941-953; Gudea 2013, 606-608) This was an *ala*-camp and it could have measured at least two ha, but this is merely a hypothesis. About one-quarter of Taurunum's hinterland is arable.

### 33 *Tricciana*

Tricciana was one of the fourth century fortified settlements in the Pannonian interior. (Map V\_7; Mócsy 1974; Tóth 1985, 121-136) In the Late Roman period, Tricciana was a settlement of about eight ha, but the thesis that the town had developed from an Early Roman settlement located near the Late Roman fort has not been accepted by everyone. (cf. Fitz 1989, 533-

558) Like most of the newly founded Late Roman forts, Tricciana enjoyed an excellent agricultural potential. Almost 80% of the 15-km catchment of this settlement is arable.

### 34 *Ulcisia Castra*

Ulcisia Castra was an auxiliary fort located 11-12 km north of Aquincum, on the northern end of the eastern Pannonian *Limes*. (Map V\_8; It. Ant. 266, 10) The earliest remains of a permanent military camp are dated to the early second century, but a Flavian phase should not be excluded. (Gabler 1999, 75-86; Gudea 2013, 545-549) Although the stratigraphy at this site has not been clarified, the walls of the fort have been documented. (Visy 2003, 98; Gudea 2013, 36, Table 10) They enclose an area of 2.7 ha. Because of the short inter-site distances, less than ten percent of the theoretical hinterland of this settlement would have been available for cultivation.

### 35 *Vetus Salina*

Vetus Salina was an auxiliary fort on the eastern Pannonian frontier, founded near modern Adony under the Flavian dynasty. (Gabler 1999, 75-86; Gudea 2013, 576-580; Map V\_7) This fort has a complex horizontal stratigraphy, but the first stone walls, dated to the Severan period, enclose an area of 2.4 ha. (Gudea 2013, Table 10) Almost 50% of the 15-km catchment of this settlement is arable. Like Matrica, Vetus Salina had possibly evolved into a centre of a semi-autonomous community by the late second century. (Mócsy 1980, 365-376)

### 36 *Unknown, Albertfalva*

In modern Albertfalva, on the southern outskirts of Budapest, lie the remains of a large auxiliary fort, whose ancient name has not been preserved. (Map V\_7) The site had been established by the second half of the 1st century AD. (Szirmai 1995, 27-51; Gabler 1999, 75-86; Gudea 2013, 564-569) However, in contrast to the majority of the garrison settlements in Pannonia, the unnamed fort in modern Albertfalva shows signs of decline after the Marcomanic crisis. The chief symptom of this tendency is the absence of *sigillata* datable to the last decades of the second and the beginning of the third century. (Gabler 1999, Figures 3-6) Other scholars have pointed out that the top layers at this site have been removed during modern construction works. (Szirmai 2005, 681-684) Albertfalva was a large fort. Its walls enclose an area of over 3.5 ha. (Gudea 2013, 565) The latest excavator at this site has estimated the built-up area at about 70 ha! (Szirmai 1997, 527-529) It is unlikely that this was the second largest settlement in Pannonia. A more realistic estimate for the combined area of the fort and the *vicus* is ten to 12 ha. Because of the short inter-site distances, only about five percent of the catchment area of this settlement is arable.

**37 Unknown, Janja**

Surveys along the vicinal roads in the Drina Valley have brought to light the remains of a number of anonymous settlements, some apparently of a size comparable to that of minor autonomous towns. One of these sites is located near modern Janja, in eastern Bosnia. The area of this site has been estimated at ten ha, but it is impossible to verify this observation without more detailed research. (Bojanovski 1981, 125-197) It should not be excluded that this was a dispersed rural settlement and therefore, it was not included in the data-base. Almost 60% of the theoretical hinterland of this site is arable.

**38 Unknown, Mehovina**

This site in the Lower Sava Valley, in western Serbia, has been described as a five-ha agglomeration. (Grbić 1953) It is larger than the other sites in this area, but the absence of inscriptions or architectural sculpture indicates that it was a major rural settlement. About 35% of the 15-km catchment of this settlement is arable.

**39 Unknown, Velika Obarska**

This site was located on a vicinal road in the Lower Drina Valley, near modern Bjelina in the northeast corner of Bosnia and Herzegovina. According to the archaeologist who surveyed this site, it measured about ten ha. (Bojanovski 1981, 151-162) However, traces of architectural remains have not been reported, suggesting that this was a rural agglomeration of humble dwellings. Over 70% of the 15-km catchment area of this site is arable.

**40 Unknown, Petkovac**

This is a five-ha site in the Lower Sava Valley, in western Serbia. (Grbić 1953) Although comparable to some of the minor urban settlements included in this study, the other aspects of this site – including its micro-location on a hill-slope – speak in favour of a rural settlement. About 15% of the 15-km catchment of this settlement is arable.

**41 Unknown, Šabac**

Early Modern travellers have reported a small quadrangular fort near modern Šabac, on the right bank of the Sava. (Grbić 1953, 18) At present, no remains are visible on the surface. If their observations are correct, it is possible that the site in question was a quadriburgium that had been built at the site of a road-station in the period of the Tetrarchy. Obviously, in the absence of positive evidence, this is merely a hypothetical explanation. Typically, road-stations did not measure more than five-six ha. Over one-half of the theoretical hinterland of this site is cultivable.

**42 Unknown, Svileuva**

This anonymous settlement is located in the Upper Kolubara Valley, in western Serbia. (Grbić 1953) Its size

has been estimated at six ha, but there are hardly any other indicators of its urban character. Like most rural settlements in that area, the one near Svileuva has access to over 370 square km of arable land in its 15-km catchment radius.

**43 Unknown, Vizivaros**

A few kilometres to the south of the *canabae* of Aquincum, rescue excavations have revealed the remains of a temporary legionary camp and a permanent *ala*-fort. (Map V\_8; Németh, Kérdő 1986, 384-388; Gudea 2013, 563-564) The sigillata finds at this site date to the reign of Claudius, about 25 years prior to the founding of the legionary camp of Aquincum. (Gabler 2012, 111-150) According to the available plan, the walled area of this fort measures between three and four ha. There is no information about the size of the civilian settlement. Some scholars have argued that the fort at Vizivaros had been established to keep an eye on the central settlement of the *civitas Eraviscorum*. (Kovács 1999, 278-295) This could imply that the settlement surrounding the *ala*-camp was larger than the average auxiliary *vicus*. However, positive evidence of the size of this agglomeration is so far lacking and, unless it is accepted that the *civitas* had been disbanded after the founding of the *municipium* of Aquincum, it makes little sense to look for the *civitas* capital in Vizivaros, only a few km to the south of the newly founded town. The settlement density along this section of the Pannonian *Limes* is very high and, as a consequence, the theoretical hinterland of the settlement in modern Vizivaros is greatly reduced.

**Moesia Superior, autonomous towns****1. Horreum Margi**

Initially, Horreum Margi has been seen as a garrison site behind the Danube *Limes*. (Piletić 1969, 9-39) However, this settlement is recorded as a *municipium* in an inscription discovered in the legionary camp of Novae in Moesia Inferior. (Petrović ed. 1979, 57-61; Kolendo, Božilova eds. 1997) Like so many other towns and settlements in this part of the Balkan Peninsula, the bulk of the archaeological remains at Horreum Margi have been dated to the Late Roman period. (Piletić 1969, 9-39, Vasić, Kavajin-Mundrić, Popović 1989, 7-37) The walls of the Late Roman settlement enclose an area of about 14 ha, but this estimate is by no means certain. Horreum Margi was located in the Valley of the Velika Morava, at the centre of a fertile region. (Map VI\_46) Over 80% of its theoretical hinterland is arable. According to the Thiessen polygon analysis, the administrative territory of the *municipium* covered over 6000 square km.

**2. Margum**

Margum is an interesting example of a civilian settlement on the Danube *Limes*, located roughly



halfway between the legionary camps of Singidunum and Viminacium. (Map VI\_46) Only a handful of inscriptions record this settlement as a *municipium*. (CIL III 8141; Mirković ed. 1986; Mirković 2007) It is unclear when exactly Margum had been promoted into a *municipium*. The granting of the municipal charter is roughly dated between the reign of Aurelius and the Severans. The beginnings of Margum are equally unclear. It is possible that it evolved from an army camp located at the site of a Late La Tène settlement, but the evidence of this is circumstantial. (Mirković ed. 1986, 207-211) Felix Kanitz, who visited the site in the late nineteenth century, saw a large fortification, equalling the size of a double legionary fort. However, recent radiological surveys indicate that Margum could not have been larger than eight ha. (Ivanišević, Bugarški 2012, 239-255) About 40% of the ten-km catchment of Margum is arable. The extent of the administrative territory ranges between 800 and 1200 square km.

### 3. *Municipium Aelianum*

A building inscription found at Ulpiana records a *decurio* of a *municipium* called Aelianum. (IL Jug 527) The reading of this document is controversial, but the recent discovery of a second inscription in Ratiaria, that refers to a *municipium* with the same name, has dispelled all doubts about the existence of a *Municipium Aelianum* in Moesia Superior. (AE 2010: 1391) This *municipium* has not been located, but the fact that its name is identical to the name of the mining district in the Pincus Valley seems to suggest that, like the *Municipium Dardanorum* or Ulpiana, Aelianum had been founded in a mining district. (Map VI\_46; Mócsy 1970, 39; Dušanić 1977, 54-92) The territory of the mining district in the Pincus Valley measures between 1500 and 3000 square km.

### 4. *Municipium Celegerorum*

The Celegeri were a people in Moesia Superior recorded by Pliny the Elder, but they are omitted in Ptolemy's Geography. (Pliny *H.N.* III 149) A funerary monument of a *decurio* of a *municipium* with the same name, suggests that the central place of this *civitas* had been granted a municipal charter in the course of the second century. (IL Jug 1502) The site of the *Municipium Celegerorum* has not been identified, but most scholars agree that it was located in western Serbia. (Map VI\_46; Mócsy 1970, 27) According to the distribution of the inscriptions commissioned by officials from the neighbouring towns, the administrative territory of the *municipium* could have covered between 2000 and 3200 square km. The Thiessen Polygons predict a much larger territory, but this method ignores the provincial boundary with Dalmatia. (cf. Mócsy 1970, Figure 15)

### 5. *Municipium Dardanorum*

Together with Ampelum in Dacia and, possibly, *Municipium S* near modern Pljevlja in Montenegro and Domavia in eastern Bosnia, the *Municipium*

*Dardanorum* belongs to the group of *municipia* founded in the territories of the mining districts. Common to all these towns, with the exception of *Municipium S*, is their late promotion into *municipia*, dated to the late second-early third century and the peculiarity of the local institutions. (Dušanić 1971, 241-259; Dušanić 1997, 31-42) *Municipium Dardanorum* has not been surveyed systematically. The excavator of this site has estimated the built-up area at almost 30 ha, but according to the plan of the site produced by the same scholar, the *municipium* was smaller. (Čerškov 1970) Because of its location in a mountainous region, only about 11% of the ten-km catchment of this town is arable. (Map VI\_46) There are no indications about the possible extent of the mining district and the municipal territory. If we are to go by the remains of mining operations – usually impossible to date even in very rough time-frames – the territory of this unit could have measured between 1700 and 3200 square km. The Thiessen Polygons predict a much larger territory.

### 6. *Naissus*

This town is located in the southern, demilitarized part of Moesia Superior, on the road between Lissus and Ratiaria. (Map VI\_46) Naissus is one of the many towns in the Balkan provinces that prospered only in the late third-early fourth century. Most of the written sources that refer to Naissus date to the Late Roman period, but this must have been a settlement of some importance by the middle of the second century AD. (Petrović 1976; Ptol. 9. 4) The grant of municipal status has only been roughly dated to the second half of the second or the early third century. (IMS IV: 10; Petrović ed. 1979) The size of the built-up area has been estimated at 20-25 ha, but this is suspiciously close to the size of the Ottoman fort built at the site of the Roman town. (Petrović ed. 1979, 37-38) It is likely that the ancient town was smaller, especially in the period of the High Empire. Almost 70% of the ten-km catchment of Naissus is arable. However, parts of this land could have been flooded in Antiquity. The Late Roman sources suggest that Naissus was in control of a very large territory. Procopius' list of castles, rebuilt in the reign of Justinian I, extends the urban territory over an area of at least 4000 square km. (Procop. *De. Aed.* IV 4)

### 7. *Ratiaria*

Ratiaria was a colony in Moesia Superior founded by Trajan. (Velkov 1980, 61-83; Ivanov ed. 2014) It was established on the Danube, south of the Iron Gates and at the end of the road than connects the Adriatic to the Danube. (Map VI\_44) The earliest written reference to this town is in an inscription dated to AD 125. (CIL III 14499) In contrast to Scupi, there is no evidence of a massive veteran deduction. Most of the veteran inscriptions have been found in the city and its necropolis. (Gerov 1997, 211-314) The size of the Early Roman colony is obscured by the expansion of Ratiaria

in the Late Roman period, after the Romans withdrew from Dacia. The archaeological remains seem to suggest that the Early Roman town measured between 12 and 25 ha, much smaller than Scupi, the first colony in Moesia Superior. Slightly over 20% of Ratiaria's ten-km catchment is arable. The administrative territory of the colony probably ranged between 2500 and 3000 sq. km. However, some scholars believe that the *ager* extended into the Timok Valley to the west, covering an area of over 5000 square km. (Velkov 1980, 63-64; Gerov 1997, 263-274)

### 8. Scupi

Scupi was the first Moesian colony, founded near modern Skopje, in the southern, demilitarized part of the province. (Map V\_10) Scholars disagree about the exact time of the founding of the colony, but there is a general consensus that it was established under the Flavians. (Mócsy 1970, Josifovska-Dragojević ed. 1982; Dušanić 1983, 13-21) The city walls enclose an area of 44 ha and, in view of the distribution of the urban *necropoleis*, the built-up area could not have been much larger. (Mikulčić 1971, 463-484) Because of its location in the central part of the Skopje Basin, over 60% of the ten-km catchment of Scupi is arable. The distribution of inscriptions commissioned by the *curia* of the town and the proximity to the provincial boundary with Macedonia limit the administrative territory of the colony to 2200 square km. Nevertheless, as in the case of Ratiaria, a few outlying inscriptions suggest that the outreach of the elite based in Scupi extended into the Dardanian mining districts. (Mócsy 1970, 62-75; Šašel 1992, 152-159)

### 9. Singidunum

Singidunum was the second legionary town in Moesia Superior, the garrison site of the *Legio IV Flavia*. (Mirković, Dušanić eds. 1976; Mirković 2007, 50-52) Its remains lie under the citadel of Belgrade, at the confluence of the Sava and the Danube. (Map VI\_38) The *terminus ante quem* for the founding of the legionary camp and settlement is the end of Trajan's reign. (Ptol. III 9.1; Bikić, Nikolić-Đorđević, Simić 2002, 183-220) Singidunum had been proclaimed a *municipium* sometime in the 2nd century AD. (Mirković, Dušanić eds. 1976, 30-32) A few late third-century inscriptions record Singidunum as a colony. (IMS I: 20, 45 and 46) Singidunum is buried under modern Belgrade, but the distribution of the remains discovered by accident or rescue excavations indicate that the combined area of the legionary camp and *canabae* covered between 60 and 75 ha. (Bojović 1975, 71-85; Bikić, Ivanisević 1996, 253-262) There is no evidence of a second urban agglomeration near the legionary camp. Singidunum was located in the northeast corner of the provincial territory and its catchment radius must have been reduced by the proximity to the provincial border with

Pannonia Inferior. This circumstance has also confined the town's administrative territory to about 600 square km.

### 10. Ulpiana

The name of this town reveals that it had been founded in a mining district, by Trajan or Hadrian. (Parović-Pešikan 1981, 57-73; Mirković 2007, 60-62; Beriša *et al.* 2012, 65-92) It is located in Kosovo, near modern Priština. (Map VI\_42) Ulpiana was promoted into a *municipium* soon after its founding, but too little is known about the pre-municipal history of this settlement. The built-up area of the town has been estimated at about 35 ha, excluding the 16-ha Early Byzantine fort, constructed a few hundred meters east of the Early Roman town. (Parović-Pešikan 1981, Plan 1; Beriša *et al.* 2012, 82-88) Over 70% of Ulpiana's ten-km catchment area is arable. The town was the centre of a vast mining district, covering up to 8000 square km. If we assume that the municipal territory was separate from the mining district, it would have been limited to less than 4000 square km.

### 11. Viminacium

Viminacium was the garrison site of the *Legio VII Claudia* and the capital of Moesia Superior. (Mirković ed. 1986) It is located less than 60 km to the east of Singidunum, at the confluence of the Mlava and the Danube. (Map VI\_38) The earliest remains at this site have been dated to the late first century AD and the first stone fortification to the reign of Trajan. By the reign of Hadrian, the town had been promoted into a *municipium*. (Popović 1967, 29-49; Nikolić, Bogdanović 2015, 547-555) Viminacium was located on the right bank of the river Mlava and the core of the urban area – the legionary camp and the *canabae* – cover between 75 and 100 ha. (Popović 1967, 29; Nikolić, Bogdanović 2015, Figure 2) A map of the archaeological remains at this site, drawn in the 19th century, depicts a second fort on the left bank of the river Mlava, and this document has given rise to the thesis that the *municipium* of Viminacium was a physically separate settlement, located outside the *prata legionis*. (Popović 1967, 47-48) However, archaeological excavations at the site on the left bank of the Mlava have brought to light remains datable only to the Early Byzantine period. In other words, there is no evidence that Viminacium was a double town like its Pannonian counterparts. Approximately one-third of the ten-km catchment area of Viminacium is arable. The administrative territory of the *municipium* must have been in the region of 600 square km.

## Moesia Superior, subordinate settlements and settlements with uncertain status

### 1. Ad Herculem

According to the itineraries, there were two stations with this name on the roads that led south from Naissus.

(Mócsy 1970, 19-20; Petrović ed. 1979; Mirković 2007) One of this has been located near modern Žitoradnja, in southern Serbia. (Map VI\_41) A traveller's account from the nineteenth century has estimated the area of this site at a couple of hectares, but these remains cannot be located nowadays and this estimate cannot be validated. Almost two-thirds of the ten-km catchment of this settlement is arable.

## 2. *Almus*

Almus was a station for the collection of custom duties and a road-station on the *Limes* Road. (CIL III 6124; Ivanov 2003, 23-26) It was located on the border between the two Moesian provinces, at the mouth of the River Lom, a location that had predetermined the role of Almus in the regional road-network. (Map VI\_58) The bulk of the archaeological remains at this site, including the four-ha large fort, have been dated to the Late Roman period. The preceding period is represented only by stray finds. (Dimitrova-Milčeva 1996, 11-18; Ivanov 2003, 25) Over 100 square km of arable land are available in the territory of Almus or about 35% of its ten-km catchment.

## 3. *Aquae*

Aquae was a station on the *Limes* Road, close to the exit from the Iron Gate. (Map III\_7) Like many other places on the Lower Danube, Aquae had grown in importance only in Late Antiquity. (Mirković 1968; Mócsy 1970; Petrović ed. 1995) In Procopius' account of newly founded or repaired buildings, Aquae was the centre of a fairly large area. (Proc. *De Aed.* IV 33) However, only a handful of inscriptions from this settlement are dated to the Early Roman period. Therefore, the walled or built-up area of Aquae at the time of the High Empire can only be guessed at. The estimates made by some of the early travellers that visited this site in the nineteenth century are totally unreliable. (Mirković 2007, 70) Guided by the lack of major monuments datable to the time of the High Empire, we have put Aquae in the size-range of five to 15 ha. Almost 40% of the ten-km catchment of this settlement is arable.

## 4. *Aureus Mons*

This was a station on the Danube *Limes*, located less than 20 km to the east of Singidunum (Map III\_7) Aureus Mons is mentioned only in Late Roman sources and itineraries. (Mirković 1968, 83-85; Mócsy 1970, 50-59) This is corroborated by the fact that most of the archaeological remains found at this site also date to Late Antiquity. Although Early Roman layers have been recorded, it is impossible to say anything concrete about the size and importance of this settlement. (Mirković 1968, 85) Because of its name and proximity to the mining district in the area of Mount Kosmaj, it is possible that Aureus Mons was the principal port of the mining district. (cf. Dušanić 2004, 247-270) Others have seen it is an auxiliary fort, built at the time of the

Flavian emperors or Trajan. (Wilkes 1998, 641; Wilkes 2005, 208) Over 50% of the ten-km catchment area of Aureus Mons is arable.

## 5. *Bononia*

Bononia was a station on the *Limes* Road, identified with modern Vidin, in Bulgaria. (Map III\_7) Like the rest of the towns and settlements on the Lower Danube, this settlement only prospered in Late Antiquity. This has inevitably obscured the earlier phases of occupation. By the fourth century, Bononia had grown into a fully-fledged town and a bishopric. The fourth century walls enclose an area of almost 20 ha. (Ivanov 2003, 18-22) Prior to the fourth century, Bononia had only been mentioned in the itineraries. (It. Ant. 219, 2) This fact suggests that the town had evolved from a road-station on the *Limes* Road, which must have been much smaller than its Late Antique successor. Over 50% of its ten-km catchment area is arable.

## 6. *Combustica*

Combustica was a road-station on the road between Lissus and Ratiaria, one of the key west-east transversals in the Balkan Peninsula. (Popović 1974, 15-26; Ivanov ed. 2014) It is located near modern Kladorup, in northwest Bulgaria. (Map III\_7) Very little is known about the archaeology of this settlement. Some researchers have argued that Combustica was a garrison settlement in the territory of Ratiaria, but this claim rests solely on epigraphic evidence. (Gerov 1997, 211-314) There are no traces of the supposed auxiliary fort. We can merely assume that, like most other road-stations, Combustica was a road-side settlement not larger than ten ha. Combustica was well-placed in relation to the agricultural resources. Almost 60% of the ten-km catchment of this settlement is arable.

## 7. *Cuppae*

Cuppae was an auxiliary fort in the Danube's Iron Gates, located near modern Golubac, at the western end of the gorge. (Map III\_7) Its walls enclose an area of about 2.6 ha, a fact that suggests that Cuppae was an *ala*-camp. (Vasić, Kondić 1986, 542-560) The built-up area could have measured up to seven ha. In view of the fact that it was located in the Iron Gates of the Danube, Cuppae occupied a relatively fertile niche. Slightly over 20% of its ten-km catchment is arable.

## 8. *Diana*

Diana was one of the auxiliary forts in the Danube's Iron Gates, occupied continuously throughout Antiquity. (Vasić, Kondić 1986, 542-560) It was located in the Danube cataracts, 8 km upstream from modern Kladovo. This was a *cohors*-fort, measuring slightly over 1.5 ha. (Mirković 2007, 38-39) In view of the local topographical conditions, the combined area of the fort and *vicus* could not have measured more than six ha.



Only slightly over ten percent of the ten-km hinterland of this settlement is arable.

### 9. *Dorticum*

In Late Antiquity, as well as in the period prior to the conquest of Dacia, *Dorticum* was a garrison settlement. However, this site had probably been demilitarized in the course of the second century AD. (Matei-Popescu, Țentea 2006, 127-140; Mirković 2007) It is located downstream from the Iron Gates, near modern Vârv, in Bulgaria. (Map III\_7) The archaeological remains at this site have not been researched systematically. According to an old plan of the fort, the walled area measures about one ha, large enough to house a *quingenaria* unit. (Ivanov 2003, 11-17) There is no information about the built-up area of this settlement. We have predicted that it was in the region of five ha. About 40% of the ten-km catchment area of *Dorticum* is arable.

### 10. *Egeta*

*Egeta* was an auxiliary fort on the Danube, located at the exit of the Iron Gates, near modern Brza Palanka. (Map III\_7) This settlement is mentioned by Ptolemy, who even calls it a *polis*. (Ptol. III 9.3) It is unclear if *Egeta* was demilitarized after the conquest of Dacia. (Vasić, Kondić 1986, 542-560; Mirković 2007) The fortified area measures almost two ha and it is possible that the combined area of the fort and the *vicus* was up to three times larger. (Mócsy 1970, 53) About 12% of the ten-km catchment of this settlement is arable.

### 11. *Hammeum*

*Hammeum* was a road-station on the Naissus-Lissus and Naissus-Scupi Roads. (Mócsy 1970, 19-20; Petrović ed. 1979, 20-29) Its approximate location near modern Prokuplje, in southern Serbia, has been determined on the basis of the data contained in the itineraries. (Map VI\_41) However, the archaeological remains of this station have not been located. We have assumed that, like most other road-stations, it measures between five and ten ha. Almost 50% of the ten-km catchment area of the putative site of this station is arable.

### 12. *Mansio Municipium*

*Mansio Municipium* was a road-station on the road between Viminacium, Naissus and Scupi, in the Mlava Valley, about 20 km south of Viminacium. (Piletić 1970, 7-25; Mirković ed. 1986; Map VI\_38) This site has been interpreted as a minor agglomeration that included a *villa* – presumably the *mansio* – and a bath. Earlier scholars have looked for the *Municipium Aelianum* at this site. (Mócsy 1970) There is no information about the size of the settlement, but it is unlikely that it was larger than five ha. Over 80% of the ten-km catchment of this station is arable.

### 13. *Lederata*

*Lederata*, identified with a site near modern Ram, (Map VI\_38) was an auxiliary fort on the Upper Moesian *Limes*, which guarded the western entrance into the Iron Gates, and an important crossing of the Danube. (Mócsy 1970; Mirković 2007) The fort measured 2.5 ha, whereas the presence of an adjacent civilian settlement has only been inferred on the basis of veteran inscriptions. (Dimitrijević 1982-1983, 29-67) Only about seven percent of the ten-km catchment of *Lederata* is arable.

### 14. *Novae*

*Novae* was an auxiliary fort in the Danube's Iron Gates, located at the confluence of the Čezava in the Danube. (Map III\_7) Traces of military presence at this site date to the middle or the early first century AD, but the first permanent fort has been dated to the late first century. (Vasić 1982-1983, 91-136) The walled area of *Novae* measures slightly over 1.5 ha, but the extent of the built-up area has not been determined. We do not think that it was larger than six ha. Less than five percent of the ten-km catchment of this site is arable.

### 15. *Pincus*

*Pincus* was the name of a river and an auxiliary fort in the northern half of Moesia Superior. (Pliny HN. III 149) It has been identified with modern Pecka, in eastern Serbia. (Map VI\_38) Ptolemy mentions a people called the *Pincenses*, seen by scholars as one of the few Moesian *civitates* that were documented in the written sources. (Ptol. 9. 2) A new mining district had been created in the territory of this *civitas* by the middle of the second century. (Mócsy 1970; Dušanić 1977, 52-94) The eponymous centre of this people has been identified with the garrison site at Veliko Gradište on the Danube, but very little is known about the archaeology of this site. We can merely assume that it did not differ from the average auxiliary fort in terms of size. Less than 20% of the ten-km catchment area of this site is arable.

### 16. *Pontes*

*Pontes* was the name of the auxiliary fort *contra Drobeta*, located on the Danube's right bank, at the site of Apolodorus' bridge. (Mócsy 1970; Vasić, Kondić 1986, 542-560; Map III\_7)) In view of the proximity of this fort to the *municipium* of *Drobeta*, it is unlikely that it grew into a stable civilian settlement. The auxiliary fort measures slightly over 1.6 ha. About 15% of the ten-km catchment area of this site is arable.

### 17. *Remesiana*

*Remesiana* was a station on the Lissus-Ratiaria road and a Late Roman town, located near modern Bela Palanka in southeast Serbia. (Map VI\_41) The earliest reference to *Remesiana* in the historical sources dates to the late third century AD. (It. Ant. 134, 2-135, 2; Petrović ed. 1979, 51-57; Mirković 2007, 69) This settlement belongs to the

group of road-stations that had developed into proper urban settlements by the time of the Late Empire. In the sixth century AD, Remesiana was a centre of a separate district, including no fewer than 30 *castella*. (Procop. De Aed. IV 4; Petrović ed. 1979, 56-57) The walls of the Late Antique town enclose an area of five ha. (Petrović ed. 1979, 54) The distribution of the *necropoleis* sets the maximum limits of the built-up area at 12 ha. About 20% of the catchment area of this settlement is arable. Some scholars have argued that Remesiana was a centre of a large mining district that extended over an area of 3500 sq. km. (Dušanić 2004, 249-270)

### 18. Taliata

Taliata was an auxiliary fort in the Danube's Iron Gates, located near Donji Milanovac. (Map III\_7) The fort controlled an important crossing of the Danube. (Popović 1982-1983, 265-284; Mirković 2007, 32-34) Its walls enclose an area of 1.7 ha and, in view of the limited space near this site, the built-up area of this garrison settlement could not have been larger than five ha. (Popović 1982-1983, 265-266) Typically of the settlements located in the Danube's Iron Gates, less than ten percent of the ten-km catchment of this settlement is arable.

### 19. Timacum Minus

Timacum Minus has been identified with the remains of an auxiliary fort near the village of Ravna, in the Timok valley in Eastern Serbia. (Map VI\_41) This is the eponymous site of one of the few Moesian *civitates* recorded by Pliny the Elder. (Pliny *H.N.* III 149) Timacum Minus is also mentioned by Ptolemy. (Ptol. III 9.1; see Petrović ed. 1995, for other references in the written sources) Archaeological research has demonstrated that Timacum was a garrison site, established by the Flavian period. (Petrović ed. 1995, 37-45) The walls of the auxiliary fort enclose an area of about 1.6 ha, whereas the combined area of the fort and the *vicus* could not have been larger than six to seven ha. (Petrović ed. 1995, 38; cf. the estimate of 30 ha in Diers 2018!) Over one third of the ten-km catchment of this site is arable. Timacum Minus was almost certainly a centre of a large mining district, although evidence of a separate procuratorial office is scanty. (Dušanić 2004, 249-270; Petrović ed. 1995 and Hirt 2010, are more reserved)

### 20. Transdierna

As indicated by its name, Transdierna was located opposite the *municipium* of Dierna on the right bank of the Danube, and it guarded one of the main transversals that linked Dacia to the rest of the Balkan provinces. (Cermanović-Kuzmanović 1973, 37-40; Cermanović-Kuzmanović 1982-1983, 337-343; Map III\_7) The epigraphic sources speak of a strong military presence at this site, but the archaeological remains of the fort are dated only to the period of the Tetrarchy, whereas earlier remains do not post-date the conquest of Dacia.

(Cermanović-Kuzmanović 1982-1983, 337-343) There is evidence of buildings outside the walled area, but even if these remains are added to the fortified area, the total built-up area of Transdierna could not have exceeded a couple of hectares. Less than five percent of the ten-km catchment of this settlement is arable.

### 21. Tricornium

Thanks to the data in the itineraries, this settlement has been located near modern Ritopek, east of Belgrade. (Map VI\_38) Tricornium was the eponymous site of the Tricornenses, a Moesian people recorded by Ptolemy. (Ptol. III 9.1) The character and size of this settlement have not been determined. Because of its location on the Danube *Limes* and the fact that most of the central places of the *civitates* in this region were garrison sites, it is reasonable to assume that Tricornium was another auxiliary fort on the Moesian *Limes*. (Mirković 1968, 95-97; Dušanić 2004, 249-270) However, the remains of this fort have not been discovered. Nearly one-quarter of the ten-km catchment area of this settlement is arable.

### 22. Unknown, Drsnik

The first modern explorer of the archaeology of Kosovo has pointed out the possible existence of a third *municipium* in this country, located in the Metohija Basin, in the western half of Kosovo. (Čerškov 1969; Mirdita 1975, 69-81; Map VI\_42) This hypothesis is supported by the discovery of a couple of inscriptions referring to *decuriones* of an unnamed *municipium* and by the fact that the fertile Metohija Basin represents a lacuna on the urban map of the region. However, the putative site of this *municipium* has not been researched systematically and it is impossible to estimate its size. We can merely surmise that it was of a minor size, measuring between five and 15 ha. The anonymous settlement near Drsnik has an excellent agrarian potential. Over 70% of its ten-km catchment area is arable. If this settlement was an autonomous town, its administrative territory would have measured nearly 4500 square km.

### 23. Unknown, Pojejena de Sus

This was the garrison site of the *Cohors V Gallorum et Pannoniorum*, near modern Pojejena in Romania. (Russu ed. 1977, 39; Map III\_7) Although located on the Danube's left bank, the units belonged to the *exercitus* of Moesia Superior. The walled area of the fort measures 2.7 ha, and it is possible that the combined area of the fort and the *vicus* extended over an area of eight to ten ha.

### 24. Unknown, Stojnik

The fort near modern Stojnik – about 35 km south of Singidunum – was the centre of a mining district, possibly known as Demessus in Antiquity. (Mirković, Dušanić eds. 1976; Map VI\_39) This interpretation is based on the large number of inscriptions that were

discovered in the surroundings of the fort, some of which refer to the district *procurator* and his *villici*. (IMS I: 103; Hirt 2010) Traces of ancient mining are ubiquitous throughout this area, although they are impossible to date. As in other mining districts in this study-region, archaeologists have so far failed to discover a major agglomeration dating to the time of the High Empire. The four-ha large fort near modern Stojnik does not predate the fourth century. (Dušanić 1989-1990, 217-224) Although located in a mining district, over 70% of the ten-km catchment of Stojnik is arable. The distribution of funerary monuments of Orientals – identified with mining colonists – indicate that the district extended over an area of 1200 square km.

## Moesia Inferior, autonomous towns

### 1. Calatis

Calatis was a Megarian colony on the western Black Sea coast, founded in the early fourth century BC. (Pseudo Skym. Vers. 760; Avram ed. 1999, has collected all the written sources that pertain to this town.) It is located in modern Mangalia, in Romania. (Map VI\_47) The town was one of the first allies of Rome in the war against Mithridates and it is possible that it had enjoyed a privileged status of a *civitas foederata* after the Roman conquest. (Pippidi 1975, 121-130; Avram 1991, 103-137) The city walls constructed under Marcus Aurelius and repaired in Late Antiquity enclose an area of 15 ha, but it is possible that the built-up area was slightly smaller. (Preda 1980; Avram ed. 1999, 4-9) Nearly one-half of the 15-km catchment area of this town is arable. The limits of the administrative territory of Calatis are relatively well-documented. (Avram 1991, 103-137) Its size ranges between 1500 and 2000 square km.

### 2. Dionysopolis

Dionysopolis was a Hellenistic foundation, possibly an *emporium* on the Black Sea coast, at modern Balchik, Bulgaria. (Map VI\_47) The epigraphic record reveals that, by the third-second century BC, Dionysopolis had achieved a full autonomy. (IG Bul I: 13b, 13c; Mihajlov ed. 1970) This town retained its autonomous status until the end of Antiquity. (Beševliev 1966, 207-223) The only indicator of the size of the Roman settlement are the Late Roman walls. These walls are visible on aerial photographs. They enclose an area of about 17.5 ha, a figure that concurs with the estimate of the size of Dionysopolis' population, based on the evidence in the epigraphic record. (IG Bul: 14, Mihajlov ed. 1970, counts with 2000 to 3000 inhabitants in the early third century AD) Over 50% of the 15-km catchment of this settlement is arable. The administrative territory of Dionysopolis covered between 1000 and 1600 square km.

### 3. Durostorum

Durostorum was the garrison site of *Legio XI Claudia*. It is located on the outskirts of modern Silistra, close to the border between Bulgaria and Romania. (Map VI\_47) The first, permanent legionary camp was built at the end of Trajan's Dacian campaigns, although it is possible that the military had been present in this area by the second half of the first century AD. (Gudea 2005, 434) In the course of the late second century AD, parts of the *canabae legionis* were promoted into a *municipium*. (Doruțiu-Boilă 1979; Gerov 1980, 349-359; Ivanov 2003, 75-86, summarizes the scholarly opinions about the *municipium* of Durostorum) Some scholars have argued that the *municipium* was a civilian settlement, located slightly over two km to the east of Durostorum, but their sole argument is the analogy with the double towns in the Pannonian provinces. (Ivanov 2003, 81-83; Donevski 2009, 105-130; Tomas 2017) Archaeological excavations at this site have revealed a humble settlement of potters, with very little evidence of public buildings. (Boyanov 2010, 53-59) The built-up area of Durostorum could measure anywhere between 50 and 100 ha (Donevski 2009, Figure 1; Tomas 2017) The *canabae* of the legion are buried under modern Silistra and only small fragments are known from the topography of the Roman town. About 40% of the 15-km catchment area of Durostorum is arable. There is no positive evidence of the size of the municipal territory. It could have ranged anywhere between 500 and 2000 square km.

### 4. Histria

Histria was a Milesian colony founded towards the end of the seventh century BC. (Pseud. Skym. 719; Pippidi ed. 1983) This was the northernmost Greek colony on the western Black Sea coast. (Map VI\_47) The earliest reference to Histria as a *polis* has been dated to the late fourth century BC. It is possible that the town was an *emporium* of Milet in the Archaic and Classical periods. (Avram 2006, 59-67) After a period of crisis in the Late Hellenistic and Early Roman periods, Histria experienced a period of renewed growth in the period between the beginning of the second century AD and the mid-third century crisis. (Pippidi ed. 1975) The outer walls of the town, built in the early second century AD, enclose an area of about 17-18 ha. (Alexandrescu 1978, 331-342; Höckmann, Peschel, Woehl 1996-1998, 55-102) The built-up area could not have been larger than the walled area. About 40% of the 15-km catchment area of this settlement is arable. Scholars have argued that the territory of Histria spread to the Danube on the north, but this argument is based on a one-sided reading of the document known as the *horothesia* of Laberius Maximus. (ISM I: 67-68; Pippidi ed. 1983; Avram 2006, 66-67) Other sources indicate that the town governed a territory not larger than 2000 square km.



### 5. Marcianopolis

Marcianopolis was a town founded in the south of the Dobroudja Plateau. (Map VI\_53) Traditionally, scholarship has seen Marcianopolis as one of Trajan's foundations in Thrace, later joined to Moesia Inferior, but the earliest evidence of urban life at this site – local coinage, monumental buildings, references in the historical sources – does not predate the third century AD. (Velkov ed. 1979, 328-340; Gerov 1980, 289-312; Tačeva ed. 2004) Like the rest of the towns in the eastern Balkans, Marcianopolis had been founded in accordance with the Hellenistic tradition. (Gerov 1980, 296-299) The walled area of Marcianopolis has been estimated at nearly 70 ha, but this figure pertains to the Late Antique town. (Velkov ed. 1979, 334) It is symptomatic that the third century amphitheatre of Marcianopolis had a seating capacity of not more than 3500, a population that could be easily fitted into a town of 20-30 ha. (Gerov 1980, 293) The research at the urban necropolis also suggests that the town had expanded in the period of the Late Empire. (Minchev 2007, 57-69) Over 70% of the 15-km catchment of the settlement is arable. The administrative territory extended between 1000 and 2000 square km.

### 6. Nicopolis ad Istrum

Nicopolis ad Istrum, located in the Rosica Valley, north of Veliko Târnovo, was another Trajanic foundation in Thrace. (Map VI\_47; Ptol. III 11.7; Amm. Marc. XXXI 5.15) This town and its territory were joined to Moesia Inferior during the reign of Septimius Severus. (Gerov 1998, 437-467; Tačeva 2004, 58-78) Like in the majority of the Thracian towns, Greeks and Orientals were an important element in the urban population. In fact, the bulk of the inscriptions that refer to Roman citizens have been discovered in the hinterland of Nicopolis ad Istrum. (Gerov, 1997, 211-314; Poulter ed. 1995) The walls of the town, built in the last quarter of the second century, enclose slightly over 20 ha. (Ivanov, Ivanov 1994, Poulter 1999, 1-54) Geophysical research has revealed a settlement *extra muros*, but the exact extent of the built-up area cannot be determined precisely. (Strange 1995, 259-267) Almost 80% of the market catchment of this settlement is arable. There are a number of different opinions regarding the extent of the territory of Nicopolis. (Poulter 2003, 203-213; Tačeva 2004, 62-63; Ruscu 2007, 214-229) Following the distribution of the funerary inscriptions of the town officials and the Rufinus stones, we have estimated the size of the territory of Nicopolis between 1200 and 2800 square km.

### 7. Novae

The legionary camp of Novae was founded at a highly strategic crossing of the Danube; a point at which it becomes feasible to leave the Danube Road and continue by land in the direction of the Black Sea or Mount Haemus. (Map VI\_54; Ptol. III 10.5; Sarnowski 2007, 15-

23) Novae had been occupied as early as the middle of the first century by *Legio VIII Augusta*. Under the Flavian emperors, this legion was replaced by the I Italica. (Gerov 1980, 113-118) A few inscriptions reveal that Novae had received a municipal charter by the Severan period. (Kolendo, Božilova eds. 1997) As in the case of the other legionary camps in the Moesian provinces, there is no clear evidence of a separate civilian town near the legionary camp. The remains discovered at a site located 2.2 km to the east of the camp cannot be described as the vestiges of an urban settlement. (Tomas 2015, 881-887; Tomas 2017, has estimated the size of this settlement at 15 ha) The combined area of the legionary fort and *canabae* measures almost 100 ha and, even if we add the site of Ostrite Mogili to this figure, Novae would still be visibly smaller than the Pannonian double towns. (Sarnowski *et al.* 2014, 177-203; Tomas 2015, Figure 1) Slightly over 40% of the 15-km catchment of this town is arable. The spread of funerary inscriptions of the veterans of *Legio I Italica* indicates that the administrative territory measured between 1800 and 2400 square km.

### Noviodunum

Noviodunum was an auxiliary fort and a port of the Moesian fleet which occupied the last crossing of the Danube before its delta. (Map VI\_47; Barnea 1988, 53-60; Gudea 2005, 458-459) Noviodunum is recorded as a *polis* by Ptolemy, whereas a few late second century inscriptions refer to its municipal status. (Ptol. III 10.2; Barnea 1988, 54; Baumann 2008, 189-206) According to the available plans of the site, the combined area of the fort and the civilian settlement measures between 12 and 15 ha. (Simion *et al.* 1994-1995, Figure 1; Lockyear *et al.* 2005-2006, 121-158) Only about 15% of the 15-km catchment of this settlement is arable. The administrative territory of the *municipium* measured between 600 and 1400 square km.

### 9. Odessos

Odessus was founded by the Dorian colony Miletus in the early sixth century BC, at the site of the modern port-town of Varna. (Map VI\_47; Gočeva 1978, 288-298; Velkov ed. 1979, 165) Not much is known about this town after the Roman conquest in the first century BC but, by the second half of the second century AD, the walled area of the town had expanded to over 35 ha. (Gočeva 1978, Figure 2) About 23% of the 15-km catchment of this town is arable. A few inscriptions discovered in the countryside of Odessos suggest that its territory measured between 600 and 1100 square km.

### 10. Oescus

The remains of this ancient town have been found near modern Gigen, Bulgaria, on the right bank of the Danube. (Map VI\_47) It was founded as the garrison site of *Legio V Macedonica*, in the first half of the first century AD. (Gerov 1980, 1-21; Kabakčieva 2000) After

the Dacian campaigns of Trajan, the legion had moved to Troesmis and Oescus had been promoted into a colony. (Boyanov 2008, 69-76) The Late Roman walls of the town enclose an area of 28 ha, but it should not be excluded that only a segment of the Early Roman town was enclosed by these walls. (Ivanov 1980, 188-191; 71) Almost one-half of the 15-km catchment of Oescus is arable. The inscriptions found in the countryside are not particularly helpful in determining the size of the *ager*. It could have covered between 1500 and 3000 square km, depending on the interpretation of the *regio Dianensium*, recorded epigraphically in the area south of the colony. (Gerov 1997, 284-291)

### 11. Tomis

Like Histria, Tomis was a colony of Milet founded in the sixth century BC, at the site of modern Constanța in Romania. (Map VI\_47; Pseud-Skym. Vers. 774) However, the earliest signs of Tomis' autonomy – coinage – do not predate the third century BC. (Doruțiu-Boilă 1975, 151-160) In fact, this settlement has been recorded as an *emporium* in the first half of the third century BC and, according to Strabo, Tomis was a *polichnion* in the first century BC. (Memn. Frg. 21; Buzoianu, Bărbulescu 2012) Nevertheless, by the early second century AD, Tomis had become the most important among the colonies on the western Black Sea Coast and the capital of the *pentapolis*. (Doruțiu-Boilă 1975, 154; Buzoianu, Bărbulescu 2012, 147) It has been suggested that the walled area of the town in the early second century AD measured about 32-33 ha, almost twice the size of the Hellenistic town. (Gudea 2005, 483; Buzoianu, Bărbulescu 2012, 137) The town continued to grow in Late Antiquity, when its walls enclosed an area of over 40 ha. (Alexandrescu-Vianu 2009, 27-46) About 30% of the 15-km catchment of this settlement is arable. Depending on the status of the communities located on the Danube *Limes*, the administrative territory of Tomis covered between 700 and 1500 square km.

### 12. Troesmis

Troesmis was the garrison site of *Legio V Macedonica* in the period between Trajan's Dacian campaigns and the onset of the Marcomannic crisis. (Doruțiu-Boilă ed. 1980, 154-159) It is located on the Danube, in Romanian Dobroudja. (Map VI\_47) The fortuitous discovery of two tablets from the municipal law has confirmed that the town was granted a municipal charter under Marcus Aurelius. (Doruțiu-Boilă 1972, 133-144; Eck 2013, 199-213) The name Troesmis appears much earlier in the written sources, but recent archaeological research at this site has shown that the pre-Roman *oppidum* of Troesmis was not located at the site of the later legionary camp and *municipium*. (Ovid. Ex.Pont. IV 9.79; Alexandrescu, Gugl 2014, 289-306) This integrated, on-site survey project has shown that the combined area of the fort and *canabae* measure not more than 40 ha. (Alexandrescu, Gugl 2014, Figure 5) There is no

evidence of a separate, civilian settlement near the site of the legionary camp. Approximately 35% of the market catchment of this town is arable. The municipal territory extended between 700 and 1400 square km.

### 13. Tropaeum Traiani

The remains of this town lie in Romanian Dobroudja, at a short distance from the triumphal monument erected by Trajan to commemorate his victory over the Dacians in the first Dacian war. (Map VI\_47; Barnea, Barnea *et al.* 1979) This settlement is recorded only in the Late Roman sources, but inscriptions, dated as early as the reign of Marcus Aurelius, record it as a *municipium*. (AE 1964: 521; Doruțiu-Boilă 1978, 245-247, opts for an early second century date) Tropaeum Traiani had been thoroughly reconstructed in the early fourth century and the Early Roman phase is represented only by residual finds. The early fourth century walls enclose an area of slightly over ten ha, but it is possible that the Early Roman town was smaller. (Barnea, Barnea *et al.* 1979, 35-45) Over 80% of the 15-km catchment of this town is arable. its administrative territory spread over an area of 1200 to 1500 square km.

## Moesia Inferior, subordinate settlements and settlements with uncertain status

### 1. Abritus

Abritus occupied the centre of a vast region in the northeast of modern Bulgaria. (Map VI\_47) This area did not have any major urban centres in the Early Roman period. At that time, Abritus was not an autonomous town, but a garrison settlement. This is revealed by the inscriptions discovered at this site, but the traces of the auxiliary fort and its *vicus* still have not been found. (AE 1957: 97; AE 1925: 66; Bérard 1992, 75-105) The 15-ha fort and all of the buildings discovered inside the walled area have been dated to the Late Roman period. (Ivanov 1980; Radoslavova, Dzanev 2003, 110-148) Because of the numerous surface finds discovered outside the city walls, it has been suggested that the built-up area of the settlement was much larger than 15 ha. However, the distribution of the *necropoleis* that surround the fort have confined the built-up area of this settlement to a maximum of 30 ha. (Radoslavova, Dzanev 2003, Figure 5) We are convinced that Abritus was a much smaller settlement in the period of the High Empire. Over 80% of the 15-km catchment area of Abritus is arable. The micro-region that gravitates towards Abritus, including the area of modern Šumen, measure between 6000 and 8000 square km.

### 2. Aegyssus

Aegyssus is recorded in the written sources as an *oppidum* of the Getae, captured by the Romans at the beginning of the second decade of the first century AD. (Ovid IV 7.21, 53; Doruțiu-Boilă ed. 1980; Suceveanu, Barnea 1991) It is located on the northern frontier

of the Late Roman province of Scythia Minor. (Map VI\_47) According to the epigraphic sources, Aegyssus was a garrison site with an adjacent *vicus*, which had evolved into a centre of a separate district by the late second century. (AE 2004: 1281; Petculescu 2006, 31-41) However, the few remains discovered at the putative site of this settlement date only to the Late Roman period. The walls of this settlement enclose an area of about two ha. (Gudea 2005, 460) Test-pit excavations have demonstrated that the built-up area extended beyond the walled perimeter, but its full extent cannot be determined. (Nuțu, Costea 2010, 147-162) Almost 50% of the market catchment of Aegyssus is arable. The district centered on Aegyssus extended over 900 square km.

### 3. Altinum

Altinum was an auxiliary fort on the Lower Danube *Limes*, located about 20 km west of Tropaeum Traiani. (Map III\_6) This site has not been researched systematically. The only plan of the fort was produced in the late nineteenth century, depicting a rectangular fort that measured about 1.6 ha. (Gudea 2005, 460) Because of the short inter-site distances, the agricultural territory of Altinum is limited to less than 15% of its 15-km catchment radius.

### 4. Appiaria

A building inscription discovered at this site indicates that the auxiliary fort of Appiaria had been founded by AD 76. (AE 1957, 307; Ivanov 2003, 63-68) It is located 25 km northeast of Ruse, on the Danube. (Map III\_6) This settlement is recorded by Ptolemy and, by the early fifth century, it had developed into an episcopate. (Ptol. III 10.4; Hier. *Synec.* 636.7) Little is known about the archaeology of this site. Topographical studies in the late nineteenth century have discovered that a large segment of the fort had been carried away by the Danube. Judging by this plan, the fort measured between 1.5 and two ha. (Ivanov 2003, 63-68) We can merely surmise that the built-up area was two to three times larger. Almost one-quarter of the 15-km catchment area of this site is arable.

### 5. Argamum

This coastal town on the western Black Sea coast was founded in the fifth century BC, as an *emporium* of the Greek colony of Histria. (Map VI\_47; Hecat. frg. 183; Pippidi ed. 1983; Avram 2006, 59-67) The status of Argamum in the Roman period is unknown. (Pippidi ed. 1983, 191-194) The hill-top settlement measures slightly over one ha, but it is likely that the built-up area was several times larger. (Gudea 2005, 479-480) Only about 14% of the 15-km catchment area of Argamum is arable. If Argamum was a centre of a separate administrative unit in the Early Roman period, its territory could not have measured more than 300-400 square km.

### 6. Arrubium

Arrubium was an auxiliary fort on the western Scythian *Limes*, known solely from the Late Roman itineraries. (Doruțu-Boilă ed. 1980; Map III\_6) The remains of the auxiliary fort are buried under a castle from the Ottoman period, but in view of the fact that this site was garrisoned by an *ala*-unit, it is likely that the walled area measured at least two ha. (Gudea 2005, num. 46) The size of the auxiliary *vicus* can only be predicted. Less than 20% of the 15-km catchment of this settlement is arable.

### 7. Augusta

Augusta was an auxiliary fort on the Danube *Limes*, close to the border with Moesia Superior. (Map III\_6) This fort is known only from the itineraries. (It. Ant. 220. 2; Ivanov 2003, 27-38) The earliest fort at this site had been founded as early as the middle of the first century AD. However, only segments of this phase are accessible. In the Late Roman period, the old camp had been replaced by a seven-ha large fort. (Ivanov 2003, 30; Gudea 2005, num.5) The size of the Early Roman fort has been estimated at two or three ha, but it is possible that the combined area of the fort and the *vicus* equalled the Late Roman fort in size. (Ivanov 2003, Fig. 5) About 40% of the 15-km catchment of this settlement is arable.

### 8. Axiopolis

The earliest written reference to this settlement, located at modern Cernavoda in Romania, (Map III\_6) is in Ptolemy III 10.5. Axiopolis became an ecclesiastical centre in Late Antiquity, but the epigraphic sources hint at a military presence at this site in the period of the High Empire. (CIL III 7485; Gudea 2005, 446) Because of the discovery of Hellenistic coins and *amphorae* at this site, it has been argued that Axiopolis was a pre-Roman *oppidum*. (Suceveanu, Barnea 1991, 30-32; Petculescu 2006, 31-41) The name of this settlement and its micro-location are indeed characteristic of pre-Roman *oppida*, but the plan of the architectural remains at this site suggests a Late Roman date. (Gudea 2005, 447) This plan is without a scale and it is difficult to estimate the size of this fort. Our best guess is that it measured not more than ten ha, an area that could correspond to the combined size of the fort and the *vicus* in the Early Roman period. Approximately one-third of the 15-km catchment of this settlement is arable.

### 9. Beroe

Beroe was a station on the *Limes* Road, located at modern Piatra, in Romanian Dobroudja. (Map III\_6) The Early Roman phase at this site is covered by the remains of the Late Roman town. (Doruțu-Boilă ed. 1980; Suceveanu, Barnea 1991, 56-69) A second century layer has been documented only at the necropolis and, cogently, it is impossible to determine the character of this site in the period of the High Empire. However, the absence of



dedications by the military seems to suggest that Beroe was not a garrison site. The possibility that this was a civilian settlement that emerged only after the partial demilitarization of this segment of the Lower Danube *Limes* and the founding of the *municipium* of Troesmis should not be excluded. The Late Roman walls of the town enclose an area of about one ha, surely too small for a functional ecclesiastical centre. (Gudea 2005, 451) It is impossible to predict the size of the hypothetical settlement outside fortification walls. About 37% of the 15-km catchment of this settlement is arable.

#### 10. Bizone

Bizone was a Hellenistic *emporium* on the western Black Sea coast. (Mirčev, Tončeva, and Dimitrov 1962, 21-109; Velkov ed. 1979) The written sources from the Late Hellenistic-Early Imperial period state explicitly that this *polis* had been deserted after a catastrophic earthquake. (Strabo VII 6.1; Pliny *H.N.* IV 11.44; Mihajlov ed. 1970) However, the small epigraphic corpus from this town shows that the settlement was still active under the High Empire. (Mihajlov ed. 1970, Num. 6-11) The Late Antique walls of Bizone enclose an area of three ha. In all likelihood, the Early Roman settlement was of a similar size. About one-third of the 15-km catchment of Bizone is arable.

#### 11. Camistrum

Camistrum was an auxiliary fort on the Danube *Limes*, mentioned in the Late Roman itineraries. (Tab. Peut. VI 5; Gudea 2005, 411) It is located near the mouth of the river Kibrica. Evidence of a permanent military presence in the area is scant and early. (AE 1912, 0187; Gerov 1997, 211-230) The Early Roman fort measured about one ha, but there is no concrete estimate of the size of the *vicus*. We have estimated the built-up area of this garrison settlement at four ha. About 30% of the 15-km catchment of this site is arable.

#### 12. Capidava

Capidava was one of the auxiliary forts on the Lower Danube, built on the eve of Trajan's Dacian campaign. (Florescu 1965; Gudea 2005, 448) It is located on the western Scythian frontier. (Map III\_6) Capidava had been thoroughly rebuilt in the period of the Tetrarchy and in later centuries, and very little has survived of the Early Roman fort. Nevertheless, it is evident that the walls of the Trajanic fort measure about 1.5 ha. (Gudea 2005, 448) The spread of the surface remains visible on aerial photographs suggests that the built-up area of Capidava was not larger than five ha. About 35% of the 15-km catchment of this settlement is arable. The epigraphic sources reveal that Capidava was a centre of a separate district, with its own magistrates. (Doruțu-Boilă ed. 1980) Typically of the districts in the *Limes* zone it was relatively small, covering about 900 square km.

#### 13. Carsium

Carsium was an auxiliary fort on the Danube *Limes*, possibly established as early as the Flavian period. (Mihailescu-Bîrliba, Piftor 2006, 209-216) It is located near modern Hârșova, on the western Scythian *Limes*. (Map III\_6) The first stone fortification was constructed by the *ala II Hispanorum et Aravacorum* in AD 103. (ISM V: 94; Doruțu-Boilă ed. 1980, 119-120) The size of the walled area is about one ha. (Gudea 2005, 450) The combined area of the fort and the *vicus* could not have been larger than five ha. Because of the short inter-site distances, only about 13% of the 15-km catchment of Carsium is arable.

#### 14. Cimbrianis

Cimbrianis was an auxiliary fort on the Lower Danube *Limes*, located about a dozen kilometres west of Durostorum. (Map III\_6) There is very little evidence of the founding date or the units that were garrisoned in this fort. (Gudea 2005, 440-441) According to the plan of the fort, it measured about two ha. The size and location of the *vicus* can only be surmised. Approximately 28% of the 15-km catchment of this settlement is arable.

#### 15. Cius

Cius was an auxiliary fort on the western Scythian *Limes*, located near modern Gârliciu. (Map III\_6) It has been recorded in the Antonine Itinerary and in the late-fourth century list of dignitaries in the eastern Empire. (It. Ant. 224.5; Not. Dig. Or. XXXIX) It can merely be supposed that this auxiliary fort was founded in the Flavian period or under Trajan. The auxiliary fort measure about 1.4 ha, but the built-up area can only be guestimated. (Gudea 2005, 451). Over 40% of the 15-km catchment of this settlement is arable.

#### 16. Dimum

Dimum was an auxiliary fort on the Lower Danube and a station of the Illyrian *portorium*. It is located near modern Belene, in Bulgaria. (Map III\_6) This outpost has a great strategic importance, because it occupies the meeting point of three frontier-lines: the *Limes Transalutanus*, protecting the eastern frontier of Dacia Inferior, the Danube *Limes* and the former frontier between Roman Moesia and the Thracian client-kingdom. (IL Bulg 237; ISM I: 68; Gerov 1980, 147-167; Tačeva 1996, 178-182) Dimum retained its importance throughout Antiquity and it undergone many reconstructions and repairs. At present, only the perimeter of the Late Roman fort has been preserved on the surface. It measures about four ha, but the fact that its western wall does not rest on Early Roman foundations could indicate that the Late Roman fort had been expanded in this direction. (Mitova-Džonova 2003, 39-55) The built-up area of Early Roman Dimum could not have been much larger than five ha. About 45% of the 15-km catchment of Dimum is arable. The Late Roman sources indicate that Dimum

was the centre of a separate district, covering up to 1500 square km.

### 17. *Dinogetia*

Dinogetia was the name of an auxiliary fort on the Lower Danube, whose location has not been determined. (Map III\_6) Dinogetia is mentioned not fewer than three times by Ptolemy, but the archaeological remains at this site do not predate the period of the Tetrarchy. (Ptol. III 8,2; 10, 1; 10, 5; Barnea 1969) Therefore, it has been assumed that the Early Roman fort had been located at the anonymous site near modern Barboși, on the left bank of the Danube. (Doruțu-Boilă ed. 1980; Suceveanu, Barnea 1993, 159-179) The Late Roman fort, constructed at the time of the Tetrarchy measures over 1.2 ha. (Suceveanu, Barnea 1991, 185-187) Nearly 30% of the 15-km catchment of this settlement is arable.

### 18. *Halmyris*

Halmyris was an auxiliary fort on the northern Scythian *Limes*. (Map III\_6) This is one of the rare forts on the Danube *Limes* that occupied the site of an earlier *oppidum*. (Suceveanu, Zahariade 1987, 87-96; Suceveanu, Barnea 1993, 159-179) However, the complex stratigraphy at this site seems to indicate that it had been abandoned by the end of the second century BC. (Zahariade *et al.* 1987, 97-106) The auxiliary fort could not have been larger than its two-ha large, Late Roman successor, (Suceveanu, Zahariade 1987, 87-88) but the extent of the *vicus* has not been determined. (Suceveanu, Zahariade 1986, 109-120) Halmyris was the last auxiliary fort before the Danube Delta and only about seven percent of its 15-km catchment area is arable.

### 19. *Kinton*

Kinton was a garrison site on the Danube *Limes*, located to the east of Appiaria. (Map III\_6) It is unclear if this four-ha large, earth-and-timber fort had been occupied permanently throughout the period of the High Empire. (Gudea 2005, 429) Slightly over 30% of the 15-km catchment of this settlement is arable.

### 20. *Libida*

Libida was a Late Roman town in the northern half of Scythia Minor. (Map III\_6; Procop. De Aed. IV 7; Suceveanu, Barnea 1993, 159-179) The bulk of the archaeological remains at this site have been dated to Late Antiquity. Only residual finds survive from the earlier phase. (Iacob *et al.* 2015, 559-573) Some scholars have suggested that Libida was a *civitas* capital in the Early Roman period, but this is not substantiated by the written sources, whereas the archaeology at this site suggests much humbler beginnings. (Suceveanu, Barnea 1991, 52-53) A likelier interpretation is that the Late Roman town developed from a road-side *vicus*. (Iacob *et al.* 2015, 559) The Late Roman walls enclose an area of about 23-24 ha, but the Early Roman settlement

must have been much smaller. (Iacob *et al.* 2015, 361-362) About 45% of the 15-km catchment of this settlement is arable.

### 21. *Montana*

This was a garrison site in the western, mountainous part of Moesia Inferior. (Map VI\_58) Montana was the putative centre of a mining district that had been constituted by the middle of the second century AD. (AE 1987 881; Velkov, Aleksandrov 1988, 271-277; Hirt 2010) The epigraphic sources also record Montana as a *praesidium* and a fort, but the Early Roman period at this site is represented only by residual finds. (An. Ep. 1927: 95; CIL III 12376; Aleksandrov 1994) The claims that Montana was promoted into a *municipium* are not founded on solid evidence. (Rankov 1983, 40-73) The Late Roman fort identified with the centre of the district measures about one ha. (Aleksandrov 1994, 67-102) Almost two-thirds of the 15-km catchment of this site is arable. Montana was the centre of a large district, extending over more than 4500 square km. (CIL III 12385, IL Bul: 188; Velkov 1980, 85-101)

### 22. *Nigrinianis*

Nigrinianis was an auxiliary fort on the Danube *Limes*, located to the west of Durostorum. (Map III\_6) It was probably founded under Domitian. (Tab. Peut. VII.2; Ivanov 2003, 70-74; Gudea 2005, 432) It is unclear if this settlement had been renamed Candidiana under the Tetrarchy or if these were two different settlements. (Velkov 1980, 103-109) Only a segment of the Late Roman circuit wall has been revealed, insufficient to estimate the size of the walled or the built-up area of the Early Roman settlement. (Ivanov 2003, Figure 2) According to an old plan of this site, Nigrinianis was a quadrangular fort that measured slightly over ten ha. (Gudea 2005, 432) This is an unlikely size for an Early Roman auxiliary fort and the estimate could refer to the Late Roman walls and, possibly, to the combined area of the fort and *vicus* in the preceding period. About 35% of the 15-km catchment area of Nigrinianis is arable.

### 23. *Piretensium*

Piretensium is the name of an *emporium* of Nicopolis ad Istrum. It has been recorded only in a couple of inscriptions. (CIL III 12415, 12417; Zawadski 1964, 531-538; Gerov 1980, 187-209) These documents were discovered in secondary use; a fact that has complicated the question of the location of this settlement. (Mihajlov ed. 1958; Zawadski 1964, 534) The precise location of Piretensium has an important implication for the territorial extent of Nicopolis ad Istrum, because most scholars agree that this was an *emporium* of Nicopolis in Moesia Inferior. (Tačeva 2004, 58-78) The settlement had probably lost its former role after Nicopolis had been joined to Moesia Inferior under the Severans. On the basis of comparative evidence, it can be inferred

that Piretensium was a settlement not larger than five ha. (cf. the case of Pizos in Thrace)

#### 24. *Sacidava*

Sacidava was the southernmost fort on the Scythian section of the Lower Danube *Limes*. (Map III\_6; Scorpan 1981, 98-102; Suceveanu, Barnea 1991, 59) The Early Roman camp has been buried under the remains of the Late Antique fort. However, the epigraphic record indicates that Sacidava was the garrison site of a *miliaria* unit and it must have measured at least two ha. (Petculescu 2006, 31-41; Gudea 2005, 443-444) We can only predict that the built-up area was three times the size of the auxiliary fort. Because of the short inter-site distances, only about five percent of the 15-km catchment of this settlement is arable.

#### 25. *Salsovia*

Salsovia was an auxiliary fort on the northern Scythian *Limes*, near modern Mahmudia. (Map III\_6) It is recorded in the Late Roman sources. (It. Ant. 226, 3; Not. Dig. Or. XXXIX; Doruțu-Boilă ed. 1980, 297) The Early Roman walls enclose an area of approximately two ha. (Gudea 2005, 461) All that survives from the Early Roman civilian settlement is a military diploma and small number of accidental finds. (Doruțu-Boilă ed. 1980, 297) Almost one-quarter of the market catchment of this settlement is arable.

#### 26. *Sexaginta Prista*

Sexaginta Prista was an auxiliary fort on the Danube *Limes*, located in modern Ruse, in Bulgaria. (Map III\_6) Scholars believe that it had been founded by the Flavian Period. (Velkov 1980, 20-40) There is no positive evidence in support of this dating, except for the name of the fort that implies that Sexaginta was the seat of the Moesian fleet. (Velkov 1980, 36-37) This settlement was important enough to be mentioned by Ptolemy. (Ptol. III 10.10) Sexaginta Prista has been occupied continuously until the present day and little has survived from the Early Roman period. (Stančev 2003, 56-62) We have merely assumed that, in terms of size, it did not differ from the typical auxiliary fort. Over 40% of the 15-km catchment of this settlement is arable.

#### 27. *Sostra*

Sostra was a station on the road Oescus-Philippopolis, located at modern Lomec, near the Trojan Pass. (Gerov 1997, 211-230; Madžarov 2009; Map III\_12) It has been identified only thanks to the fact that a *quadriburgium* had been built at this site under the Tetrarchy. It measures slightly over one ha and, together with the adjacent civilian settlement, they could not have measured more than three to four ha. Less than 15% of the 15-km catchment of this settlement is arable.

#### 28. *Tautiomosis*

Tautiomosis was one of the rare *vici* known from the western half of Moesia Inferior. The discovery of an inscription that mentions this settlement has led scholars to identify the findspot of the inscription with the site of Tautiomosis, but this is by no means certain. (Binev 2003, 160-182; Martemianov 2012, 40-52) Unlike the great majority of the *vici* in the western part of Moesia Inferior, Tautiomosis had local magistrates. (AE 1957:99; Binev 2003, 172-173) The surrounding area of the putative site of this settlement has a high agricultural potential. Over 60% of the 15-km catchment is arable.

#### 29. *Tirizis*

Like Bizone, Tirizis was a pre-Roman settlement on the western Black Sea coast, located on Cape Kaliakra. (Map III\_6) Tirizis had declined by the Late Hellenistic period. In Strabo's account, Tirizis stands for a deserted cape, not a settlement. (Strabo VII 6.1; Mihajlov ed. 1970) The site was reoccupied only in Late Antiquity. (Balkanska 1980, 27-45) The walls of the Late Roman fort enclose an area of at least ten ha. Less than 20% of the 15-km catchment of this settlement is arable.

#### 30. *Transmarisca*

Transmarisca was an auxiliary fort on the Lower Danube, located opposite the mouth of the river Argeș, the ancient Marisca. (Map III\_6; Velkov 1980, 49-54) There are hints in the epigraphic record that the settlement was founded under the Flavian dynasty. Transmarisca is included in Ptolemy's list of places in Moesia Inferior. (Ptol. III 10.5; Velkov 1980, 51) Like most of the forts on the Lower Danube, Transmarisca was re-built in Late Antiquity and only fragments of the Early Roman phase survive. The Late Roman walls enclose an area of about six ha and this figure seems like a reasonable estimate of the combined area of the Early Roman fort and *vicus*. (Gudea 2005, 429-431) About 20% of the 15-km catchment of Transmarisca is arable.

#### 31. *Trimamium*

Trimamium was an auxiliary fort on the Lower Danube, located near modern Tutrakan in Bulgaria. (Map III\_6; Gudea 2005, 427; Torbatov 2010, 41-57) This settlement is mentioned by Ptolemy. (Ptol. III 10.5) Admittedly, most of the archaeological finds discovered at this site do not predate the Severan period, but systematic excavations at Trimamium have only begun one decade ago. (Torbatov 2010, 41-57) Too little is known about the topography of this site to say anything concrete about the size of the fort and the adjacent settlement. The epigraphic sources suggest that Trimamium was the garrison site of a *cohors*-unit. (Torbatov 2011, 78-97) In view of this fact, one ha for the walled area and four ha for the built-up area seem like reasonable size-estimates. Over 40% of the 15-km catchment of Trimamium is arable.



### 32. *Trullensium*

Alongside Tautiomosis, Trullensium is the only *vicus* in the western half of Moesia Inferior showing epigraphic evidence of local magistrates. (CIL III 14412,3; Poulter 1980, 729-744) Earlier scholars have attempted to locate this *vicus*, but the identification of Trullensium with the Late Roman hill-fort near modern Roman in Bulgaria is anything but certain. (Map III\_12; Velkov 1958, 557-565) According to this early survey of the area, Trullensium measured about five ha. Slightly over 20% of the 15-km catchment of this settlement is arable.

### 33. *Ulmelum*

Ulmelum was one of the many *vici* which existed on the Dobroudjan Plateau in the period of the High Empire. (Poulter 1980, 729-744; Suceveanu, Barnea 1991) This settlement is attested as a *vicus* with annually elected magistrates in second century inscriptions. (Doruțiu-Boilă ed. 1980) Like Libida, Ulmelum has been located only because it had been transformed into a proper town in Late Antiquity. (Map III\_6; Suceveanu, Barnea 1991, 202-203) The walled area of this town in the sixth century measured between two and three ha, but the possibility that the settlement spread beyond the circuit wall should not be dismissed. Almost 85% of the 15-km catchment of this settlement is arable.

### 34. *Utus*

In the written sources, Utus has been recorded as a station on the *Limes* Road, probably named after the river Vit. (Tab. Peut. VII; Map III\_6) It is unclear if this settlement had been a garrison site prior to the conquest of Dacia. (Gudea 2005, 416) It is impossible to estimate the walled area of Utus with the help of the old plan published by Gudea. (Gudea 2005, 416) We can merely assume that this was a third-tier settlement measuring between five and ten ha. Almost one-half of the 15-km catchment of Utus is arable.

### 35. *Variana*

Variana was a road-station on the demilitarized section of the Danube *Limes*, in the western part of Moesia Inferior. (It. Ant. 220, 3; Map III\_6) Like Utus, it is possible that Variana had been a garrison site before the conquest of Dacia. (Gudea 2005, 412-413) There are absolutely no hints at the size of this settlement. The small number of inscriptions discovered at this site, as well as the absence of remains of monumental buildings, suggest that it fell within the same size-range as Utus. Approximately one-third of the 15-km catchment of Variana is arable.

### 36. *Unknown, Barboși*

This anonymous settlement near modern Barboși is located on the Siret, a left tributary of the Danube, above the last knee of the river. (Map III\_6) It is the head of an important road that links the Lower Danube with the Eastern Carpathians and the Transylvanian Plateau.

Because of its importance in the regional road-network, the Romans had occupied this site immediately after the conquest of Dacia. (Doruțiu-Boilă ed. 1980, 300-301; Suceveanu, Barnea 1991) Barboși was occupied throughout the period of the High Empire, until the Gothic invasions in the mid-third century. (Țentea, Oltean 2009, 1515-1523) It is possible that, prior to Late Antiquity, this site had been known as Dinogetia, a place mentioned in Ptolemy. (Ptol. III 10.5; Doruțiu-Boilă ed. 1980, 300) The topography of this settlement has been obscured by modern construction. (Gudea 2005, 455-457; Țentea, Oltean 2009, 1515-1523) One of the forts, dated to the reign of Antoninus Pius, measures over five ha. (Gudea 2005, 455) There is no data about the extent of the civilian component. About 30% of the 15-km catchment of this settlement is arable. The inscriptions discovered on the Danube's left bank, in the region of Barboși, reveal the presence of magistrates. It is possible that this area of approximately 200 square km was organized as a separate district. (Doruțiu-Boilă ed. 1980, 300)

### 37. *Unknown, Luncavița*

This was the site of an anonymous auxiliary fort on the northern Scythian *Limes*. (Map III\_6; Gudea 2005, 457-458; Tentea 2013, 1-7) If we are to go by the plan of the fort, the predominant phase of occupation dates to Late Antiquity. The walls of the fort enclose an area of slightly over two ha. There are no data about the built-up area of this settlement.

### 38. *Unknown, Mezdra*

This site is located at the northern foot of Stara Planina, on the road between Serdica and Oescus. (Map III\_7) Mezdra has been brought into the focus of scholarly attention mostly because of the corpus of inscriptions discovered at this site and in its surroundings. (Gerov 1997, 211-230) The latest excavations have revealed that the Late Roman fort had been preceded by a *praesidium*, built in the middle of the second century. (Torbatov 2015, 151-161) This small military outpost has been related to a building inscription that commemorates the construction of a large number of defenses in the territory of Serdica under Antoninus Pius. (IL Bul 211) It measures only about 0.2 ha but, if the remains of the adjacent civilian settlement are taken into account, the combined area of the two could have measured up to two or three ha.

### 39. *Unknown, Snyagovo*

This was a rural settlement with an adjacent pit-sanctuary, located in the southern half of the Dobroudja. It is included in this study because its size has been estimated at over 30 ha! (Torbatov 2007, 46-56) However, the large extent of the archaeological remains at this site is mostly due to their dispersed character and the presence of a Medieval phase that does not overlap fully with the settlement from the Roman

period. (Torbatov 2007, 47) The Roman settlement was most probably as large as any other average *vicus*.

## Thrace, autonomous towns

### 1. Anchialus

Anchialus was an *emporium* of the Milesian colony of Apollonia on the western Black Sea coast, north of the Bay of Burgas. (Map VI\_61; Mihajlov ed. 1970) The founding date of this settlement is not indicated in the written sources and its site has not been located. (Stojanov 1993, 17-25) Anchialus is attested as a capital of the synonymous Thracian *strategie* in the Late Hellenistic period. (IG Bul 743; Mihajlov ed. 1970, 323-324; Gerov 1980, 229-238; Tačeva 2004, 105-114) This settlement achieved a full autonomy under Trajan, when it was re-founded as Ulpia Anchialus. (IG Bul 369) It is possible that the Roman town was not founded on the location of the pre-Roman *emporium*. Almost nothing is known about the topography of Roman Anchialus. One researcher has estimated the built-up area at only five ha, unlikely in view of the size of the rest of the Trajanic foundations in Thrace. (Stojanov 1993, 17) About 15% of the town's 15-km catchment radius is cultivable. The administrative territory of Anchialus measured 700 to 800 square km.

### 2. Apollonia

Apollonia – modern Sozopol – was a colony of Milet, founded towards the end of the seventh century BC. (Pseud-Skym. 728-731; Herod. IV 93; Mihajlov ed. 1970, 343-347; Map VI\_60) During the Mithridatic Wars, Apollonia had remained a loyal ally of Mithridates and it was captured and destroyed by Luculus in 72 BC. (App. Ill. 30) Indeed, the rescue excavations at the site of the *necropoleis* of Apollonia have shown a sharp decline in the number of tombs and impoverished grave offerings, starting from the Late Hellenistic period. (Panajotova, Draževa 2003, 215-234) However, the epigraphic and numismatic evidence clearly demonstrate that Apollonia was an autonomous town at the time of the Severan dynasty. (IG Bul 396; Mihajlov ed. 1970) This town has been occupied continuously until the present day and it is impossible to estimate its size at any given period. The combined size of the promontory and the island of St. Kirik measure about 17-18 ha, but it is likely that the built-up area of the ancient town was smaller. (Panajotova, Draževa 2003, 219-222) Only about ten percent of the 15-km catchment of Apollonia is arable. The administrative territory of the town extended between 800 and 1200 square km.

### 3. Augusta Traiana

This ancient town is located near modern Stara Zagora, at the southern foot of Stara Planina. (Map VI\_60) In the Late Roman sources, this settlement is recorded under the name Beroe, a fact that has given rise to the theory that Augusta Traiana had been founded in the Hellenistic

period. (Amm. Marc. 27 4.12; Hier. 635.5; Mihajlov ed. 1964, 23-25; Hoddinott 1975, 199-202; Nikolov 1987, 96-107) However, archaeological excavations at the site of this town have failed to discover the pre-Roman predecessor of Augusta Traiana. (Nikolov 1972, 135-139; Nikolov 1987, 97) It seems that, like most Trajanic foundations in Thrace, Augusta Traiana was a newly founded town. The city walls, constructed in the late second century, enclose an area of 48 ha. (Nikolov 1987, 97) Approximately 36% of the 15-km catchment of this town is arable. The distribution of the official dedications commissioned by the *demos* and the *boule* of the town extend the administrative territory over more than 8000 square km.

### 4. Bizye

This town is located in modern Vize, in Turkish Thrace. (Map VI\_60) It is included in this study, because the few studies of ancient Bizye were written by Bulgarian scholars. Prior to the Roman conquest and the later municipalization of Thrace, Bizye had been the centre of a Thracian *strategie*. (IG Bul 743; Strabo VII 4.8; Ptol. III 11.7; Velkov 1978, 174-181) In a few second- and third-century inscriptions, the town has the epithet Ulpia, a fact that hints at the possible re-founding of Bizye under Trajan. (CIL VI 32640) An older topographic account of this site has pointed out the remains of a Late Roman fort at the citadel of the modern town. (Velkov 1978, 177-178) The hill-top section of this settlement measures not more than nine ha, but there is space for a much larger agglomeration at the foot of the hill. Nearly one-half of Bizye's 15-km catchment is arable. The large territorial extent of Bizye is evidenced by inscriptions discovered in the region of Mount Strandja, dozens of kilometres to the north of the town. (IG Bul 5659, 5660) Depending on the status of Mount Strandja, the territory of Bizye could have extended between 4000 and 6000 square km.

### 5. Cabyle

Cabyle was one of the rare towns in inland Thrace that originated in the pre-Roman period. It was founded near modern Yambol, in the Great Thracian Plain. (Map VI\_60) The earliest written references to Cabyle date to the Early Hellenistic period. (Demost. Orat. VIII. 44; Strabo VII 6.2; Velkov ed. 1982) In fact, archaeological excavations at this site have demonstrated that the earliest phase of occupation dates to the end of the second millennium BC. (Velkov 1982, 7-16) The epigraphic sources reveal the presence of the military in Cabyle in the Early Roman period, implying that it had a limited autonomy. (Velkov 1989, 247-256) However, this town had regained its autonomous status by the time of the Late Empire. Renamed Diospolis, it has been recorded as a sixth century bishopric. (Hier. 635, 8) The size of this archaeological site near modern Jambol has been estimated at about 30 ha, but it is possible that this estimate refers to the aggregate built-up area of all

settlement phases represented at Cabyle. (Velkov 1982, 8) Over 85% of the 15-km catchment of this settlement is arable. Cabyle occupied the centre of a district that measured between 2500 and 3200 square km.

### 6. Deultum

Deultum, alongside Apri, was the only Roman colony in Thrace. This town was founded in the area of the Bay of Burgas, but it was not a coastal settlement. (Map VI\_60) It was founded under Vespasian, mostly from veterans of *Legio VIII Augusta*. (Velkov ed. 1979, 299-304; Gerov 1980, 83-92) In view of the territorial relations in this part of Thrace, it has been argued that the territory of the colony was small and, consequently, Deultum could not have been larger than a few hundred veterans. (Velkov ed. 1979, 302) This corresponds to the relatively small size of the colony, measuring not more than 12-13 ha. (Balabanov 1999, 62-76) However, the territory of Deultum cannot be described as small. Depending on the juridical status of Mount Strandja, its *ager* measured between 1700 and 3200 square km. Over one-half of the 15-km catchment of Deultum is arable.

### 7. Messembria

Messembria was a joint colony of Megara, Chalcis and, perhaps Byzantion, founded in the Late Archaic period, but prior to the Scythian campaign of Darius I. (Pseud-Skym. 737-742; Herod. IV 93; Mihajlov ed. 1970, 255-257) It is located in modern Nesebar, at the point at which Stara Planina meets the Black Sea. (Map VI\_60) Like most of the Greek colonies on the western Pontic coast, Messembria had been an ally of Mithridates, but faced with an imminent Roman attack, it quickly changed sides. (App. Ill. 30) The town's fortunes after the Roman conquest are unknown. Messembria was an important coastal town in Late Antiquity and the Middle Ages. Most of the building remains postdate the period of the High Empire. (Venedikov ed. 1969) Excavations on the western city wall have demonstrated that the walled area had not changed dramatically over the centuries. The walls of Messembria enclose an area of 25 ha and, in view of the relief of the promontory, the built-up area must have been slightly smaller. (Venedikov 1969, 9-28) Twenty-six percent of the market catchment of Messembria is arable. The administrative territory of this town measures between 900 and 1300 square km.

### 8. Nicopolis ad Nestum

Nicopolis ad Nestum is located in the upper Nestos Valley, near modern Gârmén. (Map VI\_60) Although its name suggests that it had been founded by Trajan, the archaeological remains at the putative site of Nicopolis ad Nestum date mostly to the Late Antique period. (Mihajlov ed. 1966, 285; Gerov 1998, 60-71; Kuzmanov 1994, 24-35) The Late Antique city walls enclose an area of 12.5 ha and we think that this settlement had been of a similar size in the preceding period. (Hoddinott 1975, 185-186) Only about 15% of the 15-km catchment

area of Nicopolis ad Nestum is arable. Because of the low urban density in this part of Thrace, the territory of this *polis* could have measured anywhere between 3600 and 5250 square km.

### 9. Pautalia

Pautalia is located in modern Kyustendil, in the upper Strymon. (Map VI\_60) If we are to go by its epithet, Ulpia, Pautalia was another foundation of Trajan in Thrace. (CIL VI 32624; Mihajlov ed. 1966, 113-114) However, most scholars agree that Pautalia evolved from the central place of the tribe Dentheleti, who had been founded prior to the Roman conquest. (Gerov 1998, 72-184; Ruseva-Slokoska 1987, 82-95) Nevertheless, the pre-Roman phase at Pautalia has so far been represented only by stray finds. (Spasov 2002, 243-256) The walls of the town, constructed under Marcus Aurelius, enclose an area of almost 30 ha. (Ruseva-Slokoska 1987, 85.) The distribution of the urban *necropoleis* indicates that the built-up area was not any larger. (Stajkova-Aleksandrova 2002, 199-212) About 40% of the market catchment of Pautalia is arable. Most scholars attribute a very large territory to this town, in excess of 8000 square km. (Gerov 1998, 91-95; Kacarova 2004, 151-157) Because of the evidence of ancient mining in some of the regions attributed to the territory of Pautalia, we have made a more conservative estimate of about 2500 square km.

### 10. Philippopolis

Philippopolis is the only town in inland Thrace that shows clear evidence, both historical and archaeological, of its pre-Roman origins. (Mihajlov ed. 1961; Kolarova, Bospatčieva 2005, 69-83) Because of its geo-strategic importance – Philippopolis literally occupies the centre of Roman Thrace (Map VI\_60) – and the fertility of the surrounding area, the core of the ancient town had been occupied ever since the Early Iron Age. (Botušarova, Kesjakova 1980, 122-148; Kolarova, Bospatčieva 2005, 69-83) However, it has to be stressed that Roman Philippopolis was a very different town from its Hellenistic predecessor. At its peak, the Roman town was several times the size of the Hellenistic town, measuring roughly 75 ha. (Botušarova, Kesjakova 1980, Figure 1) Philippopolis was the capital of continental Thrace under the High Empire. (Andreeva 2013, 31-41) Approximately 90% of the 15-km catchment of this town is arable. It dominated the central part of Roman Thrace, with an administrative territory extending over an area of at least 7000 square km.

### 11. Serdica

Serdica, located in the centre of the Bulgarian capital, (Map VI\_60) was one of the seven Trajanic foundations in Thrace. (IG Bul 1902; Mihailov ed. 1966; Gerov ed. 1998, 253-405) Earlier scholars have argued that Roman Serdica had grown next to the central place of the *strategie* of Serdice. (most prominently Stančeva



1966, 230-235; Stančeva 1987, 61-74) However, recent excavations in the centre of modern Sofia have questioned the presence of pre-Roman phases in the central parts of the Roman town. (Dinčev, Gatev 1999, 49-60; Ivanov 2012, 76-81) To Ptolemy, Serdica is the name of a region not a *polis*. (Ptol. III 11.6) In the second and third centuries AD, the built-up area of Serdica was 12-15 ha. (Dinčev 2011, 61-74) Almost 75% of the 15-km catchment of this town is arable. Serdica was the centre of a vast administrative region, covering up to 8000 square km.

### Thrace, subordinate settlements and settlements with uncertain status

#### 1. Bessapara

Bessapara was a station on the Diagonal Road between Viminacium and Byzantion, located somewhere in the area of modern Pazardjik. (Mihajlov ed. 1961, 102; Madžarov 2009; Iliev 2014; Map III\_12) A votive inscription discovered in Philippopolis records the Bessapareni and the name of this settlement stands in an obvious relation to the Bessae, a Thracian people. (IG Bul 947; Strabo VII 5.12; Pliny IV 11.40; Tačeva 1997, 199-210) The itineraries roughly indicate the location of Bessapara, but we could not find any size-estimate or a topographic study of this site in the published literature. This section of the Diagonal Road was almost certainly in the territory of Philippopolis and, therefore, Bessapara was most likely a simple *mansio* rather than a *civitas* capital. Almost two-third of the 15-km catchment of this settlement is arable.

#### 2. Cilis

The Late Roman itineraries record a station named Cilis on the Diagonal Road, approximately 30 miles to the east of Philippopolis. (It. Ant. 136, 4; Mihajlov ed. 1961; Map III\_12) A fragment of a founding inscription discovered near the putative site of this settlement suggests that, like neighbouring Pizos, Cilis had been founded as an *emporium* on the initiative of the provincial governor. (IG Bul 1516; Mihajlov ed. 1961) This settlement could not have been larger than five ha. Almost 90% of the market catchment of this settlement is arable.

#### 3. Diocletianopolis

Diocletianopolis is located at the southern foot of Sredna Gora, in modern Hisarya. (Map III\_12) The genesis of this Late Antique town is unclear. The inscriptions discovered in secondary use in the Late Antique walls of Diocletianopolis suggest that, prior to Late Antiquity, it had been a part of the territory of Philippopolis. (IL Bul 1457; Mihajlov ed. 1961) Diocletianopolis was founded near a thermal spring and it is possible that the Late Antique town had developed from a spa-settlement in the northern periphery of the territory of Philippopolis. (Hoddinott 1975, 197-199) The Late Antique walls of Diocletianopolis enclose an area of 30

ha. (Madžarov 1993) Its Early Roman predecessor must have been considerably smaller. Over 50% of the 15-km catchment of this town is arable.

#### 4. Discoduratera

Discoduratera was an *emporium* and a station on the road between Augusta Traiana and Novae on the Danube *Limes*. (IG Bul 727; Mihajlov ed. 1958) It is located on the left bank of the Yantra, over 30 km to the south of Nicopolis ad Istrum. (Map III\_12) The official dedications to the reigning emperors commissioned by the local magistrates indicate that, until the reign of Aurelian, Discoduratera was in the territory of Augusta Traiana. From the late third century on, Discoduratera had been joined to the territory of Nicopolis ad Istrum. (IG Bul 727-733; Mihajlov ed. 1958, 137) According to the plan of this site, it consisted of a walled *praesidium* and an adjacent settlement, a layout that could very well date to the last phase of this settlement. (Ivanov 1980, 202-203) About one-third of the 15-km catchment of Discoduratera is arable.

#### 5. Germania

This settlement is located at modern Sapareva Banya, in western Bulgaria. (Map VI\_60) The epigraphic sources reveal that, in the Severan period, Germania had been the garrison site of *Cohors I Lucensium*. (CIL III 12337, 12338; Gerov 1998, 72-184; Stajkova-Aleksandrova, Stajkova 2003, 202-214) By the time of Late Antiquity, Germania had evolved into an autonomous town and a bishopric. (Hier. 654.5) The conventional thesis is that Late Roman Germania developed from the Early Roman auxiliary fort but, apart from stray finds, there are no remains earlier than the fourth century AD at this site. (Ivanov 1957, 211-230; Stajkova-Aleksandrova, Stajkova 2003, 202-214) The Late Roman fort encloses an area of 2.5 ha, surely too small for a functional town. Approximately one-quarter of the 15-km catchment of this settlement is arable. Germania occupied the centre of a military district that measured between 1200 and 2000 square km.

#### 6. Longinopara

A settlement with this name is recorded in a votive inscription, discovered at the sanctuary of Asclepius near Glava Panega, at the northern foot of Stara Planina. (IL Bul 209) Traditionally, scholars have assumed that Longinopara was the *vicus* adjacent to the sanctuary, despite the fact that communities and individuals from various parts of Thrace are represented in the corpus of votive inscriptions from Panega. (Martemianov 2012, 40-52; Pleiades ID: 217046) Hence, it has to be concluded that the remains of this settlement have not been discovered. Approximately one-quarter of the 15-km catchment of this sanctuary is cultivable.

### 7. *Parembole*

Parembole was a road-station and an *emporium* on the road between Philippopolis and Augusta Traiana, near modern Belozem, east of Philippopolis. (It. Burd. 568.6; Mihajlov ed. 1961, 245; Madžarov 2009) The site of this road-station has only roughly been determined. We have supposed that it was of a size comparable to that of Discoduratera or Pizos. At least 80% of the 15-km catchment of this settlement is arable.

### 8. *Pizus*

Pizus was a road-station and an *emporium* on the Diagonal Road, approximately 40 km south of Augusta Traiana. (Gerov 1958, 255-269; MacMullen 1970, 333-341; Velkov ed. 1979, 304-312; Map III\_12) The founding act for Pizus has been discovered almost completely preserved and, although the archaeological remains of this settlement still have not been located, we know a number of important details about the size and the role of this community in the regional settlement network. (IG Bul 1690; Mihajlov ed. 1964; for a different interpretation see Van Berchem 1937; 117-202) According to the founding act, Pizus was a community of 500 to 600 and, in terms of size and monumentality, it could not have differed substantially from the average rural settlement. The general area in which this site has been located is one of the most fertile parts of modern Bulgaria. Almost 100% of the 15-km catchment is arable.

### 9. *Scaptopara*

Scaptopara was one of the fifty-odd *komai* in Thrace, whose names have been preserved in the written record. (Velkov ed. 1979, 303; Martemianov 2012, 40-52) This village is recorded in a plea to the Emperor Gordian III, a source that illustrates that the village was the basic fiscal unit in the countryside in Roman Thrace. (Gerov 1980, 319-348) This village has not been identified archaeologically, but it should be sought somewhere in the Middle Strymon.

### 10. *Spinopara*

Spinopara was a *kome* in the hinterland of Pautalia, recorded in a dedication to Asclepius. (IG Bul 2192; Mihajlov ed. 1966) This settlement was located near a sanctuary of Asclepius, and the possibility that it functioned as a market place for this part of Pautalia's territory should not be excluded. The archaeological remains of Spinopara cannot be located. Because of the proximity to Pautalia, only about eight percent of the market radius of this settlement is arable.

### 11. *Sportela*

This *kome* in the territory of Pautalia is known thanks to the small corpus of inscriptions that include dedications to Zeus Sabasios by the local community. (IG Bul 2232-2235; ed. Mihajlov ed. 1966) Like Spinopara, Sportela was possibly the economic and religious centre of this part of the Struma Valley. The archaeological remains

of this settlement have not been recorded. (Gerov 1998, 151-153) About 12% of the 15-km catchment of Sportela is arable.

### 12. *Templum Iovis*

Templum Iovis has been identified with an *emporium* of Messembria, called Naulochus in the Hellenistic period. (Strabo VII 319; Mihajlov ed. 1970) It has been located near modern Obzor, about 20 km to the north of Messembria. (Map VI\_61) Only a handful of inscriptions have been found at the putative site of this settlement. Like most coastal settlements, only about five percent of the 15-km catchment of this site is arable.

### 13. *Tonzos*

Tonzos was a station on the road between Augusta Trajana and Anchialus, located on the river with the same name. (Ptol. III 11.7; Mihajlov ed. 1997; Map III\_12) The exact location of this settlement has not been determined. At least 50% of the 15-km catchment of the putative site of this station is arable.

### 14. *Unknown, Malko Târnovo*

If we are to go by the inscriptions that contain references to iron-smelting discovered near this town, in the southeast corner of modern Bulgaria, Malko Târnovo was a centre of a mining district in Antiquity. (Il Bug 1859-1869; Mihajlov ed. 1964; Map VI\_62) Because of the dispersed layout of this centre – consisting of a sanctuary and a series of *villae* and agglomerations – it is impossible to offer a concrete size-estimate. (Mihajlov ed. 1997) Less than five percent of this mountainous land is arable.

### 15. *Unknown, Pernik*

This pre-Roman hill-fort, located on the citadel of modern Pernik – Krakra –, had been abandoned by the time of the Roman conquest. (Map III\_12) It has been included in the database by mistake. The bulk of the archaeological remains at this site indicate that it was reoccupied only in Late Antiquity. (Čangova, J *et al.* 1981; Ljubenova 2003, 183-201)

## Dacia, autonomous towns

### 1. *Ampelum*

Ampelum was the centre of the gold-mining district in western Dacia and the seat of the *procurator aerariorum daciarum*. (Mrozek 1977, 95-109; Cauuet 2002, 33-60; Hirt 2010) It is located in western Transylvania, in modern Zlatna. (Map VI\_74) Like a number of other Dacian settlements, the remains of this town have been destroyed during modern construction. (Russu, Floca, Wollmann eds. 1984) In view of the local topography, this settlement could not have been larger than 20-25 ha. Less than five percent of the ten-km catchment of Ampelum is cultivable. The earliest written evidence of formal institutions – the *ordo* of the *municipium* – have

been dated to the Severan period. (IDR III/3: 282, 284) The mining district covered an area of 3000 to 4000 square km.

## 2. *Apulum*

Apulum was the garrison site of *Legio XIII Gemina*, founded immediately after the Roman conquest. (Piso ed. 2001) This fort was located in the centre of Roman Dacia and it was predestined to become the largest Dacian town and provincial capital. (Map VI\_74) By the reign of Aurelius, the civilian settlement to the south of the legionary camp had been promoted into a *municipium* and, by the reign of Commodus, into a colony. Parts of the *canabae*, presumably located to the south of the legionary camp, were likewise granted a municipal status under the Severans, and during the reign of Trajan Decius, it was promoted into an honorary colony. (Ardevan 1998; Piso ed. 2001, xv-xxi) Apulum was the only double settlement in this study-region outside the Pannonian provinces. The combined size of the legionary camp, the *canabae* and the civilian town was about 150-160 ha, although according to some scholars the agglomeration extended over an area of almost 300 ha. (Diaconescu 2004, 103-117) Over 60% of the ten-km catchment of Apulum is arable. The administrative territory of this town could have measured anywhere between 3000 and 5500 square km.

## 3. *Dierna*

Dierna occupied a highly strategic location in the Danube's Iron Gates, near the mouth of the river Cerna. (Benea 1975, 91-97; Russu ed. 1977, 63-64; Map VI\_71) This town was a station of the *portorium* and, by the Severan period, it had been granted a municipal charter. (IDR III 1: 35; IDR III 5: 14; Russu ed. 1977, 63-64) The remains of Dierna have been lost during the construction of the dam in the Iron Gates. According to the only available sketch of this site, it measured between ten and 20 ha. (Russu ed. 1977, Figure 31) Less than five percent of the ten-km catchment of this settlement is arable. Depending on the exact location of the western Dacian *Limes*, the territory of Dierna covered between 1200 and 2400 square km.

## 4. *Drobeta*

Drobeta was a Hadrianic *municipium*, founded at an important crossing of the Danube, east of the Iron Gates. (Florescu, Petolescu eds. 1977; Branga 1980; Ardevan 1998; Petolescu 2011, 83-109; Map VI\_71) The remains of the Roman settlement have been buried under the modern town and, therefore, little is known about its genesis. At the time of Trajan's Dacian campaign, Drobeta was an auxiliary fort and it is likely that the military presence at this site continued after the town had been granted a municipal status. (Balaci 2010, 215-221) This fort measures about 1.6 ha, but there is no evidence of the size of the *vicus* or the later *municipium*. In view of the size of the Late Roman

city walls, that enclosed an area of almost 50 ha, it is likely that the Early Roman town was larger than the ordinary auxiliary *vicus*. (Balaci 2010, 217-218) About one-quarter of the ten-km catchment of Drobeta is arable. Its administrative territory extended over an area of 2500 to 4000 square km.

## 5. *Napoca*

Napoca, the capital of Dacia Porolissensis, is located in modern Cluj. (Map VI\_70) The earliest written reference to Napoca is a milestone inscription dated to AD 108. (CIL III 1627; Daicoviciu 1977, 919-949) It has to be stressed that archaeological excavations at various sites within the ancient city have failed to discover evidence of pre-Roman occupation. (Diaconescu 2004, 117-120) This settlement was a part of new urban and road network. It was located near a major crossroad in northern Dacia and, by the reign of Hadrian, it had been promoted into a *municipium*. (Daicoviciu 1977, 921-922; Ardevan 1998) The town's walled area measures between 20 and 25 ha and the distribution of the *necropoleis* indicates that Napoca did not have extensive suburbs. (Daicoviciu 1977, 935-937; Diaconescu 2004, 117-120) Over 40% of the ten-km catchment of Napoca is cultivable. Its administrative territory covered between 1100 and 1500 square km.

## 6. *Porolissum*

According to most scholars, Porolissum was the main garrison site and the command centre of the northern Dacian *Limes*. (Balla 1980, 65-68; Gudea 1989; István 2005, 881-890) It is located near modern Moigrad, at an entrance into the Transylvanian Plateau. (Map VI\_70) This was one of the largest garrison sites in Transylvanian Dacia. The stone fortification encloses an area of almost seven ha. (Gudea 1989; Gudea 1997, 46-49) The extent of the settlement *extra-muros* has not been determined but, together with the auxiliary fort, they could have measured between 25 and 40 ha. This figure matches the estimate of the seating capacity of the amphitheatre in Porolissum of about 4000 spectators. (István 2005, 882-883) Porolissum had been granted a municipal status by the Severan period. (Balla 1980, 65-68) About 17% of the ten-km catchment of Porolissum is productive. The municipal territory extended over an area of 1800 square km, possibly less if the *Limes*-zone was divided into separate military districts.

## 7. *Potaissa*

Potaissa was the second legionary camp in Roman Dacia, established soon after the outbreak of the Marcomannic crisis. (Gudea 1997, 109-111; Fodorean 2013, 45-49) Like most settlements in Transylvanian Dacia, it is located in the Mureş Valley, near modern Turda. (Map VI\_70) It is possible that the legionary camp had been founded at the site of an earlier *vicus*, referred to in a milestone from the early second century AD. (CIL III 1627; Fodorean 2013, 45) The sources from the Severan



period record Potaissa as a *municipium*. (Ardevan 1998; Carbó-García 2002, 115-138) The legionary fort measures 23.5 ha, but it is impossible to estimate the size of the civilian component. (Fodorean 2013, 45) In view of the distribution of the *necropoleis* and the courses of the rivers that surround the legionary camp, we have suggested that the total built-up area of this agglomeration was about 60 ha. Almost 60% of the ten-km catchment of Potaissa is arable. Its administrative territory measures between 1200 and 1500 square km.

### 8. Romula

The genesis of this *municipium* on the Lower Olt has not been clarified fully. (Map VI\_77) According to the plans of the architectural remains made by the first researchers of this site, Romula had grown up at the site of an auxiliary fort. (Tudor 1968; Branga 1980, 64-69; Marcu 2005, 703-711) According to Tudor's plan, in the middle of the third century AD, Romula consisted of the so-called 'acropolis' – a fortified enclosure measuring between five and six ha – and an outer wall that enclosed an area of about 60 ha. (Tudor 1968, 32-37) It has been suggested that prior to its promotion into a *municipium* and a Roman colony, Romula had been called Malva, but this claim has not been accepted universally. (Speidel 1973, 169-177; Petolescu 1987, 157-172; Petolescu 2011, 83-109) About two-thirds of the ten-km catchment of this settlement is arable. The municipal territory measures between 1500 and 2500 square km, but the Thiessen Polygons predict a much greater territorial extent.

### 9. Sarmizegetusa

Sarmizegetusa was the only deductive colony in Dacia, founded less than a decade after the conquest of the province in AD 106. (IDR III 2: 1; Piso 2006, 211-339) It is located in the fertile Hațeg Basin, by the western entrance into the Transylvanian Plateau. (Map III\_10) The history of construction and modifications of the urban raster suggest that the town had flourished and expanded continuously over a period of a century and a half. (Diaconescu 2004, 89-103; Piso *et al.* 2006) The first signs of contraction and abandonment of public buildings coincide with the withdrawal of the Roman army and administration from Dacia. The walls of Sarmizegetusa enclose an area of 32.5 ha. (Eck, Lobüscher 2001, 263-269; Petolescu 2011, 83-109) This estimate does not take into account the extensive suburbia to the north and east of the city walls, although it has to be stressed that a large portion of the settlement *extra-muros* was covered by public buildings. Therefore, 50 ha is a more realistic estimate of the town's built-up area than the 70-75 ha proposed by some scholars. (Diaconescu 2004, 103) About 20% of the ten-km catchment of this town is arable, indicating that agrarian considerations were not all-important for the city-founders. At the time of its founding, the territory of Sarmizegetusa included almost the entire

civilian segment of the newly conquered province. By the time of the Severan dynasty, through a process of gradual municipalization of the *ager*, the territory of Sarmizegetusa had been reduced to an area of 1200 to 2200 square km. (Piso 1995, 63-82)

### 10. Tibiscum

The *municipium* of Tibiscum grew up at the site of a large garrison settlement, which guarded the western entrance into Transylvanian Dacia. (Benea, Bona 1994; Benea, Regep 2014, 67-84; Map VI\_75) The urban development at this site finds a close parallel in Porolissum and Micia. By the reign of Pius, the auxiliary camp had grown to about 5.5 ha, engulfing the two smaller auxiliary camps that preceded it. (Marcu 2005, 703-711; Benea, Regep 2014, 70-71) The earliest reference to the municipal institutions has been dated to the middle of third century, but it is likely that the town had been proclaimed a *municipium* by the time of the Severan dynasty. (Russu *ed.* 1977, 145-146) At the time, the built-up area of the settlement was almost 15 ha. (Benea, Regep 2014, 67-84) About 40% of the ten-km catchment of this settlement is arable. Given that it included the western Banat, the municipal territory covered an area of almost 4700 square km.

## Dacia, subordinate settlements and settlements with uncertain status

### 1. Acidava

The remains of this auxiliary camp on the Lower Olt have been destroyed during modern construction. (Map VI\_77) The only available plan of the fort has been made in the late nineteenth century. (Gudea 1997, 86-87; Bunoiu 2008, 105-116) According to this sketch, the combined size of the *vicus* and the auxiliary fort was less than three ha. Acidava is known for the relatively large quantities of imported *sigillata*. (Popilian, Ciucă 1986, 167-172) This finding could suggest that Acidava was a river-port, but this is not supported by any other positive evidence. Over 60% of the ten-km radius of this settlement is arable.

### 2. Ad Mediam

Ad Mediam was a healing sanctuary in the Transylvanian Iron Gates, known by the large number of votive inscriptions commissioned by the military and the provincial elite. (Oltean 2007; Benea 2010, 45-74; Map VI\_76) It has been suggested that the sanctuary had an adjacent settlement that functioned as a market place, but the ancient topography of this site has been lost. (Oltean 2007, 188-189) There are no concrete size-estimates for Ad Mediam. Less than five percent of the ten-km catchment of this site is cultivable.

### 3. Ad Pannonios

Ad Pannonios was a road station and an auxiliary fort in the Transylvanian Iron Gates, south of Tibiscum.



(Tab. Peut. VII 1; Gudea 1997, 32; Fodorean 2013) The fortification walls enclose an area slightly larger than one hectare and it can be assumed that the civilian settlement was not larger than two or three hectares. Like most of the settlements located in the Transylvanian Gorge, the agricultural potential of Ad Pannonios is tiny. Less than 15% of the ten-km catchment is arable.

#### 4. Aizizis

Aizizis was an auxiliary fort on the road Lederata – Tibiscum, on the outer line of the western Dacian *Limes*. (Map VI\_75) This site has not been researched and it is possible that Aizizis was a temporary fort, active only during the Dacian campaign of Trajan. (Gudea 1997, 30) The fortification walls enclose an area of 1.3 ha. Approximately 27% of the ten-km catchment of this site is arable.

#### 5. Angustia

Angustia was an auxiliary fort in the Upper Olt Valley. (Map III\_6) This was the easternmost fort in Roman Dacia, guarding the access from the Oituz Pass, in the eastern Carpathians. (Russu ed. 1988; Gudea 1997, 62-63) The earliest fort at this site had been founded by the reign of Trajan. At the time of the Severan period, the walls of the camp enclosed an area of about 2.5 ha. It can merely be assumed that the combined area of the fort and the *vicus* was in the region of seven or eight ha. About 30% of the ten-km catchment of this settlement is arable.

#### 6. Arcidava

Arcidava was an auxiliary fort and a station on the Lederata-Tibiscum road. (Tab. Peut VI 3; Fodorean 2013) In view of the fact that an auxiliary *vicus* grew up next to the fort, it is likely that Arcidava was a permanent fort. (Gudea 1997, 26-28) However, other scholars have argued that the fort had been abandoned under Hadrian. (Nemeth 2005, 689-696) It is possible that the site continued as a road-station. The walls of the fort enclose an area of over 2.5 ha. Almost two-thirds of Arcidava's ten-km catchment is arable.

#### 7. Arutela

Arutela was a *numerus* fort located in the Olt Defile. (Speidel 1973, 169-177; Map III\_6) The walls of the fort enclose an area smaller than one ha. (Gudea 1997, 91) The topographical conditions in the surroundings of this site indicate that the combined area of the fort and the *vicus* measured not more than two or three ha. Less than five percent of the difficult surroundings of this settlement is cultivable land.

#### 8. Bucium

Bucium was an important auxiliary fort on the western Dacian *Limes*. (Gudea 1997, 42-42; Visy 2009, 163-184; Map VI\_70) Its walls enclose an area of about 2.2 ha

but, together with the civilian component, Bucium could have measured at least six or seven ha. There is evidence of iron-smelting within the walled area, but little can be said about the scale of this activity. (Benea 2008, 410-430) Approximately ten percent of the ten-km catchment of this site is arable.

#### 9. Buridava

Buridava was the name of a pre-Roman *oppidum* and a Roman auxiliary fort on the Lower Olt. (Berciu *et al.* 1983, 109-113; Gudea 1997, 88-89; Map III\_6) Although they had the same name, these two settlements were not located at the same site. The walls of Buridava enclose an area of about one ha, and it can be supposed that the total built-up area of this settlement was not larger than four ha. Approximately one-quarter of the ten-km catchment of Buridava is arable.

#### tCaput Stenarum

Caput Stenarum was an auxiliary fort which guarded the northern entrance into the Olt Defile. (Gudea 1997, 69-70; Fodorean 2013, 38; Map III\_6) The walled area of the camp measures less than one ha but, together with the adjacent *vicus*, they must have measured at least two or three ha. About 13% of the ten-km catchment of this fort is arable.

#### 11. Castellum Artum

This settlement is known only from the epigraphic sources. In the wax tablets discovered in the ancient mining shafts in Rosia Montana, it is recorded as a place in the mining district of Alburnus Maior. (Russu ed. 1975) The archaeological remains of this site have not been discovered.

#### 12. Castra Trajana

Castra Trajana was an auxiliary fort and a road-station on the Olt *Limes*. (Râdoescu, Hortopan 2010, 25-50; Map III\_6) The remains of this fort have been carried away by the river and it has merely been suggested that it was about one ha large. (Gudea 1997, 89; Visy 2009, 163-184) Together with the civilian settlement, they probably measured between two and four ha. Only eight percent of the ten-km catchment of this settlement is cultivable.

#### 13. Certiae

Certiae was an auxiliary fort on the northern Dacian *Limes*, southeast of Porolisum. (Gudea 1997, 45; Franzen, Alexandrescu, Matei, Marcu 2007, 161-177; Map VI\_70) Judging by the size of the walled area, measuring over four ha, this was the garrison site of multiple units. The built-up area of the settlement could have measured up to 12 ha. Because of the short inter-site distances, only about six percent of the ten-km catchment of this site is arable.

#### 14. Cumidava

Cumidava was an auxiliary fort near modern Râșnov in the Olt Valley, identified with a settlement mentioned by Ptolemy. (Ptol. III 8.4; Russu ed. 1988; Map III\_6) The walls of Cumidava enclose an area of 1.3 ha and, together with the civilian component, this settlement could have been up to six ha in size. (Gudea 1997, 65-66) Over one-third of the ten-km catchment of Cumidava is productive.

#### 15. Germisara

The scholarly opinion is that the name Germisara was applied both to the auxiliary fort on the road along the Mureș and the thermal complex and settlement located five km to the north of the fort. (Ptol. III 9.4; Russu, Floca, Wollmann eds. 1984, 211-212, 227; Map V\_15) In this study, Germisara refers to the auxiliary fort and the adjacent *vicus*. Aerial surveys of this site have determined that the built-up area spread over 17 ha. (Oltean 2007, Figure 5.24) However, this was a fairly dispersed agglomeration and the built-up area was probably closer to 11-12 ha. Almost one-half of the ten-km catchment of Germisara is arable.

#### 16. Largiana

Largiana was an auxiliary fort on the northern Dacian *Limes* and a station on the road between Porolissum and Resculum. (Gudea 1997, 43-44; Visy 2009, 163-184; Fodorean 2013; Map VI\_70) The walled area of the fort measures about two ha. There is no information about the size of the *vicus*, but comparative evidence suggests it could have measured up to seven ha. Eight percent of the ten-km catchment of Largiana is arable.

#### 17. Micia

Micia was a major auxiliary fort on the western Dacian *Limes* and an important station on the road that linked Dacia and Pannonia Inferior, passing through the Great Hungarian Plain. (Balla, Tóth 1968, 69-78; Russu, Floca, Wollmann eds. 1984; Gudea 1997, 37-39; Map V\_15) This settlement was the *caput viae* of the salt road between Dacia and Pannonia and it functioned as a station of the *portorium*. (Benea 2007, 41-46; Benea 2008, 410-430) The auxiliary fort is approximately 6.5 ha, whereas the combined area of the fort and the *vicus* could have occupied up to 20 ha, but it is unlikely that this entire area was built-up. (Hanson, Oltean 2003, 101-117; Oltean 2007) The seating capacity of the amphitheatre implies a population of 1200 or a built-up area not larger than ten to 12 ha. (Russu, Floca, Wollmann eds. 1984, 55-57) Slightly over 20% of the ten-km catchment of Micia is productive.

#### 18. Optatiana

Optatiana was an auxiliary fort on the road between Napoca and Porolissum, in the interior of Dacia. (Fodorean 2013, 38; Map VI\_70) This camp still has not been identified. Only a handful of inscriptions have

been discovered at the putative site of this fort. (Gudea 1997, 101-102) It can merely be assumed that Optatiana did not differ from the average fort in terms of size. However, one inscription mentions an *ala milliaria* unit, a fact that could imply that the fort was larger than two ha. (CIL III 7644) Approximately 13% of the ten-km catchment of this site is arable.

#### 19. Pelendava

Pelendava was a road-station and a possible garrison site in Dacia Maluensis, located near modern Craiova. (Gudea 1997, 95-96; Fodorean 2013, 43-44; Map III\_6) The only surviving evidence of military presence in this area are the tile stamps of a *numerus*-unit. The site of the hypothetical fort has not been determined. Pelendava was located in a fertile area. Almost 80% of the ten-km catchment of the putative site of this settlement is arable.

#### 20. Pons Vetus

Pons Vetus was a station and an auxiliary fort on the *Limes Alutanus*, in the Olt Defile. (Gudea 1997, 94; Fodorean 2013, 43-44; Map III\_6) It has been suggested that the walls of this fort enclosed an area of about 1.5 ha, but this is not supported by a plan of the architectural remains. There is very little room for a large settlement *extra-muros* in the immediate surroundings of this site. The combined area of the fort and the *vicus* could not have been larger than five ha. Less than five percent of the ten-km catchment of this site is arable.

#### 21. Praetorium I

Praetorium was an auxiliary fort and a station on the road along the Cerna Valley that lead from Moesia Superior to Transylvanian Dacia. (Gudea 1997, 31-32; Fodorean 2013, 39-42) The walls of the fort enclose an area of about 1.6 ha. (Benea 2005, 697-702) The size of the civilian component can only be guesstimated at about three to four ha. Typically of this area, only five percent of the ten-km catchment of this site is productive.

#### 22. Praetorium II

The *Tabula Peutingeriana* records a station and an auxiliary fort with this name in the Olt Defile. (Tab. Peut VIII 1; Map III\_6) However, archaeological research in this area has revealed two closely spaced auxiliary forts. (Gudea 1997, 92-94) It is possible that one of the forts replaced the other, but the data are not sufficiently precise. The fort near modern Rakovița measures 1.5 ha and it is unlikely that the combined area of the fort and the *vicus* was greater than four or five ha. Less than five percent of the ten-km catchment of this settlement is arable.

#### 23. Resculum

Resculum was an auxiliary fort on the western Dacian *Limes*. (Gudea 1997, 39-42; Map V\_15) It was founded at



the time of the Dacian conquest or soon afterwards. In their last phase, dated to the Severan period, the walls of the camp enclosed an area of 2.6 ha. (Gudea 1997, 41; Fodorean 2013, 64-65) Together with the *vicus* that spread to the south and east of the camp, Resculum measured seven or eight ha. About ten percent of the ten-km catchment of this settlement is arable.

#### 24. *Rusidava*

Rusidava was a road-station and a possible auxiliary fort on the *Limes Alutanus*. (Tab. Peut. VII 4; Florescu, Petolescu eds. 1977; Gudea 1997, 87) However, the only artefacts discovered at the supposed site of this settlement are stamped tiles. Almost one-third of the ten-km catchment of this site is arable.

#### 25. *Salinae*

Salinae was a road-station and an auxiliary fort on the Imperial Road along the Mureş Valley, near modern Razboieni. (Tab. Peut. VIII 2; Gudea 1997, 105-106; Map VI\_70) Aerial surveys of this site have revealed the contours of a four-ha large auxiliary fort and an extensive auxiliary *vicus*. (Oltean 2007, 5.30; Varga 2012, 806-820) The combined area of the two measures between ten and 12 ha. Over 50% of the ten-km hinterland of Salinae is productive.

#### 26. *Samum*

Samum was an auxiliary fort on the northern Dacian *Limes*. (Gudea 1997, 51-53; Marcu 2005, 703-711; Map VI\_70) The fortification walls enclose an area of 2.7 ha, but there is no information about the size of the *vicus*. It can be assumed that the combined area of the two measures not more than ten ha, but Samum was probably a centre of a separate district and the possibility that this was a larger settlement should not be excluded. (AE 1957: 326; ILD 769) Samum governed a relatively small unit, covering roughly 400 square km. About 30% of the ten-km catchment of this site is arable.

#### 27. *Sucidava*

Sucidava was one of the settlements in Dacia that grew in importance only in the third century AD. (Tudor 1965; Branga 1980, 77-79) It is located on the left bank of the Danube, opposite the Moesian colony of Oescus. (Map VI\_77) Little is known about the genesis of this settlement. Earlier scholars believed that it grew up next to an auxiliary fort, which had been preceded by an *oppidum* of the Getae. (Tudor 1965, 25, 27-28) However, there is very little evidence of either a permanent military presence at this site or of a pre-Roman stronghold. The Late Roman walls of Sucidava enclose an area of over 30 ha, but it is reasonable to assume that the Early Roman settlement was smaller. Over 50% of the ten-km catchment of Sucidava is arable. By the middle of the third century, Sucidava had been promoted into an administrative centre of a region that covered between 1700 and 2000 square km.

#### 28. *Translederata*

Translederata was a bridgehead over the Danube, located opposite Lederata, modern Ram, on the left bank of the river. (Gudea 1997, 25; Map VI\_38) This outpost must have been founded by the time of the Dacian campaigns of Trajan, but it is uncertain if it had grown into a permanent garrison site. There is no information about the size of this fort.

#### 29. *Vicus Pirustarum*

This was a colony of the Dalmatian people of Pirustae in the Dacian gold-mining district. (Strabo VII 314; Mrozek 1977, 95-109) Its name has been preserved in one of the wax-tablets, discovered in the mining shafts in Alburnus Maior. (IDR I: 12; Russu ed. 1975) The remains of this settlement have not been discovered.

#### 30. *Unknown, Baneasa*

This was a site of an anonymous double fort on the *Limes Transalutanus*. (Gudea 1997, 72; Marcu 2005, 703-711; Bogdan- Cătăniciu 2009, 195-203; Map III\_6) The dating of this entire line of defences is problematic, but it is evident that the forts were not occupied permanently and there is very little evidence of civilian settlements. (Marcu 2005, 703-711) The combined size of the two forts measures two ha. Almost 100% of the ten-km catchment of this site is arable.

#### 31. *Unknown, Boroşneu Mare*

This was an auxiliary fort, located in the Upper Olt Valley, on the eastern Dacian *Limes*. (Map III\_6) Boroşneu Mare was the garrison site of an *ala*-unit, probably established soon after the end of the second Dacian campaign. (Székely 1980, 359-361; Russu ed. 1988, 259; Gudea 1997, 64) The fortified area measures over 2.5 ha, commensurate to the size of the garrisoned unit. There is no information about the size of the civilian settlement. Almost one-half of the ten-km catchment of this fort is arable.

#### 32. *Unknown, Brancoveneşti*

A short distance to the north of the modern village of Brancoveneşti, lie the remains of an anonymous auxiliary fort. (Map V\_15) Test probing at this site has revealed that it had been constructed in the aftermath of the Dacian conquest. (Gudea 1997, 56-57) The walls of the fort enclose an area of 2.5 ha. The presence of an auxiliary *vicus* to the south of the fort has been confirmed, but its extent is unknown. Approximately 45% of the ten-km catchment of this site is arable.

#### 33. *Unknown, Bulci*

Tiles produced by *Legio XIII Gemina* have been found near modern Bulci, in Arad County, Romania and researchers in the nineteenth century were able to observe some elements of the defences. (Gudea 1997, 23) It is possible that these are the remains of a temporary camp that date to the time of the Roman conquest of Dacia.

**34. Unknown, Bumbești**

Bumbești was the site of a double auxiliary fort on the road along the Jiu Valley, one of the main transversals that linked Transylvanian Dacia to the Danube. (Marcu 2005, 703-711; Map VI\_76) Only one of the forts was occupied continuously until the end of Roman Dacia. The walled area measures 1.4 ha and, together with the auxiliary *vicus* – located to the south of the fort –, they must have extended over an area of four or five ha. This settlement was located near a mountain pass and, cogently, less than one-quarter of its ten-km catchment is arable.

**35. Unknown, Călugăreni**

The remains of this 2.2-ha large fort are clearly visible on aerial photographs on the southern periphery of the village of Călugăreni, on the eastern Dacian frontier. (Gudea 1997, 57-58; Visy 2009, 163-184; Map V\_15) It is also possible to observe the contours of the auxiliary *vicus*, located to the west of the fort. The combined area of the two components of this settlement measure about seven ha. About 28% of the ten-km catchment of this fort is arable.

**36. Unknown, Câmpulung**

This was a site of a double fort on the *Limes Transalutanus* that guarded the Bren Pass, one of the most important links between the Olt Valley and the Great Wallachian Plain. (Gudea 1997, 79-80; Marcu 2005, 703-711; Map III\_6) Together, the two forts measure slightly over 1.5 ha. There is no evidence of a civilian settlement and it seems that the two forts were not occupied permanently. Less than ten percent of the ten-km catchment of this site is arable.

**37. Unknown, Catunele**

The remains of an anonymous auxiliary fort have been discovered at a distance of two km southwest of the modern village, at the southern foot of the Carpathians. (Protase 1980, 142; Gudea 1997, 97; Map VI\_76) This was an earth-and-timber camp with a single phase, and it is possible that it had been occupied temporarily. However, the remains of the *vicus* to the north of the camp, speak in favour of a permanent outpost. The walled area measures 1.7 ha. Approximately one-quarter of the ten-km catchment of this settlement is arable.

**38. Unknown, Cenad**

Remains of an anonymous fort have been reported near modern Cenad, in Banat, Romania, but this site has not been researched systematically. (Gudea 1997, 24) Like Bulci, this site belongs to the so-called outer line of the Dacian *Limes* and it is uncertain if it had remained under a continuous control of the governor in Apulum.

**39. Unknown, Cincșor**

This was the garrison site of the *Cohors Flavia Bessorum*, located in the Middle Olt. (Petolescu 1987, 157-172; Map V\_15) The bulk of the archaeological remains at this site have been ploughed out and it is impossible to estimate the walled or the built-up area. (Gudea 1997, 67-68) It can merely be assumed that, in terms of size, Cincșor did not differ substantially from the majority of the auxiliary forts. About 40% of the ten-km catchment is arable.

**40. Unknown, Cristești**

This site near modern Cristești, in the Upper Mureș Valley, was located roughly halfway between Apulum and the eastern Dacian *Limes*. (Gudea 1997, 103; Oltean 2007; Map VI\_73) Only fragments of stamped tiles indicate a military presence at this site. Cristești is known primarily as a centre of pottery production. (Székely 1980, 359-361; Benea 2006, 337-360) There are no data about the size of this settlement, but we suspect it was a major *vicus* in the size-range of five to ten ha. Over 90% of the ten-km catchment of this site is productive.

**41. Unknown, Comâlau**

This was a site of a small *numerus*-camp, located on the eastern Dacian *Limes*. (Map III\_6) Its walls enclose an area smaller than one ha. (Gudea 1997, 64-65) It is unclear if this outpost in the remote Upper Olt Valley attracted a permanent civilian settlement. Almost one-half of the ten-km catchment of this fort is arable.

**42. Unknown, Feldioara**

A short distance to the south of the village of Feldioara, lie the remains of an auxiliary fort and an adjacent *vicus*. Like the preceding entry, it belonged to the eastern Dacian frontier. (Russu ed. 1975, 125; Gudea 1997, 68-69; Map III\_6) Just enough has survived of the fortification walls to estimate the walled area at 1.4 ha. Together, the fort and the *vicus* probably covered not more than five or six ha. Almost 60% of the ten-km catchment of this site is productive.

**43. Unknown, Gherla**

This was the garrison site of the *Ala II Pannoniorum*, located on the road that led from the capital of Porolissensis, Napoca, to the northern Dacian *Limes*. (Gudea 1997, 102-103; Protase, Gudea, Ardean 2005, 713-721; Map V\_15) The walled area of the fort measures about 2.7 ha. Most of the civilian component has been lost under modern construction. It can merely be assumed that the built-up area of the settlement fell in the size range of five to ten ha. Approximately one-quarter of the ten-km catchment of this site is arable.

**44. Unknown, Gilău**

The anonymous auxiliary fort near modern Gilău guarded the access to Napoca from the western

Dacian *Limes*. (Gudea 1997, 100-101; Visy 2009, 163-184; Map VI\_70) Like the fort near Gherla, this was the garrison site of an *ala*-unit. The walled area measures 2.8 ha, only slightly larger than the fort near Gherla. There are no topographic data about the *vicus*, but the civilian component has been implied in the epigraphic sources. (IDR I: 18) Together, the military and civilian component must have fallen in the range of five to 15 ha. Only about 15% of the ten-km catchment of this settlement is arable.

#### 45. Unknown, Hoghiz

This was a major auxiliary fort in the Upper Olt Valley, (Map III\_6) probably garrisoned by detachments from several auxiliary units. (Russu ed. 1988; Gudea 1997, 66-67; Visy 2009, 182) Its walls enclose an area of 3.6 ha. Together with the *vicus*, they could have easily measured over ten ha. Approximately one-fifth of the ten-km catchment of this settlement is cultivable land.

#### 46. Unknown, Ilișua

This was the site of an auxiliary fort in the Upper Someș Valley, on the northern Dacian *Limes*. (Gudea 1997, 53-54; Fodorean 2013, 50-52; Map VI\_70) A mid-third century inscription found at this site mentions a district called Arcobadara. It is possible that this toponym is derived from the name of the fort. (AE 2006: 1130; Nemeti 2014) The fort near modern Ilișua measures 3.3 ha. In this study, it has been predicted that the built-up area of this settlement covered at least ten ha. Approximately 25% of the ten-km catchment of this site is arable. The hypothetical district governed from Arcobadara covered not more than 700-800 square km.

#### 47. Unknown, Inlăceni

This was the site of an auxiliary fort on the eastern Dacian *Limes*, (Map V\_15) founded after the Hadrianic reorganization of the Dacian provinces. (Russu ed. 1988, 206; Gudea 1997, 59-60) Mounted units were garrisoned at the fort near Inlăceni and its walls enclose an area of 2.2 ha. The auxiliary *vicus*, located to the west of the fort, is covered by modern buildings. Less than ten percent of the ten-km catchment of this settlement is cultivable land.

#### 48. Unknown, Islaz

This auxiliary fort was the southernmost outpost on the *Limes Alutanus*. (Gudea 1997, 82; Răduescu, Hortopan 2010, 25-50; Map III\_6) According to an early traveller's account, it was approximately one ha large. (Tudor 1965) Together with the hypothetical *vicus*, they could not have measured more than five ha. About 27% of the ten-km catchment of this settlement is arable.

#### 49. Unknown, Micăsasa

This site is located on a major thoroughfare that links the Imperial Road along the Mureș Valley with the eastern Dacian *Limes*. (Map V\_15) In the scholarly

literature, it has been qualified as a major rural or a quasi-urban settlement. (Mitrofan 1990, 129-138; Oltean 2007, Gudea 2009, 187-319) The archaeological excavations at this site have demonstrated that this was a major centre for pottery production. (Mitrofan 1990, 134) The area of this site has been estimated at 20 ha, but the local topographic conditions suggest that this is an overestimate. (Mitrofan 1990, 131) Less than 20% of the ten-km catchment is arable.

#### 50. Unknown, Odorheiu Secuiesc

This anonymous fort on the eastern Dacian *Limes* was the garrison site of *Cohors I Ubiorum*. (Map V\_15) It must have been founded by the middle of the second century AD. (Russu ed. 1988, 204; Gudea 1997, 60-61) Its site is known only from stray finds and military stamps but, in view of the fact that it garrisoned a *cohors*-unit, it was probably not larger than one to 1.5 ha, five ha if the *vicus* is included. Only about 15% of the ten-km catchment of this site is arable.

#### 51. Unknown, Olteni

This auxiliary fort guarded the mountain pass that led from the Upper Olt Valley into Moldova. (Székely 1993, 47-55; Gudea 1997, 61-62; Map III\_6) The walled area measures about 1.4 ha and, together with the *vicus*, they probably covered between four and five ha. Less than 20% of the ten-km catchment of this settlement is cultivable land.

#### 52. Unknown, Orastioara de Sus

This auxiliary fort was located on the main road that led from the core of the Dacian kingdom to the Mureș Valley. (Oltean 2007, 57; Map V\_15) It must have been established by the reign of Trajan, at the time of the conquest of Dacia. The epigraphic evidence suggests that it had been occupied until the end of Roman Dacia. (Russu, Floca, Wollmann eds. 1984, 255-57) A large portion of the fort has been eroded, but some scholars estimate its size at 2.5 ha. (Gudea 1997, 104-105) It can only be surmised that the combined area of the fort and *vicus* was in the size-range of five to ten ha. Only about 15% of the ten-km catchment of this site is productive.

#### 53. Unknown, Orheiul Bistriței

This was an auxiliary fort on the eastern Dacian *Limes*. (Gudea 1997, 55-56; Map V\_15). It garrisoned a *milliaria* unit and its walls enclose an area of almost three ha (Visy 2009, 163-184). There is no information about the size of the *vicus*, but comparative evidence suggests the two could have measured at least ten ha. About one-third of the ten-km catchment of this site is arable.

#### 54. Unknown, Rădăcinești

This was the garrison site of a *numerus*-unit, located in the Olt Defile, to the east of the river. (Gudea 1997, 90-91; Răduescu, Hortopan 2010, 25-50; Map III\_6) The walled area measures less than 0.5 ha and, in view of



the local topographical conditions, the built-up area of this settlement was not larger than two or three ha. Less than five percent of the ten-km catchment of this fort is arable.

#### **55. Unknown, Răcari**

This site was an auxiliary fort and a road-station in Dacia Maluensis. (Gudea 1997, 96-97; Rădoescu, Hortopan 2010, 25-50; Map VI\_76) The walled area of the fort measures 2.4 ha and, together with the auxiliary vicus located to the south of the fort, they could have covered up to ten ha. Over three-quarters of the ten-km catchment of this settlement is arable.

#### **55. Unknown, Sânpaul**

This anonymous fort had the double-role of defending the access to the Empire from one of the passes in the Eastern Carpathians and of controlling the exploitation of the nearby salt-pans. (Russu ed. 1988, 193-194; Benea 2007, 41-46; Map V\_15) The stone fortification measures nearly two ha, but the size of the vicus, extending along the main roads, can only be conjectured. (Gudea 1997, 61) Approximately 22% of the ten-km catchment of this site is productive.

#### **55. Unknown, Săpata de Jos**

This is the site of a double-fort on the *Limes Transalutani*. (Florescu, Petolescu eds. 1977; Marcu 2005, 703-711; Map III\_6) This site consists of a one-ha large fort and a small, *numerus*-fort measuring only about 0.3 ha. (Gudea 1997, 77; Marcu 2005, 703-704) The two outposts had been occupied simultaneously for a short period of time, in the first half of the third century. It is unclear if the forts had an adjacent civilian settlement. Over two-thirds of the ten-km catchment of this site is arable.

#### **55. Unknown, Sărăteni**

This was an auxiliary fort on the eastern Dacian *Limes*. (Russu ed. 1988, 163-164; Gudea 1997, 58-59; Map V\_15) The walled area measures almost two ha, but the remains of the vicus have been buried under modern houses. It can merely be conjectured that the combined size of the two did not exceed eight ha. Less than ten percent of the ten-km catchment of this site is cultivable land.

#### **59. Unknown, Sighișoara**

This was the site of an auxiliary fort in the Târnava Valley, on the road between Apulum and the eastern Dacian frontier. (Gudea 1997, 106-107; Matei 2012, 109-122; Map VI\_73) This fort had been abandoned by the time of the Marcomannic wars and transformed into

a civilian settlement. The fortified area, measuring about two hectares, had been fully occupied by civilian houses. It should not be excluded that the settlement extended beyond the walls of the former camp. Less than 20% of the ten-km catchment of this site is arable.

#### **59. Unknown, Slăveni**

This auxiliary fort in the Lower Olt Valley was the garrison site of multiple units. (Florescu, Petolescu eds. 1977, 196-197; Gudea 1997, 83-85; Bondoc 2010, 38-53; Map VI\_77) Its walls enclose an area of over three ha. There are no data about the size of the civilian component, but comparative evidence suggests the total built-up area of this settlement could have measured between ten and 12 ha. Almost 40% of the ten-km catchment of this site is arable.

#### **59. Unknown, Tihău**

This was the site of an auxiliary fort on the northern Dacian *Limes*, in the Upper Someș Valley. (Ferenczi 1989, 299-311; Gudea 1997, 50-51; Map VI\_70) The 1.8-ha large fort was founded soon after the conquest of Dacia. We have estimated the built-up area of this anonymous fort at five or six ha. Only about 12% of the ten-km catchment radius of this site is arable.

#### **59. Unknown, Titesti**

Near modern Titesti, in the Olt Defile, lie the remains of a *numerus*-fort that had been constructed by the reign of Trajan. (Gudea 1997, 92; Rădoescu, Hortopan 2010, 25-50; Map III\_6) The walled area of this camp measures less than 0.5 ha. It is possible that this garrison site had an adjacent civilian settlement, but in view of the agrarian potential in this region, the two could not have measured more than a couple of ha. Less than five percent of the ten-km catchment of this fort is arable.

#### **61. Unknown, Urluieni**

Urluieni was a site of a twin fort on the *Limes Transalutani*. (Gudea 1997, 75-76; Marcu 2005, 703-711; Bogdan-Cătâniciu 2009, 195-203; Map III\_6) The two forts measure slightly over one ha, but they were not in use at the same time. It is unclear if this military outpost had a civilian component. Almost 100% of the ten-km catchment of this site is productive.

#### **64. Unknown, Vrșac**

Because of the large number of stamped tiles discovered in the park of modern Vrșac, scholars have postulated the existence of a military base at this site, at the time of Trajan's Dacian campaign. (Gudea 1997, 28) The remains of this fort have not been discovered.

*The Busy Periphery: Urban Systems of the Balkan and Danube Provinces (2nd – 3rd c. AD)* considers the reconstruction of the urban geography of the Balkan and Danube provinces at the time of the Severan dynasty. Four basic parameters governed the focus of research: the origin and socio-economic character of the settlements, their size, micro-location, and the size of their administrative territories. The principal goal was to map the variable developments of the urban network, both between and within the sub-regions that constituted this part of the Roman Empire. This line of inquiry helped in bridging the gap between the regional and the general. In the process of explaining the apparent gaps in the urban map of the study-region or the differential growth of the individual towns and settlements, we were inevitably faced with the question of the role of towns in Roman provincial society and in the economy in general, and with the interpretation of the basic prerequisites for their emergence and prosperity.

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