BERNARD GREENBERG

Flies and Disease I

Ecology, Classification, and Biotic Associations

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FLIES AND DISEASE, Volume I

Ecology, Classification, and Biotic Associations

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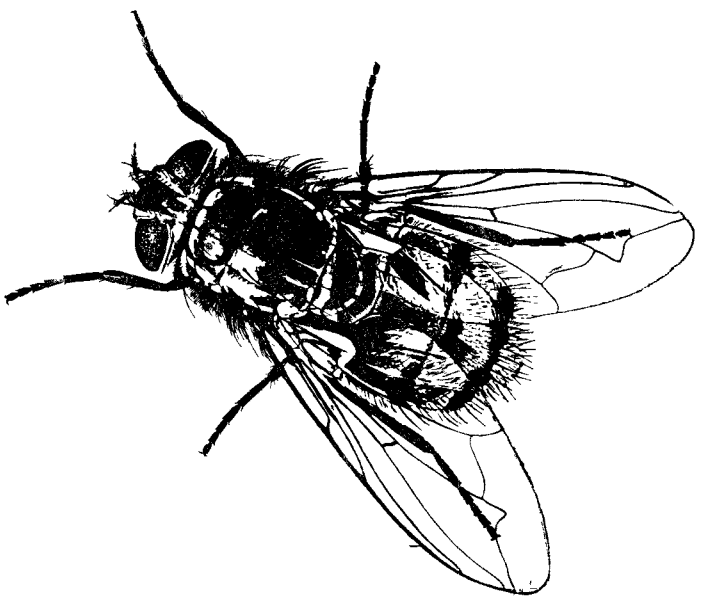
FLIES AND DISEASE

Volume I ECOLOGY, CLASSIFICATION AND BIOTIC ASSOCIATIONS

BY BERNARD GREENBERG

Princeton University Press, Princeton, New Jersey · 1971



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To my wife, Barbie

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Preface

WE HAVE RECENTLY passed the centennial of Davaine's pioneer experiments using stable flies and blowflies to transmit anthrax to healthy animals from sick ones. These studies were performed at a time when many physicians and scientists still doubted the microbial origin of such diseases. The ensuing century has seen such a flowering of bio-medical thought and practice that it has brought the control of many infectious diseases within our reach. Often the control of a disease has rested on the empirical use of this drug or that antibiotic with the consequence that many of the underlying biological interactions between host and pathogen have remained unexplored. This is not only esthetically and epistemologically unsatisfying, but scientifically unsound. The ricocheting of resistant populations of bacteria, protozoa, and insects emphasizes the need for ongoing basic research. Unfortunately, the development of resistance and behavioral changes in vector species have not been the only complications. Who could have predicted thirty years ago the meteoric rise of DDT, its vast successes, and now its possible demise along with other slowly degradable pesticides? Because of these things and also because much of the world's population continues to live in a sanitational limbo with massive microbial challenge, the framework of this book remains conservatively biological.

Flies carry a centuries-old indictment as disseminators of disease. Their case has often come up and been thrown out for lack of evidence. Just as often they have been convicted on inadequate evidence. It is my hope that a rational evaluation of their role can be based on such knowledge of their ecology, phenology, geographic distribution, and biotic associations as is presented in this volume. It is by no means the full picture and another volume will develop more particular aspects of fly life cycles, microbial interactions and epidemiology as they relate to specific diseases.

More than eight years have passed since I began compiling the literature on the biotic associations of synanthropic flies. At the outset, this material was intended as a chapter in a work on flies and disease. But like Aladdin's genie uncorked, the modest idea has expanded far beyond anticipation. The extent of the biological associations recorded in this book speaks eloquently of the "perpetuum mobile" of flies. Few animal groups are endowed with such mobility and often demoniac energy.

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Likewise, few groups have elicited such sustained investigative interest from scientists throughout the world. In the face of literature inaccessibility and language barriers, I have endeavored to capture the cosmopolitanism of fly research, because a lesser effort would be unrepresentative of this international interest. This is not to say that my efforts have been uniformly successful. A dead file, several inches thick, remains as a reminder of publications not seen. We must console ourselves with the thought that every fire leaves a residue.

I have also tried to add a time dimension to this work by including fly-mite and fly-fungus observations going back to the eighteenth century. This was done for the historical interest of these observations, not for their impeccable accuracy.

The fly associations are intra-specific and inter-specific, and include cannibalism, hybridization, competition, commensalism, predation, parasitoidism, parasitism, hyperparasitism, and phoresy. Some reports, especially those dealing with micro-organisms, simply record the occurrence of an organism. Others provide details, in varying degree, of the interaction between the organism and the fly. More than seven hundred species belonging to the lower plant and the major animal phyla are involved in these associations. They range from viruses and bacteria to birds and mammals. I hope this book will serve microbiologist, mammalogist, and the many "ologists" between, in addition to those interested in the biology of species interactions and biological control. I am especially hopeful that this book will find its way into the armamentaria of epidemiologists and public health workers concerned with fly-borne disease. The interested reader will find a ready entrée into the literature through either the fly or the organism associated with it. The sections on the ecology and distribution of flies, and the keys to adults and larvae provide the non-Dipterist with the means for studying some of the more important synanthropic flies of his region.

The many specialists who have helped me will be acknowledged in the section which follows. I would like to thank Mrs. Lynn Rubin, Grace Steward, Karin Mede, Joseph Chiu, and Ellyn Millman, who have assisted me at various times during the gestation period of eight years. Their ideas and devotion to the task have contributed materially to the final result. I am also grateful to Edward Shafer for his skillful translations of Russian, Scandinavian, Dutch, and other articles; and to Miss Aletha Kowitz for her cooperation in procuring interlibrary loans—in one year alone, she processed eight hundred of our requests.

I am especially indebted to Lt. Colonels Bruce F. Eldridge and Wallace P. Murdoch (Ret.) of the U.S. Army Medical Research and Development Command.

Bernard Greenberg, *Chicago, Illinois*

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Ecology, Classification, and Biotic Associations

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1
Introduction

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THE BIOTIC ASSOCIATIONS of synanthropic flies are recorded in two sections, Chapter VI and Chapter VII. Chapter VI systematically lists synanthropic flies and the organisms associated with them. Chapter VII systematically lists various organisms and the synanthropic flies which are associated with them. The flies, in both sections, are arranged phylogenetically according to suborder, division, section, superfamily, family, subfamily, and genus, with species and subspecies arranged alphabetically.

Viruses are systematically arranged by groups and subgroups. Divisions within subgroups are organized first according to type number, and second, when an additional name is used, such as Lansing Strain, alphabetically. Schizophyta are systematically arranged by class, order, family, and genus. Species of bacteria are listed alphabetically. The remainder of the phyla included in the associations—Fungi, Protozoa, Platyhelminthes, Aschelminthes, Mollusca, Annelida, Arthropoda (with the exception of the order Diptera), and Chordata—are arranged phylogenetically by class, order, and family, with genera, species, and subspecies arranged alphabetically.

Although an attempt was made to follow one authority in the arrangement of each of the above phyla, in some cases it was necessary to use several authorities.

Within each entry recording an association, the species name and author is followed by the investigator and the year of publication. When an association between two species is recorded in more than one publication, the name of the species and author are given only in the first entry. The other entries of the same association are indented and chronologically listed below. Question marks preceding any of the species names or the information about the association indicate questionable identification or information. In the section listing various organisms and flies associated with them, the nature of the relationship is often included in the main species heading when it is consistent for all the associations listed under it.

In all cases an attempt was made to use the currently accepted species name (a list of the authorities consulted is included at the end of this section). Consequently, the synonymy listed includes only the currently unacceptable names used by those investigators cited. When there is a doubt about the appropriate synonymy of a particular name, it is in-

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dicated by placing a question mark before the synonym. Synonyms are placed in brackets in individual entries when an investigator used two different species names in the same article for what is now considered to be one species.

Many of the early papers recording fly-mite associations presented problems in validation. In assembling and analyzing these associations Oudemans' interpretations in "Kritisch Historisch Overzicht Der Acarologie" were leaned upon heavily.

The following examples are included to clarify the description given above:

CHAPTER VI

Musca larvipara Porchinskiĭ	EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale = [*Escherichia paraacidilactici* A] Zmeev, 1943 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale = [*Escherichia paraacidilactici* B] Zmeev, 1943 ?*Shigella* Castellani and Chalmers Sychevskaĭa et al., 1959a ASCHELMINTHES: NEMATODA SPIRURIDEA: THELAZIIDAE *Thelazia gulosa* Raillet and Henry Klesov, 1951 Világiová, 1962

CHAPTER VII

Escherichia coli var. *acidilactici* (Topley and Wilson) Yale (Synonyms: *Escherichia paraacidilactici* A, *Escherichia paraacidilactici* B)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Scott, 1917a *Musca larvipara* Porchinskiĭ Zmeev, 1943

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The following references were used in the arrangement of phyla, classes and orders:

VIRUSES

Burnet, F. M., and Stanley, W. M., editors
1959. The viruses. Academic Press, New York. Vol. 3, 428pp.

PHYLUM: SCHIZOPHYTA

Breed, R. S., Murray, E.G.D., and Smith, N. R.
1957. Bergey's manual of determinative bacteriology. The Williams and Wilkins Co., Baltimore. 1094pp.

PHYLUM: THALLOPHYTA

Bessey, E. A.
1950. Morphology and taxonomy of fungi. The Blakiston Co., Philadelphia. 791pp.

Clements, F. E., and Shear, C. L.
1954. The genera of fungi. Hafner Publishing Co., New York. 496pp.

Gilman, J. C.
1957. A manual of soil fungi. Second edition. The Iowa State College Press, Ames, Iowa. 450pp.

Lodder, J., and Kreger-Van Rij, N.J.W.
1952. The yeasts, a taxonomic study. Interscience Publishers, Inc., New York, North Holland Publishing Co., Amsterdam. 713pp.

PHYLUM: PROTOZOA

Kudo, R. R.
1966. Protozoology. Charles C. Thomas, Publisher, Springfield, Illinois. 1174pp.

PHYLUM: PLATYHELMINTHES

Yamaguti, S.
1959. Systema helminthum. The cestodes of vertebrates. Interscience Publishers, Inc., New York and London. Vol. 2, 860pp.

PHYLUM: ASCHELMINTHES

Yamaguti, S.
1961. Systema helminthum. The nematodes of vertebrates. Interscience Publishers, Inc., New York and London. Vol. 3, Parts 1 and 2, 1261pp.

ORDER: ACARINA

Baker, W. E., and Wharton, G. W.
1952. An introduction to acarology. The Macmillan Co., New York. 465pp.

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CLASS: INSECTA (except Diptera)

Essig, E. O.

1942. College entomology. The Macmillan Co., New York. 900pp.

ORDER: DIPTERA

Stone, A., Sabrosky, C. W., Wirth, W. W., Foote, R. H., and Coulson, J. R.

1965. A catalog of the Diptera of America north of Mexico. Agricultural Research Service, United States Department of Agriculture, United States Government Printing Office, Washington, D.C. 1696pp.

CLASS: AVES

Austin, O. L., Jr.

1961. Birds of the world. Herbert S. Zim, editor, Golden Press, New York. 316pp.

GENERAL

Storer, T. I., and Usinger, R. L.

1965. General zoology. Fourth edition. McGraw-Hill Book Co., New York. 741pp.

The following references were used in the validation of species:

PHYLUM: SCHIZOPHYTA

Breed, R. S., Murray, E.G.D., and Smith, N. R.

1957. Bergey's manual of determinative bacteriology. Seventh edition. The Williams and Wilkins Co., Baltimore. 1094pp.

Buchanan, R. E., Holt, J. G., and Lessel, E. F., Jr.

1966. Index bergeyana. The Williams and Wilkins Co., Baltimore. 1472pp.

Steinhaus, E. A.

1947. Insect microbiology. Comstock Publishing Co., Inc., Ithaca, New York. 763pp.

PHYLUM: THALLOPHYTA

Ainsworth, G. C.

1961. Dictionary of the fungi. Commonwealth Mycological Institute, Kew, Surrey. 547pp.

Bessey, E. A.

1950. Morphology and taxonomy of fungi. The Blakiston Co., Philadelphia. 791pp.

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1954. The genera of fungi. Hafner Publishing Co., New York. 496pp.

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Lodder, J., and Kreger-Van Rij, N.J.W.
1952. The yeasts, a taxonomic study. Interscience Publishers, Inc., New York, North Holland Publishing Co., Amsterdam. 713pp.
Raper, B., and Thom, C.
1949. A manual of the penicillia. The Williams and Wilkins Co., Baltimore, 875pp.
PHYLUM: PROTOZOA
Kudo, R. R.
1966. Protozoology. Charles C. Thomas, Publisher, Springfield, Illinois. 1174pp.
Wallace, F. G.
1966. The trypanosomatid parasites of insects and arachnids. Experimental Parasitology, *18:*124-193.
PHYLUM: PLATYHELMINTHES
Yamaguti, S.
1959. Systema helminthum. The cestodes of vertebrates. Interscience Publishers, Inc., New York and London. 860pp.
PHYLUM: ASCHELMINTHES
Yamaguti, S.
1961. Systema helminthum. The nematodes of vertebrates. Interscience Publishers, Inc., New York and London. 1261pp.
PHYLUM: MOLLUSCA
Connolly, M.
1938. Monographic survey of South African non-marine Mollusca. Annals of the South African Museum. *33* (Part 1):1-659.
Thiele, J.
1929. Handbuch der systematischen Weichtierkunde. Jena Verlag von Gustav Fischer, Berlin. 778pp.
PHYLUM: ANNELIDA
Gates, G. E.
1955. Notes on several species of the earthworm, genus: *Diplocardia* Garmen, 1888. Bulletin of the Museum of Comparative Zoology, at Harvard College, Cambridge, Massachusetts. *113* (No. 3):227-259.
Gates, G. E.
1959. On a taxonomic puzzle in the classification of the earthworms. Bulletin of the Museum of Comparative Zoology, at Harvard College, Cambridge, Massachusetts. *121* (No. 6):227-261.

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ORDER: PSEUDOSCORPIONIDEA

Beier, M.

1963. Ordnung Pseudoscorpionidea. Akademie-Verlag, Berlin. 313pp.

ORDER: ARANEAE

Bonnet, P.

1959. Bibliographa araneorum. Tome II. Les Artisans de L'Imprimerie Douladoure. 5058pp.

ORDER: ACARINA

Baker, E. W., and Wharton, G. W.

1952. An introduction to acarology. The Macmillan Co., New York. 465pp.

Oudemans, A. C.

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ORDER: ORTHOPTERA

Bei-Bienko, G. Ya., and Mishchenko, L. L.

1963. Locusts and grasshoppers of the U.S.S.R. and adjacent countries. Keys to the fauna of the U.S.S.R. The Zoological Institute of the U.S.S.R. Academy of Sciences, No. 38. Izdatel'stvo Akademii Nauk S.S.R. Moskva-Leningrad, 1951. Translated from Russian, Israel Program for Scientific Translations, Jerusalem. Part I, 400pp.; Part II, 291pp.

Blatchley, W. S.

1920. Orthoptera of Northeastern America. The Nature Publishing Co., Indianapolis. 784pp.

Johnston, H. B.

1956. Annotated catalogue of African grasshoppers. Published for the Anti-Locust Research Centre at the University Press, Cambridge. 833pp.

Uvarov, B.

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Ferris, G. F., and Stojanovich, C. J.

1951. The sucking lice. Pacific Coast Entomological Society Memoirs, San Francisco. Vol. 1, 320pp.

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ORDER: ODONATA

Longfield, C.
1937. The dragonflies of the British Isles. Frederick Warne and Co., Ltd., London and New York. 256pp.

Needham, J. G., and Heywood, H. B.
1929. A handbook of the dragonflies of North America. Charles C. Thomas, Publisher, Springfield, Illinois. 378pp.

Needham, J. G., and Westfall, M. J., Jr.
1955. A manual of the dragonflies of North America. University of California Press, Berkeley and Los Angeles. 615pp.

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1956. The Biology of the Heteroptera. Leonard Hill [Books] Ltd., London. 162pp.

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1960. Die Schmetterlinge Mitteleuropas. Band III. Spinner und Schwärmer. Frankh'sche Verlagsbuchhandlung, W. Keller and Co., Stuttgart, Germany. 239pp.

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1914. Lepidopterorum catalogus. W. Junk, Berlin. Part 19, 63pp. Also, 1934, Part 66, 141pp.; 1936, Part 73, 484pp.

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1948. Leng catalogue of the Coleoptera of America, north of Mexico. Fifth Supplement, 1939 to 1947 (inclusive). John D. Sherman, Jr., Mount Vernon, New York. 87pp.

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Bouček, Z.

1963. A taxonomic study in *Spalangia* Latr. (Hymenoptera, Chalcidoidea). Acta Entom., Musei Nationalis, Prag. *35*:492-512.

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1921-22. The birds of Australia, H. F. & G. Witherby Ltd., London. Vol. 9, 518pp. Also, Vol. 11, 1923-24, 593pp.; Vol. 12, 1926-27, 454pp.
Mayr, E., and Greenway, J. C., Jr., editors
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Ripley, S. D., II
1961. A synopsis of the birds of India and Pakistan. Bombay Natural Historical Society, India. 702pp.
Vaurie, C.
1959. The birds of the Palearctic fauna. H. F. & G. Witherby Ltd., London. 762pp.
Wetmore, A.
1960. A classification for the birds of the world. Smithsonian Institution, Washington, D. C., Smithsonian Miscellaneous Collections. Vol. 139 (No. 11), 37pp.
Witherby, H. F., Jourdain, Rev. F.C.R., Ticehurst, N. F., and Tucker, B. W.
1938. The handbook of British birds. H. F. & G. Witherby, Ltd., London. Vol. I, 326pp.
Wolstenholme, H.
1926. Official checklist of the birds of Australia. Melbourne. 212pp.

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2

Synanthropy

Dalibor Povolný

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DEFINITION, EVOLUTION AND CLASSIFICATION

THE TERM "SYNANTHROPIC" is applied particularly to flies and certain rodents coexisting with man over an extended period. A search for the origin of this term certainly provides differing opinions as to its meaning, but for the present let it suffice that the term "synanthropy" has had long usage in the European literature.

A definition of synanthropy as an ecological phenomenon is based on the general acceptance of a zoocoenosis (or biocoenosis) either as a concrete and specific animal community or an abstraction of one. Such communities generally exist, of course, only on a temporary basis. This is based on the view that biocoenoses also evolve, either naturally or secondarily through man's activity. From this point of view, the existing biocoenoses can be divided into two groups: primary, or natural, biocoenoses, and secondary, or cultural, biocoenoses. The second group comprises all types of biocoenoses whose composition has in a way been influenced by the activity of man—from biocoenoses influenced by occasional utilization to those of a cultivated steppe, with their highly developed monocultures and with all that results from their being rationally cultivated by man. Thus, secondary biocoenoses have developed with the intervention of man in nature, starting with primitive adaptation of vegetation (and the development of agrobiocoenoses), and culminating in the cultivation of highly improved plants (monocultural coenoses) (Fig. 1). Naturally, the animal communities of secondary biocoenoses were selectively evolved from communities of the original eubiocoenoses; hence, they consist of those species able to adapt to the newly developed conditions, in some cases becoming even better adapted to the new environment, compared with the original one. A parallel process developed when the animals domesticated by man became the subject of his intensive economic interest. Man thus commenced an artificial elimination of animals from their eubiocoenosis, while at the same time he confined these animals more or less permanently to his residence, in order to utilize them as sources of food, work, etc. Thus, man has created a special type of secondary biocoenosis, the biocoenosis of human residence, or anthropobiocoenosis, originally being a common residence of man and domesticated animals (Fig. 2). In addition, a third group of animals became members of the

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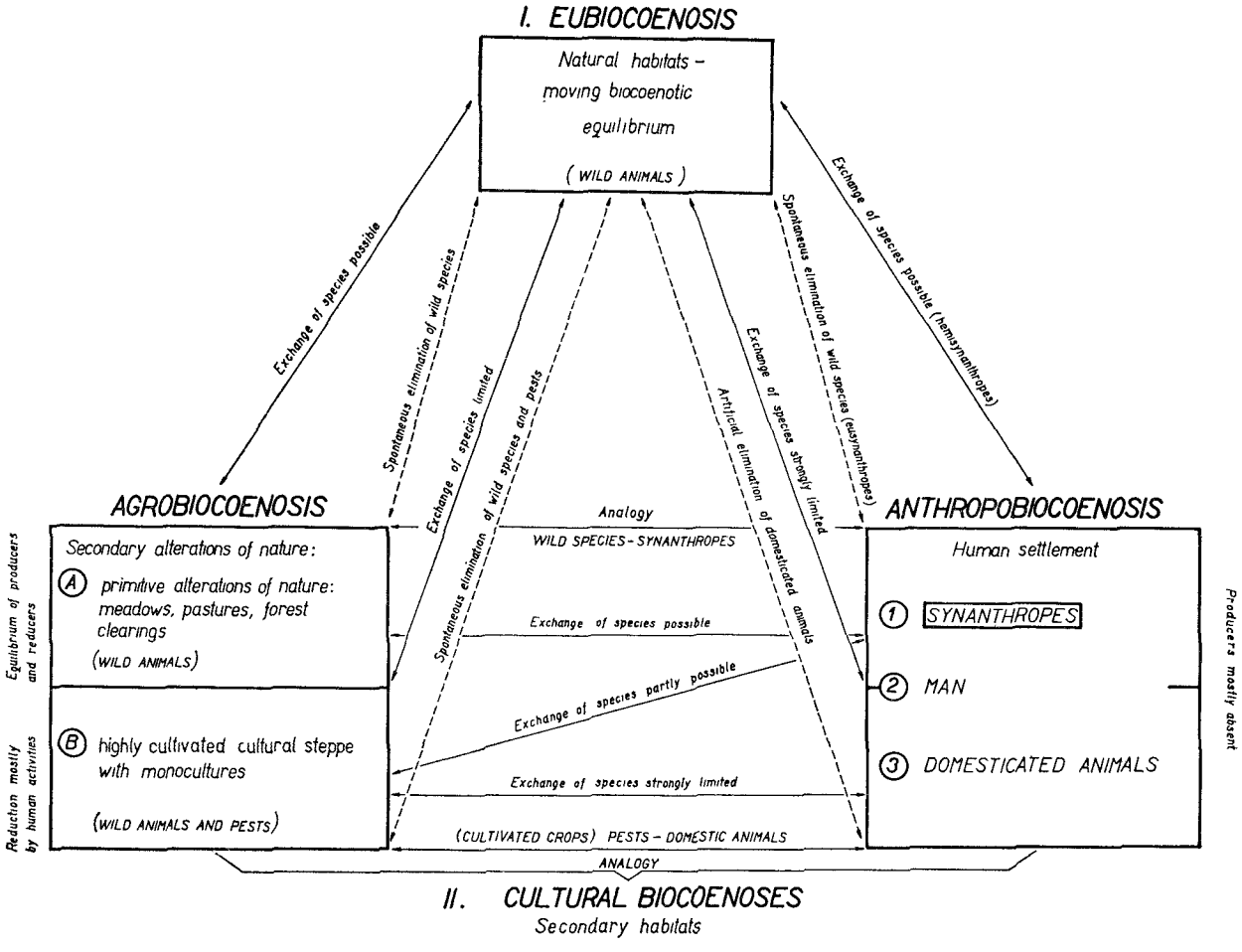

FIG. 1. Dynamic exchange of synanthropic and other organisms between components of the biotic environment

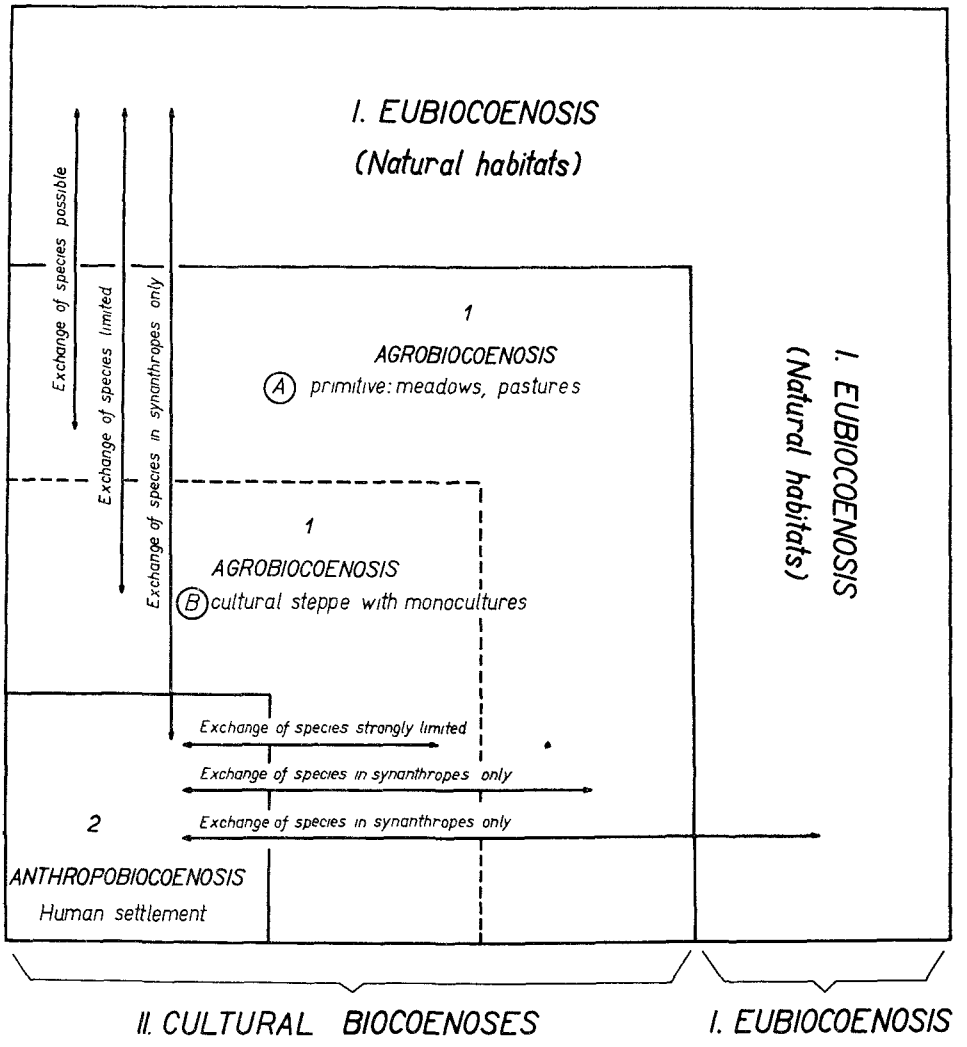

FIG. 2. The anthropobiocoenosis as a component of cultural biocoenoses, and possibilities for exchange of species with the eubiocoenosis

anthropobiocoenosis, without man's sanction. These are the rodents, flies, and other arthropods. The biocoenosis of human residence, consists of the following three components:

(a) man, its creator;
(b) domestic animals, its products; and
(c) synanthropic animals, its spontaneous members.

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Thus synanthropy is a spontaneous membership in the anthropobiocoenosis, generally contrary to man's wish. Naturally, there are various stimuli leading synanthropic animals to their spontaneous membership in the anthropobiocoenosis, as far as their relationship to human residences is concerned. This is reflected in the unusually wide range of synanthropic animals. Substantially, we may discern three components again. The first one consists of animals connected with anthropobiocoenoses directly through man (e.g., commensals of man). A second group consists of those animals whose membership in the anthropobiocoenosis is realized through domestic animals (e.g., numerous coprophagous and ectoparasitic flies). Finally, a third group may be formed by those animals which find suitable shelter within the human residence itself. Naturally, the three above-mentioned types of relationship do not quite cover all existing eventualities. However, it must be understood that the stimuli leading the various animals to their membership in the anthropobiocoenosis may be manifold. This must be borne in mind as the synanthropy of animals may appear in various degrees and, also, in variously close or qualitatively different relationships. Thence, the *classification* of synanthropy is a much more complicated task than a general *definition* of synanthropy. Notwithstanding, it is important that an unambiguous definition of this ecological category be based on a consistent conception of synanthropy as a biocoenotic feature.

Certainly, flies are a group whose synanthropy is often particularly marked and, therefore, well defined. On the other hand, one can find various degrees of synanthropy in flies, from total association with man (so that without an anthropocoenosis many species could not exist at all outside their autochthonous area) to species in which this connection is quite loose and facultative.

A classification of synanthropic flies is essentially determined by the following requirements of species:

(1) trophic requirements of adults and larvae for substrate;
(2) ecologic requirements of various species of flies for abiotic factors (temperature and relative humidity) chiefly in the microclimate; and biotic factors (population density, reproductive potential, competition).

Adults of synanthropic flies feed chiefly on excreta of man and domestic animals (coprophagy), decaying organic compounds (saprophagy and necrophagy), and fresh as well as decomposing proteins of animals (carnivorous habit); many also visit flowers. Larvae of synanthropic flies feed on much the same substrates as adults. More-

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over, larvae of some synanthropic flies are often predators, feeding facultatively on larvae of other synanthropic species. There is also the natural tendency of certain species of flies to frequent the anthropobiocoenosis as larvae and/or adults because some of its abiotic components (farm buildings, farmyards, cellars, etc.) better satisfy their requirements than similar components of the eubiocoenoses (cavities in trees, rocks and soil, etc.).

The combination of the individual requirements forms the basis for the potential hygienic and epidemiologic significance of flies. These relations are best illustrated by two examples of classical representatives of synanthropic flies.

The primary environment for the larval development of *Phaenicia sericata* is the decaying flesh of carcasses or necrotic tissues of living vertebrates; secondarily, the larvae can develop in various kitchen offal, organic remains and, potentially, even in feces. The food of adults is the same; during the summer it also includes fruit and other sources of saccharides. Thence, it follows that under the conditions of an anthropobiocoenosis, *P. sericata* fulfills all the conditions of a closed circle between microbially contaminated sources of food and man (Fig. 3).

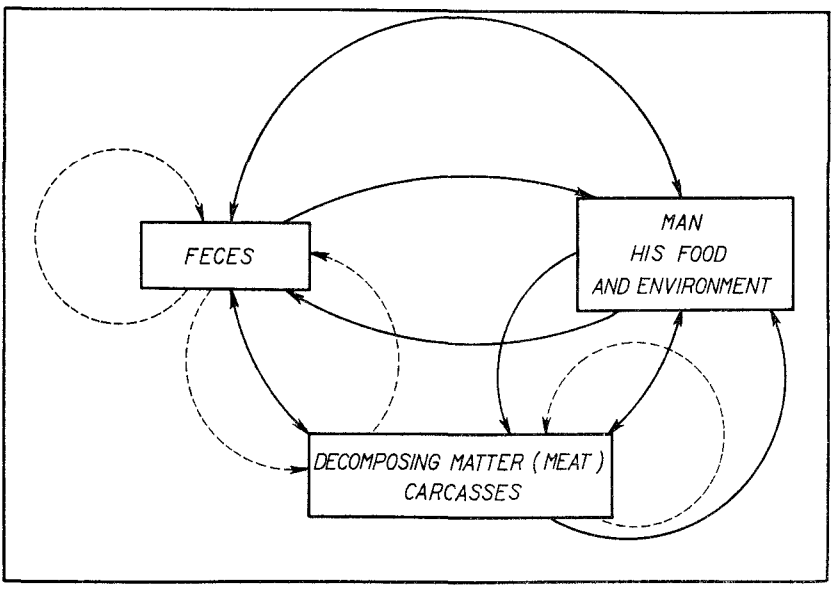

FIG. 3. Schematic representation of communicative and non-communicative species, i.e., of closed (——) and open (– – –) circle in relation to man

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On the other hand, *Protophormia terraenovae* is a similar commensal of man with high population densities in mountains and in northern latitudes. Unlike *P. sericata*, this species does not invade human dwellings. Also, its diet is more limited since adults avoid feces, and all its developmental stages are confined to flesh and kitchen offal. These differences indicate that irrespective of population density in the anthropobiocoenosis, *P. terraenovae* does not directly close the circle between microbially contaminated sources of food and man.

In comparison with these two species, the classical synanthropy of *Musca domestica* is many sided and very pronounced. This species seems to have retained its original thermophilous habits. Around human habitations, *M. domestica* is trophically linked to all types of human waste, whereas country populations of this species are symbovine, that is, connected chiefly with excreta of farm animals, and above all, pigs (Fig. 4).

Moreover, its behavior qualifies *M. domestica* as a vector of various microbes. Its vagrant habits enable it to circulate constantly among potential sources of microbes and various human foods. In warmer zones, this liaison is directly effected between human feces and food.

The following classification of synanthropic flies is based on a synthesis of their bionomics and behavior:

(1) Eusynanthropes
  (a) exophilous forms
  (b) endophilous forms
(2) Hemisynanthropes
(3) Asynanthropes
(4) Symbovines
  (a) pasture types
  (b) stable types
(5) Causers of myiasis

The term "communicative" denotes the flies' oscillations between the contaminated environment and man's immediate surroundings.

Eusynanthropes

These flies are closely associated with the anthropobiocoenosis in which their entire development takes place. Many of these species have spread extensively in the human environment, showing a tendency toward cosmopolitanism.

These species primarily frequent households, food processing plants, slaughterhouses, garbage depots, rendering plants, etc. Within this group, one should distinguish between endophilous and exophilous

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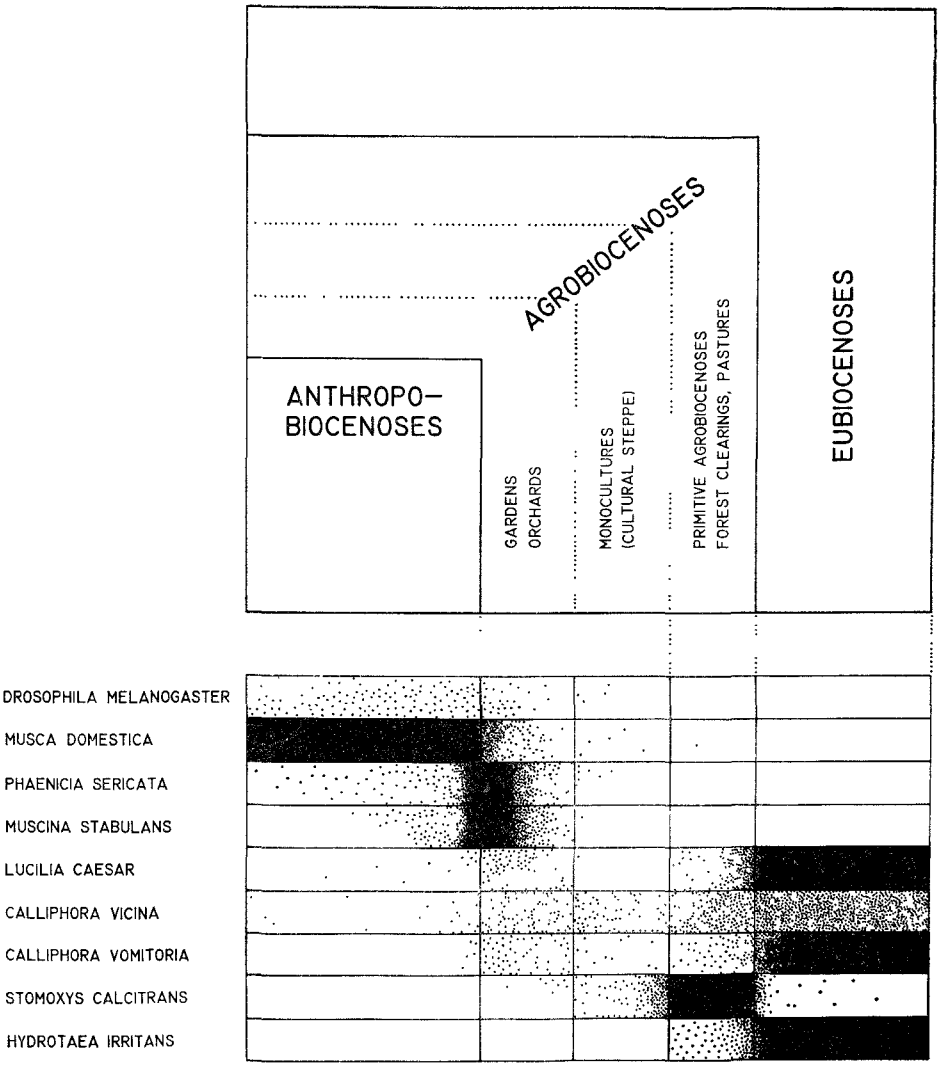

FIG. 4. Differences in synanthropy of some common species of flies expressed by their population density in various biocoenoses

forms. Endophilous species (or endophilous populations of certain species) are tied to the anthropobiocoenoses both trophically and microclimatically. Outside this environment, they are unable to produce populations of high density except during certain seasons of the year (viz. hot summers). Examples of such types are provided by *M. domestica, Drosophila fasciata* and other species of this genus, as well

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as some *Psychoda* spp. This endophilous habit is particularly conspicuous in *M. domestica*. This species also enables us to recognize synanthropy as an evolutionary phenomenon. *M. domestica* is a species of the subtropics and tropics of the Old World, characterized by exceptional trophic plasticity. The original (autochthonous) populations of this species are primarily coprophagous, feeding on feces of large ruminants. Thus, synanthropy of this species must have started to evolve simultaneously with the domestication of large ruminants during the so-called Agricultural Revolution in the first prehistoric agricultural towns of the Near and Middle East (in the region of the "Fertile Crescent"). From these primarily symbovine pasture forms evolved first the symbovine stable forms and, at last, synanthropic forms, through enlargement of their food range due to the "necessity" of passing the winter directly in human habitations. The populations of *M. domestica*, selected both ecologically and ethologically, spread secondarily over anthropobiocoenoses throughout the world, resulting in the present state.

Endophilous habits are also observed in certain mosquitoes and in some root gnats of the family Sciaridae which develop in the detritus of flower pots, etc. They are not considered synanthropic as a rule, since, their adults are not necessarily connected with the range of human food. However, they are true eusynanthropes, since they are connected with the anthropobiocoenosis.

Exophilous eusynanthropes are associated with the anthropobiocoenosis but do not necessarily require human habitations. They are also less closely connected with man trophically (thence, they are less specialized), and they are less particular as to microclimate. Thus, one does not as a rule encounter them directly in human habitations, but one can observe in these forms a tendency toward abandoning their natural areas, which is characteristic of eusynanthropes. This group includes certain species of the genus *Phaenicia*, particularly *P. sericata*. These substantially southern and thermophilous species are known to occur exclusively in human settlements (that is, in anthropobiocoenoses) in northern regions (frequently, beyond the Arctic Circle); the same is observed in other species of Calliphoridae, and in Piophilidae. In this connection, particular note is given *Fannia canicularis*. Although occurring outdoors away from human settlements, this species usually attains higher population densities under anthropobiocoenotic conditions. Moreover, this species shows seasonal endophilous habits, particularly during summer. *F. canicularis* seems to produce two independent population circles, one living independently of man and the other synanthropic (see also the bionomics of this species). Thus, synanthropy may appear in a

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segment of a population where it evolved through selective action of the anthropobiocoenosis. This is the case of *P. sericata* in the southern part of Central Europe. Included among exophilous eusynanthropes are *Calliphora vicina, Muscina stabulans,* and related species (Fig. 5).

Hemisynanthropes

This group contains species whose existence is independent of anthropobiocoenoses. Originally, human interference with nature was directed against the natural environments of these species. With the evolution of the anthropobiocoenosis, there appeared in these species synanthropic tendencies resulting in markedly increasing population density in the environs of man. However, unlike eusynanthropes, extinction of anthropobiocoenoses does not necessarily result in extinction of hemisynanthropes, as they do not abandon their primeval area and, thus, remain independent of man. Signs of hemisynanthropy appear during occasional or temporary interference of man with nature, such as latrines in camps, temporary field work, and war campaigns. Among the hemisynanthropes are such species as *Lucilia caesar, L. illustris, B. silvarum, Calliphora vomitoria, Pyrellia cyanicolor, Ophyra leucostoma, Piophila vulgaris, Hylemya strigosa, Hylemya* spp., *Muscina pabulorum,* and *Mydaea urbana.* There is a particularly interesting ecological alternation between the eusynanthrope *P. sericata* and the hemisynanthropes *L. caesar* and *L. illustris,* one group replacing the other under certain circumstances in various biocoenoses. In this respect, the Central European *C. vomitoria* is also interesting (see Fig. 5). Compared to *C. vicina,* it is a much more shade-loving form, living mainly in larger forests and, also, in higher elevations. In the vicinity of mountain chalets, hotels, and sanatoria, *C. vomitoria* attains high population densities and is even capable of actively invading dwellings. There are also those species which come into direct contact with man. A typical communicative one is *Hydrotaea irritans* which gregariously attacks man in forests and feeds upon his conjunctivae. Predatory larvae of this fly develop gregariously in carrion and feces.

It is evident from what has been described above that there is no definite limit between hemisynanthropes and exophilous eusynanthropes. The ecology and behavior of a population may depend on such factors as latitude, climate, character of the biocoenosis, etc. A species which acts as a hemisynanthrope in Central Europe may act as an exophilous eusynanthrope in Northern Europe, occurring there only in the vicinity of anthropobiocoenoses (e.g., *C. vicina* in Scandinavia). For this reason, synanthropy is best considered as a dynamic process in which hemisynanthropy may be a phase of exophilous eusynanthropy. It is thus

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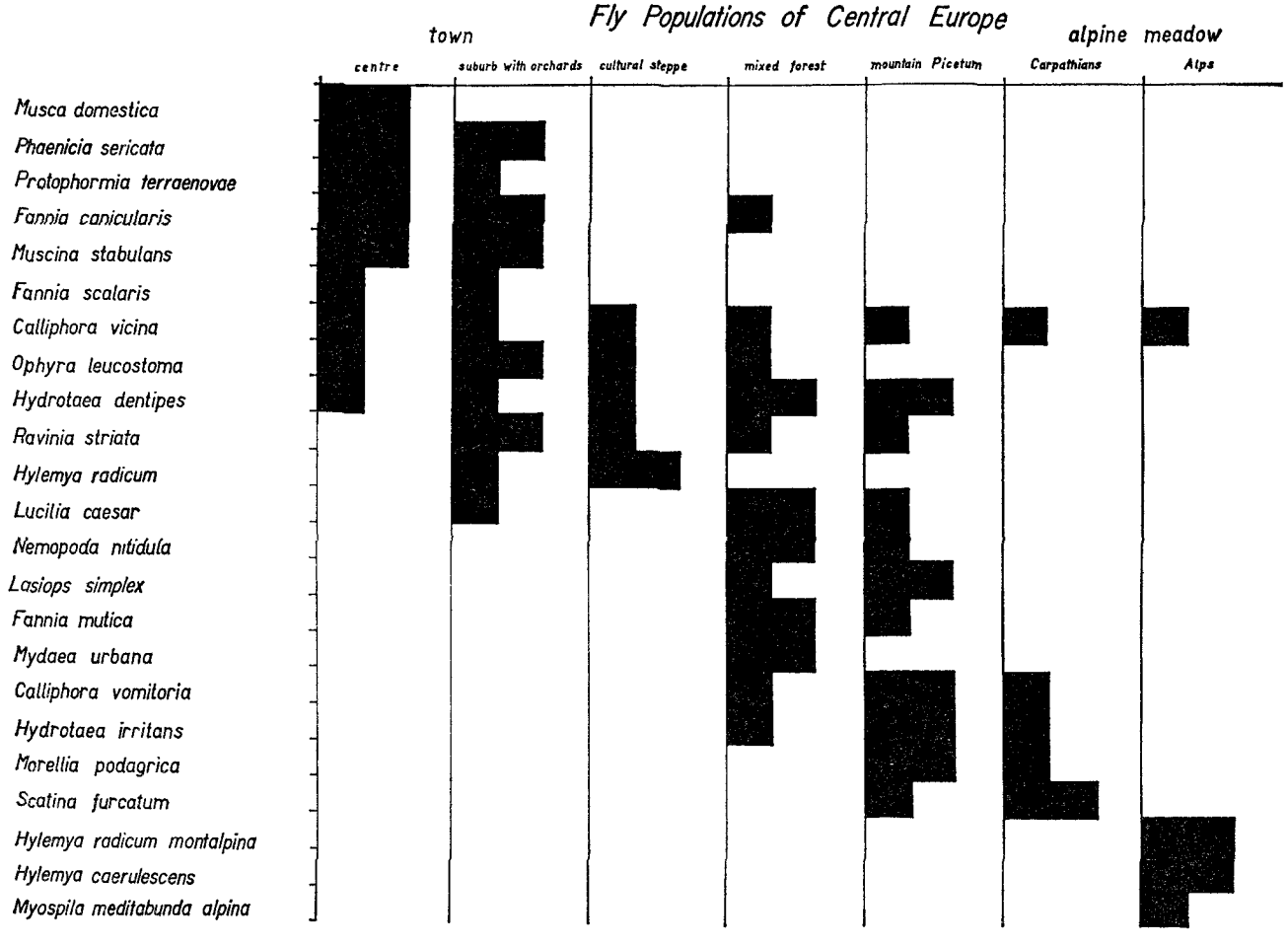

FIG. 5. Schematic representation (based on more than 100,000 flies) of the most representative dominant and subdominant species of synanthropic flies visiting feces in the more characteristic biotypes of Central Europe. (*Scatina furcatum* = *Scatophaga furcata*)

difficult and of limited value to maintain sharply defined and rigid categories.

Asynanthropes

This group includes those groups of flies which do not fulfill the conditions for synanthropic flies.

Symbovines

Symbovines are linked with the anthropobiocoenosis through excreta of domestic ruminants.

Two subgroups are distinguished within this group:

(a) Pasture forms, attaining high population densities in cattle pastures but otherwise resembling hemisynanthropes as they are not immediately dependent on anthropobiocoenoses. This subgroup includes species of the genera *Mesembrina, Orthellia, Morellia, Musca, Hydrotaea*, etc. Particularly important are species whose adults are bloodsuckers, such as species of *Haematobia.*

(b) Stable forms, adapted to excreta of stabled animals and attaining increased population densities directly in and around animal enclosures. This subgroup includes *Stomoxys calcitrans, H. irritans,* and stable populations of *M. domestica.* The latter may differ considerably from typical house populations of this species by their dynamics as well as by a number of additional ecological and populational features.

Causers of myiases

The medical-veterinary importance of this group has led to their separate treatment. However, it is noteworthy that even some causers of myiases (e.g., *P. sericata, Chrysomya* spp., and certain Sarcophagidae) can be true synanthropes.

SOCIETIES OF SYNANTHROPIC FLIES IN THE PALEARCTIC REGION

The aim of this section is to provide a synthesis of information on the composition of synanthropic fly populations in various biotypes and their subdivisions throughout the Palearctic region. This synthesis is derived from the work of a number of investigators who have studied the problem for many years. The diverse methods which they have used have sometimes made it necessary to adapt their data (when comparable) in order to produce the uniform graphic treatment presented here.

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Central European cultivated steppe, with remains of original steppes and forest-steppes, in the warmest parts of Central Europe

This biotype is characterized by such typical dominant species as *Agria latifrons, Ravinia striata, Sarcophaga melanura, Calythea albicincta,* and *Hylemya cinerella,* and, in its southernmost part, by *Phaenicia sericata.* As a rule, these leading species are represented in a majority of trappings and their predominance is due to their higher population densities. They are supplemented by certain other species, whose presence is noteworthy though their populations are smaller and more scattered. This group includes certain species of the family Sarcophagidae, such as *Sarcophaga haemorrhoidalis, Parasarcophaga aegyptica, P. jacobsoni, P. portschinskyi,* and *P. aratrix,* as well as *Fannia leucosticta.* The occurrence of certain species may be the result of emigration from temporarily arid regions. For example, variation in the population density of *Chrysomya albiceps* in the subtropics east of the Mediterranean has probably resulted in the invasion of this fly into Central Europe. A similar effect may also be operating to produce the scattered occurrence of *Bellieria maculata.*

A complex of species common to the cultivated steppe and the zone of deciduous forests includes *Fannia canicularis, F. scalaris, Muscina stabulans, Pollenia rudis, Calliphora vicina,* and *Sarcophaga carnaria,* all of which show frequent tendencies toward eusynanthropy. *Muscina assimilis, Hydrotaea dentipes,* and *Phormia regina* also occur but in smaller numbers. At the transition to deciduous forests there is a quantitative increase of *Lucilia caesar,* whereas in the moist meadows of the Pannonian region the numbers of this fly are reduced and brought into balance with populations of *Phaenicia sericata. Sepsis punctum* is commonly found on feces and *Ophyra leucostoma* on meat. Bottomland forests in the alluvial zone around larger rivers are characterized by the frequent occurrence of *Pegomya socia* and the dominant *Lucilia caesar* and *Ophyra leucostoma,* as well as by the more hygrophilous species of the genera *Phaonia, Mydaea,* and *Pyrellia. Platystoma lugubre* is a rare but exclusive inhabitant of bottomland forests and similar habitats.

Zone of deciduous forests, chiefly Querceto-Carpinetum, at warm medium altitudes

This zone is characterized by the dominance of *Lucilia caesar, Pyrellia cyanicolor,* and *Nemopoda nitidula,* in addition to the typical *Hylemya strigosa, Calliphora vomitoria,* and *Hydrotaea dentipes* (Figs. 6, 7, 8). These are joined by the less abundant species *Lasiops*

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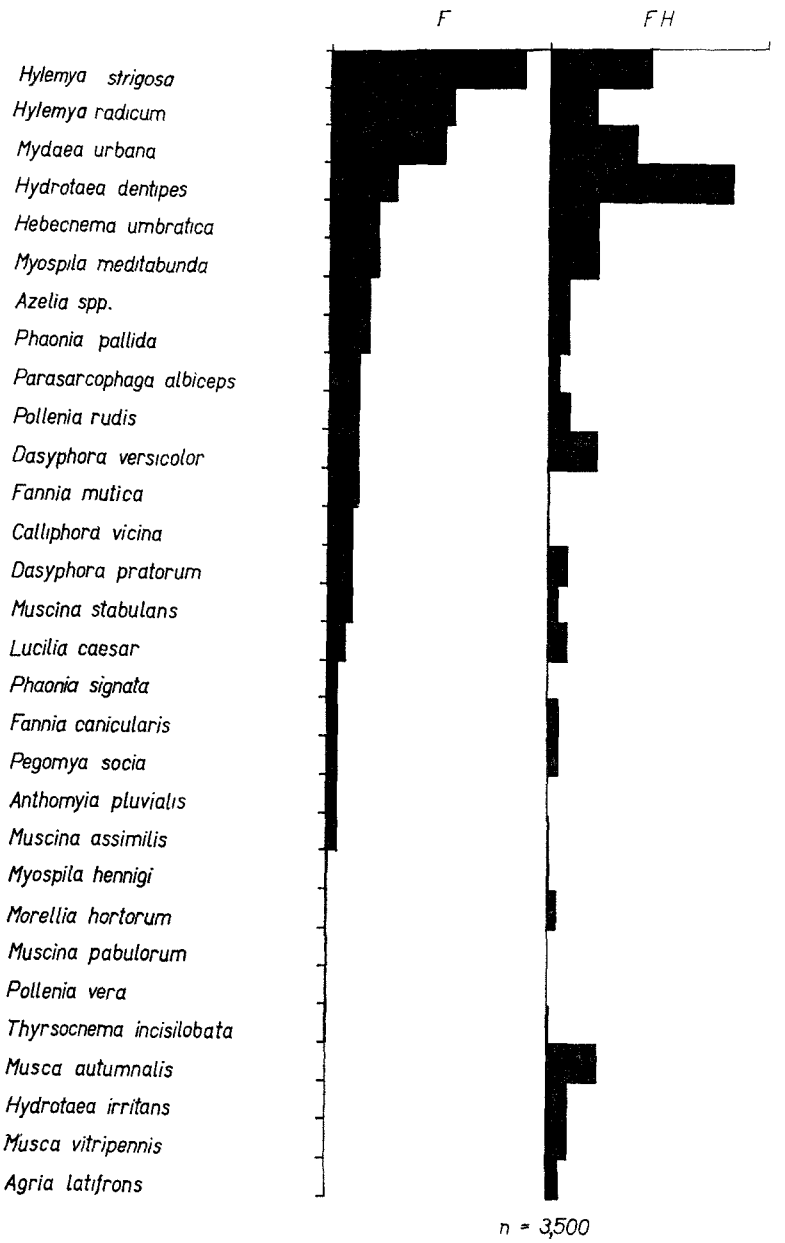

FIG. 6. Comparison (based on 3,500 flies) of two samples of hemisynanthropic coprophagous flies visiting human feces (F) and feces of horses (FH) taken during the first week of July on the margin of a Querceto-Carpinetum forest in Central Europe. These censuses may be considered as typical for habitat and season in the Western Palearctic

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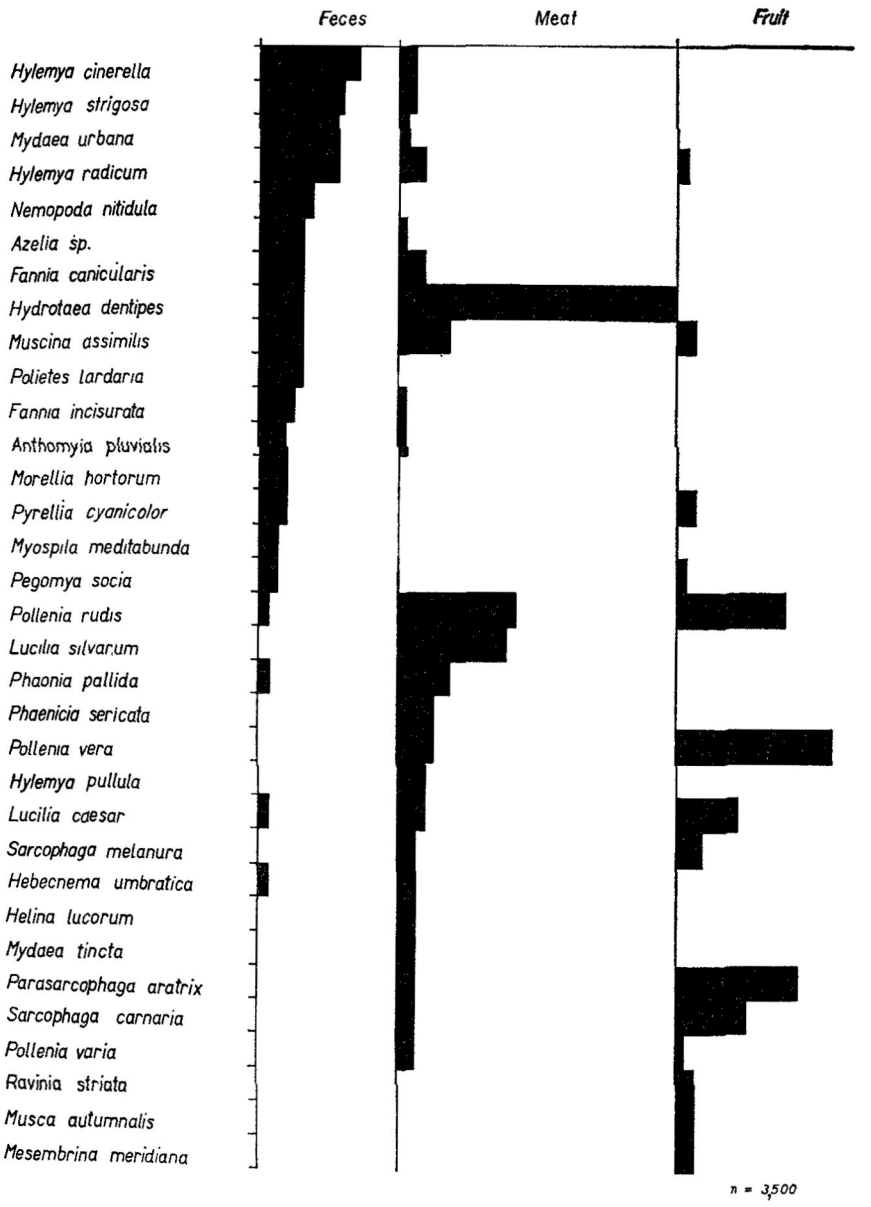

FIG. 7. Comparison (based on 3,500 flies) of three samples of hemisynanthropic flies with nearly the same species composition as in the preceding graph. These samples were collected during the first week of September on the margin of a Querceto-Carpinetum forest in Central Europe. Comparison with the previous scheme shows the following: (a) changes of population density in the single species observed; (b) seasonal influence on the qualitative and quantitative relations of certain species; (c) the communicative nature of some species is manifested by their visit to all three baits—feces (F), meat (M), and fruit (Fr)

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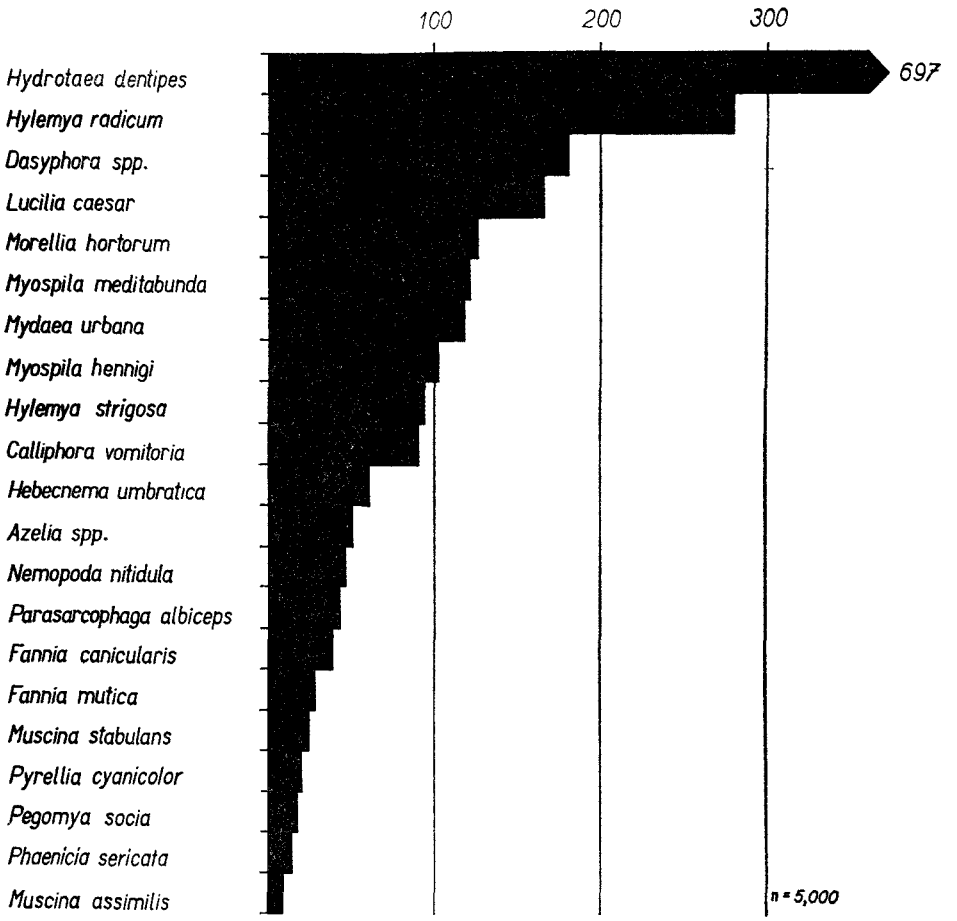

FIG. 8. Schematic representation of an association of dominant species of synanthropic flies sampled on feces once a week during May, June, and July on the margin of a Central European Querceto-Carpinetum forest. Species, e.g., *Sarcophaga melanura, Muscina pabulorum, Phormia regina, Pollenia rudis, Pollenia vera, Scatophaga stercoraria,* and *Cypsela nigra* were uncommon. This sample represents a good average aspect of this type of habitat in the western part of the Palearctic. Seasonal changes are reflected in changes in population densities of individual species

simplex, Fannia mutica, Mesembrina meridiana, Mydaea urbana, Muscina assimilis, Myospila meditabunda and, quite commonly during late summer, by *Polietes lardaria.* The family Sarcophagidae is represented mainly by *Parasarcophaga albiceps, P. similis, P. tuberosa, P. harpax, P. aratrix,* and *P. pseudoscoparia.*

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Zone of mixed forest with transition to mountain spruce belts and remains of communities of the *Fagetum abietosum* and *Acereto-Fraxinetum* type

This zone harbors typical populations with *Lasiops simplex, Fannia mutica, Hylemya lasciva, Pegomya socia,* and *Mydaea urbana* predominating. Also characteristic are *Calliphora vomitoria, Hydrotaea dentipes, Phaonia pallida, Myospila hennigi, Hylemya strigosa, Polietes lardaria, Fannia parva* (typically associated with the Fagetums of the Carpathians), and *Neuroctena anilis.* In the mountain forest belts one finds *Mesembrina mystacea, Phaonia variegata, Calliphora uralensis, C. loewi, Hydrotaea irritans,* and *Morellia podagrica.*

Mountain forest belt with Picetum and some autochthonous larch

This zone is characterized mainly by *H. irritans, H. strigosa, H. radicum, M. deserta, M. scutellaris, C. vomitoria, M. podagrica* (missing in the Hercynian part of Central Europe), *Scatophaga stercoraria,* and *Scatophaga furcata* (Fig. 9). Here one also finds most of the species typical of the *Fagetum* and *Acereto-Fraxinetum* forest type. Among the non-dominant species are *Calliphora subalpina, C. alpina, C. uralensis,* and *C. loewi.* This biotype is noteworthy for the almost complete absence of members of the family Sarcophagidae.

Zone of Alpine meadows

This biotype cannot be characterized uniformly, because there is a distinct subnival belt in the Alps which is absent from the Carpathian Mountains. Nevertheless, we may note the common occurrence of *H. radicum* (in the Alps, of the endemic subspecies *H. radicum montalpina*), *H. strigosa, C. mortuorum, S. furcata, S. stercoraria, C. vomitoria, C. alpina, C. subalpina, M. deserta, M. podagrica, Myospila hennigi, Fannia mutica,* and *F. monilis* (Fig. 10). In the Carpathians, *P. lardaria* and *M. scutellaris* extend into this zone from the forest belt. The subnival zone of the Alps is characterized by a number of quite specific forms such as *Steringomyia stylifera, Hylemya caerulescens, H. grisella* (the latter two species often abundant), *Myospila meditabunda alpina, Phaonia tenuiseta, Mydaea rufinervis,* and *Pegohylemya albifacies.* The southern slopes of the Alps and their valleys are exposed to the penetration of thermophilous fauna from deciduous and mixed forests. As a result, these valleys share many species with their neighboring biotypes, which include *L. caesar, M. podagrica, N. nitidula, H. radicum, P. cyanicolor, S. carnaria,* and *Thyrsocnema laciniosa.*

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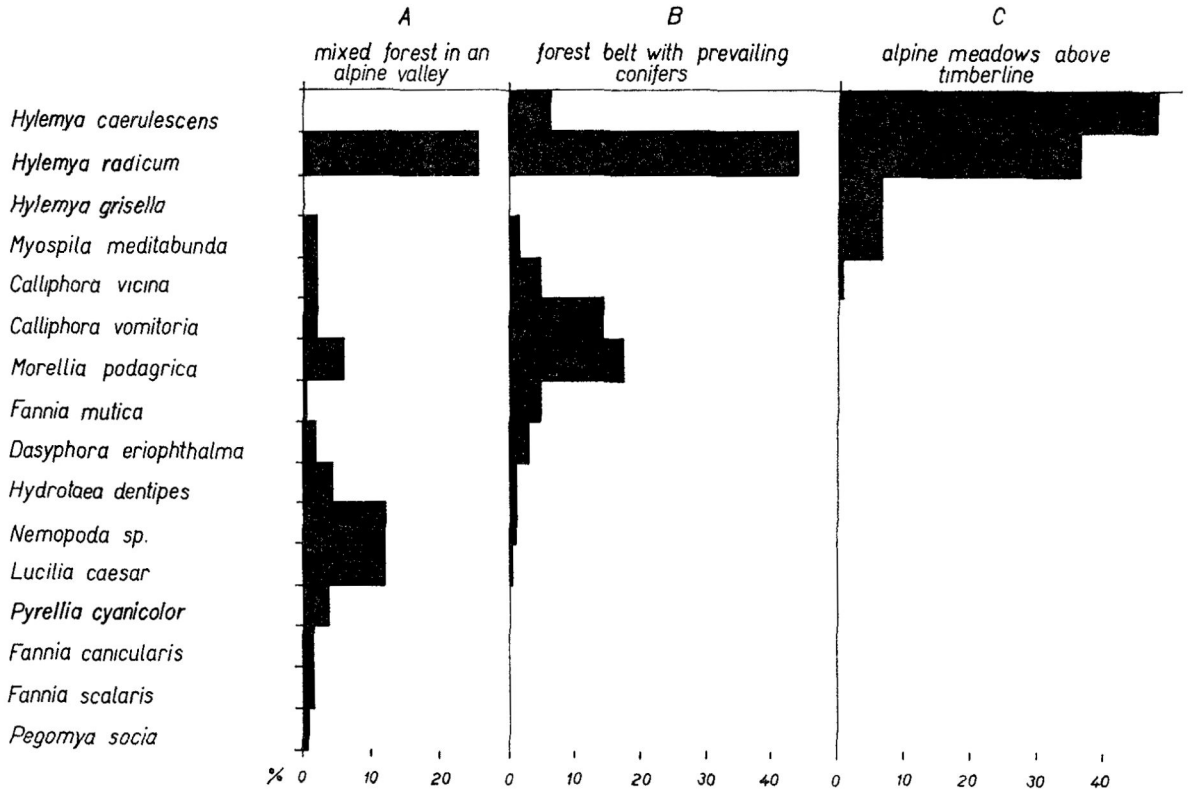

FIG. 9. Representation of sixteen dominant hemisynanthropic flies in the Tyrolean Alps. A = mixed forest with an Alpine valley at about 800 m.; B = forest belt with prevailing conifers between 1700 and 1900 m.; and C = Alpine meadows above timberline (above 1900 m.). Among the non-dominant species of flies the following should be mentioned as characteristic. For zone A: *Lucilia* sp. div., *Parasarcophaga* sp. div., *Bellieria niverca, Mydaea urbana,* and *Lasiops simplex.* For zone B: *Mydaea deserta, Hydrotaea pandellei,* and *Scatophaga furcata.* For zone C: *Steringomyia stylifera, Phaonia tenuiseta, Mydaea rufinervis,* and *Pegohylemya albifacies*

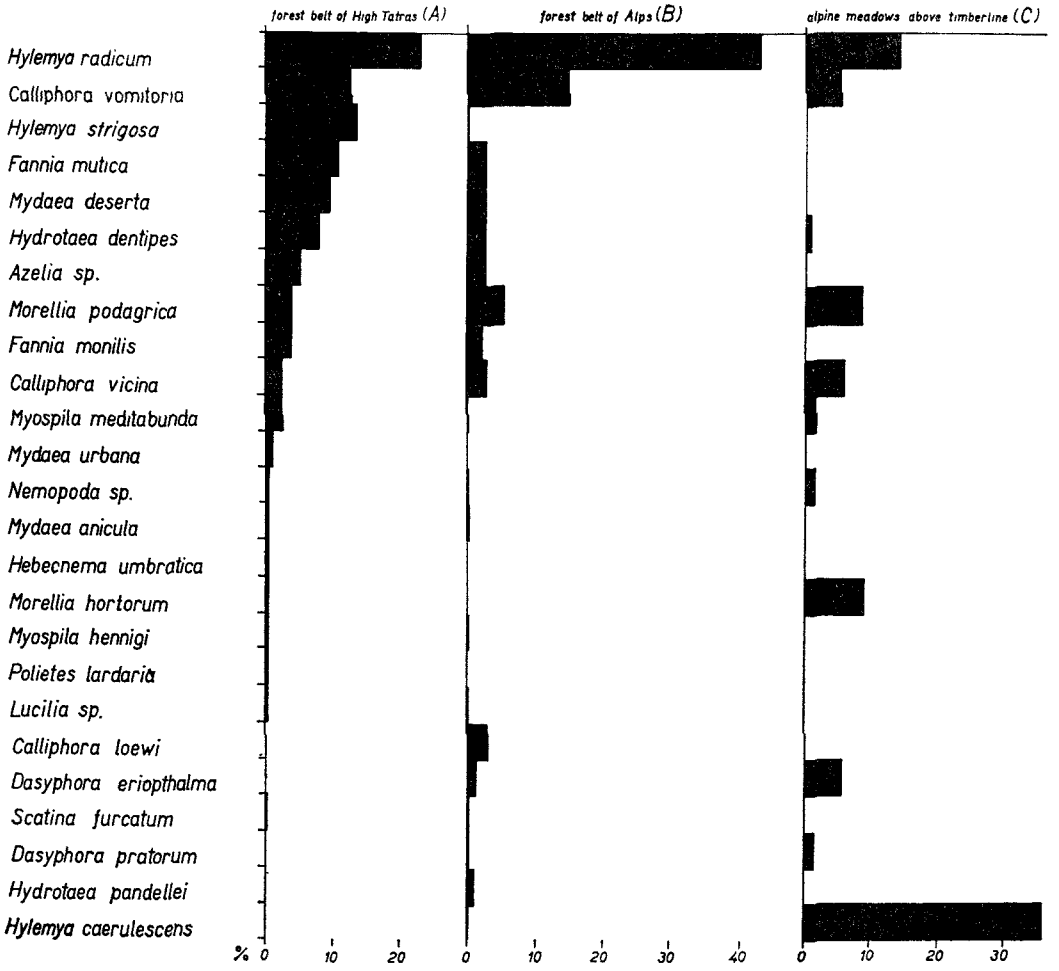

FIG. 10. Survey (based on 2,200 flies) of 25 coprophagous dominant synanthropic flies in the forest belt of the High Tatras at about 1100 m. (A); in the forest belt of the Alps at about 1900 m. (B); in Alpine meadows above timberline of the Alps at about 1800 m. and higher (C). (*Scatina furcatum* = *Scatophaga furcata*)

It should be noted that all these dipterous denizens of the Central European landscape are characterized here in their summer aspect. In early spring or autumn, one encounters psychrophilic forms at much lower elevations than during summer (*S. stercoraria, C. mortuorum, P. rudis,* and *C. uralensis*).

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Modifications of the biotypes described above often reflect important differences in the species composition of synanthropic fly populations. Some of these man-made environments foster fly species which directly affect man and animals, and therefore justify additional detail.

Anthropobiocoenoses of largely urban type

Alterations in the biotic and abiotic factors in this environment have resulted in a spontaneous elimination of the chiefly hemisynanthropic forms. As a consequence, secondary zoocoenoses of synanthropic flies have arisen, with the predominating eusynanthropic forms showing both exophilous and endophilous habits. The most typical eusynanthropic species tend to occur outside their autochthonous areas as a result of secondary cosmopolitanism. They include *P. sericata, C. vicina, M. stabulans, P. terraenovae,* and *P. casei.* The two most typical endophilous eusynanthropes are *M. domestica* and *F. canicularis.* Anthropobiocoenoses and their immediate vicinity tend to support increased populations of eusynanthropic species. Certain less common but characteristic species also occur in the anthropobiocoenoses, such as *P. demandata, S. haemorrhoidalis,* and *F. leucosticta.* It is noteworthy that the latter species occurs in eusynanthropic populations in Europe but not in Asia. Of equal interest is the discovery that the northern limit of free-living natural populations of *P. demandata* and *P. sericata* are roughly at a level with the northern border of the Great Hungarian Lowland. Only by means of their association with anthropobiocoenoses, are both species able to penetrate far to the north of this border into southern Finland.

A very representative sample taken on the outskirts of Prague indicates that the following communicative and exophilous species are characteristic of anthropobiocoenoses of Central Europe: *P. sericata, H. radicum, O. leucostoma, L. caesar, H. dentipes, P. varipes, P. terraenovae, M. stabulans,* and *H. cinerella* (Fig. 11). *P. sericata* is foremost among the communicative species. These surveys point up the necessity for effective control of synanthropic flies in the environs of food processing plants, rendering plants, and rubbish heaps.

Equally interesting results were obtained from trapping flies in a fruit and vegetable market in Ujpest, in central Hungary (Fig. 12). There was a marked predominance of communicative eusynanthropic species, such as *P. sericata* and *M. stabulans,* and a lower density of *M. domestica* in the open market place. There was also an abundance of *S. melanura, M. assimilis, S. haemorrhoidalis, H. radicum, L. caesar,* and *P. aegyptica.* In gardens in the center of Budapest, the following species predominated: *P. sericata, H. radicum, L. caesar, R. striata, S.*

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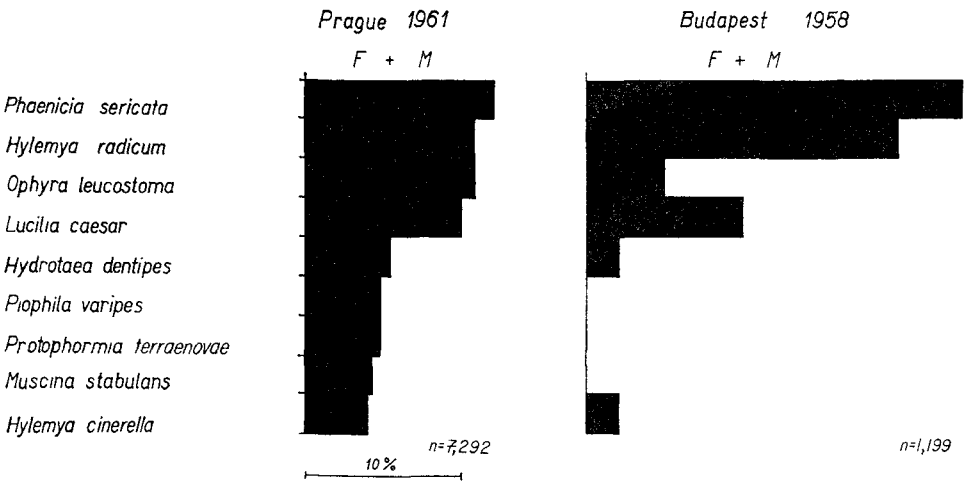

FIG. 11. Schematic representation of hemisynanthropic flies sampled on feces (F) and meat (M) under similar conditions in Prague and in Budapest. The typical increase of *P. sericata* is noteworthy as is the decrease of *P. terraenovae* toward the south. A marked narrowing of the spectrum of species takes place with the predominance of eusynanthropic forms

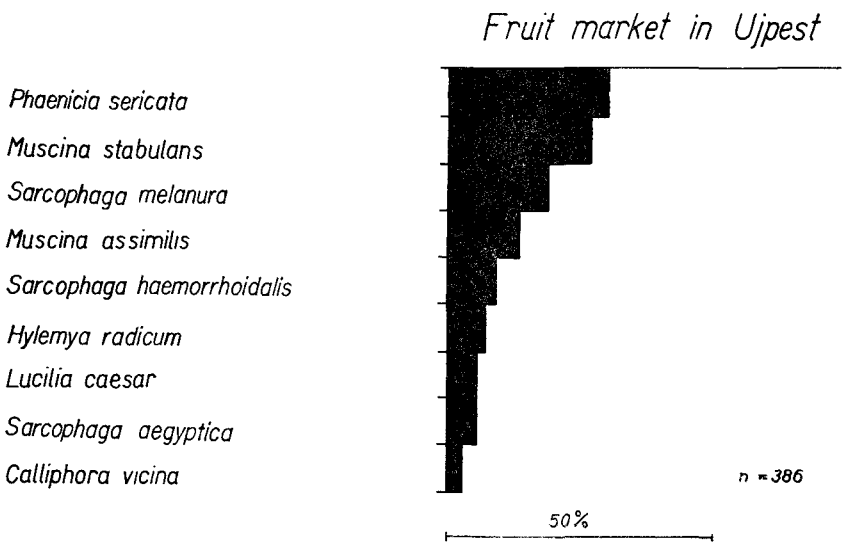

FIG. 12. Sample of hemisynanthropic flies taken in a fruit market in central Hungary. The communicative *P. sericata* and *M. stabulans* prevail. Note the appearance of south European *P. aegyptica* among the dominant species. The strong constriction of the spectrum of flies is due to the anthropobiocenosis, as well as to the density of the eusynanthropic *P. sericata* and *M. stabulans*

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melanura, O. leucostoma, H. dentipes, F. canicularis, S. haemorrhoidalis, S. punctum, P. demandata, P. nigrimana, and *P. latipes. M. domestica* was also present and, at times, *C. albiceps* invaded from the south. It is important to note that with the exception of the carnivorous *C. albiceps* and *Piophila* spp., the above species were trapped on both feces and meat, which indicates a significant communicative behavior. In a rendering plant yard in Budapest, a mass occurrence of *M. domestica, P. sericata,* and *Piophila* spp. and a scattered occurrence of *P. regina* and *C. albiceps* were observed.

This situation, typical of the environs of most of the larger towns in the warmer parts of Central Europe, warrants seasonal microbiological examination of food, fruit, and meat for potential contamination, and comparison with the microflora of flies, even during nonepidemic periods.

Agrobiocoenoses of pastures

Here we have a typical fauna of symbovine and coprophagous species adapted to excreta of ruminants and horses. At lower elevations in steppes, forest-steppes, and warm deciduous forests *Musca autumnalis, M. meditabunda, D. pratorum, D. versicolor, O. caesarion, O. cornicina,* and numerous *Sepsis* species are common. Less common but still typical are *M. hortorum, H. umbratica* and, in the vicinity of forests, *M. meridiana.* Thermophilous species such as *M. autumnalis* retreat from submontane pastures in mixed forest belts whereas other species appear there, having been eliminated from their original eubiocoenoses surrounding these pastures. Examples of these are *H. strigosa, M. meditabunda, P. lardaria, D. pratorum, D. versicolor, M. podagrica,* and members of the Sphaeroceridae. The species which are common in lowland pastures are scarcer here. *P. lardaria, S. furcata, S. stercoraria,* and *M. scutellaris* are typical of the high mountain pastures and alpine meadows in the Carpathians. *H. radicum montalpina, H. caerulescens, H. grisella* and *M. meditabunda alpina* are typical of the subnival zone in the Alps (Fig. 13).

Censuses of synanthropic flies may also be compiled for smaller areas of the Palearctic region, based on latitude, altitude, proximity of the sea and local character of vegetation.

1. Northern Europe and Asia

Thorough analyses of populations of species of synanthropic flies in northern Europe and Asia are still lacking, but the Calliphoridae have been the focus of considerable study in Scandinavia. In general, it appears true that there are notable densities of certain *Calliphora* in

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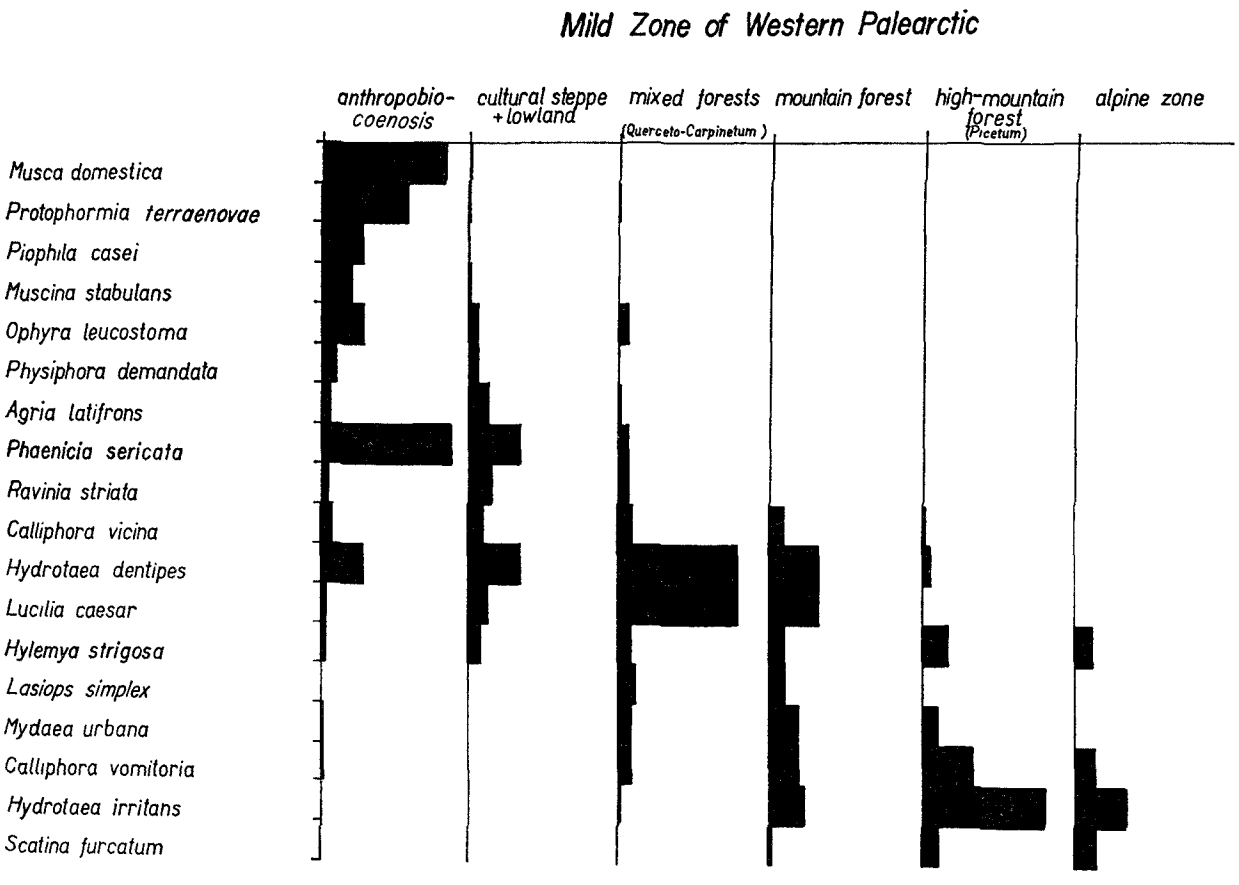

FIG. 13. Representation (based on 55,000 flies) of the population densities of eighteen species of synanthropic flies typical of the mild zone of the western part of the Palearctic. For each biotype only the most representative species, not confined to narrow habitats, have been selected. (*Scatina furcatum* = *Scatophaga furcata*)

northern Europe, whereas in the more southerly part of northern Europe, i.e., in the oak and secondary deciduous forests, certain species of *Lucilia* are more characteristic. The Scandinavian blow flies are further distinguished by the gradual northward decline of *P. sericata* which reaches southern Finland and has a scattered distribution in the north correlated with its eusynanthropic behavior (Fig. 14). *L. caesar* and *B. silvarum* reach central Finland and exhibit similar eusynanthropic tendencies. The highest relative densities in the genus *Lucilia* are attained by *L. illustris* which is the most common species throughout south and central Finland. The central part of northern Scandinavia, with its predominant coniferous forests, is characterized by the almost complete absence of sarcophagids and a marked predominance of *Calliphora*, with *vicina, subalpina* and *loewi* in order of frequency. *C. vicina* is most common in the forest belt where it is eusynanthropic. *C. vomitoria* shows much the same trend but at lower densities. *P. terraenovae* and *C. uralensis* attain their greatest populations as eusynanthropes in northern Finland. The inverse is observed in the decidedly hemisynanthropic *C. lowei* and *C. subalpina* which decrease toward anthropobiocoenoses, and also in *P. sericata* (scarce in human settlements), *L. caesar* (eusynanthropic here), and *B. silvarum* (hemisynanthropic). Farther south, in northern Poland and Germany, *C. subalpina* is confined to the Carpathians and the Alps.

Trappings near the border of the European subarctic have yielded *C. uralensis* (eusynanthropic), *C. vomitoria, C. loewi,* and *C. alpina* (hemisynanthropic), but not *C. vicina.* The Finnish subarctic is characterized by *H. binotata* and *C. mortuorum* among the hemisynanthropes, and *P. terraenovae* among the exophilous eusynanthropes. The more extensive zone of the Eurasian tundra contains a complex of synanthropic flies which includes *C. mortuorum, C. vomitoria, L. illustris, B. atriceps, H. dentipes, H. cinerella,* and a number of *Scatophaga* spp., e.g., *suillum, varipes, perfectum, arcticum,* and *cordylurinum.* Here we also find the non-dominant *Triceratopyga calliphoroides, Acrophaga alpina, Lucilia fuscipalpis, Abonesia genarum, Piophila vulgaris, P. arctica, Themira arctica, Scatophaga furcata, Coelopa frigida,* and *Eristalis tenax.* The chief species of the entire Eurasian tundra are *P. terraenovae* and *C. uralensis.* Thus far, there are no detailed data on population size of the various species, but they seem to be capable of attaining high local densities under conditions of synanthropy.

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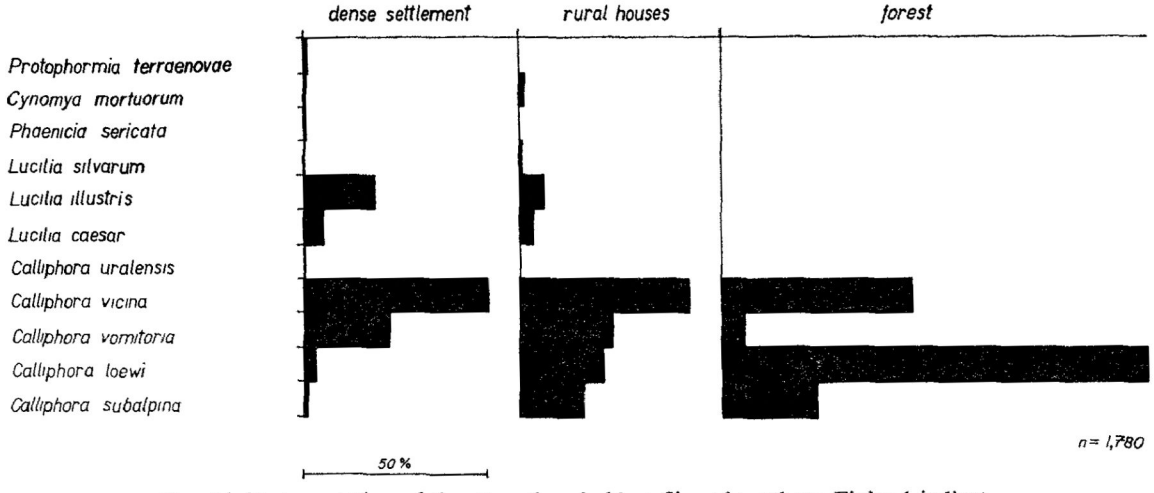

FIG. 14. Representation of the synanthropic blow flies of southern Finland indicating the degree of eusynanthropy and hemisynanthropy

2. The British Isles

According to present knowledge, the specific composition of synanthropic flies in central and southern Britain strongly resembles that of the mixed forest belts at medium elevations of the European continent. There is an absence of thermophilous elements, particularly species of Sarcophagidae. Very likely, this is due to the mild and semihumid character of the Atlantic climate. Under natural conditions, at the edge of forests in central Britain, *H. radicum, L. illustris, M. hortorum, B. ater, F. canicularis,* and *M. meditabunda* predominate in summer. *S. stercoraria, H. meteorica, H. armipes, P. lardaria,* and *C. vicina* are also common. Natural habitats along the southern coast of England are characterized in summer by the occurrence of *H. radicum, C. vicina, H. dentipes, M. meditabunda, S. stercoraria,* certain *Helina* spp. and *Hebecnema* spp., scattered *P. sericata,* as well as by numerous species of Sepsidae and Sphaeroceridae. Continuous forests and shaded parks (even those in the center and outskirts of large towns, such as Hyde Park and Kenwood in London itself) are characterized by the predominance of species represented in Figure 15. Due to their park character, British towns frequently offer better conditions for both variety and density of synanthropic flies than nature does. This is demonstrated by a comparison of results of trapping synanthropic flies in Hyde Park in the center of London, with those obtained in the natural reserve of Woodwalton Fen near Ramsey, or in southern England (Fig. 15). In addition to *M. domestica* and *P. sericata,* which are communicative but of low density, *H. radicum* is an important and common synanthropic fly. The dipterous fauna of northern England and Scotland have not been sufficiently investigated, but a general similarity with that of Scandinavia may be expected.

3. The Mediterranean Region

Effects opposite to those described above are characteristic of the southern and especially the southeastern part of Europe, e.g., the Balkan Peninsula. Certain species of flies, showing eusynanthropic tendencies in Central and northern Europe, produce hemisynanthropic populations in southern Europe. This is true of *P. sericata, P. demandata,* and *M. domestica* (Fig. 16). Such populations of *P. sericata* and *M. domestica* nevertheless retain a high degree of eusynanthropy. On the other hand, hemisynanthropic forms which have greater latitude with respect to temperature and humidity, e.g., *L. caesar,* become eusynanthropic in the woodless areas of the cultivated steppe and in limestone situations.

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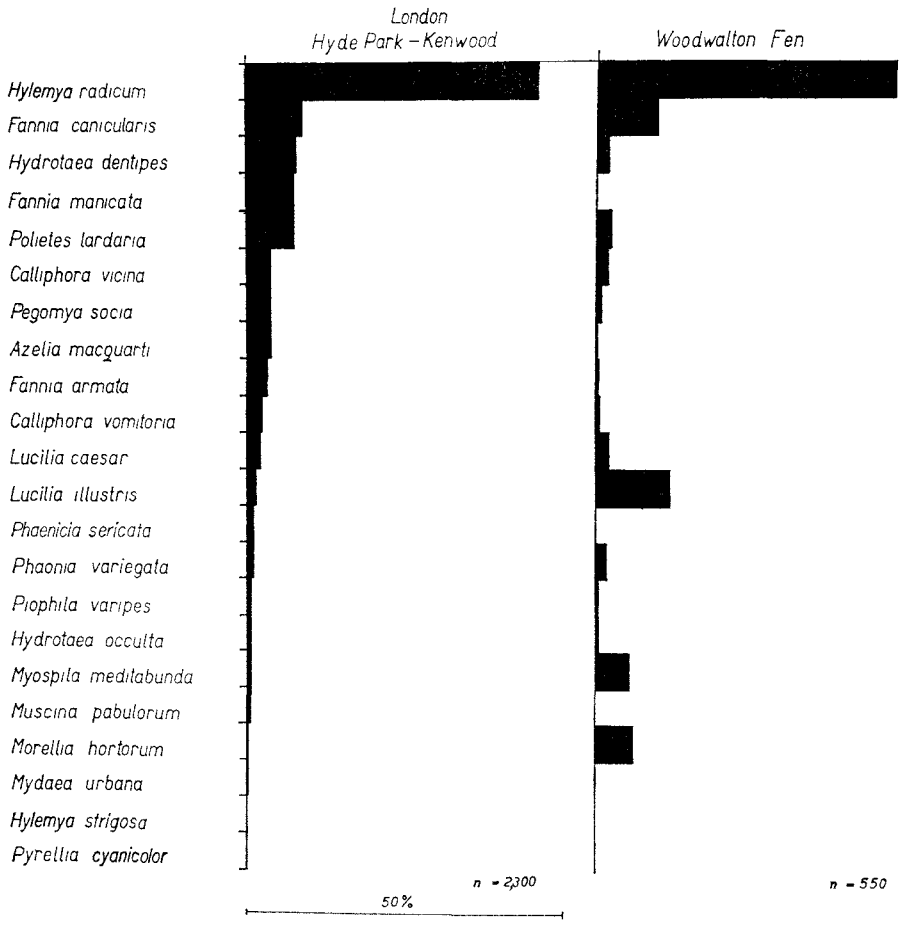

FIG. 15. The hemisynanthropic flies in two large parks of London, sampled on feces. Species composition is strongly influenced by the mezoclimate of a mixed forest. Nevertheless, note the several representatives of eusynanthropic flies, e.g., *P. sericata*, *C. vicina*, and *L. illustris*

In Central Europe, one finds xerothermophilous species which are less temperature dependent, e.g., *D. cyanella.* These zoocoenological changes are best demonstrated by the increase in population density and number of thermophilous forms of Sarcophagidae: *A. latifrons, R. striata, S. haemorrhoidalis, S. melanura, P. aegyptica, P. jacobsoni, P. portschinskyi, P. exuberans*, and *Wohlfartia magnifica.* As we have already noted, subtropic elements—e.g., *C. albiceps*—may also penetrate into this area from the south. High population densities are

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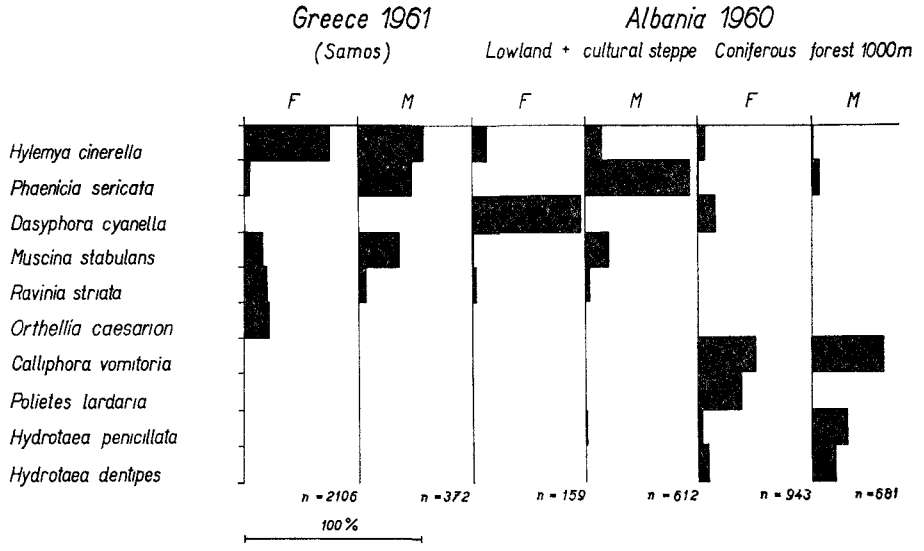

FIG. 16. Typical hemisynanthropic flies of the European Mediterranean, taken on feces (F) and meat (M). The occurrence of *Dasyphora cyanella* and *Hydrotaea penicillata* are characteristic, as well as the considerable densities of *P. sericata* in the wild. Of the non-dominant species, the presence of *Dasyphora albofasciata* is notable

produced by *P. sericata, H. cinerella, M. stabulans, Ulidia erythrophthalma, R. striata,* and *P. regina.*

In the mountain forests of southern Europe and in their remains a reduction takes place in the rich spectrum of species typical of the Central European mixed and coniferous forests. Commonly found are *C. vomitoria, H. radicum,* and *P. lardaria,* joined by certain Mediterranean or rather thermophilous species, such as *H. penicillata* (replacing the retreating *H. irritans*), *H. cyrtoneurina,* and *Dasyphora albofasciata.*

4. Near and Middle East

The synanthropic fly fauna of the Near and Middle East is significant for an understanding of the fly fauna of the western Palearctic. This region served as a refuge for the thermophilous Palearctic fauna during the glacial periods, and it was from this center that populations spread to the north and northwest during the interglacial periods and the Holocene. This fauna is therefore an organic part of the western Palearctic and is distinguished mainly by increases in the density of thermophilous Palearctic, and even Holarctic, species. This is due not only to climatic factors but also to readier availability of food and

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breeding materials resulting from lower hygienic standards. In this group, we have the following types: species with a summer pupal diapause, *S. stercoraria* and *P. lardaria*; species retaining at least periodic winter activity in the warmest continental areas of Central Asia, *H. cinerella, F. canicularis, F. scalaris, M. stabulans, P. rudis, C. vicina,* and *D. asiatica*; and finally, species showing early spring occurrence, i.e., hibernating as third instar larvae or pupae, *M. assimilis, D. querceti, O. leucostoma,* and *P. regina.* We note the absence or rarity of hygrophilic and psychrophilic elements in this region.

The extensive deforestation of this Middle Eastern region has substantially influenced the ecology of the entire area and emphasized its natural desert character. As a consequence, the xerothermic steppe, semidesert, and desert species come to the fore during the summer months. The key group in these regions is the non-dominant sarcophagids: *P. aegyptica* in western and middle Asia, North Africa, and the Balkan Peninsula; and *Bellieria maculata, Parasarcophaga semenovi, P. hirtipes, P. barbata, P. chivensis, P. jacobsoni, P. securifera* and numerous species of *Wohlfartia—W. balassogloi, W. nuba, W. indigena, W. fedtschenkoi* and *W. trina*—in middle Asia. The dominant sarcophagids, *R. striata, S. haemorrhoidalis, S. melanura* and *S. latifrons*, are here joined by *P. demandata, P. chalybaea, M. domestica vicina, M. sorbens, M. osiris, F. leucosticta, C. albiceps, P. sericata,* and *Sepsis thoracica,* all of which are frequently dominant. Absent from these regions are *L. caesar, C. vomitoria,* and *H. dentipes,* as well as a number of other species present in much of Europe. A shift is observed in favor of the sarcophagids, whereas numerous muscid and calliphorid species of the Temperate Zone are eliminated and replaced by subtropical species.

The public health danger of flies discussed in connection with the Prague and Ujpest surveys is even more pronounced in the Middle East. This is readily observed in the results of fly trapping in the fruit bazaar in Samarkand, where many of the predominating species are highly communicative: *M. domestica vicina, F. scalaris, F. canicularis, D. querceti, M. stabulans, C. vicina, P. sericata, P. regina, M. sorbens,* and *D. asiatica.* There was also the typical occurrence of *P. demandata, C. albiceps,* and *F. leucosticta.* During spring and autumn, these flies are joined by a group of species with wider ecological tolerance, such as *P. rudis, M. assimilis, M. stabulans, O. leucostoma,* and *H. cinerella.* Similar relations were found at Bukhara.

The northern part of middle Asia, i.e., northern Kirghiz and Armenia, corresponds in latitude to southern and Central Europe. Its fly fauna is essentially similar, with some distinctly Continental additions (Fig.

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17). Here, *domestica* is present in its nominate form, rather than as the subspecies *vicina*. The Continental character of the climate is evidenced by the occurrence of the purely Continental species *F. leucosticta* and by high summer densities of *P. sericata, R. striata,* and *S. melanura*. At the same time, the rather hygrophilous species, *P. cadaverina, M. stabulans, M. meditabunda,* and *C. vicina,* are less frequent and occur only in moister seasons. *P. terraenovae* is also present.

The high mountains of middle Asia, the Pamirs, have a more southerly aspect than their European counterparts, as shown by the common oc-

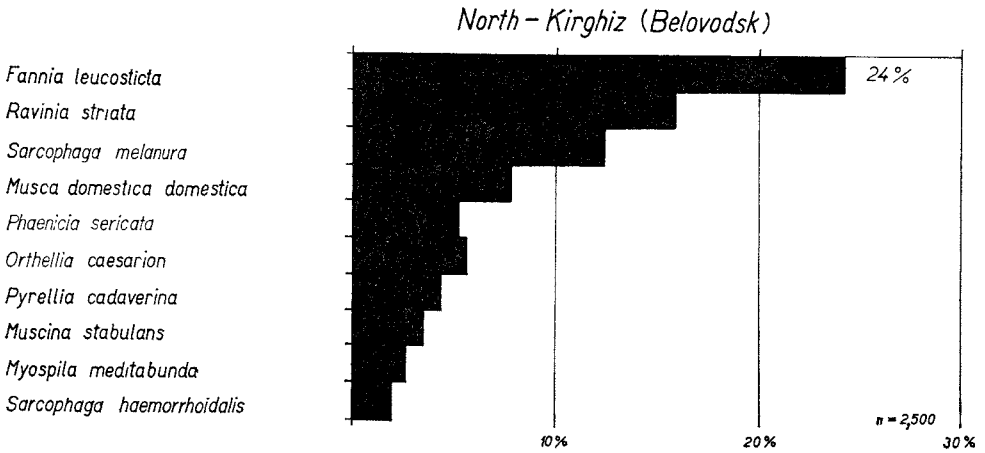

FIG. 17. The hemisynanthropic fly fauna of northern Kirghiz, sampled on feces near a human settlement. Of the non-dominant but quite characteristic species, *Physiphora demandata, Dasyphora asiatica, Musca sorbens, M. osiris, M. tempestiva, M. larvipara, M. autumnalis,* and *Sepsis thoracica* were present. Except for *Fannia leucosticta* (an eastern Continental species), *Musca domestica* (with its relatively high density), and the endemic species of Central Asia, this sample greatly resembles the fauna of the European Mediterranean

currence of thermophilous forms at considerable elevations (Fig. 18). There is also a blending of purely endemic elements with species typical of the hygrophilous fauna of more northern latitudes. For instance, *R. striata* is found at elevations over 3,500 meters and is a predominant species up to 3,000 meters. *H. cinerella* is common up to the subnival zone at over 4,000 meters. *M. domestica domestica* is the most frequent synanthrope up to elevations of about 2,800 meters, followed by *F. canicularis, D. gussakovskii, S. haemorrhoidalis, O. caesarion, M. osiris, P. sericata, M. stabulans, C. vicina, S. melanura, F. leucosticta,* and *C. uralensis*. Between 3,600 and 4,000 meters, *P. ter-*

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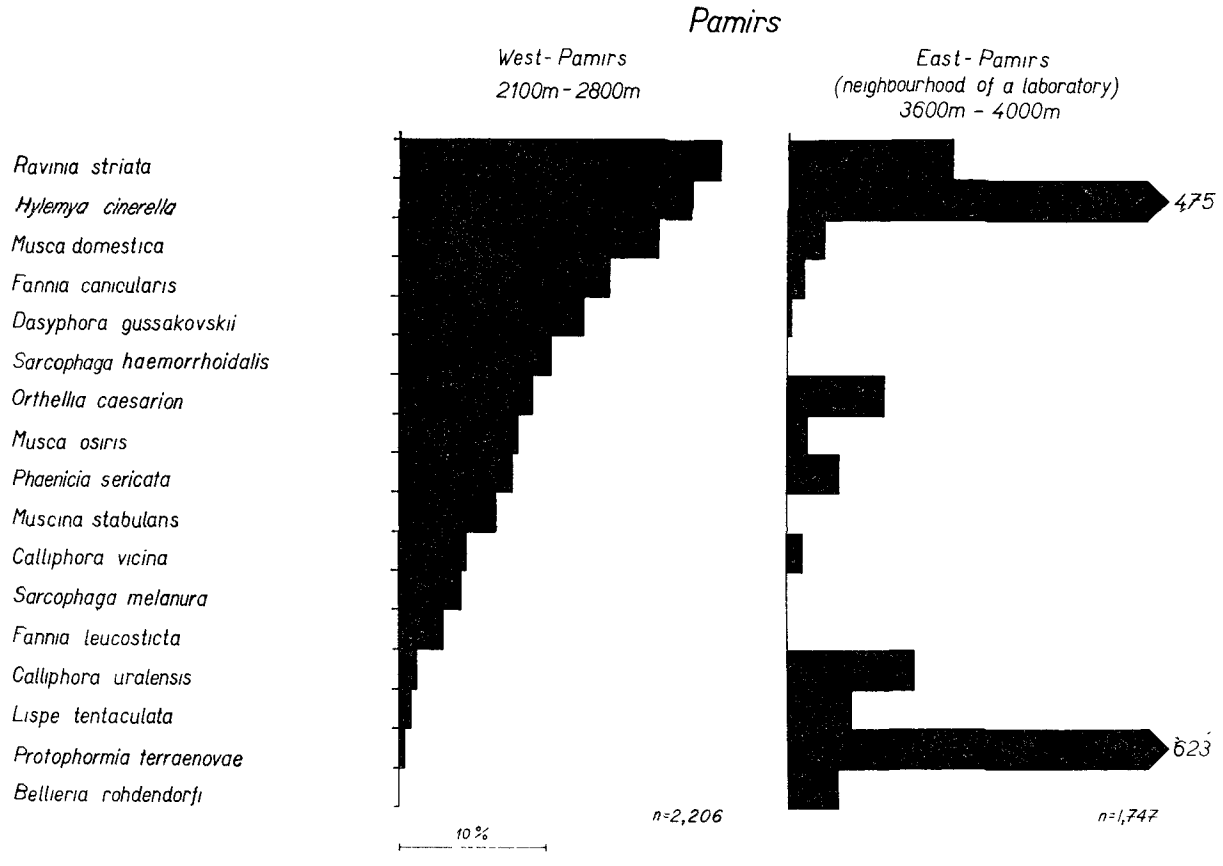

FIG. 18. The hemisynanthropic fly fauna of the mountains of Central Asia attracted to feces. The strong influence of thermophilous elements, reaching elevations over 2000 m., as well as the sudden occurrence of *Protophormia terraenovae* above 3000 m., is characteristic. *Hylemya cinerella* is revealed as a species typical of non-forested habitats

raenovae is the predominant fly. In descending order, we find *H. cinerella striata, O. caesarion, C. uralensis,* and *L. tentaculata.* Not a single thermophilous Asiatic species attains any great density here. There is a probable occurrence of the specific mountain coprophagous and carnivorous species but thus far no evidence is available.

In Afghanistan which is the southeastern Palearctic corner of middle Asia, there is an interesting penetration of the Oriental fauna headed by *Chrysomya megacephala* (Fig. 19). In spring (March and April), a number of species were found in an open-air bazaar at Jalal-Abad,

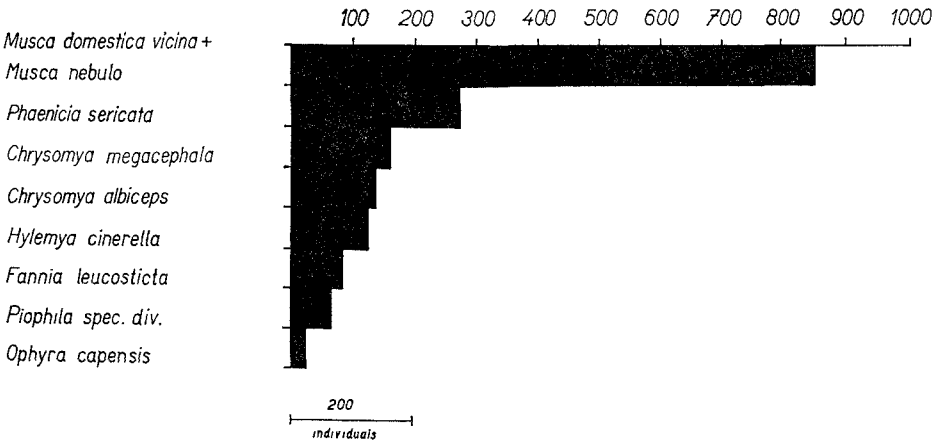

FIG. 19. Population of mostly eusynanthropic flies sampled in a slaughter house on the margin of Jalal-Abad (southwest Afghanistan) at the end of March 1966. The dominance of the *Musca* populations as well as the high density of *P. sericata* and *C. megacephala* are characteristic of this area

of which *M. domestica vicina* and *M. d. nebulo* made up over 80 percent of the population. Due to the early season, the two subspecies could not be reliably separated, as the width of the frons overlapped considerably in both forms. Zoogeographically, however, this area is characteristic of *M. d. nebulo.* Other species included *P. sericata* (over 12 percent) and *C. megacephala* (about 5 percent). Less frequent or scattered were *C. albiceps, H. cinerella, P. casei, O. capensis, M. stabulans, C. vicina, C. vomitoria, F. leucosticta, M. meditabunda, Phorbia platura, Musca lucidula, M. sorbens,* and *R. striata.* In May, *C. megacephala* and *Piophila* spp. were almost as abundant as *M. domestica vicina* and *M. d. nebulo.*

Naturally, this general outline of the synanthropic flies as com-

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ponents of the Palearctic zoocoenoses is not exhaustive. Its aim has been to delineate characteristic fly populations of typical environments. The reader interested in obtaining more detailed information on the bionomics and distribution of this group of flies is referred to the bibliography which follows.

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3

Bionomics of Flies

Bernard Greenberg and
Dalibor Povolný

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THE PURPOSE of this chapter is to provide for the more important synanthropic flies summaries of existing information on geographic and phenologic distribution, and patterns of adult behavior and larval breeding as they relate to man and other organisms. In presenting the synanthropic biology of flies, only chance mention is therefore made of the effects of biotic and abiotic factors on the various stages in development from the egg to the adult. These will be dealt with more thoroughly in the next volume. In such instances, our purpose is to point out the important ecological and ethological moments in the life of various species which merit attention.

Anastellorhina augur

This fly is limited in its distribution to the Australian region where it is an important sheep myiasis fly. It may occur in great numbers during early summer when it is one of the dominant blowflies in the bush and corrals. It also invades the home. Larvae hatch quickly following oviposition and have been recorded as breeding in a great variety of decomposing substrates, including dead insects, snails, sour milk, cheese, fermenting grain, and bone manure. It has not been recorded as breeding naturally in cow or horse dung. As many as 50 flies have been bred from a bird cadaver smaller than a sparrow.

Anthomyia pluvialis

This fly has a Holarctic range, occurring from Alaska to Georgia and throughout Europe and Asia to China and Japan. It disports itself near water and with the approach of rain, males execute an aerial dance. Larvae live in decomposing plant material and occur in the nests of birds.

Atherigona orientalis

This is a cosmopolitan, hemisynanthropic fly in temperate and subtropical regions. The adult is extremely catholic in its tastes and may be taken on carrion, decaying plant material, including fruits and vegetables, and human excrement. It is essentially an exophilic fly, not inclined to enter dark places, including privy pits. Larvae breed in substrates equal in variety to those which attract adults. The larva preys upon other maggots. On Guam, this is the most abundant muscoid fly during most seasons, and it is common around villages and camp kitch-

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ens. In a Samoan study of yaws transmission, a collection of wound-feeding flies yielded 0.6 percent of *A. orientalis.*

Blaesoxipha plinthopyga

This is a hemisynanthropic fly which ranges in the Nearctic from southern Canada to California and in the Neotropics from Mexico and the West Indies to Brazil. The larvae are commonly found on carcasses or as internal parasites of insects. The isolation of vaccine strains of polio virus from these flies soon after administration to a human population indicates its attraction to feces as well.

Calliphora terraenovae

This is a hemisynanthropic species. Like other members of the genus, these maggots are saprophagous, breeding in decomposing organic matter. Adults are attracted to carrion. The species is distributed in the Nearctic region from Alaska to Greenland, south to California and northern Florida. There is a close affinity between this species, the Holarctic *vomitoria* and the Palearctic *uralensis.*

Calliphora uralensis

This species is abundant in the forest zone of Eurasia. It is important in eastern Europe, especially in the forest zone of U.S.S.R. where, in the opinion of Soviet authors it is distinctly eusynanthropic and communicative. In Central Europe, it is hemisynanthropic and less abundant. Larvae show a wide food range but are most numerous in liquidy excreta, particularly in latrines and cesspools. Larvae do poorly in meat and compared with those of *C. vicina* are found less frequently. Adults alight on sunlit places and oviposit on walls of privies. The species penetrates far to the north in Europe. The related species *C. loewi* and *C. subalpina* occur mostly in forests, frequently showing disjunct distribution (especially, *C. subalpina*). They are sometimes hemisynanthropic, particularly in northern Europe.

Calliphora vicina

This is a eusynanthropic communicative species, frequently showing endophilous tendencies. It is distributed in the Holarctic region, secondarily following man into neighboring regions (Australia, New Zealand). Adults frequent fruit, decaying meat, and feces; larvae are chiefly carnivorous, developing in decomposing meat. In the subtropics, the species occurs in winter; in the Temperate Zone, chiefly in spring and autumn; in the subpolar zone, in summer. Consequently, it occurs in mountains in the Oriental region. In northern Europe, the species shows particularly strong synanthropy and is often quite numerous.

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Calliphora vomitoria

This is a hemisynanthropic to exophilous eusynanthropic species, which is sometimes communicative. Like *C. vicina*, it is markedly saprophagous. In Europe, it is chiefly a forest species ascending the mountains where it sometimes occurs in large numbers, and around mountain chalets and hotels in various refuse. The phenology of this species is characterized by spring and autumn peaks. It is also frequent in forests during summer. Its distribution is Holarctic, but in North America it is more common in the wooded parts of Canada. In northern Europe, it often occurs together with *C. vicina* but is less abundant.

Chrysomya albiceps

This is a Paleotropic to Paleosubtropic species which spreads during late summer of hot, moist years up to Central Europe from the Mediterranean (e.g., during 1958 to 1959). The species prefers high temperatures and humidity. Adults are attracted in large numbers by meat bait. Larvae are predatory, attacking those of other synanthropic flies present in carrion. It is a hemisynanthropic species whose epidemiologic role has not been studied in detail. It does not appear to compete with *P. sericata*, because of its more restrictive temperature requirements and besides, the two species do not coincide phenologically.

Chrysomya chloropyga

This hemisynanthropic species is a common blowfly in the southern parts of Africa, from Tanganyika and the Congo south to the tip of the continent. It is an agent of myiasis in sheep, second in importance to *Phaenicia cuprina.* The flies love sunlight, seldom enter buildings, and go into the shade only in response to a powerful olfactory stimulus or to shelter from bad weather. Adults feed on the liquefied meat produced by the maggots. Eggs are deposited in crevices of carrion and, very rarely, on feces.

Chrysomya marginalis

This species occurs in the southern Palearctic region in Syria, Egypt, and Arabia; and in the Oriental region, in India west of the Indus. It is a very common carrion breeder in the Ethiopian region south of the Sahara to the Cape of Good Hope. The adults rarely enter houses but are common in butcher shops where they are attracted to the meat. They swarm on cow dung and feces during the wet season and feed on exudates from sores and wounds of cattle. It is a hemisynanthropic to symbovine species.

Chrysomya megacephala

It is a hemisynanthropic to eusynanthropic exophilous species,

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markedly communicative which penetrates the Palearctic (Afghanistan) from the Oriental region. According to the observations of one of us (D. P., Jalal-Abad, 1965, 1966), the species occurs gregariously on carrion where it oviposits intensively. The species also occurs in latrines, on various decaying matter, and on fruit. It deserves the attention of hygienists and epidemiologists.

Chrysomya putoria

This species has the same distribution in subtropical and tropical Africa as *C. marginalis.* Its larvae breed in dung and in outdoor latrines. The occurrence of poliovirus, *Salmonella,* and other enteric pathogens in these flies in Madagascar and other parts of Africa underscores their potential public health significance.

Chrysomya rufifacies

This fly has an Oriental and Australasian distribution. *C. rufifacies* replaces *C. albiceps* in these regions. *C. rufifacies* is more adapted to tropical conditions, shown by the fact that it occurs year-round in the warmer part of its range (Moree, in northern New South Wales) and is absent during winter in more southerly Australian latitudes. This fly, like *Cochliomyia macellaria* in North America, appears to have no cold-resistant stage. Though implicated in myiasis, its nutritional role is more likely that of a scavenger, feeding on dead tissue and even preying upon other maggots. It has been used successfully in osteomyelitis therapy. Oviposition usually occurs in the folds or fur of carrion only after a putrefactive odor has developed, and the female apparently prefers to oviposit where other maggots are present. Adults also find human excrement fairly attractive, ripe fruit only slightly attractive. They feed readily on the nectar of certain flowering trees. On Guam, they are seen occasionally in privies, almost never in houses. Next to *C. megacephala* they are the most common blowfly on this island.

Chrysomya varipes

This fly is known only from the Australian continent. Its biology is not yet fully known. It is a carrion breeder, and its biotic associations thus far recorded concern its biological control by means of parasites and predators.

Cochliomyia macellaria

This species is distributed in the Nearctic region from southern Canada to southern United States, and in the Neotropical region from Mexico to Patagonia. It is hemisynanthropic and extremely communicative. Adults prefer warm, humid weather and the greatest numbers are recorded during rainy periods. Adults are attracted to carrion and gar-

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bage. They are also found feeding on the nectar of wild parsnip and are attracted to plants which emit an odor of carrion, e.g., *Aristolochia* sp. The fly is extremely abundant in the environs of slaughter houses where offal is discarded and is common in outdoor markets in the tropics.

It occurs in southern Florida and southern Texas throughout the year. In the northern part of its range, it is killed out by frost in the fall and the region is repopulated by spring emigrants. The importance of this species in myiasis is well documented.

Cynomya mortuorum

This fly prefers the northern Holarctic region of Europe and North America. It is often collected on raw fish, and field studies in Finland showed it is also attracted to human feces but not as strongly. The synanthropy of this species remains uncertain, but there is evidence that the slight synanthropy of this fly in northern Finland diminishes toward the south.

Cynomyopsis cadaverina

This fly is found in the Nearctic region from Ungava Bay in northern Labrador to the border between Texas and Mexico. It is most abundant along the Canadian-United States border. It is a psychrophylic species with seasonal peaks in early spring and late fall. Adults may occasionally appear during warm spells in mid-winter. Flies enter houses readily. About 50 percent of all flies trapped in spring belong to this species. Adults are attracted to human excrement and to carrion in an advanced state of putrefaction. Overwintering is believed to be primarily in the pupal stage but one of us (B. G.) has evidence which indicates that the adult is the overwintering stage, at least in the Chicago region. *C. cadaverina* is characterized as hemisynanthropic and facultatively communicative.

Dasyphora pratorum

Of the numerous coprophagous species of this genus (*D. cyanella, D. albofasciata, D. cyanicolor, D. eriophthalma*) occurring in the Western Palearctic, *D. pratorum* is relatively the most frequent one. It is one of the typical pasture flies and is primarily symbovine. Adults visit feces, dung, fruit, as well as flesh. Females are viviparous and larvae develop chiefly in cattle feces.

Dendrophaonia querceti

This species occurs throughout Europe and Soviet Central Asia; in North America from south central to eastern Canada south to Colorado, Illinois, and Georgia. It has been reared from the nests of birds, e.g.,

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titmice in Vienna, but commonly breeds in manure and human excrement. In France, it has been found breeding in huge numbers in the undisturbed excrement of rabbits. In Germany, a survey of flies attracted to human feces yielded a small percentage of this species, primarily females. This fly is hemisynanthropic and occasionally communicative.

Drosophila funebris

This is a cosmopolitan, eusynanthropic, endophilous species common through much of the world. It breeds in various fruits and especially in animal matter, human excrement, and cesspools. In Soviet Central Asia, it frequents toilets. It has recently been recorded for the first time from Hawaii.

Drosophila melanogaster

This fly is cosmopolitan throughout the warmer and temperate parts of the world. Larvae breed in overripe and decaying fruit and less often in human excrement. In the United States, it has often been found in houses, attracted or carried there, especially in fall, in connection with fruit storage and canning. There is some doubt whether this species can hibernate in the cooler parts of its range, except indoors. Documentation of this intensively studied fly is vast and readily available and need not concern us here, except to note that it is eusynanthropic and communicative.

Drosophila willistoni

This is a Neotropical species taken on St. Vincent Island in the West Indies and in Texas and Florida. The biotic associations recorded for this species are laboratory ones.

Dryomyza anilis

Among the distinctly forest coprophages (*Mydaea, Polietes lardaria,* etc.), this Holarctic hemisynanthropic species has a narrow temperature preferendum. It is found on feces even in dense shrubbery and in shaded and moist places.

Eristalis tenax

This is a non-communicative exophilous synanthrope with secondary cosmopolitan tendency, distributed over a vast area of the Holarctic region. The flies are floricolous, feeding on pollen, but are also attracted by odors of decay. The larvae of this species develop in thin or liquid effluents from dung pits; their presence in water or mud invariably indicates a high degree of pollution. Pupation takes place in dry environments. Larvae are frequently attacked by those of *Ophyra, Muscina, Phaonia,* etc. *E. tenax* is associated with primitive rustic conditions,

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and need not concern us here, except to note that it is eusynanthropic and communicative.

Fannia canicularis

This is an endophilous, eusynanthropic, cosmopolitan species. With *Musca domestica*, it is among the most abundant flies of human habitations, especially during summer months. Adult males show typical behavior, alighting preferably on wall projections, suspended objects, chandeliers, etc. These flies are frequent in toilets, privies, stables, pigsties, etc. They visit excreta of all kinds as well as food, fruits, and beverages. In more northerly latitudes, the lesser house fly lives in hemisynanthropic populations (especially in birds' nests). However, it is possible that this is a case of a very closely related species of the *canicularis* group (particularly, *F. subpubescens*) which was not separated from *F. canicularis* until recently. Adults are less vagrant and prefer the kind of substrate in which they developed in the larval stage. Larvae develop in excreta of cattle and man, saturated with urine, as well as in poultry manure in henneries. Eggs and larvae show excellent aquatic adaptation for they are able to develop in organic substrates which are quite liquid. There are cases in which larvae occurred in wet diapers and in the urogenital tract of man. The hygienic and epidemiologic importance of *F. canicularis* is still uncertain. Phenologically, *F. canicularis* attains peak populations in the temperate zone during July, whereas *M. domestica* prevails in late summer.

Fannia femoralis

This fly has a temperate distribution in the United States, from West Virginia to Montana and California, and Georgia to Louisiana. Its endemic area is considered by some to be northern South America. In California, it is sometimes reported as the predominant fly species found breeding in chicken droppings at study sites (95 percent of all flies). In this region, its seasonal peak occurs during the coldest part of each year, whereas its parasitization by hymenopterous parasites reaches a peak during the warm months.

Fannia incisurata

This fly has a Holarctic distribution and is found from Quebec to British Columbia, south to Colorado, Mississippi, and Virginia. It occurs from Iceland to China and Japan, and in North Africa. It is also recorded from Mexico and Argentina in the Neotropical region. It has breeding habits similar to *F. scalaris* and the larva appears better equipped for flotation in a semiliquid medium. It has been recorded as the most abundant species breeding in cesspools in the vicinity of Paris.

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It also breeds in excrement, cadavers, and in birds' nests. *F. incisurata* is hemisynanthropic, occasionally tending to eusynanthropy, and exophilous.

Fannia leucosticta

Unlike the other species of this genus, *F. leucosticta* prefers a hot, dry climate. For this reason, it shows eusynanthropy mainly in human settlements in arid areas of the entire Holarctic region. The larvae attain unusual population densities particularly in thick and drying masses of excreta (of man and poultry). Adults are common in market places and bazaars.

Fannia manicata

It is hemisynanthropic. This species is widely distributed in the Holarctic region from Alaska to Greenland, south to Colorado and Georgia; and from Scotland to Kamchatka and Egypt. It has been recorded from nests of Hymenoptera, decaying fungi, and various other decomposing organic matter.

Fannia pusio

This is a hemisynanthropic species tending toward eusynanthropy. This fly has a Nearctic and Neotropical distribution from New York to the West Indies, South America, and Hawaii. It was observed breeding in semiliquid hen manure in Hawaii. On Guam, it was abundant in traps baited with carrion and human excrement. It was seldom collected indoors but could be seen with greater frequency soaring in the shade of dwellings and privies. Breeding normally occurs in material in an advanced state of decomposition. The prepupae prefer dry soil in which to pupate.

Fannia scalaris

This is a Holarctic, eusynanthropic fly which is markedly exophilous. It shows endophilous tendencies only under primitive conditions in settlements insufficiently isolated from privies and dung pits. This is the most substantial difference between this species and *F. canicularis*. For mass development of this species, semiliquid masses of feces (human as well as animal, particularly of pigs) are required; in scattered feces, the larvae are scarce and are subject to competition from other coprophagous species. The hygienic and epidemiologic role of this fly is still uncertain. This species is closely related to the Holarctic species *F. incisurata* which has similar bionomics.

Graphomya maculata

This is a Holarctic species distributed in North America from Alaska to Greenland, south to California and Georgia. In the Palearctic, it is

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found from its northern ocean boundaries to its southern boundaries. In Siberia, its distribution is not clear. It is also known from Africa and South America. Larvae breed in animal excrement and prey upon other maggots.

Haematobia exigua

Distributed in Australasia from Dutch East Indies south to Australia. Its predilection for carabao or buffalo has earned the name "buffalo fly." Occasionally, it bites man. Eggs are laid on grass and other objects next to cow droppings, the maggots developing rapidly and pupating therein. This fly prefers to bite near the corner of the eye and near wounds where *H. irritans* never bites. Apparently, *H. exigua* is attracted by moisture where tears, serum, or blood have formed wet spots on the skin. It also has a decided preference for bulls and for older animals in a herd, as well as for the shorter-haired breeds. This fly may be characterized as symbovine, exophilous, and occasionally hemisynanthropic.

Haematobia irritans

This is a Holarctic species, which is spreading to subtropical and tropical regions. It is a symbovine type, mainly a pasture type which actively sucks the blood of its host. On cool days in Central Europe, it invades stables situated close to pastures where it feeds on cattle even at night. It occurs in large numbers only on very hot days, but unlike the larger members of related species this fly consumes relatively little blood. Eggs are laid on fresh feces. The importance of this species stems from its troubling cattle and thus decreasing milk production. Adults frequently feed on only one animal, so that the epizootiologic importance of this species appears to be less than that of other hematophages.

Haematobia titillans

This species is known as the southern cow fly in Russia. It is well known from the European part of the Soviet Union from Latvia to the southern Ukraine and the Crimea, and also beyond the Caucasus into Central Asia and Mongolia. It is also found in southern Europe. It is most abundant in steppe and semidesert regions and is found mainly in pastures. The larva develops in cow dung. The biology of this fly is not well known, but it is under suspicion as a carrier of pathogens from one animal to another. The adult bites domestic animals as well as people. It attacks on hot, sunny days. Under these conditions flight activity is diminished. It sometimes bites people during the evening in well-lit areas, but it is primarily a symbovine, exophilous type which is only occasionally communicative.

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Hermetia illucens

This is a hemisynanthropic species which is rather widely distributed throughout the Western hemisphere, the Australian region from Samoa to Hawaii, and in some areas of the Palearctic region. The larvae breed in a variety of decomposing plant and animal material and even in the waste materials, wax and honey, of beehives. In the southern United States, they are common in the semiliquid contents of outdoor privies and in the Solomons they have been found in a stagnant ditch fed by waste washing water. Having a prolonged larval life, they will develop in manure heaps but not in isolated droppings. The adult enters houses freely. Larvae of this species may under some conditions exert significant natural control over house fly breeding, not by predation but by competition and overgrowth.

Hippelates flavipes

This fly is entirely neotropical, extending from the Bahamas and central Mexico southward through the West Indies and Central America to Paraguay and southern Brazil. It was the dominant chloropid captured in Jamaica, using live or decomposing animals as bait. This and some other *Hippelates* species are attracted to ulcers on people or animals, but not to decaying oranges, tomatoes, or human feces. *H. flavipes* occurs in greatest numbers at elevations varying between 100 and 1500 feet above sea level, the fly being rare at sea level and relatively infrequent above 2000 feet. The fly has a decided preference for feeding on the lower extremities, and the majority of primary yaws lesions in Jamaica occur on the legs. *Hippelates* eye gnats breed in loose soils which contain adequate moisture and quantities of decaying plant material. There is evidence that any disturbance of the soil such as disking, which turns under plant material, increases oviposition activity of the fly and food for the larvae, with consequent increases in adult density. Before Sabrosky, this species was incorrectly referred to as "*pallipes.*"

Hippelates pallipes

According to Sabrosky, this is a Temperate Zone species which is distributed in the United States from Quebec and Maine south to Florida, Texas, and California. It has a south temperate form in Argentina, Chile, and Peru.

Hippelates pusio

On the basis of recent data on bionomics and interbreeding, this may be a complex of species or subspecies. Distribution includes the West Indies and Mexico through southern United States, north from Washington to Pennsylvania. It is a common hemisynanthrope in Jamaica

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with almost the reverse altitude distribution compared with *H. flavipes*. In Jamaica, it was found near the seashore, but practically disappeared above 1000 feet. There seems to be little evidence that *H. pusio* transmits conjunctivitis in Jamaica, and it probably plays no part in the transmission of yaws either, because it is most plentiful in areas where yaws does not exist. It is a pestiferous insect in the southeastern United States. In California, this fly is present in cooler climates and almost absent from hot dry regions. In the latter, it is replaced by *H. collusor* as the most annoying eye gnat. *H. pusio*, which may be synonymous with *collusor* but differs in behavior and color, occurs throughout the year in the Coachella Valley in California, with spring and fall peaks. Larvae feed on a great variety of decomposing organic matter, including excrement.

Hydrotaea dentipes

A very common hemisynanthropic species of Holarctic distribution, this fly is associated with man under primitive rustic conditions, but it does not trouble man. Adults frequent feces and decaying fruit, and are common in the vicinity of latrines and offal pits. Larvae develop most frequently in accumulated feces, especially of man, chiefly in sandy soil. They prefer compact and drying feces and gregariously abandon thin ones. Third instar larvae change to predatory habits to the detriment of larvae of other coprophagous species (e.g., *Musca domestica, Stomoxys calcitrans*, and *Musca sorbens*) and are capable of decimating their numbers.

Hydrotaea irritans

This is one of the most important forest hemisynanthropes and is particularly communicative. Adults are confined to larger forests, both mixed and coniferous, chiefly in hilly areas but have a vertical distribution on mountains, following zones of spruce. They occur less frequently outside forests, as the adults are hygrophilous and shade-loving. They belong to the most aggressive and troublesome flies. With usually high population densities, this species, together with *Morellia* spp. (esp. *M. podagrica*), can render work or a sojourn in woods insufferable, particularly during warm summer months. The flies irresistibly attack conjunctivae of eyes and the nose and mouth and even enter the auditory canal. They become facultatively hematophagous. Females concentrate in large numbers on feces and carrion. Also, adults can be found on inflorescences of daucaceous plants infested with aphids. Final instar larvae are predatory, preying upon larvae of other coprophagous flies. The species deserves the combined attention of entomologists and microbiologists.

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Hylemya cinerella

This symbovid fly is widely distributed in the Holarctic region. In Denmark, adults feed mainly on the liquid of cow droppings. They also visit flowers of *Gagea, Draba, Pastinaca,* and *Achillea.* The larvae develop in cow droppings. The few available observations indicate that adults visit cow droppings which are 1/2- to 1-hour old. In Central Asia, the flies are commonly found on feces, fruits, and other decomposing matter. They are common in nature and also in human settlements where they congregate especially in market places and gardens. They are rarely found inside the home. In this region, larvae are especially numerous in the dung of pigs, horses, and cows, and also in garbage. In the middle zone, flies are most common from May to August. In Central Asia, they have two populational peaks: May to June and September to November. During the hottest part of the summer (July to August) the activity of this species declines and its larvae cannot be found in feces.

Hylemya radicum

Together with the related species *H. cinerella, H. radicum* is among the most frequent visitors of excreta, decaying vegetables, fruit, and meat as well as other decomposing organic matter. These are hemisynanthropic Holarctic flies, common in nature and frequent visitors to open primitive market places. They are communicative hemisynanthropes which never enter human habitations. Larvae are frequently found in feces, especially human, as well as in decaying refuse of all kinds. Species of this genus are abundant in medium to high mountain elevations, disappearing during hot months and in warm areas.

Hylemya strigosa

This is a psychrophilous, and rather hygrophilous (thence, mostly forest species) hemisynanthropic fly. It can be found in pastures during early spring. Later, it migrates to forests where it can attain rather high population densities through utilization of human feces, decaying fruit and meat. Females are viviparous, the larvae develop chiefly in dung and feces.

Lucilia caesar

This species is widely and exclusively distributed in the Palearctic region. It is hemisynanthropic, showing a tendency toward exophilous eusynanthropy only in the subpolar regions. It occurs in eastern Asia as well as in Europe, though it is more common in the latter. It has been mistaken for *L. illustris* in North America. Ecologically, it frequently replaces *P. sericata,* but it is more shade-loving (and therefore

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occurs in forests) and more psychrophilic (therefore, the natural populations of this species penetrate farther to the north). Larvae are saprophagous even under natural conditions, thus showing a slightly wider range of food in comparison with the originally purely carnivorous natural populations of *P. sericata.* With a few exceptions, *L. caesar* shows no tendency toward eusynanthropy, or these tendencies (and also tendencies toward myiases) are either local (in northern Europe) or quite accidental.

Lucilia illustris

This fly has a Holarctic distribution from North America through Europe to the Far East. In North America, it is found from southern Canada to northern Mexico and is common in the Midwest. It also occurs in the Australian region, but has not been taken in the Mediterranean region. It appears most frequently in the middle zone of the European part of the Soviet Union. It is an open woodland and meadow species, appearing on the first warm days of spring. Adults may be collected in large numbers upon flowers of wild parsnip in the Midwest in July. They are primarily attracted to fresh carrion and are found less often on human feces. Larvae, too, occur most frequently in carrion. Russian writers report the breeding of this fly in cities in garbage, as well. The ecology of this hemisynanthropic species needs further study.

Lyperosiops stimulans

This is an exophilous symbovine species, rarely invading stables. As a rule, it alights on fences, vegetation, and ground in pastures. Adults feed on cattle, preferring dark-colored individuals. Females must consume blood prior to each oviposition and feed on liquidy excreta shortly before ovipositing. Larvae develop in fresh feces of cattle. Like all species of this group, the present species may be of epizootiologic importance.

Morellia hortorum

A common communicative hemisynanthropic species, this fly rarely occurs in large numbers. Adults are frequent on flowering daucaceous plants as well as on other herbs, particularly if infested with aphids. They also appear on feces, carrion, fruit, and decaying offal. Females are facultatively hematophagous, sucking blood of cattle attacked by Stomoxydini and tabanids. They usually attain higher population densities in pastures. Larvae develop in cattle excreta and dung which is old and somewhat desiccated.

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Musca autumnalis

This is one of the most frequent symbovines of the pasture, attaining high populations in late summer (August and early September). It was introduced and has been spreading throughout temperate North America since World War II. Adults frequent cattle droppings and attack both cattle and man. While the males are often floricolous, the females are facultatively hematophagous. Due to their habit of actively attacking conjunctivae, they are markedly communicative. *M. autumnalis* is the intermediate host for larvae of *Thelazia rhodesii* which are sucked up from infested eyes of cattle by adult flies. In the fly they continue to develop into the invasive larval stage. Thelasiosis appears as chronic kerato-conjunctivitis sometimes resulting in blindness of the infested individual. Breeding takes place chiefly in cattle feces and rarely in dung or kitchen offal. In farm dwellings in the vicinity of pastures adults may congregate in attics and crevices to hibernate.

Musca crassirostris

The species is distributed throughout Africa and the Oriental region. In Egypt and in East and Central Africa, it has long been known as a voracious blood-sucker. The proboscis of this fly is worthy of note for its feeding habits and role in disease transmission are unquestionally influenced by it. The prestomal teeth are not only reduced in number, but are enormously increased in size, and together with the highly modified interdental armature form a most efficient scratching apparatus. Though superficially suggestive of a piercing organ, such as that of *Stomoxys,* the proboscis of this fly, and of *M. inferior* and *M. lusoria* as well, does not penetrate the skin. On this point, however, there is a difference of opinion, since some have stated that *M. crassirostris* "readily pierces the skin." Larvae breed in cow and horse dung. This was originally a symbovine species which is now moving toward hemisynanthropy.

Musca domestica

Literature on this species is vast. It is a classical eusynanthropic, endophilous, and markedly communicative species, fulfilling all the conditions required of a disease vector. Originally, *M. domestica* was probably coprophagous, adapted to excreta of ungulates. This is evidenced by the fact that the artificial media serving for laboratory breeding of *M. domestica* resemble the excreta of ungulates both chemically and physically. Secondarily, the food range of both adults and larvae increased as a result of synanthropy. Thus, synanthropic populations of this species have become trophically adapted to food of man and to the wastes of his household. The original trophic adaptation of *M. domes-*

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tica to feces is preserved only in subtropical asynanthropic populations and geographic forms of this species, e.g., *M. domestica vicina.* Unlike other synanthropic flies (in the broad sense) and despite its thermophilous habits, *M. domestica* is capable of overwintering in all its developmental stages and of developing in the anthropobiocoenoses at temperatures around 18° C. throughout the year. These characters enabled the species to become a permanent member of the anthropobiocoenosis and to attain cosmopolitan distribution. In the Temperate Zone, populations of *M. domestica* are decimated in winter; the highest population densities are attained in late spring and again in August and early September.

In the tropics and subtropics of the Old World, populations of *M. domestica* are not confined to human habitations and even the synanthropic populations are exophilous, especially during hot summers. These populations concentrate in the vicinity of human habitations mainly for trophic reasons. The importance of the house fly results from its (1) eusynanthropy, i.e., close coexistence with man, sharing his artificial biocoenosis (anthropobiocoenosis); (2) consumption of both contaminated and non-contaminated food; (3) great flight activity and dispersal; (4) constant alternation between feces and food.

Musca inferior

This is a hematophagous species distributed in the Oriental region. It is widely distributed in India, but it is never seen in large numbers and is easily missed. It can always be recognized by noting that as soon as it settles on the skin of an animal it begins to suck blood immediately, whereas *Musca bezzii,* which closely resembles it, flits about from one spot to another. Adults visit human feces and the larvae are fecal breeders. The species is symbovine and imagines are facultatively hemisynanthropic and communicative.

Musca larvipara

This is another typical Palearctic symbovine of the pasture. Females gregariously attack grazing cattle and actively follow Stomoxydini and tabanids to suck blood from the minute lesions caused by these flies. Males are floricolous but do not withdraw far from the pasture. Like *M. autumnalis, M. larvipara* is a thermophilous species, showing the highest activity on sunny, hot summer days. The species is distributed in southern and eastern Europe. Females give birth to second instar larvae which they deposit on the surface of excreta of cattle and rarely on that of other animals. Remains of the chorion of the eggs are found on the surface as a rule. Adults, particularly females, actively suck the con-

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junctivae of cattle and man and also transmit larvae of *Thelazia*; therefore, their hygienic importance is similar to that of *M. autumnalis.*

Musca lusoria

This is a large, hematophagous species widely distributed in the Ethiopian region (central and northern Africa) and in Ceylon. The species is viviparous, with larvae developing in cattle dung. Adults attack eyes and wounds of domestic animals.

Musca domestica nebulo

Recent laboratory studies demonstrating considerable genetic continuity between this type, *M. d. domestica*, and *M. d. vicina* support the subspecific designation though morphological differences exist between populations from various parts of the world. It is a common bazaar and house fly throughout the Ethiopian region and is the common house fly of South India. It breeds in night soil trenches, but can be easily reared in horse dung and in the contents of goat intestines, which are to be found collected outside slaughterhouses in India. Its synanthropy places this fly among the important public health species.

Musca tempestiva

This is a symbovine fly of the pasture which is communicative since it alights on feces as well as on grazing cattle and man. The flies are particularly troublesome on sultry summer days, attacking, together with other species (*Morellia simplex, M. podagrica, Hydrotaea irritans, Musca autumnalis,* and *M. larvipara*), grazing cattle and man. They suck secretions from the conjunctivae and sweat glands and, being a facultatively hematophagous species, also blood from minute lesions of the skin. Larvae occur gregariously in excreta of cattle, horses, and pigs. The ecology and behavior of this species deserve further study by medical entomologists.

Musca terraereginae

This fly is closely related to *M. d. nebulo*, but it is limited to the Australian region where it is a rather uncommon fly. It has been bred from horse dung and may be categorized as hemisynanthropic to symbovine.

Musca sorbens

This fly is one of the most widely distributed species of the genus in the Old World. It is common in the Mediterranean along the North African coast and was observed to board all steamers going east through the Suez Canal. It occurs in the Australasian region and is usually one of the commonest flies on Guam, especially toward the southern end of the island where native habitations and livestock are most abundant. It

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is common around garbage dumps, pig pens, privies, carrion, and various types of excrement. In the Ethiopian, as in the Oriental regions, it abounds in bazaars, swarming on foodstuffs of all kinds. It commonly feeds on exudations from cuts and sores which it can apparently sense from some distance. The fly rasps a sore until it is perforated and serum collects. It is also quite common around the eyes, a habit which is crucial for the transmission of trachoma, conjunctivitis, and other ophthalmias. Larvae breed in excrement of various domesticated animals and man. The adult does not enter houses as freely as *M. domestica.* In Egypt *M. sorbens*, given the choice of eight kinds of animal dung, preferred human feces for oviposition; aside from pig dung, flies did not oviposit on other animal feces except in very small numbers. Human stools collected in Egyptian villages produced mainly *M. sorbens.* These flies are found in Central Asia, congregating in large numbers in bazaars and are called market flies. They attack people, especially children, and are particularly active during the warm parts of the day. They prefer bright sunlight, only small numbers enter dwellings. In this region they are active from May through November; *M. sorbens* hibernates as larvae and pupae.

Muscina stabulans

This is a Holarctic eusynanthropic species, communicative under rustic conditions and also endophilous under primitive rustic conditions. Adults are invariably found in the immediate vicinity of human settlements and are important members of the anthropobiocoenosis, particularly in the country; they are scarce in towns. They alight on walls of privies and are also frequent on fruit in orchards and vineyards. In nature, they are frequently found on sap flowing from trees as well as on tissues infested with aphids or psyllids. Phenologically, the species is later than *Protophormia terraenovae* and certain *Calliphora* spp., which also suck sap of trees. In northern latitudes they frequent sunlit places, whereas to the south they select habitats with dense growths of shrubs and trees. The food range of larvae is diverse. Preferably, they develop in human feces both scattered and accumulated, as in latrines, etc. In other feces and in decaying fruits they attain lower population densities. They are frequent in both decaying and growing cruciferous plants; in the latter, their occurrence is conditioned by primary infestation of the plants by other flies (esp. *Hylemya brassicae*, etc.). They are rather rare in carrion. Also, they have been found in lepidopterous larvae and dead bodies of other insects, as well as in nests of synanthropic birds (swallows, house sparrows). First instar larvae appear to be mostly saprophagous, those of older instars (particular the third)

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are predatory, attacking larvae of other flies. The related species *Muscina assimilis* and *M. pabulorum* are markedly hemisynanthropic with similar trophic habits. *M. assimilis* is a particularly communicative hemisynanthrope.

Mydaea urbana

This is a coprophagous, Holarctic, hemisynanthropic species, associated with forest environments as are the related species, *M. modesta, M. ancilla,* and *M. scutellaris* R.-D. Larvae are typically coprophagous at the beginning of their development, becoming predatory as they mature.

Myospila meditabunda

This is a Holarctic, hemisynanthropic and symbovine species. It is a typical coprophagous species which prefers pastures. Larvae are predatory at least in their final instars and attack larvae especially of the genera *Orthellia, Dasyphora,* and *Siphona.* They have also been reared from dead lepidopterous larvae. Adults feed on the conjunctivae of eyes, in nostrils, etc., of cattle and, also, on certain flowering herbs. In the Alps, this species is exceeded by *Myospila alpina.*

Nemopoda nitidula

This frequent Holarctic representative of the family Sepsidae occurs, together with *Sepsis* spp., on feces (chiefly of man), but first instar larvae are broadly saprophagous. In contrast to *Sepsis* spp., adults of *N. nitidula* are abundant under natural conditions where they frequently attain high densities.

Ophyra aenescens

This fly occurs in the United States from Oregon to Arizona and from Illinois to the East Coast and Florida. It is also Neotropical and Oceanic. In Central America it is abundant, entering houses and alighting on food, much like *Musca domestica.* Adults are attracted to carrion and animal manure as well as to human excrement, as indicated by the isolation of vaccine strains of poliovirus from natural fly populations. Larvae breed in all the above materials.

Ophyra anthrax

The biology of this species is similar to that of *O. leucostoma.* In contrast to the latter, *O. anthrax* is a thermophilous species which does not extend far north. It is especially widespread in the Caucasus and in middle Asia. In this latter region adults were recorded in toilets, garbage deposits, on animal carcasses, and also within dwellings. This fly is hemisynanthropic with a eusynanthropic tendency.

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Ophyra leucostoma

This species is a common Holarctic hemisynanthrope to eusynanthrope. Adults alight with predilection on vegetation, particularly the lower surface of leaves, on sultry days. They are also common around privies, slaughterhouses, etc. In its northern range this species is markedly heliophilous. Larvae develop in feces of man and domestic animals as well as in kitchen offal and animal carcasses. Second and third instar larvae convert to predatory life habits, frequently attacking larvae of *Musca domestica*, and are capable of considerably decreasing the latter's population density. The related species *Ophyra capensis* is a more southern species in the Palearctic. Its bionomics are similar to those of the preceding species.

Ophyra nigra

This fly has an Australasian range and appears to be closely associated with man in the tropics. It is abundant in Queensland, principally as a carrion feeder. Unlike *M. domestica* and *S. calcitrans*, the larvae of this species were found to pupate right in the excessively moist manure, from which they were able to emerge successfully. They were probably introduced into Hawaii from the Orient by shipping. This species is best characterized as hemisynanthropic to eusynanthropic, and facultatively communicative.

Orthellia caesarion

This fly is found in the Holarctic region, including Asia and Europe, and between both coasts of North America from southern Canada to Georgia and California. It also occurs in the subalpine region of Lapland. This is a symbovine species generally abundant in open fields. Adults feed primarily on the dung liquid of cattle. In Denmark, they are also commonly seen on flowering *Erodium, Bellis*, and *Chrysanthemum* in spring and fall, and on *Heracleum* and *Cotoneaster* in summer. The dark fecal spots and greenish black cow dung in their intestines leave little doubt, however, as to their main diet. Adults are attracted to droppings for feeding and oviposition which are 1/2- to 1-hour old. Larvae develop within the droppings but pupation occurs in a drier situation. It has been reared as a representative species from cow pats in Indiana.

Parasarcophaga albiceps

Adults frequently visit human feces, decaying refuse, and fruit. Larvae are coprophagous.

Phaenicia cuprina

The life history of this fly is similar to that of *P. sericata* with which

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it was formerly confused. However, it inhabits the drier and warmer parts of Africa and Asia. Some consider its introduction into Australia and the New World probably a recent occurrence. Approximately 90 percent of all sheep "strikes" in Australia are caused by this species. Writers disagree as to whether this species has similar habits in Africa. In South Africa, it has been reported as common in butcher shops and about abattoirs; its nutrition is that of a scavenger. Besides feeding on fallen fruits, the nectar of flowering plants, and on the honeydew of aphids, it is known to feed on feces. On Guam, *P. cuprina* prefers large masses of liquefying garbage to carrion. Adults were also collected from human excrement and privies, and rather commonly around kitchen doorways where the overflow from slop pails had moistened the soil.

Phaenicia pallescens

This fly is closely related to *sericata* and *cuprina.* It is essentially a southeastern species in North America, ranging from Washington, D.C. to Florida and Mexico. It is common around rotting fallen fruits and is abundant in meat-baited traps. Adults are numerous in market areas of cities where decaying produce attracts them. The species is hemisynanthropic to eusynanthropic, communicative and exophilous.

Phaenicia sericata

This is a classical exophilous and communicative eusynanthrope. Very likely, it was originally a Holarctic species distributed over the warmer regions of the Temperate Zone. Due to its unusual adaptability and ability to compete with other coprophagous species, the species has gradually spread outside its original area. It has received considerable attention. The food range of the larva is wide, enabling it to develop on various substrates, although originally a carnivorous form which still prefers slowly decomposing (not fresh) meat. In the latter, it develops most rapidly. The species has become adapted to various kitchen offal from which it can even utilize chiefly carbohydrate substrates. It has spread far to the north where it lives in synanthropic populations only. The species causes primary myiases of sheep (Great Britain, South Africa, Australia).

Phaonia pallidosa

Among the numerous species of the genus *Phaonia, P. pallidosa* is the most frequent visitor of feces and decomposing flesh. The species never attains high population densities. It is a shade-loving fly occurring mainly in forested regions and, also, in the north of Europe. Larvae are widely saprophagous, and their second instars are predacious. The species is mostly a forest hemisynanthrope.

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Phormia regina

This is a hemisynanthropic to eusynanthropic exophilous species which sometimes occurs in large numbers. It is substantially Holarctic in distribution. Larvae develop chiefly in decaying carrion but can be facultative producers of myiases of mammals and birds. Adults are frequent on inflorescences of daucaceous plants and also alight on fruit. They are spring-fall flies.

Physiphora demandata

This is a nearly cosmopolitan, hemisynanthropic to exophilous eusynanthropic species. Adults visit feces, decomposing flesh, decaying fruit, as well as plants infested with aphids. Like *Phaenicia sericata*, this species penetrates farther to the north in purely eusynanthropic populations. In Central Europe, as with *P. sericata*, the northern limit of this species passes Hungary and the lowlands of Czechoslovakia. Both these species are good indicators of an average annual isotherm of about 10° C. Larvae are saprophagous, developing in kitchen offal, human feces, excreta of domestic animals, and other decomposing matter.

Piophila casei

This was originally a Palearctic species which secondarily spread through anthropobiocoenoses all over the world—evidence of the eusynanthropy of this species. It attains the highest densities in offal and heaps of bones in rendering plants, slaughterhouses, fish processing plants, carrion pits, etc. Larvae can also be found in lard, cheese, roe, and other protein food. Pupation occurs in the larval medium or close by. Aside from the typical maggot-like movements, larvae are capable of jumping relatively long distances by twisting their bodies. The species causes considerable losses in the meat industry. Little is known of the hygienic importance of this species.

The related hemisynanthropic species of the genus *Piophila*, e.g. *P. vulgaris, P. varipes, P. foveolata, P. latipes,* etc., also attain high population densities, some despite the severe conditions of the north (Greenland, Iceland). To date, little attention has been given to the taxonomic problems of this group, and only one species, *P. casei,* is referred to especially in the applied literature.

Polietes lardaria

The species belongs among typical hemisynanthropes, preferring mountain and submontane pastures, shadowy growths and forests (similar to the more thermophilous *P. albolineata*). Adults appear, especially in autumn, on feces of all kinds and are active even in rather cold weather. In addition to animal and human feces, they also occur

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on certain flowers (*Solidago virgaurea*), particularly those infested with aphids. Larvae are predatory, attacking those of other coprophagous flies.

Pollenia rudis

This species occurs in the Palearctic region from Ireland, throughout Europe and North Africa, to Siberia and China; in India; and in the Nearctic from Nova Scotia and British Columbia south to Florida and California. The larvae develop as internal parasites of various earthworms. Eggs are laid in the soil and the young larvae seek out earthworms which they enter through the spermiducal and other pores. First instar larvae, about 1 mm. in length, live in the genital segments or inside the seminal vesicles throughout the winter without undergoing any change. At the end of April, parasitic maggots, which have resisted encystment and digestion by the host's amebocytes, begin to develop. About 45 days later, the adult appears. Larvae have not been reared successfully on any normal blowfly medium, nor on manure, dead earthworms, or decomposing plant material. There are four generations of *P. rudis* per year in the United States. In the fall great numbers of the last generation enter homes where the adults hibernate, though more natural sites are animal burrows, hollows in logs, etc. They prefer rooms in upper stories, especially those which are cool and undisturbed. In the Palearctic, this species and its congeners—*P. atramentaria, P. dasypoda, P. intermedia, P. varia, P. vera,* and *P. vespillo*—are frequent visitors to feces, particularly in spring and fall. In summer, adults are found in forests.

Protophormia terraenovae

This fly is very common in the cooler regions of the Holarctic, replacing *Chrysomya* species of the Old World tropics and subtropics. In North America, it is the northern counterpart of *Phormia regina* which is not abundant in Canada. *P. terraenovae* is saprophagous and appears in the early spring. In more northern localities and at higher elevations it may be taken during July and August (viz. about 7,000 feet in Colorado). During July, it is very abundant in the subarctic regions. It has been taken within 550 miles of the North Pole. The considerable list of isolations of fecal organisms from this fly indicates its association with feces. It is generally of secondary importance in myiasis, except in Scotland where it may be the primary fly in sheep myiasis. Laboratory investigations indicate that maggots of this fly successfully overgrow *Musca domestica.* How effective this may be under natural conditions is not known.

This is a hemisynanthropic to exophilous eusynanthropic species

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which is non-communicative. The activity of adults is influenced by their absorption of the sun's rays. Their body temperature may be as much as 22° C higher than the ambient temperature. Flies become aerial at temperatures below 10° C, when the relative humidity falls below 70 percent. Above 28° C, there is a bimodal diurnal activity curve; below this temperature there is a single peak. Larvae develop chiefly in carrion. Adults are common in slaughter house yards around heaps of organic refuse, and frequently also visit flowers of *Heracleum*. In early spring, they suck sap flowing from wounded trees. Their hygienic and epidemiologic importance is probably slight.

Pyrellia cadaverina

A Palearctic, hemisynanthropic species, this fly frequently visits feces as well as decaying flesh. Larvae are coprophagous, preferring horse feces. Populations of this species attain high densities only sporadically. The species is frequently accompanied by the related *P. ignita*.

Ravinia striata

This species, together with *S. haemorrhoidalis* and *S. melanura*, is a frequent visitor to human feces on the periphery of human settlements. They are scarcer on other decomposing matter (offal, decaying fruit). Larvae develop preferentially in feces, chiefly of man and pigs.

Sarcophaga argyrostoma

This is a Holarctic, hemisynanthropic species which has spread to parts of South America, India, the Marshall Islands, and Hawaii. The larvae are primarily carrion feeders but also occur in human feces. This species, and those sarcophagids which follow, all produce myiasis.

Sarcophaga bullata

This species occurs only in the Nearctic region where it is found from Quebec and British Columbia to Florida and California. It is a hemisynanthropic fly which is commonly used in laboratory studies.

Sarcophaga carnaria

It is widespread throughout most of the Palearctic region from Denmark and Ireland south to Sicily and east through Europe (as far north in European Russia as the Timansk Tundra) to Siberia and Mongolia. The biology of the immature stages in nature has not been sufficiently studied. Some writers erroneously consider them to be exclusive parasites of earthworms. However, we (D. P.) succeeded in rearing a number of larvae in decaying meat, and they are also known to occur in privies and other unsanitary facilities. This species is widespread in the Soviet Union, and, according to Russian writers, the flies are

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found especially along roads, on vegetation and on flowers (particularly dandelions during the first half of summer). Adults are also found on putrefying fruits and meats and on corpses of animals. The unsanitary aspect of this fly is evidenced by isolations of bacteria and Protozoa of enteric origin from wild flies.

Sarcophaga haemorrhoidalis

This fly has an almost world-wide distribution, occurring on all continents but absent from the Oriental and much of the Australian regions. It is absent or rare in the cooler areas of Europe such as England and Denmark, and not found in northeastern Europe or Siberia, nor in the east coast province of Asiatic Russia. It is very common in the Ethiopian region and for this reason it is considered indigenous there. In the New World, it is distributed from southern Canada to Argentina and east to Hawaii. This is a hemisynanthropic fly which tends to be eusynanthropic especially in the warmer regions where it is common in and around human dwellings. It is a thermophilous species which avoids large forests. Larvae are deposited on carrion, excrement and exposed meats; some consider that they are mainly fecal breeders. In Africa, adults are commonly found indoors and are especially attracted to freshly deposited stools. Aside from the importance of this fly as a cause of myiasis, its habits make it a public health suspect.

Sarcophaga hirtipes

This fly is widely distributed in the Palearctic region from Germany through the Middle East to Szechwan in China. It also occurs in Baluchistan. In the Ethiopian region, it ranges south of the Sahara to the Cape of Good Hope. This species has habits similar to those of *S. haemorrhoidalis*. Besides the occurrence of larvae in wounds of sheep and cattle, they are frequently found in animal and human excrement and in decomposing animal and plant material, including carcasses and melons. It is a hemisynanthropic species.

Sarcophaga melanura

This hemisynanthropic species has a Holarctic distribution, having been reported from northeastern United States and Quebec. Russian writers report these flies are frequently found on fruits and sweets in markets and in places which have uncovered produce. They are also found in human dwellings and frequent human, horse, and cattle excrement and garbage. The larvae develop in feces of pigs and dung of other animals.

Sarcophaga misera

The taxonomic status of this species is confused and therefore, dis-

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tributional and bionomic data lack finality. This species is distributed in Daghestan and China in the Palearctic, India through the East Indies in the Oriental region, and in the Australian region. The fly is normally a carrion feeder but has been found breeding naturally in horse dung in Australia.

Sarcophaga peregrina

It is recorded from the eastern areas of the Palearctic (China and Japan), from the Oriental region (India to Java and the Philippines), and the Australian region (South Australia and Oceania, including Fiji, Samoa, and Hawaiian Islands). It breeds in all kinds of decomposing matter, and especially in human feces. It is considered hemisynanthropic.

Scatophaga stercoraria

This is a species of Holarctic distribution which is facultatively eusynanthropic under rustic conditions but otherwise hemisynanthropic. It is conspicuous but has little practical importance. Adults and larvae are predators. They are present from early spring (March) till late autumn (November). During the summer months, flies concentrate in the shadow of forests or at higher elevations. Larvae are active at temperatures slightly above 0° C. Adults are found in large numbers in dunghills of cattle, horses, and pigs, as well as human excreta. They are attracted to this substrate to feed, and also to prey upon other coprophagous species of flies, particularly the smaller ones (Sepsidae, Cypselidae). Larvae of these latter families are preyed upon in feces by larvae of *S. stercoraria.* At times, adults occur on flowers of certain plants (especially daucaceous ones) where they prey upon small flies, e.g., Chironomidae.

Sepsis punctum

Adults of this, as well as the related hemisynanthropic species (above all, *S. violacea, S. fulgens, S. thoracica, S. cynipsea,* etc.), are markedly herbicolous. They attain considerably high population densities in dung pits and farmyards. They are facultative exophilous synanthropes, feebly communicative. Larvae are saprophagous and have been found in feces of cattle and man and in a variety of decomposing vegetable and animal matter.

Siphunculina funicola

This is the "eye-fly" of India, Ceylon, and Java. Adults alight on eyes, lips, nose, and ears of men and animals in the tropics, eager to suck up liquid secretions from these organs, and from perspiring skin. This supplements their diet of honey-dew and moisture from plants. The

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fly occurs along the seacoast and in fairly high elevations (Bangalore). It is absent only during the cold months and has population peaks during the short intervals of warm weather after the southwest monsoon sets in. Adults have the peculiar habit of resting on suspended ropes and strings, preferably old ones, hanging under thatched roofs. The clusters are always found away and protected from the winds. The breeding habits of this hemisynanthropic fly are poorly understood.

Stomoxys calcitrans

This is a secondarily cosmopolitan endophilous symbovine of considerable practical importance. It is closely associated with stables and rustic human dwellings and is most frequent in the former when cattle are present. It occurs outside these buildings only during the day, visiting dry matter of plant origin (especially wooden doors, fences, etc.) and basking in the sunshine. Toward autumn, the flies migrate gregariously to stables and fodder preparation rooms, congregating on warm walls (e.g., chimneys). On hot days, the species also occurs in pastures. The species can be described as thermophilous and heliophilous. In late summer, the flies invade homes and can bite man. They prefer cattle, being less frequent on horses and pigs; under laboratory conditions, the flies consume blood of laboratory mammals and birds. Both sexes suck blood in illuminated stables even late at night. Feeding is repeated frequently. Unlike house fly maggots, larvae of the biting stable fly are fairly restricted to substrates which contain rotting plant material, commonly straw. Thus, they are often found breeding in large numbers in lake weeds piled up on shore. Toward middle and late summer in the United States, these flies constitute a major annoyance to bathers. It is readily seen from the list of its biotic associations that *S. calcitrans* has deservedly received attention as a potential vector of many microbial diseases of man and domestic animals. Also of considerable importance is the hematophagous habit of *S. calcitrans* which results in decreased milk production of cows, as well as weight losses and death of calves.

Stomoxys nigra

Our biotic associations concerning this species are derived from the African continent and the adjoining islands of Madagascar and Mauritius. It occurs as well in the Orient. The larvae of this species and those of *S. calcitrans* breed under identical conditions but the former's development is more rapid. In Madagascar the adult bites with the same tenacity as its European counterpart. *S. nigra* is a symbovine, exophilous species.

(*continued on page 83*)

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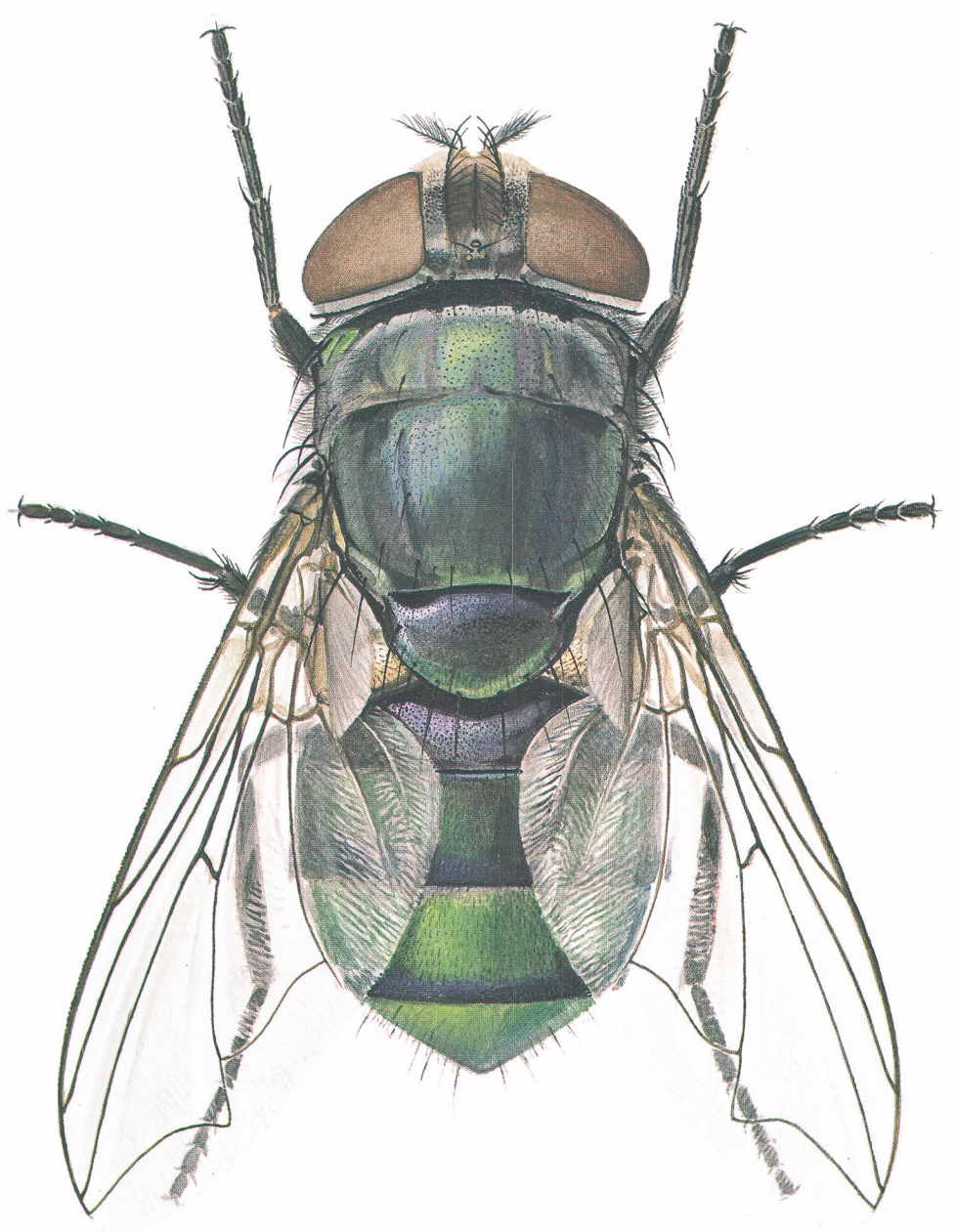

Chrysomya megacephala (Fabricius), 1794, ♀. Actual size 10.0 mm.
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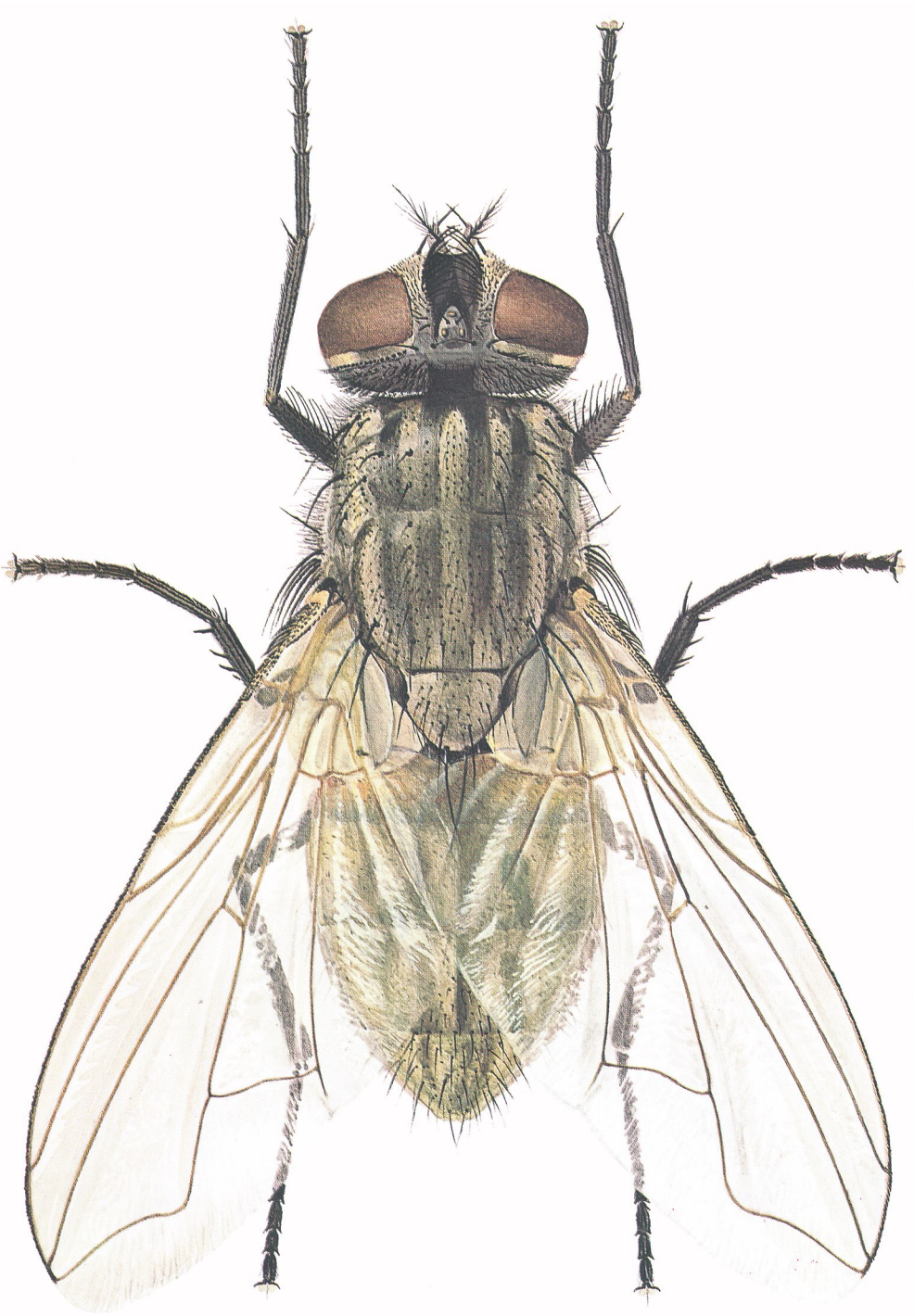

Musca domestica domestica (Linnaeus), 1758, ♀. Actual size 7.0 mm.
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Hippelates pusio (Loew), 1872, ♀. Actual size 1. 6 mm.
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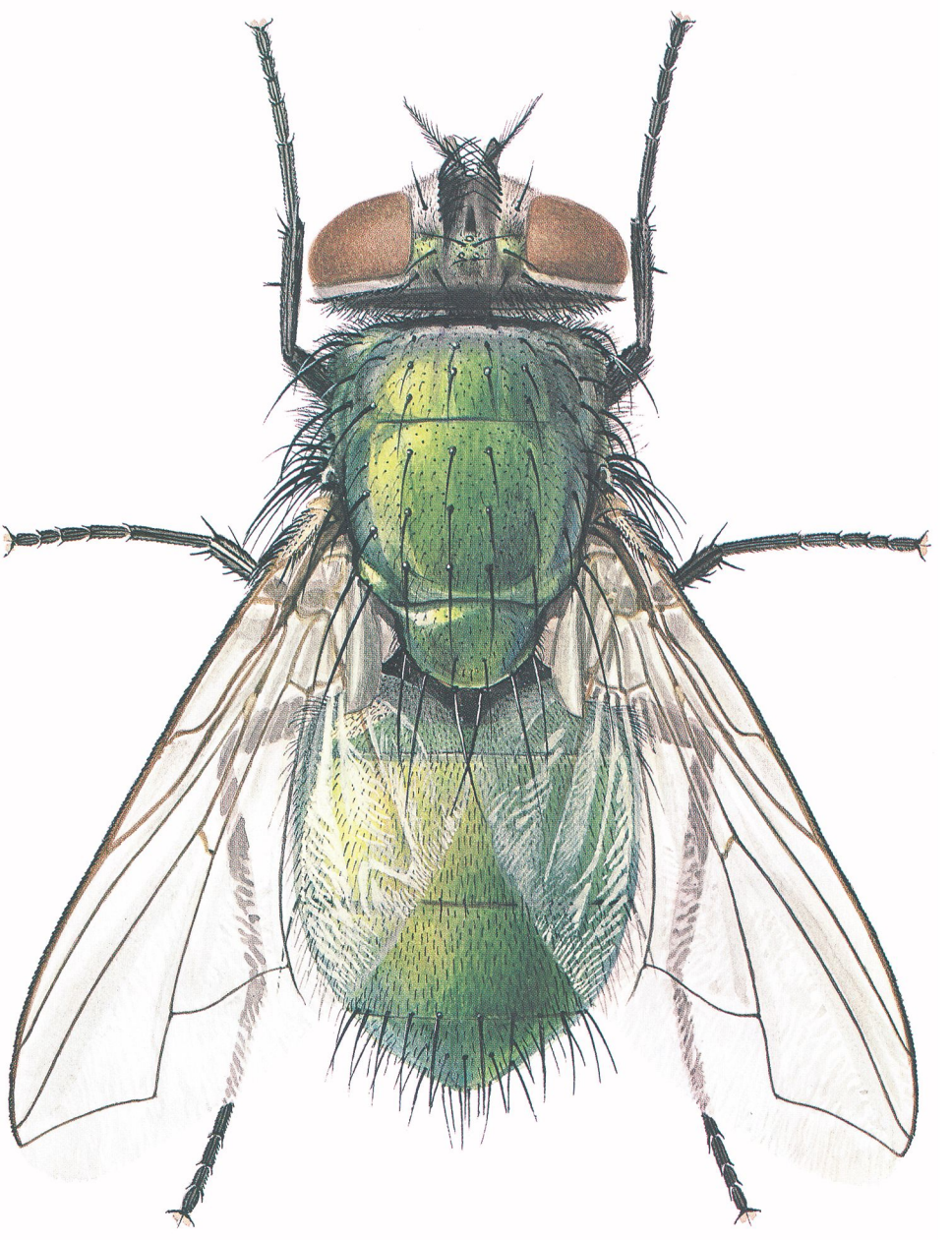

Phaenicia sericata (Meigen), 1826, ♀. Actual size 8.0 mm.
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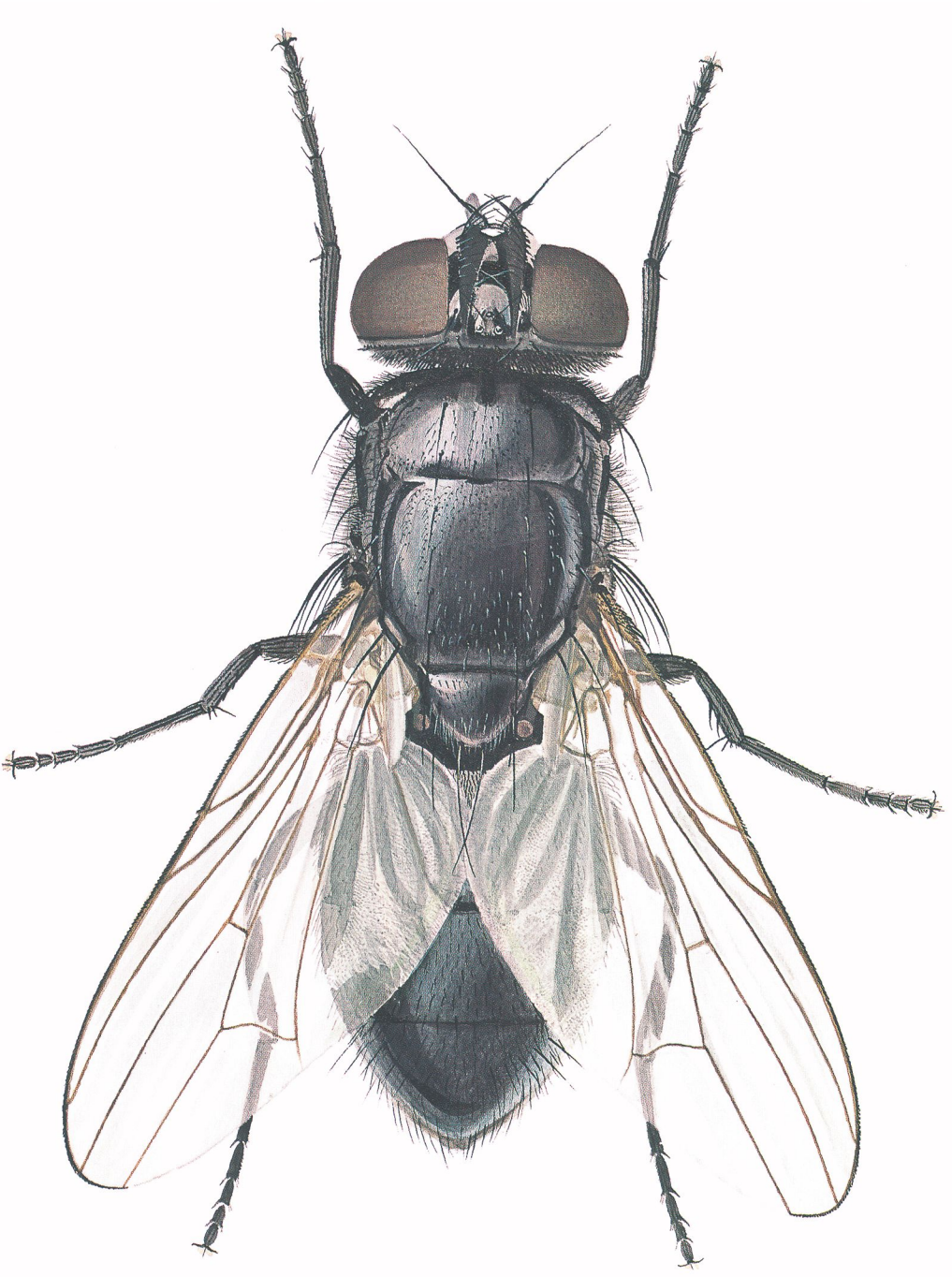

Ophyra leucostoma (Wiedemann), 1817, ♀. Actual size 6.5 mm.
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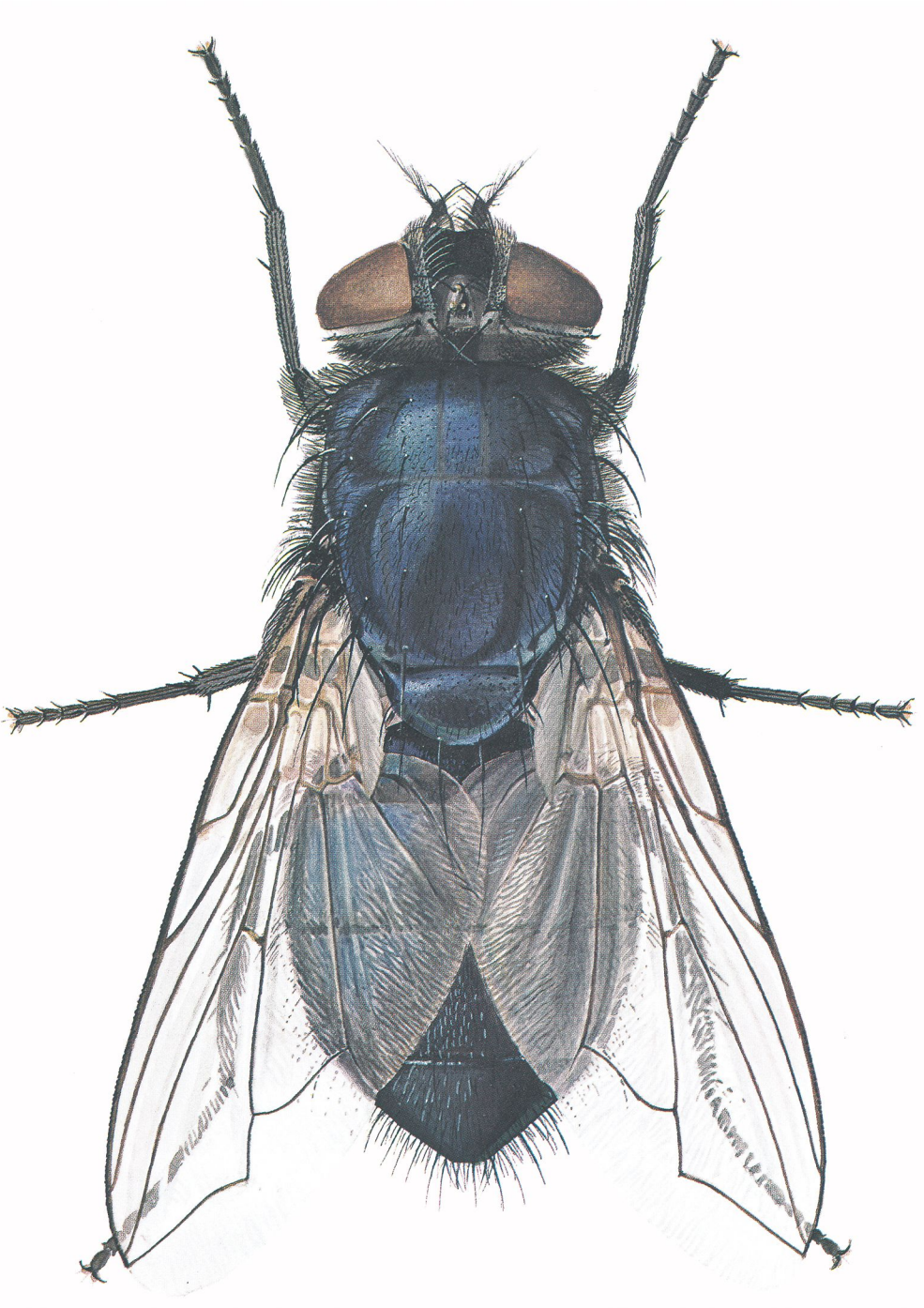

Protophormia terraenovae (Robineau-Desvoidy), 1830, ♀.
Actual size 10.0 mm. COURTESY F. GREGOR.

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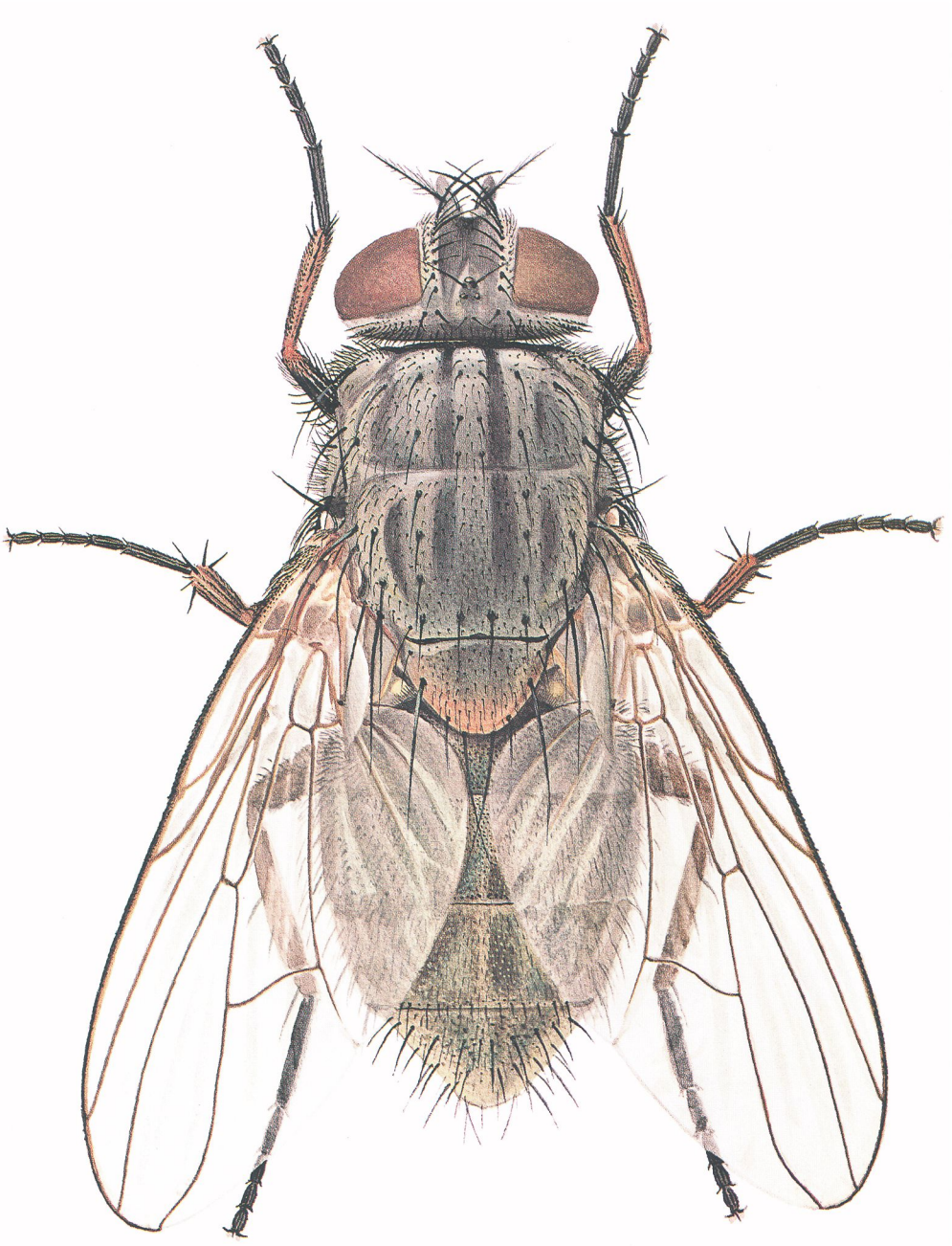

Muscina stabulans (Fallén), 1816, ♀. Actual size 8.5 mm.
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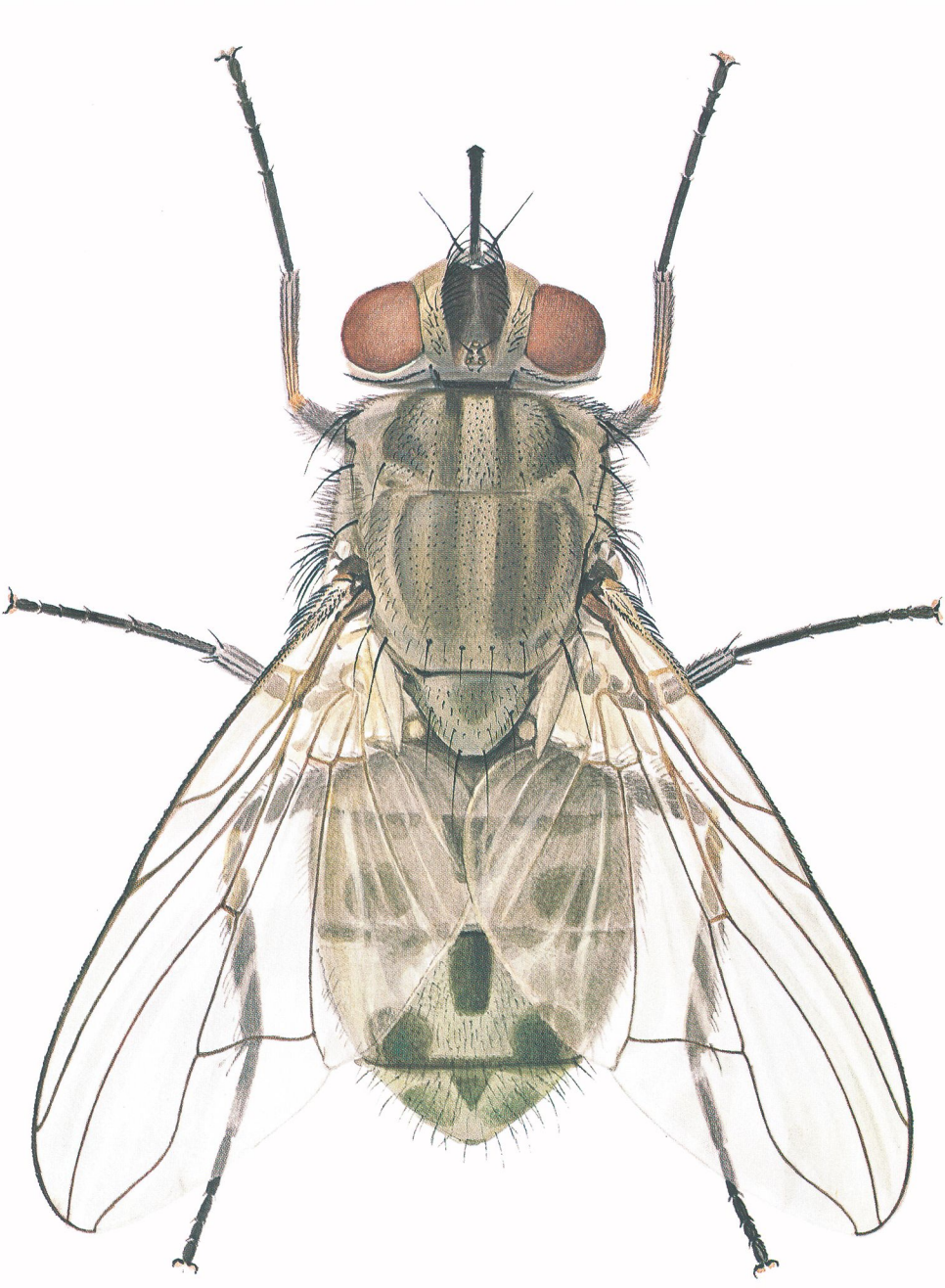

Stomoxys calcitrans (Linnaeus), 1758 ♀. Actual size 7.0 mm.
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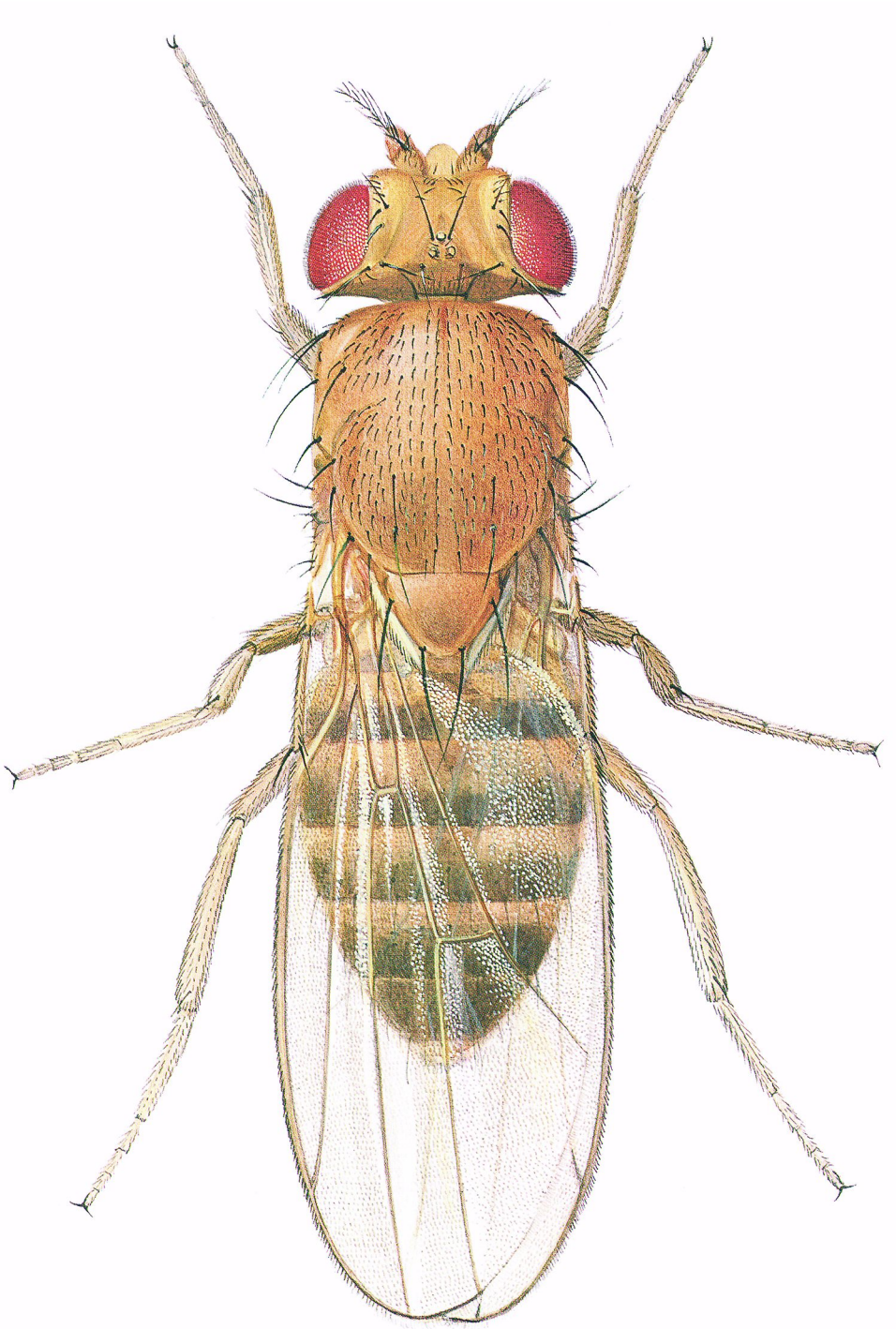

Drosophila melanogaster (Meigen), 1830, ♀. Actual size 2.0 mm.
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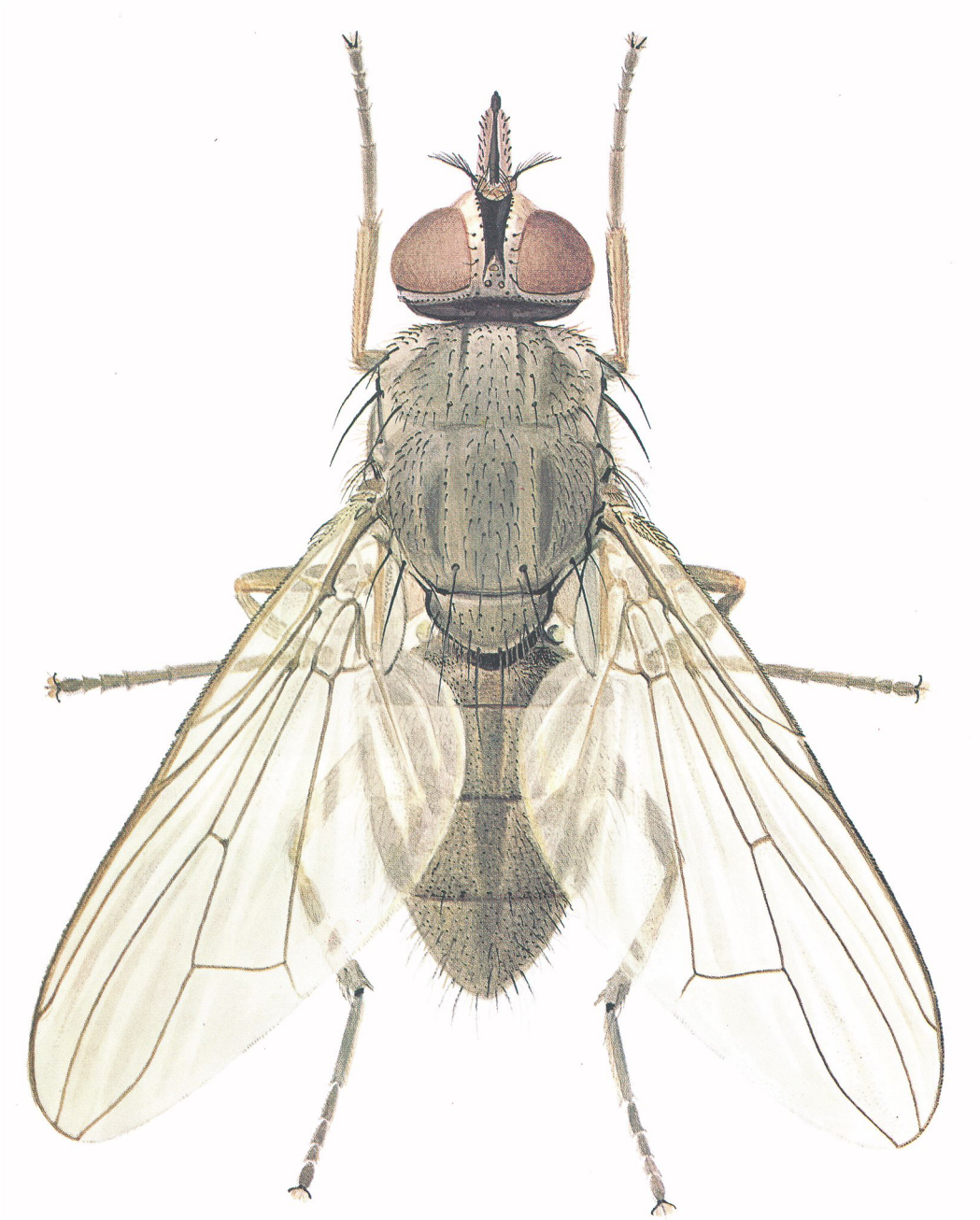

Siphona irritans (Linnaeus), 1758, ♀. Actual size 4.0 mm.
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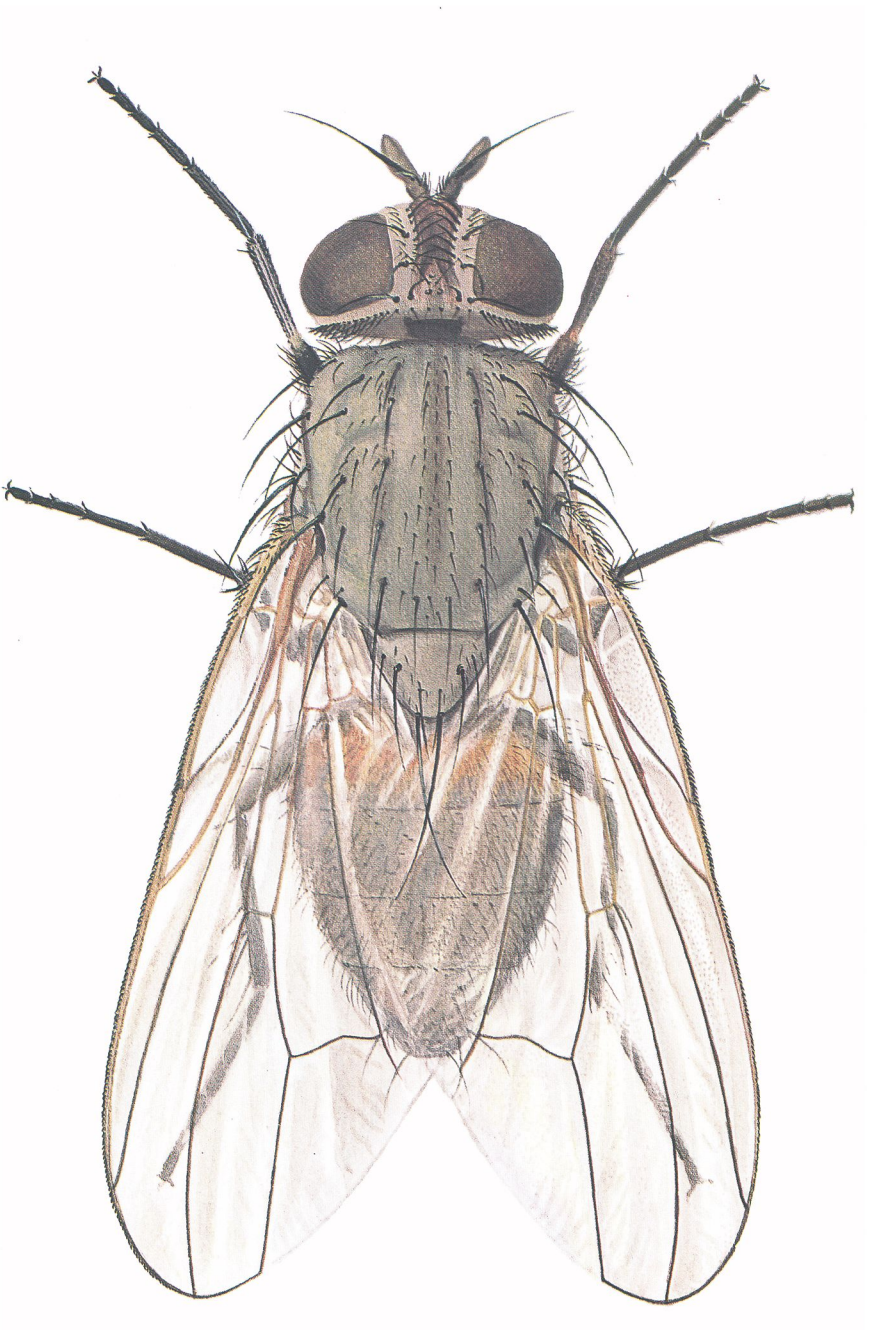

Fannia canicularis (Linnaeus), 1761, ♀. Actual size 5.0 mm.
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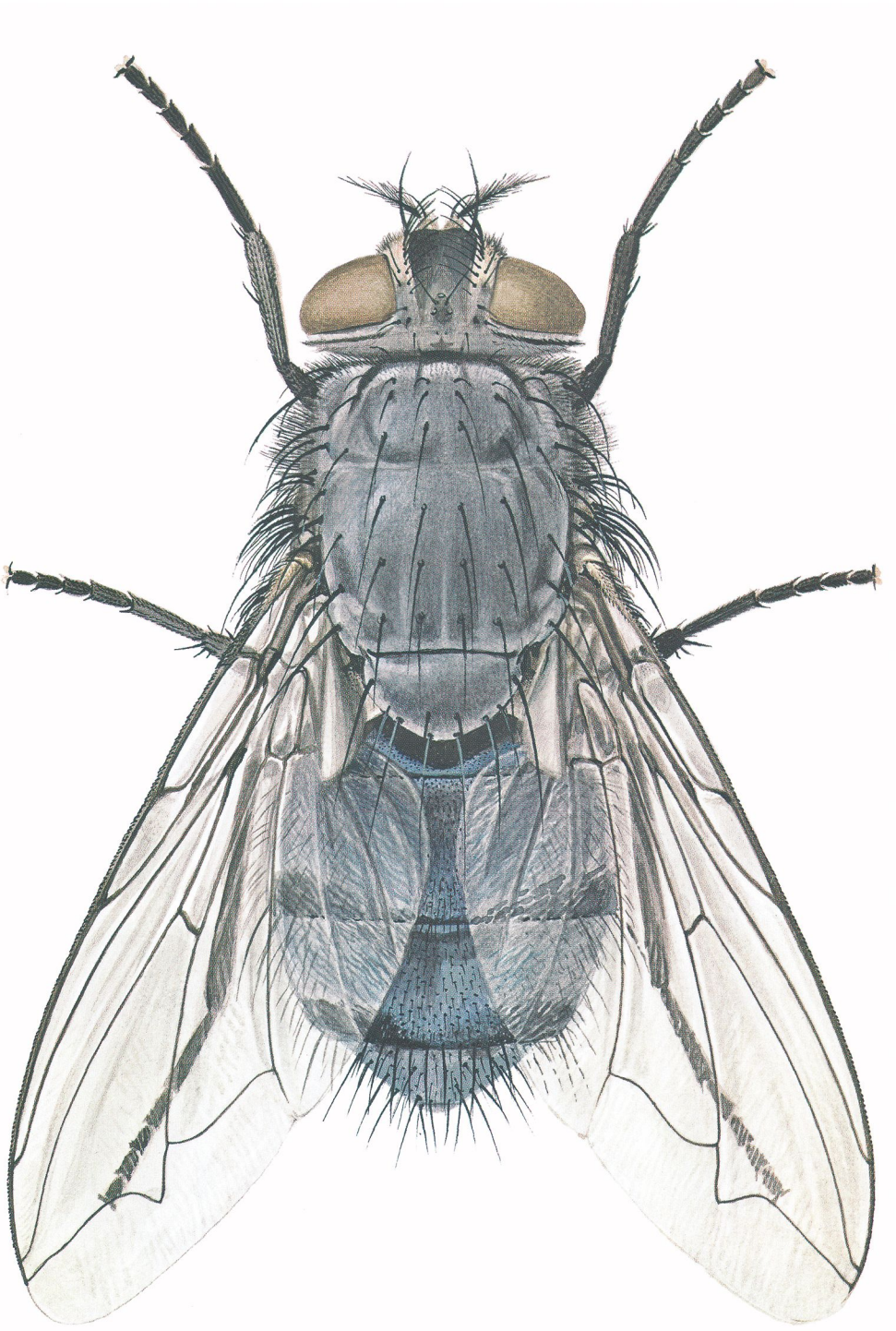

Calliphora vicina (Robineau-Desvoidy), 1830, ♀.
Actual size 11.0 mm. COURTESY F. GREGOR.

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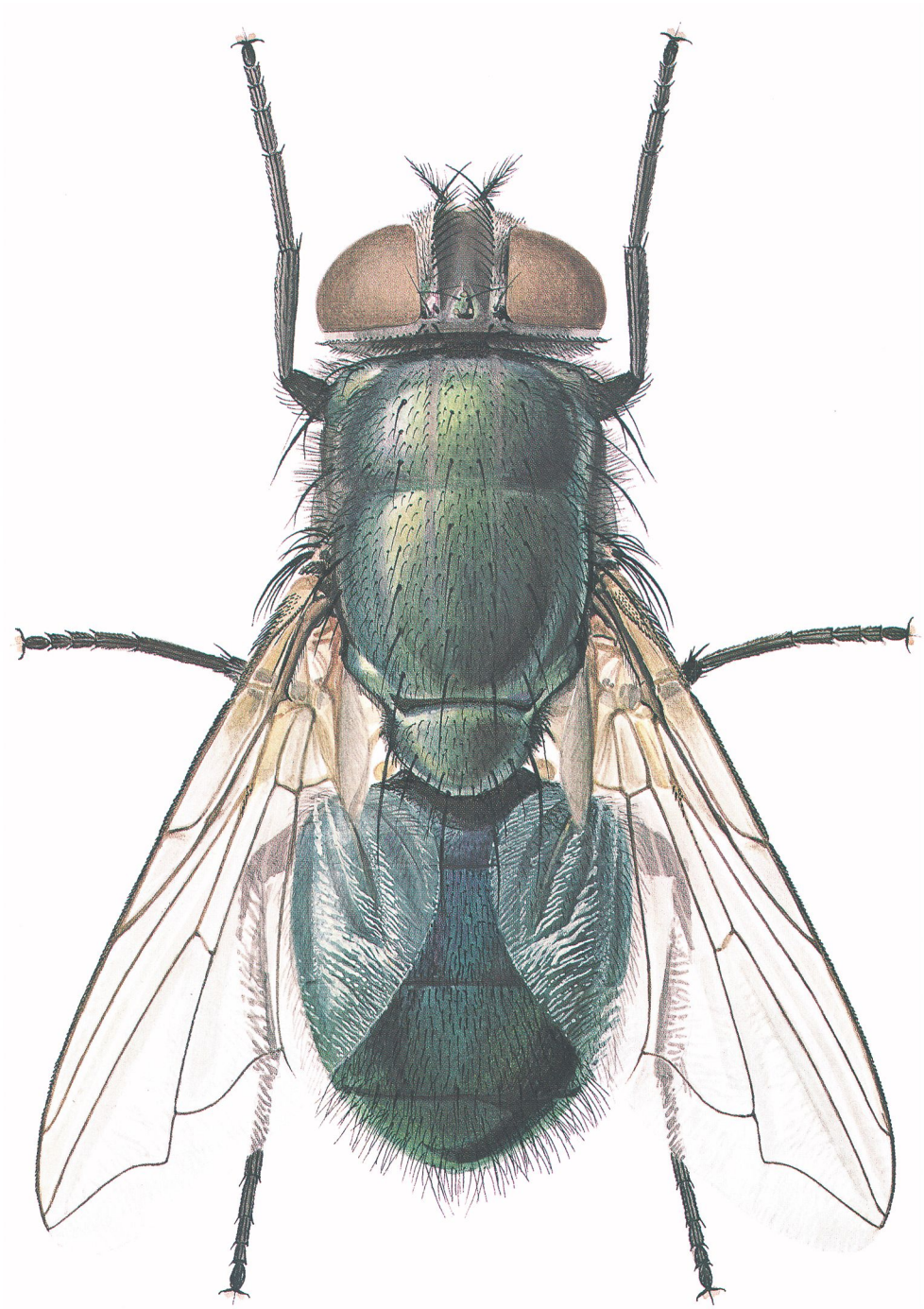

Phormia regina (Meigen), 1826, ♀. Actual size 9.0 mm.
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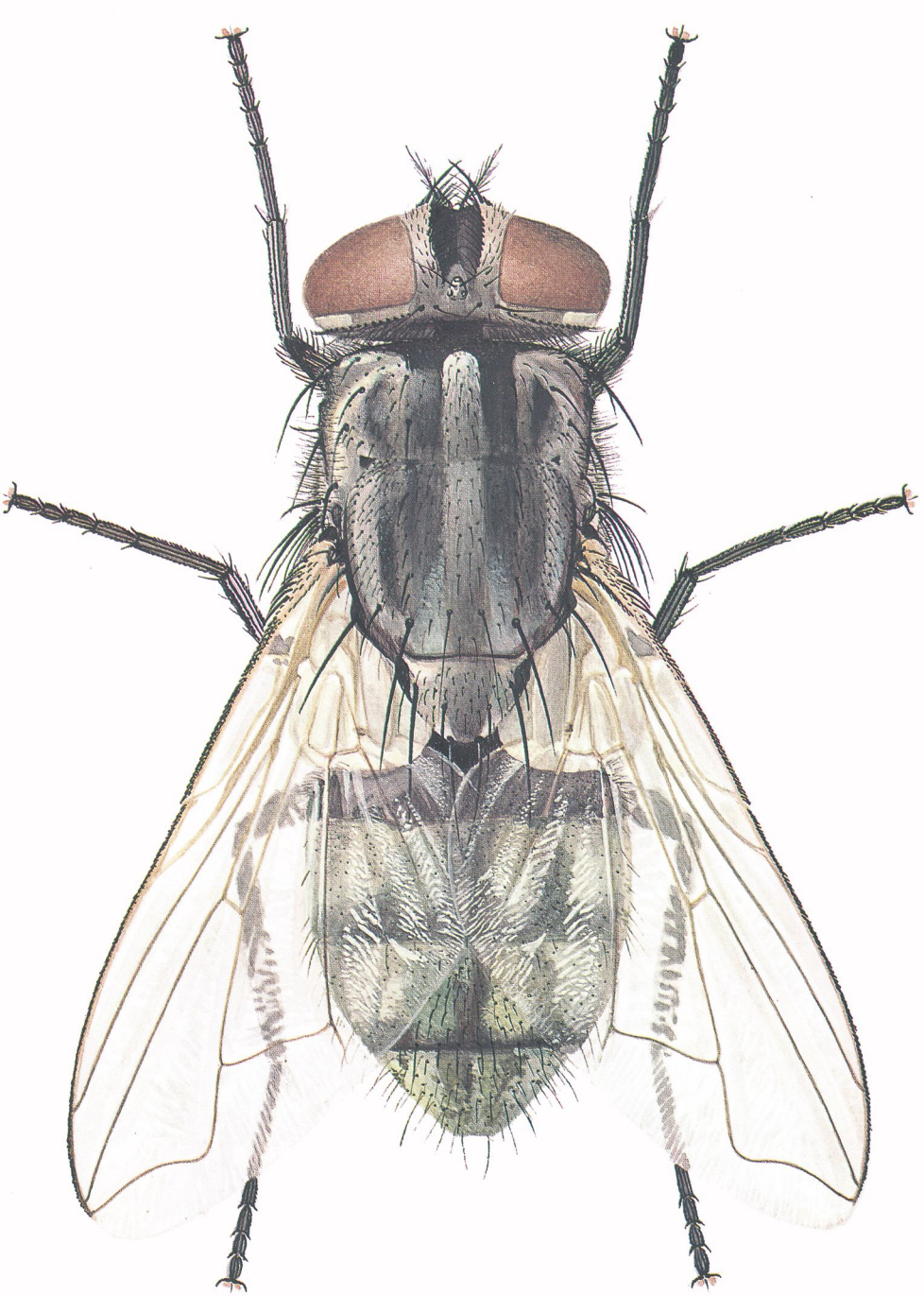

Musca sorbens (Wiedemann), 1830, ♀. Actual size 5.5 mm.
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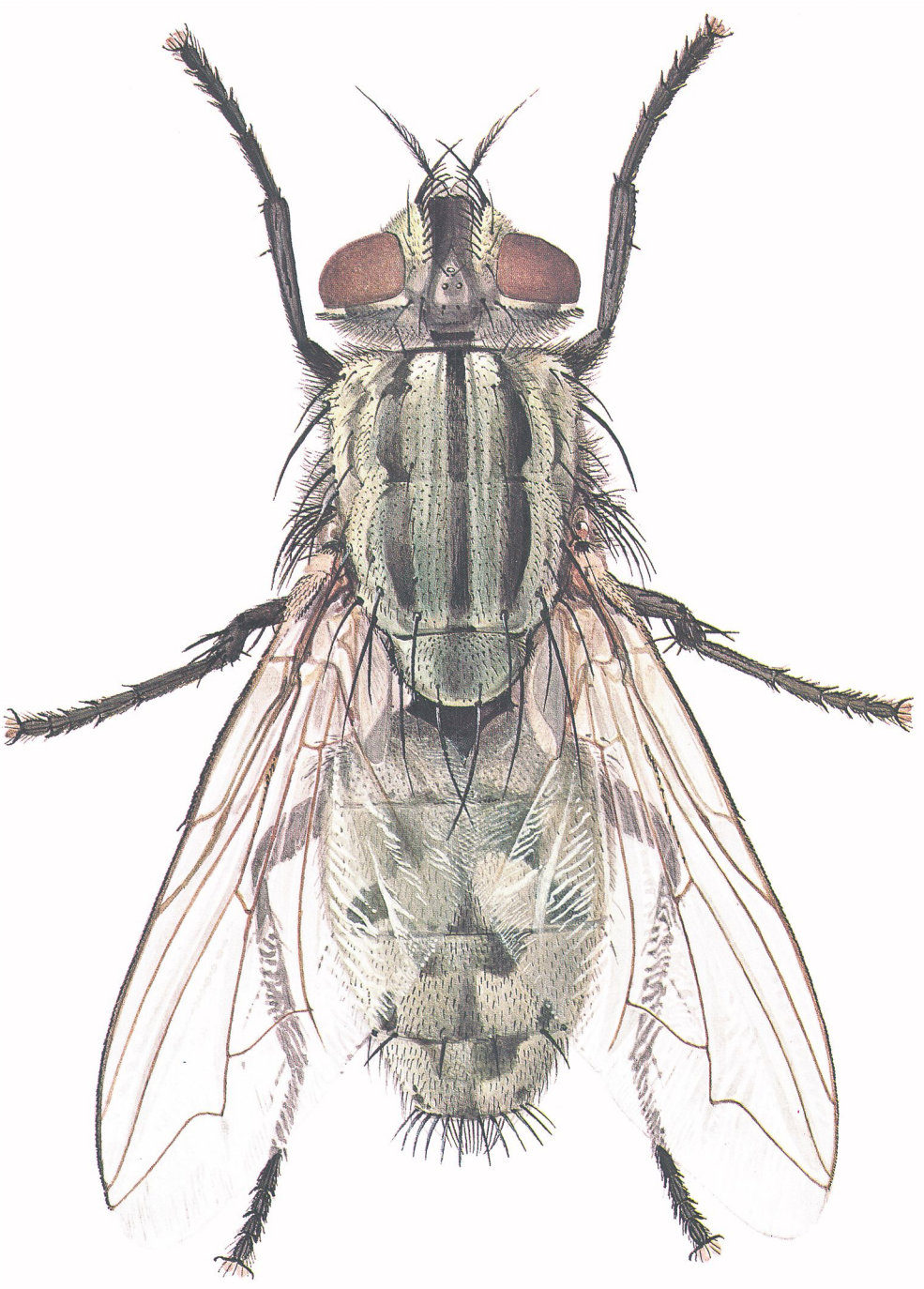

Sarcophaga haemorrhoidalis (Fallén), 1817, ♀. Actual size 11.5 mm.
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Xylota pipiens

This is a largely hemisynanthropic floricolous syrphid, common though not as abundant as *Eristalis tenax*. Larvae develop singly in sewage effluents and are versatile saprophages.

Volucella obesa

Larvae of this genus are scavengers in the nests of bumblebees and wasps (*Vespa*). *V. obesa* adults in Ecuador yielded a large number of *Salmonella* and some *Shigella* types and must be considered among filth flies of public health importance.

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4

Keys to Adult Flies

František Gregor, Adrian Pont, Hugh E. Paterson, and Marshall R. Wheeler

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INTRODUCTION

THE MATERIAL IN this chapter is arranged in three sections. The first section contains keys to the common synanthropic flies of the Palearctic region. Though exclusively New World in their distribution *Cochliomyia hominivorax* and *C. macellaria* are included here because of their importance. Accompanying these keys are generalized drawings of the head, thorax, wing, and leg which are designed to familiarize the non-specialist with the particular vocabulary associated with the highly evolved morphology of flies. Drawings of diagnostic structures and other features will facilitate identification of species. These drawings, 153 in all, and keys have been prepared by Dr. František Gregor. The second section contains a synonymic list of *Musca* species, additional generalized drawings, and keys to the 22 more-or-less common species which are known to occur in the various zoogeographic regions. This section has been prepared by Drs. Adrian Pont and Hugh E. Paterson; Figs. 149 and 150 were executed by Dr. Pont. In the third section, Dr. Marshall Wheeler's brief discussion of synanthropic *Drosophila* is accompanied by a key to the most common cosmopolitan species.

Inevitably, there are some species not dealt with here which are treated elsewhere in the book, and vice versa. The majority of common synanthropes do receive the triple treatment which this volume intended—ecology, classification, and biotic associations.

1. Maxillary palpi long, consisting of 4-6 segments, antenna consisting of more than 3 segments 2

——Maxillary palpi consisting of one segment, antenna apparently 3-segmented, the 3rd segment bearing a dorsally placed arista as a rule 4

2. Small, mothlike flies, with wings broad, pointed, long-haired, and folded rooflike over the body when at rest (Fig. 1): Psychodidae.

——Flies other than above 3

3. Wing venation differentiated as several thick veins near anterior margin of wing and several thin veins inside the wing area (Fig. 7). Antennae subclavate:
   Scatopsidae, e.g., *Scatopse notata* (Linn.) and other species.

——Wing venation as in Fig. 2, antennae not subclavate: Anisopodidae, e.g., *Sylvicola fenestralis* (Scop.).

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4. Wings with anterior veins strong and the others oblique and weak, thorax strongly convex (Figs. 3, 4). Minute flies capable of rapid running:
   Phoridae, e.g., *Megaselia* Rond. and other genera.
——Wing venation not differentiated in this way; as a rule one or more transverse veins near the base or in the area of the wing (Figs. 11, 29, 129) 5
5. Anal cell long, frequently reaching the margin of the wing (Fig. 10) 6
——Anal cell about equal in length to the hind-basal cell or slightly longer, rarely absent 7
6. Wing with a spurious vein present as a veinlike fold in the membrane between the radius and medius, traversing cross vein r-m. Large or medium-sized flies, most brightly colored:
   Syrphidae.
——Wing venation of different character (Fig. 5). Antennal segments fused to form a short, bare projection, body bare, abdomen wrinkled:
   Scenopinidae, e.g., *Scenopinus fenestralis* (Linn.).
7. 2nd antennal segment with a longitudinal suture extending along its upper outer edge (Figs. 98, 115). Squamae usually large, postalar callus distinct (Figs. 45, 53). Sexual dimorphism of head present as a rule: eyes of male contiguous on the vertex 17
——2nd antennal segment without a longitudinal suture, squamae usually small, postalar callus not differentiated. No conspicuous sexual dimorphism 8
8. Costal vein interrupted, broken, or thinned before bifurcation into sc and r_1 (Fig. 33) 9
   Costal vein continuous, not interrupted or thinned (Fig. 15) . . 14
9. 1st tarsal segment of hind-tarsi shorter than 2nd segment (Fig. 35): Sphaeroceridae.
——1st tarsal segment of hind-tarsi longer than 2nd segment . 10
10. Costa interrupted in only one place, namely, near where sc arises or near r_1 if sc does not reach the costa (Fig. 41) 11
——Costa interrupted in two places: near origin of humeral transverse vein and near the origin of r_1 or sc (Fig. 39) 13
11. Anal cell and hind-basal cell absent: Chloropidae, e.g., genus *Hippelates*: costal vein prolonged to the fork of m; t_s with a long curved spine (Fig. 40).
——Anal cell or hind-basal cell present 12
12. Costa with a series of spines all along its length as a rule (Fig. 43): Heleomyzidae.
——Costa bare, anal vein shorter, curved parallel with posterior margin of wing. Body black, glossy:
   Piophilidae.
13. Arista long plumose (in synanthropic species) (Fig. 42). Small yellowish flies with a prominent facial carina and with dark abdominal markings:
   Drosophilidae.

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——Arista bare or pubescent. Minute, mostly black flies: Milichiidae.

14. Palpi vestigial, front smooth and bare in anterior part, abdomen more or less constricted anteriorly. Flies with antlike appearance: Sepsidae.

——Palpi well developed, abdomen never constricted 15

15. Tibiae with dorsal preapical spines. Prelabrum strongly prominent: Dryomyzidae.

——Tibiae without dorsal preapical spines 16

16. Veins r_{4+5} and m_{1+2} strongly convergent toward apex of wing; anal cell pointlike, prolonged along the anal vein (Fig. 11): Otitidae.

——No such combination of characters. Vein r_5 setulose, 3 supraalar bristles present, propleura bare, wings frequently spotted: Platystomatidae.

17. Hypopleural bristles absent 18

——Hypopleura in front of spiracles with a curved, concavity forward, row of setae (Fig. 14) 20

18. Preabdomen consisting of 6 segments (1st and 2nd ones fused); eyes of both sexes broadly separated; front invariably without cruciate bristles; vein m_1 always straight; lower calyptra strongly reduced to form a membraneous fold: Scatophagidae.

——Preabdomen consisting of 5 segments; eyes of male contiguous as a rule; frons frequently with cruciate bristles, m_1 frequently curved forward, lower calyptra well developed . . . 19

19. Anal vein cu_{1b} + 1a continuous to wing margin even as a fold: Anthomyiidae.

——Anal vein cu_{1b} + 1a not continuous to wing margin even as a fold: Muscidae.

20. Postscutellum well developed (Fig. 14): Tachinidae or Larvaevoridae (generally asynanthropic flies).

——Postscutellum absent or weakly developed 21

21. Thorax with pale and dark vittae, abdomen with pearly maculae or dark round maculae. Body densely pollinose, never metallic blue or green. As a rule 3 or more notopleural bristles present. Vestigial m_2 vein or veinlike fold in place of bifurcation of m_1 and m_2 present (Fig. 148): Sarcophagidae.

——Body metallic blue, green or purple: if not so, then thorax with wavy golden hair. Two notopleural bristles, vein m_2 entirely absent and not suggested by a fold of wing membrane (Fig. 129): Calliphoridae.

SCATOPSIDAE

(Only genus *Scatopse* with several synanthropic spp.)

1. Vein cu_2 strongly curved backward before middle, m_1 simple; 1.5-2 mm: *Scatopse fuscipes* Meig.

——Vein cu_2 undulated in middle and then resuming its original direction, m_1 with a vestige of an accessory vein basally and broken in that place (Fig. 7); 2.5-3 mm: *Scatopse notata* (Linn.).

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PHORIDAE

1. Abdomen of male hirsute with flattened bristles; body black, legs pale brown; 2-3 mm: *Megaselia rufipes* (Meig.).
——Abdomen of male with short clinging pubescence; body black, legs fulvous; 1-2 mm: *Megaselia pulicaria* (Fall.).

SYRPHIDAE

1. Vein r_{4+5} deeply curved inwardly (Fig. 10) . . . 2
——Vein r_{4+5} nearly straight (Fig. 8). Hind-femora conspicuously incrassate, spiny on lower side, hind-tibiae strongly curved (Fig. 9); 7-9 mm: *Xylota pipiens* (Linn.).

2. R_1 cell open (*Helophilus* Meig.) 3
——R_1 cell closed 5

3. Facial vitta yellow or reddish; 15-18 mm: *Helophilus trivittatus* (Fabr.).
——Facial vitta black . . . 4

4. Yellow maculae of 2nd abdominal tergite reaching its posterior margin; 13-16 mm: *Helophilus hybridus* Loew.
——Yellow maculae of 2nd abdominal tergite not reaching its posterior margin; 11-17 mm: *Helophilus pendulus* (Linn.).

5. Eyes without maculation (*Eristalis* Latr.) 6
——Eyes with distinct maculation 9

6. Arista practically bare; 15-19 mm: *Eristalis tenax* (Linn.).
——Arista pubescent 7

7. Abdomen with short but dense pubescence; 9-12 mm: *Eristalis intricarius* (Linn.).
——Abdomen with weak pubescence, nearly bare . 8

8. Face without dark medial vitta; 10-12 mm: *Eristalis arbustorum* (Linn.).
——Face with a dark medial vitta; 11-13 mm: *Eristalis nemorum* (Linn.).

9. Maculae irregular, partly fused; 6-8 mm: *Eristalinus sepulchralis* (Linn.).
——Maculae isolated, small, regular; 10-12 mm: *Eristalis aeneus* (Scop.).

OTITIDAE

1. Antennae situated in sharply defined sockets. Head distinctly broader than thorax. Frons with distinct sculpturing; 3-4 mm: *Ulidia erythrophthalma* Meig.
——Antennal sockets shallow or absent 2

2. Veins r_{4+5} and m_{1+2} meet in a point in apex of wing. Body with green and blue metallic luster, thorax dull, abdomen glossy; 4 mm: *Physiphora demandata* (Fabr.).
——Veins r_{4+5} and m_{1+2} not converging to a point, wings maculate; 2.5-4 mm: *Euxesta* Loew.

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PLATYSTOMATIDAE

1. Thorax: 2 sa and 2 pa present. Upper part of scutellum haired at least on sides. Wing as in Fig. 13; 6-10 mm: *Platystoma lugubre* R.-D.

——Thorax: 1 sa, 2 pa present. Scutellum bare above, all tarsi mostly black, 5th tergite of male longer than 3 preceding tergites, 3rd tergite of female as long or longer than 4th tergite; 4.5-7 mm: *Platystoma seminationis* Fabr.

DRYOMYZIDAE

1. Vein r_1 setulose on obverse side. Body testaceous, wings infuscated on transverse veins and at the ends of longitudinal veins at apex (Fig. 15); 6-10 mm: *Dryomyza anilis* Fall.

——Vein r_1 bare. Wings translucent, 3rd antennal segment brown, tarsi black apically; 7-9 mm: *Dryomyza flaveola* (Fabr.).

SEPSIDAE

1. Apex of wing near origin of r_{2+3} with dark blotch (Fig. 19). (*Sepsis*) 5

——Apex of wing without a dark blotch 2

2. Mesopleura with a distinct seta (Fig. 17) 3

——Mesopleura and vte without a distinct seta, pvt present. (*Themira*) 15

3. ors distinctly developed (Fig. 17), fore-legs as in Fig. 17. Body black, legs testaceous; 3-4 mm: *Meroplius stercorarius* (R.-D.).

——ors reduced, body brown with dull bronze luster, partly fulvous or rufous (*Nemopoda*) 4

4. Male: 3rd trochanter with 2 black spines directed anteriorly (Fig. 18); female: 5th abdominal sternite less than twice as wide as 3rd sternite. Wing apex mostly slightly tinged; 3-4.5 mm: *Nemopoda nitidula* (Fall.).

——Male: 3rd trochanter without black spines; female: 5th abdominal sternite twice as wide as 3rd sternite. Wing apex mostly clear; 3.5-4.5 mm: *Nemopoda pectinulata* Loew.

5. Sternopleura shiningly black, pollinose only on upper margin (Fig. 19); 2.5-4 mm: *Sepsis thoracica* (R.-D.).

——Sternopleura dull, pollinose all over 6

6. Males 7

——Females 12

7. f_1 with a conspicuous tubercle with spines (Fig. 20) situated apically from the middle tubercle or group of spines 8

——f_1 with only 1 larger tubercle or 1 medial group of spines (Fig. 23) 10

8. f, t_2 and t_3 entirely black, 2nd abdominal tergite without longer hairs on sides. Body entirely black; 2.5-3.5 mm: ♂ *Sepsis fulgens* Hffmsgg.

——Legs mostly testaceous, frequently base of abdomen also testaceous, 2nd abdominal tergite with a group of longer hairs on sides 9

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9. Prescutellar dc strong, another pair of dc in front of them absent or reduced. Fore-leg of male as in Fig. 21; tibia 3 of female with 1 ad below middle; 3.5-5 mm: ♂ *Sepsis punctum* (Fabr.).
——2 pairs of equally strong dc present, fore-leg of male as in Fig. 22, tibia 3 of female without ad; 3-4.5 mm: ♂ *Sepsis violacea* Meig.

10. t_1 with a deep excision in basal third (Fig. 23); 3-4 mm: ♂ *Sepsis cynipsea* (Linn.).
——t_1 not deeply excised 11

11. f_1 with a low tubercle on lower surface (Fig. 24), t_1 straight; 2-2.5 mm: ♂ *Sepsis orthocnemis* Frey.
——Basal 2/3 of f_1 incrassate, t_1 S-shaped; 2-3 mm: ♂ *Sepsis flavimana* Meig. and ♂ *Sepsis biflexuosa* Strobl.

12. Abdominal tergites, mainly the 4th and 5th, with distinct setae near posterior margins as in Fig. 19 13
——Abdominal tergites with setulae only 14

13. 2nd abdominal tergite without a tuft of longer hairs laterally, legs mostly black; 2.5-3.5 mm: ♀ *Sepsis fulgens* Hffmsgg.
——2nd abdominal tergite with a tuft of hairs laterally, legs mostly testaceous 15

14. t_3 with 1 ad in middle, f_2 without a medial seta anteriorly; 3-3.5 mm: ♀ *Sepsis cynipsea* (Linn.).
——t_3 without ad: ♀ ♀ *Sepsis orthocnemis* Frey, *Sepsis flavimana* Meig., and *Sepsis biflexuosa* Strobl.

15. Humeral bristles present, sternopleurae pollinose all over, legs partly testaceous; 2nd tarsus of male as in Fig. 26; 3-4 mm: *Themira annulipes* (Meig.).
——Humeral bristles absent 16

16. Jowls broader than 3rd antennal article; body 4-4.5 mm: 17
——Jowls not broader than 3rd antennal article, thorax black, shining; body 2-3.5 mm: *Themira lucida* Staeger.

17. Antennae black, arista incrassate basally, r_{4+5} and m_{1+2} nearly parallel apically; f_1 of male as in Fig. 27: *Themira putris* (Linn.).
——Antennae rufous, arista slightly incrassate basally, r_{4+5} and m_{1+2} strongly converging apically; f_1 of male as in Fig. 28: *Themira nigricornis* (Meig.).

PIOPHILIDAE

1. Dorsum of thorax feebly shining, with distinct coarse sculpture and 3 rows of setulae. Mesopleurae hairy. Male, 3.5-4 mm; female, 4-4.5 mm: *Piophila casei* (Linn.).
——Thorax mostly strongly shining and smooth or only sparsely hairy and feebly wrinkled, always without 3 rows of setulae; 2-4 mm. 2

2. h and prs invariably absent 3
——h and prs invariably present (Fig. 30) 6

3. Mesopleura bare, head entirely black; 2.5-4 mm: *Piophila foveolata* Meig.

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——Mesopleura with scattered short setae, head often partly yellowish or reddish 4

4. cx_1 entirely black; 3-4 mm: *Piophila nigricornis* Meig.
——cx_1 partly or entirely yellowish 5

5. Frons yellowish anteriorly, broadly black posteriorly, jowls about as broad as 3rd antennal article, p_2 and p_3 invariably more or less infuscated; 2.5-3 mm: *Piophila varipes* Meig.
——Frons entirely yellowish, only narrowly black on ocellar triangle and around the eyes. Jowls 1.5 times as broad as 3rd antennal article, p_2 and p_3 often entirely yellow, anterior tarsi of female entirely black, those of male yellowish with blackish metatarsus as a rule; 2.5-3 mm: *Piophila nigrimana* Meig.

6. Only 1 pair of dc present (Fig. 30), mesopleura bare, shining, frons and jowls mostly yellowish to reddish; 2-3.5 mm: *Piophila vulgaris* Fall.
——4 pairs of dc present, fore-tarsi distinctly broader than middle and hind-tarsi (Fig. 32); 2-2.5 mm: *Piophila latipes* Meig.

SPHAEROCERIDAE

1. Vein m does not reach the margin of wing, anal cell and hind-basal cell absent (Fig. 37) 12
——Vein m reaches the margin of wing distinctly, anal cell and hind-basal cell present (Figs. 33, 34) 2

2. tp meeting cu_1 in about 2/3 of length of the latter, i.e., far from margin of wing. t_3 with ventral apical spine curved (*Sphaerocera*) 3
——tp meeting cu_1 in close proximity to margin of wing (Fig. 34) 5

3. Oral margin distinctly protruded beyond a level of profrons, scutellum with 2 marginal teeth, t_3 strongly incrassate; 3 mm: *Sphaerocera curvipes* Latr.
——Oral margin deep behind the level of profrons. Scutellum with 6-16 marginal teeth 4

4. Vein m straight or slightly curved backward, thorax dull (sculptured) with glossy longitudinal vittae, scutellum with 6-10 teeth; 1 mm: *Sphaerocera pusilla* (Fall.).
——Vein m distinctly curved forward, thorax uniformly dull, scutellum with 14-16 teeth; 2-3 mm: *Sphaerocera pallidiventris* (Meig.).

5. t_3 without ventral apical spine. Body and legs black, knees testaceous; 2.5-3 mm: *Copromyza atra* (Meig.).
——t_3 with a ventral apical spine 6

6. Postocular setulae in several irregular rows, t_2 with 4-5 strong ad 7
——Postocular setulae in 1 row . . . 9

7. t_3 with 1 conspicuous submedial av 8
——t_3 without a distinct submedial av. Suture between sternopleura and mesopleura with 2-3 arched hirsute bristles; 4-5 mm: *Copromyza* (*Stratioborborus*) *nitida* (Meig.).

8. Thorax dull, with many rows of ac. ta and tp not infuscated, mesopleura entirely dull; 2-4 mm: *Copromyza* (*Crumomyia*) *nigra* (Meig.).

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——Thorax glossy, with 4 rows of ac; ta and tp more or less infuscated, mesopleurae glossy; 3 mm: *Copromyza* (*Crumomyia*) *glabrifrons* (Meig.).

9. t_3 with 1 av about in middle; scutellum, besides normal setae with only a very short pubescence 10
——t_3 without a conspicuous av, scutellum with long setulae among 4 marginal setae (Fig. 36) 11

10. 1 pair of dc, body feebly glossy, upper pleurae glossy. Frons with a reddish margin anteriorly: *Copromyza* (*Borborillus*) *hispanica* Duda.
——3 pairs of dc, body black, shining. Frontal triangle dull; 1.5-2 mm: *Copromyza* (*Borborillus*) *costalis* Zett.

11. Lower 2/3 of mesopleura glossy, non-pollinose, 5th sternite of male very long, pointed, and medially excised posteriorly. Body brownish-black, glossy; 4 mm: *Copromyza equina* Fall.
——Lower 1/2 of mesopleura non-pollinose, 5th sternite of male broadly rounded, not excised; 4-4.5 mm: *Copromyza similis* (Collin).

12. Anal vein slightly S-shaped, not broken (Fig. 37) 13
——Anal vein straight at base, broken in an obtuse angle in middle and with apical part convex with respect to anal margin of wing (Fig. 38) 17

13. t_2 with a strong ventral preapical seta and without a ventral apical seta. Costa basally long haired, mt_2 with 1 ventral basal seta, oral margin not protruded, body black, legs partly brown; 2-2.5 mm: *Leptocera fontinalis* (Fall.).
——t_2 without a strong ventral preapical seta. Presutural ac absent, 3rd antennal segment rounded, much broader than 2nd segment, arista inserted rather far from its apical part (subg. *Limosina*) 14

14. Junction of ta and tp conspicuously shorter than tp. Face dirty yellow, cx_1 yellowish; 1.5-1.7 mm: *Leptocera* (*Limosina*) *heteroneura* (Halid.).
——Junction of ta and tp distinctly longer than tp 15

15. Costa reaching far beyond the fork of r_{4+5}. Frons dull black, smooth around the ocelli, body black, with feeble grey pollinosity; 1-1.5 mm: *Leptocera* (*Limosina*) *flavipes* (Meig.).
——Costa reaching slightly beyond the fork of r_{4+5} 16

16. Frons entirely yellow. Thorax and abdomen black, legs yellow, only partly brown; 1.2-1.5 mm: *Leptocera* (*Limosina*) *ochripes* (Meig.).
——Frons more or less brown to black, legs reddish-brown to black, knees brown. t_1 of male strongly incrassate, fore- and hind-tarsi strongly enlarged; 1.5-1.8 mm: *Leptocera* (*Limosina*) *clunipes* (Meig.).

17. Scutellum densely hairy dorsally 18
——Scutellum bare dorsally, ta-tp only 1/3 as long as tp; 0.5-0.8 mm: *Leptocera* (*Elachisoma*) *aterrima* (Halid.).

18. 2nd costal section longer than 3rd section 19
——2nd costal section shorter than 3rd section or both of them equal in length 21

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19. r_{4+5} feebly curved toward anterior margin of wing all along its length. Wings intensely brown, thorax reddish to dark brown; 1.2-1.5 mm: *Leptocera* (*Coproica*) *ferruginata* (Stenh.).
——r_{4+5} practically straight from ta up to wing margin 20

20. ta-tp longer than tp. Male with abnormality of venation: tp very oblique and posterior margin of wing with a notch bearing long hairs. Legs and body blackish; 1.2 mm: *Leptocera* (*Coproica*) *acutangula* (Zett.).
——ta-tp as long as tp. Venation of male normal; 1.2 mm: *Leptocera* (*Coproica*) *vagans* (Halid.).

21. r_{4+5} all along its length feebly curved toward the anterior margin of the wing. Jowls strongly enlarged posteriorly. Frons reddish-brown anteriorly as a rule; 0.8-1 mm: *Leptocera hirtula* (Rond.).
——r_{4+5} straight. Jowls only feebly enlarged posteriorly. Frons mostly entirely black; 1-1.2 mm: *Leptocera* (*Coproica*) *lugubris* (Halid.).

MILICHIIDAE

1. Costa ends near the fork of r_{4+5}, proboscis with short labellae. Body 1-2 mm long. Wing as in Fig. 39: *Meoneura* Rond. (*M. obscurella* [Fall.], *M. vagans* [Fall.] and others).
——Costa ends near the mouth of m_{1+2}, proboscis long, with thin labellae 2

2. Thorax and abdomen black, shining, non-pollinose; 2-3 mm: *Madiza glabra* Fall.
——Thorax and frontal vitta dull or pollinose; 1-2 mm: the genera *Leptometopa* Becker and *Desmometopa* Loew.

DROSOPHILIDAE (See also *Drosophila* key on page 117.)

1. Acrostical setulae in 6 rows, r_{2+3} apically distinctly curved forward, abdomen brown with enlarged brownish-black maculae; 3-4 mm: *Drosophila funebris* (Fabr.).
——Acrostical setulae in 8 rows, r_{2+3} apically nearly straight, abdomen fulvous with brownish-black marginal maculae; about 2 mm: *Drosophila melanogaster* Meig.

HELOMYZIDAE

1. Anal vein never reaching margin of wing (Fig. 43). Humeral bristle absent, body usually yellow to pale ferrugineous; 5-9 mm: *Suillia*, e.g., *S. pallida* (Fall.), *S. rufa* (Fall.), *S. lurida* (Meig.).
——Anal vein reaching margin of wing 2

2. Prosternum bare. Vein r_1 meeting costa opposite to ta (Fig. 44). t_2 with several apical setae, lunula exposed, 1+3 dc. A row of minute setulae, in front of sternopleural seta; scutellum and end of abdomen partly rufous; 3.5-4 mm: *Neoleria inscripta* (Meig.).
——Prosternum with 1 pair of long setae. Humeral bristle absent, pteropleurae partly haired, t_2 of male with curved apical spines: *Scoliocentra* Loew.

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SCATOPHAGIDAE (Treated elsewhere in book under *Anthomyiidae.*)

1. Arista distinctly haired, 3rd antennal segment totally black, environs of ta distinctly infuscated. Body and legs of male with dense golden pubescence; 6-10 mm: *Scatophaga stercoraria* (Linn.).
——Arista nearly bare, 3rd antennal segment rufous, both transverse veins infuscated, postabdomen orange; 4-8 mm: *Scatophaga furcata* (Say).

ANTHOMYIIDAE

1. Propleura with hairs, thorax pale grey and with 4 or 5 contrasting large spots or bands on dorsum 2
——Propleura without hairs, thorax marked otherwise 3
2. 2 black maculae behind the suture (Fig. 45); 5-6 mm: *Anthomyia plurinotata* Brullé.
——3 black maculae behind the suture (Fig. 46); 5-7 mm: *Anthomyia pluvialis* (Linn.).
3. Each tergite with 3 triangular maculae; 3-4 mm: *Calythea albicincta* (Fall.).
——Pattern of abdomen less contrasting, as a rule only a dark medial vitta or pearly irregular maculae 4
4. Thorax with 4 dark vittae, the inner ones narrow and the outer ones broad, lower calyptral scale distinctly protruded beyond margin of upper. Base of wing yellow, tibiae fulvous; 6-11 mm: *Hydrophoria conica* (Wied.).
——Different combination of characters 5
5. Arista plumose or long pubescent 6
——Arista short plumose or bare 9
6. Cross-vein clouded, arista long pubescent (Fig. 48); 5-6 mm: *Hylemya* (*Craspedochaeta*) *pullula* (Zett.).
——Cross-vein not clouded, arista long plumose 7
7. Legs black or largely fuscous 8
——Legs more or less testaceous, frons reddish anteriorly; 7-9.5 mm: *Hylemya* (*Hylemya*) *strigosa* Fabr.
8. Hind-tibia with a short distinctive apical pv, distance between rows of acr equal to that between acr and dc, acr with interstitial microsetae. Antenna as in Fig. 49; 4-4.5 mm: *Hylemya* (*Hylemyza*) *lasciva* (Zett.).
——Hind-tibia without apical pv, rows of acr approximated, without interstitial microsetae; 5-6.5 mm: *Hylemya* (*Hylemya*) *variata* (Fall.).
9. Oral margin distinctly protruded beyond a level with tip of profrons (Fig. 52) (*Hylemya*) 10
——Oral margin not distinctly protruded beyond a level with tip of profrons 13
10. Between notopleural bristles there is a group of setulae (Fig. 50); frons above antennae broadly orange (not invariably so in males),

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acr hairlike beyond the suture, in 2-4 irregular rows (Fig. 51); 4-6 mm: *Hylemya radicum* (Linn.). (*H. radicum* subsp. *montalpina* Gregor and Povolný is larger and darker, with microsetae of body 1/3 longer than those of the nominate form.)

——No hairs between notopleural bristles ... 11

11. acr behind the suture 1/2 as long as dc but strong and in 2 rows, abdomen of male cylindrical, slightly compressed apically . 12

——acr behind the suture hairlike and irregularly situated, abdomen of male more or less flattened. Body blackish-grey; 4-5 mm: *Hylemya caerulescens* Strobl.

12. Body black, feebly pollinose, with dull blue luster; 3.5-4.5 mm: *Hylemya grisella* Rond.

——Body with very dense yellowish-grey pollinosity; acr as in Fig. 53; 3-5 mm: *Hylemya cinerella* (Fall.).

13. Legs black, hind-tibia of male with a continuous series of pv setulae from basal to preapical region (Fig. 55); frons of female orange anteriorly. Head as in Fig. 54: *Delia platura* (Meig.).

——Tibiae rufous or fulvous. Head as in Fig. 56: *Pegomya socia* (Fall.).

MUSCIDAE

1. Anal vein 2a curved around the apex of vein cu_{1b}+1a (Fig. 70) which ends in middle of the distance between transverse vein z and margin of wing. Abdomen non-maculate, except in *Fannia leucosticta* (Meig.). Female: frontal vitta invariably without cruciate bristles, parafrontals broad and convex toward the middle of frons (Fig. 69). Body length exceptionally more than 7 mm: Fanniinae.

——Anal vein 2a not curved as above; if so (*Azelia*, Mydaeinae), then abdomen with maculae (Figs. 57, 58), t_8 without pd, frontal vitta of male without cruciate bristles . . . 2

2. Lower scale of calyptrae enlarged mesad so as to impinge on base of scutellum, caudal margin transverse (Fig. 96). Vein m_{1+2} curved forward at apical region (Figs. 93, 113) (except *Polietes*, Fig. 99): Muscinae.

——Lower calyptral scale not enlarged mesad so as to impinge on base of scutellum, caudal margin usually semicircular. Vein m_{1+2} straight or feebly curved, exceptionally distinctly curved forward (gen. *Muscina, Myospila, Graphomya*) 3

3. Hind-tibia with 1 or more conspicuous posterodorsal bristles ("calcar") as long or longer than anterodorsal bristles (exceptions in genus *Hydrotaea*): Phaoniinae.

——Hind-tibia without posterodorsal bristles, or if present they are not longer than anterodorsal bristles: Mydaeinae.

MYDAEINAE

1. Sternopleural bristles typically arranged in the form of an equilateral triangle, or nearly so. Front of male like that of female. Predatory, asynanthropic species: *Coenosia.*

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——st not arranged in an equilateral triangle; if 3 st are present, they are 1:2. Front of male distinctly narrower than that of female 2

2. Proclinate ors and cruciate bristles present in female and as minute setulae in male. Hind-coxae with caudal setulae on inner margin. Abdomen maculate (Fig. 57). Body 2.5-5 mm: (*Azelia*) 3

——Proclinate ors and cruciate bristles absent, hind-coxae without caudal setulae. Abdomen maculate or not. Body normally much longer than 4 mm 4

3. Male: hind-tibia with an extensive series of ad bristles, mid-tibia with preapical ad (Fig. 59); 3-5 mm: *Azelia macquarti* (Staeger).

——Male: hind-tibia bare on pv surface and with 1 or 2 av on preapical region (Fig. 60), mid-tibia with no mid-post bristle; 3-4 mm: *Azelia triquetra* (Wied.).

4. Prealar bristle and cruciate bristles absent, arista hairs not longer than 1/2 the width of 3rd antennal segment, m vein strongly curved toward r_{4+5}, abdomen many-colored (Fig. 61); 5.5-6.5 mm: *Gymnodia impedita* Pand.

——No such combination of characters 5

5. Wings with setulae on upper surface of basal node to veins r_{2+3} and r_{4+5} 6

——Upper surface of basal node to above veins bare 13

6. Veins m_{1+2} curved forward in apical region (Fig. 63) 7

——Veins m_{1+2} not curved forward in apical region (*Mydaea*) 10

7. Caudal margin of eyes emarginate at middle. Body with marked black maculation (Fig. 62); 6-9 mm: *Graphomya maculata* (Scop.).

——Caudal margin of eyes not emarginate (*Myospila*) 8

8. Longest hairs on arista 1.5-2 times as long as the width of 3rd antennal segment, t_2 with 2 post and 1 ad. Male: frontal vitta 0.19-0.26 mm. Female: paired blotches on abdomen present; 5-9 mm: *Myospila meditabunda meditabunda* (Fabr.).

——Longest hairs on arista about as long as the width of 3rd antennal segment 9

9. Male: frontal vitta 0.08-0.15 mm, basis of wing slightly infumated. Female: abdomen without paired blotches, t_1 without post, t_2 without ad; vein m_{1+2} as in Fig. 63; 5.5-10 mm: *Myospila hennigi* Gregor and Povolný.

——Male: frontal vitta 0.20-0.26 mm, basis of wing distinctly fuscous. Female: abdomen with more or less distinct paired blotches, t_1 with 1-2 post, t_2 with 1-3 ad; 6-10 mm: *Myospila meditabunda alpina* (Hendel).

10. Scutellum more or less fulvous or reddish; 7-9 mm: *Mydaea scutellaris* R.-D.

——Scutellum blackish 11

11. Arista long pubescent, wings in male infuscated basad; 7-9 mm: *Mydaea deserta* (Zett.).

——Arista plumose, hairs longer than 1/2 width of 3rd antennal segment 12

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12. Legs blackish, tibiae at most rufous; 7-8 mm: *Mydaea ancilla* (Meig.) (and additional species).
——Legs more or less fulvous; 7.5-10.5 mm: *Mydaea urbana* (Meig.) (and additional species).

13. Prealar bristle absent or setulose, abdomen without paired marks, arista plumose, legs weakly and sparsely bristled (Fig. 64), head evenly flattish across both frons and eyes, parafacials largely obscured from view by anterior margin of eye when viewed from profile. Frontal triangle of female extended to anterior part of interfrontalis (*Hebecnema*) 14
——Species not having the above combination of characters (*Helina*).
(Some 80 species in the Palearctic region; determination of females for the most part very difficult.) Key to males 15

14. Eyes haired, sparsely so in female. Male abdomen subovate, densely pearlaceous-grey, in female speckly and more or less pruinescent; 3-5 mm: *Hebecnema umbratica* (Meig.).
——Eyes bare. Abdomen in male subconical, thinly pruinescent, in female mainly glossy and devoid of pruinescence; 3.5-5 mm: *Hebecnema affinis* Malloch.

15. Legs blackish, tibia at most partially rufous 16
——At least t_2 and t_3 fulvous, 3 dc 18

16. Hypopleura below metathoracic stigma with many fine hairs (Fig. 66) 17
——Hypopleura bare, pra short and weak, eyes bare, t_2 with 1-2 ad; 5-7.5 mm: *Helina duplicata* (Meig.).

17. Scutellum finely haired on sides and entire lower side. f_3 below posteriorly with long preapical setae; 6-8.5 mm: *Quadrularia laetifica* (R.-D.).
——Scutellum bare on lower side, f_3 below posteriorly with long setae for nearly entire length; 6-8.5 mm: *Quadrularia annosa* (Zett.).

18. Prealar bristle long and stout. Abdomen with 2 pairs of distinct maculae, legs nearly entirely testaceous; 5-8 mm: *Helina depuncta* (Fall.).
——pra reduced. Abdomen translucent yellowish, thorax and abdomen with distinct dark maculae; 6-7 mm: *Helina punctata* (R.-D.).

FANNIINAE

1. Arista plumose, male with both pairs of orbital bristles, no head dimorphism. Legs yellowish, abdomen ferruginous to testaceous; 4-6 mm: *Platycoenosia mikii* Strobl.
——Arista bare or pubescent, male without lower orbital bristles, head dimorphism present (*Fannia*) 2

2. Abdomen yellowish transparent basally 3
——Abdomen not yellowish basally 4

3. Propleuron setulose, normally 1 av on t_3. Thorax glossy, blackish. Hypopygium with numerous long fine bristles at cercal plate; 5-6 mm: *Fannia difficilis* (Stein.).

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——Propleuron bare, t_3 with 2-3 av. Body distinctly pollinose, thorax with vittae. Hypopygium with only short bristles at sur-stylus (Fig. 68); 5-7 mm: *Fannia canicularis* (Linn.).

4. t_2 and t_3 reddish to yellow. Frontal vitta of male as broad as either parafrontal; 5.5-7 mm: *Fannia fuscula* (Fall.).
——t_2 and t_3 entirely fuscous or blackish . 5

5. Abdomen with a triangular-sided vitta and dark lateral maculations (Fig. 71); 3-3.5 mm: *Fannia leucosticta* (Meig.).
——Abdomen unicolor or with a triangular or parallel-sided vitta 6

6. Males 7
——Females . 15

7. cx_2 with hooklike spines on lower part (Fig. 78) 8
——cx_2 without hooklike spines 10

8. cx_2 with 3 hooklike spines, t_1 without a cluster apically (Fig. 78); 6-7 mm: ♂ *Fannia scalaris* (Fabr.).
——cx_2 with only 1 (lower) spine hooklike. Base of t_1 testaceous, apex with a distinct posterior cluster of flattened bristles (Fig. 72) . . 9

9. t_3 with a row of pv bristles; 5.5-7.5 mm: ♂ *Fannia manicata* (Meig.).
——t_3 without a complete row of pv; 4-5.5 mm: ♂ *Fannia monilis* (Hal.).

10. mt_2 with a ventral crest or thorn of fused bristles at the base (Fig. 73). t_2 incrassate and slightly curved; 4.5-5.5 mm: ♂ *Fannia armata* (Meig.).
——mt_2 without any crest or spine 11

11. Hind-coxae haired posteroventrally 12
——Hind-coxae bare posteroventrally . . 14

12. t_3 with 5 or more av and several distinct ad and pv. Prealar bristle little differentiated from the thoracic setulae. Thorax with distinct vittae; 6.5-7.5 mm: ♂ *Fannia incisurata* (Zett.).
——t_3 with only 1-2 av, prealar bristle distinctly stronger than the thoracic setulae 13

13. t_3 with 1-3 pv on basal two-thirds. Squamae dark yellow or brown; (t_2 as in Fig. 74); 4.5-5.5 mm: ♂ *Fannia mutica* (Zett.).
——t_3 without bristles on posterior surface. t_2 1/3 as long as tibial diameter, pv on f_3 erect and 2/3 as long as femoral diameter on basal half, reduced to prostrate setulae on apical 3rd, t_3 with 1-2 av, 5 ad. Hypopygium (Fig. 68) very similar to that of *F. canicularis*; 4.5-6.5 mm: ♂ *Fannia subpubescens* Collin.

14. Parafacials very narrow, hardly visible in lateral view. Hypopygium spherical; 3.5-4 mm: ♂ *Fannia parva* Stein.
——Parafacials broader, distinctly visible in lateral view. Hypopygium flattened; 4-4.5 mm: ♂ *Fannia serena* (Fall.).

15. Hind-coxae haired posteroventrally . 16
——Hind-coxae bare posteroventrally 21

16. t_2 ventrally with 1 distinct bristle (av), occiput with 2 oval fields of silvery hairs; 4.5-5.5 mm: ♀ *Fannia mutica* (Zett.).
——t_2 medially without a ventral bristle, occiput without silvery blotch 17

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17. Parafacials with 1 or more minute hairs situated below a level with basal margin of 3rd antennal segment. t_3 with several ad, body weakly pollinose, thorax nearly non-vittate; 4.5-6.5 mm: ♀ *Fannia subpubescens* Collin.
——Parafacials not haired below a level with basal margin of 3rd antennal segment 18

18. t_1 with 1 fine ad, thorax grey, not glossy . . . 19
——t_1 absent, thorax black, subglossy, basis of t_1 distinctly reddish 20

19. Scutellum completely setulose, basis of f_2 ventrally without a long bristle; 6-7.5 mm: ♀ *Fannia incisurata* (Zett.).
——Scutellum bare basally, 1 long ventral bristle present on basis of f_2 (Fig. 77); 5.5-7 mm: ♀ *Fannia scalaris* (Fabr.).

20. Body 4-5.5 mm, t_3 with a nearly complete row of ad setae: ♀ *Fannia monilis* (Hal.).
——Body 5.5-7.5 mm, t_3 with a partial series of ad setae on proximal half: ♀ *Fannia manicata* (Meig.).

21. Parafrontals shiny; 4-4.5 mm: ♀ *Fannia serena* (Fall.).
——Parafrontals evenly pollinose; 3.5-4 mm: ♀ *Fannia parva* Stein.

PHAONIINAE

1. Hind-coxae with setulae on caudal surface (Fig. 79). Legs, palpi and basis of antennae fulvous, abdomen largely fulvous with a dark medial stripe; 7-8 mm: *Lasiops simplex* (Wied.).
——Hind-coxae without setulae on caudal surface 2

2. t_3 with several pd of equal length and strength standing over one another, subgenal sclerite of head upwardly extended, invading and thereby restricting the dimension of the bare cheek or genal sclerite. Body black, thorax with brown pollinosity (striped in the female), abdomen with grey pollinosity; 6-7 mm: *Trichopticoides decolor* (Fall.).
——t_3 with a single (or without) strong pd on distal half ("calcar") . 3

3. st 1:1, arista bare or pubescent 4
——st 1:2 as a rule; if 1:1, then arista pubescent 25

4. Dorsum of thorax entirely black and glossy, eyes nearly as high or higher than length of fore-tibia, female with frontal triangle extended to anterior half of interfrontalia (Fig. 80) (*Ophyra*) 5
——Body more or less pubescent and pollinose as a rule, frontal triangle of female normally reaching the middle of front only, male fore-femur notched or excavated on preapical region of ventral surface (*Hydrotaea*) 6

5. Lower squama brown, t_3 of male as in Fig. 81; 4-7.5 mm: *Ophyra leucostoma* (Wied.).
——Lower squama white or yellowish, t_3 of male as in Fig. 82; 4-5.5 mm: *Ophyra capensis* (Wied.).

6. Males 7
——Females 17

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7. f_3 basally spined on ventral surface (Fig. 83), eyes with numerous hairs; 4.5-6 mm: ♂ *Hydrotaea occulta* (Meig.).
——f_3 not spined as above, eyes mostly bare 8

8. Eyes plumose 9
——Eyes bare 10

9. t_3 as in Fig. 84; 5-6 mm: ♂ *Hydrotaea penicillata* (Rond.).
——t_3 as in Fig. 85; 5.5-8 mm: ♂ *Hydrotaea cyrtoneurina* (Zett.).

10. Abdomen more or less yellowish basally 11
——Abdomen entirely dark 12

11. t_3 as in Fig. 86; 6-7.5 mm: ♂ *Hydrotaea pellucens* Porch.
——t_3 as in Fig. 87; 6-7 mm: ♂ *Hydrotaea meridionalis* Porch.

12. f_3 below in middle with 1 stout blunt seta (Fig. 90); 4.5-6 mm: ♂ *Hydrotaea armipes* (Fall.).
——f_3 in middle without such seta 13

13. Orbitae distinctly separated by a black frontal vitta, ori reaching ocellar triangle 14
——Orbitae touching in narrowest place, the row of ori ends far before ocellar triangle 15

14. f_1 below basally with several short thorns, t_3 with 2-3 (-4) av, frontal vitta as broad or broader than the distance between outer margins of both upper ocelli; 6-8 mm: ♂ *Hydrotaea dentipes* (Fabr.).
——f_1 below basally without short thorns, t_3 with 6-8 av, frontal vitta distinctly narrower than the distance between outer margins of upper ocelli; 7.5-9.5 mm: ♂ *Hydrotaea similis* Meade.

15. f_3 straight, f_1 as in Fig. 91; 4-6 mm: ♂ *Hydrotaea meteorica* (Linn.).
——f_3 curved 16

16. mt_2 below with a coarse brushlike pubescence, t_3 as in Fig. 88; 5.5-7 mm: ♂ *Hydrotaea irritans* (Fall.).
——mt_2 below with fine sparse hairs, t_3 as in Fig. 89; 5.5-7 mm: ♂ *Hydrotaea pandellei* Stein.

17. Abdomen basally more or less transparently rufous or fulvous; 6-7.5 mm: ♀ *Hydrotaea pellucens* Porch. or ♀ *Hydrotaea meridionalis* Porch.
——Abdomen dark including the base 18

18. Halteres yellowish-white; 5-7 mm: ♀ *Hydrotaea irritans* (Fall.) or ♀ *Hydrotaea penicillata* (Rond.).
——Knobs of halteres more or less brownish to black apically 19

19. t_2 without ad 20
——t_2 with 1 ad 24

20. Parafrontalia and parafacialis silvery pollinose except for a black glossy blotch opposite the antennae; 4.5-6 mm: ♀ *Hydrotaea occulta* (Meig.).
——Parafacialia and parafrontalia uniformly pollinose even opposite the antennae 21

21. t_3 without pd; 4-5 mm: ♀ *Hydrotaea armipes* (Fall.).
t_3 with 1 pd 22

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22. Distinct presutural acr absent; 5.5-7 mm: ♀ *Hydrotaea pandellei* Stein.
——Presutural acr present 23

23. t_3 with 1 av bristle, acr distinctly shorter than dc; 4-6 mm: ♀ *Hydrotaea meteorica* (Linn.).
——t_3 with 4-5 av bristles, acr nearly as long and stout as dc; 5.5-8 mm: ♀ *Hydrotaea cyrtoneurina* (Zett.).

24. t_3 with 5-6 av; 7.5-9.5 mm: ♀ *Hydrotaea similis* Meade.
——t_3 with 2 (1)-3 av; 6-8 mm: ♀ *Hydrotaea dentipes* (Fabr.).

25. Vein m_{1+2} curved forward in apical region, scutellum invariably more or less ferruginously translucent on apex (*Muscina*) 26
——Vein m_{1+2} straight 29

26. Legs more or less rufous or fulvous. Wing as in Fig. 93; 6-8.5 mm: *Muscina stabulans* (Fall.).
——Legs blackish 27

27. Palpi fulvous, vein r_{4+5} slightly curved upward (Fig. 94); 6.5-9 mm: *Muscina assimilis* (Fall.).
——Palpi black, vein r_{4+5} strongly curved (Fig. 95) 28

28. Lower squama as in Fig. 96. Abdomen with abundant greyish pollinosity; 7-9 mm: *Muscina pabulorum* (Fall.).
——Lower squama as in Fig. 97. Abdomen more or less glossy; 7-10 mm: *Muscina pascuorum* (Meig.).

29. Cheeks with 1 or 2 strong upcurved buccal bristles; female with anterior pair of paraorbital bristles strong and proclinate (Fig. 98). Body black, with grey pollinosity, abdomen with a broad black median vitta; 6-8 mm: *Dendrophaonia querceti* (Bouché).
——Cheeks without notably strong upcurved buccal bristles, female with anterior pair of paraorbital bristles not strong or absent (*Phaonia*) 31

30. Body mostly fulvous; 5-7.5 mm: *Phaonia pallida* (Fall.).
——Body mostly dark: *Phaonia viarum* R.-D., *P. errans* (Meig.), *P. variegata* (Meig.), *P. basalis* (Zett.), and others.

Muscinae

1. Proboscis adapted for piercing, not retractile (Fig. 115). Arista with unequal pilosity: long haired above and partly haired or bare below. (Stomoxydini) 24
——Proboscis with developed labellae, retractile. Arista with equal pilosity above and below 2

2. Vein m_{1+2} straight up to the margin of the wing (Fig. 99) (*Polietes*) 3
——Vein m_{1+2} arched or angled 4

3. Sternopleural bristles 1:1, halteres black, m_{1+2} as in Fig. 99; 7-12 mm: *Polietes lardaria* (Fabr.).
——st 1:2 (-4), halteres yellow, the terminal section of m longer than the preceding one; 5-7.5 mm: *Polietes albolineata* (Fall.).

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4. Vein m_{1+2} rounded at its bend (Fig. 100) 5
——Vein m_{1+2} angularly rounded at its bend (Fig. 113) . . 22

5. Basal region of wings and both calyptral scales densely yellow. Mesonotum, scutellum, and abdomen with very fine vestiture (*Mesembrina*) 6
——No such combination of characters 7

6. Thorax and abdomen uniformly black; 9-13 mm: *Mesembrina meridiana* (Linn.).
——Thorax fulvous anteriorly, abdomen with yellowish pilosity posteriorly; 12-18 mm: *Mesembrina mystacea* (Linn.).

7. t_2 without pv bristle (*Morellia*) 8
——t_2 with a distinct pv bristle 10

8. Prosternum with marginal hairs; 5-8 mm: *Morellia simplex* (Loew).
——Prosternum bare 9

9. Male: t_2 as in Fig. 101. Female: next to the series of long and stout pv there is no accessory series of hairs (Fig. 102). Abdomen less pollinose on posterior margins of tergites, more or less blue glossy: 6-10 mm: *Morellia podagrica* (Loew).
——Male: t_2 as in Fig. 103. Female: long accessory hairs present next to the series of long pv (Fig. 104). Abdomen with distinct pearly maculae and normally with a brownish-green luster; 5-9 mm: *Morellia hortorum* (Fall.).

10. r_{4+5} on lower side of wing haired up to ta, stem vein distinctly haired below. Eyes mostly long and densely haired (*Dasyphora*) . 11
——r_{4+5} on lower side of wing bare, stem vein bare or nearly so. Eyes bare or indistinctly setulose (*Pyrellia*) 21

11. ad on t_2 situated in middle between pv and end of tibia (Fig. 105). Eyes almost bare. Thorax with blue metallic luster and feeble silvery striation; 5.5-9 mm: *Pyrellia cyanicolor* Zett.
——ad and pv on t_2 on the same level. Eyes distinctly haired . 12

12. Males 13
——Females 18

13. mt_3 with a basal tuft of hairs situated on a tubercle (Fig. 106); 8-10.5 mm: ♂ *Dasyphora penicillata* (Egger), syn. *D. versicolor* (Meig.).
——mt_3 normal 14

14. Mesonotum without acr in front of the suture 15
——Mesonotum with 1-2 strong acr in front of the suture . . . 17

15. Mesonotum in front of the suture only with microsetae of equal length between the dc (Fig. 107). Body metallic and glossy but distinctly pollinose; 7.5-9.5 mm: ♂ *Dasyphora pratorum* (Meig.).
——Mesonotum in front of the suture between the dc with 2 series of shorter macrosetae standing on inner margins of dark longitudinal vittae (Fig. 108). Body metallic and glossy, feebly pollinose . . . 16

16. Frontal vitta as broad as 3rd antennal segment. Wings slightly infumated, squama white or yellowish; 7.5-8 mm: ♂ *Dasyphora eriophthalma* (Macq.).

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——Frontal vitta 1/2-1/3 as broad as 3rd antennal segment. Squama and wings at base and anterior margin slightly infuscated; 5.5-7.5 mm: ♂ *Dasyphora cyanella* (Meig.).

17. In front of the suture there are 1-2 pairs of acr, marginal bristle of 3rd tergite nearly as long as 4th tergite. Body rather dark, bronze olive green in color; 7-9 mm: ♀♂ *Dasyphora albofasciata* (Macq.), syn. *D. saltuum* Rond.

——In front of the suture there is invariably one 1 pair of acr, marginal bristle on 3rd tergite at most 1/2 as long as 4th tergite. Body bronze green or golden green, abdomen with very dense yellowish-grey or golden grey pollinosity; 6.5-8 mm: ♀♂ *Dasyphora asiatica* Zimin.

18. No distinct acr in front of the suture 19

——1-2 pairs of distinct acr in front of the suture 17

19. Mesonotum in front of the suture between the dc only with microsetae of equal length, abdomen densely pollinose: ♀ *Dasyphora pratorum* (Meig.), body mostly with bluish-green luster, 7.5-9.5 mm; ♀ *Dasyphora penicillata* (Egger), body mostly with greenish-blue or blue luster; 8-10.5 mm. (Reliable separation difficult).

——Mesonotum in front of the suture between the dc with 2 series of rather short macrosetae standing on inner margins of dark longitudinal vittae. Body metallic, glossy, feebly pollinose 20

20. t_2 above ad with 1-2 short setae; 7.5-8 mm: ♀ *Dasyphora eriophthalma* (Macq.).

——t_2 above ad without setae; 5.5-7.5 mm: ♀ *Dasyphora cyanella* (Meig.).

21. Anterior spiracles brown, body totally non-pollinose, metallic golden green to bluish-green; 4-7 mm: *Pyrellia cadaverina* (Linn.).

——Anterior spiracles white or pale yellow, mesonotum with feeble silvery medial vitta; 4.5-6.5 mm: *Pyrellia ignita* R.-D.

22. Body intensely golden green, glossy, without pollinosity. Mid-tibia with mid-ventral bristle (*Orthellia*) 23

——Body with more or less distinct grey pollinosity, frequently partly fulvous. Mid-tibia without mid-ventral bristle (*Musca*, see key to adults, p. 110).

23. Mesonotum with 3 pairs of postsutural dc, presutural acr present; 5-8 mm: *Orthellia caesarion* (Meig.).

——Mesonotum with 4 pairs of postsutural dc, presutural acr absent; 6-9 mm: *Orthellia cornicina* (Fabr.).

24. Only 1 (posterior) sternopleural bristle present, proboscis and palpi as in Fig. 115; 5-7 mm: *Stomoxys calcitrans* (Linn.).

——2 sternopleural bristles present, palpi about as long as proboscis 25

25. Arista below with 1 or more setae (Fig. 116), notopleura haired; 5-6 mm: *Lyperosiops stimulans* (Meig.).

——Arista hairy only above, notopleura bare 26

26. Anal vein short, ending before 1/3 of the distance from the margin of wing. Hind-tarsi of male normal (Fig. 117); 2.5-4 mm: *Haematobia titillans* (Bezzi).

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——Anal vein ends 2/3 of the distance from the margin of wing. First 3 segments of hind-tarsi of male flattened and lobate, with longer hairs (Fig. 118); 2.7-4.5 mm: *Haematobia irritans* (Linn.).

CALLIPHORIDAE

1. Base of the radius before the humeral cross vein ciliated posteriorly above (Fig. 119) (Chrysomyinae) 2
——Base of the radius bare posteriorly above (exception *Pollenia atramentaria* [Meig.]) 8
2. Hind-coxae pilose posteriorly, lower part of head yellow to reddish orange 3
——Hind-coxae bare posteriorly, lower part of head predominantly dark 6
3. Lower squama pilose above. Body compact, head large, distinctly concave posteriorly. Body metallic, with more or less uniform but feeble pollinosity 4
——Lower squama bare above. Head not distinctly concave posteriorly. Thorax with dense pollinosity and with 3 dark bands; abdomen with conspicuous shifting pattern of pollinosity (non-palearctic) 5
4. Anterior spiracles white, stigmatic bristle (Fig. 120) absent normally; body metallic green, posterior margins of abdominal segments dark; 6-12 mm: *Chrysomya albiceps* (Wied.).
——Anterior spiracles brown to black, stigmatic bristle invariably present. Body metallic bluish-green; 8-12 mm: *Chrysomya megacephala* (Fabr.).
5. Parafrontal with black hair anteriorly, outside frontal row of bristles. Body deep bluish-black with partial green or purple luster; 8-10 mm: *Cochliomyia hominivorax* (Cocquerel).
——Parafrontal with pale hair anteriorly, outside frontal row of bristles. Body normally deep metallic green; 6-9 mm: *Cochliomyia macellaria* (Fabr.).
6. Arista long-haired 7
——Arista short, pubescent. Thorax flattened, mesothoracic spiracle much enlarged. Body black with bluish luster; 6-9 mm: *Boreellus atriceps* (Zett.).
7. Mesonotum flattened on disc, preacrostical bristles reduced. Body black with bluish or greenish-blue luster, front of male broad; 8-12 mm: *Protophormia terraenovae* (R.-D.).
——Mesonotum convex, preacrostical bristles well developed. Body dark green metallic, yellowish-green or purple in places. Eyes of male subcontiguous; 8-10 mm: *Phormia regina* (Meig.).
8. Non-metallic species. Propleura bare, thorax with long wavy golden or brown hair in addition to the black setae and setulose hairs (the wavy hair is easily rubbed off on dorsum). (A taxonomically difficult group, particularly females) (*Pollenia*) 9
——Metallic species, propleura pilose 13

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9. Abdomen glossy black, without any conspicuous pollinosity . . 10
——Abdomen with conspicuous pollinosity, which is adpressed in different directions so as to create shifting pattern 11

10. Stem vein finely haired, R_5 normally petiolate (Fig. 121). Basicosta black; 8-11 mm: *Pollenia atramentaria* (Meig.).
——Stem vein bare, R_5 normally open, not petiolate. Basicosta black; 4-12 mm: *Pollenia vespillo* (Fabr.).

11. Basicosta pale to dull testaceous, t_2 normally with 2 pv; 5-12 mm: *Pollenia rudis* (Fabr.).
——Basicosta dark brown or black 12

12. Jowls with adpressed black hairs, male with very long iv; 9-14 mm: *Pollenia vera* Jacentk.
——Jowls hirsute with pale hairs, male with short iv; 5-10 mm: *Pollenia varia* (Meig.) and *Pollenia intermedia* Macq.

13. Head conspicuously golden yellow, front wide, protruding. 1 pair of acr in front of the scutellum as a rule; 9-15 mm: *Cynomya mortuorum* (Linn.).
——No such combination of characters 14

14. Body metallic blue, shining, with pale pollinosity forming stripes on thorax and more or less distinct mother-of-pearl blotches on abdomen. Lower squama normally haired (*Calliphora*) 15
——Body metallic green or blue, without distinct pollinosity. Lower squama bare (*Lucilia, Phaenicia*) 19

15. Basicosta yellow to yellow-brown, anterior thoracic spiracle orange. Bucca reddish except for posterior third of occipital part; 5-12 mm: *Calliphora vicina* R.-D.
——Basicosta black 16

16. Lower calyptra more or less broadly infuscate (less intensely in female). Male: cerci and paralobi covered with fine setulae only . . 17
——Lower calyptra greyish-white, with the part adjacent to the scutellum somewhat infuscate. Male: cerci and paralobi covered with stout bristles, lobes of 5th sternite very large and erect 18

17. Hair on lower part of jowls and of occiput fulvous to golden; 8-14 mm: *Calliphora vomitoria* (Linn.).
——Hair on jowls and occiput black. Anterior thoracic spiracle strongly infuscate: *Calliphora uralensis* Villen.

18. Scutellum with 4-5 pairs of strong marginals, lateral seta well developed; 7-13 mm: *Calliphora subalpina* (Ringd.).
——Scutellum with only 3 pairs of strong marginals, lateral seta absent; 8-11 mm: *Calliphora alpina* (Zett.).

19. Basicosta black or brown 20
——Basicosta yellowish, at most with infumated margin 24

20. 3rd tergite with conspicuous marginales (Fig. 122). Subcostal sclerite with microscopic pile only 21
——3rd tergite without outstanding marginal setae. Subcostal sclerite in addition to the microscopic pile with some blackish setulae near apex 22

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21. 3 post acr, palpi fuscous brown to black; 5-10 mm: *Bufolucilia silvarum* (Meig.).
——As a rule with only posterior 2 post acr. Palpi greyish-brown, with dull light brown basal half; 5-10 mm: *Bufolucilia bufonivora* Moniez.

22. Male: hypopyg large, protruding, glossy bluish-green. Inferior forceps bifid at apex (Fig. 124), eyes separated by about 1/2 the width of the 3rd antennal segment. Female: 6th tergite feebly convex, its posterior margin in middle with only 1 or 2 pairs of small setae (Fig. 123). 6-11 mm: *Lucilia caesar* (Linn.).
——Male: hypopyg small, inconspicuous, black or green, paralobi never bifid at apex. Female: 6th tergite flattened, with a complete row of long marginal bristles 23

23. Male: eyes separated by almost the width of 3rd antennal segment. Inferior forceps with a slight apical knob which is curved forward (Fig. 125). Female: underside of arista with 9-12 rays, 3rd antennal segment less long than width of interfrontalia plus 1 parafrontale, 2.5 times as long as wide; 5-9 mm: *Lucilia illustris* (Meig.).
——Male: eyes separated by about 1/2 the width of the 3rd antennal segment. Inferior forceps parallel-sided with the apex broadly rounded (Fig. 126). Female: underside of arista with 18-22 rays; 6-11 mm: *Lucilia ampullacea* Villen.

24. 3rd tergite with 2 or more long lateral setae, front of male 1/3 as wide in the narrowest place as the diameter of eye; 5-9 mm: *Lucilia regalis* (Meig.).
——3rd tergite without conspicuous marginal setae 25

25. Mid-tibia with 1 ad seta only 26
——Mid-tibia with 2 strong ad setae 27

26. Posterior part of humeral callus with 2-4 setulae (Fig. 127). Abdomen usually strongly coppery. Male: abdominal sternites long-haired, 2 pairs of ocellar bristles, front about 1/5 head width. Female: bucca less than 1/3 eye height; 5-10 mm: *Phaenicia cuprina* (Wied.).
——Posterior part of humeral callus with 6-8 setulae (Fig. 128). Abdomen usually bright green. Male: abdominal sternite with ordinary pile, accessory pair of ocellars absent, front about 1/8 head width. Female: bucca almost 2/5 eye height; 5-10 mm: *Phaenicia sericata* (Meig.).

27. Male: eyes separated by not much more than width of 3rd antennal segment, abdominal sternites of male and female normally haired; 5-11 mm: *Lucilia richardsi* Collin.
——Male: eyes separated by 1/3 eye width, abdominal sternites of male with dense tufts of long hairs (Fig. 130), those of female with strong setae; 7-10 mm: *Lucilia pilosiventris* Kramer.

SARCOPHAGIDAE

1. Abdominal tergites with irregular pearly maculae 2
——Abdominal tergites with symmetrical pattern of dark, dull, oval maculae on sides and medial stripe 9

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2. 3 strong postsutural dc . 3

——4 or more postsutural dc, or at least the series distinctly spaced for 4 or more 5

3. 2nd genital segment and hypopygium largely red, frontal bristles straight or very slightly curved outward at front end; 4-8.5 mm: *Ravinia striata* Fabr.

——2nd genital segment entirely black, frontal bristles opposite the antennae diverging outward (Fig. 132) . . . 4

4. Male: 1st genital segment without marginal setae, hypopygium as in Fig. 134. Female: frons just over 1/3 head width; 6-13 mm: *Thyrsocnema incisilobata* (Pand.).

——Male: 1st genital segment with distinct marginal setae (Fig. 131), hypopygium as in Fig. 133. Female: frons distinctly broader than eye; 6.5-13 mm: *Sarcophaga melanura* Meig.

5. Prescutellar ac absent, genital segments mostly red. Hypopygium of male as in Fig. 135; 8-14 mm: *Sarcophaga haemorrhoidalis* (Fall.).

——Prescutellar ac present . 6

6. 3rd tergite with strong marginals, normally 1 pair present; genital tergite of male with a series of marginal setae . . . 7

——3rd tergite without long marginals, genital tergite of male without a series of marginal setae as a rule 8

7. Male: hypopygium as in Fig. 136, 1st genital segment dusted except on basal part. Female: 8th tergite absent; 8-15 mm: *Sarcophaga subvicina* Rohd.

——Male: hypopygium as in Fig. 137, subsp. *carnaria* Linn. or in Fig. 138, subsp. *lehmanni* Mull. 1st genital segment glossy for the most part. Female: 8th tergite present; 8-16 mm: *Sarcophaga carnaria* (Linn.).

8. Genital segments red, hypopygium as in Fig. 139: *Parasarcophaga barbata* Thom.

——Genital segments black. This group includes a number of *Parasarcophaga* spp., reliably distinguishable only by their hypopygia: *P. albiceps* (Meig.) (Fig. 140), *P. aratrix* Pand. (Fig. 141), *P. teretirostris* Pand. (Fig. 142), *P. tuberosa* Pand. (Fig. 143), *P. jacobsoni* Rohd. (Fig. 144), *P. scoparia* Pand. (Fig. 145), *P. similis* Pand. (Fig. 146). [Many species of *Parasarcophaga*, e.g., *albiceps*, *argyrostoma*, *barbata*, *hirtipes*, and *parkeri*, are placed in *Sarcophaga* by some specialists.]

9. Lateral maculae nearer to anterior margin of tergites, 3-4 notopleural bristles, 3 sternopleural bristles more or less in 1 row (1:1:1); 6-16 mm: *Bellieria maculata* (Meig.).

——Lateral maculae nearer to posterior margin of tergites 10

10. Sternopleural bristles in a position 2 (or 3):1, frons in either sex relatively very broad (Fig. 147); 4.5-9 mm: *Agria latifrons* Fall.

——Sternopleural bristles only 1:1. *Wohlfartia* B.B. (Obligatory causers of myiases.)

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The Genus *Musca*

Adrian Pont and Hugh E. Paterson

THE FOLLOWING KEYS are designed to assist in the identification of the more common species of the genus *Musca* in the various zoogeographical regions. A few less common species are included as well when they have been mentioned in the literature on synanthropic flies. A list of the flies mentioned and their more common synonyms is provided as an aid to tracing species which have been referred to in the literature under names which are now regarded as synonyms.

An attempt was made to keep the keys as simple as possible. Most of the characters used are in common use in the taxonomy of Diptera, but a few less frequently encountered characters are illustrated in Fig. 149. Figure 150 illustrates the two types of male paralobus which occur within *Musca domestica s.l.* Occasional reference is made in the keys to the position of the setae on the tibiae. To follow these, the legs should be imagined to be extended horizontally and at right angles to the thorax. In referring to the abdomen the following convention is accepted: that all the sternites from 1 to 5 are visible and distinct, but that tergite 1 and tergite 2 are fused to form the first visible tergite which is referred to as tergite 1 + 2. Tergites 3 to 5 are discrete.

It will be noticed that *Musca sorbens* Wiedemann is referred to in the keys as "*M. sorbens* Wd. *s.l.*" This is done advisedly because recent unpublished studies have revealed biological discontinuities within *M. sorbens* as recognized by the keys. At least three distinct forms may eventually be recognized.

Musca domestica L. is subdivided into four subspecies: *M. d. domestica, M. d. nebulo, M. d. calleva,* and *M. d. curviforceps.* This is to some extent provisional since no adequate studies have been made in the Oriental region. The cline in male eye size (and color of the abdomen) which exists within *M. d. domestica* is not, of course, taxonomically recognized.

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Musca alpesa Walker, 1849
Musca amita Hennig, 1964
  Musca amica Zimin, 1951, nec Linnaeus
Musca autumnalis De Geer, 1776
  Musca corvina Fabricius, 1781*
  Musca somalorum Bezzi, 1892 (as ssp.)
  Musca ovipara Portschinsky, 1910
  Musca prashadii Patton, 1922
  Musca ugandae Emden, 1939 (as ssp.)
  Musca pseudocorvina Emden, 1939 (as ssp.)
Musca bezzii Patton and Cragg, 1913
Musca conducens Walker, 1860
  Musca lineata Brunetti, 1910
  Musca pulla Bezzi, 1911
Musca convexifrons Thomson, 1869
Musca crassirostris Stein, 1903
  Musca insignis (Austen), 1909*
  Musca modesta de Meijere, 1904
Musca domestica Linnaeus, 1758
    ssp. *domestica* s.s.
      nebulo Fabricius, 1794*
      calleva Walker, 1849
      curviforceps Saccà and Rivosecchi, 1955
  Musca analis Macquart, 1843
  Musca australis Macquart, 1843
  Musca antiquissima Walker, 1849
  Musca minor Macquart, 1851
  Musca vicina Macquart, 1851
  Musca determinata Walker, 1852
  Musca cuthbertsoni Patton, 1936
Musca fasciata Stein, 1910
Musca fergusoni Johnston and Bancroft, 1920
Musca gabonensis Macquart, 1855
Musca gibsoni Patton and Cragg, 1913
Musca inferior Stein, 1909
  Musca gurneyi Patton and Cragg, 1912
Musca larvipara Portschinsky, 1910
  Musca vivipara Malloch, 1925, err. typ.
Musca lucidula Loew, 1856
  Musca africana Bezzi, 1892
Musca lusoria Wiedemann, 1824
Musca osiris Wiedemann, 1830
Musca pattoni Austen, 1910
  Musca incerta Patton, 1922

**M. corvina, M. hilli, M. insignis,* and *M. nebulo* are treated as species in the lists in Chapters v and vi which were set up before the latest systematic opinions presented in this section were available (B.G.).

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Musca yerburyi Patton, 1923
Musca planiceps Wiedemann, 1824
Musca cingalaisina Bigot, 1887
Musca pollinosa Stein, 1909
Musca sorbens Wiedemann, 1830
Musca humilis Wiedemann, 1830
Musca spectanda Wiedemann, 1830
Musca vetustissima Walker, 1849
Musca primitiva Walker, 1849
Musca angustifrons Thomson, 1869
Musca alba Malloch, 1929
Musca tempestatum (Bezzi), 1908
Musca tempestiva Fallén, 1817
Musca terraereginae Johnston and Bancroft, 1920
Musca hilli Johnston and Bancroft, 1920, *syn. nov.**
Musca ventrosa Wiedemann, 1830
Musca pungoana Karsch, 1886
Musca nigrithorax Stein, 1909
Musca vitripennis Meigen, 1826
Musca xanthomelas Wiedemann, 1824

New World Species

1. Propleural depression haired, rarely individually bare. Suprasquamal ridge bare. Throughout Nearctic and Neotropical regions: *domestica* L.
——Propleural depression bare. Suprasquamal ridge with the tympanic tuft of hairs. North America only: *autumnalis* De Geer.

Palearctic Species

1. Propleural depression haired, rarely individually bare. Suprasquamal ridge bare. Male frons between 0.1 and 0.2 of the total head width: *domestica* L.
——Propleural depression bare 2
2. Eyes distinctly haired in both sexes, sometimes rather inconspicuously so in females. Prothoracic spiracles white 3
——Eyes bare in both sexes 4
3. Male: frons at narrowest point broader than width of 3rd antennal segment; frontal setae in 2 rows alongside the interfrontalia. Female: parafrontalia outside the row of frontal setae bearing setulae that in some places are as long as the frontal setae: *vitripennis* Meigen.
——Male: frons at narrowest point at most as broad as width of 3rd antennal segment; frontal setae in 1 row alongside the interfrontalia. Female: parafrontalia outside the row of frontal setae bearing only short setulae that are all shorter than the frontal setae: *osiris* Wiedemann.
4. Suprasquamal ridge entirely bare 5
——Suprasquamal ridge with at least the tympanic tuft of setulae 7

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5. Fore-tibia with a submedian posterior seta. Prothoracic spiracle white: *conducens* Walker.
——Fore-tibia without a submedian posterior seta. Prothoracic spiracle brown 6

6. No presutural dorsocentral setae present, at most a few longer ground-setulae present. Discal cell at least partly devoid of clothing setulae: *lucidula* Loew.
——2 pairs of strong presutural dorsocentral setae present. Discal cell entirely covered with clothing setulae: *tempestiva* Fallén.

7. Suprasquamal ridge with only the tympanic tuft of setulae 8
——Suprasquamal ridge with both tympanic and parasquamal tufts of setulae 9

8. Setulae on the genae abundant, extending up as far as frontal suture. Male: parafacialia at level of the 2nd antennal segment narrower than width of the 3rd antennal segment. Female: with several rows of inclinate frontal setae: *autumnalis* De Geer.
——Setulae on the genae fewer, not extending up as far as the frontal suture. Male: parafacialia at the level of 2nd antennal segment broader than width of 3rd antennal segment. Female: with only a single row of inclinate frontal setae: *amita* Hennig.

9. Male: vein 3 on ventral surface with the setulae confined to the node at base; tergite 1+2 entirely dark, rarely buff at sides or on hind-margin; tergite 5 without 3 dark vittae. Female: interfrontalia at middle 1 to 1.5 times as broad as a parafrontale; 3rd antennal segment at most 2.5 times as long as broad: *larvipara* Portschinsky.
——Male: vein 3 on ventral surface with the setulae usually extending beyond the small cross-vein; tergite 1+2 yellow except for a dark median vitta; tergite 5 with 3 narrow complete dark vittae. Female: interfrontalia at middle twice as broad as a parafrontale; 3rd antennal segment 3 to 3.5 times as long as broad: *convexifrons* Thomson.

Oriental Species

1. Propleural depression haired, rarely individually bare; suprasquamal ridge bare 2
——Propleural depression bare 3

2. Male: frons at its narrowest about 1.5 times the 3rd antennal segment. Female: apical segments of abdomen relatively dark, tergite 4 dark except for buff anterior lateral angles, tergite 5 entirely dark: *domestica* L.
——Male: frons at its narrowest about the same diameter as the anterior ocellus. Female: apical segments of the abdomen paler, either all yellow or at most with a dark midline: *domestica nebulo* F.

3. Mid-tibia with a submedian anteroventral seta. Proboscis enormously dilated, boat-shaped, and adapted for blood sucking. Palpi yellow. Abdomen and thorax densely grey to yellowish-grey dusted on a dark ground: *crassirostris* Stein.
——Mid-tibia without a submedian anteroventral seta. Proboscis normal. Palpi dark 4

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4. Eyes distinctly haired in both sexes, sometimes rather inconspicuously so in females. Prothoracic spiracle white. Suprasquamal ridge bare 5

——Eyes bare in both sexes, or, if haired, then suprasquamal ridge with both tympanic and parasquamal tufts of setulae 6

5. Male: frons at narrowest point broader than width of 3rd antennal segment; frontal setae in 2 rows alongside the interfrontalia. Female: parafrontalia outside the row of frontal setae bearing setulae that in some places are as long as the frontal setae: *vitripennis* Meigen.

——Male: frons at narrowest point at most as broad as width of 3rd antennal segment; frontal setae in 1 row alongside the interfrontalia. Female: parafrontalia outside the row of frontal setae bearing only short setulae that are all shorter than the frontal setae: *osiris* Wiedemann.

6. Suprasquamal ridge entirely bare 7

——Suprasquamal ridge with at least the tympanic tuft of setulae 13

7. Fore-tibia with a submedian posterior seta 8

——Fore-tibia without a submedian posterior seta 9

8. Male: tergite 1+2 largely dark, tergites 3 and 4 orange except for a brown median vitta. Female: tergites entirely dark: *conducens* Walker.

——Male and female: tergite 1+2 entirely or largely, tergites 3 and 4 largely, orange-yellow in ground color: *planiceps* Wiedemann.

9. Abdomen entirely orange-yellow in both sexes, sometimes infuscate at apex in pinned specimens due to the dried viscera, without any dark markings or pruinose tessellated pattern. Mesonotum with 4 undusted longitudinal vittae; dusting bluish: *ventrosa* Wiedemann.

——Abdomen with at least a complete or partial dark median vitta, and always with some pruinose tessellated spots 10

10. Prothoracic spiracle white 11

——Prothoracic spiracle brown 12

11. Paramedian thoracic vittae fused to form one broad vitta on each side behind but not in front of the suture. Male: tergite 1+2 dark above, a median dark vitta on tergite 3, and at the base of tergite 4; the vitta expands toward apex of tergite 4 so that the whole of the 5th tergite is dark; rest of abdomen pale in ground color. Female: whole abdomen dark in ground color, nowhere yellow. Hypopleuron with setulae present below spiracle and in lower posterior angle above hind coxa; sternite 1 bare: *sorbens* Wiedemann, *s.l.*

——Paramedian thoracic vittae quite separate in female and more or less separate in male both in front and behind the suture. Male and female: tergite 1+2 largely yellow-orange except along midline: *pattoni* Austen.

12. Without presutural dorsocentral setae, at most a few longer ground setulae present. Discal cell with at least a part devoid of clothing setulae: *lucidula* Loew.

——With 2 pairs of strong presutural dorsocentral setae. Discal cell entirely covered with clothing setulae: *tempestiva* Fallén.

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13. Suprasquamal ridge with only the tympanic tuft of setulae . . 14
——Suprasquamal ridge with both the tympanic and parasquamal tufts of setulae 16

14. Vein 3 with setulae on its ventral surface almost to its apex; stem-vein with 3-7 setulae on posterior side of dorsal surface: *lusoria* Wiedemann.
——Vein 3 with setulae on ventral surface confined to the node at base, not reaching the small cross-vein; stem-vein with only 1-2 setulae on dorsal surface 15

15. Tergite 1+2 orange-yellow except for the basal declivity: *xanthomelas* Wiedemann.
——Tergite 1+2 entirely dark: *autumnalis* De Geer.

16. Lower squama with black setulae on dorsal surface: *inferior* Stein.
——Lower squama entirely bare 17

17. Larger species. Stem-vein with 4-7 setulae on posterior side of dorsal surface. Tergite 1+2 usually (male), or always (female) entirely dark in ground color: *bezzii* Patton and Cragg.
——Smaller species. Stem-vein with 1-3 setulae on posterior side of dorsal surface. Tergite 1+2 mainly or wholly buff (male), or with at least a pair of buff patches (female): *gibsoni* Patton and Cragg.

Ethiopian Species

1. Propleural depression haired, rarely individually bare; suprasquamal ridge bare 2
——Propleural depression bare 3

2. Anterior postsutural dorsocentral seta short, usually less than 1/2 the length of the last. Abdomen largely pale in both sexes, including the 5th tergite which has at most a dark midline. Male: frons width at narrowest point usually less than 0.08 of the greatest head width; paralobus truncated apically (Fig. 150a): *domestica calleva* Walker.
——Anterior postsutural dorsocentral seta longer, usually more than 1/2 the length of the last. Abdomen darker in both sexes; in both the 5th tergite is largely dark. Male: frons width at narrowest point usually more than 0.10 of the greatest head width; paralobus hook-shaped (Fig. 150b): *domestica curviforceps* Saccà and Rivosecchi.

3. Suprasquamal ridge bare 4
——Suprasquamal ridge with at least the tympanic tuft of setulae present 9

4. Fore-tibia with a postero-dorsal seta beyond the middle 5
——Fore-tibia without a submedian postero-dorsal seta 6

5. With 1 weak presutural dorsocentral seta. Labellum of proboscis unusually long. Head profile unusual in *Musca*, with the lower margin straight. Abdominal ground color dark in both sexes: *tempestatum* Bezzi.
——With 2 pairs of well-developed presutural dorsocentral setae. Labellum of proboscis and head profile of the usual *Musca* type. Abdomen

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dark in the female but the male has extensive lateral pale areas on tergites 3 and 4: *conducens* Walker.

6. Abdomen entirely orange-yellow in both sexes, sometimes infuscate at apex in pinned specimens due to dried viscera, without any dark markings or pruinose tessellated pattern. Mesonotum with 4 undusted longitudinal vittae; dusting bluish: *ventrosa* Wiedemann.

——Abdomen with at least a complete or partial dark median vitta, and always with some pruinose tessellated spots 7

7. Mid-tibia with a prominent antero-ventral seta near the middle. Proboscis enormously dilated, boat-shaped, and adapted for blood sucking. Palpi yellow. Abdomen and thorax densely grey to yellowish-grey dusted on dark ground: *crassirostris* Stein.

——Mid-tibia without an antero-ventral seta near the middle 8

8. Prothoracic spiracles dark. Abdomen in both sexes dark with a pattern of grey dusting. Male with prominent curled hairs on the 3rd and 4th segments of the hind-tarsus. Small species: *fasciata* Stein.

——Prothoracic spiracle whitish. Male: tergite 1+2 dark above, tergite 3 and base of tergite 4 with a dark median vitta which broadens as it approaches tergite 5 which is all dark above; remainder of abdomen pale. Female: abdomen dark in ground color throughout with grey or yellowish-grey tessellated pattern of pruinosity. Hypopleuron with setulae present below spiracle and in lower posterior angle above hind-coxa. Sternite 1 bare: *sorbens* Wiedemann, *s.l.*

9. Suprasquamal ridge with only the tympanic tuft of setulae present 10

——Suprasquamal ridge with both the tympanic and parasquamal tufts of setulae. 3rd vein with setulae below to well beyond the small cross-vein; basicostal scale at base of wing yellow: *alpesa* Walker.

10. 4 distinct longitudinal vittae on mesonotum 11

——2 more or less distinct vittae on mesonotum due to the fusion, or near fusion, of the paramedian vittae behind the suture. Stem-vein with 3-5 setulae above; 3rd vein usually with 4-5 setulae basad of the small cross-vein on the ventral surface. Abdomen largely yellow in both sexes: *gabonensis* Macquart.

11. Stem-vein with 1-2 setulae above; any setulae on the ventral surface of the 3rd vein confined to basal parts. Abdomen in both sexes extensively yellow: *xanthomelas* Wiedemann.

——Stem-vein with 4-8 setulae above; setulae on ventral surface of 3rd vein extending apically to well beyond the small cross-vein. Abdomen of female largely dark in ground color with pattern of grey dusting; abdomen of male extensively yellow: *lusoria* Wiedemann.

Australian Species

1. Propleural depression haired, rarely individually bare. Suprasquamal ridge bare. Mean width of male frons at narrowest point about 0.1 of the greatest head width: *domestica* L.

——Propleural depression bare 2

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2. Suprasquamal ridge with only the tympanic tuft of setulae present. Mesonotum with four longitudinal dark vittae. Abdomen in both sexes with a median dark vitta. Male frons very narrow. A moderately large species: *fergusoni* Johnston and Bancroft.

——Suprasquamal ridge bare 3

3. Both the hypopleuron below the spiracle and the 1st sternite bare. Undusted vittae on mesonotum narrow, each at level of the suture, being half as wide as median dusted vitta and as wide as the dusted vitta laterad of it. Abdomen entirely yellow in both sexes: *ventrosa* Wiedemann.

——Hypopleuron, at least, setulose below the spiracle 4

4. Paramedian thoracic vittae fused to form 1 broad vitta on each side behind but not in front of the suture. Hypopleuron with setulae present below the spiracle and in the lower posterior angle above the hind-coxa. Sternite 1 bare. Male: tergite 1+2 dark above a median dark vitta on tergite 3, and at the base of tergite 4; the vitta expands toward the apex of tergite 4 so that the whole of the 5th tergite is dark; rest of abdomen pale in ground color. Female: whole abdomen dark in ground color: *sorbens* Wiedemann, *s.l.*

——Paramedian thoracic vittae separate behind and in front of the suture. These vittae, at level of the suture, each usually as wide as the median dusted vitta and wider than the dusted vitta laterad of it. Sternite 1 setulose. Abdomen largely pale in both sexes: *terrae-reginae* Johnston and Bancroft.

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The Genus *Drosophila*

Dr. Marshall R. Wheeler

MANY SPECIES OF *Drosophila* utilize damaged or decaying fruits and similar garbage components for food, and because of this they have probably been associated with man for centuries. Some early names, such as "pomace fly" and "vinegar gnat," reflect this relationship. Although these flies are usually considered pests, this food habit allowed the virtual domestication of *Drosophila melanogaster* early in this century, providing an ideal experimental animal for genetic experiments. A few species, with fungivorous larvae, have been considered pests by mushroom growers, but the greatest economic aspect concerns the tremendous populations of *Drosophila* which build up around canning factories. The greatest concentrations are found near factories that produce grape juice and wine, tomatoes and tomato juice, apple juice and cider-vinegar, and orange juice. The fruit and garbage type *Drosophila* species are remarkably attracted to bananas; in the tropics especially but elsewhere on occasion, any of these species might be found within homes and markets due to this attraction. On the other hand, it seems remarkable that only seven species, all of them now cosmopolitan, have become primarily associated with human habitations. Three subgenera are represented, as follows:

Subgenus *Drosophila*. *D. repleta* Wollaston: this is sometimes a "wild" species in the tropics, but occurs only in buildings in cooler climates where it is commonly seen in dirty toilets. *D. hydei* Sturtevant: this is found around all sorts of spoiling fruit and is often attracted by the odors of beer and wine. *D. immigrans* Sturtevant: this is occasionally a "wild" species, but it is seen more often in buildings around spoiling fruits. *D. funebris* (Fabricius): this species occurs farther north and farther south than any other *Drosophila*; it is found around spoiling fruits and vegetables, especially potatoes. *D. virilis* Sturtevant: this is a "wild" species in Asia but elsewhere it is best known in markets. Both *funebris* and *virilis* larvae have been found at times in spoiled or preserved meat.

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Subgenus *Sophophora. D. melanogaster* Meigen: this is the most common kitchen-inhabiting *Drosophila.* A very similar species, *D. simulans* Sturtevant, is also found in houses in tropical areas.

Subgenus *Dorsilopha. D. busckii* Coquillett: this is found more often around spoiled vegetables and seems to be especially attracted to rotting onions and potatoes.

Key to the Commonest Domestic Species of *Drosophila*

1. Mesonotum of thorax dull grayish to brownish, densely spotted, each hair and bristle arising from a dark brown spot 2
——Thorax without such spots, usually unicolorous or with a central striped pattern 3

2. Basal segments (coxae) of front legs much blacker than rest of legs; lateral regions of abdominal segments with darkened areas bearing paler centers: *repleta*
Legs all pale brownish; lateral regions of abdominal segments solidly dark: *hydei*

3. Mesonotum dull yellowish, with distinct black longitudinal stripes, the middle one forked posteriorly: *busckii*
——Mesonotum lacking such obvious stripes, usually unicolorous tan, brown, or black 4

4. Mesonotum tan; abdomen with a pattern of lighter and darker regions 5
——Mesonotum brown to blackish; abdomen usually unicolorous brown to black also 6

5. Mesonotum dull tan; inner side of first femur of both sexes with a row of short, stout, black spinelike bristles; wing veins darker where they meet wing margin: *immigrans*
——Mesonotum semi-shining tan; basal tarsal segment of male with a short, nearly transverse, row of stout black teeth; wing veins not clouded anywhere: *melanogaster*

6. Body color brown; wings lacking darker clouded areas; basal scutellar bristles convergent; male genitalia with a cluster of large black spines, readily seen externally (*funebris*) (Figs. 42, 43)
——Body dark brown to black; posterior cross vein of wing with a narrow darker cloud; basal scutellars divergent; male genitalia lacking the stout spines: *virilis*

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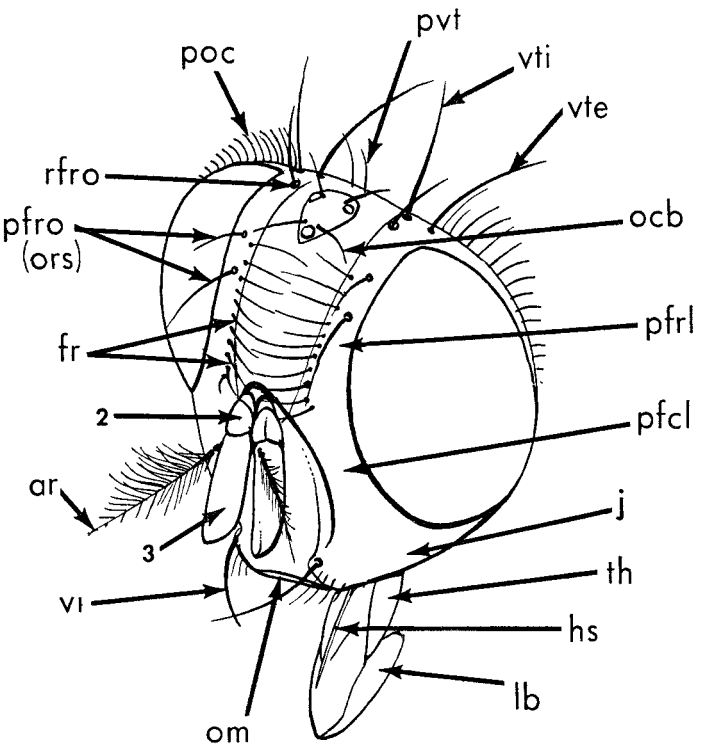

1

FIG. 1. Fronto-lateral view of muscoid head

ar = arista
fr = frontals
hs = haustellum
j = jowls
lb = labella
ocb = ocular (ocellar) bristles
om = oral margin
pfcl = parafacial
pfrl = parafrontal
pfro (= ors) = proclinate fronto-orbitals
poc = postocular setulae
pvt = postverticals
rfro = reclinate fronto-orbitals
th = theca
vi = vibrissae
vte = external verticals
vti = internal verticals
2, 3 = 2nd, 3rd antennal segments

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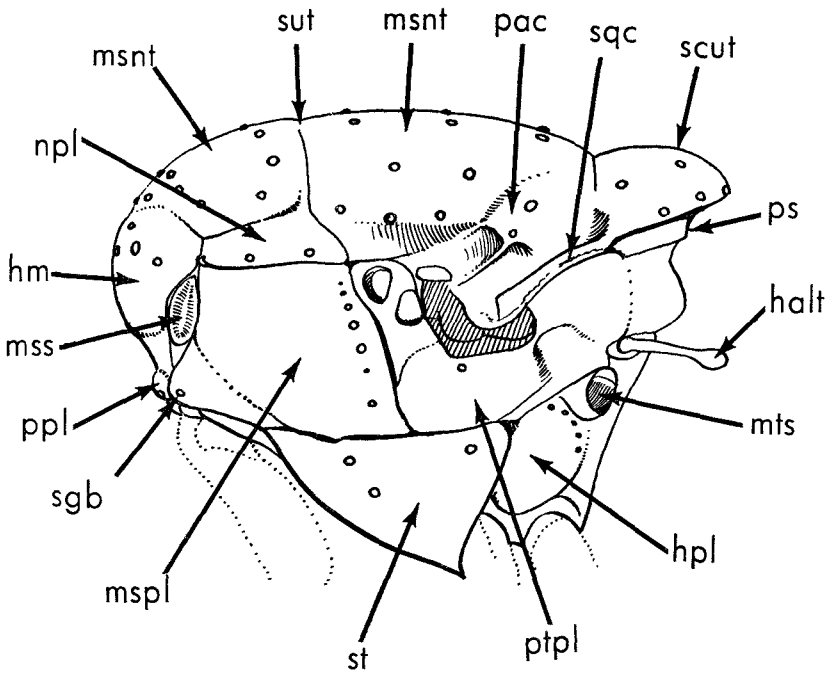

II

FIG. II. Chaetotaxy of thorax (lateral view)

halt = halter
hm = humerus
hpl = hypopleuron
msnt = mesonotum
mspl = mesopleuron
mss = mesothoracic spiracle (anterior spiracle)
mts = metathoracic spiracle (posterior spiracle)
npl = *notopleuron*
pac = postalar callus
ppl = propleuron
ps = postscutellum
ptpl = pteropleuron
scut = scutellum
sgb = stigmatic bristle
sqc = suprasquamal carina
st = sternopleuron (position of sternopleuralbristles 2:1)
sut = suture

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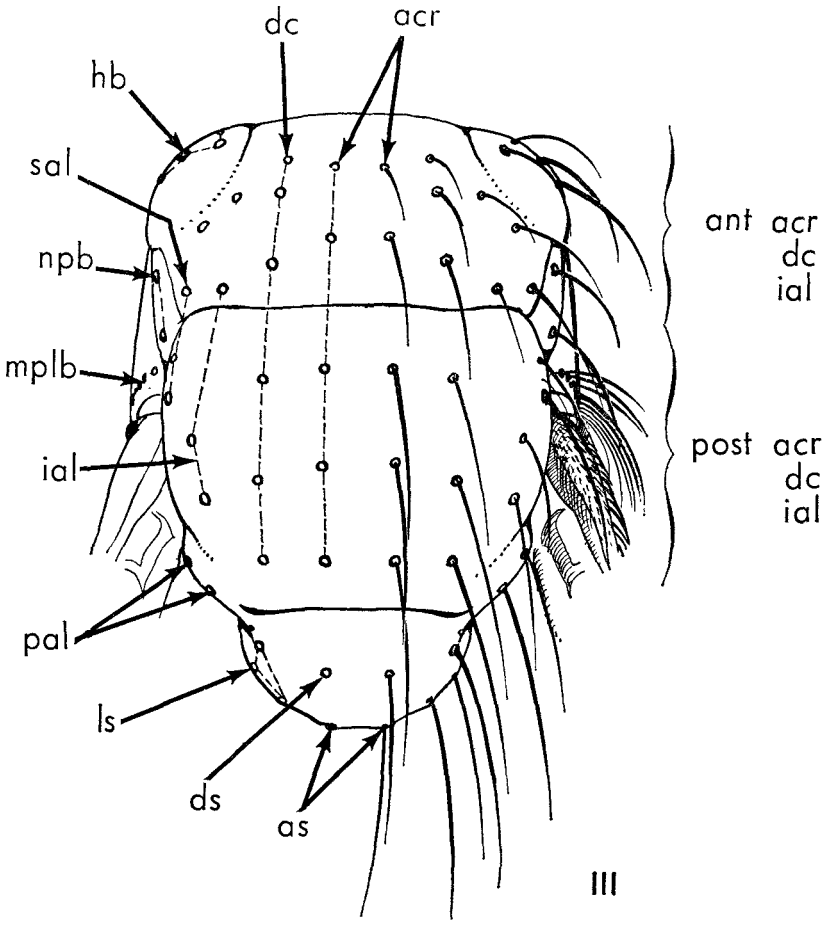

FIG. III. Chaetotaxy of thorax (*Phaenicia sericata*, dorsal view)

acr = acrostical bristles
as = apicoscutellar bristles
ds = discoscutellar bristles
dc = dorsocentral bristles
hb = humeral bristles
ial = intraalar bristles
ls = lateroscutellar bristles
mplb = mesopleural bristles
npb = notopleural bristles
pal = postalar bristles
sal = supraalar bristles

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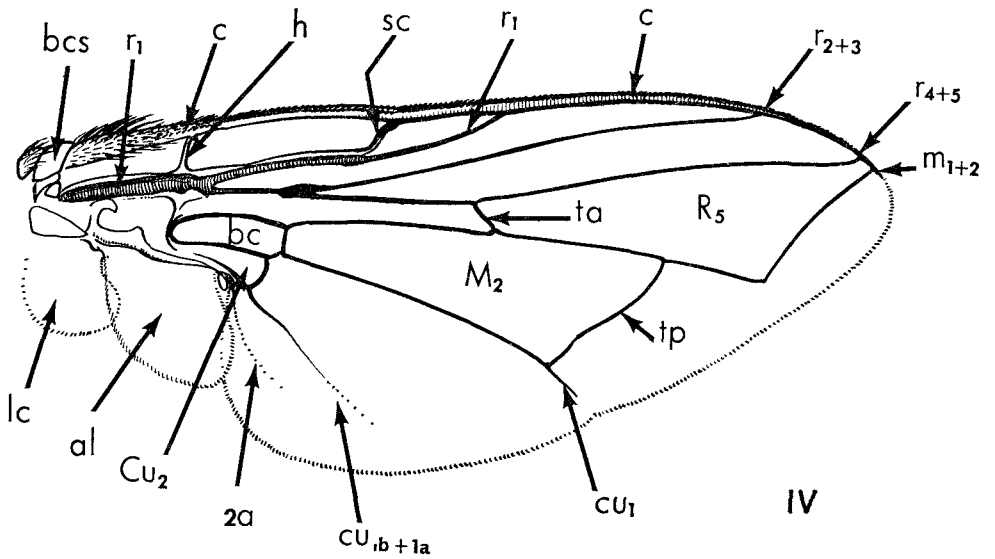

FIG. IV. Wing of a muscoid fly

al	= allula	lc	= lower calyptra (lower squama)
bc	= basal cell	m_{1+2}	= medial vein
bcs	= basicosta (basicostal scale)	M_2	= medial or discal cell
c	= costa (costal vein)	r_1	= radial vein (stem vein)
cu_1, cu_2	= cubital veins	R_5	= radial or apical cell
Cu_2	= cubital cell (hind basal cell, or anal cell)	sc	= subcosta
		ta	= (r-m) = anterior cross vein
cu_{1b+1a}	= anal vein	tp	= posterior cross vein
h	= humeral cross vein	2a	= anal vein

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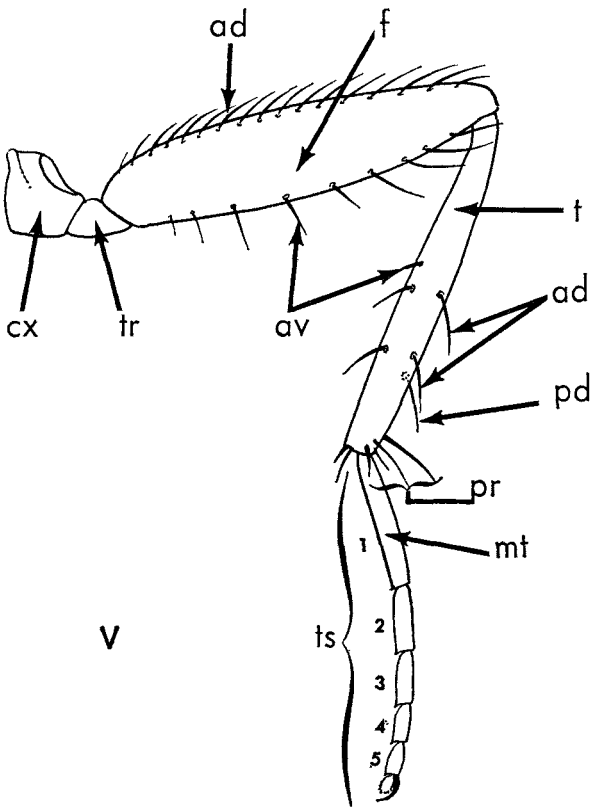

FIG. v. Chaetotaxy of third left leg, frontal view (*Muscina*)

ad = anterodorsals	pd = posterodorsals
av = anteroventrals	pr = preapicals
cx = coxa	t = tibia
f = femur	tr = trochanter
mt = metatarsus	ts = tarsal segments

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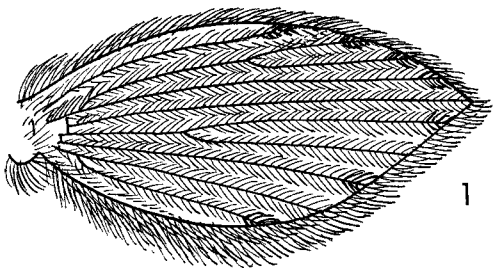

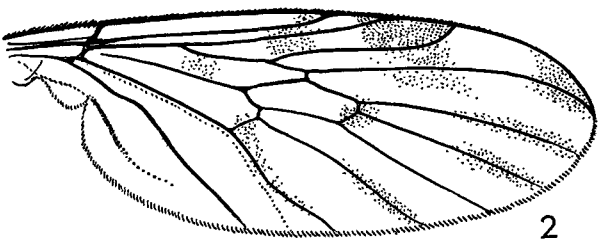

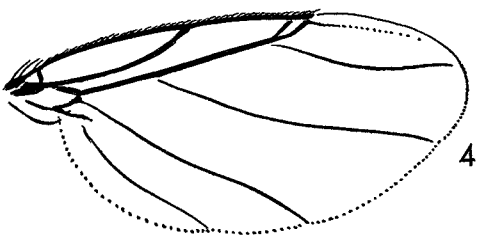

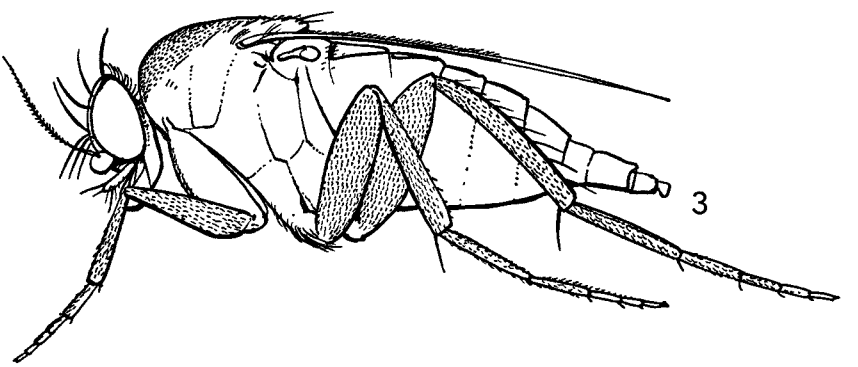

FIG. 1. Wing of the genus *Psychoda*
FIG. 2. Wing of *Syvicola fenestralis* (Scop.)
FIG. 3. Habitus of female *Megaselia* sp.
FIG. 4. Wing of *Megaselia* sp.

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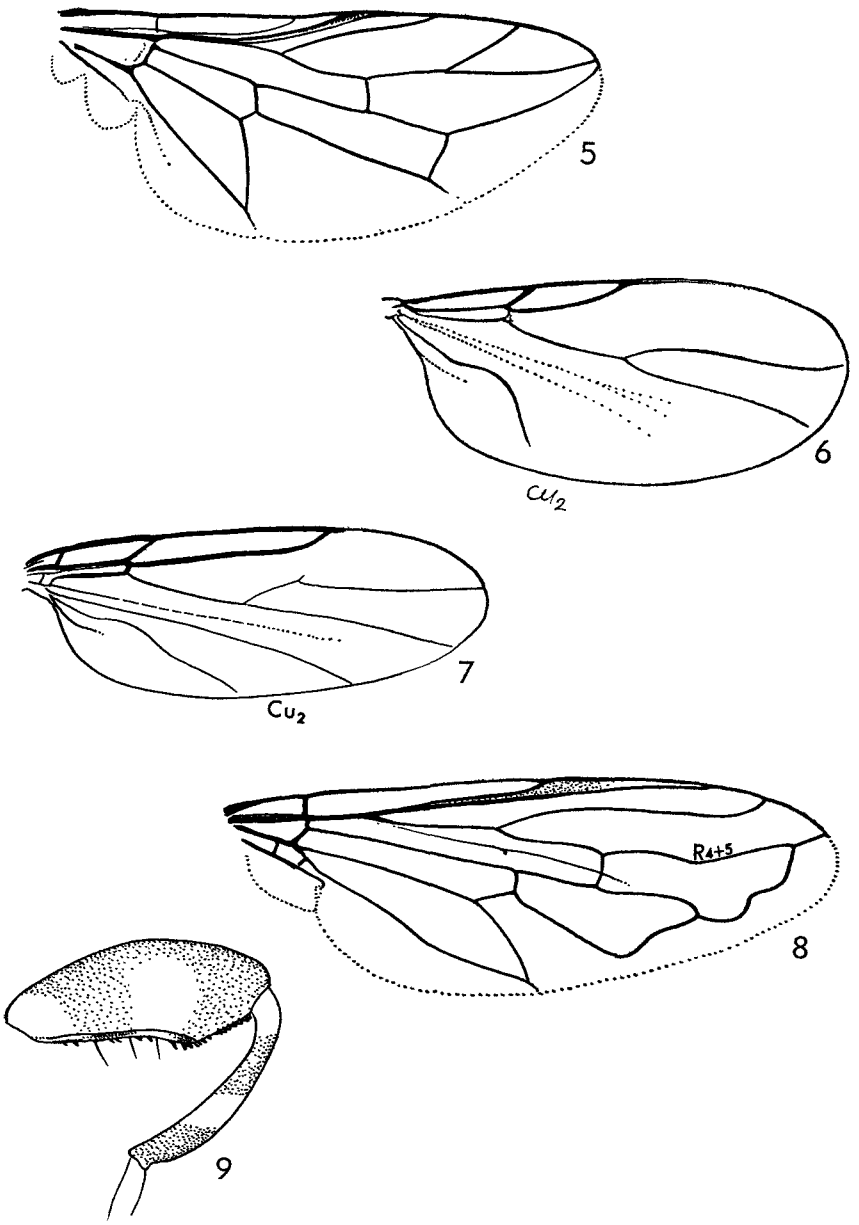

FIG. 5. Wing of *Scenopinus fenestralis* (L.)
FIG. 6. Wing of *Scatopse fuscipes* Meigen
FIG. 7. Wing of *Scatopse notata* (L.)
FIG. 8. Wing of *Xylota pipiens* (L.)
FIG. 9. Hind leg of *Xylota pipiens* (L.)

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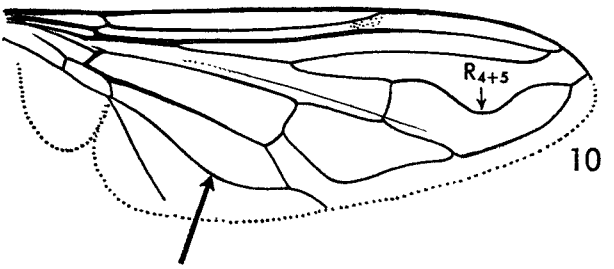

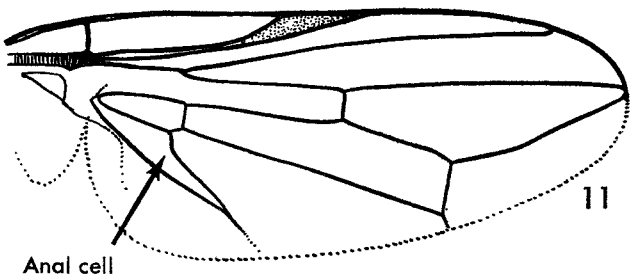

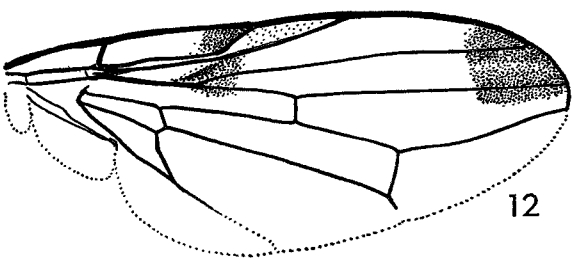

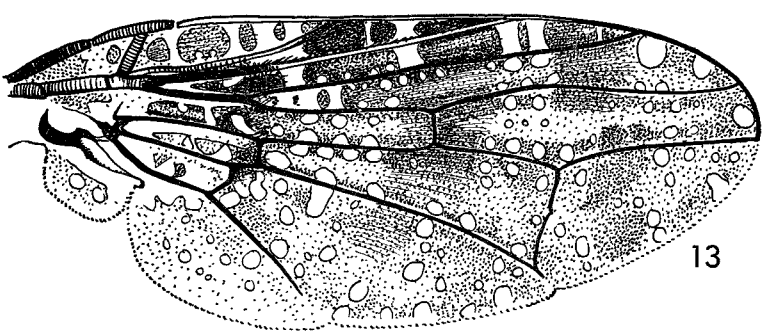

FIG. 10. Wing of *Eristalis tenax* (L.)
FIG. 11. Wing of *Physiphora demandata* (F.)
FIG. 12. Wing of *Euxesta* sp.
FIG. 13. Wing of *Platystoma lugubre* R.-D.

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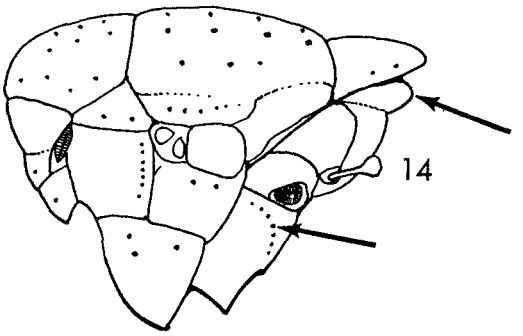

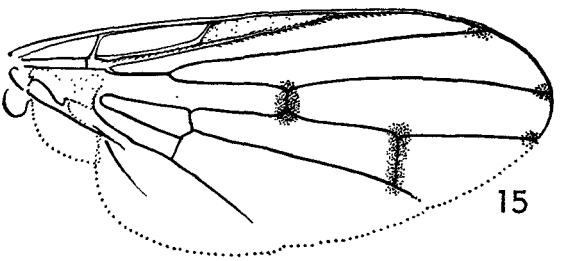

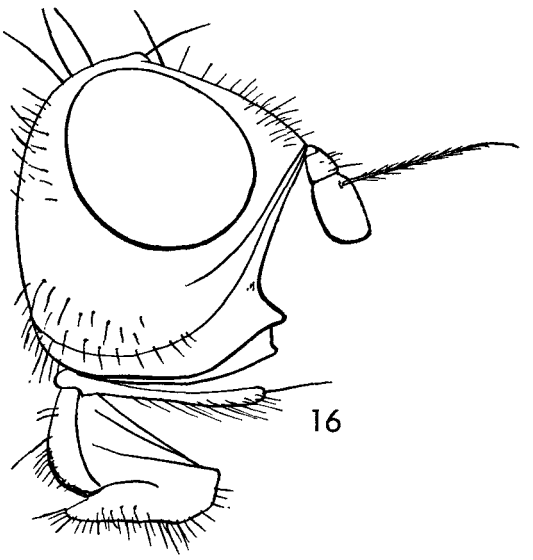

FIG. 14. Thorax of Tachinidae in lateral view, showing scheme of chaetotaxy and postscutellum
FIG. 15. Wing of *Dryomyza anilis* Fall.
FIG. 16. Head of female *Dryomyza flaveola* (Fabr.) (after Séguy)

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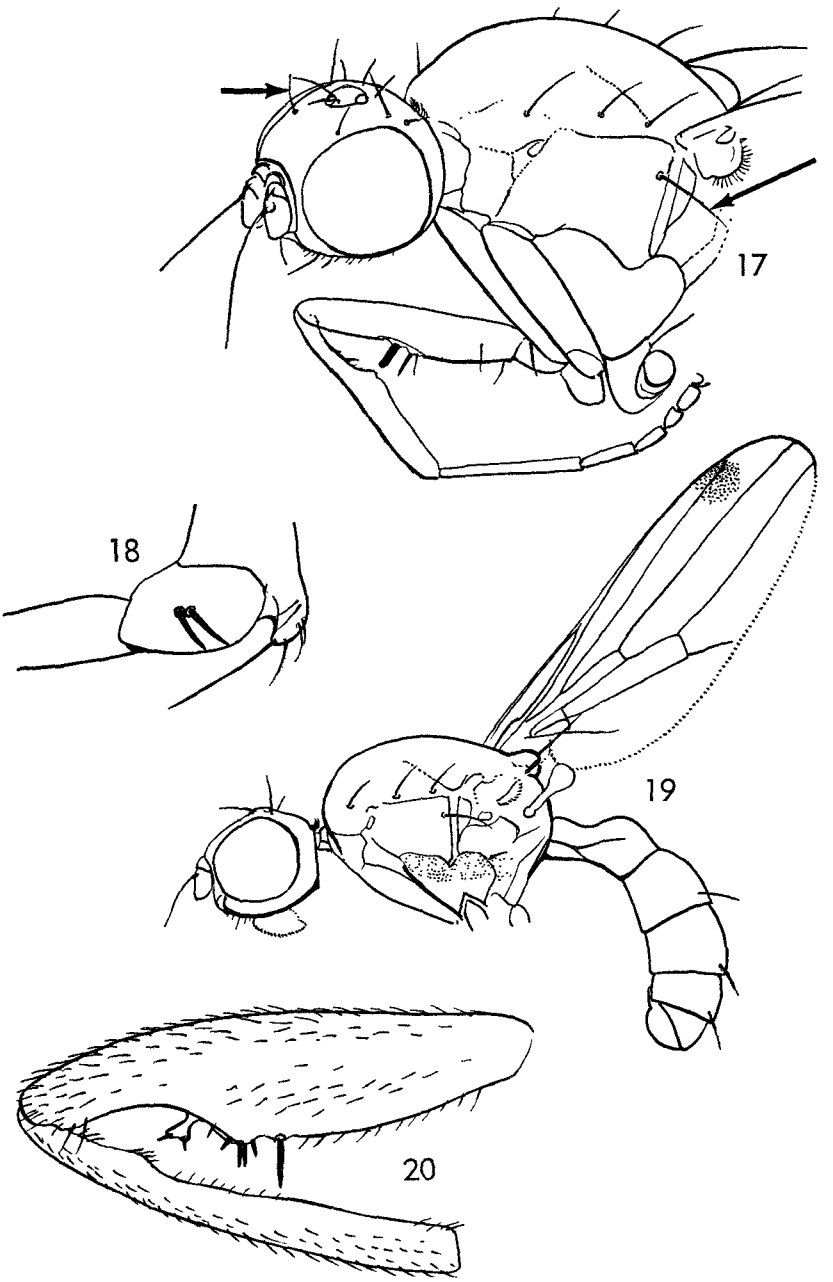

FIG. 17. Head, thorax, and right fore-leg of *Meroplius stercorarius* (R.-D.)
FIG. 18. Third trochanter of *Nemopoda nitidula* (Fall.)
FIG. 19. Body and wings of male *Sepsis thoracica* (R.-D.)
FIG. 20. Fore-femur and tibia of *Sepsis fulgens* Hffmsgg.

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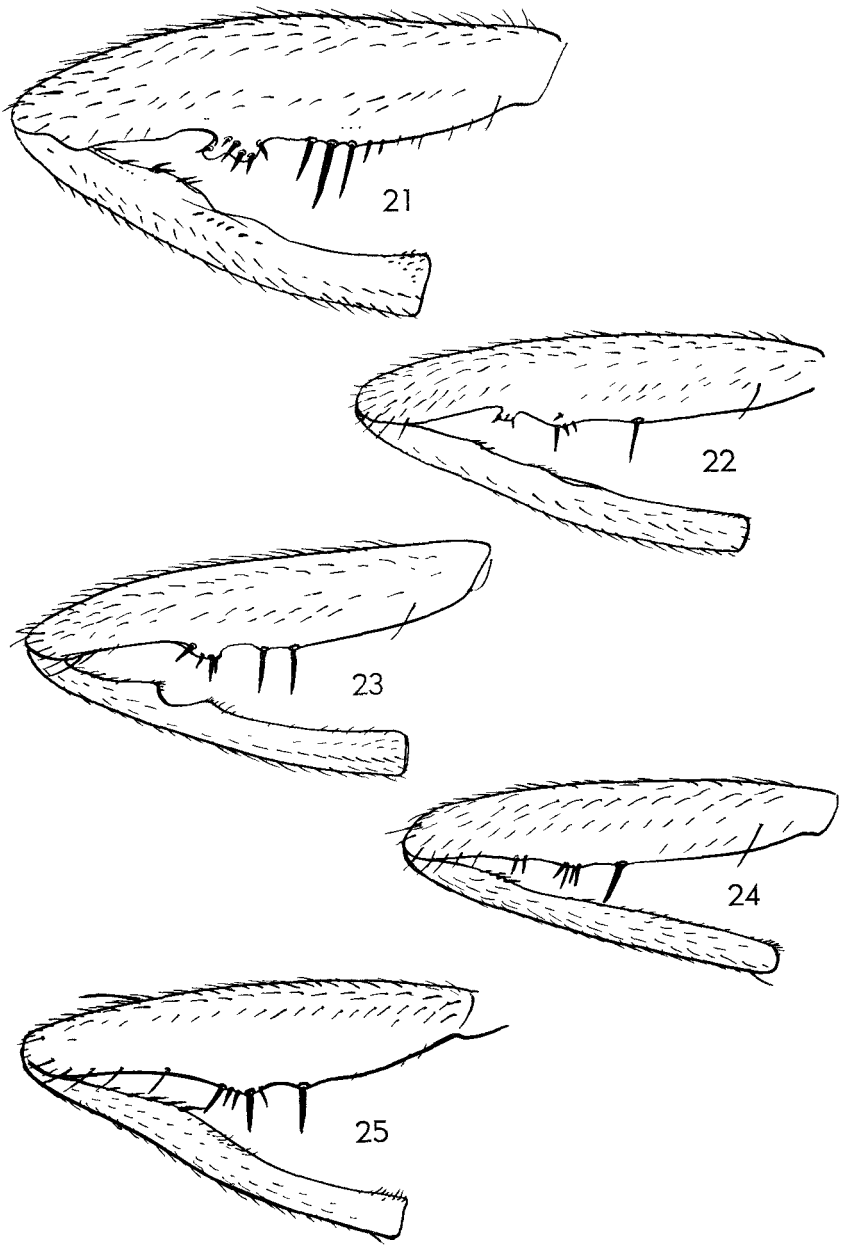

FIG. 21. Fore-femur and tibia of *Sepsis punctum* (Fabr.)
FIG. 22. Fore-femur and tibia of *Sepsis violacea* Meig.
FIG. 23. Fore-femur and tibia of *Sepsis cynipsea* (L.)
FIG. 24. Fore-femur and tibia of *Sepsis orthocnemis* Frey.
FIG. 25. Fore-femur and tibia of *Sepsis flavimana* Meig.

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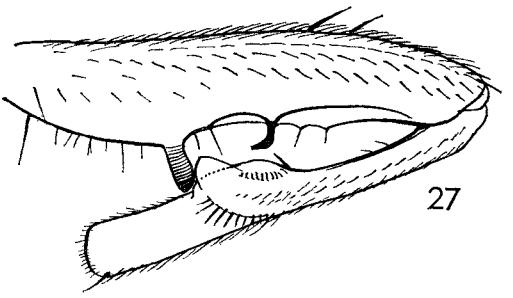

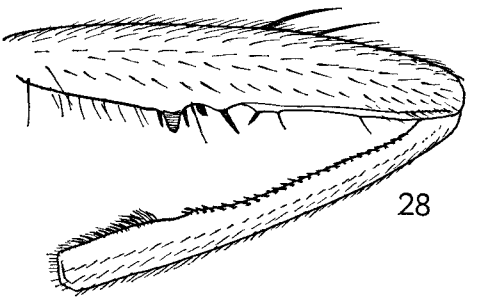

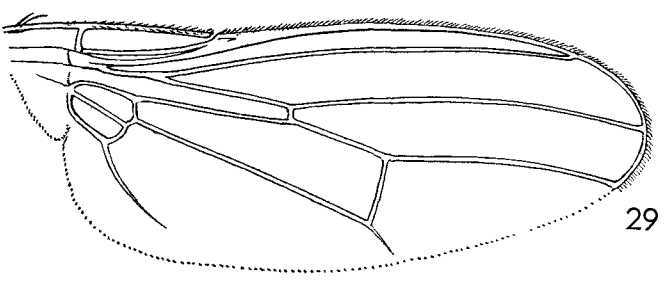

FIG. 26. Middle tarsus of *Themira annulipes* (Meig.)
FIG. 27. Fore-femur and tibia of male *Themira putris* (L.)
FIG. 28. Fore-femur and tibia of male *Themira nigricornis* (Meig.)
FIG. 29. Wing of *Piophila casei* (L.)

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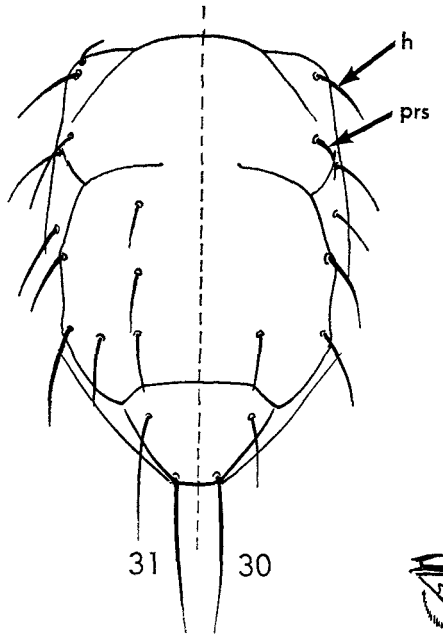

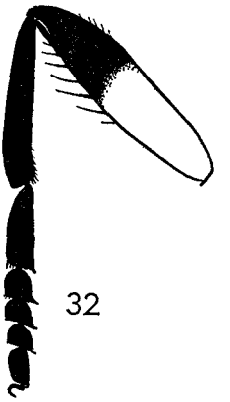

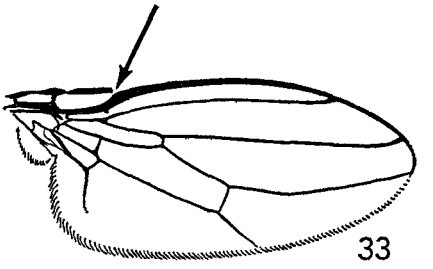

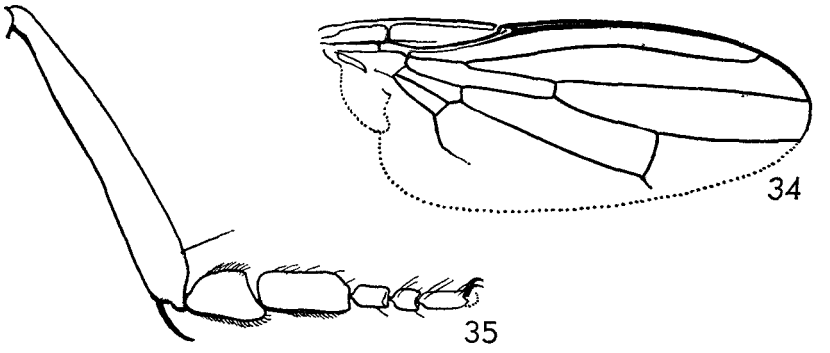

FIG. 30. Chaetotaxy of thorax in *Piophila vulgaris* Fall.
FIG. 31. Chaetotaxy of thorax in *Piophila latipes* Meig.
FIG. 32. Fore-leg of *Piophila latipes* Meig.
FIG. 33. Wing of *Sphaerocera curvipes* Latr.
FIG. 34. Wing of *Copromyza equina* Fall.
FIG. 35. Hind-tibia and tarsus of *Copromyza equina* Fall.

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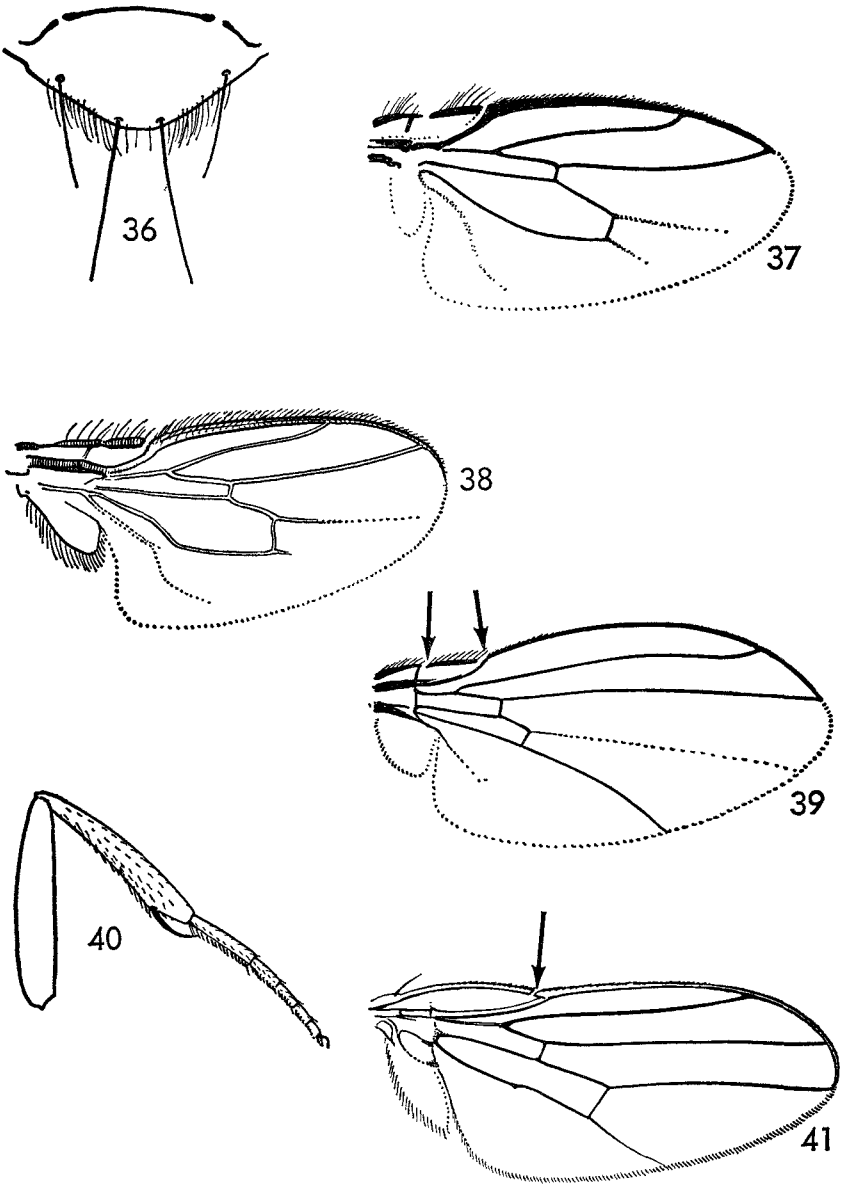

FIG. 36. Scutellum of *Copromyza similis* (Collin)
FIG. 37. Wing of *Leptocera fontinalis* (Fall.) (after Séguy)
FIG. 38. Wing of *Leptocera ferruginata* (Stenh.)
FIG. 39. Wing of *Meoneura vagans* (Fall.)
FIG. 40. Hind-leg of *Hippelates* sp.
FIG. 41. Wing of *Hippelates* sp.

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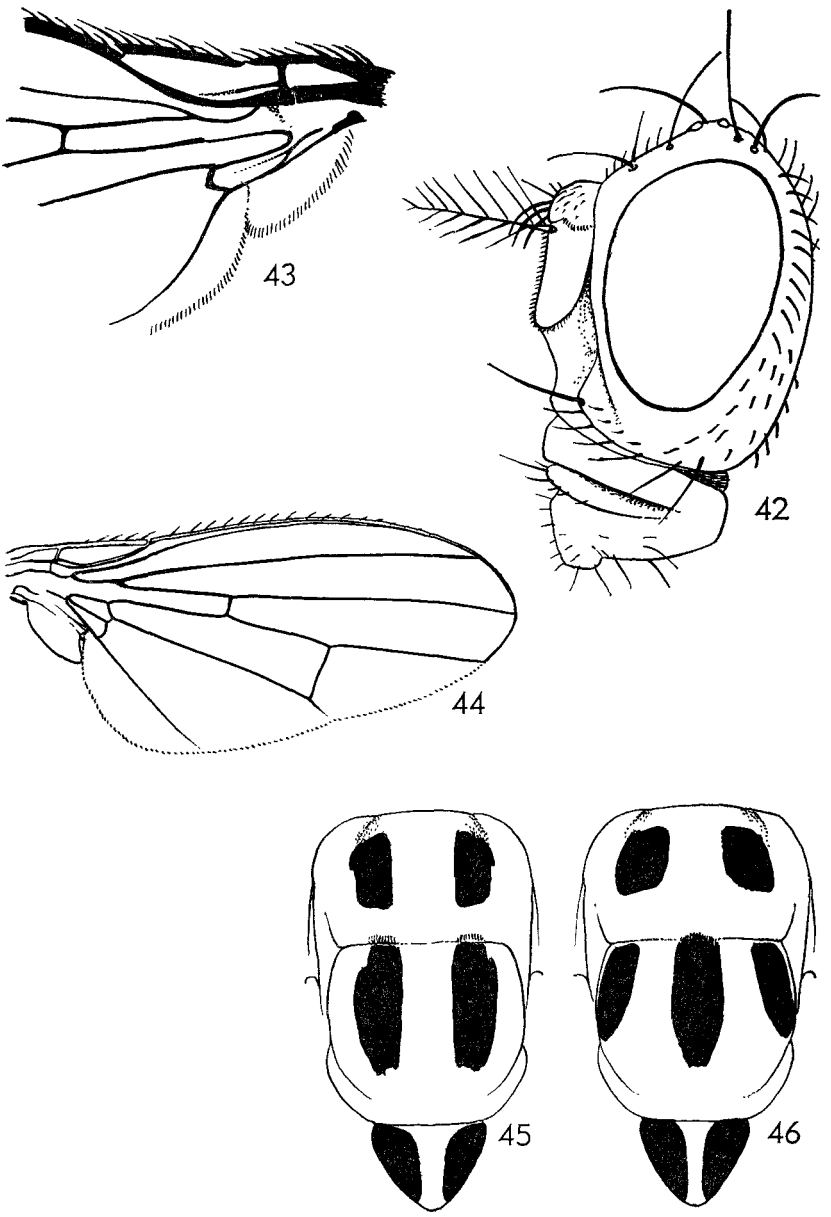

FIG. 42. Head of *Drosophila funebris* (Fabr.) (after Hendel)
FIG. 43. Wing base of *Drosophila funebris* (Fabr.)
FIG. 44. Wing of *Neoleria inscripta* (Meig.)
FIG. 45. Thorax pattern in *Anthomyia plurinotata* Brullé
FIG. 46. Thorax pattern in *Anthomyia pluvialis* (L.)

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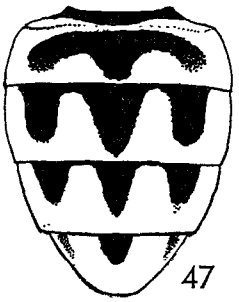

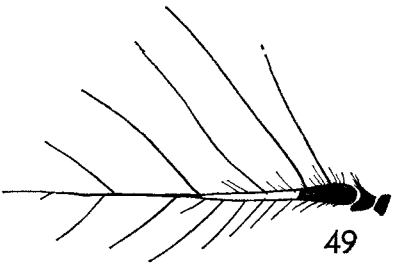

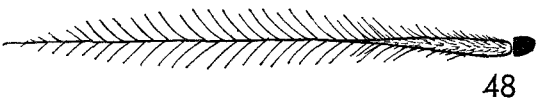

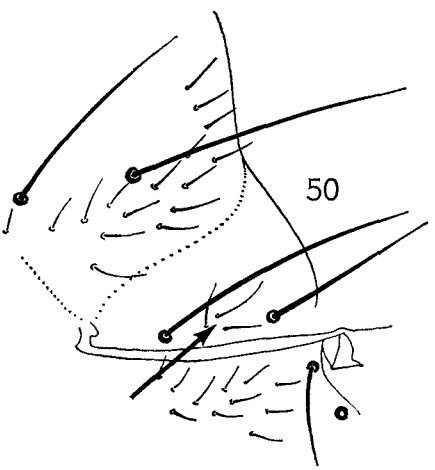

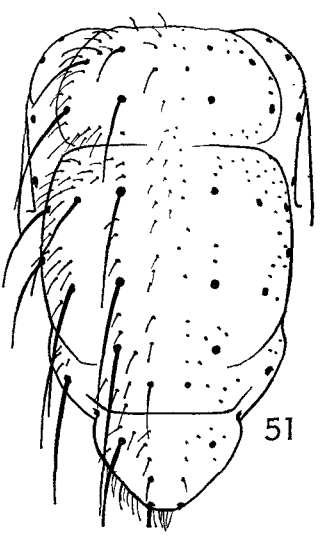

FIG. 47. Pattern of abdomen in female *Calythea albicincta* (Fall.)
FIG. 48. Arista of *Hylemya pullula* (Zett.)
FIG. 49. Arista of *Hylemya lasciva* (Zett.)
FIG. 50. Left notopleura of *Hylemya radicum* (L.)
FIG. 51. Chaetotaxy of thorax in *Hylemya radicum* (L.)

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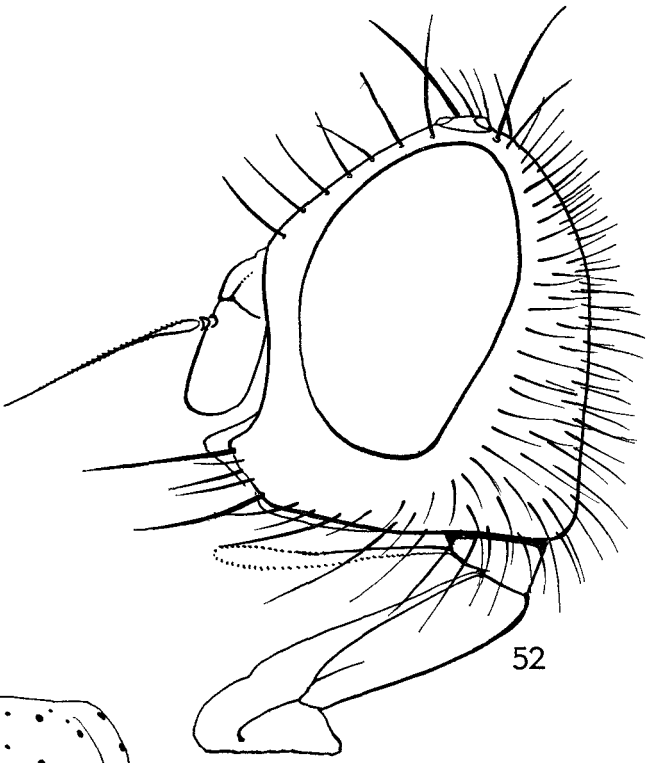

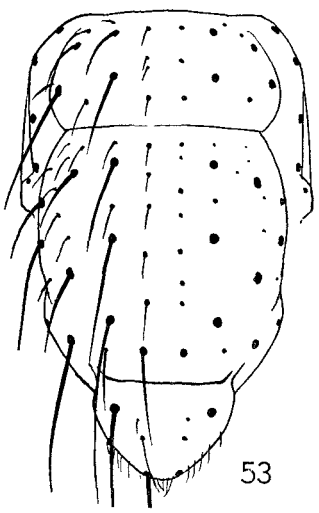

FIG. 52. Head of female *Hylemya cinerella* (Fall.)
FIG. 53. Chaetotaxy of thorax in *Hylemya cinerella* (Fall.)

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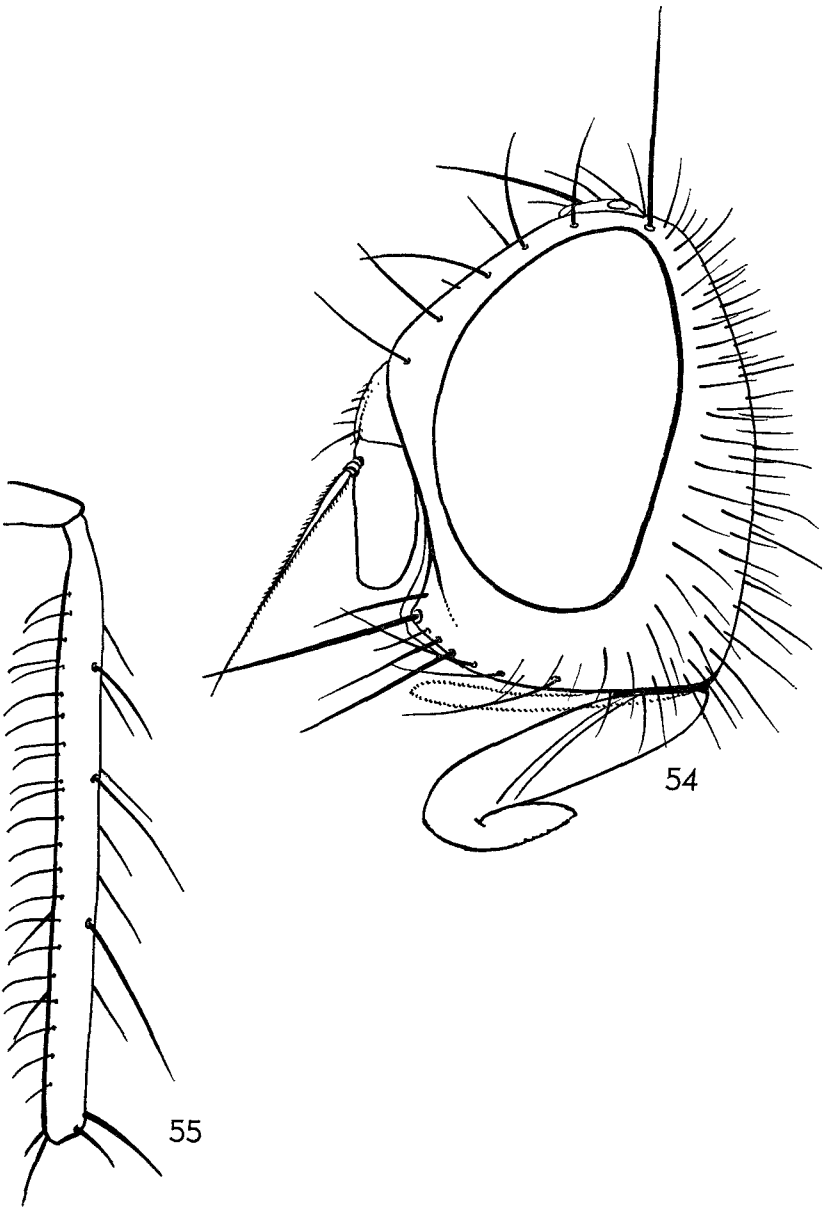

FIG. 54. Head of female *Delia platura* (Meig.)
FIG. 55. Hind-tibia of male *Delia platura* (Meig.)

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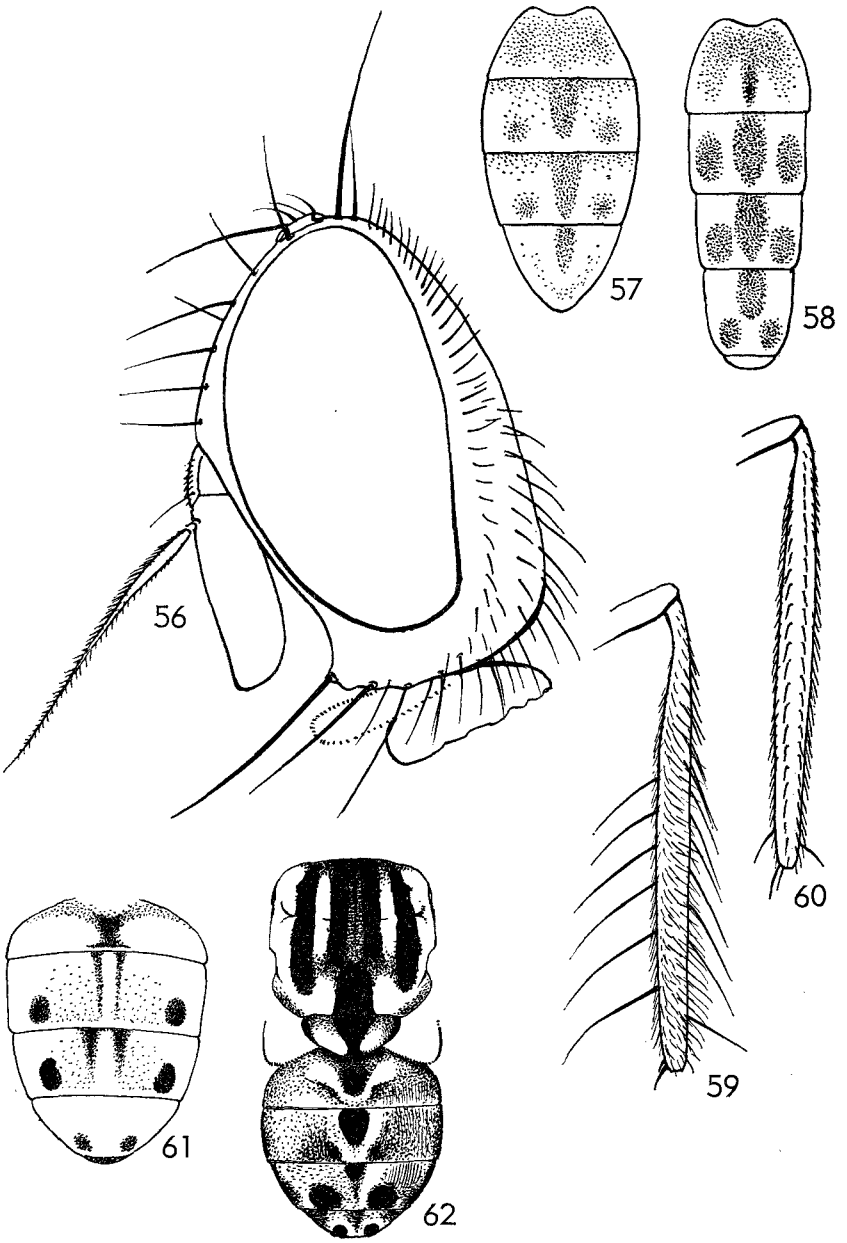

FIG. 56. Head of female *Pegomya socia* (Fall.)
FIG. 57. Schematic pattern of abdomen in female *Azelia macquarti* (Staeger)
FIG. 58. Schematic pattern of abdomen in male *Azelia macquarti* (Staeger)
FIG. 59. Middle tibia of male *Azelia macquarti* (Staeger)
FIG. 60. Middle tibia of male *Azelia triquetra* (Wied.)
FIG. 61. Schematic pattern of abdomen in male *Gymnodia impedita* Pand. (after Séguy)
FIG. 62. Body pattern in *Graphomya maculata* (Scop.)

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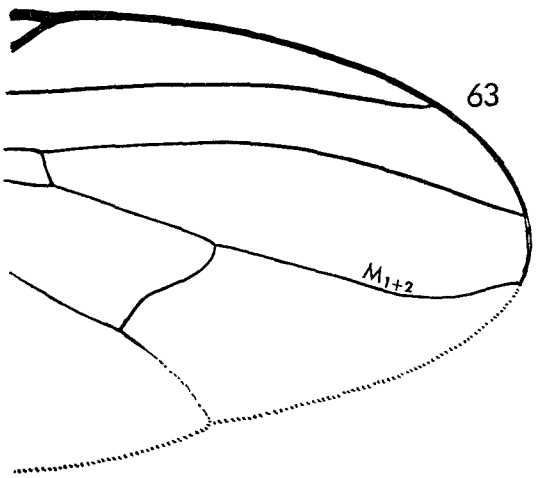

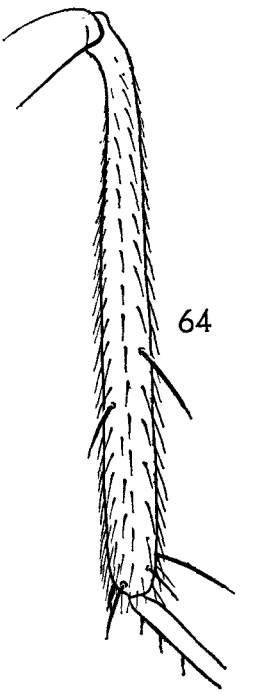

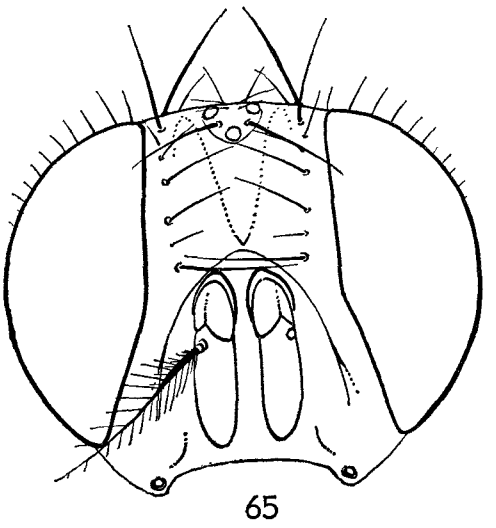

FIG. 63. Wing apex of female *Myospila hennigi* Gregor and Povolný
FIG. 64. Left hind-leg of female *Hebecnema* sp. in frontal view
FIG. 65. Head of female *Hebecnema umbratica* (Meig.) in frontal view

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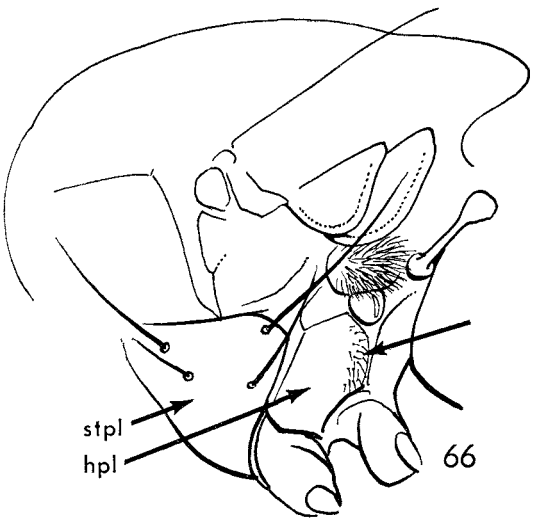

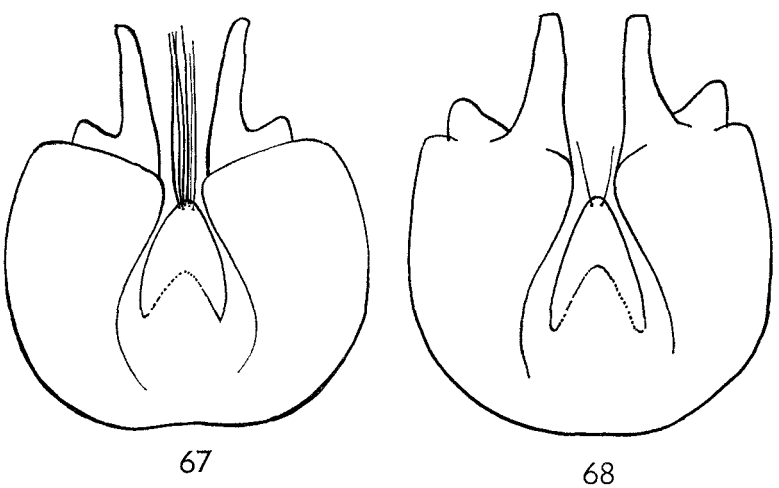

FIG. 66. Hypopleural and sternopleural bristles of *Quadrularia laetifica* (R.-D.)
FIG. 67. Scheme of hypopygium in *Fannia difficilis* Stein
FIG. 68. Scheme of hypopygium in *Fannia canicularis* (L.)

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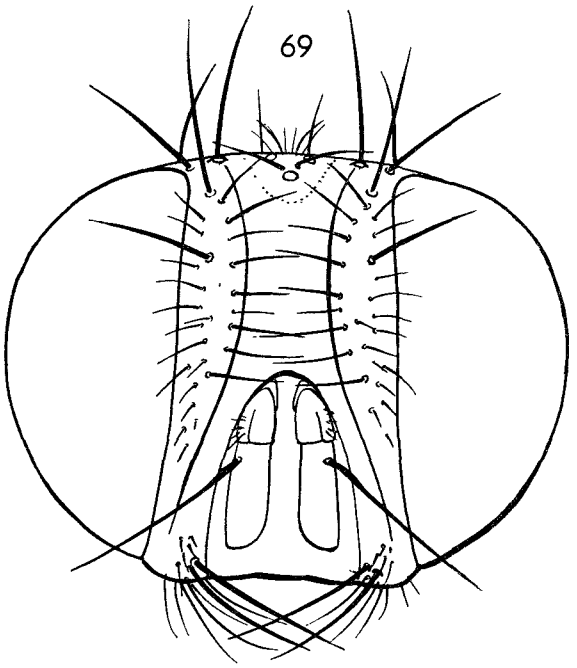

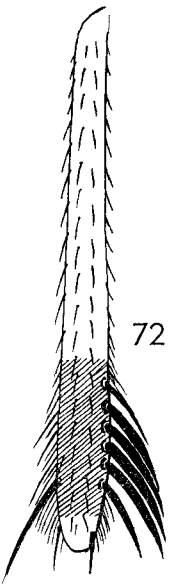

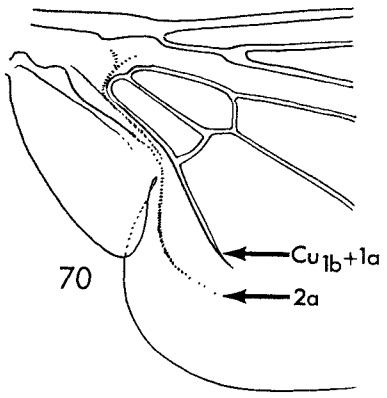

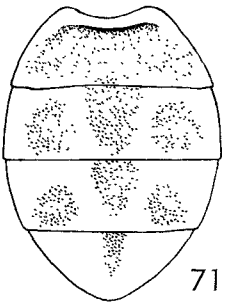

FIG. 69. Head of female *Fannia scalaris* (Fabr.)
FIG. 70. Wing base of *Fannia* sp.
FIG. 71. Schematic pattern of abdomen in female *Fannia leucosticta* (Meig.)
FIG. 72. Fore-tibia of male *Fannia manicata* (Meig.)

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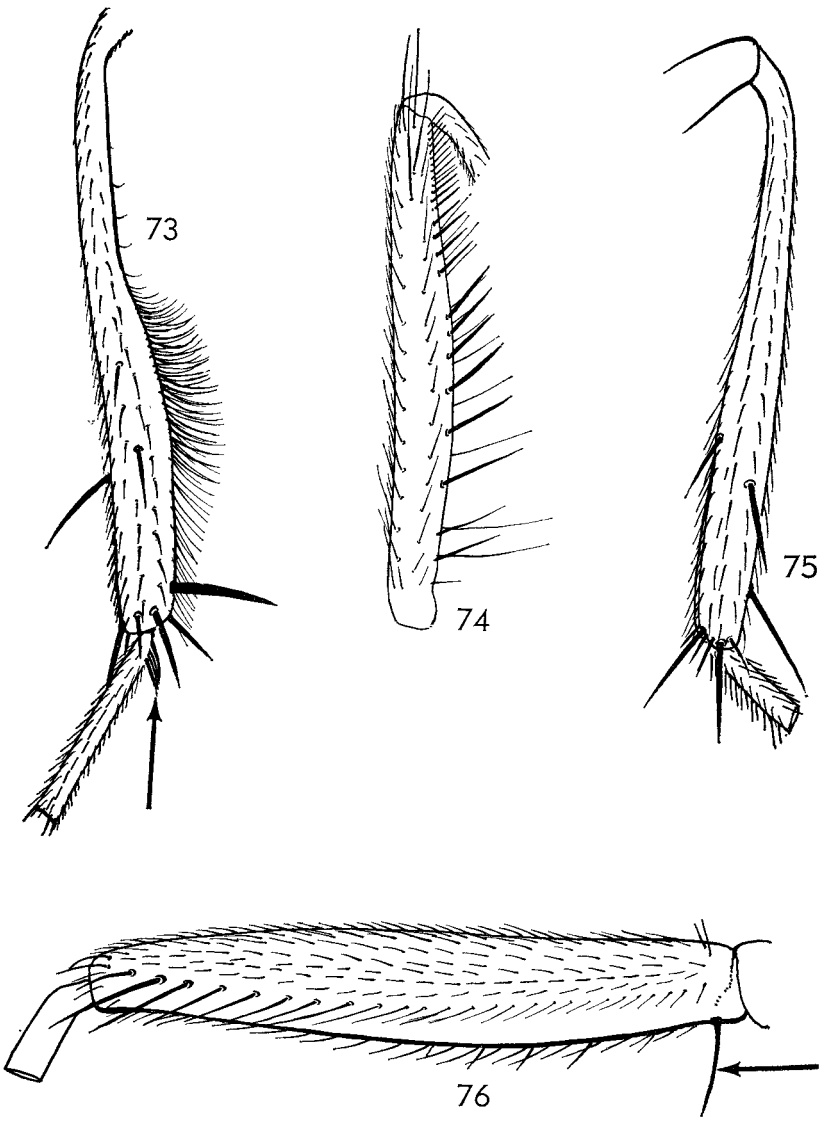

FIG. 73. Middle femur and pretarsus of male *Fannia armata* (Meig.)
FIG. 74. Left middle femur of male *Fannia mutica* (Zett.)
FIG. 75. Left middle tibia of female *Fannia mutica* (Zett.)
FIG. 76. Left middle femur of female *Fannia scalaris* (Fabr.)

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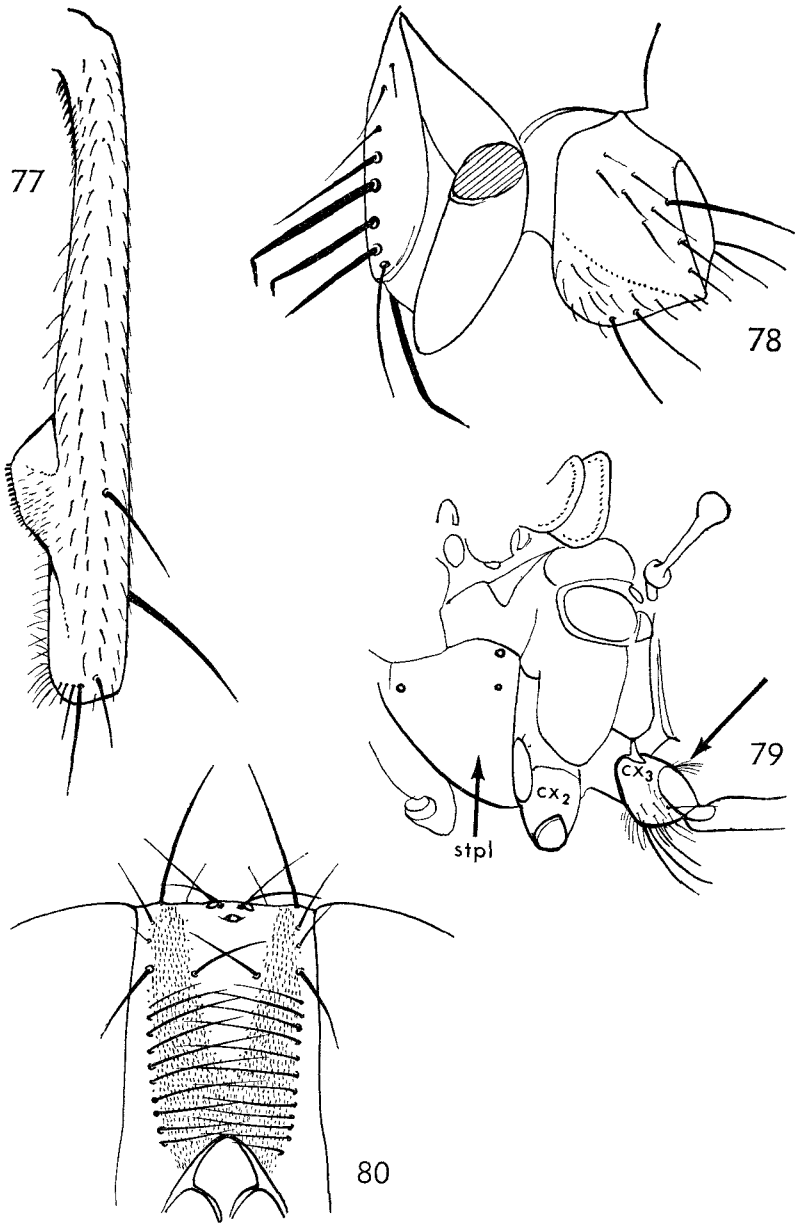

FIG. 77. Left middle tibia of male *Fannia scalaris* (Fabr.)
FIG. 78. Left middle and hind-coxa of male *Fannia scalaris* (Fabr.)
FIG. 79. Left hind-coxa and a part of thorax of *Lasiops simplex* (Wied.)
FIG. 80. Frons of female *Ophyra leucostoma* (Wied.)

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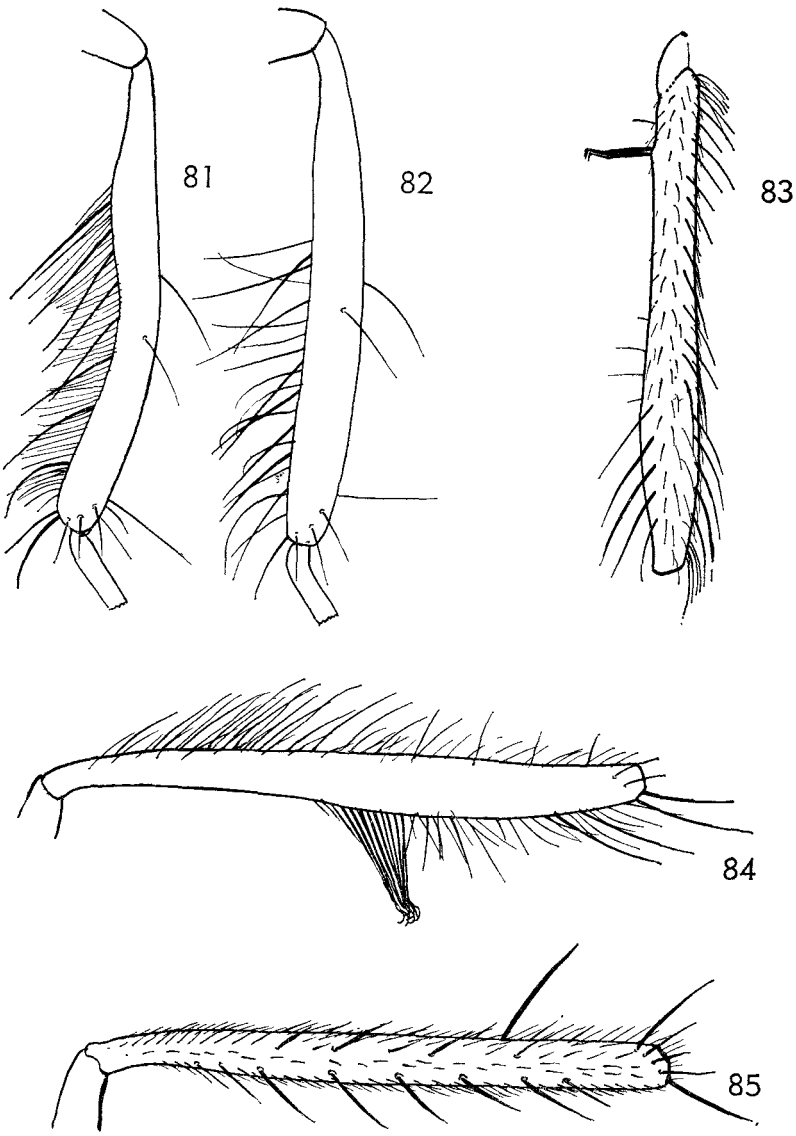

FIG. 81. Hind-tibia of male *Ophyra leucostoma* (Wied.) (after Hennig)
FIG. 82. Hind-tibia of male *Ophyra capensis* (Wied.) (after Hennig)
FIG. 83. Hind-femur of male *Hydrotaea occulta* (Meig.)
FIG. 84. Left hind-tibia of male *Hydrotaea penicillata* (Rond.) (after Hennig)
FIG. 85. Left hind-tibia of male *Hydrotaea cyrtoneurina* (Zett.)

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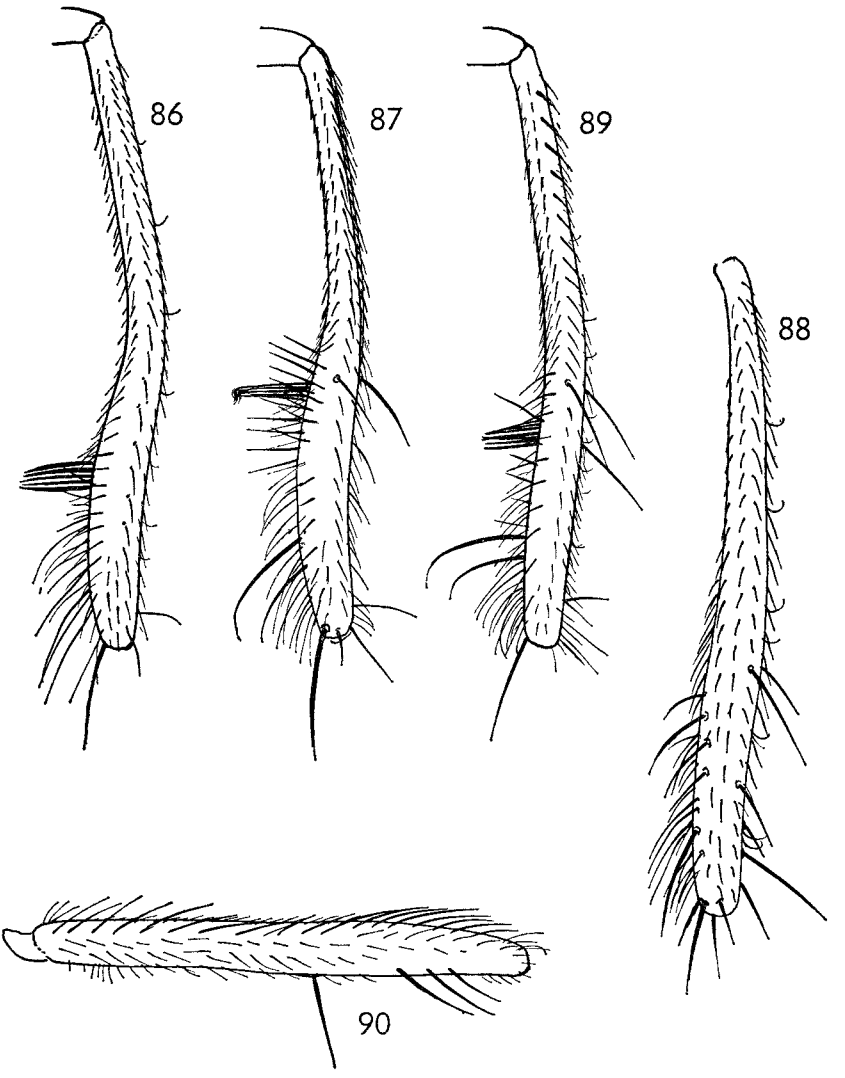

FIG. 86. Left hind-tibia of male *Hydrotaea pellucens* Porch.
FIG. 87. Left hind-tibia of male *Hydrotaea meridionalis* Porch.
FIG. 88. Left hind-tibia of male *Hydrotaea irritans* (Fall.)
FIG. 89. Left hind-tibia of male *Hydrotaea pandellei* Stein
FIG. 90. Left hind-femur of male *Hydrotaea armipes* (Fall.)

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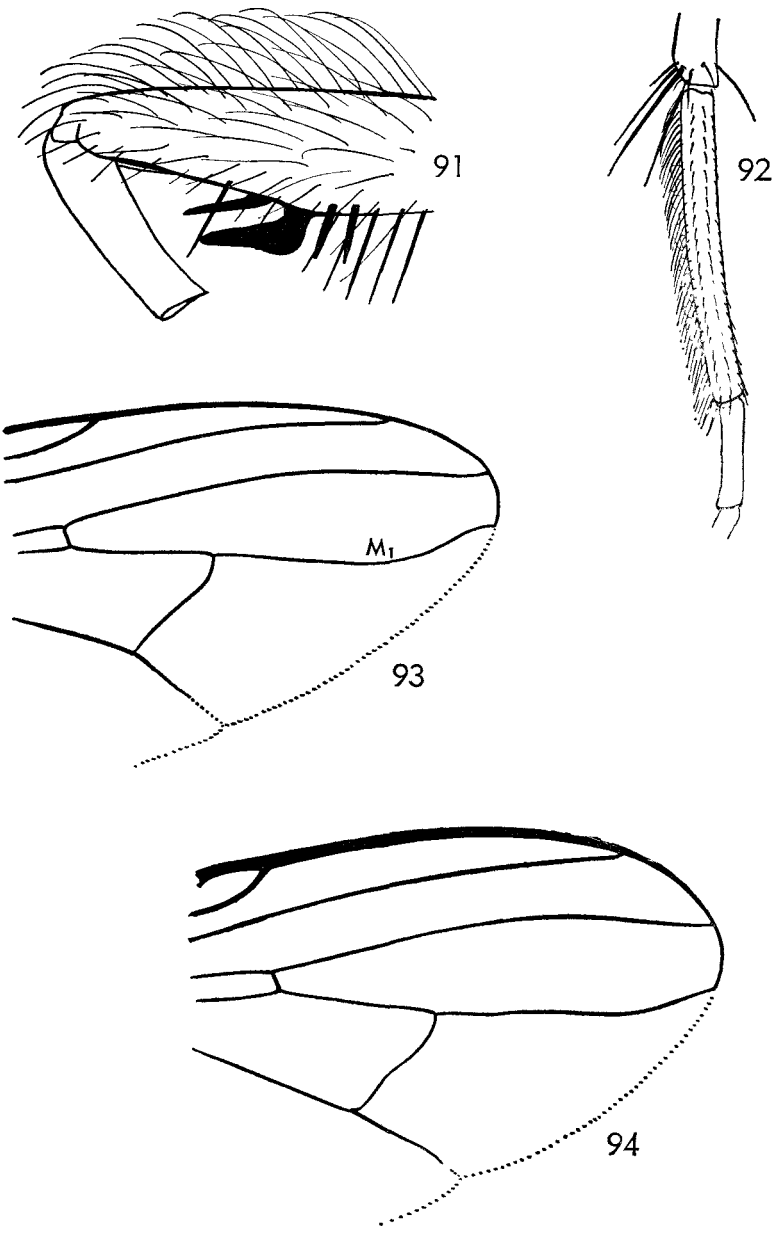

FIG. 91. Distal part of left femur of male *Hydrotaea meteorica* (L.)
FIG. 92. Middle metatarsus of male *Hydrotaea irritans* (Fall.)
FIG. 93. Apex of wing in *Muscina stabulans* (Fall.)
FIG. 94. Apex of wing in *Muscina assimilis* (Fall.)

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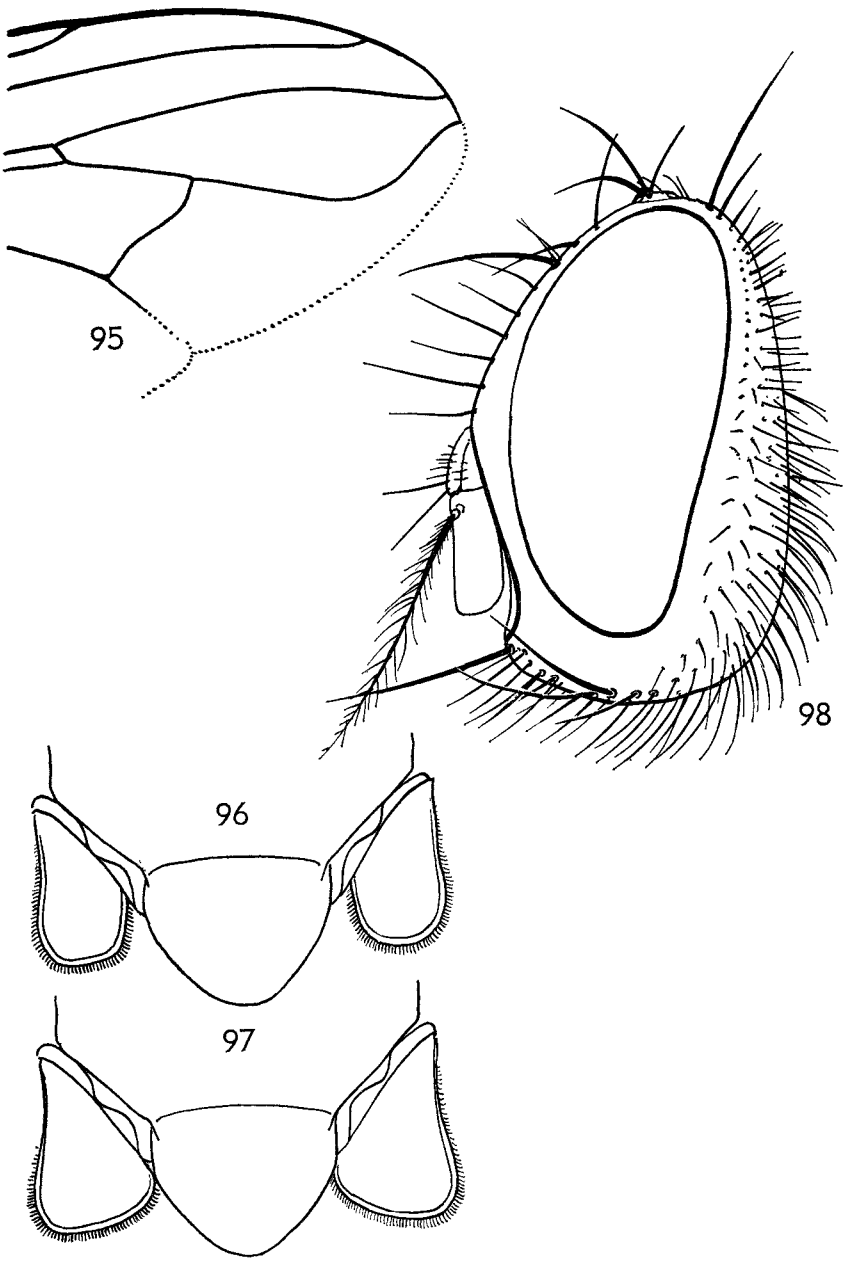

FIG. 95. Apex of wing in *Muscina pabulorum* (Fall.)
FIG. 96. Lower squama of *Muscina pabulorum* (Fall.)
FIG. 97. Lower squama of *Muscina pascuorum* (Meig.)
FIG. 98. Head of female *Dendrophaonia querceti* (Bouché)

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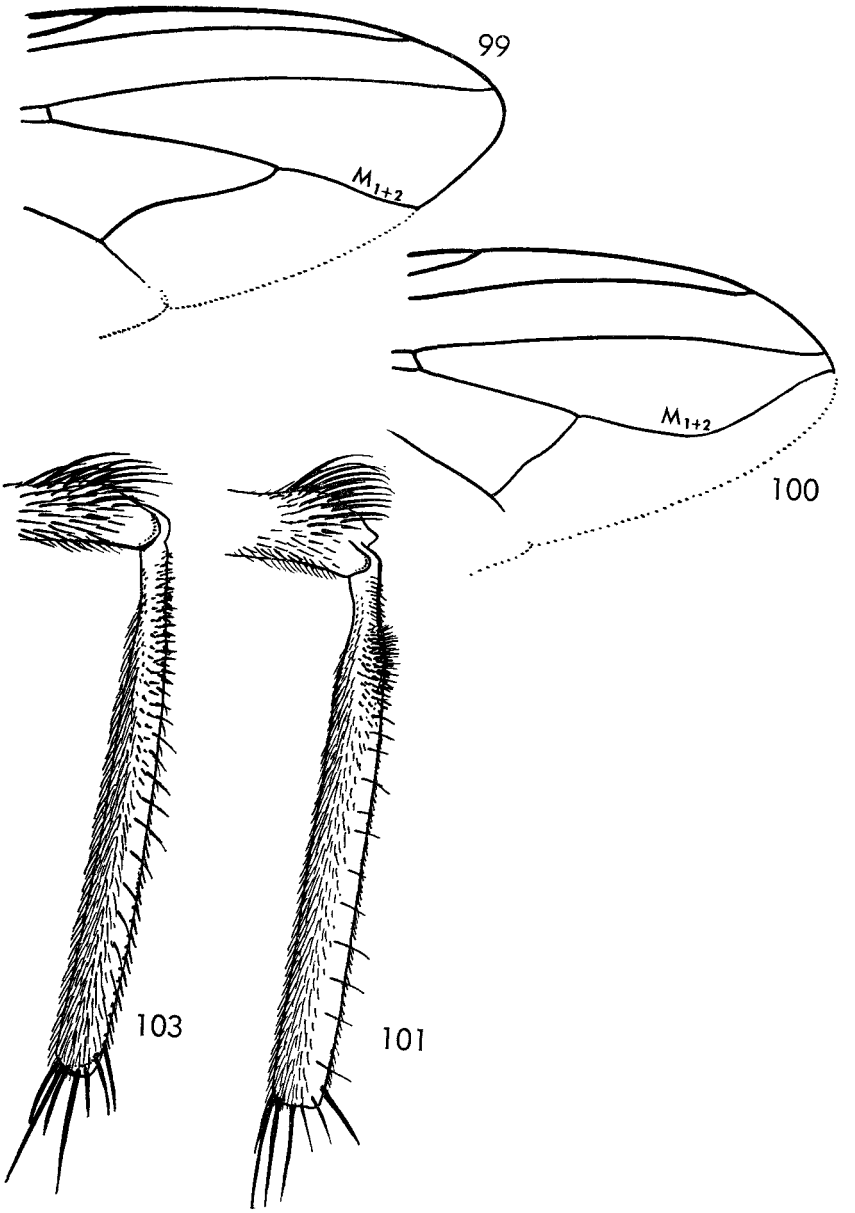

FIG. 99. Apex of wing in *Polietes lardaria* (Fabr.)
FIG. 100. Apex of wing in *Morellia podagrica* (Loew.)
FIG. 101. Left middle tibia of male *Morellia podagrica* (Loew.)
FIG. 103. Left middle tibia of male *Morellia hortorum* (Fall.)

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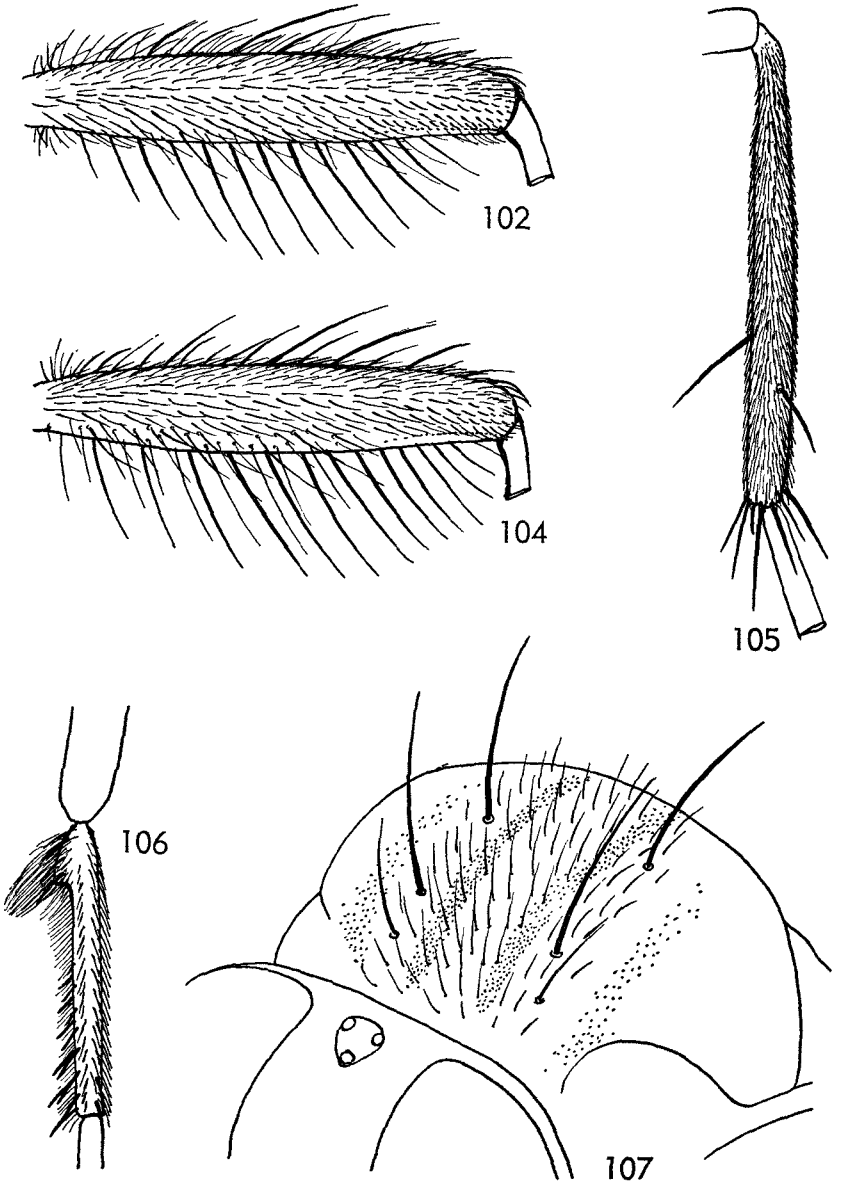

FIG. 102. Left fore-femur of female *Morellia podagrica* (Loew.)
FIG. 104. Left fore-femur of female *Morellia hortorum* (Fall.)
FIG. 105. Left middle tibia of *Pyrellia cyanicolor* (Zett.)
FIG. 106. Hind-metatarsus of male *Dasyphora penicillata* (Egger)
FIG. 107. Chaetotaxy of presutural part of mesonotum in *Dasyphora pratorum* (Meig.)

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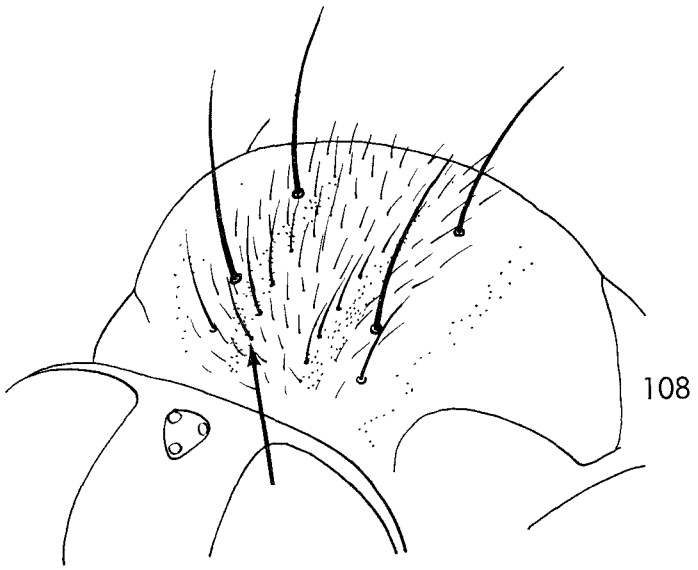

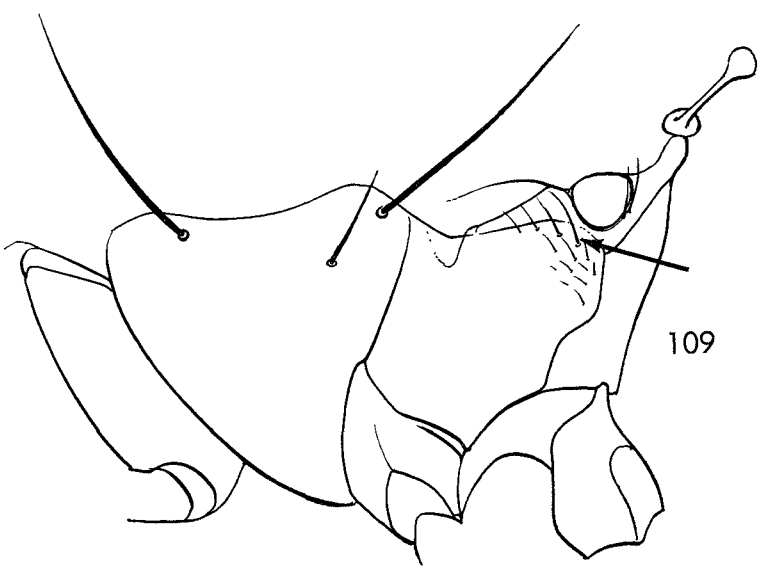

FIG. 108. Chaetotaxy of presutural part of mesonotum in *Dasyphora eriophthalma* (Macq.)

FIG. 109. Sternopleura and hypopleura of *Musca sorbens* Wied.

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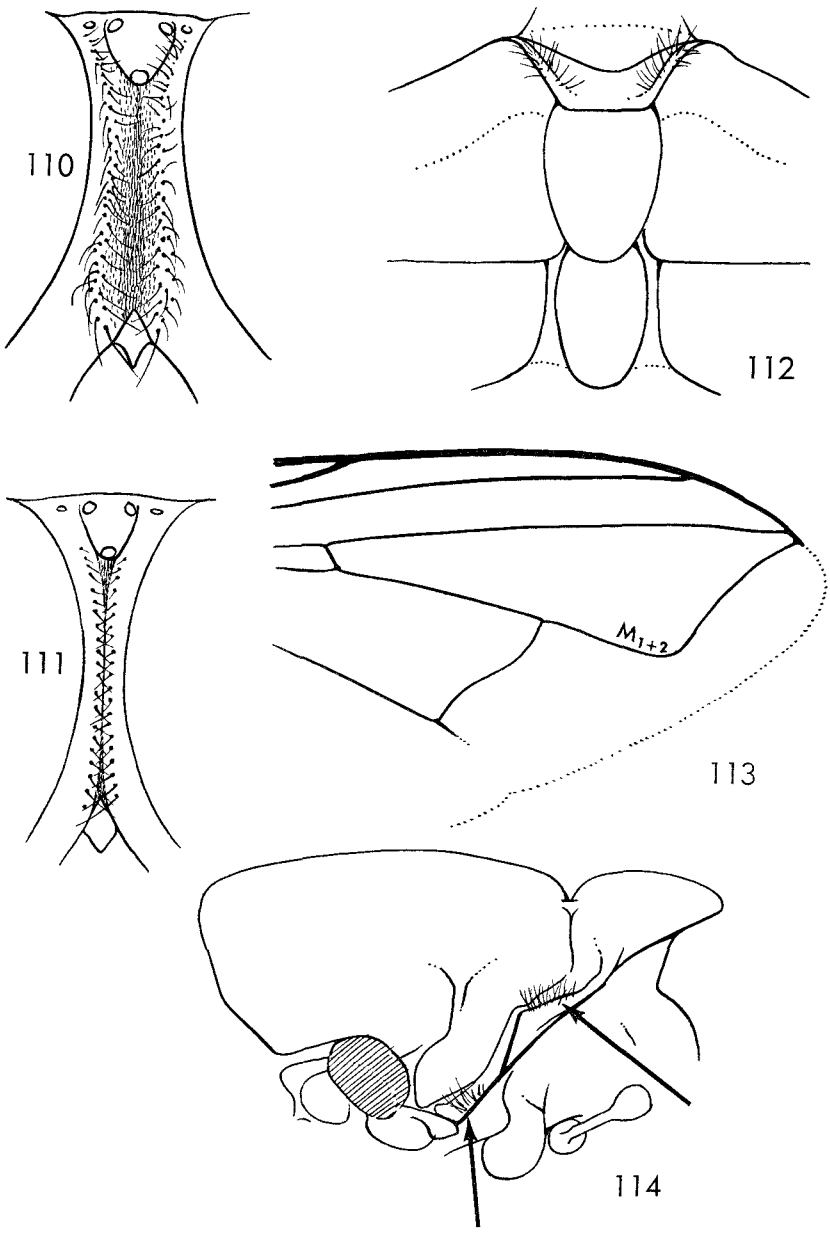

FIG. 110. Frons of male *Musca osiris* Wied.
FIG. 111. Frons of male *Musca vitripennis* Meig.
FIG. 112. First to third abdominal sternite of *Musca autumnalis* De Geer
FIG. 113. Apex of wing of *Musca autumnalis* De Geer
FIG. 114. Suprasquamal carina of *Musca larvipara* Porch.

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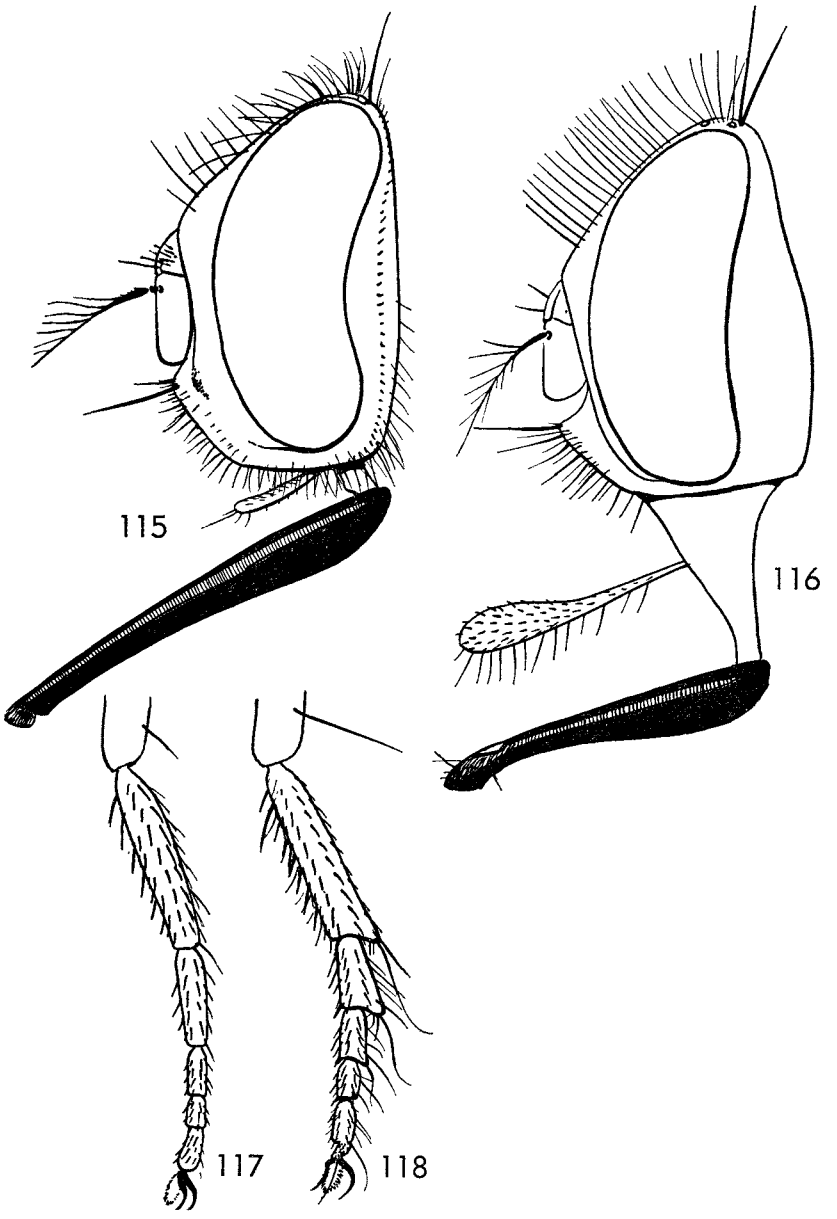

FIG. 115. Head of *Stomoxys calcitrans* (L.)
FIG. 116. Head of *Lyperosiops stimulans* (Meig.) (after Hennig)
FIG. 117. Hind-tarsi of *Haematobia titillans* (Bezzi) (after Hennig)
FIG. 118. Hind-tarsi of *Haematobia irritans* (L.)

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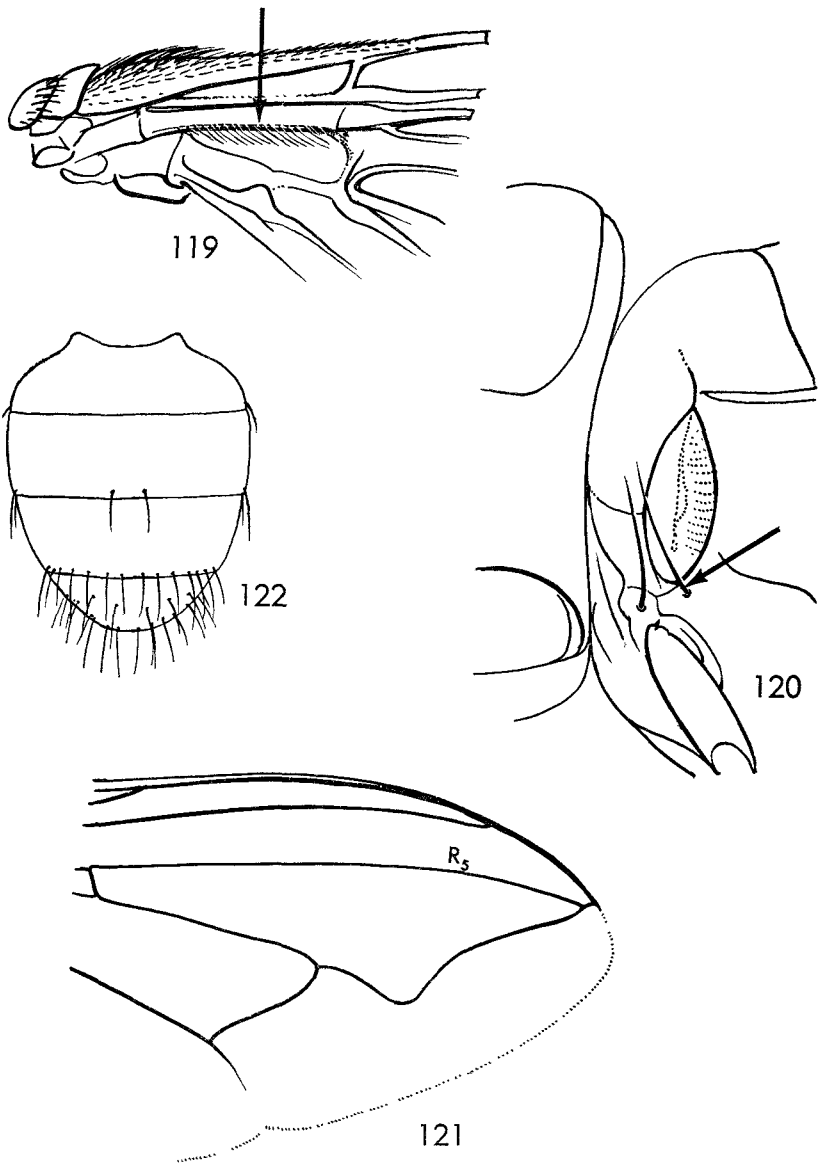

FIG. 119. Upper surface of wing base of *Chrysomya albiceps* (Wied.)
FIG. 120. Area surrounding anterior spiracle of *Chrysomya albiceps* (Wied.)
FIG. 121. Apex of wing of *Pollenia atramentaria* (Meig.)
FIG. 122. Macrochaetae on abdominal tergites of *Bufolucilia silvarum* (Meig.)

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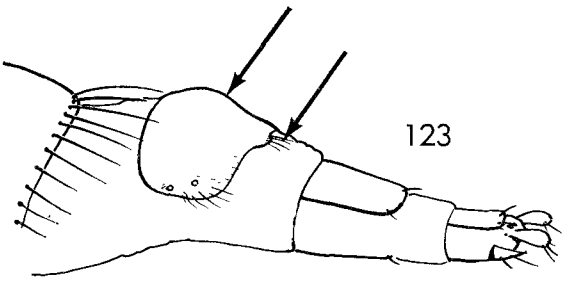

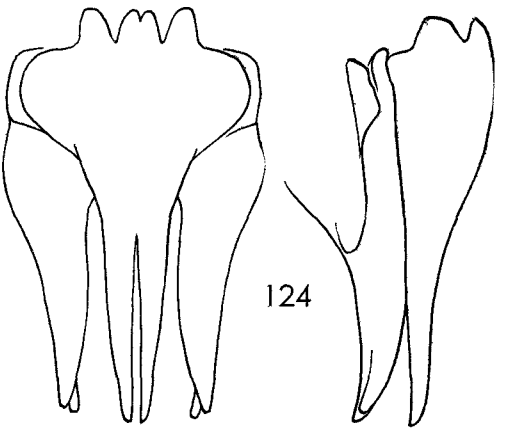

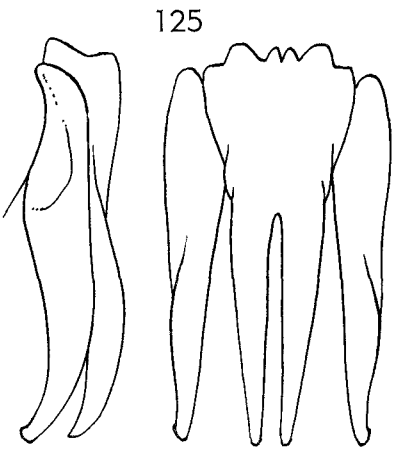

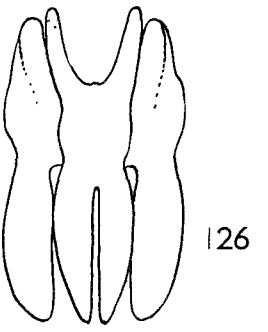

FIG. 123. Ovipositor of *Lucilia caesar* (L.)
FIG. 124. Cerci and surstyli in dorsoventral (left) and lateral (right) view in *Lucilia caesar* (L.)
FIG. 125. Cerci and surstyli in lateral (left) and dorsoventral (right) view in *Lucilia illustris* (Meig.)
FIG. 126. Cerci and surstyli in dorsoventral view in *Lucilia ampullacea* Vill.

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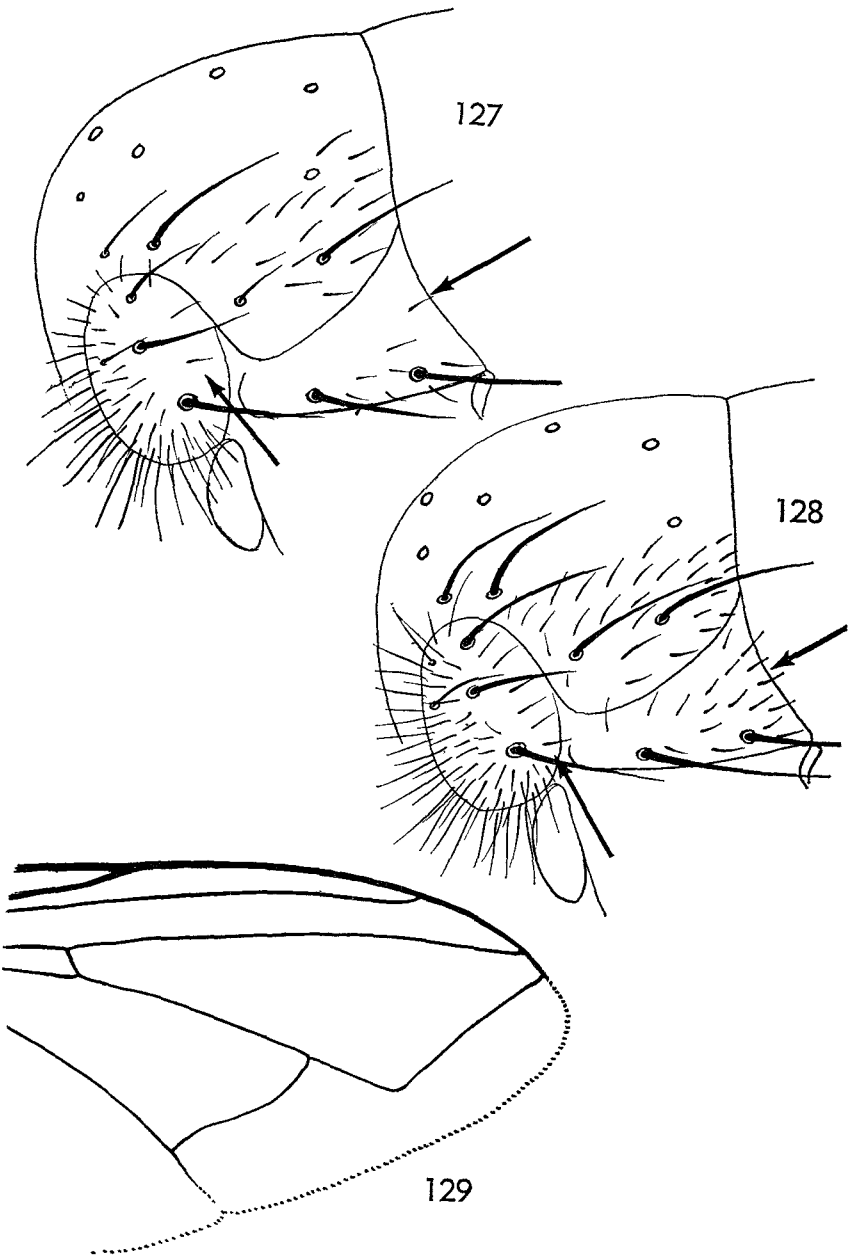

FIG. 127. Microsetae on humerus and notopleura in *Phaenicia cuprina* (Wied.)
FIG. 128. Microsetae on humerus and notopleura in *Phaenicia sericata* (Meig.)
FIG. 129. Apex of wing of *Phaenicia sericata* (Meig.)

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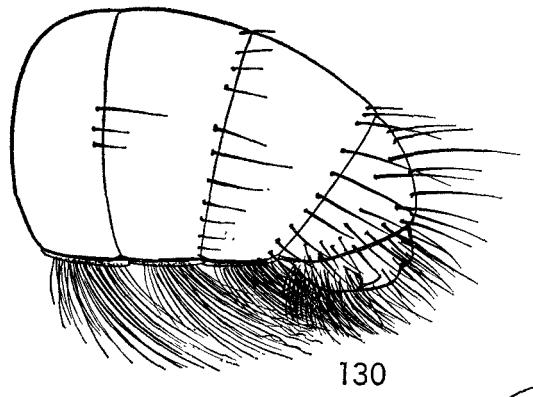

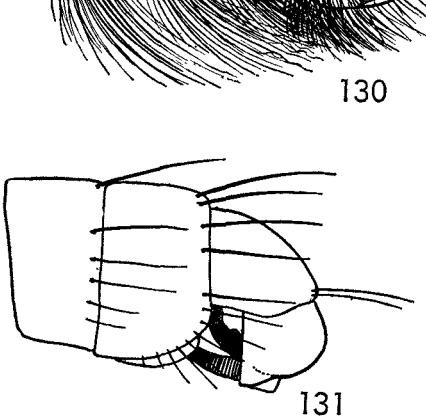

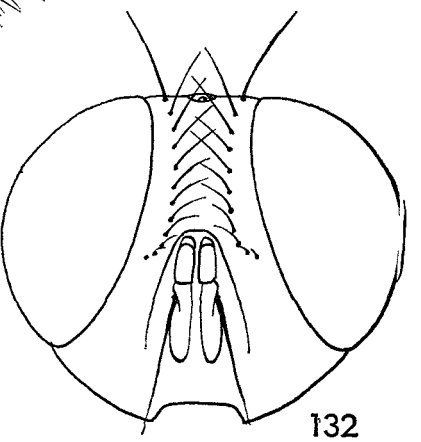

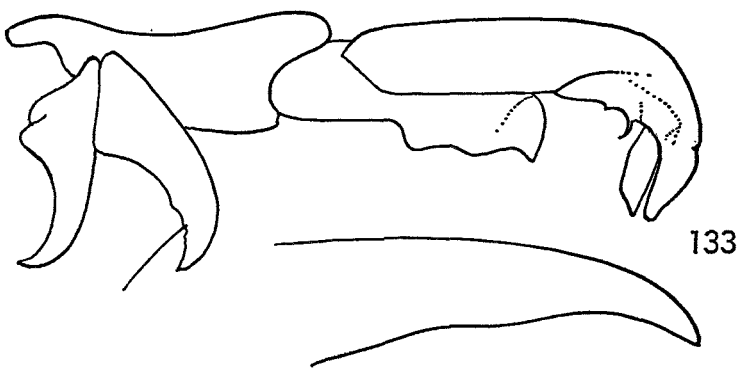

FIG. 130. Macrochaetae of abdominal sternites in *Lucilia pilosiventris* Kram.
FIG. 131. Distribution of macrochaetae on the apex of abdomen in male *Sarcophaga melanura* (Meig.)
FIG. 132. Head of female *Sarcophaga melanura* (Meig.)
FIG. 133. Phallosoma and apex of cerci of *Sarcophaga melanura* (Meig.)

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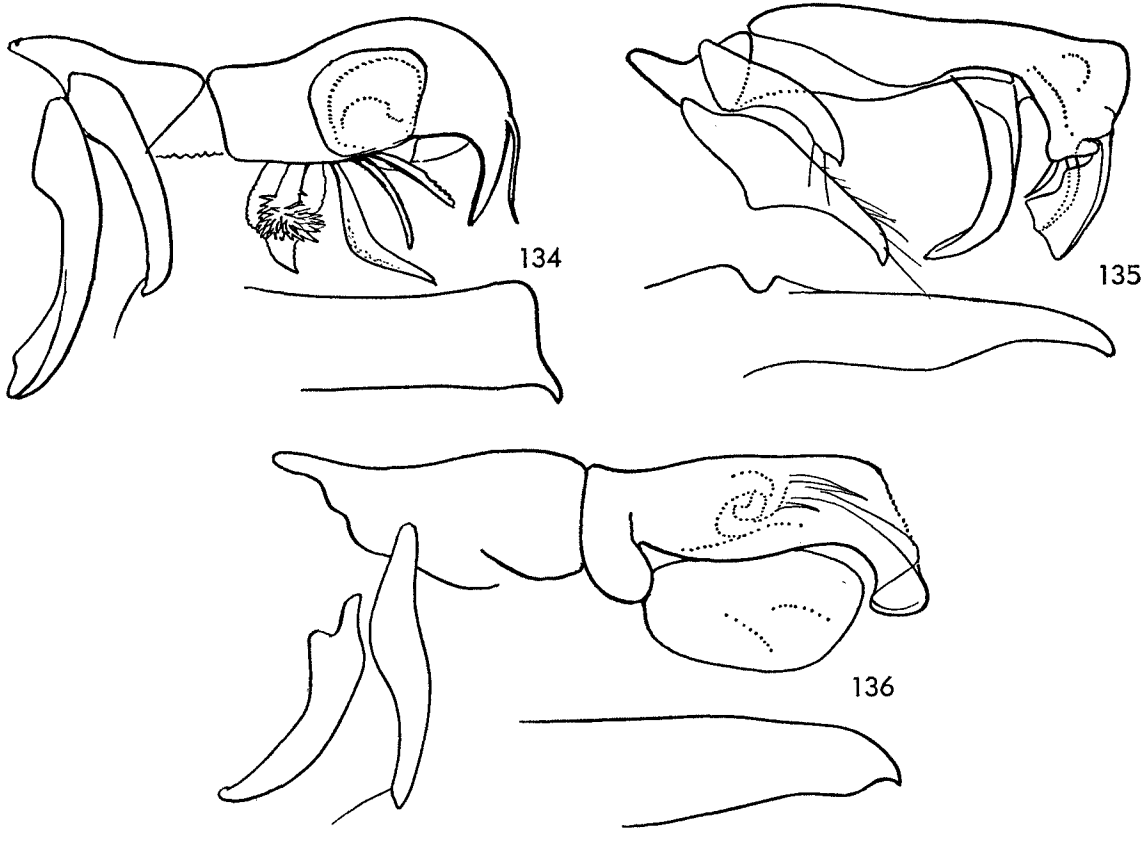

FIG. 134. Phallosoma and apex of cerci of *Thyrsocnema incisilobata* (Pand.)
FIG. 135. Phallosoma and apex of cerci of *Sarcophaga haemorrhoidalis* (Fall.)
FIG. 136. Phallosoma and apex of cerci of *Sarcophaga subvicina* Rohd.

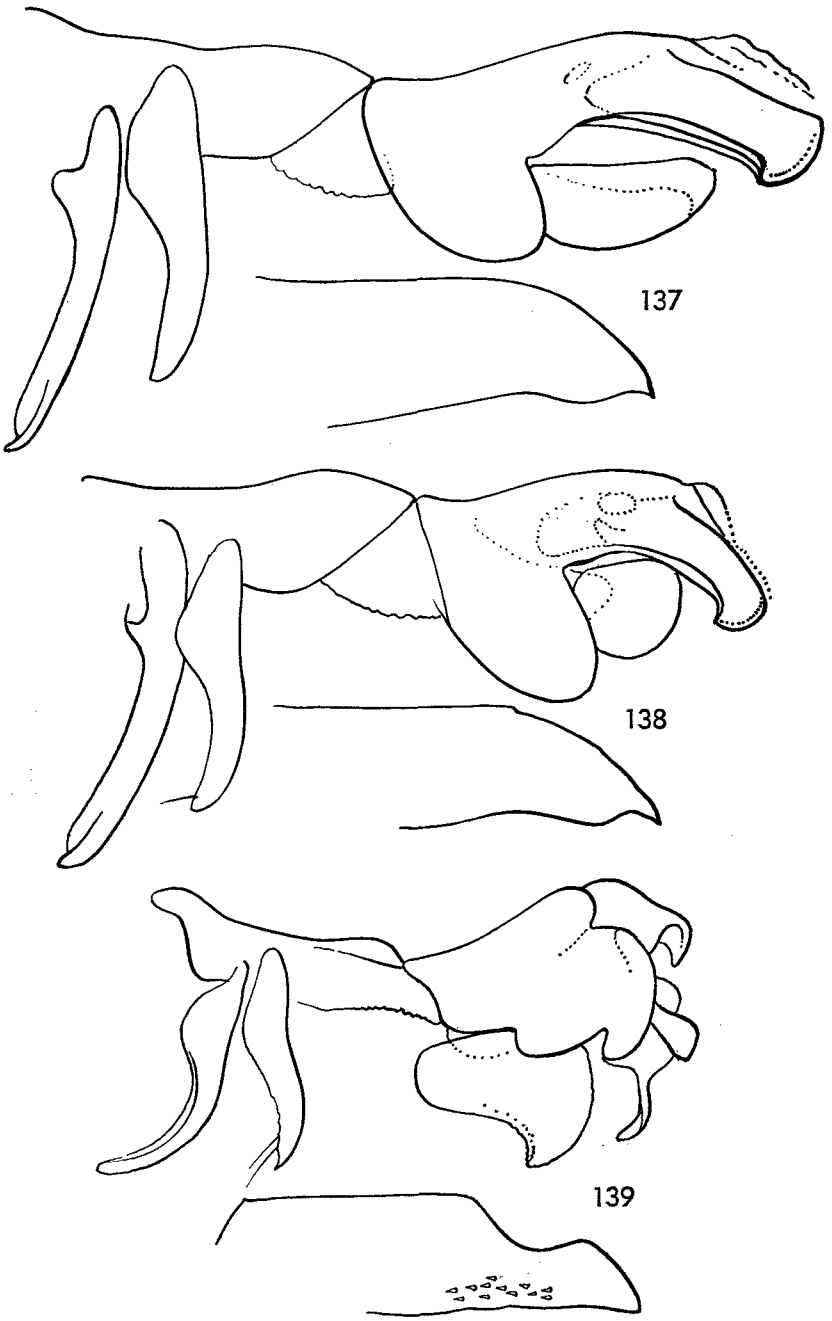

FIG. 137. Phallosoma and apex of cerci of *Sarcophaga carnaria carnaria* (L.)
FIG. 138. Phallosoma and apex of cerci of *Sarcophaga carnaria lehmanni* Müll.
FIG. 139. Phallosoma and apex of cerci of *Parasarcophaga barbata* Thom.

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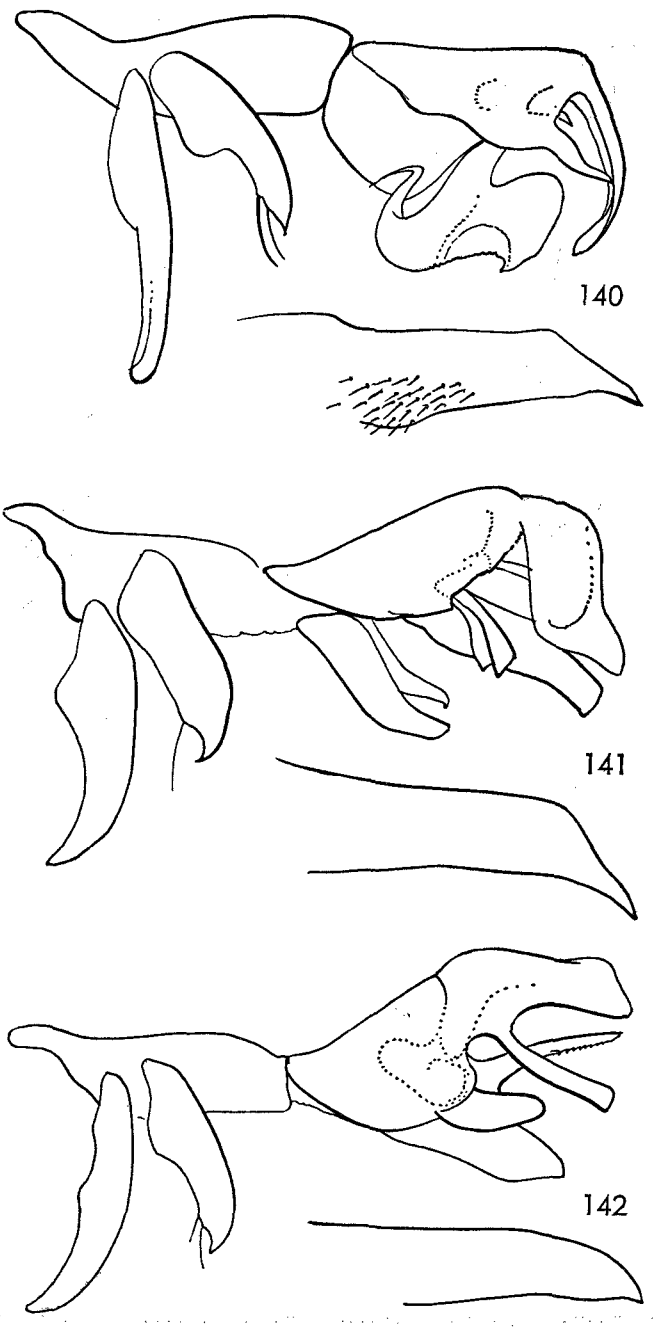

FIG. 140. Phallosoma and apex of cerci of *Parasarcophaga albiceps* (Meig.)
FIG. 141. Phallosoma and apex of cerci of *Parasarcophaga aratrix* Pand.
FIG. 142. Phallosoma and apex of cerci of *Parasarcophaga teretirostris* Pand.

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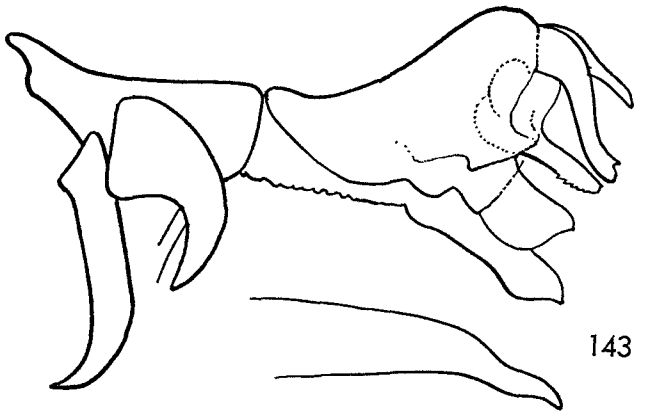

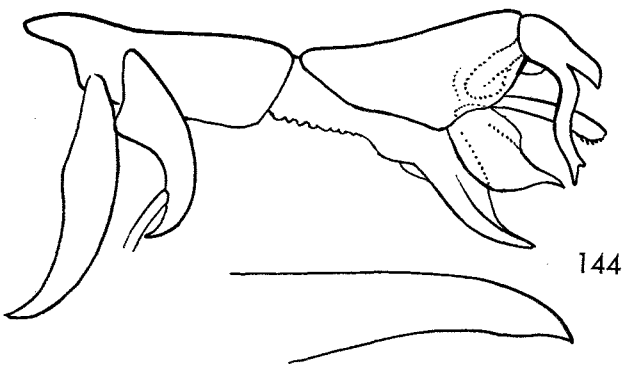

FIG. 143. Phallosoma and apex of cerci of *Parasarcophaga tuberosa* Pand.
FIG. 144. Phallosoma and apex of cerci of *Parasarcophaga jacobsoni* Rohd.
FIG. 145. Phallosoma and apex of cerci of *Parasarcophaga scoparia* Pand.

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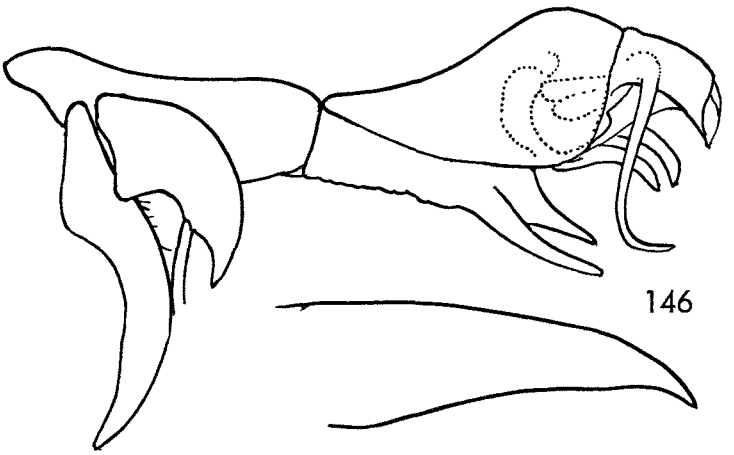

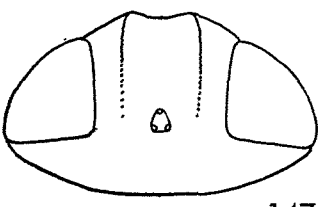

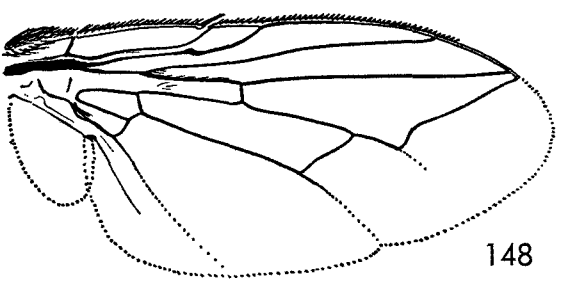

FIG. 146. Phallosoma and apex of cerci of *Parasarcophaga similis* Pand.
FIG. 147. Head of male *Agria latifrons* Fall.
FIG. 148. Wing of *Agria latifrons* Fall.

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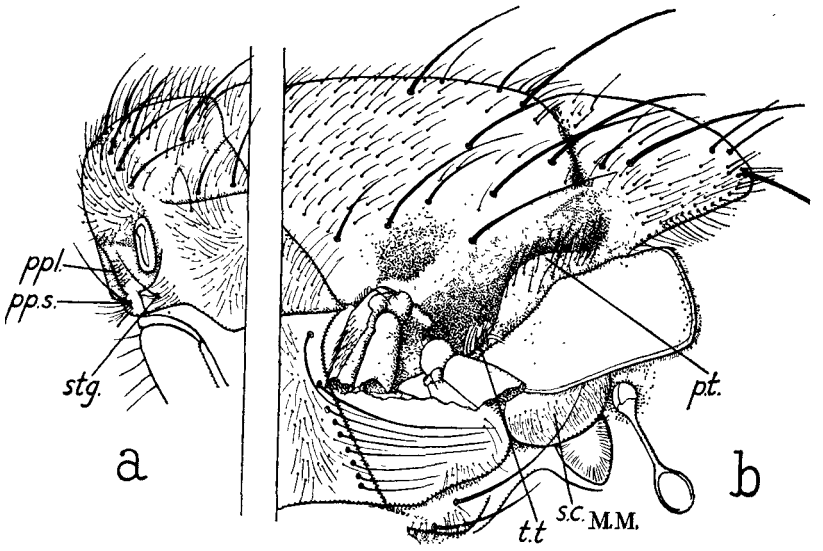

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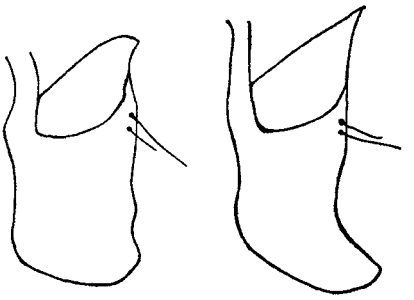

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FIG. 149. Thorax of *Musca*. (a) front part of *Musca domestica* L. (b) hind part of *M. natalensis* Villen. *ppl.* propleura. *pp. s.* propleural seta. *stg.* prostigmatal seta. *t.t.* bristles on lower front end (tympanic tuft), and *p.t.* bristles on posterior part of suprasquamal ridge. *s.c.* supraspiracular convexity
FIG. 150. Paralobus shape within *Musca domestica* s. l. (a) *M. d. curviforceps* (b) other subspecies

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5

Key to Larvae

Jindra Dušek

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INTRODUCTION

THE POORER STATE of our knowledge of the larvae is reflected in the smaller number of species treated in the larval key compared with the adult keys in the preceding chapter. The key includes all well-known larvae of Palaearctic and cosmopolitan species of synanthropic flies. Those species whose larvae have been incompletely described or have not been available to the author are not included in the key; hence, their identification with the aid of this key is not possible. For more intensive study, the reader would do well to consult Hennig's classic "Die Larvenformen der Dipteren."

1. Larvae eucephalous, head capsule strongly sclerotized 2
——Larvae acephalous 5

2. Larvae peripneustic, posterior spiracles on tubular projections (Fig. 1): *Scatopse* Geoff.
——Larvae amphipneustic 3

3. Posterior spiracles on sides of last segment: *Scenopinus fenestralis* (Linn.).
——Posterior spiracles on apex of last segment 4

4. Last segment of body cylindrical, prolonged into a distinct respiratory tubule bearing spiracles apically (Fig. 2): *Psychoda* Latr.
——Last segment of body divided into 5 lobes, spiracles not petiolate (Fig. 3): *Sylvicola fenestralis* (Scop.).

5. Last segment prolonged into a long telescopic respiratory tubule (rat-tailed maggot) (Fig. 4) (Eristalinae) 6
——Last segment of different shape 14

6. Main tracheal branches straight (Fig. 5) (*Eristalis* Latr.) 7
——Main tracheal branches twisted (Fig. 6) (*Helophilus* Meig.) 13

7. Anteriorly directed crochets in short double row just in front of 6th abdominal prolegs 8
——Without crochets in front of 6th abdominal prolegs 9

8. With 7 to 9 larger crochets in posterior row of the above series: *Eristalinus sepulcralis* (Linn.).
——With only 5 larger crochets in posterior row of the above series: *Lathyrophthalmus aeneus* (Scop.).

9. Cuticle with reticulate pattern of brown patches: *Eristalis nemorum* (Linn.).
——Cuticle without reticulate pattern of brown patches 10

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10. Primary crochets stout and strongly hooked, about as long as wide, with distal 2/5 strongly sclerotized (Fig. 7), anterior spiracle short with broadly rounded recurved tip (Fig. 8): *Eristalis tenax* (Linn.).
——Primary crochets long and slender, weakly hooked, nearly twice as long as wide; with distal quarter or less, weakly sclerotized (Fig. 9) 11

11. Anterior spiracle when viewed postero-laterally elongate with a narrow triangular tip, dark brownish 12
——Anterior spiracle short with broadly truncate end (Fig. 10), pale brownish: *Eristalis intricarius* (Linn.).

12. Anal papillae with 20 branches (Fig. 11). Anterior spiracle with lower part of facet band running horizontally around the spiracle for half the circumference with the facets directed slightly upward; spiracle abruptly narrowed above this band and curved outward; face of spiracle generally rounded, apex straight: *Eristalis pertinax* (Scop.).
——Anal papillae with 24 branches (Fig. 12). Anterior spiracle (Fig. 13) with the lower part of facet band acutely angled with the upright part; lower band only extending around for about 1/3 of the circumference, facets of lower band directed outward; spiracle gradually tapering to apex above this band and curved slightly backward, face of spiracle flattened, apex slightly hooked: *Eristalis arbustorum* (Linn.).

13. Crochets of 6th abdominal prolegs with crochets on 1 proleg separated from crochets of opposite proleg by a distance greater than length of largest crochet. A conspicuous tuft of long spinules just behind the anus which are as long as the adjacent papillae: *Helophilus pendulus* (Linn.).
——Crochets of 6th abdominal prolegs almost confluent, separated by less than half maximum crochet length. Only few short spinules in tuft just behind anus: *Helophilus hybridus* Loew.

14. Posterior spiracles with respiratory cleft more or less straight, oval, at most singly curved (Figs. 57, 58, 24, 25). Posterior segment mostly with fleshy prolongations or papillae (Figs. 45-47) 16
——Posterior spiracles of different shape 15

15. Posterior spiracles irregular (Fig. 14), situated on a long, unpaired, strongly sclerotized respiratory tubule. Anterior part of larva bluntly rounded, posterior part tapering with 3 pairs of lobes (Fig. 15): *Xylota pipiens* (Linn.).
——Posterior spiracles with respiratory clefts more or less undulated (Figs. 59-65), without or with very short paired stalks. Anterior part of larva pointed, posterior part bluntly rounded, mostly without fleshy prolongations or papillae (Muscinae) 43

16. Mandibular sclerites with rather large accessory sclerites of frequently complicated structure (Fig. 16) (Phaoniinae, Mydaeinae) . 73
——Mandibular sclerites simple (Fig. 44) or at most with small accessory sclerites of simple structure (Fig. 43) 17

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17. Posterior segment convex or abruptly truncate, without fleshy or spiny projections or papillae . . . 18

——Posterior segment of different shape 20

18. Anterior spiracles fanlike with 12-16 buds 19

——Anterior spiracles dendriform or hornlike, bearing 3-8 buds: Sphaeroceridae.

19. Posterior spiracles nearly sessile, anterior spiracles with 16 buds (Otitidae): *Physiphora demandata* (Fabr.).

——Posterior spiracles on low knoblike sockets, anterior spiracles with 12 buds: Platystomatidae.

20. Posterior segment with at most 4 pairs of fleshy projections or papillae 21

——Posterior segment with more than 4 pairs of projections or papillae 26

21. Larvae conspicuously flattened, body fringed with long projections which are pinnate as a rule (Figs. 34-39), posterior spiracles frequently divided into 3 fingerlike projections (Fig. 42) (Fanniinae) . 38

——Larvae cylindrical, projections present at most on posterior segment . . . 22

22. Anterior spiracles fanlike, posterior segment of body not incrassate, apical segments bare without hairs or spines (Figs. 17, 18) (Piophilidae): *Piophila casei* (Linn.).

——Anterior spiracles dendriform (Figs. 19, 20), posterior segment slightly club-shaped, apical segments with hairs, the penultimate and ultimate ones with minute spinules (Figs. 21, 22) (Sepsidae) 23

23. Anterior spiracles much prolonged, with medial axis at least 3 times as long as wide, with more than 20 buds (Fig. 19): *Themira putris* (Linn.).

——Anterior spiracles little or not prolonged, with medial axis at most twice as long as wide, with less than 10 buds as a rule . . 24

24. Anterior spiracle with more than 10 buds (Fig. 20), respiratory clefts of posterior spiracles broadly ellipsoidal (Fig. 23): *Nemopoda nitidula* (Fall.).

——Anterior spiracles with less than 10 buds. Respiratory clefts of posterior spiracles not shortly ellipsoidal . 25

25. Facial mask without salivary furrows, consisting of pectinate chitinous teeth. Respiratory clefts parallel to edges of spiracular area (Fig. 24): *Meroplius stercorarius* (R.-D.).

——Facial mask with salivary furrows, respiratory clefts not parallel to edges of spiracular area (Fig. 25): *Sepsis.*

26. Posterior segment of body with 6 pairs of fleshy projections: Dryomyzidae.

——Posterior segment of body with more than 6 pairs of fleshy projections or papillae 27

27. Posterior segment of body with 7 pairs of fleshy projections or papillae 28

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——Posterior segment of body with more than 7 pairs of fleshy projections or papillae .. 29

28. Anterior spiracles with only 4 buds, posterior spiracles on rather long stalks situated on a cylindrical fleshy projection, the latter slender and long (Figs. 26, 27): *Drosophila fasciata* (Meig.).

——Anterior spiracles with 12-18 buds. Posterior spiracles on rather short, sclerotized stalks, sessile on last segment which bears only minute, flattened, and mostly indistinct papillae: Helomyzidae.

29. Segments 2 to 7 with 6 pairs of papillae each, the largest larvae not longer than 10 mm, posterior spiracles with 4 respiratory clefts (Phoridae): *Megaselia* Rond.

——Segments of body without papillae, full-grown larvae frequently larger than 10 mm, posterior spiracles with 3 respiratory clefts 30

30. Besides 8 pairs of abdominal papillae there is an odd (postanal) papilla between the ventral ones (Fig. 45), the posterior segment covered with dense marked spinules (Scatophagidae): *Scatophaga stercoraria* (Linn.).

——Posterior segment with paired papillae only, the spinulose cover absent or very fine 31

31. Posterior segment bearing 8 pairs of fleshy conical papillae, those of the 6th and 7th pairs approximated or at least nearly on the same level (Fig. 46) (Anthomyiinae) 32

——Posterior segment bearing seven to nine pairs of fleshy conical or cushionlike papillae, those of the 6th and 7th pairs rather apart and the papilla of the 7th pair situated considerably higher than that of the 6th pair (Fig. 47): Calliphoridae, Sarcophagidae 59

32. Anterior spiracles with more than 20 buds 33

——Anterior spiracles with less than 20 buds 34

33. Anterior spiracles with 24-25 buds: *Hylemya strigosa* Fabr.

——Anterior spiracles with around 30 buds: *Hylemya variata* (Fall.).

34. Minute papillae of the 6th and 7th pairs, nearly equal in size, are situated close to one another (Fig. 28) 35

——Papillae of 6th and 7th pairs of different size and apart from one another. Papillae of 5th and 6th pairs large and forming a two-pointed group of papillae. Papillae of the 7th pair minute (Fig. 29): *Delia platura* (Meig.).

35. Anterior spiracles with more than 9 buds 36

——Anterior spiracles with 7-9 buds: *Hylemya cinerella* (Fall.).

36. Segments of body smooth with irregular rows of spinules only at the division lines, only the last segment with a more or less dense cover of minute and subtle spinules 37

——Not only the last segment covered with rather dense and marked spinules. Anterior spiracles with 9-13 buds: *Hylemya radicum* (Linn.).

37. Posterior spiracles on rather long stalks (Fig. 30). Mandibular sclerites with a separate dental sclerite (Fig. 31): *Hylemya pullula* (Zett.).

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——Posterior spiracles nearly sessile (Fig. 32). Mandibular sclerites with a long, not separated, ventral projection. (Fig. 33): *Anthomyia pluvialis* (Linn.).

38. Dorso-medial appendages long and filiform, protruding far beyond the division lines, those of the 7th segment reaching far beyond the posterior spiracles (Fig. 34): *Fannia canicularis* (Linn.).

——Dorso-medial appendages much shorter, not filiform, not or slightly protruding beyond the division lines (in the latter case, they are pinnate), those of the 7th segment not reaching beyond the posterior spiracles ... 39

39. Posterior spiracles on a slightly convex tubercle, not stalked (Fig. 40): *Fannia manicata* (Meig.).

——Posterior spiracles distinctly stalked (Fig. 41) ... 40

40. Dorso-medial appendages long and pinnate, slightly protruding beyond the division lines. Dorso-lateral appendages of much the same structure (Fig. 35): *Fannia leucosticta* (Meig.).

——Dorso-medial appendages short, not pinnate, bearing short spinules, not protruding beyond the division lines. Dorso-lateral appendages short and inconspicuous ... 41

41. Marginal appendages of the last abdominal segment as well as the lateral ones of the preceding segments distinctly long pinnate at base, the medial one not shorter than the remaining ones (Figs. 37, 38) 42

——Latero-dorsal appendages not distinctly pinnate at base but of similar structure as in *F. canicularis*. Dorso-lateral appendages totally absent. Of the 3 marginal appendages on either side of the last abdominal segment, the middle one is distinctly shorter than the remaining ones (Fig. 36). Anterior spiracle with only three finger-like buds: *Fannia lineata* Stein.

42. Dorso-medial appendages present in form of minute, nearly invisible tubercles. Latero-dorsal appendages very wide and widely pinnate, the barbs of 2 neighboring appendages on the last segment partly overlapping (Fig. 37): *Fannia incisurata* (Zett.).

——Dorso-medial appendages longer. Latero-dorsal appendages less wide. The barbs of two neighboring appendages on the last segment not distinctly overlapping (Fig. 38): *Fannia scalaris* (Fabr.).

43. Caudal end of body obliquely truncate. Spiracular area separated from the remaining area of the segment by a sharp ledge. Cuticle very strong (firm) and bearing distinct rings of spines at the division lines ... 44

——Caudal end of body more or less hemispherically convex. Spiracular area not separated from the remaining area by a ledge. Larvae relatively soft-skinned, the rings of spines feebly developed ... 45

44. Respiratory clefts of posterior spiracles strongly twisted. The upper cleft with some 14, the middle one with 10, and the lower one with 11 twists (Fig. 59): *Morellia hortorum* (Fall.).

——Respiratory clefts of posterior spiracles with few twists. The upper one with some 8, the middle one with 5, and the lower one with 4-5 twists (Fig. 60). Surface of cuticle with deep depressions: *Morellia simplex* (Loew).

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45. Cephalo-pharyngeal skeleton with accessory chitinous sclerites below the mandibular ones (Fig. 43) 46

——Cephalo-pharyngeal skeleton without accessory chitinous sclerites below the mandibular ones. Left mandibular sclerite invariably somewhat shorter (Fig. 44) 54

46. Cephalo-pharyngeal skeleton with 2 accessory pairs of sclerites below the mandibular ones 47

——Cephalo-pharyngeal skeleton with only 1 pair of accessory sclerites below the mandibular ones (Fig. 43) 53

47. Respiratory clefts of posterior spiracles S-shaped (Fig. 61). Anterior spiracles with 10-13 buds each. Larvae more than 20 mm in length: *Mesembrina mystacea* (Linn.).

——Respiratory clefts of posterior spiracles much twisted (Fig. 62) 48

48. Anterior spiracles with about 10 appendages. Respiratory clefts of posterior spiracles less strongly twisted . 49

——Anterior spiracles with 15-18 appendages each. Respiratory clefts of posterior spiracles much twisted (Fig. 62). Body over 20 mm in length: *Mesembrina meridiana* (Linn.).

49. Besides the 2 pairs of accessory sclerites there are additional chitinous teeth present in the cephalo-pharyngeal region. Anterior spiracles with oblong chitinous sclerite: *Polietes albolineata* (Fall.).

——No additional chitinous teeth in the cephalo-pharyngeal region. Anterior spiracles without a distinct sclerite: *Polietes lardaria* (Fabr.).

50. 7 papillae present in the region of anal plate 51

——At most 5 papillae present in the region of anal plate. Between the dorsal connecting bridge and the anterior ventral prolongations of the anterior connecting bridge, there is a well developed, strongly pigmented chitinous membrane: *Dasyphora cyanella* (Meig.).

51. 1 papilla on either side above the anal plate, the latter reaching at most to middle of the side of body. A pigmented chitinous membrane between the dorsal connecting bridge and the anterior ventral prolongations of the anterior connecting bridge present: *Pyrellia cadaverina* (Linn.).

——No papillae above the anal plate, the latter not reaching beyond middle of the side of body. Pigmented chitinous membrane between the dorsal connecting bridge and the anterior ventral prolongations of the anterior connecting bridge absent 52

52. Anal plate narrow. Papillae in the region of anal plate relatively short: *Orthellia cornicina* (Fabr.).

——Anal plate broad. Papillae in the region of anal plate strongly developed: *Orthellia caesarion* (Meig.).

53. Ventral wing of cephalo-pharyngeal sclerite without cupolalike projection. Dorsal wing very narrow. Arched chitinous ribs at anterior margin of pharyngeal base present. Hypostomal sclerite relatively slender. Respiratory clefts of posterior spiracles S-shaped (Fig. 63) except in *Haematobia irritans* (Fig. 65) 54

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——Ventral wing of cephalo-pharyngeal sclerite with a cupolalike projection on upper side. Hypostomal sclerite about as long as high. Anterior connecting bridge relatively wide. Respiratory clefts of posterior spiracles much twisted (Fig. 64) 57

54. Posterior spiracular plates separated by a space at least 1.5 times as wide as 1 plate, the latter of more or less triangular shape. Larvae more than 8 mm in length 55
——Distance of posterior spiracular plates at most as wide as the width of 1 plate, the latter not triangular. Larvae at most 7 mm in length . . 56

55. A spinose post-anal papilla present (Fig. 48): *Stomoxys calcitrans* (Linn.).
——Post-anal papilla absent: *Lyperosiops stimulans* (Meig.).

56. Posterior spiracular plate approximated, 1/3 to 1/5 of the width of 1 plate apart: *Haematobia irritans* (Linn.).
——Posterior spiracular plates separated by a space 1/2 as wide as the width of 1 spiracular plate: *Haematobia titillans* (Bezzi).

57. The anal plate, surrounded by thorns, reaches beyond the middle of body on either side, more or less rectangular apically. On dorsal side of the last segment there are 3 longitudinal furrows surrounded by thorns: *Musca autumnalis* De Geer.
——Anal plate not reaching the middle of body, rounded apically. Dorsal side of last segment without longitudinal furrows 58

58. Thorns present behind anal plate: *Musca domestica* Linn.
——Thorns behind anal plate absent: *Musca tempestiva* Fall.

59. Sides and ventral side of segments with rather long, conspicuous papillae terminated by a tuft of obtuse spines (Fig. 66): *Chrysomya albiceps* (Wied.).
——Sides and ventral side of segments without any papillae 60

60. Posterior spiracles situated in a deep excavation (Fig. 49). Dorsal wing of cephalo-pharyngeal sclerite parted (Fig. 67) (Sarcophaginae) 70
——Posterior spiracles not situated in an excavation, dorsal wing of cephalo-pharyngeal sclerite simple 61

61. Posterior spiracles with peritreme closed (Fig. 58) 63
——Posterior spiracles with peritreme open (Fig. 57) 62

62. 1st pair of papillae on abdominal segment larger than 1/2 the width of 1 posterior spiracle (Fig. 50). Dorsal thorns near posterior margin of 10th segment present: *Protophormia terraenovae* (R.-D.).
——1st pair of papillae on abdominal segment smaller than 1/2 the width of 1 posterior spiracle. Dorsal thorns near posterior margin of 10th segment absent: *Phormia regina* (Meig.).

63. Peritreme of posterior spiracles feebly pigmented: *Pollenia rudis* (Fabr.).
——Peritreme of posterior spiracles strongly pigmented 64

64. An unpaired sclerite present between mandibular sclerites (Fig. 69) 65
——No unpaired sclerite between mandibular sclerites (Fig. 70) . . . 67

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65. A pigmented chitinous sclerite present on posterior end of ventral wings of cephalo-pharyngeal sclerite: *Lucilia ampullacea* Vill.
——No pigmented chitinous sclerite on posterior end of ventral wings of cephalo-pharyngeal sclerite 66

66. Upper, lower, and lateral surface of last segment smooth, without spinules: *Calliphora uralensis* Vill.
——Upper, lower, and lateral surface of last segment covered with spinules: *Calliphora vicina* R.-D.

67. A pigmented chitinous sclerite present on posterior end of ventral wings of cephalo-pharyngeal sclerite: *Lucilia illustris* (Meig.).
——Pharynx without this pigmented area 68

68. Papillae of the 1st pair separated by a distance equal to that between those of 2nd and 3rd pairs (Fig. 51): *Phaenicia sericata* (Meig.).
——Papillae of the 1st pair separated by a distance greater than that between papillae of 1st and 2nd and between those of 2nd and 3rd pairs. The distance between papillae of 1st pair roughly equal to that between papillae of 1st and 3rd pairs (Fig. 52) 69

69. Anterior margins of segments 2-11 with complete ring of spines; posterior margins of segments 8-11 with complete ring of spines: *Lucilia bufonivora* Moniez.
——Dorsal spines on anterior margin of segment 11 absent. Complete posterior rings of spines mostly on segments 9-11 only: *Bufolucilia silvarum* (Meig.).

70. Abdominal papillae of the 6th pair equal in length or longer than those of the 5th pair. Atrium of anterior spiracles strongly enlarged in upper part: *Ravinia striata* Fabr.
——Abdominal papillae of the 6th pair smaller and shorter than those of the 5th pair. Atrium of anterior spiracles hemispherical, not enlarged in upper part 71

71. Second segment without spines on posterior part of upper surface: *Parasarcophaga jacobsoni* Rohd.
——Second segment partly or entirely covered with minute spinules on upper surface 72

72. Abdominal papillae of the 1st pair roughly equal in size to those of the 5th pair (Fig. 53). Last segment coarsely rugose below papillae of 6th and 7th pairs: *Sarcophaga haemorrhoidalis* (Fall.).
——Papillae of the 1st pair smaller than those of the 5th pair. Last segment covered with spinules all over: *Sarcophaga melanura* Meig.

73. Last segment slender, protracted, and tapering as the anterior part of body; it bears 5 pairs of papillae. Ventral side of body with conspicuous parapodia: *Graphomya maculata* (Scop.).
——Last segment bluntly rounded or truncate, invariably much stouter than the anterior part of body 74

74. Lower surface of last segment with conspicuous spinules behind anal papillae (Fig. 54) 75
——Lower surface of last segment without spinules behind anal papillae 79

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75. Anal papillae long, smooth, without spinules. Behind the anal papillae there are 4-5 rows of strong as well as minute spinules. Body long and slender, with shining cuticle: *Dendrophaonia querceti* (Bouché).

——Anal papillae covered with spinules to some extent 76

76. Last segment short, rounded. Anterior spiracles with 5-7 buds. Thickenings of anterior margins of abdominal segments with a deep medial longitudinal furrow without spinules. Broad cephalo-pharyngeal sclerite with dorsal wing and ventral wing equal in length, or the former is slightly longer (Fig. 68) 77

——Last segment prolonged, more or less angular in lateral view. Anterior spiracles with 4 buds. Thickenings of anterior margins of segments without a medial longitudinal furrow. Slender cephalo-pharyngeal sclerite with dorsal wing much longer than ventral wing. Cuticle very firm . . . 78

77. Anal plate convex in lateral parts to form structures resembling anal papillae: *Muscina assimilis* (Fall.).

——Anal plate not showing lateral structures resembling papillae (Fig. 55): *Muscina stabulans* (Fall.).

78. Last segment short. Anal plate enlarged toward the end. Conspicuous medial paraanal papillae covered with spinules: *Ophyra leucostoma* (Wied.).

——Last segment long. Anal plate tapering toward the end. Paraanal papillae not protruding conspicuously over the inner and external papillae: *Ophyra capensis* (Wied.).

79. Cuticle of last segment smooth, without marked sculpture 80

——Cuticle of last segment with marked scaled or wrinkled sculpture on lateral and posterior surfaces (apparent at 20 x magnification) . . . 82

80. Unpaired post-anal papilla bears minute spinules (visible at 20 x magnification): *Myospila meditabunda* (Fabr.).

——Unpaired post-anal papilla smooth, without spinules, or absent 81

81. Unpaired post-anal papilla present. 2 posterior thoracic and first abdominal segments without oblique lateral rows of spinules. Posterior spiracles separated by a distance 1/2 as long as diameter of spiracular plate. Hypostomal sclerite roughly as long as wide: *Gymnodia impedita* Pand.

——Unpaired post-anal papilla absent. 2 posterior thoracic and first abdominal segments with transverse lateral rows of spinules. Posterior spiracles separated by a distance equalling 1.5 the diameter of spiracular plate. Hypostomal sclerite 2 to 3 times as long as wide: *Hebecnema fumosa* (Meig.).

82. Posterior spiracles large, separated by a distance as long as the width of spiracle. Posterior surface of last segment with several concentric furrowlike impressions. Near the anal opening there are 7 anal papillae, the medial unpaired one being covered with spinules (Fig. 56): *Hydrotaea dentipes* (Fabr.).

——Posterior spiracles very small, separated by a distance 5-7 times as long as their diameter. Posterior surface of last segment with radial furrows or scales . . . 83

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83. Posterior surface of last segment with scaly sculpture passing into radially furrowed sculpture in the sides of the segment. Subanal papillae fusing with paraanal papillae and situated on a common cylindrical projection. Second thoracic segment covered with dense longitudinal furrows all over its surface. Thickenings of anterior margins of middle abdominal segments with spines of two different sizes: *Hydrotaea armipes* (Fall.).

——Posterior surface of last segment with subtle radial furrows. Anal papillae thin. Furrows on posterior part of last segment very numerous; each furrow bifurcated before margin of segment. Second thoracic segment with sparse and deep furrows in middle and in posterior part, the furrows not reaching margin of segment. Thickenings of ventral anterior margins of middle and hind-abdominal segments with spines of nearly equal size: *Hydrotaea occulta* (Meig.).

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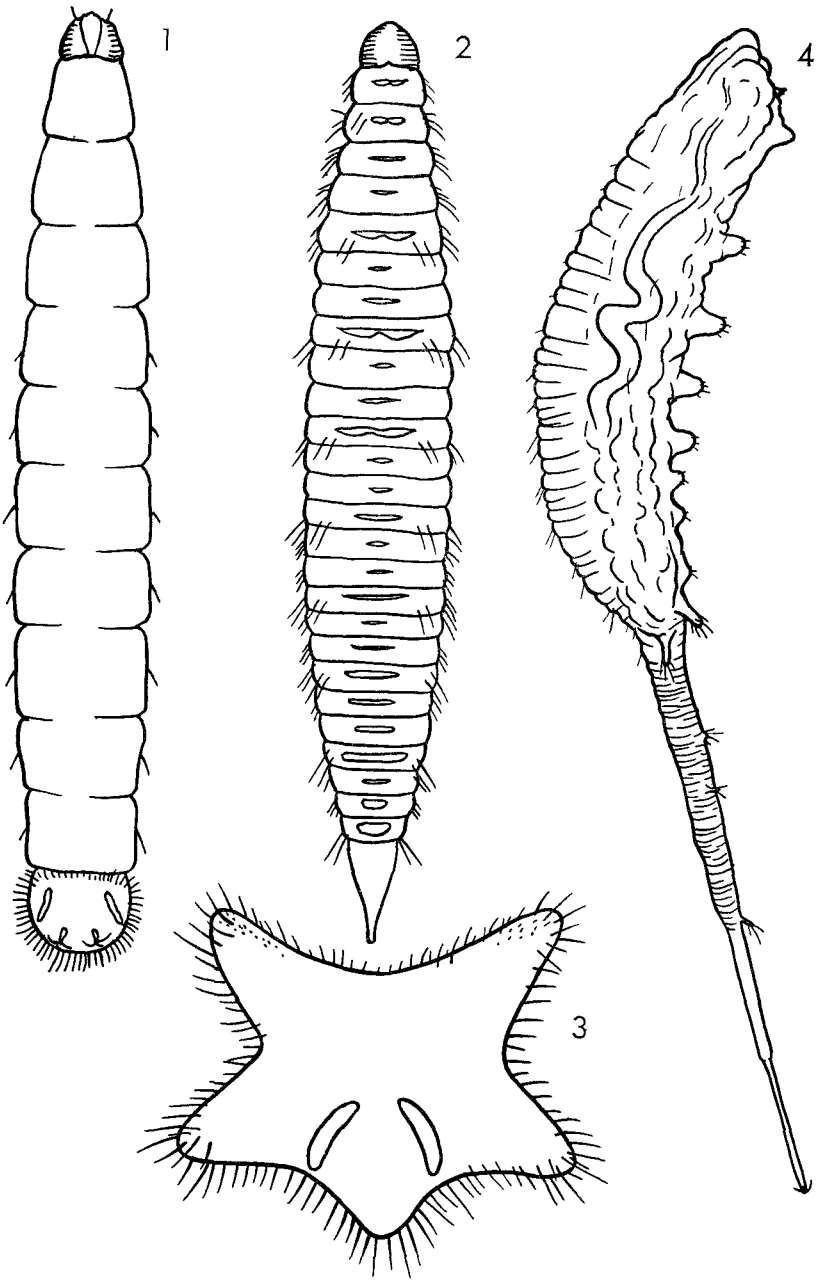

FIG. 1. Larva of the genus *Scatopse* Geoffr.
FIG. 2. Larva of the genus *Psychoda* Latr.
FIG. 3. Posterior segment of larva of *Sylvicola fenestralis* (Scop.)
FIG. 4. Larva of *Helophilus pendulus* (L.)

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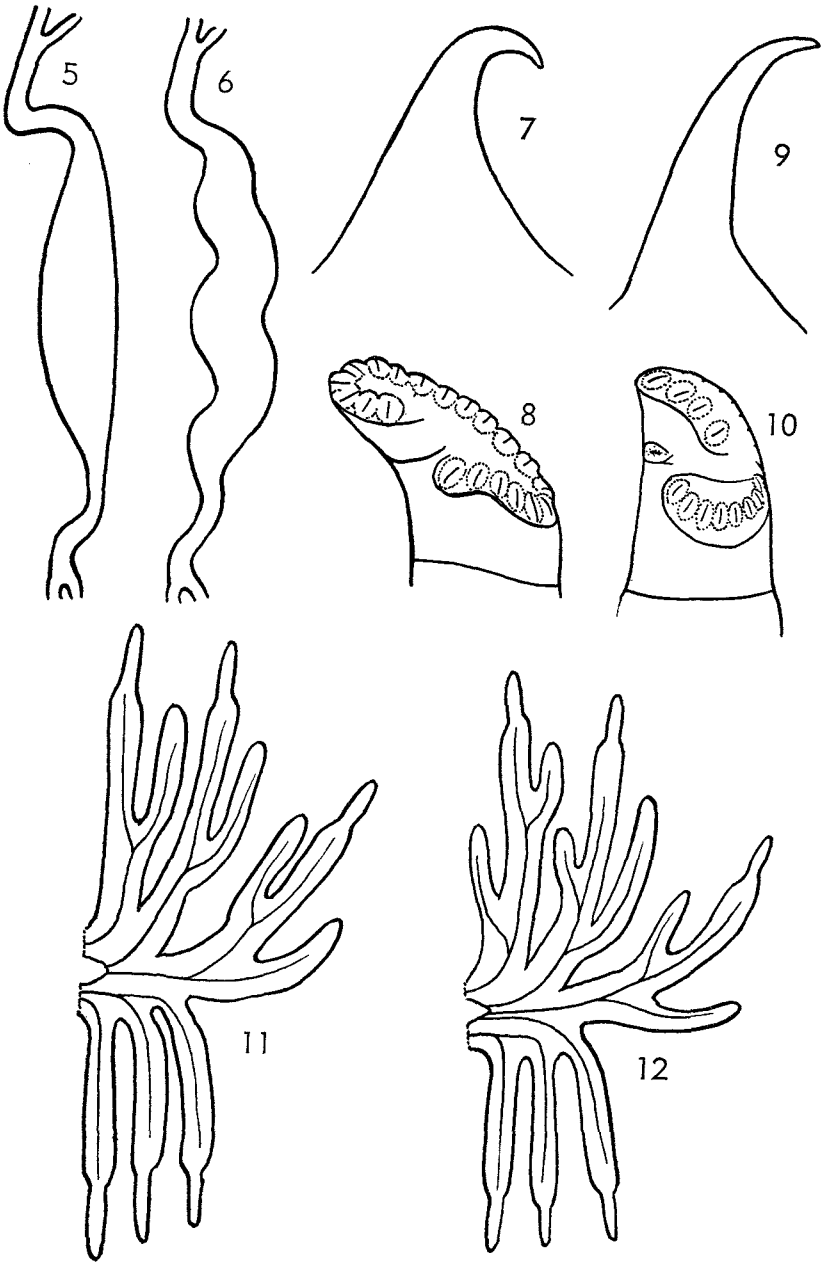

FIG. 5. Tracheal trunk of larva of the genus *Eristalis* Latr.
FIG. 6. Tracheal trunk of larva of the genus *Helophilus* Meig.
FIG. 7. Primary crochets of *Eristalis tenax* (L.)
FIG. 8. Prothoracic spiracle of *Eristalis tenax* (L.)
FIG. 9. Primary crochets of *Eristalis pertinax* (Scop.)
FIG. 10. Prothoracic spiracle of *Eristalis intricarius* (L.)
FIG. 11. Left halves of the evaginated anal papillae of *Eristalis tenax* (L.)
FIG. 12. Left halves of the evaginated anal papillae of *Eristalis arbustorum* (L.)

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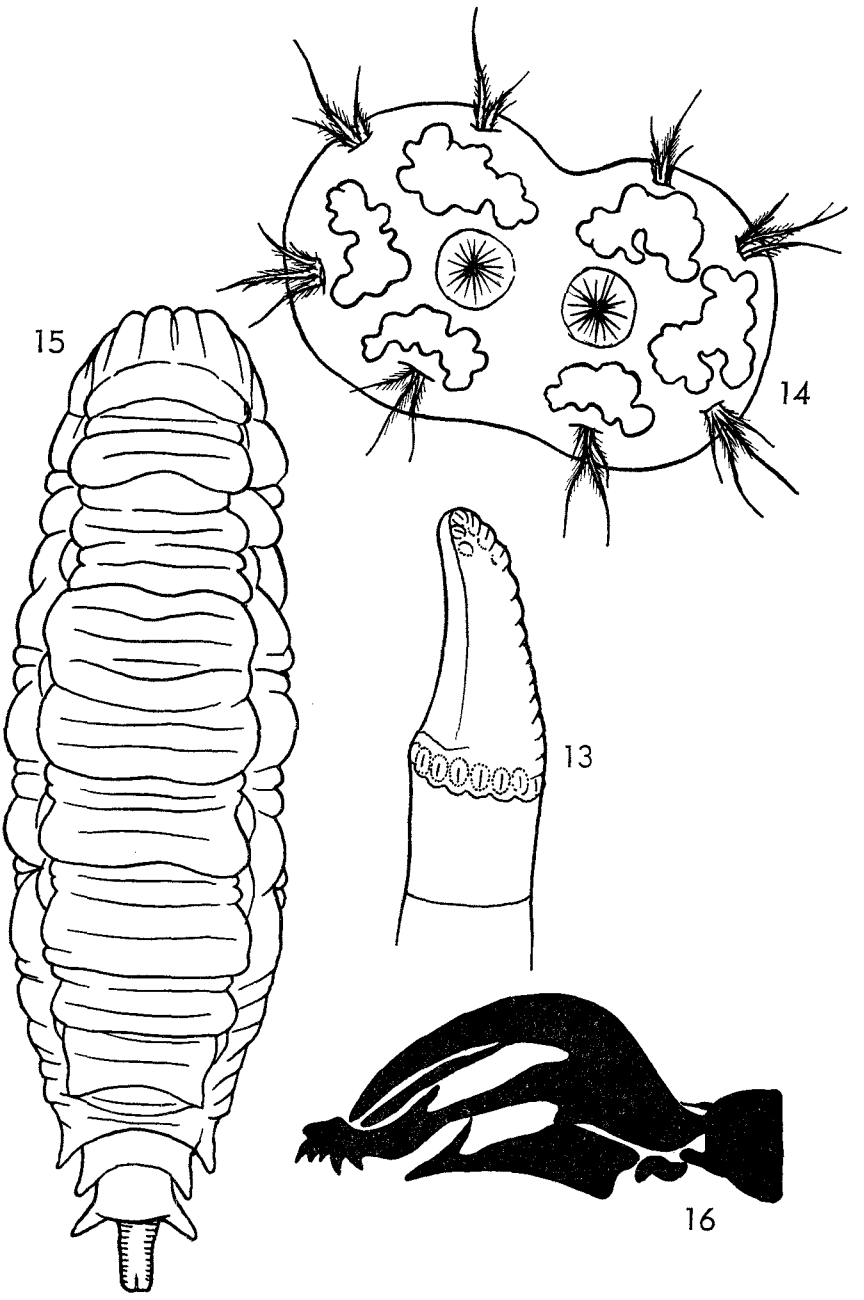

FIG. 13. Prothoracic spiracle of *Eristalis arbustorum* (L.)
FIG. 14. Spiracular plate of *Xylota pipiens* (L.)
FIG. 15. Full-grown larva of *Xylota pipiens* (L.)
FIG. 16. Accessory sclerites of mouth crochets of larvae of the genus *Phormia* R.-D.

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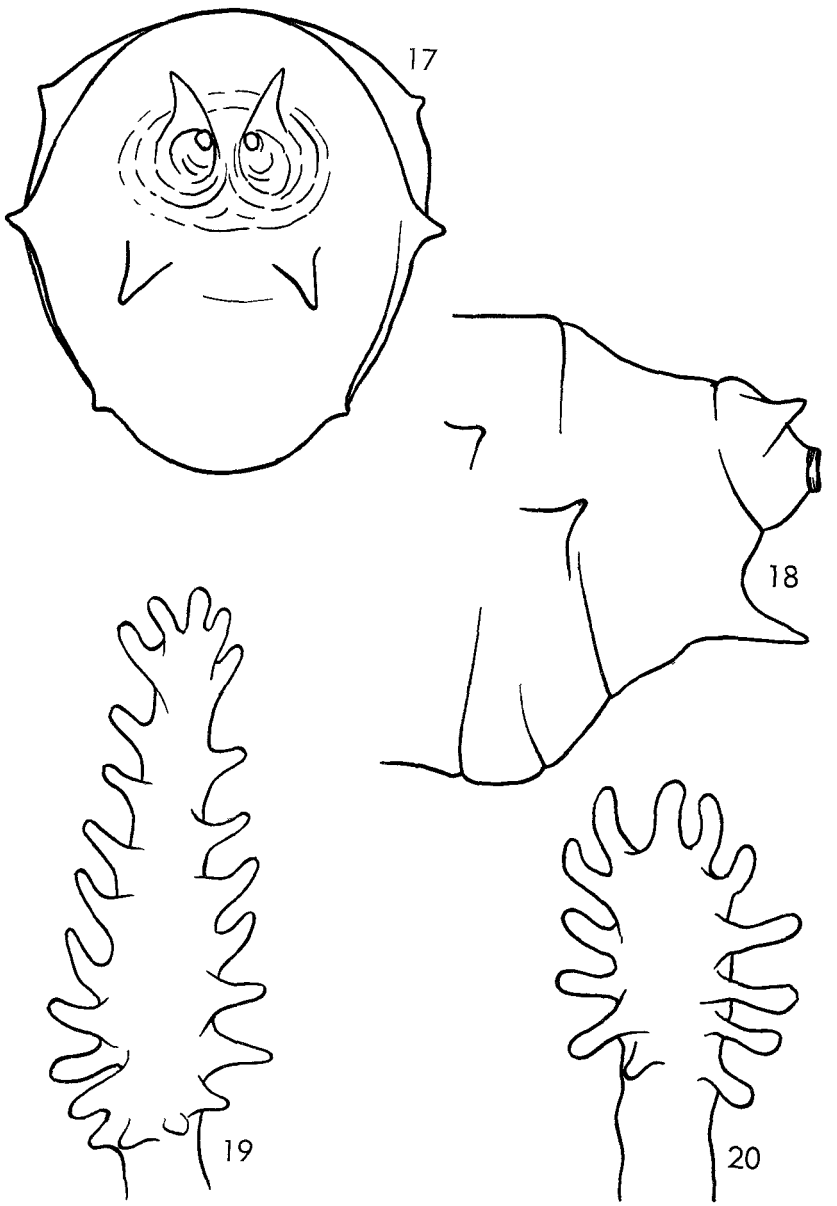

FIG. 17. Posterior segment of larva of *Piophila casei* (L.) in frontal view
FIG. 18. Same as Fig. 17, lateral view
FIG. 19. Anterior spiracle of *Themira putris* (L.)
FIG. 20. Anterior spiracle of *Nemopoda nitidula* (Fall.)

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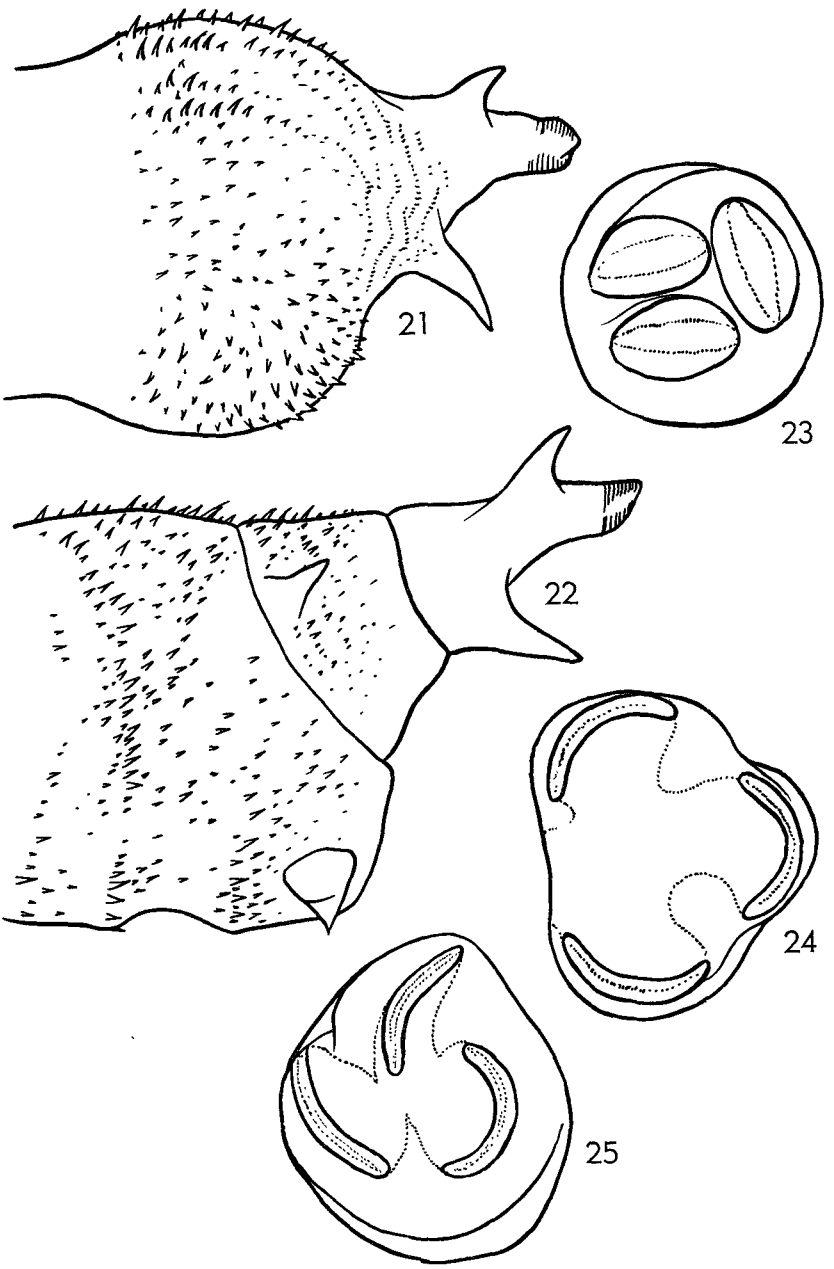

FIG. 21. Posterior segment of larva of *Sepsis cynipsea* (L.)
FIG. 22. Posterior segment of larva of *Nemopoda nitidula* (Fall.)
FIG. 23. Posterior spiracle of *Nemopoda nitidula* (Fall.)
FIG. 24. Posterior spiracle of *Meroplius stercorarius* (R.-D.)
FIG. 25. Posterior spiracle of *Sepsis cynipsea* (L.)

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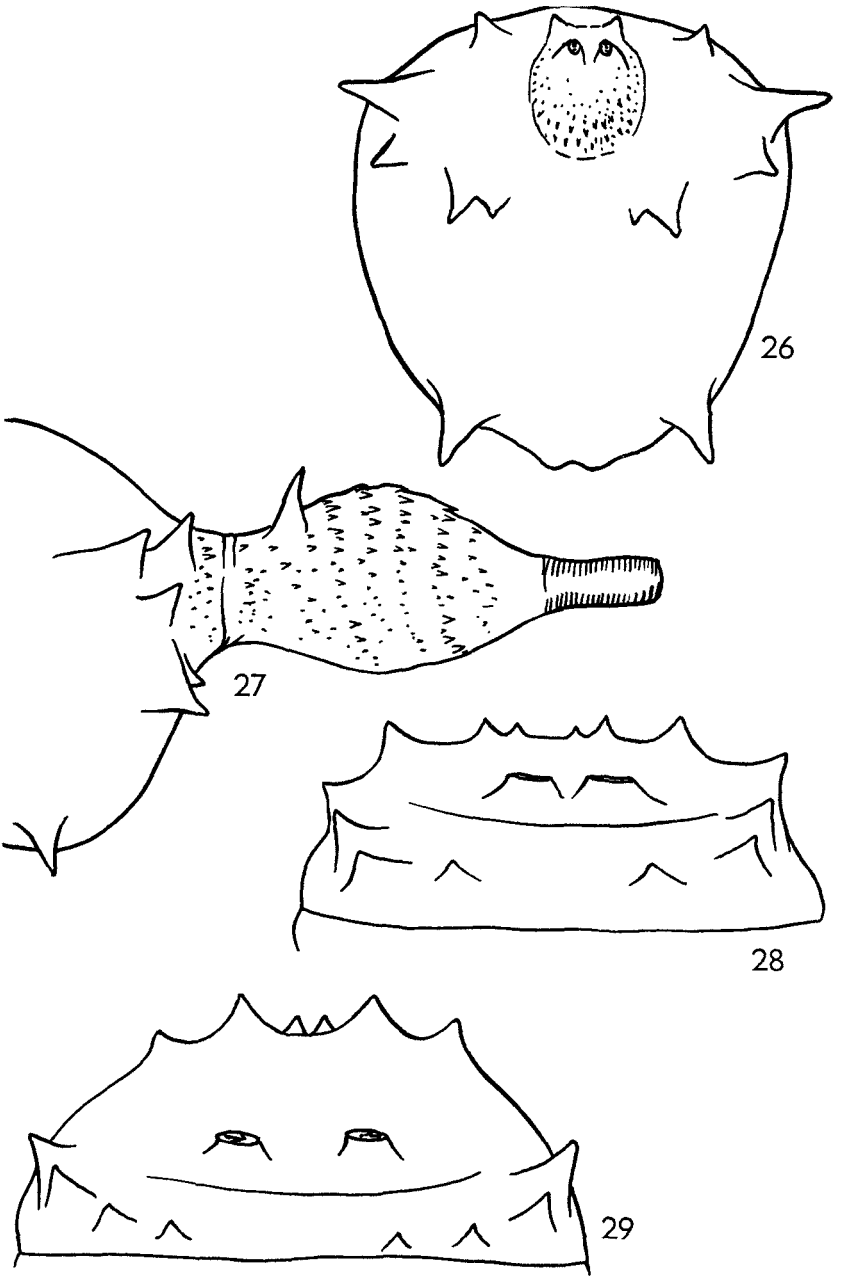

FIG. 26. Posterior segment of larva of *Drosophila fasciata* (Meig.) in frontal view
FIG. 27. Same as Fig. 26, lateral view
FIG. 28. Posterior segment of larva of *Anthomyia pluvialis* (L.) in dorsal view
FIG. 29. Posterior segment of larva of *Delia platura* (Meig.) in dorsal view

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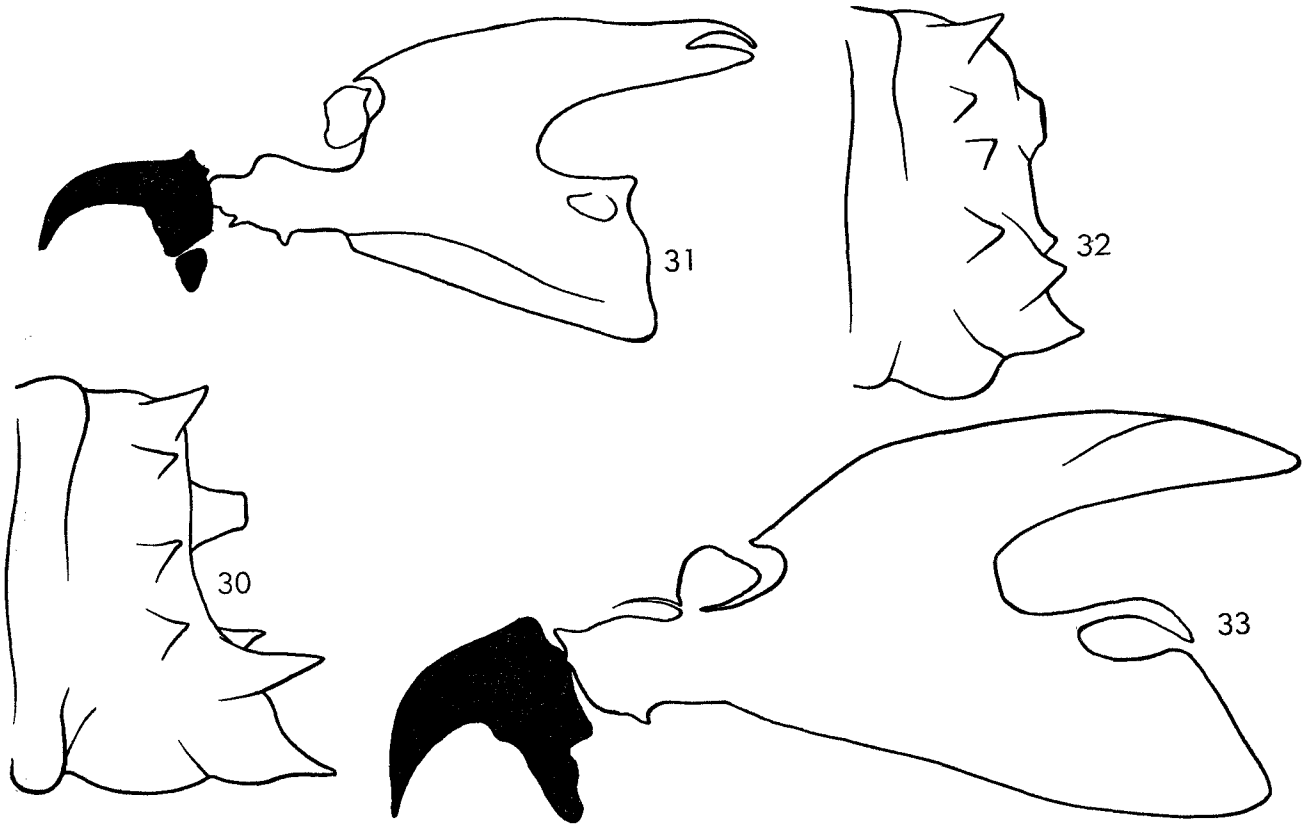

FIG. 30. Posterior segment of larva of *Hylemya pullula* (Zett.) in lateral view
FIG. 31. Cephalo-pharyngeal skeleton of larva of *Hylemya pullula* (Zett.)
FIG. 32. Posterior segment of larva of *Anthomyia pluvialis* (L.) in lateral view
FIG. 33. Cephalo-pharyngeal skeleton of *Anthomyia pluvialis* (L.)

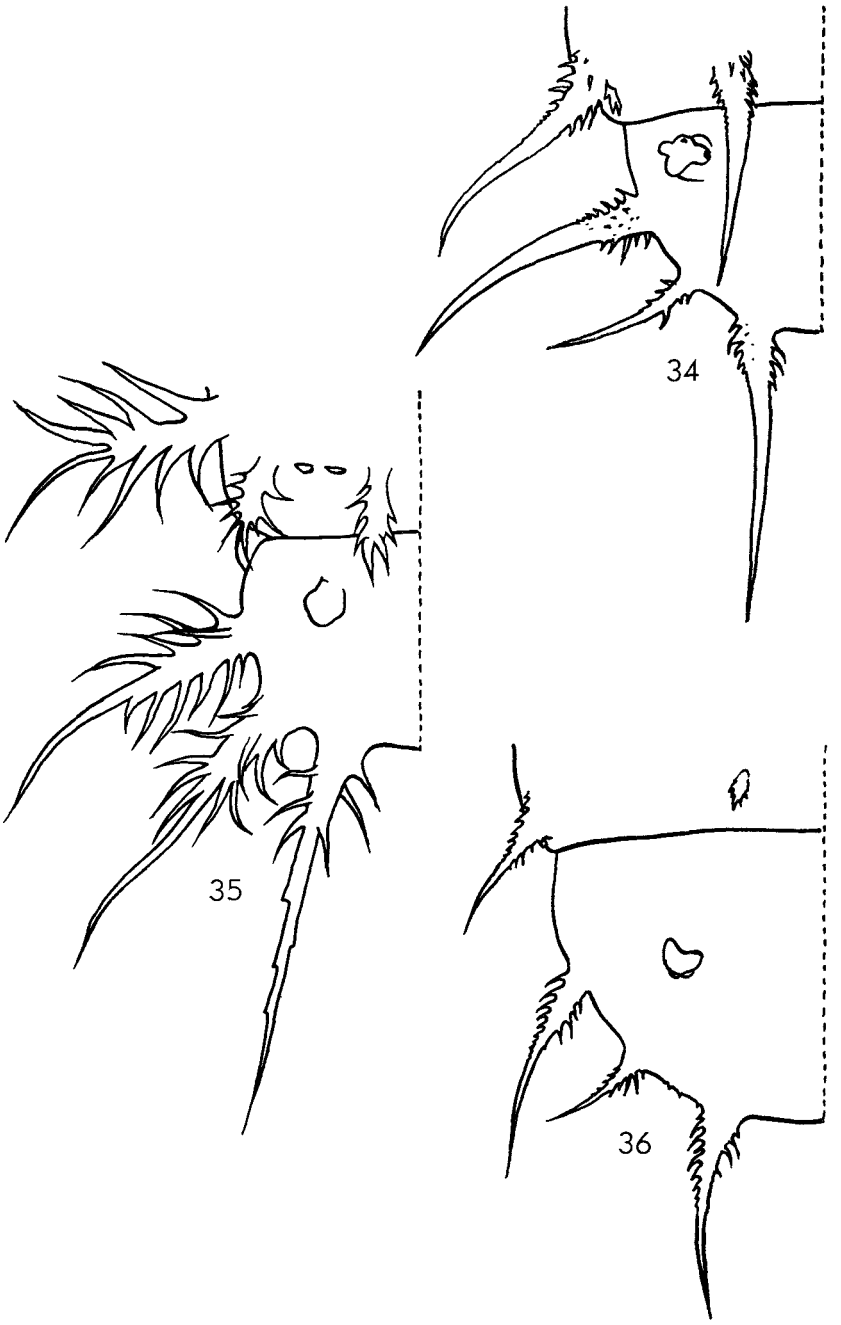

FIG. 34. Appendages of posterior segments of larva of *Fannia canicularis* (L.)
FIG. 35. Appendages of posterior segments of larva of *Fannia leucosticta* (Meig.)
FIG. 36. Appendages of posterior segments of larva of *Fannia lineata* Stein

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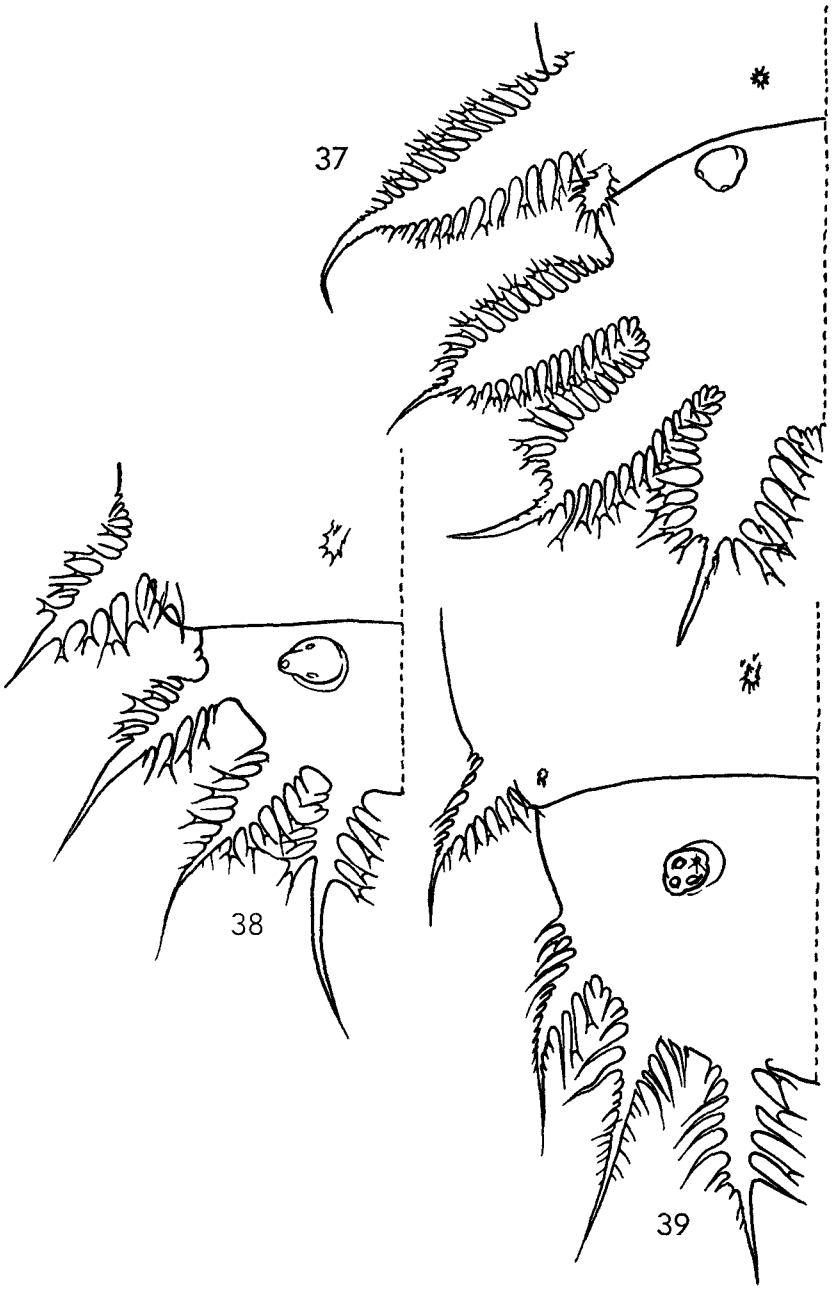

FIG. 37. Appendages of posterior segments of larva of *Fannia incisurata* (Zett.)
FIG. 38. Appendages of posterior segments of larva of *Fannia scalaris* (Fabr.)
FIG. 39. Appendages of posterior segments of larva of *Fannia manicata* (Meig.)

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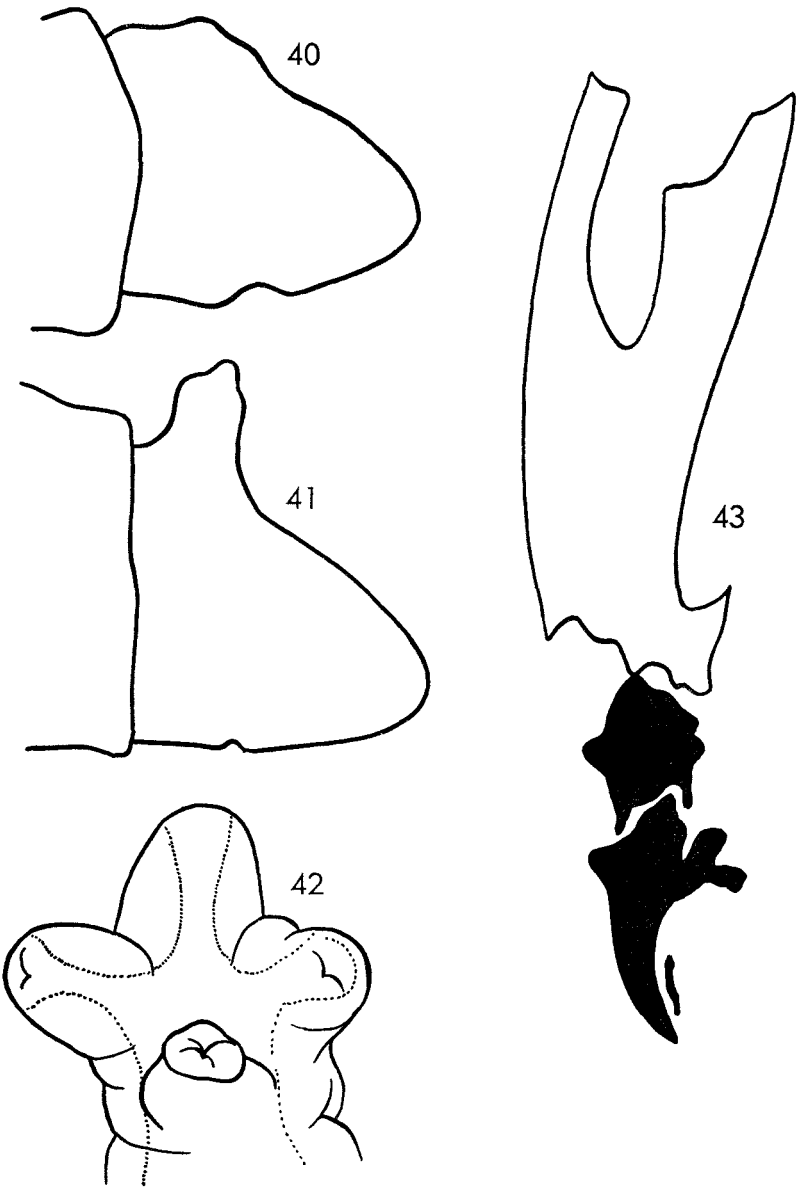

FIG. 40. Lateral view of posterior segment of larva of *Fannia manicata* (Meig.)
FIG. 41. Lateral view of posterior segment of larva of *Fannia scalaris* (Fabr.)
FIG. 42. Posterior spiracle of larva of *Fannia canicularis* (L.)
FIG. 43. Cephalo-pharyngeal skeleton of *Orthellia caesarion* (Meig.)

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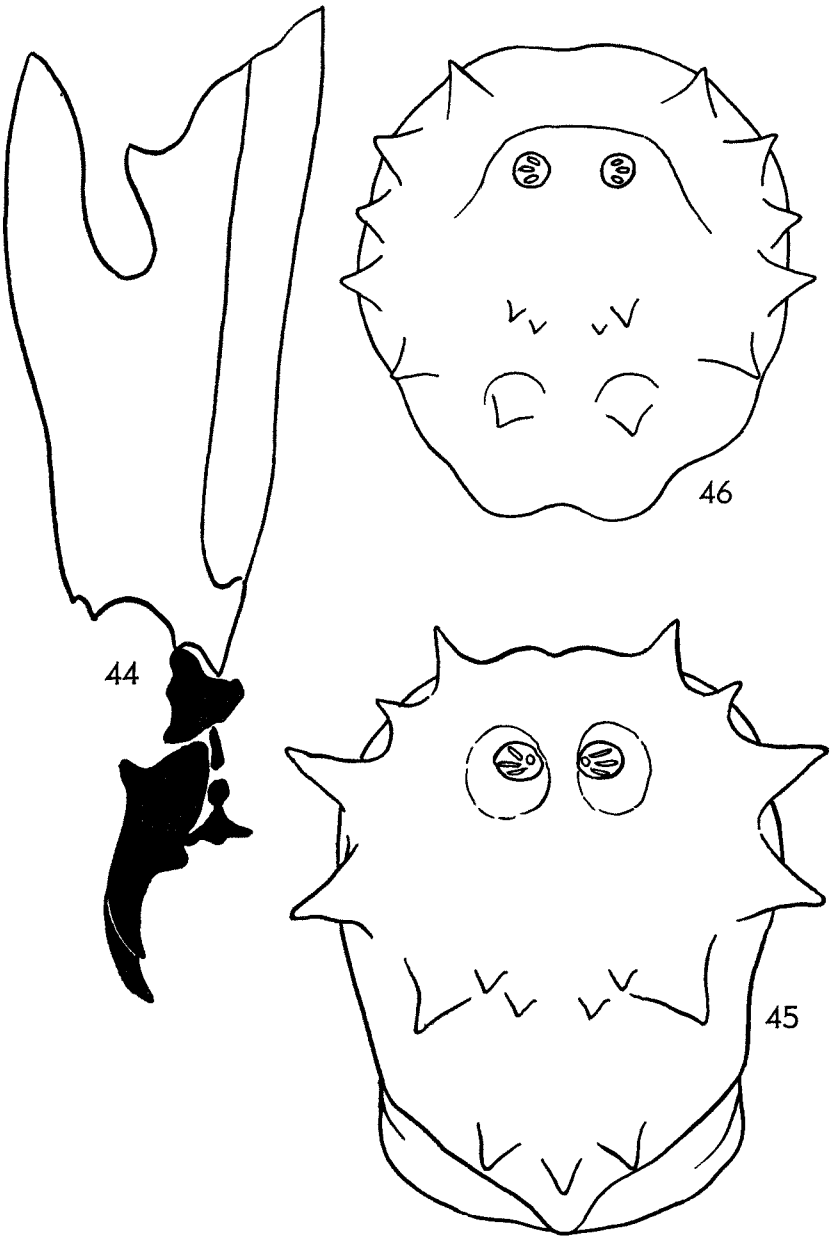

FIG. 44. Cephalo-pharyngeal skeleton of *Musca autumnalis* De Geer
FIG. 45. Frontal view of posterior segment of larva of *Scatophaga stercoraria* (L.)
FIG. 46. Frontal view of posterior segment of larva of *Anthomyia pluvialis* (L.)

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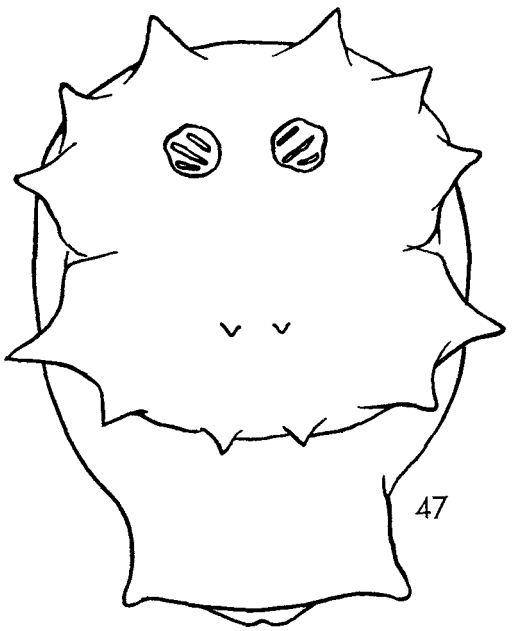

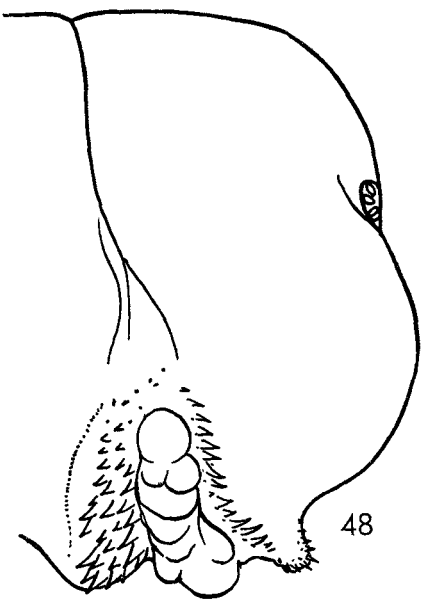

FIG. 47. Frontal view of posterior segment of larva of *Calliphora vicina* R.-D.
FIG. 48. Lateral view of posterior segment of larva of *Stomoxys calcitrans* (L.)

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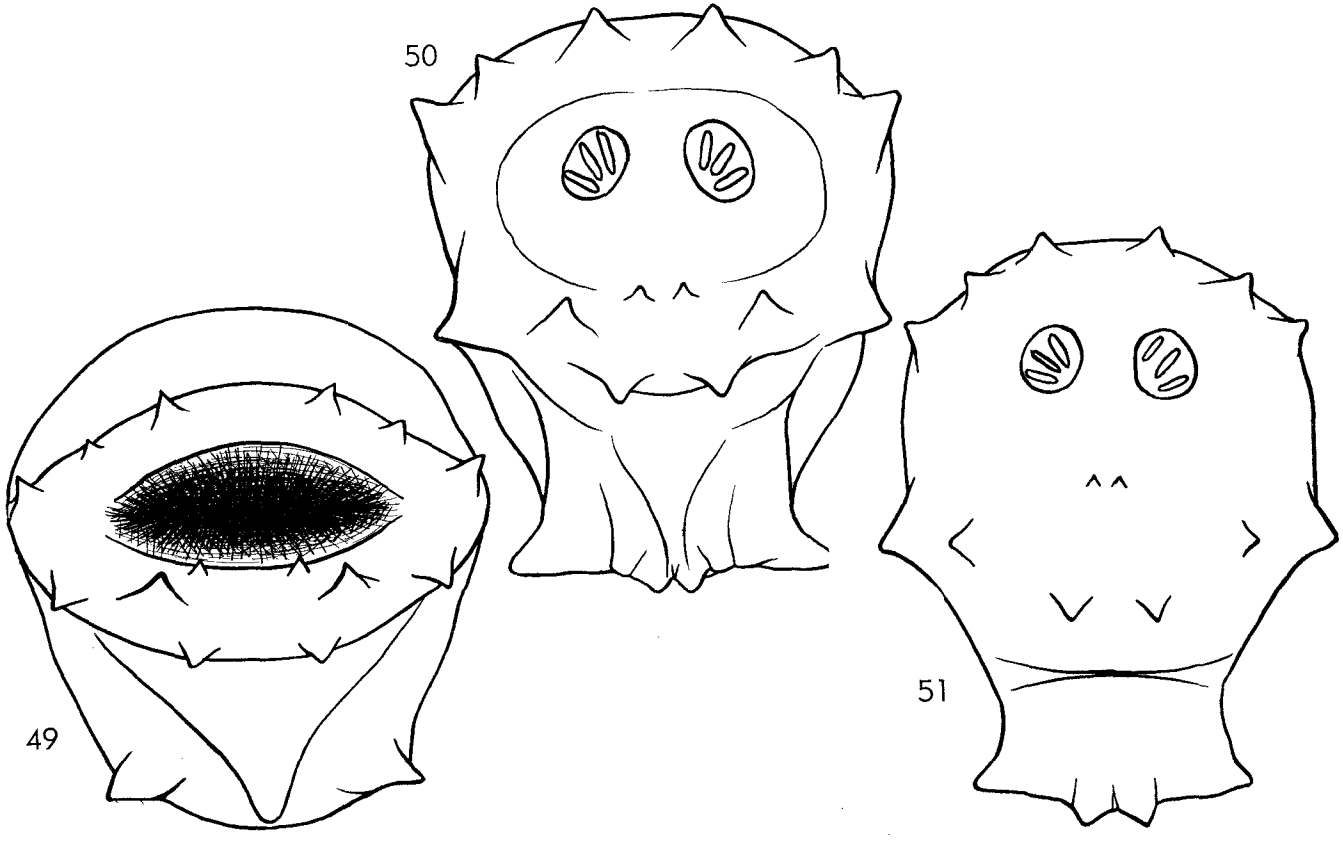

FIG. 49. Frontal view of posterior segment of larva of *Sarcophaga* sp.
FIG. 50. Frontal view of posterior segment of larva of *Protophormia terraenovae* (R.-D.)
FIG. 51. Frontal view of posterior segment of larva of *Phaenicia sericata* (Meig.)

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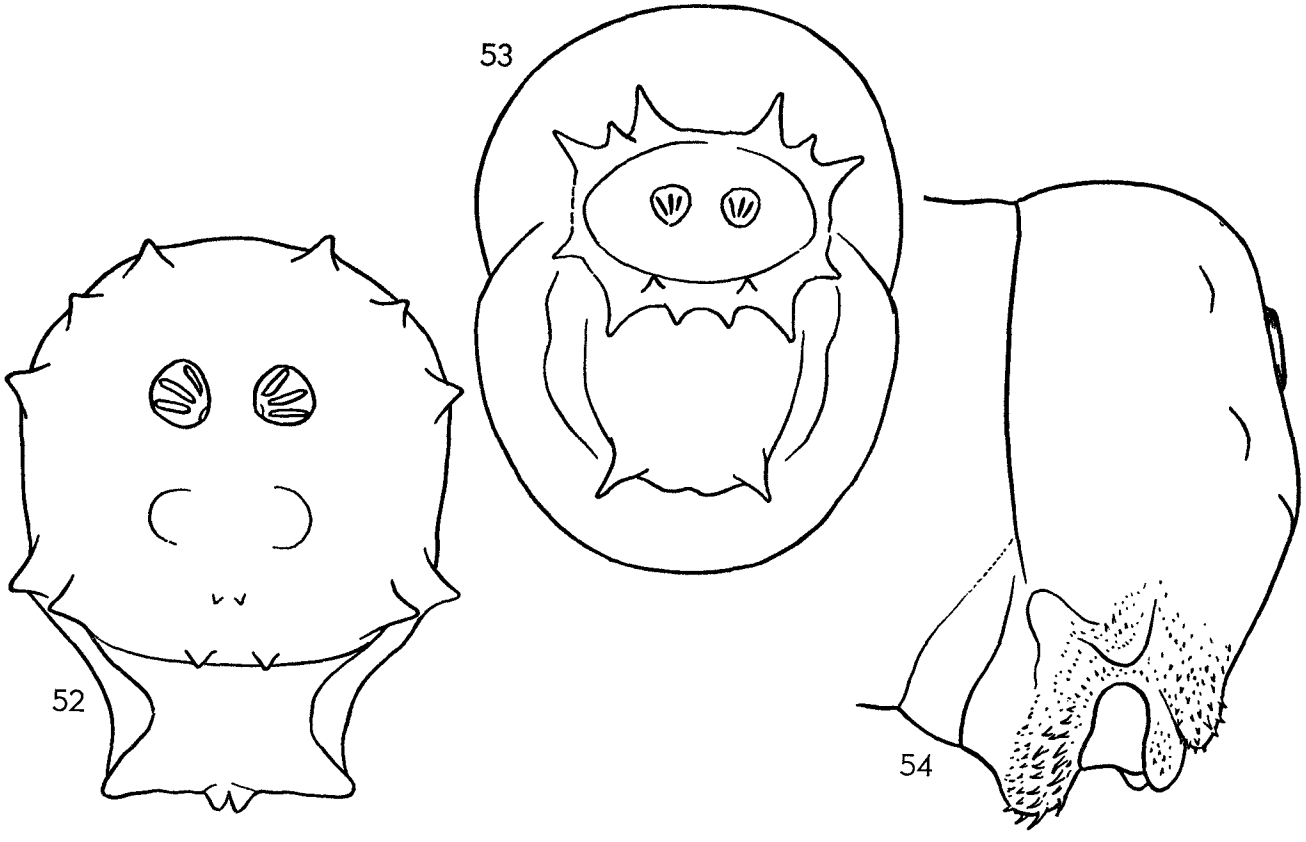

FIG. 52. Frontal view of posterior segment of larva of *Lucilia bufonivora* Moniez
FIG. 53. Frontal view of posterior segment of larva of *Sarcophaga haemorrhoidalis* (Fall.)
FIG. 54. Lateral view of posterior segment of larva of *Muscina stabulans* (Fall.)

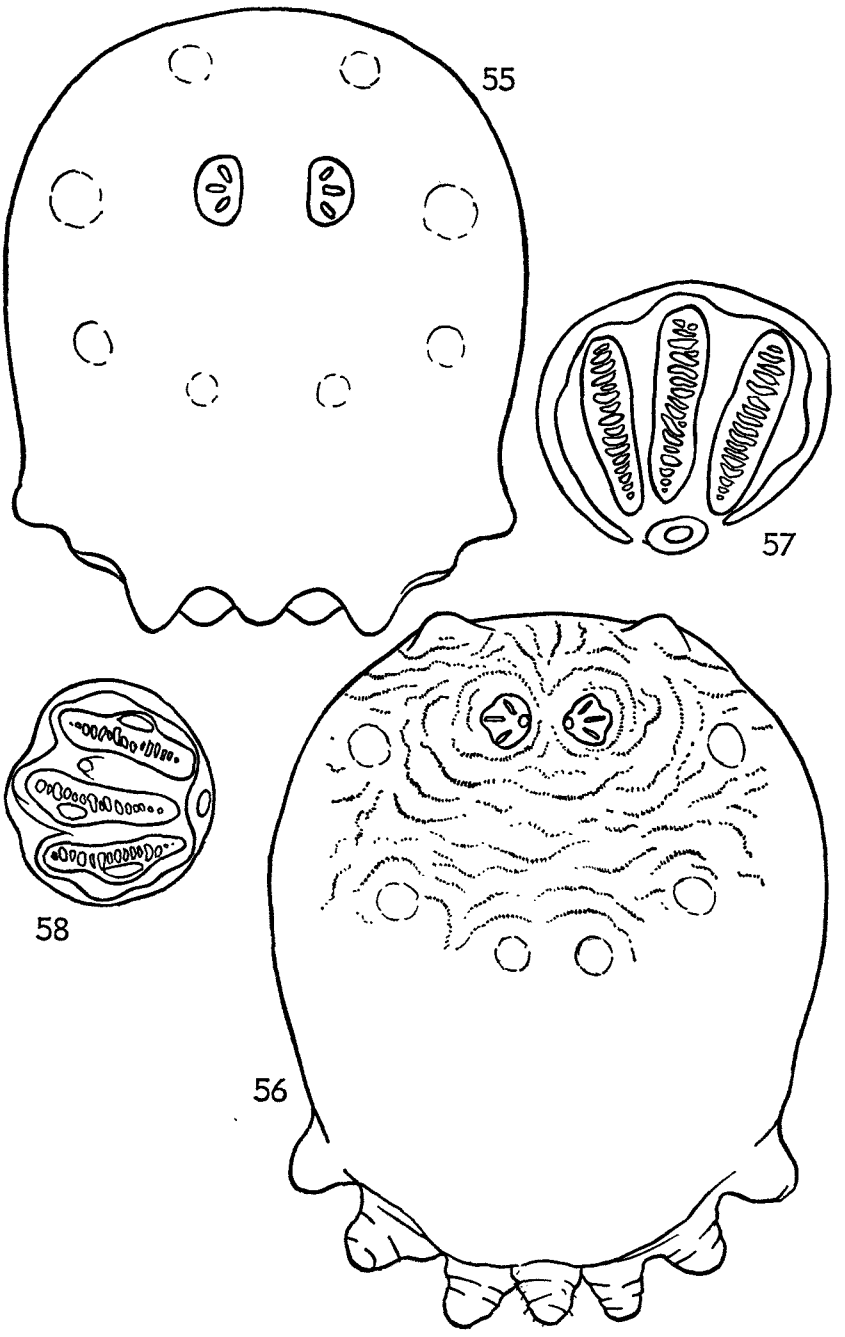

FIG. 55. Frontal view of posterior segment of larva of *Muscina stabulans* (Fall.)
FIG. 56. Frontal view of posterior segment of larva of *Hydrotaea dentipes* (Fabr.)
FIG. 57. Posterior spiracle of *Protophormia terraenovae* (R.-D.)
FIG. 58. Posterior spiracle of *Lucilia ampullacea* Vill.

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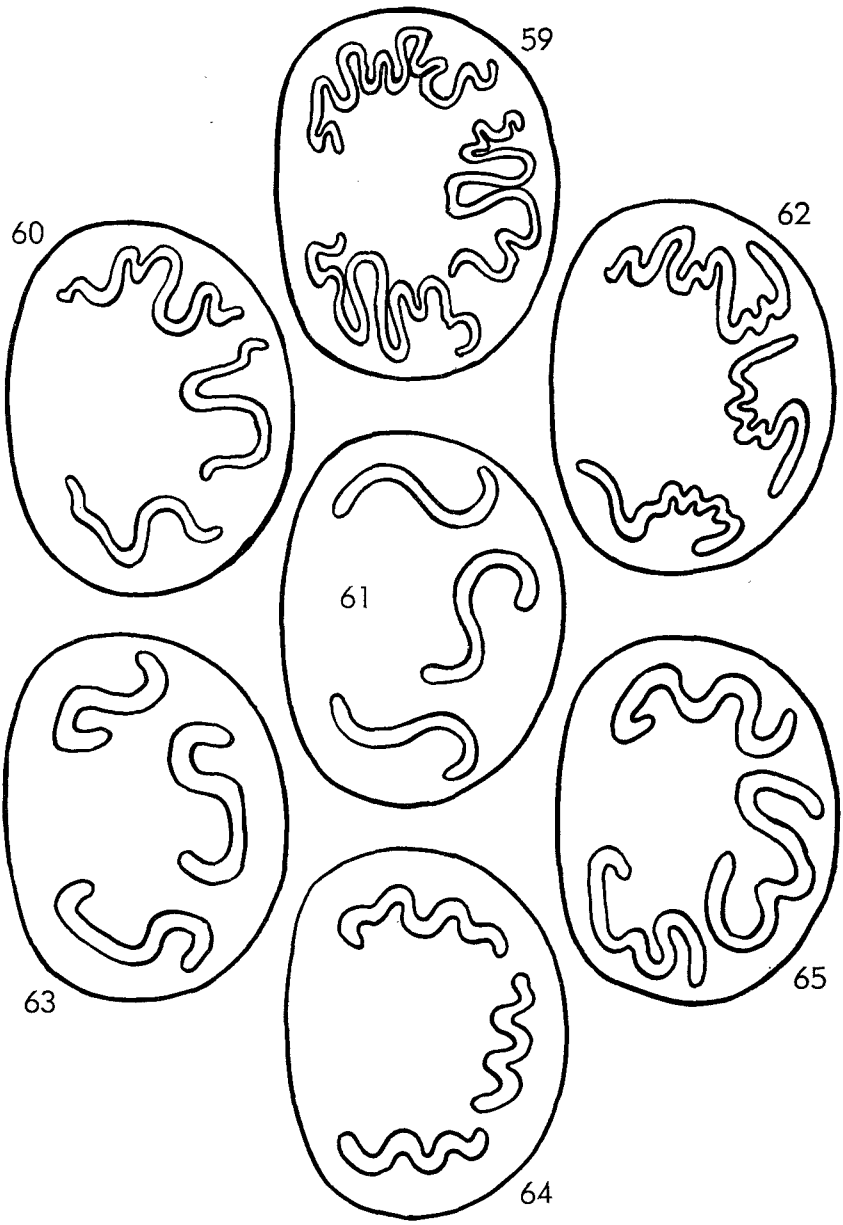

FIG. 59. Posterior spiracle of *Morellia hortorum* (Fall.)
FIG. 60. Posterior spiracle of *Morellia simplex* (Loew)
FIG. 61. Posterior spiracle of *Mesembrina mystacea* (L.)
FIG. 62. Posterior spiracle of *Mesembrina meridiana* (L.)
FIG. 63. Posterior spiracle of *Stomoxys calcitrans* (L.)
FIG. 64. Posterior spiracle of *Musca autumnalis* De Geer
FIG. 65. Posterior spiracle of *Haematobia irritans* (L.)

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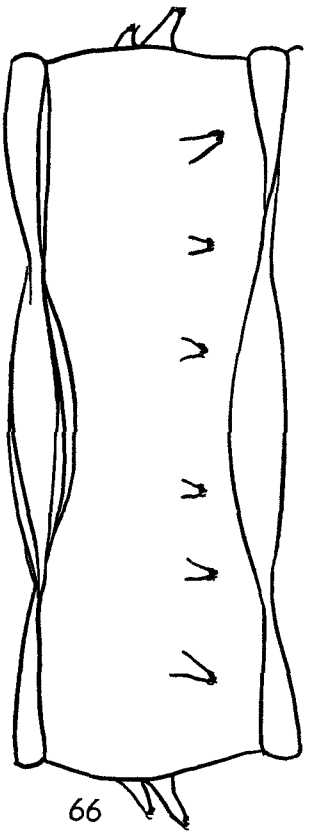

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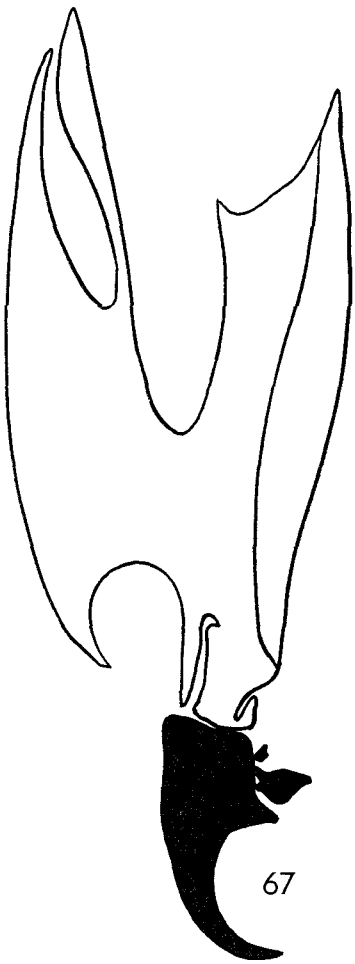

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FIG. 66. Lateral view of abdominal segment of *Chrysomya albiceps* (Wied.)
FIG. 67. Cephalo-pharyngeal skeleton of *Sarcophaga haemorrhoidalis* (Fall.)

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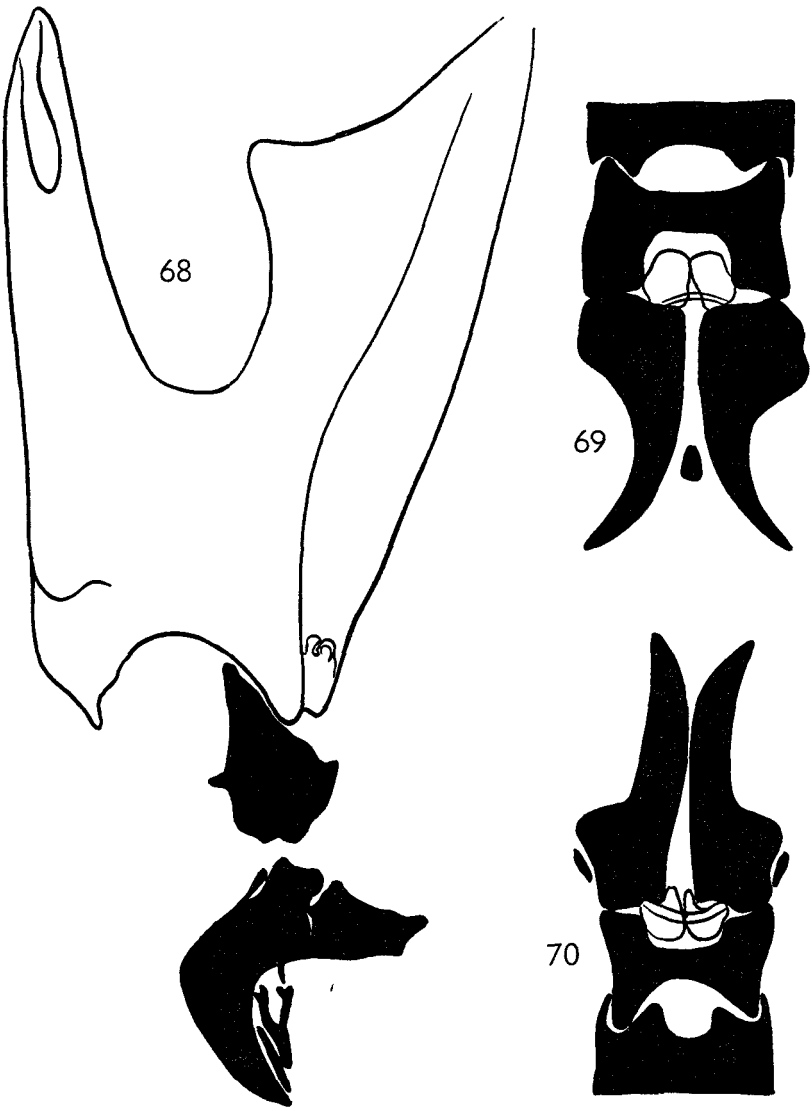

FIG. 68. Cephalo-pharyngeal skeleton of *Muscina stabulans* (Fall.)
FIG. 69. Mandibular sclerites of *Lucilia ampullacea* Vill.
FIG. 70. Mandibular sclerites of *Phaenicia sericata* (Meig.)

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6

Fly-Organism Associations with Systematic List of Fly Species

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SYSTEMATIC LIST OF FLIES ASSOCIATED WITH OTHER ORGANISMS

FAMILIES: 29; GENERA: 119; SPECIES: 346

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Sciaridae	*Sciara*		
Scatopsidae	*Scatopse*	*fuscipes, notata*	2
Stratiomyidae	*Chorisops*	*tibialis*	1
	Hermetia	*illucens*	1
Rhagionidae	*Rhagio*	*lineola*	1
Scenopinidae	*Scenopinus*	*albicincta, bouvieri, fenestralis, glabrifrons, senilis*	5
Empididae	*Hilara*	*flavipes, litorea*	2
Phoridae	*Phora*		
	Megaselia	*fasciata, ferruginea, iroquoiana, pulicaria, rufipes, scalaris*	6
Syrphidae	*Syrphus*	*albimanus, peltatus*	2
	Melanostoma	*mellinum, scalare*	2
	Platycheirus	*radicum*	1
	Volucella	*obesa*	1
	Xylota	*pipiens*	1
	Eristalis	*aeneus, tenax*	2
Richardiidae	*Richardia*	*viridiventris*	1
Otitidae	*Ceroxys*	*robusta*	1
	Melieria	*crassipennis*	1
	Euxesta	*annonae*	1
	Physiphora	*demandata*	1
Platystomatidae	*Scholastes*		
Coelopidae	*Coelopa*	*frigida, pilipes*	2
Dryomyzidae	*Dryomyza*	*anilis*	1
Sepsidae	*Paleosepsis*		
	Saltella	*sphondylii*	1
	Sepsis	*biflexuosa, cynipsea, nigripes, pilipes, punctum, violacea*	6
Sciomyzidae	*Sciomyza*		
Lauxaniidae	*Lauxania*	*aenea*	1
	Sapromyza	*obesa*	1
Piophilidae	*Piophila*	*casei, nigrimana, pectiniventris*	3

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Lonchaeidae	*Lonchaea*	*chorea*	1
Sphaeroceridae	*Borborus*		
	Sphaerocera	*curvipes*	1
	Copromyza	*atra*	
	Leptocera	*ferruginata, fontinalis, hirtula, humida, moesta, vagans*	6
	Limosina	*punctipennis*	1
Milichiidae	*Desmometopa*	*m-nigrum, tarsalis*	2
	Milichiella	*lacteipennis*	1
Ephydridae	*Teichomyza*	*fusca*	1
Drosophilidae	*Drosophila*	*ananassae, bifasciata, busckii, cellaris, confusa, equinoxialis, fasciata, fenestrarum, ferruginea, funebris, hydei, immigrans, kuntzei, littoralis, melanogaster, melanogaster* (Oregon R.C.), *melanogaster* (strain rho), *nebulosa, obscura, paramelanica, parthenogenetica, paulistorum, phalerata, plurilineata, prosaltans, repleta, robusta, rubrio-striata, silvestris, similis, simulans, subobscura, virilis, willistoni*	32
	Scaptomyza	*graminum*	1
Chloropidae	*Hippelates*	*collusor, currani, illicis, flavipes, peruanus, pusio*	6
	Siphunculina	*funicola*	1
	Oscinella	*frit*	1
	Conioscinella	*mars*	1
Heleomyzidae	*Suillia*	*lineata, ustulata*	2
	Heleomyza	*gigantea, modesta*	2
Anthomyiidae	*Scatophaga*	*furcata, lutaria, stercoraria*	3
	Fucellia	*rufitibia*	1
	Hylemya	*aestiva, antiqua, brassicae, cardui, cinerea, cinerella, coarctata, fugax, nigrimana, platura, radicum, strigosa, urbana, variata*	14
	Pegomya	*finitima, haemorrhoa, hyoscyami, winthemi*	4
	Hydrophoria	*ruralis*	1
	Anthomyia	*lindigii, pluvialis*	2
	Calythea	*albicincta*	1
	Paraprosalpia	*billbergi, silvestris*	2
	Leucophoria	*albiseta*	1
Muscidae	*Coenosia*	*lineatipes, sexnotata, tigrina* var. *leonina, tricolor*	4
	Allognota	*agromyzina*	1
	Atherigona	*orientalis*	1
	Gymnodia	*arcuata*	1
	Limnophora		
	Zenomyia	*oxycera*	1

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
	Helina	*anceps, clara, depuncta, duplicata, impuncta, lucorum, quadrum*	7
	Myospila	*meditabunda*	1
	Mydaea	*detrita, pagana, pertusa, tincta, urbana*	5
	Fannia	*aerea, armata, canicularis, corvina, femoralis, incisurata, kowarzi, leucosticta, lineata, manicata, polychaeta, pusio, scalaris, serena, similis, subscalaris*	16
	Hydrotaea	*albipuncta, armipes, australis, dentipes, irritans, meterorica, occulta, parva*	8
	Ophyra	*aenescens, anthrax, calcogaster, leucostoma, nigra*	5
	Lasiops	*simplex, variabilis*	2
	Dendrophaonia	*querceti*	1
	Phaonia	*basalis, cincta, corbetti, errans, erratica, exoleta, goberti, incana, querceti, scutellaris, signata, trimaculata, vagans, variegata*	14
	Muscina	*assimilis, pabulorum, pascuorum, stabulans*	4
	Dasyphora	*asiatica, cyanella, gussakovskii, pratorum*	4
	Polietes	*albolineata, lardaria*	2
	Mesembrina	*meridiana*	1
	Graphomya	*maculata*	1
	Synthesiomyia	*nudiseta*	1
	Neomuscina		
	Philornis		
	Morellia	*hortorum, micans, simplex*	3
	Pyrellia		
	Orthellia	*caerulea, caesarion, cyanea*	3
	Sarcopromusca	*arcuata*	1
	Musca	*amita, autumnalis, autumnalis autumnalis, bezzii, conducens, convexifrons, corvina,* crassirostris, domestica, domestica domestica, domestica vicina, fergusoni, gibsoni, hilli, inferior, insignis, larvipara, lusoria, nebulo, osiris, planiceps, sorbens, sorbens sorbens, tempestiva, terraereginae, ventrosa*	22
	Haematobia	*angustifrons, exigua, irritans, titillans*	4
	Lyperosiops	*stimulans*	1
	Stomoxys	*bilineata, boueti, brunnipes, calcitrans, calcitrans* var. *soudanense, nigra*	5

* *M. corvina, hilli,* and *nebulo* are treated as species in this and the following chapters; see also the treatment by Pont and Paterson in Chapter 4.

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Calliphoridae	*Huascaromusca*	*bicolor*	1
	Rhyncomyia	*pictifacies*	1
	Cochliomyia	*hominivorax, macellaria*	2
	Chrysomya	*albiceps, chloropyga, marginalis, megacephala, pinguis, putoria, rufifacies, varipes*	8
	Paralucilia	*fulvipes*	1
	Phormia	*regina, sordida*	2
	Boreellus	*atriceps*	1
	Protophormia	*terraenovae*	1
	Protocalliphora	*azurea*	1
	Bufolucilia	*bufonivora, silvarum*	2
	Lucilia	*argyricephala, caesar, illustris, jeddensis, porphyrina*	5
	Phaenicia	*cluvia, cuprina, eximia, mexicana, pallescens, sericata*	6
	Eucalliphora	*lilaea*	1
	Aldrichina	*grahami*	1
	Calliphora	*clausa, coloradensis, icela, lata, stygia, terraenovae, vicina, vomitoria, vomitoria* var. *dunensis, uralensis*	9
	Neopollenia	*stygia*	1
	Anastellorhina	*augur*	1
	Onesia	*cognata, sepulchralis, townsendi*	3
	Cynomyopsis	*cadaverina*	1
	Cynomya	*mortuorum*	1
	Auchmeromyia	*luteola*	1
	Pollenia	*rudis*	1
Sarcophagidae	*Agria*	*latifrons*	1
	Pseudo-sarcophaga	*affinis*	1
	Wohlfahrtia	*nuba*	1
	Blaesoxipha	*impar, lineata, plinthopyga*	3
	Helicobia	*quadrisetosa*	1
	Oxysarcodexia	*ochripyga, ventricosa*	2
	Ravinia	*derelicta, effrenata, latisetosa, lherminieri, querula, striata, sueta*	7
	Sarcodexia	*pedunculata*	1
	Sarcophaga	*argyrostoma, aurifinis, aurifrons, bullata, carnaria, destructor, dux, dux* var. *tuberosa, frontalis, fuscicauda, haemorrhoidalis, hirtipes, impatiens, melanura, misera, nurus, parkeri, peregrina, ruficornis, sarraceniae, sarracenioides, securifera, tibialis, wiedemanni*	23
Tachinidae	*Tricharaea*	*haemorrhoidalis*	1

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CLASSIFICATION OF FLIES	ASSOCIATED ORGANISMS
Suborder: NEMATOCERA	
Superfamily: MYCETOPHILOIDEA	
Family: SCIARIDAE	
Sciara Meigen	SCHIZOPHYTA: SCHIZOMYCETES
(Synonym: *Lycoria*)	EUBACTERIALES:
	ENTEROBACTERIACEAE
	Shigella Castellani and Chalmers
	Boikov, 1932
	THALLOPHYTA: PHYCOMYCETES
	MUCORALES: MUCORACEAE
	Mucor Micheli
	Baumberger, 1919
	THALLOPHYTA: FUNGI IMPERFECTI
	MONILIALES: MONILIACEAE
	Gliocladium Corda
	Baumberger, 1919
	MONILIALES: TUBERCULARIACEAE
	Fusarium Link
	Baumberger, 1919
Family: SCATOPSIDAE	
Subfamily: SCATOPSINAE	
Scatopse fuscipes Meigen	ARTHROPODA: ARACHNIDA
	ACARINA: UNDETERMINED
	PARASITIDAE
	Sychevskaĭa, 1964a
	ACARINA: MACROCHELIDAE
	Macrocheles muscaedomesticae
	(Scopoli)
	Sychevskaĭa, 1964a
Scatopse notata Linnaeus	ARTHROPODA: INSECTA
(prey)	DIPTERA: ANTHOMYIIDAE
	Scatophaga merdaria (Fabricius)
	Hewitt, 1914
Suborder: BRACHYCERA	
Superfamily: TABANOIDEA	
Family: STRATIOMYIDAE	
Subfamily: BERIDINAE	
Chorisops tibialis Meigen	ARTHROPODA: INSECTA
(prey)	HYMENOPTERA: SPHECIDAE
	Oxybelus bipunctatus Olivier
	Chevalier, 1926
Subfamily: HERMETIINAE	
Hermetia illucens	ARTHROPODA: INSECTA
(Linnaeus)	HYMENOPTERA: SPHECIDAE
(prey)	*Stictia denticornis* (Handlirsch)
	Bodkin, 1917

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Family: RHAGIONIDAE	
Subfamily: RHAGIONINAE	
Rhagio lineola Fabricius . .. (Synonym: *Leptis lineola*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscivora* Schroeter Rostrup, 1916
Superfamily: ASILOIDEA	
Family: SCENOPINIDAE	
Scenopinus albicincta (Rossi) (Synonym: *Omphrale albicincta*)	CHORDATA: AVES PASSERIFORMES: HIRUNDINIDAE *Hirundo rustica* Linnaeus susbp. *rustica* Séguy, 1929
Scenopinus bouvieri (Séguy) (Synonym: *Omphrale bouvieri*)	CHORDATA: AVES PASSERIFORMES: PLOCEIDAE *Passer domesticus* (Linnaeus) Séguy, 1929
Scenopinus fenestralis (Linnaeus) (Synonym: *Omphrale fenestralis*)	CHORDATA: AVES PASSERIFORMES: HIRUNDINIDAE *Delichon urbica* (Linnaeus) subsp. *urbica* Séguy, 1929 *Hirundo rustica* Linnaeus subsp. *rustica* Séguy, 1929 CHORDATA: MAMMALIA RODENTIA: MURIDAE *Apodemus sylvaticus* Linnaeus Séguy, 1929
Scenopinus glabrifrons Meigen (Synonym: *Omphrale glabrifrons*)	CHORDATA: AVES PASSERIFORMES: STURNIDAE *Sturnus vulgaris* Linnaeus Séguy, 1929
Scenopinus senilis (Fabricius) (Synonym: *Omphrale senilis*)	CHORDATA: AVES PASSERIFORMES: HIRUNDINIDAE *Hirundo rustica* Linnaeus subsp. *rustica* Séguy, 1929 PASSERIFORMES: PLOCEIDAE *Passer domesticus* (Linnaeus) Séguy, 1929
Superfamily: EMPIDOIDEA	
Family: EMPIDIDAE	
Subfamily: EMPIDINAE	
Hilara flavipes Meigen (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crossocerus quadrimaculatus* (Fabricius) Hamm et al., 1926

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Hilara litorea Fallén (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926 *Crossocerus quadrimaculatus* (Fabricius) Hamm et al., 1926
Suborder: CYCLORRHAPHA	
Division: ASCHIZA	
Superfamily: PHOROIDEA	
Family: PHORIDAE	
Subfamily: PHORINAE	
Phora Latreille	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina assimilis* (Fallén) Keilin, 1917
Subfamily: METOPININAE	
Megaselia Brues (Synonym: *Aphiochaeta*) (host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aspilota nervosa* Haliday Evans, 1933
Megaselia fasciata (Fallén) (Synonym: *Phora fasciata*) (larval parasite)	ARTHROPODA: INSECTA COLEOPTERA: COCCINELLIDAE *Adonia variegata* Goeze Martelli, 1913 *Coccinella septempunctata* Linnaeus Rondani du Buysson, 1917 *Thea vigintiduopunctata* Linnaeus Martelli, 1913 Lichtenstein, 1920 *Vibidia duodecimguttata* Poda Lichtenstein, 1920 HYMENOPTERA: ENCYRTIDAE *Homalotylus eitelweinii* Ratzeberg du Buysson, 1921
Megaselia ferruginea (Brunetti) (Synonym: *Aphiochaeta ferruginea*)	SCHIZOPHYTA: SCHIZOMYCETES PSEUDOMONADALES: SPIRILLACEAE *Vibrio comma* (Schroeter) Winslow et al. Roberg, 1915
Megaselia iroquoiana (Malloch) (pupa is host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia nigroaenea* Curtis Bouček, 1963
Megaselia ?iroquoiana (Malloch) (pupa is host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia nigra* Latreille Roberts, 1935

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Megaselia pulicaria (Fallén) (Synonym: *Aphiochaeta pulicaria*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro elongatus* (Provancher) Hamm et al., 1926
Megaselia rufipes (Meigen) (Synonym: *Aphiochaeta rufipes*) (larval prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina assimilis* (Fallén) Keilin, 1917 CHORDATA: AVES PASSERIFORMES: PARIDAE *Parus caeruleus* Linnaeus subsp *caeruleus* Séguy, 1929
Megaselia scalaris (Loew) (Synonym: *Aphiochaeta scalaris*)	ARTHROPODA: INSECTA ORTHOPTERA: LOCUSTIDAE *Schistocerca gregaria* Fôrskal Nocedo, 1921
Superfamily: SYRPHOIDEA Family: SYRPHIDAE Subfamily: SYRPHINAE *Syrphus* Fabricius	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Thaxter, 1888
Syrphus albimanus Fabricius (Synonym: *Platychira albimanus*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro cavifrons* Thomson Hamm et al., 1926
Syrphus peltatus (Meigen) (Synonym: *Platychira peltatus*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro cavifrons* Thomson Hamm et al., 1926
Melanostoma mellinum (Linnaeus)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Rostrup, 1916
Melanostoma scalare Fabricius	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Rostrup, 1916

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Platycheirus radicum Fabricius
(Synonym: *Platychira radicum*)
(prey)
Subfamily: MILESIINAE
Volucella obesa (Fabricius)

ARTHROPODA: INSECTA
HYMENOPTERA: SPHECIDAE
Ectemnius quadricinctus (Fabricius)
Hamm et al., 1926

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
Salmonella Lignières
Alcivar et al., 1946
Salmonella amersfoort Henning
Alcivar et al., 1946
Salmonella anatum (Rettger and Scoville) Bergey et al.
Alcivar et al., 1946
Salmonella ballerup Kauffmann and Møller
Alcivar et al., 1946
Salmonella choleraesuis (Smith) Weldin
Alcivar et al., 1946
Salmonella dublin Kauffmann
Alcivar et al., 1946
Salmonella enteritidis (Gaertner) Castellani and Chalmers
Alcivar et al., 1946
Salmonella florida Cherry, Edwards and Bruner
Alcivar et al., 1946
Salmonella give Kauffmann
Alcivar et al., 1946
Salmonella kentucky Edwards
Alcivar et al., 1946
Salmonella kottbus Schütze et al.
Alcivar et al., 1946
Salmonella meleagridis Bruner and Edwards
Alcivar et al., 1946
Salmonella narashino Kauffmann
Alcivar et al., 1946
Salmonella onderstepoort Henning
Alcivar et al., 1946
Salmonella oranienburg Kauffmann
Alcivar et al., 1946
Salmonella oregon Edwards and Bruner
Alcivar et al., 1946

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Volucella obesa (cont.)	*Salmonella paratyphi* B Castellani and Chalmers Alcivar et al., 1946
	Salmonella reading Schütze Alcivar et al., 1946
	Salmonella typhimurium (Loeffler) Castellani and Chalmers Alcivar et al., 1946
	Salmonella zanzibar Kauffmann Alcivar et al., 1946
	Shigella alkalescens (Andrewes) Weldin Alcivar et al., 1946
	Shigella boydii Ewing, 1, 2, 3, 4, 5, 6, 8, 9 Alcivar et al., 1946
	Shigella ceylonensis (Weldin) Weldin Alcivar et al., 1946
	Shigella dispar (Andrewes) Bergey et al. Alcivar et al., 1946
	Shigella flexneri Castellani and Chalmers, 1a, 2a, Y, 6 Alcivar et al., 1946
	ACTINOMYCETALES: MYCOBACTERIACEAE
	Mycobacterium phlei Lehmann and Neumann Currie, 1910
Xylota pipiens . . . (Linnaeus) (Synonym: *Syritta pipiens*)	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE
	Macrocheles muscaedomesticae (Scopoli) Sychevskaîa, 1964a
Eristalis Latreille	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: BACILLACEAE
	Clostridium botulinum (van Ermengem) Bergey et al. Bail, 1900
	ASCHELMINTHES: NEMATODA ASCARIDIDEA: ASCARIDIDAE
	Ascaris lumbricoides Linnaeus Sukhacheva, 1963
Eristalis aeneus . ... (Scopoli)	PLATYHELMINTHES: CESTOIDEA CYCLOPHYLLIDEA: TAENIIDAE
	Taeniarhynchus saginatum (Goeze) Sychevskaîa et al., 1958

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Eristalis tenax .... (Linnaeus) (Synonym: *Tubifera tenax*)	SCHIZOPHYTA: SCHIZOMYCETES PSEUDOMONADALES: SPIRILLACEAE *Vibrio comma* (Schroeter) Winslow et al. Maddox, 1885b EUBACTERIALES: MICROCOCCACEAE *Micrococcus* Cohn Maddox, 1885b ARTHROPODA: INSECTA COLEOPTERA: STAPHYLINIDAE *Aleochara curtula* Goeze Balduf, 1935 *Philonthus fimetarius* Gravenhorst Balduf, 1935 *Philonthus politus* Linnaeus Balduf, 1935 HYMENOPTERA: CHALCIDIDAE *Brachymeria vicina* Walker Nikol'skaîâ, 1960a HYMENOPTERA: DIAPRIIDAE *Diapria conica* (Fabricius) Sychevskaîâ, 1964b
UNDETERMINED SYRPHIDAE	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Thaxter, 1888 *Entomophthora ovispora* Nowakowski Thaxter, 1888
Division: SCHIZOPHORA Section: ACALYPTRATAE Superfamily: TEPHRITOIDEA Family: RICHARDIIDAE *Richardia viridiventris* . . . . Wulp	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962
Family: OTITIDAE Subfamily: OTITINAE *Ceroxys robusta* Loew . ..	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles* Latreille Sychevskaîâ, 1964a
Melieria crassipennis ..... Fabricius (Synonym: *Ceroxys crassipennis*) Subfamily: ULIDIINAE	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas ?muscae* (Carter) Laveran et al., 1920

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Euxesta annonae (Fabricius) (prey)	ARTHROPODA: INSECTA DERMAPTERA: LABIDURIDAE *Euborellia annulipes* (Lucas) Illingworth, 1923a DERMAPTERA: LABIIDAE *Labia pilicornis* (Motschulsky) Illingworth, 1923a *Spingolabis hawaiiensis* (Bormans) Illingworth, 1923a COLEOPTERA: HYDROPHILIDAE *Cryptopleurum minutum* Fabricius Illingworth, 1923a *Dactylosternum abdominale* Fabricius Illingworth, 1923a COLEOPTERA: STAPHYLINIDAE *Oxytelus* Gravenhorst Illingworth, 1923a *Philonthus discoideus* Gravenhorst Illingworth, 1923a *Philonthus longicornis* Stephens Illingworth, 1923a *Tachyporus* Gravenhorst Illingworth, 1923a HYMENOPTERA: FORMICIDAE *Pheidole megacephala* (Fabricius) Illingworth, 1923a *Ponera perkinsi* Forel Illingworth, 1923a
Physiphora Fallén (Synonym: *Chrysomyza*)	PROTOZOA: MASTIGOPHORA POLYMASTIGIDA: CHILOMASTIGIDAE *Chilomastix mesnili* (Wenyon) Harris et al., 1946 POLYMASTIGIDA: HEXAMITIDAE *Giardia lamblia* Stiles Harris et al., 1946 TRICHOMONADIDA: TRICHOMONADIDAE *Trichomonas hominis* (Davaine) Harris et al., 1946 PROTOZOA: SARCODINA AMOEBIDA: ENDAMOEBIDAE *Endolimax nana* (Wenyon and O'Connor) Harris et al., 1946 *Entamoeba coli* (Grassi) Harris et al., 1946 *Entamoeba histolytica* Schaudinn Harris et al., 1946

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Iodamoeba bütschlii (Prowazek)
Harris et al., 1946

PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA:
HYMENOLEPIDIDAE
Hymenolepis diminuta (Rudolphi)
Blanchard
Harris et al., 1946

ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Harris et al., 1946

STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Harris et al., 1946

ASCARIDIDEA: ASCARIDIDAE
Ascaris lumbricoides Linnaeus
Harris et al., 1946

Physiphora demandata
(Fabricius)
(Synonym: *Chloria demandata*)

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula)
Castellani and Chalmers
Povolný et al., 1961
Serratia Bizio
Povolný et al., 1961
Proteus vulgaris Hauser
Povolný et al., 1961
Providencia Kauffmann
Povolný et al., 1961

EUBACTERIALES: MICROCOCCACEAE
Staphylococcus aureus Rosenbach
Povolný et al., 1961

EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae
Weichselbaum
Povolný et al., 1961

EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961

ARTHROPODA: INSECTA
HYMENOPTERA: SPHECIDAE
Oxybelus bipunctatus Olivier
Chevalier, 1926
Oxybelus uniglumis (Linnaeus)
Chevalier, 1926

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Family: PLATYSTOMATIDAE	
Subfamily: PLATYSTOMATINAE	
Scholastes Loew	PROTOZOA: MASTIGOPHORA
	POLYMASTIGIDA: CHILOMASTIGIDAE
	Chilomastix mesnili (Wenyon) Harris et al., 1946
	POLYMASTIGIDA: HEXAMITIDAE
	Giardia lamblia Stiles Harris et al., 1946
	TRICHOMONADIDA: TRICHOMONADIDAE
	Trichomonas hominis (Davaine) Harris et al., 1946
	PROTOZOA: SARCODINA
	AMOEBIDA: ENDAMOEBIDAE
	Endolimax nana (Wenyon and O'Connor) Harris et al., 1946
	Entamoeba coli (Grassi) Harris et al., 1946
	Entamoeba histolytica Schaudinn Harris et al., 1946
	Iodamoeba bütschlii (Prowazek) Harris et al., 1946
	PLATYHELMINTHES: CESTOIDEA
	CYCLOPHYLLIDEA: HYMENOLEPIDIDAE
	Hymenolepis diminuta (Rudolphi) Blanchard Harris et al., 1946
	ASCHELMINTHES: NEMATODA
	TRICHURIDEA: TRICHURIDAE
	Trichuris trichiura (Linnaeus) Harris et al., 1946
	STRONGYLIDEA: ANCYLOSTOMATIDAE
	Ancylostoma (Dubini) Harris et al., 1946
	ASCARIDIDEA: ASCARIDIDAE
	Ascaris lumbricoides Linnaeus Harris, et al., 1946
Superfamily: SCIOMYZOIDEA	
Family: COELOPIDAE	
Coelopa frigida . . . . . (Fabricius)	ARTHROPODA: INSECTA
(Synonym: *Coelopa eximia*)	COLEOPTERA: STAPHYLINIDAE
(prey)	*Aleochara algarum* Fauvel Lesne et al., 1922
Coelopa pilipes Haliday . . . . (prey)	ARTHROPODA: INSECTA
	COLEOPTERA: STAPHYLINIDAE
	Aleochara algarum Fauvel Lesne et al., 1922

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Family: DRYOMYZIDAE	
Dryomyza anilis Fallén ..... (Synonym: *Neuroctena anilis*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas ?muscarum* (Leidy) Kent Mackinnon, 1910
Family: SEPSIDAE	
Paleosepsis Duda . . .	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella anatum* (Rettger and Scoville) Bergey et al. Greenberg et al., 1963b *Salmonella derby* Warren and Scott Greenberg et al., 1963b
Saltella sphondylii (Schrank) (Synonym: *Pandora scutellaris*)	ARTHROPODA: INSECTA HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE Hammer, 1942
Sepsis Fallén	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Serratia marcescens* Bizio Nicholls, 1912 *Salmonella typhi* Warren and Scott Nicholls, 1912 EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Nicholls, 1912 ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Cothonaspis nigricornis* (Kieffer) Sychevskaĭa, 1964b *Kleidotoma certa* Belizin Sychevskaĭa, 1964b
Sepsis biflexuosa Strobl . .	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella anatum* (Rettger and Scoville) Bergey et al. Greenberg et al., 1963b *Salmonella derby* Warren and Scott Greenberg et al., 1963b
Sepsis cynipsea (Linnaeus)	ASCHELMINTHES: NEMATODA ENOPLIDA: TETRADONEMATIDAE *Mermithonema entomophilum* Goodey Goodey, 1941

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Sepsis cynipsea (cont.)	ARTHROPODA: ARACHNIDA
	ACARINA: TROMBIDIIDAE
	Allothrombium fuliginosum (Hermann) =[*Leptus coccineus* per Oudemans, A.C., 1929;= *Pediculeus coccineus* Scopoli] Scopoli, 1763
	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Crabro leucostoma (Linnaeus) Hamm et al., 1926
	DIPTERA: ANTHOMYIIDAE
	Scatophaga stercoraria (Linnaeus) Hobby, 1934b
Sepsis nigripes Meigen (prey)	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Crabro leucostoma (Linnaeus) Hamm et al., 1926
Sepsis pilipes Wulp (Synonym: *Sepsidimorpha pilipes*) (host for parasite)	ARTHROPODA: INSECTA
	HYMENOPTERA: UNDETERMINED
	ICHNEUMONIDAE Hammer, 1942
Sepsis punctum (Fabricius)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Povolný et al., 1961
	Serratia Bizio Povolný et al., 1961
	Proteus vulgaris Hauser Povolný et al., 1961
	Providencia Kauffmann Povolný et al., 1961
	Salmonella anatum (Rettger and Scoville) Bergey et al. Greenberg et al., 1963b
	Salmonella derby Warren and Scott Greenberg et al., 1963b
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenbach Povolný et al., 1961
	EUBACTERIALES: LACTOBACILLACEAE
	Diplococcus pneumoniae Weichselbaum Povolný et al., 1961
	EUBACTERIALES: BACILLACEAE
	Bacillus Cohn Povolný et al., 1961

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Sepsis violacea Meigen (Synonym: *Sepsis ?punctum*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* var. *communior* (Topley and Wilson) Yale Beyer, 1925
	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles* Latreille Sychevskaîâ, 1964a
	ACARINA: ANOETIDAE *Myianoetus* Oudemans Sychevskaîâ, 1964a
Family: SCIOMYZIDAE Subfamily: SCIOMYZINAE *Sciomyza* Fallén	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscivora* Schroeter Rostrup, 1916
Superfamily: LAUXANIOIDEA Family: LAUXANIIDAE *Lauxania aenea* Fallén	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscivora* Schroeter Rostrup, 1916
	Entomophthora richteri (Bresadola and Staritz) Bubák Bubák, 1903 Lakon, 1915
Sapromyza Fallén	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora ovispora* Nowakowski Thaxter, 1888
Sapromyza obesa Zetterstedt (Synonym: *Sapromyza rorida*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscivora* Schroeter Rostrup, 1916

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Superfamily: PALLOPTEROIDEA
Family: PIOPHILIDAE
Piophila casei (Linnaeus)

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Gregor et al., 1960
Lysenko et al., 1961
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia Castellani and Chalmers
Lysenko et al., 1961
Escherichia coli (Migula) Castellani and Chalmers
Beyer, 1925
Gregor et al., 1960
Povolný et al., 1961
Aerobacter aerogenes (Kruse) Beijerinck
Gregor et al., 1960
Klebsiella Trevisan
Lysenko et al., 1961
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Cloaca Castellani and Chalmers
Lysenko et al., 1961
Serratia Bizio
Povolný et al., 1961
Serratia marcescens Bizio
Gregor et al., 1960
Proteus inconstans (Ornstein) Shaw and Clarke
Gregor et al., 1960
Proteus mirabilis Hauser
Gregor et al., 1960
Lysenko et al., 1961
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Gregor et al., 1960
Lysenko et al., 1961

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Piophila casei (cont.)

Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Gregor et al., 1960
Lysenko et al., 1961
Proteus vulgaris Hauser
Gregor et al., 1960
Lysenko et al., 1961
Povolný et al., 1961
Providencia Kauffmann
Povolný et al., 1961
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
UNDETERMINED ENTEROBACTERIACEAE
Klebsiella-Cloaca intermed. forms
Lysenko et al., 1961
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Gregor et al., 1960
Povolný et al., 1961
Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960
Lysenko et al., 1961
EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961
Streptococcus durans Sherman and Wing
Gregor et al., 1960
Lysenko et al., 1961
Streptococcus faecalis var. *liquefaciens* (Sternberg) Mattick
Lysenko et al., 1961
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
Bacillus anthracis Cohn
Legroux et al., 1945
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960

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Piophila casei (cont.)	*Bacillus subtilis* Cohn Lysenko et al., 1961 *Clostridium botulinum* (van Ermengen) Bergey et al. Legroux et al., 1945
	ARTHROPODA: INSECTA COLEOPTERA: CLERIDAE *Necrobia rufipes* De Geer Simmons, 1922
	HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Beard, 1964
	HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Roberts, 1935 *Pachycrepoideus vindemmiae* Rondani Simmons, 1922 Crandell, 1939
Piophila nigrimana . ..... Meigen	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaĭa, 1964a
Piophila pectiniventris Duda	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Lysenko, 1958 *Proteus mirabilis* Hauser Lysenko, 1958 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Lysenko, 1958 *Proteus vulgaris* Hauser Lysenko, 1958
Family: LONCHAEIDAE *Lonchaea chorea* (Fabricius) (Synonym: *Lonchaea vaginalis*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora ovispora* Nowakowski Thaxter, 1888
Superfamily: MILICHIOIDEA Family: SPHAEROCERIDAE *Borborus* Meigen	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Patton, 1921a

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Sphaerocera curvipes Latreille (Synonym: *Sphaerocera subsultans*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas legerorum* Chatton Chatton, 1912a
Copromyza Fallén (Synonym: *Cypsela*)	ARTHROPODA: ARACHNIDA ACARINA: PARASITIDAE *Parasitus lunaris* Berlese Sychevskaĭa, 1964a
Copromyza atra .. (Meigen) (Synonyms: *Borborus ater*, *Olina geniculata*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Proteus vulgaris* Hauser Povolný et al., 1961 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961 ARTHROPODA: INSECTA HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE Hammer, 1942
Leptocera Macquart (Synonym: *Limosina*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella typhi* Warren and Scott Boikov, 1932 *Shigella* Castellani and Chalmers Boikov, 1932 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Becker, 1922-23
Leptocera ferruginata (Stenhammar) (Synonym: *Leptocera feruginata*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ACHROMOBACTERIACEAE *Alcaligenes faecalis* Castellani and Chalmers Lysenko, 1958 *Flavobacterium invisible* (Vaughan) Bergey et al. Lysenko, 1958 EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Lysenko, 1958

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Leptocera ferruginata (cont.)	*Klebsiella cloacae* (Jordan) Brisou Lysenko, 1958
	Proteus inconstans (Ornstein) Shaw and Clarke Lysenko, 1958
	Proteus mirabilis Hauser Lysenko, 1958
	Proteus vulgaris Hauser Lysenko, 1958
	Salmonella derby Warren and Scott Greenberg et al., 1963b
	Salmonella newport Schütze Greenberg et al., 1963b
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus afermentans Shaw, Stitt, and Cowan Lysenko, 1958
	Staphylococcus lactis Shaw, Stitt, and Cowan Lysenko, 1958
	Staphylococcus saprophyticus Fairbrother Lysenko, 1958
	EUBACTERIALES: BACILLACEAE
	Bacillus subtilis Cohn Lysenko, 1958
Leptocera fontinalis (Fallén)	ARTHROPODA: ARACHNIDA
	ACARINA: MACROCHELIDAE
	Macrocheles muscaedomesticae (Scopoli) Sychevskaîa, 1964a
Leptocera hirtula var. *thalhammeri* Strobl (Synonym: *Limosina hirtula* var. *thalhammeri*)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Leptomonas Kent Chatton, 1912a
Leptocera humida Haliday (prey)	ARTHROPODA: INSECTA
	DIPTERA: MUSCIDAE
	Coenosia tigrina (Zetterstedt) Hobby, 1934b
Leptocera moesta Villeneuve (Synonym: ?*Scotophilella moesta*) (host for parasite)	ARTHROPODA: INSECTA
	HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE Hammer, 1942
Leptocera vagans (Haliday)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Salmonella derby Warren and Scott Greenberg et al., 1963b

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	Salmonella newport Schütze Greenberg et al., 1963b
Limosina punctipennis (Wiedemann)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Nicholls, 1912
	Serratia marcescens Bizio Nicholls, 1912
	Salmonella typhi Warren and Scott Nicholls, 1912
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenbach Nicholls, 1912
	ASCHELMINTHES: NEMATODA
	TRICHURIDEA: TRICHURIDAE
	Trichuris trichiura (Linnaeus) Nicholls, 1912
	STRONGYLIDEA: ANCYLOSTOMATIDAE
	Necator americanus (Stiles) Nicholls, 1912
	ASCARIDIDEA: ASCARIDIDAE
	Ascaris lumbricoides Linnaeus Nicholls, 1912
UNDETERMINED SPHAEROCERIDAE	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Povolný et al., 1961
	Serratia Bizio Povolný et al., 1961
	Proteus vulgaris Hauser Povolný et al., 1961
	Providencia Kauffmann Povolný et al., 1961
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenbach Povolný et al., 1961
	EUBACTERIALES: LACTOBACILLACEAE
	Diplococcus pneumoniae Weichselbaum Povolný et al., 1961
	EUBACTERIALES: BACILLACEAE
	Bacillus Cohn Povolný et al., 1961

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Family: MILICHIIDAE	
Subfamily: MADIZINAE	
Desmometopa m-nigrum (Zetterstedt)	THALLOPHYTA: PHYCOMYCETES MUCORALES: MUCORACEAE *Mucor* Micheli Baumberger, 1919
Desmometopa tarsalis Loew	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaĭa, 1964a ACARINA: ANOETIDAE *Myianoetus* Oudemans Sychevskaĭa, 1964a
Subfamily: MILICHIINAE	
Milichiella lacteipennis (Loew) (prey)	ARTHROPODA: INSECTA DERMAPTERA: LABIDURIDAE *Euborellia annulipes* (Lucas) Illingworth, 1923a DERMAPTERA: LABIIDAE *Labia pilicornis* (Motschulsky) Illingworth, 1923a *Spingolabis hawaiiensis* (Bormans) Illingworth, 1923a COLEOPTERA: HYDROPHILIDAE *Cryptopleurum minutum* Fabricius Illingworth, 1923a *Dactylosternum abdominale* Fabricius Illingworth, 1923a COLEOPTERA: STAPHYLINIDAE *Oxytelus* Gravenhorst Illingworth, 1923a *Philonthus discoideus* Gravenhorst Illingworth, 1923a *Philonthus longicornis* Stephens Illingworth, 1923a *Tachyporus* Gravenhorst Illingworth, 1923a HYMENOPTERA: FORMICIDAE *Pheidole megacephala* (Fabricius) Illingworth, 1923a *Ponera perkinsi* Forel Illingworth, 1923a
Superfamily: DROSOPHILOIDEA	
Family: EPHYDRIDAE	
Subfamily: EPHYDRINAE	
Teichomyza fusca Macquart (Synonym: *Theicomyza fusca*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Léger, 1903

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Family: DROSOPHILIDAE
Subfamily: DROSOPHILINAE
Drosophila Fallén

INSECT VIRUSES
Sigma virus
Vigier, 1961
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Aspergillus (Micheli) Corda
Blochwitz, 1929
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Patton, 1921a
PROTOMONADIDA: BODONIDAE
Rhynchoidomonas roubaudi Roubaud
Roubaud, 1912b
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Kramer, 1965b
UNDETERMINED MICROSPORIDA
Bell, 1952
Stalker et al., 1963
ASCHELMINTHES: NEMATODA
RHABDITIDA: RHABDITIDAE
Rhabditis pellio (Schneider)
Aubertot, 1923
RHABDITIDA: PANAGROLAIMIDAE
Panagrellus zymosiphilus (Brunold)
Brunold, 1950
ARTHROPODA: ARACHNIDA
ARANEAE: THERIDIIDAE
Latrodectus mactans (Fabricius)
Herms et al., 1935
ACARINA: TROMBICULIDAE
Ascoschoengastia indica (Hirst)
Wharton et al., 1946
Euschoengastia peromysci (Ewing)
Lipovsky, 1954
Eutrombicula alfreddugesi (Oudemans)
Lipovsky, 1954
Eutrombicula splendens (Ewing)
Lipovsky, 1954
Fonsecia gurneyi (Ewing)
Lipovsky, 1954
Hannemania Oudemans
Lipovsky, 1954

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Drosophila (cont.)	*Kayella lacerta* (Brennan) Lipovsky, 1954
	Neoschoengastia americana (Hirst) Lipovsky, 1954
	Neotrombicula lipovskyi (Brennan and Wharton) Lipovsky, 1954
	Neotrombiculoides montanensis (Brennan) Lipovsky, 1954
	Pseudoschoengastia farneri Lipovsky Lipovsky, 1954
	Pseudoschoengastia hungerfordi Lipovsky Lipovsky, 1954
	ACARINA: ANOETIDAE
	Histiostoma laboratorium Hughes Hughes, 1950 Perron, 1954a
	ARTHROPODA: INSECTA
	HEMIPTERA: PHYMATIDAE
	Phymata pennsylvanica americana Melin Balduf, 1947
	HEMIPTERA: REDUVIIDAE
	Pristhesancus papuensis Stål Noble, 1936
	Sinea diadema (Fabricius) Balduf, 1947
	HYMENOPTERA: CYNIPIDAE
	Eucoila drosophilae Kieffer Boche, 1939
	HYMENOPTERA: PTEROMALIDAE
	Spalangia drosophilae[1] Ashmead Ashmead, 1887, 1900 Riley et al., 1891 Richardson, 1913a Viereck, 1916
Drosophila ananassae Doleschall	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Shigella flexneri Castellani and Chalmers Gabaldón et al., 1956

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Drosophila bifasciata .. .. Pomini
- INSECT VIRUSES
  - "Sex-ratio" virus
    - Magni, 1954
    - Poulson et al., 1961a

Drosophila busckii . Coquillet (host for parasite)
- ARTHROPODA: INSECTA
  - HYMENOPTERA: CYNIPIDAE
    - *Pseudeucoila bochei* Weld
      - Jenni, 1951

Drosophila cellaris . ... Linnaeus
- THALLOPHYTA: ASCOMYCETES
  - ENDOMYCETALES: ENDOMYCETACEAE
    - *Saccharomyces cerevisiae* Hansen
      - Berlese, 1896
    - *Saccharomyces pastorianus* Hansen
      - Berlese, 1896
- THALLOPHYTA: FUNGI IMPERFECTI
  - MONILIALES: DEMATIACEAE
    - *Torula* Persoon
      - Berlese et al., 1897
  - CRYPTOCOCCALES: CRYPTOCOCCACEAE
    - *Candida* Berkhout
      - Berlese, 1896
      - Berlese et al., 1897
    - *Kloeckera apiculata* (Reess emend Klöker) Janke
      - Berlese, 1896

Drosophila confusa .... Staeger
- PROTOZOA: MASTIGOPHORA
  - PROTOMONADIDA: TRYPANOSOMATIDAE
    - *Herpetomonas roubaudi* (Chatton) Drbohlav
      - Chatton, 1912b
    - *Leptomonas* Kent
      - Chatton et al., 1912
    - *Leptomonas drosophilae* Chatton and Alilaire
      - Chatton et al., 1908, 1911a, 1911b, 1911c, 1912
    - *Leptomonas drosophilae* Chatton and Alilaire=[*Trypanosoma drosophilae*]
      - Chatton et al., 1908, 1911a, 1911b, 1912
- PROTOZOA: CNIDOSPORIDIA
  - MICROSPORIDA: MRAZEKIIDAE
    - *Octosporea monospora* Chatton and Krempf
      - Chatton et al., 1911d

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Drosophila confusa (cont.)	*Octosporea muscae-domesticae* Flu Chatton et al., 1911d
	ASCHELMINTHES: NEMATODA TYLENCHIDA: UNDETERMINED ALLANTONEMATIDAE Welch, 1959
	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina assimilis* (Fallén) Keilin, 1917
Drosophila equinoxialis Dobzhansky	INSECT VIRUSES "Sex-ratio" virus Malogolowkin et al., 1960 Poulson et al., 1961a
Drosophila fasciata Dufour	SCHIZOPHYTA: SCHIZOMYCETES SPIROCHAETALES: TREPONEMATACEAE *Treponema* Schaudinn Ikeda, 1965
Drosophila fenestrarum Fallén	SCHIZOPHYTA: SCHIZOMYCETES PSEUDOMONADALES: PSEUDOMONADACEAE *Acetobacter pasteurianus* Beijerinck Henneberg, 1902 *Acetobacter zylinum* (Brown) Henneberg, 1902 EUBACTERIALES: ENTEROBACTERIACEAE *Serratia marcescens* Bizio Henneberg, 1902 EUBACTERIALES: LACTOBACILLACEAE *Lactobacillus* Beijerinck Henneberg, 1902
Drosophila ?fenestrarum Fallén	ARTHROPODA: ARACHNIDA ACARINA: ANOETIDAE *Myianoetus muscarum* (Linnaeus) =[*Pediculus muscae fenestrarum* per Goeze;=*Acarus muscarum* per Oudemans, A.C., 1929] Goeze, 1776
Drosophila ferruginea Becker	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Shigella dysenteriae* (Shiga) Castellani and Chalmers Beyer, 1925

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Drosophila funebris (Fabricius)	SCHIZOPHYTA: SCHIZOMYCETES
	PSEUDOMONADALES: PSEUDOMONADACEAE
	Acetobacter pasteurianus Beijerinck Henneberg, 1902
	Acetobacter zylinum (Brown) Henneberg, 1902
	EUBACTERIALES: ENTEROBACTERIACEAE
	Serratia marcescens Bizio Henneberg, 1902
	Shigella Castellani and Chalmers Boikov, 1932
	EUBACTERIALES: LACTOBACILLACEAE
	Lactobacillus Beijerinck Henneberg, 1902
	THALLOPHYTA: ASCOMYCETES
	ENDOMYCETALES: ENDOMYCETACEAE
	Coccidiascus legeri Chatton Chatton, 1913
	THALLOPHYTA: UNDETERMINED
	BASIDIOMYCETES
	"Mushrooms" Austin, 1933
	PROTOZOA: CNIDOSPORIDIA
	MICROSPORIDA: MRAZEKIIDAE
	Octosporea muscae-domesticae Flu Chatton et al., 1911d
	ARTHROPODA: INSECTA
	HYMENOPTERA: BRACONIDAE
	Aspilota concolor Nees Austin, 1933
	HYMENOPTERA: CYNIPIDAE
	Pseudeucoila bochei Weld Jenni, 1951
	HYMENOPTERA: PTEROMALIDAE
	Pachyneuron vindemmiae Rondani Milani, 1947
	HYMENOPTERA: FORMICIDAE
	Iridomyrmex humilis (Mayr) Pavan, 1952
Drosophila hydei Sturtevant (host for parasite)	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Pseudeucoila bochei Weld Jenni, 1951
Drosophila immigrans Sturtevant (host for parasite)	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Pachyneuron vindemmiae Rondani Milani, 1947

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Drosophila kuntzei Duda

ASCHELMINTHES: NEMATODA
TYLENCHIDA: ALLANTONEMATIDAE
Howardula aoronymphium Welch
Welch, 1959

Drosophila littoralis Meigen

ARTHROPODA: INSECTA
HYMENOPTERA: CYNIPIDAE
Pseudeucoila bochei Weld
Jenni, 1951

Drosophila melanogaster Meigen
(Synonym: *Drosophila ampelophila*)

VIRUSES
ARBOVIRUSES
Sindbis virus
Herreng, 1967
Ohanessian et al., 1967
ENTEROVIRUSES
Poliovirus Type 2, Lansing strain
Toomey et al., 1947
OTHER ANIMAL VIRUSES
Rous-sarcoma virus (Oncogenic virus)
Burdette et al., 1967
INSECT VIRUSES
"Sex-ratio" virus
Sakaguchi et al., 1960
Counce et al., 1961
Poulson et al., 1961a
Rico, 1964
Sigma virus
Plus, 1950, 1954
de Lestrange, 1954
Duhamel et al., 1956
L'Héritier, 1957
Bussereau, 1964
Berkaloff et al., 1965
Bregliano, 1965
Seecof, 1965, 1969
Bernard, 1968
Sigma virus, P^- strain
Bernard, 1964
SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES:
PSEUDOMONADACEAE
Acetobacter Beijerinck
Baumberger, 1919
Acetobacter aceti (Beijerinck)
Delcourt et al., 1910
EUBACTERIALES:
ENTEROBACTERIACEAE
Erwinia amylovora (Burrill)
Winslow et al.
Ark et al., 1936

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Drosophila melanogaster (cont.)

Serratia marcescens Bizio
Nicholls, 1912
Salmonella typhi Warren and Scott
Nicholls, 1912
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus aureus Rosenbach
Nicholls, 1912
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Nicholls, 1912
Tatum, 1939
SPIROCHAETALES: TREPONEMATACEAE
Treponema Schaudinn
Ikeda, 1965
THALLOPHYTA: PHYCOMYCETES
MUCORALES: MUCORACEAE
Mucor Micheli
Baumberger, 1919
Griffith, 1952
Rhizopus Ehrenberg
Baumberger, 1919
ENTOMOPHTHORALES: ENTOMOPHTHORACEAE
Entomophthora muscae Cohn
Goldstein, 1927
THALLOPHYTA: ASCOMYCETES
ENDOMYCETALES: ENDOMYCETACEAE
Saccharomyces Hansen
Baumberger, 1919
Saccharomyces cerevisiae Hansen
Baumberger, 1919
Saccharomyces ?melli (Fabian and Quinet)
Delcourt et al., 1910
Saccharomyces theobromae
Nicholls, 1912
THALLOPHYTA: BASIDIOMYCETES
AGARICALES: AGARICACEAE
Agaricus campestris Fries
Baumberger, 1919
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Aspergillus (Micheli) Corda
Baumberger, 1919
Aspergillus clavatus Desmazières
Griffith, 1952
Aspergillus niger van Tieghem
Griffith, 1952

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Drosophila melanogaster (cont.)

Monilia (Persoon) Saccardo
Griffith, 1952
Penicillium camemberti Thom
Griffith, 1952
Penicillium glaucum Link
Baumberger, 1919
Griffith, 1952
MONILIALES: DEMATIACEAE
Alternaria Nees
Griffith, 1952
Curvularia Boedijn
Griffith, 1952
Hormodendrum Bonorden
Griffith, 1952
Macrosporium Fries
Griffith, 1952
MONILIALES: TUBERCULARIACEAE
Fusarium Link
Griffith, 1952
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA: TRYPANOSOMATIDAE
Leptomonas ampelophilae Chatton and Léger
Chatton et al., 1911c, 1912
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Chatton et al., 1911d
UNDETERMINED MICROSPORIDA
Wolfson et al., 1957
Stalker et al., 1963
ASCHELMINTHES: NEMATODA
TYLENCHIDA: ALLANTONEMATIDAE
Parasitylenchus diplogenus Welch
Welch, 1959
ARTHROPODA: ARACHNIDA
ACARINA: TROMBICULIDAE
Ascoschoengastia indica (Hirst)
Wharton, 1946
ACARINA: ANOETIDAE
Histiostoma laboratorium Hughes
Stolpe, 1938
Brown, 1965
Myianoetus muscarum (Linnaeus)
Greenberg et al., 1960
ARTHROPODA: INSECTA
HEMIPTERA: PHYMATIDAE
Phymata pennsylvanica americana Melin
Balduf, 1941, 1948

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Drosophila melanogaster (cont.)	COLEOPTERA: STAPHYLINIDAE
	Baryodma ontarionis Casey
	Colhoun, 1953
	HYMENOPTERA: BRACONIDAE
	Asobara tabida (Nees)
	Jenni, 1951
	Walker, 1963
	HYMENOPTERA: CYNIPIDAE
	Eucoila Westwood
	Jenni, 1947
	Eucoila drosophilae Kieffer
	Boche, 1939
	Pseudeucoila bochei[1] Weld
	Jenni, 1951
	Schlegel-Oprecht, 1953
	Nøstvik, 1954
	Walker, 1959, 1961, 1963
	HYMENOPTERA: CHALCIDIDAE
	Dirhinus pachycerus Masi
	Roy et al., 1940
	HYMENOPTERA: PTEROMALIDAE
	Pachyneuron vindemmiae Rondani
	Milani, 1947
	Spalangia drosophilae Ashmead
	Simmonds, 1944
	Bouček, 1963
Drosophila ?melanogaster Meigen	INSECT VIRUSES
	Sigma virus
	L'Héritier et al., 1937
Drosophila melanogaster Meigen Oregon R. C.	INSECT VIRUSES
	Sigma virus
	Brun et al., 1955a
	Plus, 1955
Drosophila melanogaster Meigen Strain ρ (rho)	INSECT VIRUSES
	Sigma virus
	Brun et al., 1955b
Drosophila nebulosa Sturtevant	INSECT VIRUS
	"Sex-ratio" virus
	Counce et al., 1961
	Poulson et al., 1961a
	SCHIZOPHYTA: SCHIZOMYCETES
	SPIROCHAETALES: TREPONEMATACEAE
	Treponema Schaudinn
	Poulson et al., 1961b
Drosophila obscura Fallén	ASCHELMINTHES: NEMATODA
	TYLENCHIDA: ALLANTONEMATIDAE
	Parasitylenchus diplogenus Welch
	Welch, 1959

[1] Although not specifically mentioned in each entry, it is assumed that all *Pseudeucoila bochei* are parasites.

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Drosophila paramelanica . . . Patterson	PROTOZOA: CNIDOSPORDIA UNDETERMINED MICROSPORIDA Wolfson et al., 1957
Drosophila parthenogenetica Stalker .	PROTOZOA: CNIDOSPORIDIA UNDETERMINED MICROSPORIDA Wolfson et al., 1957
Drosophila paulistorum Dobzhansky	INSECT VIRUS "Sex-ratio" virus Malogolowkin, 1958
Drosophila phalerata .. Meigen	PROTOZOA: CNIDOSPORIDIA MICROSPORIDA: MRAZEKIIDAE *Octosporea muscae-domesticae* Flu Chatton et al., 1911d
	ASCHELMINTHES: NEMATODA TYLENCHIDA: ALLANTONEMATIDAE *Howardula aoronymphium* Welch Welch, 1959
	ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Pseudeucoila bochei* Weld Jenni, 1951
Drosophila plurilineata Villeneuve	PROTOZOA: CNIDOSPORIDIA MICROSPORIDA: MRAZEKIIDAE *Octosporea monospora* Chatton and Krempf Chatton et al., 1911d *Octosporea muscae-domesticae* Flu Chatton et al., 1911d
Drosophila prosaltans Duda	INSECT VIRUS "Sex-ratio" virus Cavalcanti et al., 1957, 1958
Drosophila repleta Wollaston	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Goldstein, 1927
Drosophila robusta Sturtevant	PROTOZOA: CNIDOSPORIDIA UNDETERMINED MICROSPORIDA Stalker et al., 1963
Drosophila rubrio-striata Becker (Synonym: *Drosophila plurilineata*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas rubrio-striatae* Chatton and Léger Chatton et al., 1911c, 1912 *Leptomonas* Kent Chatton et al., 1912

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Drosophila silvestris Basden	ASCHELMINTHES: NEMATODA TYLENCHIDA: ALLANTONEMATIDAE *Parasitylenchus diplogenus* Welch Welch, 1959
Drosophila similis Williston	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Pachyneuron vindemmiae* Rondani Milani, 1947
Drosophila simulans Sturtevant	ARTHROPODA: INSECTA DIPTERA: DROSOPHILIDAE *Drosophila melanogaster* Meigen Moore, 1952
Drosophila subobscura Collin	ASCHELMINTHES: NEMATODA TYLENCHIDA: ALLANTONEMATIDAE *Parasitylenchus diplogenus* Welch Welch, 1959
	ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Pseudeucoila bochei* Weld Jenni, 1951
Drosophila virilis Sturtevant	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Crithidia* Léger (from *Arilus cristatus*) McGhee et al., 1965 *Crithidia* Léger (from *Euryophthalmus davisi*) McGhee et al., 1965 *Crithidia acanthocephali* Hanson and McGhee McGhee et al., 1965 *Crithidia fasciculata* Léger McGhee et al., 1965 *Crithidia oncopelti* (Noguchi and Tilden) sensu M. and A. Lwoff McGhee et al., 1965
	ARTHROPODA: INSECTA HYMENOPTERA: FORMICIDAE *Iridomyrmex humilis* (Mayr) Pavan, 1952
Drosophila willistoni Sturtevant	INSECT VIRUS "Sex-ratio" virus Malogolowkin et al., 1957, 1959, 1960 Malogolowkin, 1958 Sakaguchi et al., 1959, 1960, 1961 Poulson et al., 1959, 1961a Counce et al., 1961

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Drosophila willistoni (cont.)	SCHIZOPHYTA: SCHIZOMYCETES SPIROCHAETALES: TREPONEMATACEAE *Treponema* Schaudinn Poulson et al., 1961b Ikeda, 1965
	PROTOZOA: CNIDOSPORIDIA MICROSPORIDA: NOSEMATIDAE *Nosema kingi* Kramer Kramer, 1964b
	UNDETERMINED MICROSPORIDA Burnett et al., 1962
Scaptomyza Hardy (Synonym: *Buonostoma*)	PROTOZOA: CNIDOSPORIDIA UNDETERMINED MICROSPORIDA Stalker, 1963
Scaptomyza graminum (Fallén)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro elongatus* (Provancher) Hamm et al., 1926 *Crabro palmarius* (Schreber) Hamm et al., 1926
UNDETERMINED DROSOPHILIDAE	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961
	Serratia Bizio Povolný et al., 1961
	Proteus vulgaris Hauser Povolný et al., 1961
	Providencia Kauffmann Povolný et al., 1961
	EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Povolný et al., 1961
	EUBACTERIALES: LACTOBACILLACEAE *Diplococcus pneumoniae* Weichselbaum Povolný et al., 1961
	EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961
	ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema ?megastoma* (Rudolphi) Seurat Crawford, 1926

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Superfamily: CHLOROPOIDEA	
Family: CHLOROPIDAE	
Subfamily: OSCINELLINAE	
Hippelates Loew	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: LACTOBACILLACEAE
	Streptococcus agalactiae Lehmann and Neumann
	Sanders, 1940a
	SPIROCHAETALES:
	TREPONEMATACEAE
	Treponema carateum Brumpt
	Leon Blanco et al., 1941
	Soberón y Parra et al., 1944
	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Hexacola Foerster
	Mulla, 1962
	Trybliographa Foerster
	Legner et al., 1964
	HYMENOPTERA: PTEROMALIDAE
	Spalangia drosophilae Ashmead
	Legner et al., 1964
Hippelates collusor (Townsend)	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Trybliographa Foerster
	Legner et al., 1969b
	HYMENOPTERA: PTEROMALIDAE
	Eupteromales hemipterus (Walker)
	Legner et al., 1965b
	Legner et al., 1966
	Eupteromales nidulans (Thomson)
	Bay, unpublished
	Spalangia[1] *drosophilae* Ashmead
	Bay et al., 1963
	Bay, unpublished
	HYMENOPTERA: DIAPRIIDAE
	Phaenopria occidentalis Fouts
	Bay et al., 1963
	Bay, unpublished
	Legner, 1967, 1969
Hippelates currani Aldrich	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: LACTOBACILLACEAE
	Streptococcus Rosenbach, Lancefield's Group A
	Bassett, 1967
	Streptococcus pyogenes Rosenbach
	Bassett, 1970

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Hippelates currani (cont.)	SCHIZOPHYTA: SCHIZOMYCETES SPIROCHAETALES: TREPONEMATACEAE *Treponema pertenue* Castellani Kumm et al., 1936
Hippelates illicis Curran	SCHIZOPHYTA: SCHIZOMYCETES SPIROCHAETALES: TREPONEMATACEAE *Treponema pertenue* Castellani Kumm et al., 1936
Hippelates flavipes Loew . (Synonyms: *Oscinis pallipes*, *Hippelates pallipes* [a valid species in temperate zones])	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Nicholls, 1912 Taplin et al., 1966 EUBACTERIALES: LACTOBACILLACEAE *Streptococcus pyogenes* Rosenbach Bassett, 1970 SPIROCHAETALES: TREPONEMATACEAE *Borrelia refringens* (Schaudinn and Hoffmann) Bergey et al. Kumm, 1935 Kumm et al., 1935 *Treponema pertenue* Castellani Kumm, 1935 Kumm et al., 1935, 1936 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas* Kent Kumm et al., 1935 ASCHELMINTHES UNDETERMINED NEMATODA Kumm et al., 1935
Hippelates peruanus . . . Becker	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: LACTOBACILLACEAE *Streptococcus* Rosenbach, Lancefield's Group A Bassett, 1967 *Streptococcus pyogenes* Rosenbach Bassett, 1970 SPIROCHAETALES: TREPONEMATACEAE *Treponema pertenue* Castellani Kumm et al., 1936
Hippelates pusio Loew . . .	SCHIZOPHYTA: SCHIZOMYCETES SPIROCHAETALES: TREPONEMATACEAE *Treponema pertenue* Castellani Kumm et al., 1936

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Hippelates pusio (cont.)	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Trybliographa Foerster Legner et al., 1965d
	HYMENOPTERA: PTEROMALIDAE
	Spalangia Latreille Legner et al., 1965d
	Spalangia drosophilae Ashmead Legner et al., 1965d
	HYMENOPTERA: UNDETERMINED PTEROMALIDAE Legner et al., 1965d
	HYMENOPTERA: ENCYRTIDAE
	Ooencyrtus submetallicus (Howard) Legner et al., 1965d
	HYMENOPTERA: FORMICIDAE
	Monomorium pharaonis (Linnaeus) Legner et al., 1965d
	Solenopsis geminata (Fabricius) Legner et al., 1965d
	Tapinoma melanocephalum (Fabricius) Legner et al., 1965d
	Tetramorium guineense (Fabricius) Legner et al., 1965d
	Wasmannia auropunctata (Roger) Legner et al., 1965d
Siphunculina funicola ..... de Meijere	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenbach Syddiq, 1938
	EUBACTERIALES: LACTOBACILLACEAE
	Streptococcus Rosenbach (non-hemolytic) Syddiq, 1938
	Streptococcus Rosenbach Syddiq, 1938
	EUBACTERIALES: CORYNEBACTERIACEAE
	?*Corynebacterium* Lehmann and Neumann Syddiq, 1938
	THALLOPHYTA: PHYCOMYCETES
	MUCORALES: MUCORACEAE
	Mucor mucedo (Linnaeus) Brefeld Syddiq, 1938

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Siphunculina funicola (cont.)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas* Kent Patton, 1921c *Leishmania donovani* Laveran and Mesnil Patton, 1921-22 PROTOMONADIDA: BODONIDAE *Rhynchoidomonas siphunculinae* Patton Patton, 1921c
Oscinella frit (Linnaeus) (host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Hexacola* Foerster Bay et al., 1963 HYMENOPTERA: PTEROMALIDAE *Spalangia drosophilae* Ashmead Bay et al., 1963
Conioscinella mars (Curran) (Synonym: *Oscinella mars*)	SCHIZOPHYTA: SCHIZOMYCETES SPIROCHAETALES: TREPONEMATACEAE *Treponema pertenue* Castellani Kumm et al., 1936
Family: HELEOMYZIDAE	
Subfamily: SUILLIINAE	
Suillia lineata Robineau-Desvoidy (Synonym: *Helomyza lineata*) (prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina stabulans* (Fallén) Porchinskiĭ, 1913
Suillia ustulata Meigen (Synonym: *Helomyza ustulata*) (prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina stabulans* (Fallén) Porchinskiĭ, 1913
Subfamily: HELEOMYZINAE	
Heleomyza Fallén (Synonym: *Helomyza*) (prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina stabulans* (Fallén) Porchinskiĭ, 1913
Heleomyza gigantea Meigen (Synonym: *Helomyza gigantea*) (prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Muscina stabulans* (Fallén) Porchinskiĭ, 1913
Heleomyza modesta Meigen (Synonym: *Helomyza modesta*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella paratyphi* C Castellani and Chalmers Anonymous, 1952

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Heleomyza modesta (cont.)	*Salmonella typhi* Warren and Scott Anonymous, 1952
Section: CALYPTRATAE	
Superfamily: MUSCOIDEA	
Family: ANTHOMYIIDAE	
Subfamily: SCATOPHAGINAE	
Scatophaga Meigen . . .	ENTEROVIRUSES Poliovirus Power et al., 1942
Scatophaga furcata (Say) (Synonym: *Scatophaga squalida*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Rostrup, 1916
Scatophaga lutaria (Fabricius)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas ?muscarum* (Leidy) Kent Mackinnon, 1910
Scatophaga stercoraria (Linnaeus) (Synonyms: *Scopeuma stercoraria, Scopeuma stercorarium*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961 THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora* Fresenius Bail, 1860 *Entomophthora muscae* Cohn Rostrup, 1916 Graham-Smith, 1919 Hammer, 1942 ARTHROPODA: ARACHNIDA ACARINA: LAELAPTIDAE *Holostaspis badius* (Koch) Berlese Weiss, 1915 ARTHROPODA: INSECTA COLLEMBOLA: SMINTHURIDAE *Sminthurus viridis* (Linnaeus) Walters, 1966 COLEOPTERA: STAPHYLINIDAE *Ontholestes tessellatus* Fourcroy Hammer, 1942

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Scatophaga stercoraria (cont.)	*Philonthus* Curtis Hammer, 1942
	HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE Hammer, 1942
	HYMENOPTERA: BRACONIDAE *Aphaereta minuta* Nees Sychevskaĭa, 1964b
	HYMENOPTERA: CYNIPIDAE *Pseudeucoila trichopsila* (Hartig) Sychevskaĭa, 1964b
	DIPTERA: SPHAEROCERIDAE *Copromyza equina* (Fallén) Cotterell, 1920
Subfamily: FUCELLINAE *Fucellia rufitibia* Stein	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia freundii* (Braak) Yale O'Keefe et al., 1954
	Paracolobactrum aerogenoides Borman, Stuart, and Wheeler O'Keefe et al., 1954
	Paracolobactrum intermedium Borman, Stuart, and Wheeler O'Keefe et al., 1954
	Proteus vulgaris Hauser O'Keefe et al., 1954
Subfamily: ANTHOMYIINAE *Hylemya* Robineau-Desvoidy (Synonyms: *Hylemyia, Phorbia*)	SCHIZOPHYTA: SCHIZOMYCETES PSEUDOMONADALES: SPIRILLACEAE *Vibrio comma* (Schroeter) Winslow et al. Anonymous, 1952
	EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella typhi* Warren and Scott Anonymous, 1952
	Shigella dysenteriae (Shiga) Castellani and Chalmers Anonymous, 1952
	EUBACTERIALES: BRUCELLACEAE *Pasteurella pestis* (Lehmann and Neumann) Holland Anonymous, 1952
	EUBACTERIALES: BACILLACEAE *Bacillus anthracis* Cohn Anonymous, 1952

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Hylemya (cont.)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Hylemya aestiva . . . . (Meigen) (Synonym: *Paregle aestiva*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora* Fresenius Hammer, 1942
	ARTHROPODA: INSECTA DIPTERA: ANTHOMYIIDAE *Scatophaga stercoraria* (Linnaeus) Hobby, 1934b
Hylemya antiqua . . (Meigen) (Synonym: *Hylemyia antiqua*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia freundii* (Braak) Yale O'Keefe et al., 1954 *Paracolobactrum aerogenoides* Borman, Stuart, and Wheeler O'Keefe et al., 1954 *Proteus vulgaris* Hauser O'Keefe et al., 1954
	ASCHELMINTHES: NEMATODA TYLENCHIDA: CONTORTYLENCHIDAE *Heterotylenchus aberrans* Bovien Stoffolano, 1969
	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia rugosicollis* Ashmead Perron, 1954b
Hylemya brassicae . . . . Bouché	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles merdarius* (Berlese) Chant, 1960
	COLEOPTERA: STAPHYLINIDAE *Baryodma ontarionis* Casey Colhoun, 1953
Hylemya cardui (Meigen) (Synonym: *Hylemyia cardui*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Rostrup, 1916
Hylemya cinerea Fallén . . (Synonym: *Phorbia cinerea*) (pupa is host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia erythromera brachyceps* Bouček Bouček, 1963

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Hylemya cinerella (Fallén) (Synonym: *Paregle cinerella*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 *Proteus vulgaris* Hauser Povolný et al., 1961 *Providencia* Kauffmann Povolný et al., 1961 EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Povolný et al., 1961 *Staphylococcus saprophyticus* Fairbrother Lysenko, 1958 EUBACTERIALES: LACTOBACILLACEAE *Diplococcus pneumoniae* Weichselbaum Povolný et al., 1961 *Streptococcus durans* Sherman and Wing Lysenko, 1958 *Streptococcus faecalis* Andrewes and Horder var. *faecalis* Lysenko, 1958 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961 *Bacillus subtilis* Cohn Lysenko, 1958 ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaîâ, 1964a ACARINA: PYEMOTIDAE *Pygmephorus* Kramer Sychevskaîâ, 1964a ACARINA: ANOETIDAE *Myianoetus* Oudemans Sychevskaîâ, 1964a ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro venator* (Rohwer) Kurczewski et al., 1968

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Hylemya coarctata (Fallén) (Synonym: *Hylemyia coarctata*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Rostrup, 1916
Hylemya fugax (Meigen) (Synonym: *Hylemyia fugax*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Hylemya nigrimana (Meigen) (Synonym: *Hylemyia nigrimana*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro peltarius* (Schreber) Hamm et al., 1926
Hylemya platura (Meigen) (Synonym: *Phorbia platura*) (pupa is host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia erythromera brachyceps* Bouček Bouček, 1963
Hylemya radicum (Linnaeus) (Synonyms: *Anthomyia radicum, Egle radicum*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Graham-Smith, 1919
	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
	Crabro peltarius (Schreber) Hamm et al., 1926
	Oxybelus bipunctatus Olivier Chevalier, 1926
Hylemya strigosa (Fabricius) (Synonym: *Hylemyia strigosa*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro cribraria* (Linnaeus) Hamm et al., 1926
	DIPTERA: MUSCIDAE *Myospila meditabunda* (Fabricius) Porchinskiĭ, 1910
Hylemya urbana Malloch (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Sericophorus sydneyi* Rayment Rayment, 1954
Hylemya variata (Fallén) (Synonym: *Hylemyia variata*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro peltarius* (Schreber) Hamm et al., 1926

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Pegomya Robineau-Desvoidy (Synonym: *Pegomyia*)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia erythromera brachyceps* Bouček Bouček, 1963
Pegomya finitima Stein	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro advenus* Smith Kurczewski et al., 1968
Pegomya haemorrhoa (Zetterstedt) (Synonym: ?*Pegomyia transversa*)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Phaonia variegata* (Meigen) Keilin, 1917
Pegomya hyoscyami (Panzer) (Synonym: *Pegomyia hyoscyami*)	ARTHROPODA: INSECTA COLEOPTERA: STAPHYLINIDAE *Aleochara curtula* Goeze Kemner, 1926 *Aleochara laevigata* Gyllenhall Kemner, 1926
Pegomya winthemi (Meigen) (Synonym: *Pegomyia winthemi*) (prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Phaonia variegata* (Meigen) Keilin, 1917
Hydrophoria ruralis Meigen (Synonym: *Anthomyia maculata*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas anthomyia* (Franchini) Wenyon Franchini, 1922
Anthomyia Meigen	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE ?*Entomophthora* Fresenius Roubaud, 1911a *Entomophthora muscae* Cohn Thaxter, 1888 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro clypeatus* (Schreber) Hamm et al., 1926 *Crabro peltarius* (Schreber) Hamm et al., 1926
Anthomyia lindigii Schiner (phoresy)	ARTHROPODA: INSECTA DIPTERA: CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) Lutz, 1917

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Anthomyia pluvialis (Linnaeus) (Synonym: *Anthomyia procellaris*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 *Proteus vulgaris* Hauser Povolný et al., 1961 *Providencia* Kauffmann Povolný et al., 1961 EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Povolný et al., 1961 EUBACTERIALES: LACTOBACILLACEAE *Diplococcus pneumoniae* Weichselbaum Povolný et al., 1961 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926 CHORDATA: AVES PASSERIFORMES: PARIDAE *Aegithalus caudatus* (Linnaeus) Séguy, 1929 *Parus caeruleus* Linnaeus subsp. *caeruleus* Séguy, 1929 PASSERIFORMES: STURNIDAE *Sturnus vulgaris* Linnaeus Séguy, 1929 PASSERIFORMES: FRINGILLIDAE *Fringilla coelebs* Linnaeus Séguy, 1929 PASSERIFORMES: PLOCEIDAE *Passer domesticus* (Linnaeus) Séguy, 1929
Calythea albicincta (Fallén)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Zmeev, 1943 ARTHROPODA: ARACHNIDA ACARINA: UNDETERMINED PARASITIDAE Sychevskaĭa, 1964a

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Paraprosalpia billbergi (Zetterstedt) (Synonym: *Prosalpia billbergi*) (predator)	ARTHROPODA: INSECTA DIPTERA: UNDETERMINED CHIRONOMIDAE Hobby, 1934a
Paraprosalpia silvestris (Fallén) (Synonym: *Prosalpia sylvestris*) (predator)	ARTHROPODA: INSECTA DIPTERA: EMPIDIDAE *Empis grisea* Fallén Hobby, 1934a
Leucophora albiseta (von Roser) (Synonym: *Anthomyia albescens*) (parasite)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Dinetus pictus* (Fabricius) Chevalier, 1923c *Diodontus minutus* (Fabricius) Chevalier, 1923c *Oxybelus quattuordecimnotatus* Jurine Chevalier, 1926
Family: MUSCIDAE Subfamily: COENOSIINAE	
Coenosia lineatipes (Zetterstedt)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Coenosia sexnotata Meigen (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Coenosia tigrina (Fabricius) var. *leonina* (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro advenus* Smith Kurczewski et al., 1968 *Crabro peltarius* (Schreber) Hamm et al., 1926
Coenosia tricolor (Zetterstedt) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro palmarius* (Schreber) Hamm et al., 1926
Allognota agromyzina (Fallén) (predator)	ANNELIDA: UNDETERMINED OLIGOCHAETA Keilin, 1917 ARTHROPODA: INSECTA DIPTERA: TIPULIDAE *Ula macroptera* (Macquart) Keilin, 1917
Atherigona Rondani	PROTOZOA: MASTIGOPHORA POLYMASTIGIDA: CHILOMASTIGIDAE *Chilomastix mesnili* (Wenyon) Harris et al., 1946

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	POLYMASTIGIDA: HEXAMITIDAE
	Giardia lamblia Stiles Harris et al., 1946
	TRICHOMONADIDA: TRICHOMONADIDAE
	Trichomonas hominis (Davaine) Harris et al., 1946
	PROTOZOA: SARCODINA
	AMOEBIDA: ENDAMOEBIDAE
	Endolimax nana (Wenyon and O'Connor) Harris et al., 1946
	Entamoeba coli (Grassi) Harris et al., 1946
	Entamoeba histolytica Schaudinn Harris et al., 1946
	Iodamoeba bütschlii (Prowazek) Harris et al., 1946
	PLATYHELMINTHES: CESTOIDEA
	CYCLOPHYLLIDEA: HYMENOLEPIDIDAE
	Hymenolepis diminuta (Rudolphi) Blanchard Harris et al., 1946
	ASCHELMINTHES: NEMATODA
	TRICHURIDEA: TRICHURIDAE
	Trichuris trichiura (Linnaeus) Harris et al., 1946
	STRONGYLIDEA: ANCYLOSTOMATIDAE
	Ancylostoma (Dubini) Harris et al., 1946
	ASCARIDIDEA: ASCARIDIDAE
	Ascaris lumbricoides Linnaeus Harris et al., 1946
Atherigona orientalis . . . Schiner (Synonym: *Atherigona excisa*)	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962
	SCHIZOPHYTA: SCHIZOMYCETES
	SPIROCHAETALES: TREPONEMATACEAE
	Treponema pertenue Castellani Satchell et al., 1953
Subfamily: LIMNOPHORINAE	
Gymnodia arcuata .. (Stein)	ENTEROVIRUSES Poliovirus Francis, Jr. et al., 1948

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Limnophora . . . . . Robineau-Desvoidy	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962 ARTHROPODA: INSECTA DIPTERA: CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) Dunn, 1930 Neel et al., 1955
Xenomyia oxycera Emden	ARTHROPODA: INSECTA DIPTERA: SIMULIIDAE *Simulium damnosum* Theobald Crosskey et al., 1962
Subfamily: MYDAEINAE	
Helina . . . . Robineau-Desvoidy (Synonym: *Spilogaster*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Graham-Smith, 1909 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale Graham-Smith, 1909 *Escherichia coli* var. *communior* (Topley and Wilson) Yale Graham-Smith, 1909 *Escherichia coli* var. *neapolitana* (Topley and Wilson) Yale Graham-Smith, 1909 *Aerobacter aerogenes* (Kruse) Beijerinck Graham-Smith, 1909
Helina anceps . . . . . (Zetterstedt) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Helina clara (Meigen) (Synonym: *Spilogaster clara*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crossocerus quadrimaculatus* (Fabricius) Hamm et al., 1926
Helina depuncta . . . . (Fallén) (Synonym: *Helina tetrastigma*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro peltarius* (Schreber) Hamm et al., 1926

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Helina duplicata (Meigen) (Synonyms: *Spilogaster duplicata, Helina communis*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926 *Crabro palmarius* (Schreber) Hamm et al., 1926 *Crabro peltarius* (Schreber) Hamm et al., 1926
Helina impuncta (Fallén) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro palmarius* (Schreber) Hamm et al., 1926 *Crabro peltarius* (Schreber) Hamm et al., 1926 *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Helina lucorum (Fallén) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro peltarius* (Schreber) Hamm et al., 1926
Helina quadrum (Fabricius) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro peltarius* (Schreber) Hamm et al., 1926 *Crossocerus quadrimaculatus* (Fabricius) Hamm et al., 1926
Myospila meditabunda (Fabricius) (Synonym: *Myiospila meditabunda*)	ENTEROVIRUSES Poliovirus Francis, Jr. et al., 1948 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro venator* (Rohwer) Kurczewski et al., 1968 LEPIDOPTERA: NOCTUIDAE *Macronoctua onusta* Grote Breakey, 1929
Mydaea Robineau-Desvoidy	THALLOPHYTA: ASCOMYCETES HYPOCREALES: HYPOCREACEAE *Cordyceps dipterigena* Berkeley and Broome Petch, 1923 MOLLUSCA: GASTROPODA SIGMURETHRA: ACHATINIDAE *Burtoa nilotica* (Pfeiffer) Rodhain et al., 1916

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Mydaea detrita . . . . Zetterstedt (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Mydaea pagana . . . . . (Fabricius) (cannibalism)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Mydaea pagana* (Fabricius) Thomson, 1937
Mydaea pertusa . . . . . Meigen	CHORDATA: AVES PASSERIFORMES: PARIDAE *Parus caeruleus* Linnaeus subsp. *caeruleus* Séguy, 1929
Mydaea tincta . . . . . (Zetterstedt) (predator?)	ARTHROPODA: INSECTA DIPTERA: MYCETOPHILIDAE *Mycetophila lineola* Meigen Keilin, 1917
Mydaea urbana .... (Meigen)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Povolný et al., 1961 *Proteus vulgaris* Hauser Povolný et al., 1961 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Subfamily: FANNIINAE	
Fannia . . . . . Robineau-Desvoidy	ENTEROVIRUSES Poliovirus Toomey et al., 1941 Trask et al., 1943 Melnick et al., 1945 Poliovirus Types 1 and 3 Riordan et al., 1961 Paul et al., 1962 Coxsackievirus Type A9 (A9), Type B5 (B5) Riordan et al., 1961 ECHO virus Types 1, 5, 11 Riordan et al., 1961

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Fannia (cont.)	ECHO virus Types 8, 12, 14 Paul et al., 1962
	SCHIZOPHYTA: SCHIZOMYCETES PSEUDOMONADALES: SPIRILLACEAE *Vibrio comma* (Schroeter) Winslow et al. Savchenko, 1892a, 1892b
	EUBACTERIALES: ENTEROBACTERIACEAE *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965
	PROTOZOA: MASTIGOPHORA POLYMASTIGIDA: HEXAMITIDAE *Giardia intestinalis* (Lambl) Wenyon et al., 1917a
	PROTOZOA: SARCODINA AMOEBIDA: ENDAMOEBIDAE *Entamoeba coli* (Grassi) Wenyon et al., 1917a *Entamoeba histolytica* Schaudinn Wenyon et al., 1917a
	ASCHELMINTHES: NEMATODA ASCARIDIDEA: ASCARIDIDAE *Ascaris lumbricoides* Linnaeus Sukhacheva, 1963
	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Alysia manducator* Panzer Myers, 1927
	CHORDATA: AVES GALLIFORMES: PHASIANIDAE *Gallus gallus* Linnaeus Rodriguez et al., 1962b
Fannia aërea .... (Zetterstedt) (prey)	ARTHROPODA: INSECTA DIPTERA: ASILIDAE *Isopogon brevirostris* (Meigen) Hobby, 1934b
Fannia armata .... (Meigen) (predator)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926 *Crabro peltarius* (Schreber) Hamm et al., 1926
Fannia canicularis . . .. (Linnaeus) (Synonym: *Homalomyia canicularis*)	ENTEROVIRUSES Poliovirus Francis, Jr. et al., 1948

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Fannia canicularis (cont.)

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ACHROMOBACTERIACEAE
Alcaligenes faecalis Castellani and Chalmers
Gregor et al., 1960
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Yao et al., 1929
Gregor et al., 1960
Povolný et al., 1961
Escherichia coli var. *acidilactici* (Topley and Wilson) Yale
Graham-Smith, 1909
Zmeev, 1943
Escherichia coli var. *communior* (Topley and Wilson) Yale
Graham-Smith, 1909
Escherichia coli var. *neapolitana* (Topley and Wilson) Yale
Graham-Smith, 1909
Escherichia intermedia (Werkman and Gillen) Vaughn and Levine
Zmeev, 1943
O'Keefe et al., 1954
Aerobacter aerogenes (Kruse) Beijerinck
Zmeev, 1943
O'Keefe et al., 1954
Gregor et al., 1960
Povolný et al., 1961
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Cloaca Castellani and Chalmers
Zmeev, 1943
Paracolobactrum aerogenoides Borman, Stuart, and Wheeler
Zmeev, 1943
Serratia marcescens Bizio
Gregor et al., 1960

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Fannia canicularis (cont.)

Proteus inconstans (Ornstein) Shaw and Clarke
Gregor et al., 1960
Proteus mirabilis Hauser
O'Keefe et al., 1954
Gregor et al., 1960
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
O'Keefe et al., 1954
Gregor et al., 1960
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Gregor et al., 1960
Proteus vulgaris Hauser
O'Keefe et al., 1954
Gregor et al., 1960
Povolný et al., 1961
Salmonella hirschfeldii Weldin
Yao et al., 1929
Citrobacter freundii Werkman and Gillen
Zmeev, 1943
Gregor et al., 1960
Shigella dysenteriae (Shiga) Castellani and Chalmers
Yao et al., 1929
Shigella flexneri Castellani and Chalmers
Sychevskaîa et al., 1959a
Arskiĭ et al., 1961
Shigella sonnei (Levine) Weldin
Arskiĭ et al., 1961
EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE
Paraescherichia, unvalidated
Zmeev, 1943
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Gregor et al., 1960
Povolný et al., 1961
Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960

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Fannia canicularis (cont.)

EUBACTERIALES:
LACTOBACILLACEAE
Streptococcus durans Sherman and Wing
Gregor et al., 1960

EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
Bacillus thuringiensis Berliner
Eversole et al., 1965

ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium leprae (Hansen) Lehmann and Neumann
Asami, 1934

THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora Fresenius
Graham-Smith, 1916
Entomophthora muscae Cohn
Buchanan, 1913
Graham-Smith, 1919
Wilhelmi, 1919
Tischler, 1950
Steve, 1959

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Dunkerly, 1911
Herpetomonas muscarum (Leidy) Kent
Dunkerly, 1911
Patton, 1921a
Leptomonas Kent
Dunkerly, 1911

PROTOMONADIDA: BODONIDAE
Bodo Ehrenberg
Dunkerly, 1912

POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Root, 1921

POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Root, 1921

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Fannia canicularis (cont.)

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Root, 1921
Yao et al., 1929
Entamoeba coli (Grassi)
Root, 1921
Yao et al., 1929
Entamoeba histolytica Schaudinn
Root, 1921
Yao et al., 1929
PLATYHELMINTHES: CESTOIDEA
PSEUDOPHYLLIDEA: DIPHYLLOBOTHRIIDAE
Bothriocephalus marginatus Krefft
Nicoll, 1911b
ASCHELMINTHES: NEMATODA
SPIRURIDEA: SPIRURIDAE
Habronema megastoma (Rudolphi) Seurat
Roubaud et al., 1922b
Habronema muscae (Carter)
Roubaud et al., 1922b
ARTHROPODA: ARACHNIDA
ARANEAE: SALTICIDAE
Salticus scenicus (Clerck)
Steve, 1959
ACARINA: MACROCHELIDAE
Glyptholaspis confusa (Foa)
Axtell, 1961a
Macrocheles glaber (Müller)
Filipponi, 1960
Macrocheles muscaedomesticae (Scopoli)
Buchanan, 1916
Steve, 1959
Filipponi, 1960
Axtell, 1961a
Anderson, 1964
Singh et al., 1966
O'Donnell, 1967
Macrocheles perglaber Filipponi and Pegazzano
Filipponi, 1960
Macrocheles subbadius Berlese
Filipponi, 1960
ACARINA: UROPODIDAE
Fuscuropoda Vitzthum
Anderson, 1964

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Fannia canicularis (cont.)

Fuscuropoda vegetans (De Geer)
O'Donnell, 1967
ACARINA: ANOETIDAE
Myianoetus muscarum (Linnaeus)
Greenberg et al., 1960
ARTHROPODA: INSECTA
ORTHOPTERA: LOCUSTIDAE
Nomadacris septembasciata Serville
Jack, 1935
Schistocerca gregaria Fôrskal
Nocedo, 1921
Régnier, 1931
DERMAPTERA: FORFICULIDAE
Forficula auricularia Linnaeus
Anderson, 1964
LEPIDOPTERA: PYRALIDIDAE
Epischnia incanella Holst
Heeger, 1848 (see Hewitt, 1912)
LEPIDOPTERA: SPHINGIDAE
Acherontia atropos Linnaeus
Keilin, 1917
COLEOPTERA: UNDETERMINED STAPHYLINIDAE
Anderson, 1964
COLEOPTERA: SCARABAEIDAE
Lachnosterna Hope
Davis, 1919
COLEOPTERA: CURCULIONIDAE
Conotrachelus retentus Say
Brooks, 1922
HYMENOPTERA: ICHNEUMONIDAE
Stilpnus anthyomyidiperda Viereck
Legner et al. (pre-publication), 1965a
Legner (pre-publication), 1966
Legner et al., 1966b
HYMENOPTERA: PTEROMALIDAE
Muscidifurax raptor Girault and Sanders
Legner (pre-publication), 1966
Pachycrepoideus vindemmiae Rondani
Steve, 1959
Spalangia[1] Latreille
Sychevskaîa, 1964b
Spalangia cameroni Perkins
Legner (pre-publication), 1966

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Fannia canicularis (cont.)

Spalangia endius Walker
Legner (pre-publication), 1966
Spalangia nigroaenea Curtis
Legner (pre-publication), 1966
HYMENOPTERA: DIAPRIIDAE
Trichopria Ashmead
Legner (pre-publication), 1966
HYMENOPTERA: FORMICIDAE
Camponotus pennsylvanicus De Geer
Steve, 1959
HYMENOPTERA: SPHECIDAE
Crabro advenus Smith
Kurczewski et al., 1968
Crossocerus quadrimaculatus (Fabricius)
Hamm et al., 1926
Oxybelus uniglumis (Linnaeus)
Chevalier, 1926
HYMENOPTERA: VESPIDAE
Vespa germanica Fabricius
Kühlhorn, 1961
Vespa vulgaris Linnaeus
Kühlhorn, 1961
HYMENOPTERA: APIDAE
Bombus terrestris Linnaeus
Hewitt, 1912
DIPTERA: ANTHOMYIIDAE
Scatophaga stercoraria (Linnaeus)
Hewitt, 1914
Steve, 1959
DIPTERA: MUSCIDAE
Ophyra leucostoma (Wiedemann)
Anderson, 1964
Muscina assimilis (Fallén)
Keilin, 1917
DIPTERA: SARCOPHAGIDAE
Ravinia striata Fabricius
Sychevskaĭa, 1954
Sarcophaga haemorrhoidalis (Fallén)
Sychevskaĭa, 1954
CHORDATA: AVES
PASSERIFORMES: HIRUNDINIDAE
Hirundo rustica Linnaeus subsp. *rustica*
Séguy, 1929
PASSERIFORMES: TURDIDAE
Luscinia megarhynchos Brehm
Séguy, 1929

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Fannia canicularis (cont.)	CHORDATA: MAMMALIA RODENTIA: UNDETERMINED GLIRIDAE Hewitt, 1912
Fannia ?corvina ..... (Verrall) (Synonym: *Homalomyia corvina*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas ?muscarum* (Leidy) Kent Mackinnon, 1910
Fannia femoralis ..... (Stein)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Muscidifurax raptor* Girault and Sanders Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966c *Nasonia vitripennis*[1] (Walker) Roberts, 1933a Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b *Spalangia*[2] *cameroni* Perkins Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b *Spalangia endius* Walker Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b *Spalangia nigroaenea* Curtis Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b *Spalangia simplex* Perkins Legner et al. (pre-publication), 1965a HYMENOPTERA: DIAPRIIDAE *Trichopria* Ashmead Legner (pre-publication), 1966

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

[2] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Fannia femoralis (cont.)	DIPTERA: MUSCIDAE
	Ophyra leucostoma (Wiedemann) Legner et al. (pre-publication), 1965a
Fannia incisurata (Zetterstedt)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Lysenko, 1958
	Proteus inconstans (Ornstein) Shaw and Clarke Lysenko, 1958
	Proteus rettgeri (Hadley et al.) Rustigian and Stuart Lysenko, 1958
	Proteus vulgaris Hauser Lysenko, 1958
	Citrobacter freundii Werkman and Gillen Lysenko, 1958
	ARTHROPODA: INSECTA
	HYMENOPTERA: ICHNEUMONIDAE
	Stilpnus Gravenhorst Sychevskaĭa, 1964b
	HYMENOPTERA: SPHECIDAE
	Crossocerus quadrimaculatus (Fabricius) Hamm et al., 1926
	CHORDATA: AVES
	PASSERIFORMES: UNDETERMINED PARIDAE
	Séguy, 1929
Fannia kowarzi (Verrall) (prey)	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Crabro leucostoma (Linnaeus) Hamm et al., 1926
Fannia leucosticta (Meigen)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli var. *acidilactici* (Topley and Wilson) Yale Zmeev, 1943
	Escherichia intermedia (Werkman and Gillen) Vaughn and Levine Zmeev, 1943
	Aerobacter Beijerinck Zmeev, 1943

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Fannia leucosticta (cont.)	*Aerobacter aerogenes* (Kruse) Beijerinck Zmeev, 1943
	Cloaca Castellani and Chalmers Zmeev, 1943
	Paracolobactrum aerogenoides Borman, Stuart, and Wheeler Zmeev, 1943
	Citrobacter freundii Werkman and Gillen Zmeev, 1943
	ARTHROPODA: ARACHNIDA
	ACARINA: MACROCHELIDAE
	Macrocheles muscaedomesticae (Scopoli) Sychevskaĭa, 1964a
	Macrocheles plumiventris Hull Sychevskaĭa, 1964a
	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Spalangia[1] Latreille Sychevskaĭa, 1964b
	Spalangia cameroni Perkins Bouček, 1963
	Spalangia endius Walker Bouček, 1963
	Spalangia nigripes Curtis Bouček, 1963
	DIPTERA: SARCOPHAGIDAE
	Ravinia striata Fabricius Sychevskaĭa, 1954
	Sarcophaga haemorrhoidalis (Fallén) Sychevskaĭa, 1954
Fannia lineata (Stein)	CHORDATA: AVES
	PASSERIFORMES: STURNIDAE
	Sturnus vulgaris (Linnaeus) Séguy, 1929
Fannia manicata (Meigen)	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
(prey)	*Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Fannia polychaeta Stein	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
(prey)	*Crabro leucostoma* (Linnaeus) Hamm et al., 1926
	Crabro pubescens Shuckard Hamm et al., 1926

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Fannia polychaeta (cont.)	*Oxybelus bipunctatus* Olivier Chevalier, 1926
Fannia pusio (Wiedemann) (prey)	ARTHROPODA: INSECTA DERMAPTERA: LABIDURIDAE *Euborellia annulipes* (Lucas) Illingworth, 1923a DERMAPTERA: LABIIDAE *Labia pilicornis* (Motschulsky) Illingworth, 1923a *Spingolabis hawaiiensis* (Bormans) Illingworth, 1923a COLEOPTERA: HYDROPHILIDAE *Cryptopleurum minutum* Fabricius Illingworth, 1923a *Dactylosternum abdominale* Fabricius Illingworth, 1923a COLEOPTERA: STAPHYLINIDAE *Oxytelus* Gravenhorst Illingworth, 1923a *Philonthus discoideus* Gravenhorst Illingworth, 1923a *Philonthus longicornis* Stephens Illingworth, 1923a *Tachyporus Gravenhorst* Illingworth, 1923a HYMENOPTERA: FORMICIDAE *Pheidole megacephala* (Fabricius) Illingworth, 1923a *Ponera perkinsi* Forel Illingworth, 1923a
Fannia scalaris (Fabricius) (Synonym: *Homalomyia scalaris*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia* Castellani and Chalmers Zmeev, 1943 *Escherichia coli* (Migula) Castellani and Chalmers Yao et al., 1929 Povolný et al., 1961 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale Zmeev, 1943 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale= [*Escherichia paraacidilactici*] Zmeev, 1943

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Fannia scalaris (cont.)

Escherichia coli var. *communior* (Topley and Wilson) Yale
Zmeev, 1943
Escherichia intermedia (Werkman and Gillen) Vaughn and Levine
Zmeev, 1943
O'Keefe et al., 1954
Aerobacter Beijerinck
Zmeev, 1943
Aerobacter aerogenes (Kruse) Beijerinck
Zmeev, 1943
Cloaca Castellani and Chalmers
Zmeev, 1943
Serratia Bizio
Povolný et al., 1961
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
O'Keefe et al., 1954
Proteus vulgaris Hauser
O'Keefe et al., 1954
Povolný et al., 1961
Providencia Kauffmann
Povolný et al., 1961
Salmonella hirschfeldii Weldin
Yao et al., 1929
Citrobacter freundii Werkman and Gillen
Zmeev, 1943
Citrobacter freundii Werkman and Gillen=[*Escherichia anindolica*]
Zmeev, 1943
Shigella Castellani and Chalmers
Zaidenov, 1961
Shigella dysenteriae (Shiga) Castellani and Chalmers
Yao et al., 1929
Shigella flexneri Castellani and Chalmers
Sychevskaĭa et al., 1959a

EUBACTERIALES: MICROCOCCACEAE

Staphylococcus aureus Rosenbach
Povolný et al., 1961

EUBACTERIALES: LACTOBACILLACEAE

Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961

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Fannia scalaris (cont.)

EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Léger, 1903
Brug, 1915
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Yao et al., 1929
Entamoeba coli (Grassi)
Yao et al., 1929
Entamoeba histolytica Schaudinn
Yao et al., 1929
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: NOSEMATIDAE
Thelohania ovata Dunkerly
Dunkerly, 1912
MICROSPORIDA: MRAZEKIIDAE
Octosporea monospora Chatton and Krempf
Brug, 1914
ARTHROPODA: ARACHNIDA
ACARINA: MACROCHELIDAE
Macrocheles Latreille
Sychevskaĭa, 1964a
Macrocheles muscaedomesticae (Scopoli)
Sychevskaĭa, 1964a
ACARINA: ANOETIDAE
Myianoetus Oudemans
Sychevskaĭa, 1964a
ARTHROPODA: INSECTA
HYMENOPTERA: ICHNEUMONIDAE
Stilpnus Gravenhorst
Sychevskaĭa, 1964b
HYMENOPTERA: PTEROMALIDAE
Pachycrepoideus vindemmiae Rondani
Steve, 1959
Spalangia[1] Latreille
Sychevskaĭa, 1964b

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Fannia scalaris (cont.)	*Spalangia cameroni* Perkins Bouček, 1963 *Spalangia endius* Walker Bouček, 1963 *Spalangia nigripes* Curtis Bouček, 1963 HYMENOPTERA: SPHECIDAE *Crabro signatus* Panzer Chevalier, 1923b *Crossocerus quadrimaculatus* (Fabricius) Hamm et al., 1926 *Oxybelus uniglumis* (Linnaeus) Chevalier, 1926 DIPTERA: SARCOPHAGIDAE *Ravinia striata* Fabricius Sychevskaĭa, 1954 *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaĭa, 1954
	CHORDATA: AVES PASSERIFORMES: HIRUNDINIDAE *Delichon urbica* (Linnaeus) subsp. *urbica* Séguy, 1929 *Hirundo rustica* Linnaeus subsp. *rustica* Séguy, 1929 PASSERIFORMES: PLOCEIDAE *Passer domesticus* (Linnaeus) Séguy, 1929
Fannia ?serena (Fallén) . . . (prey)	ARTHROPODA: INSECTA DIPTERA: ANTHOMYIIDAE *Scatophaga stercoraria* (Linnaeus) Hobby, 1934b
Fannia similis Stein .... (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Fannia subscalaris Zimin . (competition)	ARTHROPODA: INSECTA DIPTERA: SARCOPHAGIDAE *Ravinia striata* Fabricius Sychevskaĭa, 1954 *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaĭa, 1954

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Subfamily: PHAONIINAE

Hydrotaea albipuncta (Zetterstedt) (Synonym: *Hydrotaea albipunctata*) . . . ARTHROPODA: INSECTA
HYMENOPTERA: UNDETERMINED
ICHNEUMONIDAE
Hammer, 1942
HYMENOPTERA: SPHECIDAE
Crabro leucostoma (Linnaeus)
Hamm et al., 1926

Hydrotaea armipes (Fallén) . ARTHROPODA: ARACHNIDA
ACARINA: ASCAIDAE
Gamasellus Berlese
Sychevskaĭa, 1964a
HYMENOPTERA: ANOETIDAE
Myianoetus Oudemans
Sychevskaĭa, 1964a
ARTHROPODA: INSECTA
HYMENOPTERA: SPHECIDAE
Crabro leucostoma (Linnaeus)
Hamm et al., 1926

Hydrotaea australis Malloch ASCHELMINTHES: NEMATODA
FILARIIDAE: DIPETALONEMATIDAE
Oncocerca gibsoni (Cleland and Johnston)
Henry, 1927
ARTHROPODA: INSECTA
HYMENOPTERA: PTEROMALIDAE
Spalangia endius Walker
Bouček, 1963
Spalangia orientalis Graham
Mackerras, 1932
HYMENOPTERA: DIAPRIIDAE
Phaenopria Ashmead
Mackerras, 1932

Hydrotaea dentipes (Fabricius) SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ACHROMOBACTERIACEAE
Alcaligenes faecalis Castellani and Chalmers
Lysenko, 1958
Gregor et al., 1960
Flavobacterium devorans (Zimmermann) Bergey et al.
Lysenko, 1958
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960

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Hydrotaea dentipes (cont.)

EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula)
Castellani and Chalmers
Lysenko, 1958
Gregor et al., 1960
Povolný et al., 1961
Aerobacter aerogenes (Kruse)
Beijerinck
Gregor et al., 1960
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Serratia Bizio
Povolný et al., 1961
Serratia marcescens Bizio
Gregor et al., 1960
Proteus inconstans (Ornstein)
Shaw and Clarke
Lysenko, 1958
Gregor et al., 1960
Proteus mirabilis Hauser
Lysenko, 1958
Gregor et al., 1960
Proteus morganii (Winslow,
Kligler, and Rothberg) Yale
Gregor et al., 1960
Proteus rettgeri (Hadley et al.)
Rustigian and Stuart
Lysenko, 1958
Gregor et al., 1960
Proteus vulgaris Hauser
Lysenko, 1958
Gregor et al., 1960
Povolný et al., 1961
Providencia Kauffmann
Povolný et al., 1961
Citrobacter freundii Werkman and
Gillen
Gregor et al., 1960
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw,
Stitt, and Cowan
Lysenko, 1958
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Gregor et al., 1960
Povolný et al., 1961
Staphylococcus lactis Shaw, Stitt,
and Cowan
Gregor et al., 1960

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Hydrotaea dentipes (cont.)

Staphylococcus saprophyticus Fairbrother
Lysenko, 1958
Gregor et al., 1960
EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961
Streptococcus durans Sherman and Wing
Lysenko, 1958
Gregor et al., 1960
Streptococcus faecalis Andrewes and Horder
Lysenko, 1958
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES: ENTOMOPHTHORACEAE
Entomophthora Fresenius
Graham-Smith, 1916
Entomophthora muscae Cohn
Graham-Smith, 1919
ARTHROPODA: ARACHNIDA
ACARINA: LAELAPTIDAE
Holostaspis Kolenati
Graham-Smith, 1916
ARTHROPODA: INSECTA
HYMENOPTERA: ICHNEUMONIDAE
Atractodes gravidus Gravenhorst
Meyers, 1929
HYMENOPTERA: CYNIPIDAE
Kleidotoma Westwood
James, 1928
Kleidotoma marshalli Marshall
James, 1928
HYMENOPTERA: FIGITIDAE
Figites anthomyiarum (Bouché)
James, 1928
Figites striolatus Hartig
Myers, 1929
HYMENOPTERA: PTEROMALIDAE
Spalangia cameroni Perkins
Bouček, 1963

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Hydrotaea dentipes (cont.)	HYMENOPTERA: SPHECIDAE
	Oxybelus quattuordecimnotatus Jurine
	Chevalier, 1926
	DIPTERA: ANTHOMYIIDAE
	Scatophaga stercoraria (Linnaeus)
	Hobby, 1934b
	DIPTERA: MUSCIDAE
	Muscina stabulans (Fallén)
	Porchinskiĭ, 1913
	Polietes albolineata (Fallén)
	Porchinskiĭ, 1910
Hydrotaea irritans (Fallén)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ACHROMOBACTERACEAE
	Alcaligenes faecalis Castellani and Chalmers
	Gregor et al., 1960
	Flavobacterium devorans (Zimmermann) Bergey et al.
	Gregor et al., 1960
	Flavobacterium invisible (Vaughan) Bergey et al.
	Gregor et al., 1960
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers
	Gregor et al., 1960
	Aerobacter aerogenes (Kruse) Beijerinck
	Gregor et al., 1960
	Klebsiella cloacae (Jordan) Brisou
	Gregor et al., 1960
	Serratia marcescens Bizio
	Gregor et al., 1960
	Proteus inconstans (Ornstein) Shaw and Clarke
	Gregor et al., 1960
	Proteus mirabilis Hauser
	Gregor et al., 1960
	Proteus morganii (Winslow, Kligler, and Rothberg) Yale
	Gregor et al., 1960
	Proteus rettgeri (Hadley et al.) Rustigian and Stuart
	Gregor et al., 1960
	Proteus vulgaris Hauser
	Gregor et al., 1960

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Hydrotaea irritans (cont.)

Citrobacter freundii Werkman and Gillen
Gregor et al., 1960

EUBACTERIALES: MICROCOCCACEAE

Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960

Staphylococcus aureus Rosenbach
Gregor et al., 1960

Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960

Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960

EUBACTERIALES: LACTOBACILLACEAE

Streptococcus durans Sherman and Wing
Gregor et al., 1960

EUBACTERIALES: CORYNEBACTERIACEAE

Corynebacterium pyogenes (Glaze) Eberson
Bahr, 1952, 1953

EUBACTERIALES: BACILLACEAE

Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960

ARTHROPODA: ARACHNIDA

ACARINA: MACROCHELIDAE

Macrocheles Latreille
Sychevskaĭa, 1964a

ACARINA: ANOETIDAE

Myianoetus Oudemans
Sychevskaĭa, 1964a

ARTHROPODA: INSECTA

HYMENOPTERA: SPHECIDAE

Crabro leucostoma (Linnaeus)
Hamm et al., 1926

Crabro peltarius (Schreber)
Hamm et al., 1926

Ectemnius quadricinctus (Fabricius)
Hamm et al., 1926

DIPTERA: ASILIDAE

Laphria flava (Linnaeus)
Hobby, 1934b

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Hydrotaea ?irritans (Fallén) (prey)	ARTHROPODA: INSECTA DIPTERA: ANTHOMYIIDAE *Scatophaga stercoraria* (Linnaeus) Hobby, 1934b
Hydrotaea meteorica (Linnaeus) (prey)	ASCHELMINTHES: NEMATODA TYLENCHIDA: CONTORTYLENCHIDAE *Heterotylenchus autumnalis* Nickle Világiová, 1968 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926 *Oxybelus bipunctatus* Olivier Chevalier, 1926
Hydrotaea occulta . . .... (Meigen)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 *Proteus vulgaris* Hauser Povolný et al., 1961 *Providencia* Kauffmann Povolný et al., 1961 EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Povolný et al., 1961 EUBACTERIALES: LACTOBACILLACEAE *Diplococcus pneumoniae* Weichselbaum Povolný et al., 1961 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961
Hydrotaea parva Meade (prey)	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Coenosia tigrina* (Zetterstedt) Hobby, 1934b
Ophyra . . . . Robineau-Desvoidy (Synonym: ?*Phyra*)	ENTEROVIRUSES Poliovirus Trask et al., 1943 Poliovirus Types 1, 3 Riordan et al., 1961 Coxsackievirus Types A9 (A9), B5 (B5) Riordan et al., 1961 ECHO virus Types 1, 5, 11 Riordan et al., 1961

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Ophyra (cont.)

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Shimizu et al., 1965
Providencia Kauffmann
Shimizu et al., 1965
Salmonella chester Kauffmann
Bulling et al., 1959
Salmonella typhimurium (Loeffler) Castellani and Chalmers
Bulling et al., 1959
Shigella Castellani and Chalmers
Shimizu et al., 1965
Shigella boydii Ewing 2, 5, 6
Richards et al., 1961
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Richards et al., 1961
Shigella flexneri Castellani and Chalmers 1a, 2a, 3, 4a, 4b, 6
Richards et al., 1961
Shigella sonnei (Levine) Weldin 1
Richards et al., 1961
ASCHELMINTHES: NEMATODA
ASCARIDIDEA: ASCARIDIDAE
Ascaris lumbricoides Linnaeus
Sukhacheva, 1963
CHORDATA: AVES
GALLIFORMES: PHASIANIDAE
Gallus gallus Linnaeus
Rodriguez et al., 1962b

Ophyra aenescens (Wiedemann) . . . .

ENTEROVIRUSES
Poliovirus Types 1, 3
Paul et al., 1962
ECHO virus Types 8, 12, 14
Paul et al., 1962
SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli var. *communior* (Topley and Wilson) Yale
Beyer, 1925
Salmonella Lignières
Greenberg et al., 1964
Salmonella anatum (Rettger and Scoville) Bergey et al.
Greenberg et al., 1963b
Salmonella blockley Kauffmann
Greenberg et al., 1964

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Ophyra aenescens (cont.)	*Salmonella bovis-morbificans* (Basenau) Schütze et al. Greenberg et al., 1963b *Salmonella derby* Warren and Scott Greenberg et al., 1963b *Salmonella new brunswick* Edwards Greenberg et al., 1963b *Shigella* Castellani and Chalmers Greenberg et al., 1964 *Shigella dysenteriae* (Shiga) Beyer, 1925
	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Roberts, 1933a
Ophyra anthrax . . . . . (Meigen)	ARTHROPODA: ARACHNIDA ACARINA: PARASITIDAE *Parasitus lunaris* Berlese Sychevskaĭa, 1964a ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaĭa, 1964a ACARINA: ANOETIDAE *Myianoetus* Oudemans Sychevskaĭa, 1964a
	ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Cothonaspis nigricornis* (Kieffer) Sychevskaĭa, 1964b HYMENOPTERA: FIGITIDAE *Figites discordis* Belizin Sychevskaĭa, 1964b HYMENOPTERA: PTEROMALIDAE *Spalangia*[1] Latreille Sychevskaĭa, 1964b *Spalangia cameroni* Perkins Bouček, 1963 *Spalangia stomoxysiae* Girault Bouček, 1963
Ophyra calcogaster . . . . . Wiedemann	THALLOPHYTA: PHYCOMYCETES MUCORALES: MUCORACEAE *Mucor ambiguus* Vuillemin Usui, 1960
Ophyra leucostoma . . . . . (Wiedemann)	ENTEROVIRUSES Poliovirus Paul et al., 1941

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Ophyra leucostoma (cont.)

Sabin et al., 1942
Melnick et al., 1945
Poliovirus Strain 113
Levkovich et al., 1957
Poliovirus Type 2, Lansing strain
Levkovich et al., 1957

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ACHROMOBACTERIACEAE
Alcaligenes faecalis Castellani and Chalmers
Gregor et al., 1960
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Gregor et al., 1960
Povolný et al., 1961
Escherichia coli var. *acidilactici* (Topley and Wilson) Yale
Shura-Bura, 1952
Aerobacter aerogenes (Kruse) Beijerinck
Gregor et al., 1960
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Serratia marcescens Bizio
Gregor et al., 1960
Proteus inconstans (Ornstein) Shaw and Clarke
Lysenko, 1958
Gregor et al., 1960
Proteus mirabilis Hauser
Gregor et al., 1960
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Gregor et al., 1960
Povolný et al., 1961
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Lysenko, 1958
Gregor et al., 1960

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Ophyra leucostoma (cont.)

Proteus vulgaris Hauser
Gregor et al., 1960
Povolný et al., 1961
Citrobacter freundii Werkman and Gillen
Lysenko, 1958
Gregor et al., 1960
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Gregor et al., 1960
Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960
EUBACTERIALES: LACTOBACILLACEAE
Streptococcus Rosenbach
Povolný et al., 1961
Streptococcus durans Sherman and Wing
Gregor et al., 1960
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
ARTHROPODA: ARACHNIDA
PSEUDOSCORPIONIDEA: CHERNETIDAE
Lamprochernes nodosus (Schrank)
Graham-Smith, 1916
ACARINA: ASCAIDAE
Gamasellus Berlese
Sychevskaĭa, 1964a
ACARINA: MACROCHELIDAE
Macrocheles muscaedomesticae (Scopoli)
Sychevskaĭa, 1964a
ACARINA: LAELAPTIDAE
Holostaspis Kolenati
Graham-Smith, 1916
ACARINA: ANOETIDAE
Myianoetus Oudemans
Sychevskaĭa, 1964a

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Ophyra leucostoma (cont.)

ARTHROPODA: INSECTA
HYMENOPTERA: ICHNEUMONIDAE
Atractodes ?gravidus Gravenhorst
Sychevskaĭa, 1964b
HYMENOPTERA: BRACONIDAE
Alysia ridibunda Say
Roberts, 1935
HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Roberts, 1935
HYMENOPTERA: PTEROMALIDAE
Muscidifurax raptor Girault and Sanders
Legner et al. (pre-publication), 1965a
Legner et al., 1966b
Legner (pre-publication), 1966
Nasonia vitripennis (Walker)
Roberts, 1933a
Legner (pre-publication), 1966
Spalangia[1] *cameroni* Perkins
Legner (pre-publication), 1966
Spalangia endius Walker
Legner et al. (pre-publication), 1965a
Legner et al., 1966b
Legner (pre-publication), 1966
Spalangia nigroaenea Curtis
Legner et al. (pre-publication), 1965a
Legner (pre-publication), 1966
Legner et al., 1966b
HYMENOPTERA: SPHECIDAE
Crabro leucostoma (Linnaeus)
Hamm et al., 1926
Crabro peltarius (Schreber)
Hamm et al., 1926
Oxybelus quattuordecimnotatus Jurine
Chevalier, 1926
CHORDATA: AVES
PASSERIFORMES: HIRUNDINIDAE
Delichon urbica (Linnaeus) subsp. *urbica*
Séguy, 1929
Hirundo rustica (Linnaeus) subsp. *rustica*
Séguy, 1929

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Ophyra nigra Wiedemann	ARTHROPODA: INSECTA DERMAPTERA: LABIDURIDAE *Euborellia annulipes* (Lucas) Illingworth, 1923a DERMAPTERA: LABIIDAE *Labia pilicornis* (Motschulsky) Illingworth, 1923a *Spingolabis hawaiiensis* (Bormans) Illingworth, 1923a COLEOPTERA: HYDROPHILIDAE *Cryptopleurum minutum* Fabricius Illingworth, 1923a *Dactylosternum abdominale* Fabricius Illingworth, 1923a COLEOPTERA: STAPHYLINIDAE *Oxytelus* Gravenhorst Illingworth, 1923a *Philonthus discoideus* Gravenhorst Illingworth, 1923a *Philonthus longicornis* Stephens Illingworth, 1923a *Tachyporus* Gravenhorst Illingworth, 1923a HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Froggatt, 1919 Johnston et al., 1921 HYMENOPTERA: DIAPRIIDAE *Hemilexomyia abrupta* Dodd Dodd, 1920 Johnston et al., 1921 HYMENOPTERA: FORMICIDAE *Pheidole megacephala* Fabricius Illingworth, 1923a *Ponera perkinsi* Forel Illingworth, 1923a
Lasiops simplex . . . . . (Wiedemann) (Synonym: *Alloeostylus simplex*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Povolný et al., 1961

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Lasiops variabilis (Robineau-Desvoidy) (Synonym: *Hyetodesia variabilis*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Rostrup, 1916
Dendrophaonia querceti (Bouché)	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaîâ, 1964a
	ARTHROPODA: INSECTA HYMENOPTERA: ICHNEUMONIDAE *Stilpnus* Gravenhorst Sychevskaîâ, 1964b
	HYMENOPTERA: CHALCIDIDAE *Brachymeria minuta* (Fabricius) Sychevskaîâ, 1966
Phaonia Robineau-Desvoidy (Synonym: *Hyetodesia*) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926
Phaonia basilis (Zetterstedt) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Phaonia cincta (Zetterstedt) (predator)	ARTHROPODA: INSECTA DIPTERA: UNDETERMINED CERATOPOGONIDAE Keilin, 1917
	DIPTERA: ANISOPODIDAE *Mycetobia pallipes* Meigen Keilin, 1917
	SYRPHIDAE: UNDETERMINED ERISTALINI Keilin, 1917
	DIPTERA: AULACIGASTRIDAE *Aulacigaster leucopeza* (Meigen) Keilin, 1917
Phaonia corbetti Malloch (pupa is host for parasite)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia nigroaenea* Curtis Bouček, 1963
Phaonia errans (Meigen) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926

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Phaonia erratica (Fallén) (prey)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Phaonia exoleta Meigen (Synonym: *Phaonia mirabilis*) (predator)	ARTHROPODA: INSECTA DIPTERA: CULICIDAE *Aedes geniculatus* Olivier Tate, 1935 *Culex pipiens* Linnaeus Tate, 1935
Phaonia goberti (Mik) (predator)	ARTHROPODA: INSECTA DIPTERA: CLUSIIDAE *Clusiodes albimanus* (Meigen) Keilin, 1917
Phaonia incana (Wiedemann)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Hoffmann, 1950
Phaonia querceti (Bouché) (Synonym: *Mydaea platyptera*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia anindolica* (Chester) Bergey et al. Zmeev, 1943 *Escherichia coli* (Migula) Castellani and Chalmers Zmeev, 1943 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale Zmeev, 1943 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale= [*Escherichia paraacidilactici* A] Zmeev, 1943 *Escherichia coli* var. *acidilactici* (Topley and Wilson) Yale= [*Escherichia paraacidilactici* B] Zmeev, 1943 *Cloaca* Castellani and Chalmers Zmeev, 1943 EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE *Paraescherichia*, unvalidated Zmeev, 1943

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Phaonia querceti (cont.)	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Spalangia[1] *cameroni* Perkins
	Bouček, 1963
	Spalangia ?endius Walker
	Bouček, 1963
	Spalangia nigroaenea Curtis
	Bouček, 1963
	HYMENOPTERA: SPHECIDAE
	Crabro signatus Panzer
	Chevalier, 1923b, 1926
	Ectemnius quadricinctus
	(Fabricius)
	Hamm et al., 1926
	Oxybelus uniglumis (Linnaeus)
	Chevalier, 1926
	CHORDATA: AVES
	PASSERIFORMES: UNDETERMINED
	PARIDAE
	Séguy, 1929
Phaonia scutellaris	ARTHROPODA: INSECTA
(Fallén)	HYMENOPTERA: SPHECIDAE
	Ectemnius quadricinctus
	(Fabricius)
	Hamm et al., 1926
Phaonia signata	ARTHROPODA: INSECTA
(Meigen)	COLEOPTERA: CARABIDAE
	Carabus italicus Dejean
	Giglio-Tos, 1892
	HYMENOPTERA: SPHECIDAE
	Ectemnius quadricinctus
	(Fabricius)
	Hamm et al., 1926
Phaonia trimaculata	ARTHROPODA: INSECTA
(Bouché)	DIPTERA: ANTHOMYIIDAE
(predator?)	*Hylemya brassicae* (Bouché)
	Bouché, 1834
Phaonia vagans	ARTHROPODA: INSECTA
(Fallén)	HYMENOPTERA: SPHECIDAE
(prey)	*Ectemnius chrysostoma*
	Lepeletier and Brulle
	Hamm et al., 1926
Phaonia variegata . . .	ARTHROPODA: INSECTA
(Meigen)	HYMENOPTERA: SPHECIDAE
	Ectemnius quadricinctus
	(Fabricius)
	Hamm et al., 1926

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Phaonia variegata (cont.)

DIPTERA: TRICHOCERIDAE
Trichocera Meigen
Thomson, 1937

HYMENOPTERA: MYCETOPHILIDAE
Mycetophila ornata Stephens
Thomson, 1937

SYRPHIDAE: UNDETERMINED
MILESIINAE
Keilin, 1917

Muscina . . . . . ENTEROVIRUSES
Robineau-Desvoidy

Poliovirus
Trask et al., 1943

Poliovirus Types 1, 3
Riordan et al., 1961

Coxsackievirus Type A9 (A9), B5 (B5)
Riordan et al., 1961

ECHO virus Types 1, 5, 11
Riordan et al., 1961

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE

Shigella boydii Ewing 2, 5, 6
Richards et al., 1961

Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Richards et al., 1961

Shigella flexneri Castellani and Chalmers 1a, 2a, 3, 4a, 4b, 6
Richards et al., 1961

Shigella sonnei (Levine) Weldin 1
Richards et al., 1961

ARTHROPODA: INSECTA
HYMENOPTERA: SPHECIDAE

Crabro clypeatus (Schreber)
Hamm et al., 1926

CHORDATA: AVES
GALLIFORMES: PHASIANIDAE

Gallus gallus Linnaeus
Rodriguez et al., 1962b

Muscina assimilis ..... ENTEROVIRUSES
(Fallén)

Poliovirus
Francis, Jr. et al., 1948

PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: NOSEMATIDAE

Thelohania thomsoni Kramer
Kramer, 1961b

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Muscina assimilis (cont.)	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Crabro advenus Smith
	*Kurczewski et al., 1968
	LEPIDOPTERA: NOCTUIDAE
	Macronoctua onusta Grote
	Breakey, 1929
Muscina pabulorum (Fallén)	ARTHROPODA: INSECTA
	LEPIDOPTERA: LYMANTRIIDAE
	Lymantria monacha Linnaeus
	Ratzeburg, 1844
	LEPIDOPTERA: LASIOCAMPIDAE
	Dendrolimus pini Linnaeus
	Ratzeburg, 1844
	Sitowski, 1928
	HYMENOPTERA: SPHECIDAE
	Ectemnius quadricinctus (Fabricius)
	Hamm et al., 1926
	HYMENOPTERA: APIDAE
	Bombus agrorum Fabricius
	Verhoeff, 1891
	DIPTERA: SCIARIDAE
	Sciara militaris Nowicki
	Beling, 1868
	Porchinskiĭ, 1913
Muscina pascuorum (Meigen)	THALLOPHYTA: BASIDIOMYCETES
	AGARICALES: AGARICACEAE
	Agaricus campestris Linnaeus
	von Bremi, 1846
Muscina stabulans (Fallén)	VIRUSES
	ENTEROVIRUSES
	Poliovirus
	Paul et al., 1941
	Sabin et al., 1942
	Melnick et al., 1945
	Francis, Jr. et al., 1948
	Poliovirus Types 1, 3
	Paul et al., 1962
	Poliovirus Type 2, Lansing strain
	Bang et al., 1943
	Theiler's mouse encephalomyelitis virus, GD VII strain
	Bang et al., 1943
	ECHO virus Types 8, 12, 14
	Paul et al., 1962
	OTHER ANIMAL VIRUSES
	Foot and mouth disease virus
	Lebailly, 1924

* Authors: *Musca* [*sic*] *assimilis* (Fallén).

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Muscina stabulans (cont.)

SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES:
PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Havlik, 1964
EUBACTERIALES:
ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Gregor et al., 1960
Havlik, 1964
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Beyer, 1925
Zmeev, 1943
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
Escherichia freundii (Braak) Yale
O'Keefe et al., 1954
Aerobacter Beijerinck
Zmeev, 1943
Aerobacter aerogenes (Kruse) Beijerinck
Gregor et al., 1960
Havlik, 1964
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Cloaca Castellani and Chalmers
Zmeev, 1943
Paracolobactrum aerogenoides Borman, Stuart, and Wheeler
O'Keefe et al., 1954
Serratia Bizio
Povolný et al., 1961
Serratia marcescens Bizio
Gregor et al., 1960
Havlik, 1964
Proteus inconstans (Ornstein) Shaw and Clarke
Gregor et al., 1960

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Muscina stabulans (cont.)

Proteus mirabilis Hauser
Gregor et al., 1960
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Gregor et al., 1960
Proteus vulgaris Hauser
O'Keefe et al., 1954
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
Salmonella typhi Warren and Scott
Anonymous, 1952
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
Shigella Castellani and Chalmers
Zaidenov, 1961
?*Shigella* Castellani and Chalmers
Sychevskaĭa et al., 1959a
Shigella flexneri Castellani and Chalmers
Sychevskaĭa et al., 1959a
Arskiĭ et al., 1961
Shigella flexneri Castellani and Chalmers 1a
Sychevskaĭa et al., 1959b
Shigella sonnei (Levine) Weldin
Arskiĭ et al., 1961
EUBACTERIALES: BRUCELLACEAE
Brucella abortus (Schmidt) Meyer and Shaw
Ruhland et al., 1941
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Gregor et al., 1960
Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960

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Muscina stabulans (cont.)

EUBACTERIALES: NEISSERIACEAE
Neisseria catarrhalis (Froschand and Kolle) Holland
Beyer, 1925

EUBACTERIALES: LACTOBACILLACEAE
Streptococcus Rosenbach
Povolný et al., 1961
Streptococcus durans Sherman and Wing
Gregor et al., 1960

EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960

ACTINOMYCETALES: MYCOBACTERIACEAE
Mycobacterium ?leprae (Hansen) Lehman and Neumann
Honeij et al., 1914

THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES: ENTOMOPHTHORACEAE
Entomophthora muscae Cohn
Judd, 1955

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA: TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Becker, 1922-23

PROTOMONADIDA: BODONIDAE
Rhynchoidomonas Patton
Franchini, 1922

PROTOZOA: SPOROZOA
HAPLOSPORIDA: UNKNOWN TAXONOMIC POSITION AND FAMILY
Toxoplasma Nicolle and Manceaux
Kåss, 1954

PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: HYMENOLEPIDIDAE
Hymenolepis nana (V. Siebold) Blanchard
Bogoîâvlenskiĭ et al., 1928
Sychevskaîâ et al., 1959b

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Muscina stabulans (cont.)

CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Bogoîâvlenskiĭ et al., 1928
Sychevskaîâ et al., 1958
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Bogoîâvlenskiĭ et al., 1928
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma duodenale (Dubini) Creplin
Bogoîâvlenskiĭ et al., 1928
STRONGYLIDEA: TRICHOSTRONGYLIDAE
Trichostrongylus colubriformis (Giles)
Bogoîâvlenskiĭ et al., 1928
OXYURIDEA: OXYURIDAE
Enterobius vermicularis (Linnaeus) Leach
Bogoîâvlenskiĭ et al., 1928
ASCARIDIDEA: ASCARIDIDAE
Ascaris lumbricoides Linnaeus
Bogoîâvlenskiĭ et al., 1928
SPIRURIDEA: SPIRURIDAE
Habronema megastoma (Rudolphi) Seurat
Roubaud et al., 1922b
Habronema muscae (Carter)
Roubaud et al., 1922b
ARTHROPODA: ARACHNIDA
ACARINA: MACROCHELIDAE
Macrocheles glaber (Müller)
Sychevskaîâ, 1964a
Macrocheles muscaedomesticae (Scopoli)
Anderson, 1964
Sychevskaîâ, 1964a
ACARINA: GAMASOLAELAPTIDAE
Saintdidieria sexclavatus (Oudemans)
Sychevskaîâ, 1964a
ACARINA: LAELAPTIDAE
Holostaspis Kolenati
Graham-Smith, 1916
ACARINA: UROPODIDAE
Fuscuropoda Vitzthum
Anderson, 1964

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Muscina stabulans (cont.)

ACARINA: ANOETIDAE
Myianoetus Oudemans
Sychevskaĭa, 1964a
Myianoetus muscarum (Linnaeus)
Berlese, 1881
Greenberg et al., 1960
Greenberg, 1961
ARTHROPODA: INSECTA
ORTHOPTERA: LOCUSTIDAE
Chortophaga viridifasciata (De Geer)
Knutson, 1941
Encoptolophus sordidus (Burmeister) subsp. *costalis*
Knutson, 1941
Nomadacris septemfasciata Serville
Jack, 1935
Schistocerca gregaria Fôrskal
Nocedo, 1921
Régnier, 1931
Xanthippus corallipes (Haldeman) subsp. *patherinis*
Knutson, 1941
DERMAPTERA: FORFICULIDAE
Forficula auricularia Linnaeus
Anderson, 1964
LEPIDOPTERA: OLETHREUTIDAE
Epiblema otiosana Clemens
Decker, 1932
Suleima helianthana Riley
Satterthwait, 1943
LEPIDOPTERA: NOCTUIDAE
Agrotis castanea var. *neglecta* Hubner
von Gercke, 1882
Agrotis segetum (Denis and Schiffermüller)
Herold, 1923
Archanara oblogna Grote
Cole, 1930
Heliothis obsoleta Fabricius
Rodionov, 1927
Laphygma frugiperda (Smith)
Smith, 1921
Leucania unipuncta Hawarth
Satterthwait, 1943
Macronoctua onusta Grote
Breakey, 1929
Papaipema nebris Guenée
Decker, 1931

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Muscina stabulans (cont.)

Peridroma margitosa form *saucia* Hubner
Fletcher, 1900
LEPIDOPTERA: LIPARIDAE
Liparis dispar Linnaeus
Levitt, 1935
LEPIDOPTERA: SPHINGIDAE
Acherontia atropos Linnaeus
Keilin, 1917
LEPIDOPTERA: LASIOCAMPIDAE
Dendrolimus pini Linnaeus
Keilin, 1917
Sitowski, 1928
Malacosoma americana Fabricius
Curran, 1942
COLEOPTERA: SCARABAEIDAE
Melolontha melolontha Linnaeus
Kamner, 1928
COLEOPTERA: CERAMBYCIDAE
Dorysthenes forficatus Fabricius
Bouhélier et al., 1936
COLEOPTERA: CHRYSOMELIDAE
Gallerucella luteola Müller
Curran, 1942
COLEOPTERA: CURCULIONIDAE
Pissodes strobi Peck
MacAloney, 1930
Rhodobaenus tredecimpunctatus (Illiger)
Satterthwait, 1943
HYMENOPTERA: DIPRIONIDAE
Diprion pallidus Klug
van der Wulp, 1869
Diprion pini (Linnaeus)
Keilin, 1917
HYMENOPTERA: CHALCIDIDAE
Brachymeria minuta (Fabricius)
Sychevskaĭa, 1966
HYMENOPTERA: PTEROMALIDAE
Dibrachys cavus (Walker)
Graham-Smith, 1919
Nasonia vitripennis (Walker)
Séguy, 1929
Spalangia endius Walker
Legner (pre-publication), 1966
Spalangia rugulosa Foerster
Bouček, 1963
Stenomolina muscarum (Linnaeus)
Ratzeburg, 1844

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Muscina stabulans (cont.)	HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926 DIPTERA: MUSCIDAE *Hydrotaea dentipes* (Fabricius) Porchinskiĭ, 1913 *Ophyra leucostoma* (Wiedemann) Anderson, 1964 *Polietes albolineata* (Fallén) Porchinskiĭ, 1913 CHORDATA: AVES PASSERIFORMES: HIRUNDINIDAE *Delichon urbica* (Linnaeus) subsp. *urbica* Séguy, 1929 *Hirundo rustica* Linnaeus subsp. *rustica* Séguy, 1929 PASSERIFORMES: STURNIDAE *Sturnus vulgaris* Linnaeus Séguy, 1929
Subfamily: MUSCINAE *Dasyphora asiatica* Zimin	PLATYHELMINTHES: CESTOIDEA CYCLOPHYLLIDEA: TAENIIDAE *Taeniarhynchus saginatum* (Goeze) Sychevskaîâ et al., 1958
Dasyphora cyanella (Meigen) . .	ARTHROPODA: INSECTA DIPTERA: MUSCIDAE *Myospila meditabunda* (Fabricius) Thomson, 1937 *Mydaea urbana* (Meigen) Thomson, 1937 *Mesembrina meridiana* Linnaeus Thomson, 1937
Dasyphora gussakovskii Zimin	ARTHROPODA: ARACHNIDA ACARINA: UNDETERMINED PARASITIDAE Sychevskaîâ, 1964a
Dasyphora pratorum (Meigen) .. .	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Crithidia lesnei* (Léger) Léger, 1903
Polietes albolineata (Fallén)	ARTHROPODA: INSECTA DIPTERA: SPHAEROCERIDAE *Borborus* Meigen Porchinskiĭ, 1910

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Polietes lardaria Fabricius	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Mesembrina meridiana (Linnaeus)	ARTHROPODA: INSECTA HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE Hammer, 1942 HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Graphomya maculata (Scopoli) (Synonym: *Graphomyia maculata*)	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas mirabilis* Roubaud Franchini, 1922 ARTHROPODA: INSECTA DIPTERA: UNDETERMINED TIPULIDAE Keilin, 1917 DIPTERA: PTYCHOPTERIDAE *Ptychoptera contaminata* (Linnaeus) Keilin, 1917 DIPTERA: UNDETERMINED TABANIDAE Keilin, 1917 DIPTERA: SYRPHIDAE *Eristalis* Latreille Keilin, 1917 UNDETERMINED SCATOPHAGINAE Keilin, 1917
Synthesiomyia nudiseta . . . . . (Wulp) (Synonyms: *Synthesiomyia brasiliensis, Synthesiomyia brasiliana*)	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962 SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Beyer, 1925

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Synthesiomyia nudiseta (cont.)	*Shigella dysenteriae* (Shiga) Castellani and Chalmers Beyer, 1925
	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Alysia ridibunda* Say Roberts, 1935
	HYMENOPTERA: CYNIPIDAE *Eucoila* Westwood Roberts, 1935
	HYMENOPTERA: CHALCIDIDAE *Brachymeria fonscolombei* (Dufour) Roberts, 1933a, 1933b, 1935
	HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Roberts, 1933a
	DIPTERA: CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) Lutz, 1917
Neomuscina Townsend	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962
Philornis Meinert	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962
Morellia . . . . . Robineau-Desvoidy	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Morellia hortorum (Fallén)	ASCHELMINTHES: NEMATODA TYLENCHIDA: CONTORTYLENCHIDAE *Heterotylenchus* Stoffolano and Nickle Stoffolano, 1969
	ARTHROPODA: INSECTA HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE Hammer, 1942
	HYMENOPTERA: SPHECIDAE *Crabro cribraria* (Linnaeus) Hamm et al., 1926

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Morellia micans (Macquart)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Becker, 1924
Morellia simplex (Loew)	ASCHELMINTHES: NEMATODA TYLENCHIDA: CONTORTYLENCHIDAE *Heterotylenchus autumnalis* Nickle Világiová, 1968
Pyrellia Robineau-Desvoidy	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas* Kent Roubaud, 1912a
Orthellia Robineau-Desvoidy (Synonyms: *Pseudopyrellia, Cryptolucilia*)	ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema megastoma* (Rudolphi) Seurat Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936 *Habronema microstoma* (Schneider) Johnston, 1920 *Habronema muscae* (Carter) Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936 ARTHROPODA: INSECTA COLEOPTERA: STAPHYLINIDAE *Baryodma bimaculata* Gravenhorst Lindquist, 1936 HYMENOPTERA: PTEROMALIDAE *Spalangia drosophilae* Ashmead Lindquist, 1936 *Spalangia endius* Walker Bouček, 1963 *Spalangia stomoxysiae* Girault Lindquist, 1936 Peck, 1951
Orthellia caerulea Wiedemann	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Shimizu et al., 1965

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Orthellia caerulea (cont.)

Orthellia caesarion (Meigen)
(Synonyms: *Cryptolucilia caesarion, Pseudopyrellia cornicina, Musca cornicina, Orthellia cornicina, Cryptolucilia cornicina*)

Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Shimizu et al., 1965
Proteus vulgaris Hauser
Shimizu et al., 1965

ASCHELMINTHES: NEMATODA
TYLENCHIDA: CONTORTYLENCHIDAE
Heterotylenchus autumnalis Nickle
Stoffolano, 1970

ARTHROPODA: INSECTA
COLEOPTERA: HYDROPHILIDAE
Sphaeridium scarabaeoides (Linnaeus)
Hammer, 1942
COLEOPTERA: STAPHYLINIDAE
Ontholestes tessellatus Fourcroy
Hammer, 1942
Philonthus Curtis
Hammer, 1942
HYMENOPTERA: UNDETERMINED ICHNEUMONIDAE
Hammer, 1942
HYMENOPTERA: BRACONIDAE
Aphaereta pallipes Say
Blickle, 1961
Benson et al., 1963
Sanders et al., 1966
Houser et al., 1967
HYMENOPTERA: CYNIPIDAE
Cothonaspis nigricornis (Kieffer)
Sychevskaĭa, 1964b
Eucoila Westwood
Blickle, 1961
Sanders et al., 1966
HYMENOPTERA: FIGITIDAE
Xyalophora quinquelineata (Say)
Blickle, 1961
HYMENOPTERA: PTEROMALIDAE
Spalangia muscidarum Richardson
Pinkus, 1913
HYMENOPTERA: SPHECIDAE
Crabro venator (Rohwer)
Kurczewski et al., 1968
Bembix spinolae (Lepeletier)
Parker, 1917
Mellinus Fabricius
Hammer, 1942
HYMENOPTERA: VESPIDAE
Vespa Linnaeus
Hammer, 1942

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Orthellia caesarion (cont.)	DIPTERA: ANTHOMYIIDAE
	Scatophaga stercoraria (Linnaeus) Hewitt, 1914
	DIPTERA: MUSCIDAE
	Hebecnema umbratica (Meigen) Thomson, 1937
	Myospila meditabunda (Fabricius) Porchinskiĭ, 1910 Thomson, 1937
	Mydaea urbana (Meigen) Thomson, 1937
	Polietes albolineata (Fallén) Porchinskiĭ, 1910
	Polietes hirticrura Meade Thomson, 1937
	Mesembrina meridiana Linnaeus Thomson, 1937
Orthellia cyanea ..... (Fabricius) (Synonym: *Lasiopyrellia cyanea*)	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Bothrochacis stercoraria Bridwell Bridwell, 1919
Sarcopromusca arcuata ..... Townsend (Synonym: *Sarcophaga terminalis*)	ARTHROPODA: INSECTA
	DIPTERA: CUTEREBRIDAE
	Dermatobia hominis (Linnaeus) Lins de Almeida, 1933
Musca Linnaeus ..... (Synonym: *Philaematomyia*)	ENTEROVIRUSES
	Poliovirus Trask et al., 1943
	Poliovirus Types 1 and 3 Paul et al., 1962
	ECHO virus Types 8, 12, 14 Paul et al., 1962
	SCHIZOPHYTA: SCHIZOMYCETES
	PSEUDOMONADALES: PSEUDOMONADACEAE
	Pseudomonas Migula de la Paz, 1938
	PSEUDOMONADALES: SPIRILLACEAE
	Vibrio Müller de la Paz, 1938
	Vibrio comma (Schroeter) Winslow et al. de la Paz, 1938 Lal et al., 1939
	EUBACTERIALES: ACHROMOBACTERACEAE
	Alcaligenes Castellani and Chalmers de la Paz, 1938

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Musca (cont.)

EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia Castellani and Chalmers
de la Paz, 1938
Aerobacter Beijerinck
de la Paz, 1938
Proteus Hauser
de la Paz, 1938
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
de la Paz, 1938
Shimizu et al., 1965
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
de la Paz, 1938
Shimizu et al., 1965
Providencia Kauffmann
Shimizu et al., 1965
Salmonella cholerae-suis (Smith) Weldin
de la Paz, 1938
Salmonella columbensis (Castellani) Castellani and Chalmers
de la Paz, 1938
Salmonella gallinarum (Klein) Bergey
da la Paz, 1938
Salmonella typhi Warren and Scott
de la Paz, 1938
Eberthella belfastiensis (Weldin and Levine) Bergey et al.
de la Paz, 1938
Eberthella dubia (Chester) Bergey et al.
de la Paz, 1938
Eberthella kandiensis (Castellani) Bergey et al.
de la Paz, 1938
Eberthella talavensis (Castellani) Bergey et al.
de la Paz, 1938
Shigella ambigua (Andrewes) Weldin
de la Paz, 1938
Shigella dysenteriae (Shiga) Castellani and Chalmers
de la Paz, 1938

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Musca (cont.)

Shigella flexneri Castellani and Chalmers
de la Paz, 1938
Shigella giumai (Castellani) Hauduroy et al.
de la Paz, 1938
Shigella madampensis (Castellani) Weldin
de la Paz, 1938
Shigella pfaffi (Hadley et al.) Weldin
de la Paz, 1938
Shigella sonnei (Levine) Weldin
de la Paz, 1938
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach
de la Paz, 1938
EUBACTERIALES: LACTOBACILLACEAE
Streptococcus Rosenbach
de la Paz, 1938
ACTINOMYCETALES: MYCOBACTERIACEAE
Mycobacterium ?leprae (Hansen) Lehmann and Neumann
Arizumi, 1934
SCHIZOPHYTA: MICROTATOBIOTES
RICKETTSIALES: CHLAMYDIACEAE
Colesiota conjunctivae (Coles) Rake
Mitscherlich, 1941
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES: ENTOMOPHTHORACEAE
Entomophthora sphaerosperma Fresenius
Thaxter, 1888
PROTOZOA: MASTIGOPHORA
POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Harris et al., 1946
POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Wenyon et al., 1917a
Giardia lamblia Stiles
Harris et al., 1946
TRICHOMONADIDA: TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Harris et al., 1946

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Musca (cont.)

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Harris et al., 1946
Entamoeba coli (Grassi)
Wenyon et al., 1917a
Harris et al., 1946
Entamoeba histolytica Schaudinn
Wenyon et al., 1917a
Harris et al., 1946
Iodamoeba bütschlii (Prowazek)
Harris et al., 1946
PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: HYMENOLEPIDIDAE
Hymenolepis diminuta (Rudolphi) Blanchard
Harris et al., 1946
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris Roederer
Tao, 1936
Trichuris trichiura (Linnaeus)
Harris et al., 1946
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Tao, 1936
Harris et al., 1946
ASCARIDIDEA: ASCARIDIDAE
Ascaris Linnaeus
Tao, 1936
Ascaris lumbricoides Linnaeus
Harris et al., 1946
ARTHROPODA: INSECTA
HEMIPTERA: PHYMATIDAE
Phymata pennsylvanica americana Melin
Balduf, 1947
HEMIPTERA: REDUVIIDAE
Sinea diadema (Fabricius)
Balduf, 1947
HYMENOPTERA: CHALCIDIDAE
Brachymeria fonscolombiae (Dufour)
Masi, 1916
Stenomalus muscarum Linnaeus
Waterston, 1916

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Musca (cont.)	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker)
	Johnston et al., 1921
	Parker et al., 1928
	Spalangia cameroni Perkins
	Bouček, 1963
	Spalangia muscidarum Richardson
	Johnston et al., 1921
	HYMENOPTERA: SPHECIDAE
	Bembix Fabricius
	Peckham et al., 1905
	Bembix lunata Fabricius
	Ramakrishna Ayyar, 1920
	Crabro vagus (Linnaeus)
	Hamm et al., 1926
	Crossocerus lentus (Fox)
	Peckham et al., 1905
	DIPTERA: CUTEREBRIDAE
	Dermatobia hominis (Linnaeus)
	Townsend, 1922
Musca amita Hennig (Synonym: *Musca amica*)	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: THELAZIIDAE
	Thelazia gulosa Railliet and Henry
	Krastin, 1950, 1952
	Thelazia skrjabini Erschov
	Krastin, 1950, 1952
	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Oxybelus Latreille
	Pridantseva, 1959
Musca autumnalis De Geer	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: BRUCELLACEAE
	Moraxella bovis (Hauduroy et al.) Murray
	Brown, 1965
	Steve et al., 1965
	EUBACTERIALES: BACILLACEAE
	Bacillus thuringiensis Berliner
	Yendol et al., 1967
	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: THELAZIIDAE
	Thelazia californiensis Price
	Sabrosky, 1959
	Thelazia gulosa Railliet and Henry
	Világiová, 1962
	Thelazia rhodesii (Desmarest)
	Klesov, 1949
	Sabrosky, 1959
	Világiová, 1962

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Musca autumnalis (cont.)

TYLENCHIDA: CONTORTYLENCHIDAE
Heterotylenchus Stoffolano and Nickle
Stoffolano et al., 1966
Heterotylenchus autumnalis Nickle
Jones et al., 1967
Nickle, 1967
Stoffolano, 1967, 1969, 1970
Treece et al., 1968
Világiová, 1968

ARTHROPODA: ARACHNIDA
ACARINA: MACROCHELIDAE
Macrocheles muscaedomesticae (Scopoli)
Singh et al., 1966

ACARINA: ANOETIDAE
Myianoetus Oudemans
Sychevskaĭa, 1964

ARTHROPODA: INSECTA
COLEOPTERA: STAPHYLINIDAE
Aleochara bimaculata (Gravenhorst)
Thomas et al., 1968
Aleochara tristis Gravenhorst
Drea, 1966
Jones, 1969

HYMENOPTERA: BRACONIDAE
Aphaereta pallipes Say
Blickle, 1961
Benson et al., 1963
Beard, 1964
Sanders et al., 1966
Houser et al., 1967
Thomas et al., 1968
Turner et al., 1968

HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Blickle, 1961
Eucoila impatiens (Say)
Thomas et al., 1968
Turner et al., 1968

HYMENOPTERA: FIGITIDAE
Xyalophora quinquelineata (Say)
Blickle, 1961

HYMENOPTERA: PTEROMALIDAE
Nasonia vitripennis (Walker)
Beard, 1964
Hair et al., 1965

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Musca autumnalis (cont.)	*Muscidifurax raptor* Girault Thomas et al., 1968 Turner et al., 1968 *Spalangia nigra* Latreille Turner et al., 1968 HYMENOPTERA: SPHECIDAE *Crabro advenus* Smith Kurczewski et al., 1968 *Mellinus* Fabricius Hammer, 1942 HYMENOPTERA: VESPIDAE *Vespa* Linnaeus Hammer, 1942 DIPTERA: ASILIDAE *Lasiopogon cinctus* (Fabricius) Hobby, 1934b
Musca autumnalis . ... *autumnalis* De Geer (Synonyms: *Musca ovipara*, *Musca corvina*)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926 DIPTERA: MUSCIDAE *Myospila meditabunda* (Fabricius) Porchinskiĭ, 1910
Musca bezzii .... Patton and Cragg	SCHIZOPHYTA: SCHIZOMYCETES ACTINOMYCETALES: MYCOBACTERIACEAE *Mycobacterium ?leprae* (Hansen) Lehmann and Neumann de Mello et al., 1926 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas craggi* (Patton) Wenyon Patton, 1921a
Musca conducens . Walker	ASCHELMINTHES: NEMATODA FILARIIDEA: STEPHANOFILARIIDAE *Stephanofilaria assamensis* Pande Srivastava et al., 1963 Patnaik, 1965
Musca convexifrons . Thomson	ASCHELMINTHES: NEMATODA SPIRURIDEA: THELAZIIDAE *Thelazia rhodesii* (Desmarest) Krastin, 1949a, 1949b

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Musca convexifrons (cont.)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Sericophorus teliferopodus* Rayment Rayment, 1954 *Sericophorus viridis roddi* Rayment Rayment, 1954
Musca corvina Fabricius	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE ?*Entomophthora* Fresenius Roubaud, 1911a *Entomophthora muscae* Cohn Graham-Smith, 1919 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Roubaud, 1909 ARTHROPODA: ARACHNIDA PSEUDOSCORPIONIDEA: CHERNETIDAE *Lamprochernes nodosus* (Schrank) Graham-Smith, 1916 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro leucostoma* (Linnaeus) Hamm et al., 1926 *Crabro peltarius* (Schreber) Hamm et al., 1926 *Nysson* Latreille Froggatt, 1917 *Sericophorus sydneyi* Rayment Rayment, 1954 *Stizus* Latreille Froggatt, 1917 *Stizus turneri* Froggatt Froggatt, 1917 Rayment, 1954 DIPTERA: MUSCIDAE *Polietes albolineata* (Fallén) Porchinskiĭ, 1910
Musca crassirostris Stein [Synonym: *Philaematomyia insignis*]	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Trypanosoma evansi* (Steel) Nieschulz, 1927

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Musca domestica Linnaeus

VIRUSES
PSITTACOSIS GROUP
Trachoma virus
Nicolle et al., 1919
Zardi, 1964
POXVIRUSES
Variola
Terni, 1908b
Vaccinia
Terni, 1908b
Merk, 1910
ENTEROVIRUSES
Poliovirus
Francis, 1914
Paul et al., 1941
Sabin et al., 1942
Gordon, 1943
Melnick et al., 1945, 1949
Francis, Jr. et al., 1948
Melnick, 1949
Poliovirus non-paralytic
Melnick et al., 1949
Poliovirus Type 1
Melnick et al., 1953
Riordan et al., 1961
Brygoo et al., 1962
Downey, 1963
Poliovirus Attenuated Type 1, LSc
Gudnadóttir, 1960
Poliovirus Texas '48 strain (Type 1)
Melnick et al., 1952
Poliovirus Type 2, Lansing strain
Bang et al., 1943
Rendtorff et al., 1943
Hurlbut, 1950
Poliovirus Type 3
Riordan et al., 1961
Theiler's mouse encephalomyelitis virus, GD VII strain
Bang et al., 1943
Coxsackievirus
Melnick et al., 1954
Duca et al., 1958
Coxsackievirus Alaska 5 (A10)
Melnick et al., 1953
Coxsackievirus Connecticut 5 (B1)
Melnick et al., 1953
Coxsackievirus Easton 14 (A5)
Melnick et al., 1953

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Musca domestica (cont.)

Coxsackievirus Nancy (B3)
Melnick et al., 1953
Coxsackievirus Texas 1 (A4)
Melnick et al., 1953
Coxsackievirus Texas 12 (new type)
Melnick et al., 1953
Coxsackievirus Texas 13 (B4)
Melnick et al., 1953
Coxsackievirus Texas '48 (new type)
Melnick et al., 1953
Coxsackievirus Type 2 (A2)
Melnick et al., 1953
Coxsackievirus Type 3 (A3)
Melnick et al., 1953
Coxsackievirus Type A9 (A9)
Riordan et al., 1961
Coxsackievirus Type B5 (B5)
Riordan et al., 1961
ECHO virus Types 1, 5, 11
Riordan et al., 1961
ECHO virus Types 6 and 7
Downey, 1963

OTHER ANIMAL VIRUSES

Danysz rat virus
Graham-Smith, 1910
Foot and mouth disease virus
Lebailly, 1924
Kunike, 1927*b*
Dhennin et al., 1961
Mink enteritis virus
Bouillant et al., 1965
Tortor bovis virus
Sen, 1925-26
Tortor suis virus
Mohler, 1920

INSECT VIRUSES

Borrelina bombycis virus
Smuidsinovicia, 1889

BACTERIOPHAGES

Bacteriophage (of *Staphylococcus muscae*)
Glaser, 1938
Bacteriophage (of *Streptococcus* C55)
Shope, 1927

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Musca domestica (cont.)

SCHIZOPHYTA
PSEUDOMONADALES:
PSEUDOMONADACEAE
Pseudomonas Migula
Prado et al., 1955
Pseudomonas aeruginosa (Schroeter) Migula
Bacot, 1911a, 1911b
Graham-Smith, 1911b
Ledingham, 1911
Cox et al., 1912
Duncan, 1926
Ostrolenk et al., 1942a
Peppler, 1944
Vanni, 1946
Stephens, 1963
Havlik, 1964
Pseudomonas eisenbergii Migula
Cao, 1906
Pseudomonas fluorescens Migula
Cao, 1906
Lysenko et al., 1961
Pseudomonas ichthyosmia (Hammer) Bergey et al.
Hawley et al., 1951
Pseudomonas jaegeri Migula
Cao, 1906
PSEUDOMONADALES: SPIRILLACEAE
Vibrio Müller
Smuidsinovicia, 1889
Vibrio comma (Schroeter) Winslow et al.
Chantemesse et al., 1905
Ganon, 1908
Graham-Smith, 1910
Alessandrini, 1912
Duncan, 1926
Shope, 1927
Dishon, 1956
EUBACTERIALES:
ACHROMOBACTERACEAE
Alcaligenes Castellani and Chalmers
Prado et al., 1955
Alcaligenes faecalis Castellani and Chalmers
Hamilton, 1903
Testi, 1909
Lysenko et al., 1961
Havlik, 1964

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Musca domestica (cont.)

Achromobacter Bergey, Harrison, Breed, Hammer, and Huntoon
Prado et al., 1955
Flavobacterium Bergey et al.
Lysenko et al., 1961
Flavobacterium devorans (Zimmermann) Bergey et al.
Lysenko, 1958
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 1]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 33a]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 66]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 66a]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 71]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 101]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 106]
Nicoll, 1911a
Escherichia Castellani and Chalmers=[MacConkey's bacillus No. 106a]
Nicoll, 1911a
Escherichia Castellani and Chalmers
Prado et al., 1955
Lysenko et al., 1961
Escherichia anaerogenes (Chester) Bergey et al.
Scott, 1917a

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Musca domestica (cont.)

Jones, 1941
Hawley et al., 1951
Escherichia coli (Migula)
Castellani and Chalmers
Hamilton, 1903
Graham-Smith, 1909
Nicoll, 1911a
Tebbutt, 1913
Scott, 1917a
Reinstorf, 1923
Beyer, 1925
Shope, 1927
Yao et al., 1929
Parisot et al., 1934
Jones, 1941
Ostrolenk et al., 1942a
Vanni, 1946
Emmel, 1949
Hoffmann, 1950
Gerberich, 1951
Hawley et al., 1951
Gabaldón, 1955
Cova Garcia, 1956
Ingram et al., 1956
Radvan, 1956, 1960a, 1960b, 1960c
Coutinho et al., 1957
Povolný et al., 1961
Greenberg et al., 1963a
Havlik, 1964
Escherichia coli (Migula)
Castellani and Chalmers 086-B7
Coutinho et al., 1957
Escherichia coli var. *acidilactici*
(Topley and Wilson) Yale
Graham-Smith, 1909
Nicoll, 1911a
Cox et al., 1912
Scott, 1917a
Escherichia coli var. *communior*
(Topley and Wilson) Yale
Graham-Smith, 1909
Scott, 1917a
Escherichia coli var. *communis*
(Escherich) Breed
Nicoll, 1911a
Cox et al., 1912
Buchanan, 1913
Duncan, 1926
Tarasov et al., 1941

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Musca domestica (cont.)

Escherichia coli var. *neapolitana* (Topley and Wilson) Yale
Graham-Smith, 1909
Nicoll, 1911a
Cox et al., 1912
Buchanan, 1913
Aerobacter Beijerinck=
[MacConkey's bacillus No. 67]
Nicoll, 1911a
Aerobacter Beijerinck=
[MacConkey's bacillus No. 75]
Nicoll, 1911a
Aerobacter Beijerinck=
[MacConkey's bacillus No. 102]
Nicoll, 1911a
Aerobacter Beijerinck=
?[MacConkey's bacillus No. 108a]
Nicoll, 1911a
Aerobacter aerogenes (Kruse) Beijerinck
Graham-Smith, 1909
Cox et al., 1912
Buchanan, 1913
Ostrolenk et al., 1942a
Hawley et al., 1951
Greenberg, 1959b
Povolný et al., 1961
Greenberg et al., 1963a
Havlik, 1964
Aerobacter cloacae (Jordan) Bergey et al.
Nicoll, 1911a
Povolný et al., 1961
Aerobacter oxytocum (Trevisan) Bergey et al.
Nicoll, 1911a
Klebsiella Trevisan
Prado et al., 1955
Lysenko et al., 1961
Klebsiella cloacae (Jordan) Brisou
Lysenko, 1958
Klebsiella pneumoniae (Schroeter) Trevisan
Buchanan, 1913
Shope, 1927
Klebsiella ?pneumoniae (Schroeter) Trevisan
Testi, 1909
Cloaca Castellani and Chalmers
Lysenko et al., 1961

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Musca domestica (cont.)

Paracolobactrum Borman, Stuart, and Wheeler
Prado et al., 1955
Paracolobactrum coliforme Borman, Stuart, and Wheeler
Jones, 1941
Radvan, 1960a, 1960b
Paracolobactrum intermedium Borman, Stuart, and Wheeler
Prado et al., 1955
Erwinia amylovora (Burrill) Winslow et al.
Ark et al., 1936
Serratia Bizio
Prado et al., 1955
Povolný et al., 1961
Serratia marcescens Bizio
Graham-Smith, 1910, 1911a, 1911b
Orton et al., 1910
Herms, 1911
Ledingham, 1911
Duncan, 1926
Bychkov, 1932
Peppler, 1944
Vanni, 1946
Gerberich, 1951
Radvan, 1956, 1960a, 1960c
Stephens, 1963
Havlik, 1964
Proteus Hauser
Hamilton, 1903
Reinstorf, 1923
Prado et al., 1955
Coutinho et al., 1957
Proteus inconstans (Ornstein) Shaw and Clarke
Lysenko, 1958
Proteus mirabilis Hauser
Cao, 1906
Greenberg, 1959b
Lysenko et al., 1961
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Morgan et al., 1909
Nicoll, 1911a
Cox et al., 1912
Buchanan, 1913
Tebbutt, 1913
Jones, 1941

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Musca domestica (cont.)

Hawley et al., 1951
Radvan, 1956, 1960a
Lysenko, 1958
Lysenko et al., 1961
Povolný et al., 1961
Havlik, 1964

Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Lysenko et al., 1961

Proteus vulgaris Hauser
Ficker, 1903
Cao, 1906
Testi, 1909
Ledingham, 1911
Buchanan, 1913
Scott, 1917a
Shope, 1927
Gerberich, 1951
Radvan, 1956, 1960a, 1960b, 1960c
Greenberg, 1959b
Lysenko et al., 1961
Povolný et al., 1961
Greenberg et al., 1963a
Havlik, 1964

Providencia Kauffmann
Radvan, 1960b, 1960c
Lysenko et al., 1961
Shimizu et al., 1965

Salmonella Lignières
Alcivar et al., 1946
Lindsay et al., 1953
Gabaldón et al., 1956
Bolaños, 1959
Greenberg et al., 1964

Salmonella amersfoort Henning
Alcivar et al., 1946

Salmonella anatum (Rettger and Scoville) Bergey et al.
Alcivar et al., 1946
Bolaños, 1959
Greenberg et al., 1963b

Salmonella ballerup Kauffmann and Møller
Alcivar et al., 1946

Salmonella blockley Kauffmann
Greenberg et al., 1964

Salmonella budapest Kauffmann
Prado et al., 1955

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Musca domestica (cont.)

Salmonella choleraesuis (Smith) Weldin
Scott, 1917a
Alcivar et al., 1946
Salmonella derby Warren and Scott
Prado et al., 1955
Greenberg et al., 1963b
Tacal et al., 1967
Salmonella dublin Kauffmann
Alcivar et al., 1946
Salmonella enteritidis (Gaertner) Castellani and Chalmers
Graham-Smith, 1910
Cox et al., 1912
Buchanan, 1913
Ostrolenk et al., 1942a, 1942b
Peppler, 1944
Alcivar et al., 1946
Gross et al., 1953
Prado et al., 1955
Greenberg, 1959a, 1959c
Salmonella florida Cherry, Edwards, and Bruner
Alcivar et al., 1946
Salmonella gallinarum (Klein) Bergey
Gerberich, 1951
Salmonella give Kauffmann
Alcivar et al., 1946
Gross et al., 1953
Bolaños, 1959
Salmonella hirschfeldii Weldin
Yao et al., 1929
Salmonella kentucky Edwards
Alcivar et al., 1946
Greenberg et al., 1963b
Salmonella kottbus Schütz et al.
Alcivar et al., 1946
Salmonella meleagridis Bruner and Edwards
Alcivar et al., 1946
Salmonella minnesota Edwards and Bruner
Prado et al., 1955
Salmonella narashino Kauffmann
Alcivar et al., 1946
Salmonella new brunswick Edwards
Greenberg, 1963b
Salmonella newport Schütze
Bolaños, 1959

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Musca domestica (cont.)

Salmonella onderstepoort Henning
Alcivar et al., 1946
Salmonella oranienburg Kauffmann
Alcivar et al., 1946
Salmonella oregon Edwards and Bruner
Alcivar et al., 1946
Salmonella panama Kauffmann
Bolaños, 1959
Salmonella paratyphi A (Brion and Kayser) Castellani and Chalmers
Shope, 1927
Boikov, 1932
Gross et al., 1951, 1953
Prado et al., 1955
Salmonella paratyphi B Castellani and Chalmers
Nicoll, 1911a
Alcivar et al., 1946
Gross et al., 1951, 1953
Dishon, 1956
Radvan, 1956
Greenberg, 1959a
Salmonella pullorum (Rettger) Bergey
Gwatkin et al., 1944
Gerberich, 1951, 1952
Salmonella reading Schütze
Alcivar et al., 1946
Bolaños, 1959
Salmonella san diego Kauffmann
Bolaños, 1959
Salmonella saint paul Edwards and Bruner
Bolaños, 1959
Salmonella schottmuelleri (Winslow, Kligler, and Rothberg) Bergey et al.
Hawley et al., 1951
Radvan, 1960a, 1960b, 1960c
Salmonella typhi Warren and Scott
Firth et al., 1902
Ficker, 1903
Hamilton, 1903
Buchanan, 1907
Graham-Smith, 1910
Ledingham, 1911
Cochrane, 1912
Thomson, 1912

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Musca domestica (cont.)

Krontowski, 1913
Tebbutt, 1913
Teodoro, 1916
Nicoll, 1917a
Wollman, 1921
Duncan, 1926
Shope, 1927
Ara et al., 1932
Boikov, 1932
Jones, 1941
Curbelo et al., 1945
Gross et al., 1951, 1953
Prado et al., 1955
Radvan, 1956, 1960a
Webb et al., 1956
Greenberg, 1959a, 1959c
Greenberg et al., 1963a

Salmonella typhimurium (Loeffler) Castellani and Chalmers
McNeil et al., 1944
Alcivar et al., 1946
Radvan, 1956, 1960a
Greenberg, 1964

Salmonella worthington Edwards and Bruner
Greenberg et al., 1963b

Salmonella zanzibar Kauffmann
Alcivar et al., 1946
Bolaños, 1959

Citrobacter Werkman and Gillen
Lysenko et al., 1961

Citrobacter freundii Werkman and Gillen
Lysenko, 1958
Greenberg, 1959b

Shigella Castellani and Chalmers
Boikov, 1932
Lindsay et al., 1953
Boyd, 1957
Zaidenov, 1961
Greenberg et al., 1964

Shigella alkalescens (Andrewes) Weldin
Alcivar et al., 1946
Gabaldón et al., 1956

Shigella boydii Ewing
Bolaños, 1959

Shigella boydii Ewing 1, 2, 3, 4, 5, 6, 8, 9
Alcivar et al., 1946

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Musca domestica (cont.)

Shigella boydii Ewing 2, 5, 6
Richards et al., 1961
Shigella ceylonensis (Weldin) Weldin
Alcivar et al., 1946
Shigella dispar (Andrewes) Bergey et al.
Alcivar et al., 1946
Gabaldón et al., 1956
Shigella dysenteriae (Shiga) Castellani and Chalmers
Krontowski, 1913
Manson-Bahr, 1919
Paraf, 1920
Wollman, 1921
Reinstorf, 1923
Duncan, 1926
Yao et al., 1929
Emmel, 1949
Hawley et al., 1951
Boyd, 1957
Stephens, 1963
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Richards et al., 1961
Shigella flexneri Castellani and Chalmers
Auché, 1906
Tebbutt, 1913
Emmel, 1949
Gross et al., 1953
Shura-Bura, 1955, 1957
Gabaldón et al., 1956
Greenberg, 1959c
Evtodienko, 1968
Shigella flexneri Castellani and Chalmers=[Pseudodysenterie A6154]
Reinstorf, 1923
Shigella flexneri Castellani and Chalmers=[Pseudodysenterie D9112]
Reinstorf, 1923
Shigella flexneri Castellani and Chalmers 1a
Sychevskaĭa et al., 1959b
Richards et al., 1961
Shigella flexneri Castellani and Chalmers 1a, 2a, Y
Alcivar et al., 1946

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Musca domestica (cont.)

Shigella flexneri Castellani and Chalmers 2a
Greenberg, 1959a
Richards et al., 1961
Shigella flexneri Castellani and Chalmers 3, 4a, 4b
Richards et al., 1961
Shigella flexneri Castellani and Chalmers 6
Kuhns et al., 1944
Alcivar et al., 1946
Prado et al., 1955
Richards et al., 1961
Shigella sonnei (Levine) Weldin
Gross et al., 1953
Shura-Bura, 1955
Gabaldón et al., 1956
Radvan, 1956, 1960a, 1960b, 1960c
Evtodienko, 1968
Shigella sonnei (Levine) Weldin 1
Richards et al., 1961
EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE
Coliform
Ficker, 1903
Peppler, 1944
Klebsiella-Cloaca intermediate forms
Lysenko et al., 1961
MacConkey's bacillus No. 7, unvalidated
Nicoll, 1911a
MacConkey's bacillus No. 36, unvalidated
Nicoll, 1911a
MacConkey's bacillus No. 36a, unvalidated
Nicoll, 1911a
MacConkey's bacillus No. 74, unvalidated
Nicoll, 1911a
MacConkey's bacillus No. 109
Nicoll, 1911a
EUBACTERIALES: BRUCELLACEAE
Pasteurella multocida (Lehmann and Neumann) Rosenbusch and Merchant
Scott, 1917a, 1917b

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Musca domestica (cont.)

Shope, 1927
Skidmore, 1932
Pasteurella pestis (Lehmann and Neumann) Holland
Nuttall, 1897
Hunter, 1906
Gosio, 1925
Duncan, 1926
Wollman, 1927
Russo, 1930
Pasteurella tularensis (McCoy and Chapin) Bergey et al.
Wayson, 1914
Brucella (Meyer and Shaw) Pribram
Antonov, 1945
Brucella abortus (Schmidt) Meyer and Shaw
Duncan, 1926
Wollman, 1927
Ruhland et al., 1941
Brucella melitensis (Hughes) Meyer and Shaw
Duncan, 1926
Haemophilus influenzae (Lehmann and Neumann) Winslow et al. (Weeks' bacillus)
Nicolle et al., 1919
Wollman, 1927
Moraxella lacunata (Eyre) Lwoff
Wollman, 1927
Cillopasteurella delendae-muscae (Roubaud and Descazeaux) Prévot
Roubaud et al., 1923

EUBACTERIALES: BACTEROIDACEAE

Bacteroides vulgatus Eggerth and Gagnon
Duncan, 1926

EUBACTERIALES: MICROCOCCACEAE

Micrococcus Cohn
Smuidsinovicia, 1889
Prado et al., 1955
Micrococcus Cohn
Coutinho et al., 1957
Staphylococcus Rosenbach (non-pathogenic)
Ewing, 1942

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Musca domestica (cont.)

Staphylococcus Rosenbach (pathogenic)
Ewing, 1942
Staphylococcus Rosenbach
Cox et al., 1912
Picado, 1935
Staphylococcus aureus Rosenbach
Buchanan, 1907
Herms, 1911
Reinstorf, 1923
Duncan, 1926
Shope, 1927
Gerberich, 1951
Hawley et al., 1951
Coutinho et al., 1957
Radvan, 1960a, 1960b, 1960c
Greenberg et al., 1963a
Staphylococcus aureus Rosenbach=[*Micrococcus citreus*]
Scott, 1917a
Staphylococcus aureus Rosenbach
Duncan, 1926
Staphylococcus aureus Rosenbach=[*Micrococcus pyogenes* var. *albus*]
Scott, 1917a
Staphylococcus aureus Rosenbach=[*Micrococcus pyogenes* var. *aureus*]
Scott, 1917a
Staphylococcus aureus Rosenbach=[*Staphylococcus albus*]
Povolný et al., 1961
Staphylococcus aureus Rosenbach=[*Staphylococcus pyogenes*]
Povolný et al., 1961
Staphylococcus muscae Glaser
Glaser, 1924
Shope, 1927
Glaser, 1938
Staphylococcus saprophyticus Fairbrother
Lysenko, 1958
Lysenko et al., 1961
Gaffkya tetragena (Gaffky) Trevisan
Scott, 1917a

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Musca domestica (cont.)

Sarcina Goodsir
Hamilton, 1903
Cox et al., 1912
Reinstorf, 1923
Sarcina flava de Bary
Lysenko et al., 1961
Sarcina loewenbergi Macé
Galli-Vallerio, 1908
Sarcina lutea Schroeter
Hawley et al., 1951

EUBACTERIALES: NEISSERIACEAE

Neisseria catarrhalis (Froschand and Kolle) Holland
Beyer, 1925

EUBACTERIALES: BREVIBACTERIACEAE

Brevibacterium ammoniagenes (Cooke and Keith) Breed
Hawley et al., 1951
Kurthia zenkeri (Hauser) Bergey et al.
Cao, 1906
Kurthia zopfii (Kurth)
Hamilton, 1903

EUBACTERIALES: LACTOBACILLACEAE

Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961
Diplococcus pneumoniae Weichselbaum I
Shope, 1927
Diplococcus pneumoniae Weichselbaum II
Shope, 1927
Streptococcus Rosenbach
Ledingham, 1911
Cox et al., 1912
Reinstorf, 1923
Ewing, 1942
Radvan, 1960c
Povolný et al., 1961
Streptococcus Rosenbach, C54
Shope, 1927
Streptococcus Rosenbach, C55
Shope, 1927
Streptococcus Rosenbach, 744
Shope, 1927

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Musca domestica (cont.)

Streptococcus agalactiae Lehmann and Neumann
Sanders, 1940b
Ewing, 1942
Schumann, 1961
Streptococcus faecalis Andrewes and Horder
Scott, 1917a
Duncan, 1926
Gerberich, 1951
Lysenko et al., 1961
Streptococcus faecalis var. *liquefaciens* (Sternberg) Mattick
Lysenko et al., 1961
Streptococcus lactis (Lister) Löhnis
Greenberg et al., 1963a
Streptococcus mitis Andrewes and Horder
Radvan, 1960c
Streptococcus pyogenes Rosenbach
Scott, 1917a
Wellmann, 1955
EUBACTERIALES: CORYNEBACTERIACEAE
Corynebacterium diphtheriae (Kruse) Lehmann and Neumann
Graham-Smith, 1919
Listeria monocytogenes (Murray et al.) Pirie
Radvan, 1956, 1960a
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Ledingham, 1911
Povolný et al., 1961
Bacillus Cohn=["*Bacillus* A," Ledingham]
Tebbutt, 1913
Bacillus anthracis Cohn
Raimbert, 1869, 1870
Buchanan, 1907
Graham-Smith, 1910, 1911a, 1911b, 1912
Wollman, 1921
Duncan, 1926
Sen et al., 1944
Radvan, 1956, 1960a, 1960b, 1960c

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Musca domestica (cont.)

Bacillus cereus Frankland and Frankland
Hawley et al., 1951
Briggs, 1960
Harvey et al., 1960
Radvan, 1960a, 1960b, 1960c
Stephens, 1963
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Hamilton, 1903
Duncan, 1926
Bacillus coli mutabilis Neisser
Nicoll, 1911a
Bacillus gasoformans Eisenberg
Nicoll, 1911a
Bacillus gruenthali Morgan
Nicoll, 1911a
Bacillus megaterium de Bary
Hamilton, 1903
Bacillus megaterium de Bary
Hawley et al., 1951
Bacillus mesentericus Trevisan
Hamilton, 1903
Duncan, 1926
Bacillus ?radiciformis Eberbach
Cao, 1906
Bacillus subtilis Cohn
Cao, 1906
Hamilton, 1903
Reinstorf, 1923
Duncan, 1926
Radvan, 1956, 1960a, 1960c
Lysenko, 1958
Lysenko et al., 1961
Greenberg et al., 1963a
Bacilllus thuringiensis Berliner
Hall et al., 1959
Figueiredo et al., 1960
Burns et al., 1961
Borgatti et al., 1963
Feigin, 1963
Greenwood, 1964
Harvey, 1964
Tonkonozhenko, 1967
Bacillus thuringiensis var. *sotto* Heimpel and Angus
Briggs, 1960
Bacillus thuringiensis var. *thuringiensis* Heipel and Angus
Briggs, 1960
Dunn, 1960

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Musca domestica (cont.)

Burgerjohn et al., 1965
Gingrich, 1965
Harvey et al., 1965
Bacillus vesiculosus Matzuschita
Nicoll, 1911a
Clostridium botulinum (van Ermengem) Bergey et al.
Bail, 1900
Clostridium chauvoei (Arloing, Cornevin and Thomas) Scott
Sauer, 1908
Clostridium parabotulinum bovis Robinson
Theiler, 1927
Clostridium tetani (Flügge) Bergey et al.
Bail, 1900
ACTINOMYCETALES: MYCOBACTERIACEAE
Mycobacterium leprae (Hansen) Lehmann and Neumann
Currie, 1910, 1911
Leboeuf, 1912, 1914
Minett, 1912
Asami, 1934
Mycobacterium ?leprae (Hansen) Lehmann and Neumann
Wherry, 1908a, 1908b
Sandes, 1911, 1912
Honeij et al., 1914
Barros et al., 1947
Mycobacterium lepraemurium Marchoux and Sorel
Wherry, 1908a
Marchoux, 1916
Mycobacterium ?lepraemurium Marchoux and Sorel
Wherry, 1908b
Mycobacterium phlei Lehmann and Neumann
Currie, 1910
Mycobacterium tuberculosis (Zopf) Lehmann and Neumann
Hayward, 1904
André, 1906
Buchanan, 1907
Graham-Smith, 1910
Wollman, 1921
Morellini et al., 1947, 1953
Tison, 1950
Morellini, 1952, 1956

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Musca domestica (cont.)

ACTINOMYCETALES:
DERMATOPHILACEAE
Dermatophilus congolensis
Van Saceghem
Richard et al., 1966

SPIROCHAETALES:
SPIROCHAETACEAE
Spirochaeta Ehrenberg
Wollman, 1927
Spirochaeta acuminata Castellani
Castellani, 1907
Spirochaeta obtusa Castellani
Castellani, 1907

SPIROCHAETALES:
TREPONEMATACEAE
Borrelia berbera (Sergent and Foley) Bergey et al.
Sergent et al., 1910
Wollman et al., 1928
Treponema carateum Brumpt
Soberón y Parra et al., 1944
Treponema pertenue Castellani
Castellani, 1907, 1908
Oho, 1921
Leptospira canicola Okell et al.
Kunert et al., 1952
Schmidtke, 1959
Leptospira grippotyphosa
Topley and Wilson
Kunert et al., 1952
Schmidtke, 1959
Leptospira icterohaemorrhagiae (Inada and Ido) Noguchi
Kunert et al., 1952
Schmidtke, 1959

BACTERIA OF UNCERTAIN AFFINITY
Bacterium mathisi Roubaud and Teillard, unvalidated
Roubaud et al., 1935

SCHIZOPHYTA: MICROTATOBIOTES
RICKETTSIALES: RICKETTSIACEAE
Rickettsia da Rocha-Lima
Hertig et al., 1924
Coxiella burneti (Derrick) Philip
Philip, 1948

RICKETTSIALES: CHLAMYDIACEAE
Colesiota conjunctivae (Coles) Rake
Mitscherlich, 1943

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Musca domestica (cont.)

THALLOPHYTA: PHYCOMYCETES
MUCORALES: MUCORACEAE
Mucor mucedo (Linnaeus) Brefeld
Reinstorf, 1923
Rhizopus nigricans Ehrenberg
Baumberger, 1919
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora Fresenius
Graham-Smith, 1916
?*Entomophthora* Fresenius
Roubaud, 1911a
Entomophthora americana Thaxter
Thaxter, 1888
Entomophthora muscae Cohn
Cohn, 1855
White, 1880
Thaxter, 1888
Cavara, 1899
Brefeld, 1908
Buchanan, 1913
Güssow, 1913
Picard, 1914
Bishopp et al., 1915a
Dove, 1916
Lodge, 1916
Graham-Smith, 1919
Lakon, 1919
Friederichs, 1920
Roubaud, 1922
Roubaud et al., 1922b
Schweizer, 1936, 1947
de Salles et al., 1944
Judd, 1955
Baird, 1957
Krenner, 1961
THALLOPHYTA: ASCOMYCETES
ENDOMYCETALES:
ENDOMYCETACEAE
Saccharomyces cerevisiae Hansen
Peppler, 1944
GYMNOASCALES: GYMNOASCACEAE
Trichophyton tonsurans Malmsten
=[*T. crateriforme* Sabouraud]
Trichophyton mentagrophytes
(Robin) Blanchard var.
granulosum
Gip et al., 1968

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Musca domestica (cont.)

THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Aspergillus (Micheli) Corda
Baumberger, 1919
Aspergillus flavus Link
Amonkar et al., 1965
Beard et al., 1965
Beauveria bassiana (Balsamo) Vuillemin
Dresner, 1949, 1950
Steinhaus et al., 1953
Dunn et al., 1963
?*Botrytis* Micheli
Gómez et al., 1888-89
Geotrichum candidum Link
Ficker, 1903
Metarrhizium anisopliae (Metschnikoff) Sorokin
Friederichs, 1919, 1920
Notini et al., 1944
Penicillium Link
Baumberger, 1919
Penicillium glaucum Link
Baumberger, 1919
Reinstorf, 1923
MONILIALES: STILBACEAE
Isaria Persoon ex Fries
Bail, 1860
MONILIALES: BLASTOCYSTIDACEAE (uncertain position)
Blastocystis Alexeieff
Buxton, 1920
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA: TRYPANOSOMATIDAE
Crithidia luciliae (Strickland) Wallace and Clark
Wallace et al., 1959
Herpetomonas Kent
Wenyon, 1911a
Darling, 1912b
Herpetomonas muscarum (Leidy) Kent
Prowazek, 1904
Carter, 1909
Roubaud, 1909
Rosenbusch, 1910
Wenyon, 1911a
Cardamatis, 1912a
Chatton et al., 1913

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Musca domestica (cont.)

Franchini et al., 1915
Root, 1921
Becker, 1922-3, 1924
Ross et al., 1924
Fantham et al., 1927
Vanni, 1946
Coutinho et al., 1957
Wallace et al., 1959
Kramer, 1961a

Herpetomonas muscarum (Leidy)
Kent=[*Herpetomonas muscae domesticae*]
Flu, 1911

Herpetomonas muscarum (Leidy)
Kent=[*Leptomonas muscae domesticae*]
Flu, 1911

Leishmania tropica (Wright)
Carter, 1909
Row, 1911
Laveran, 1915
Wollman, 1927
Wollman et al., 1928

Leishmania ?tropica (Wright)
Cardamatis et al., 1911
Wenyon, 1911b

Trypanosoma Gruby
Wenyon, 1911a

Trypanosoma brucei Plimmer and Bradford
Vanni, 1946

Trypanosoma equinum Vages
Sivori et al., 1902

Trypanosoma evansi (Steel)
Musgrave et al., 1903
Mitzmain, 1912b

Trypanosoma gambiense Dutton
Beck, 1910

Trypanosoma hippicum Darling
Darling, 1912a, 1912b

POLYMASTIGIDA: CHILOMASTIGIDAE

Chilomastix mesnili (Wenyon)
Root, 1921

POLYMASTIGIDA: HEXAMITIDAE

Giardia intestinalis (Lambl)
Roubaud, 1918
Buxton, 1920
Root, 1921
Jausion et al., 1923
Aleksander et al., 1935

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Musca domestica (cont.)

Sieyro, 1942
Vanni, 1946
Rendtorff et al., 1954

TRICHOMONADIDA: TRICHOMONADIDAE

Trichomonas Donné
Sieyro, 1942

Trichomonas hominis (Davaine)
Hegner, 1928

Trichomonas ?hominis (Davaine)
Simitch et al., 1937

Tritrichomonas foetus (Riedmüller)
Morgan, 1942
Holz, 1953

PROTOZOA: SARCODINA

AMOEBIDA: AMOEBIDAE

Hartmannella hyalina Dangeard
Coutinho et al., 1957

AMOEBIDA: ENDAMOEBIDAE

Endolimax nana (Wenyon and O'Connor)
Root, 1921
Yao et al., 1929
Coutinho et al., 1957

Entamoeba coli (Grassi)
Roubaud, 1918
Buxton, 1920
Root, 1921
Yao et al., 1929
Aleksander et al., 1935
Vanni, 1946
Roberts, 1947
Rendtorff et al., 1954
Coutinho et al., 1957

Entamoeba histolytica Schaudinn
Kuenen et al., 1913
Roubaud, 1918
Buxton, 1920
Root, 1921
Jausion et al., 1923
Yao et al., 1929
Aleksander et al., 1935
Pipkin, 1942, 1949
Sieyro, 1942
Vanni, 1946
Roberts, 1947

Iodamoeba bütschlii (Prowazek)
Aleksander et al., 1935
Coutinho et al., 1957

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Musca domestica (cont.)

PROTOZOA: SPOROZOA
COCCIDIDA: EIMERIIDAE
Eimeria Schneider
Coutinho et al., 1957
Eimeria acervalina (Tyzzer)
Roberts, 1947
Eimeria irresidua Kessel and Janciewicz
Metelkin, 1935
Eimeria perforans (Leuckart) Sluiter and Swellengrebel
Metelkin, 1935
HAPLOSPORIDA: UNCERTAIN TAXONOMIC POSITION AND FAMILY
Toxoplasma Nicolle and Manceaux
Kåss, 1954
Schmidtke, 1959
Toxoplasma gondii Nicolle and Manceaux
Kunert et al., 1953
Varela et al., 1961
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: NOSEMATIDAE
Nosema apis Zander
Kramer, 1962
Nosema bombycis Nägeli
Smuidsinovicia, 1889
Teodoro, 1926
Nosema kingi Kramer
Kramer, 1964b
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Flu, 1911
Porter, 1953
Fantham et al., 1958
Kramer, 1964a, 1965b, 1966
Octosporea ?muscae-domesticae Flu
Cardamatis, 1912b
Spirolugea Léger and Hesse
Fanthom et al., 1958
MICROSPORIDA: TELOMYXIDAE
Telomyxa Léger and Hesse
Fanthom et al., 1958
PLATYHELMINTHES: CESTOIDEA
PSEUDOPHYLLIDEA: DIPHYLLOBOTHRIIDAE
Bothriocephalus marginatus Krefft
Nicoll, 1911b

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Musca domestica (cont.)

Diphyllobothrium Cobbold
Pokrovskiĭ et al., 1938
Diphyllobothrium latum
(Linnaeus) Lühe
Pod"ĭapol'skaĭa et al., 1934
Aleksander et al., 1935

CYCLOPHYLLIDEA:
ANOPLOCEPHALIDAE

Moniezia expansa (Rudolphi)
Nicoll, 1911b

CYCLOPHYLLIDEA: DAVAINEIDAE

Raillietina cesticillus (Molin)
Grassi et al., 1889
Gutberlet, 1916
Ackert, 1919
Neveu-Lemaire, 1936
Raillietina tetragona (Molin)
Gutberlet, 1916
Ackert, 1920
Neveu-Lemaire, 1936

CYCLOPHYLLIDEA: DILEPIDIDAE

Choanotaenia infundibulum
(Bloch)
Gutberlet, 1916
Neveu-Lemaire, 1936
Wetzel, 1936
Reid et al., 1937
Dipylidium caninum (Linnaeus)
Railliet
Nicoll, 1911b

CYCLOPHYLLIDEA:
HYMENOLEPIDIDAE

Hymenolepis Weinland
Pokrovskiĭ et al., 1938
Coutinho et al., 1957
Hymenolepis diminuta (Rudolphi)
Blanchard
Nicoll, 1911b
Hymenolepis nana (V. Siebold)
Blanchard
Buxton, 1920
Bogoĭavlenskiĭ et al., 1928
Aleksander et al., 1935
Vampirolepis fraterna (Stiles)
Spassky
Joyeux, 1920

CYCLOPHYLLIDAE: TAENIIDAE

Taenia pisiformis (Bloch)
Nicoll, 1911b

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Musca domestica (cont.)

Taeniarhynchus saginatum (Goeze)
Buxton, 1920
Bogoîâvlenskiĭ et al., 1928
Aleksander et al., 1935

ASCHELMINTHES: NEMATODA

RHABDITIDA: RHABDITIDAE

Rhabditis pellio (Schneider)
Menzel, 1924

RHABDIASIDEA: STRONGYLOIDIDAE

Strongyloides stercoralis (Babay)
Buxton, 1920

TRICHURIDEA: TRICHURIDAE

Trichuris trichiura (Linnaeus)
Nicoll, 1911b
Bogoîâvlenskiĭ et al., 1928
Buxton, 1920
Pod"îâpol'skaîâ et al., 1934
Aleksander et al., 1935

STRONGYLIDEA: ANCYLOSTOMATIDAE

Ancylostoma (Dubini)
Buxton, 1920

Ancylostoma caninum (Ercolani)
Nicoll, 1911b
Harada, 1953, 1954

Ancylostoma duodenale (Dubini) Creplin
Buxton, 1920
Bogoîâvlenskiĭ et al., 1928

Necator americanus (Stiles)
Buxton, 1920

STRONGYLIDEA: STRONGYLIDAE

Strongylus equinus Mueller
Nicoll, 1911b

STRONGYLIDEA: SYNGAMIDAE

Syngamus trachea (Montagu)
Clapham, 1939

STRONGYLIDEA: TRICHOSTRONGYLIDAE

Trichostrongylus colubriformis (Giles)
Bogoîâvlenskiĭ et al., 1928

OXYURIDEA: OXYURIDAE

Enterobius vermicularis (Linnaeus) Leach
Bogoîâvlenksiĭ et al., 1928
Pod"îâpol'skaîâ et al., 1934
Aleksander et al., 1935

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Musca domestica (cont.)

ASCARIDIDEA: ASCARIDIDAE
Ascaris Linnaeus
Pod'ĭapol'skaĭa et al., 1934
Pokrovskiĭ et al., 1938
Ascaris lumbricoides Linnaeus
Stiles, 1889
Bogoĭavlenskiĭ et al., 1928
Roberts, 1934
Aleksander et al., 1935
Sukhacheva, 1963
Parascaris equorum (Goeze)
Nicoll, 1911b
Toxascaris leonina (Linstow)
Nicoll, 1911b
SPIRURIDEA: ACUARIIDAE
Dispharynx ?nasuta (Rudolphi)
Piana, 1896
SPIRURIDEA: SPIRURIDAE
Habronema Diesing
Generali, ?1886
Mello et al., 1943b
Coutinho et al., 1957
Habronema megastoma (Rudolphi) Seurat
Bull, 1919
Hill, 1919
Johnston, 1920
Johnston et al., 1920a
Roubaud et al., 1921, 1922a, 1922b
Descazeaux et al., 1933
Neveu-Lemaire, 1936
Habronema ?megastoma (Rudolphi) Seurat
Bull, 1918
Habronema microstoma (Schneider)
Bull, 1919
Hill, 1919
Johnston, 1920
Roubaud et al., 1922b
Neveu-Lemaire, 1936
Habronema muscae (Carter)
Carter, 1861
Johnston, 1913, 1920
Ransom, 1913
van Saceghem, 1917, 1918
Bull, 1919
Hill, 1919
Roubaud et al., 1922a, 1922b

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Musca domestica (cont.)

de Margarinos Torres et al., 1923
Descazeaux et al., 1933
Neveu-Lemaire, 1936
Mello et al., 1943a
Habronema ?muscae (Carter)
Piana, 1896
TYLENCHIDA: CONTORTYLENCHIDAE
Heterotylenchus autumnalis Nickle
Stoffolano, 1970
FILARIIDEA: DIPETALONEMATIDAE
Oncocera gibsoni (Cleland and Johnson)
Henry, 1927
FILARIIDEA: FILARIIDAE
?*Filaria* Mueller
Place, 1915
Iwanoff, 1934
ASCHELMINTHES: UNDETERMINED NEMATODA
Coutinho et al., 1957
MOLLUSCA: GASTROPODA
SIGMURETHRA: HELICIDAE
Cryptomphalus aspersa (Müller)
Séguy, 1934
ARTHROPODA: ARACHNIDA
PSEUDOSCORPIONIDEA: CHERNETIDAE
Lamprochernes nodosus (Schrank)
Graham-Smith, 1916
Toxochernes panzeri (Loch)
Preudhomme de Borre, 1873
PSEUDOSCORPIONIDEA: CHELIFERIDAE
Chelifer Geoffroy
Stainton, 1864
Stevens, 1866
Hagen, 1867
Knab, 1897
ARANEAE: THERIDIIDAE
Latrodectus mactans (Fabricius)
Herms et al., 1935
Latrodectus mactans (Fabricius) *tredecimguttatus*
Bettini, 1965
Steatoda Sundevall
Pavlovskiĭ, 1921
Teutana Simon
Pavlovskiĭ, 1921
Theridium Walckenaer
Pavlovskiĭ, 1921

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Musca domestica (cont.)

ARANEAE: ERESIDAE
Stegodyphus mimosarum Pavesi
Steyn, 1959
ARANEAE: ARGIOPIDAE
Epeira diadema Walker
Pavlovskiĭ, 1921
ACARINA: MACROCHELIDAE
Glyptholaspis confusa Foa
Axtell, 1961a, 1961b, 1963a, 1963b
Rodriguez et al., 1962a
Macrocheles Latreille
Axtell, 1961b
Macrocheles glaber (Müller)
Filipponi, 1960
Filipponi et al., 1963a
Macrocheles merdarius (Berlese)
Axtell, 1963b
Filipponi et al., 1963b, 1964
Macrocheles muscaedomesticae (Scopoli)
Dugès, 1834
Berlese, 1882a, 1882b
Leonardi, 1900
Oudemans, 1900, 1904
Ewing, 1913
Pereira et al., 1945, 1947
Filipponi, 1955, 1960, 1964, 1965
Rodriguez et al., 1960, 1962a
Axtell, 1961a, 1961b, 1963a, 1963b
Rodriguez, 1961
Wade et al., 1961
Filipponi et al., 1963a, 1963b, 1964
Wallwork et al., 1963
Anderson, 1964
O'Donnell et al., 1965
Farish et al., 1966
Singh et al., 1966
Kinn, 1966
Willis et al., 1968
Macrocheles peniculatus Berlese
Filipponi et al., 1963a, 1964a, 1964b
Filipponi, 1964
Macrocheles perglaber Filipponi and Pegazzano
Filipponi, 1960

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Musca domestica (cont.)

Filipponi et al., 1963a, 1964a
Macrocheles plumiventris Hull
Rodriguez et al., 1960
Macrocheles robustulus (Berlese)
Axtell, 1961b, 1963b
Filipponi et al., 1963a
Macrocheles scutatus (Berlese)
Filipponi et al., 1963a
Macrocheles subbadius Berlese
Filipponi, 1960
Axtell, 1961b, 1963b
Filipponi et al., 1964
ACARINA: LAELAPTIDAE
Holostaspis Kolenati
Graham-Smith, 1916
Holostaspis badius (Koch) Berlese
Zanini, 1930
Holostaspis ?badius (Koch)
Berlese= ? [*Acarus muscaedomesticae* per Scopoli; = *Macrocheles badius* per Oudemans, 1929]
Scopoli, 1772
Holostaspis ?badius (Koch)
Berlese=?[*Acarus muscaedomesticae* Scopoli per Goeze and per Oudemans, 1929]
Goeze, 1776
ACARINA: UROPODIDAE
Fuscuropoda Vitzthum
Anderson, 1964
Fuscuropoda vegetans (De Geer)
O'Donnell et al., 1965
Willis et al., 1968
ACARINA: TROMBIDIIDAE
Microtrombidium ?muscarum (Linnaeus)
Riley, 1877
Griffith, 1907
Ewing et al., 1918
ACARINA: TROMBICULIDAE
Euschoengastia peromysci (Ewing)
Lipovsky, 1954
Eutrombicula alfreddugesi (Oudemans)
Lipovsky, 1954
Eutrombicula splendens (Ewing)
Lipovsky, 1954
Fonsecia gurneyi (Ewing)
Lipovsky, 1954

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Musca domestica (cont.)

Hannemania Oudemans
Lipovsky, 1954
Kayella lacerta (Brennan)
Lipovsky, 1954
Neoschoengastia americana (Hirst)
Lipovsky, 1954
Neotrombicula lipovskyi (Brennan and Wharton)
Lipovsky, 1954
Neotrombiculoides montanensis (Brennan)
Lipovsky, 1954
Pseudoschoengastia farneri Lipovsky
Lipovsky, 1954
Pseudoschoengastia hungerfordi Lipovsky
Lipovsky, 1954

ACARINA: ACARIDAE
Acarus siro Linnaeus
Graham-Smith, 1916

ACARINA: ANOETIDAE
Myianoetus muscarum (Linnaeus)
=?[*Pediculus muscarum* per Menzel;=*Acarus muscarum* per Oudemans, 1929]
Menzel et al., 1683
Myianoetus muscarum (Linnaeus)
=?[*Acarus rufus muscarum* per De Geer;=*Acarus muscarum* per Oudemans, 1929]
De Geer, 1778
Myianoetus muscarum (Linnaeus)
Greenberg et al., 1960

ACARINA: SARCOPTIDAE
Sarcoptes Latreille
Newsad, 1930

ACARINA: UNDETERMINED FAMILY
Gamasus musci, unvalidated
Buchanan, 1916

ARTHROPODA: MYRIAPODA
SCUTIGEROMORPHA: SCUTIGERIDAE
Scutigera coleoptrata (Linnaeus)
Pavlovskiĭ, 1921

ARTHROPODA: INSECTA
DERMAPTERA: LABIDURIDAE
Euborellia annulipes (Lucas)
Illingworth, 1923a

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Musca domestica (cont.)

DERMAPTERA: LABIIDAE
Labia pilicornis (Motschulsky)
Illingworth, 1923a
Spingolabis hawaiiensis (Bormans)
Illingworth, 1923a
DERMAPTERA: FORFICULIDAE
Forficula auricularia Linnaeus
Anderson, 1964
HEMIPTERA: PHYMATIDAE
Phymata pennsylvanica americana Melin
Balduf, 1941, 1948
HEMIPTERA: REDUVIIDAE
Apiomerus pilipes (Fabricius)
Uribe, 1926
LEPIDOPTERA: HYPONOMEUTIDAE
Hyponomeuta padella Linnaeus
Séguy, 1934
LEPIDOPTERA: SPHINGIDAE
Acherontia atropos Linnaeus
Keilin, 1917
COLEOPTERA: HYDROPHILIDAE
Cryptopleurum minutum Fabricius
Illingworth, 1923a
Dactylosternum abdominale Fabricius
Illingworth, 1923a
COLEOPTERA: STAPHYLINIDAE
Aleochara taeniata Erichson
Legner et al., 1966a
White et al., 1966
Baryodma ontarionis Casey
Colhoun, 1953
Creophilus maxillosus (Linnaeus)
Mourier et al., 1968
Oxytelus Gravenhorst
Illingworth, 1923a
Oxytelus sculptus Gravenhorst
Mourier et al., 1968
Ont[h]olestes tessellatus Fourcr.
Mourier et al., 1968
Philonthus discoideus Gravenhorst
Illingworth, 1923a
Philonthus longicornis Stephens
Illingworth, 1923a
Tachyporus Gravenhorst
Illingworth, 1923a
COLEOPTERA: UNDETERMINED STAPHYLINIDAE
Anderson, 1964

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Musca domestica (cont.)

COLEOPTERA: HISTERIDAE
Pachylister chinensis Quensel
Simmonds, 1958
Saprinus lugens Erichson
Vogt, 1948

COLEOPTERA: DERMESTIDAE
Dermestes ater De Geer
Vogt, 1948
Dermestes caninus Germar
Vogt, 1948

COLEOPTERA: UNDETERMINED DERMESTIDAE
Packard, 1873

COLEOPTERA: SCARABAEIDAE
Copris incertus Say
Simmonds, 1958

HYMENOPTERA: ICHNEUMONIDAE
Opius nitidulator Nees
Rambousek, 1929
Phygadeuon Gravenhorst
Legner et al., 1966a
Mourier et al., 1968

HYMENOPTERA: BRACONIDAE
Alysia manducator Panzer
Froggatt, 1922
Gurney et al., 1926a
Legner et al., 1966a
Aphaereta pallipes Say
Blickle, 1961
Beard, 1964

HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Simmonds, 1958
Blickle, 1961
Kleidotoma Westwood
James, 1928
Kleidotoma marshalli Marshall
James, 1928

HYMENOPTERA: FIGITIDAE
Figites Latreille
Legner, 1966
Figites anthomyiarum (Bouché)
James, 1928
Xyalophora quinquelineata (Say)
Blickle, 1961

HYMENOPTERA: CHALCIDIDAE
Dirhinus Dalman
Simmonds, 1940

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Musca domestica (cont.)

HYMENOPTERA: PTEROMALIDAE

Muscidifurax raptor[1] Girault and Sanders
- Girault et al., 1910a, 1910b
- Roberts, 1935
- Puerto Rico, U.S.D.A. Experimental Station, 1938
- Bartlett, 1939
- Legner et al. (pre-publication), 1965a
- Legner et al., 1965c, 1966a
- Legner (pre-publication), 1966
- Mourier et al., 1968
- Legner, 1969

Nasonia vitripennis[2] (Walker)
- Girault et al., 1910a
- Roubaud, 1917
- Altson, 1920
- Johnston et al., 1920b, 1921
- Froggatt, 1921, 1922
- Séguy, 1929
- Fujita, 1932
- Smirnov et al., 1933, 1934
- Smirnov, 1934
- Vladimirova et al., 1934
- DeBach et al., 1947
- Edwards, 1954
- Wylie, 1962
- Nagel et al., 1963
- Pimentel, 1963
- Pimentel et al., 1963, 1965a
- Beard, 1964
- Madden, 1964
- Hair et al., 1965
- Madden et al., 1965
- Wylie, 1965a, 1965b, 1965c
- Legner (pre-publication), 1966
- Legner et al., 1966a

Pachycrepoideus vindemmiae Rondani
- Bartlett, 1939
- McCoy, 1963
- Legner et al., 1965c, 1966a

Prospalangia platensis Brèthes
- Brèthes, 1915

[1] Although not specifically mentioned in each entry, it is assumed that all *Muscidifurax raptor* are pupal parasites.

[2] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Musca domestica (cont.)

Spalangia[1] Latreille
Girault et al., 1910a
Simmonds, 1922
Vandenberg, 1930
Legner et al., 1966a
Spalangia cameroni Perkins
Legner (pre-publication), 1966
Legner et al., 1966a, 1969
Gerling et al., 1968
Mourier et al., 1968
Legner, 1969
Spalangia chontalensis (Cameron)
Legner et al., 1966a
Spalangia drosophilae Ashmead
Lindquist, 1936
Spalangia endius Walker
Legner et al. (pre-publication), 1965a
Legner et al., 1965c, 1966a
Legner (pre-publication), 1966
Spalangia hirta Haliday
Richardson, 1913a
Spalangia longepetiolata Bouček
Legner et al., 1969a
Spalangia muscae Howard
Howard, 1911
Girault, 1916
Peck, 1951
Spalangia muscidarum Richardson
Pinkus, 1913
Richardson, 1913a, 1913b
Johnston et al., 1920b, 1921
Froggatt, 1922
Bartlett, 1939
Simmonds, 1958
Spalangia nigra Latreille
Richardson, 1913b
Parker, 1924
Parker et al., 1928
Sanders, 1942
Legner, 1969
Spalangia nigripes Curtis
Bouček, 1963
Legner et al., 1969a
Spalangia nigroaenea Curtis
Legner et al., 1965c, 1966a, 1969a
Legner (pre-publication), 1966

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Musca domestica (cont.)

Spalangia platensis (Brèthes)
Bouček, 1963
Spalangia philippinensis Fullaway
Bartlett, 1939
Spalangia simplex Perkins
Legner et al., 1966a
Spalangia stomoxysiae Girault
Lindquist, 1936
Legner et al., 1965c
Sphegigaster Spinola
Legner et al., 1969a
HYMENOPTERA: *UNDETERMINED*
PTEROMALIDAE
Bishopp, 1913a
HYMENOPTERA: ENCYRTIDAE
Tachinaephagus giraulti Johnston and Tiegs
Legner et al., 1966a
HYMENOPTERA: EULOPHIDAE
Syntomosphyrum albiclavus Kerrich
Saunders, 1964
Syntomosphyrum glossinae Waterston
Saunders, 1964
HYMENOPTERA: DIAPRIIDAE
Hemilexomyia abrupta Dodd
Johnston et al., 1921
Trichopria Ashmead
Bartlett, 1939
Legner et al., 1965c, 1966a, 1969a
Legner (pre-publication), 1966
Trichopria commoda Muesebeck
Muesebeck, 1961
HYMENOPTERA: FORMICIDAE
Iridomyrmex humilis (Mayr)
Pavan, 1952
Paratrechina longicornis (Latreille)
Pimentel, 1955
Pheidole megacephala (Fabricius)
Bridwell, 1918
Illingworth, 1923a
Phillips, 1934
Simmonds, 1958
Pheidole subarmata borinquenensis Wheeler
Pimentel, 1955
Pheidologeton affinis (Jerd.)
Pimentel et al., 1969

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Musca domestica (cont.)

Ponera perkinsi Forel
Illingworth, 1923a
Solenopsis corticalis Forel
Pimentel, 1955
Solenopsis geminata (Fabricius)
Pimentel, 1955
Tapinoma melanocephalum (Fabricius)
Pimentel, 1955
HYMENOPTERA: SPHECIDAE
Bembix spinolae (Lepeletier)
Parker, 1917
Mellinus arvensis (Linnaeus)
Herold, 1922
Oxybelus uniglumis (Linnaeus)
Chevalier, 1926
HYMENOPTERA: VESPIDAE
Polistes hebraeus (Fabricius)
Jepson, 1915
Vespa germanica Fabricius
Herold, 1922
Kühlhorn, 1961
Vespa vulgaris Linnaeus
Kühlhorn, 1961
DIPTERA: STRATIOMYIDAE
Hermetia illucens Linnaeus
Furman et al., 1959
Vasquez-Gonzales et al., 1962-63
DIPTERA: ANTHOMYIIDAE
Scatophaga stercoraria (Linnaeus)
Hewitt, 1914
DIPTERA: MUSCIDAE
Hydrotaea dentipes (Fabricius)
Porchinskiĭ, 1911
Derbeneva-Ukhova, 1935, 1961
Ophyra leucostoma (Wiedemann)
Anderson, 1964
Anderson et al., 1964
Muscina stabulans (Fallén)
Porchinskiĭ, 1913
DIPTERA: CALLIPHORIDAE
Protophormia terraenovae (Robineau-Desvoidy)
Vladimirova et al., 1938
DIPTERA: CUTEREBRIDAE
Dermatobia hominis (Linnaeus)
Neiva et al., 1917
Neel et al., 1955
Zeledón, 1957

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Musca domestica (cont.)

CHORDATA: REPTILIA
SQUAMATA: LACERTIDAE
Lacerta agilis Linnaeus
Antonov, 1945

CHORDATA: AVES
GALLIFORMES: PHASIANIDAE
Gallus gallus Linnaeus
Bushnell et al., 1924
Rodriguez et al., 1962b

PASSERIFORMES: HIRUNDINIDAE
Delichon urbica (Linnaeus) subsp. *urbica*
Séguy, 1929
Hirundo rustica Linnaeus subsp. *rustica*
Séguy, 1929

House flies (presumably *Musca domestica* Linnaeus) .....

VIRUSES
ENTEROVIRUSES
Poliovirus
Flexner et al., 1911
Toomey et al., 1941

OTHER ANIMAL VIRUSES
Foot and mouth disease virus
Kunike, 1927a

SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES: PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Manning, 1902

PSEUDOMONADALES: SPIRILLACEAE
Vibrio comma (Schroeter) Winslow et al.
Cattani, 1886
Celli et al., 1888
Craig, 1894
Alessandrini et al., 1912
Flu, 1915

CHLAMYDOBACTERIALES: CHLAMYDOBACTERIACEAE
Leptothrix Kützing
Wenyon et al., 1917b

EUBACTERIALES: ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Purdy, 1906
Jenkins et al., 1954

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House flies (cont.)

Escherichia coli var. *communis* (Escherich) Breed
Manning, 1902
Serratia marcescens Bizio
Marpmann, 1884
Manning, 1902
Terry, 1912
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Nicoll, 1917b
Salmonella pullorum (Rettger) Bergey
Gwatkin et al., 1952
Salmonella typhi Warren and Scott
Celli et al., 1888
Manning, 1902
Bertarelli, 1909
Ara, 1933
Shigella dysenteriae (Shiga) Castellani and Chalmers
Bahr, 1914
Shigella flexneri Castellani and Chalmers
Auché, 1906
Bahr, 1914

EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE

Coliform
Geldreich et al., 1963

EUBACTERIALES: MICROCOCCACEAE

Micrococcus Cohn
Ramirez, 1898
Staphylococcus aureus Rosenbach
Celli et al., 1888
Manning, 1902
Staphylococcus muscae Glaser
Glaser, 1926
Sarcina alba Zimmermann
Manning, 1902
Sarcina aurantiaca Flügge
Manning, 1902

EUBACTERIALES: LACTOBACILLACEAE

Streptococcus Rosenbach
Geldreich et al., 1963
Streptococcus faecalis Andrewes and Horder
Geldreich et al., 1963

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House flies (cont.)

EUBACTERIALES:
CORYNEBACTERIACEAE
Corynebacterium diphtheriae
(Kruse) Lehmann and Neumann
Smith, 1898
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Ramirez, 1898
Graham-Smith, 1913
Bacillus anthracis Cohn
Dalrymple, 1912, 1914
Morris, 1920
Rinonpoli, 1930
Clostridium bifermentans
(Weinberg and Séguin)
Bergey et al.
Marpmann, 1884
Clostridium putrefaciens
(McBryde) Sturges and Drake
Purdy, 1906
ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium leprae (Hansen)
Lehmann and Neumann
Römer, 1906
Mycobacterium tuberculosis
(Zopf) Lehmann and Neumann
Celli et al., 1888
Hofmann, 1888
Lord, 1904, 1905
André, 1908
SPIROCHAETALES:
TREPONEMATACEAE
Treponema pertenue Castellani
Yasuyama, 1928
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora muscae Cohn
Cohn, 1857
Solms-Laubach, 1870
White et al., 1877
Goldstein, 1927
Yeager, 1939
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Metarrhizium anisopliae
(Metschnikoff) Sorokin
Schaerffenberg, 1959

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House flies (cont.)

Penicillium Link
Cohn, 1857
MONILIALES: DEMATIACEAE
Torula Persoon
Berlese, 1896
CRYPTOCOCCALES:
CRYPTOCOCCACEAE
Candida Berkhout
Berlese, 1896
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Werner, 1909a, 1911b, 1913
Glaser, 1922
Leishmania tropica (Wright)
Blanc et al., 1921
PROTOMONADIDA: BODONIDAE
Bodo Ehrenberg
Flu, 1915
Attimonelli, 1940b
Bodo Ehrenberg=[*Prowazekia*]
Attimonelli, 1940b
POLYMASTIGIDA: TETRAMITIDAE
Tetramitus Perty
Attimonelli, 1940b
POLYMASTIGIDA: HEXAMITIDAE
Giardia Kunstler
Frye et al., 1932
Attimonelli, 1940b
Giardia intestinalis (Lambl)
Wenyon et al., 1917a, 1917b
TRICHOMONADIDA:
TRICHOMONADIDAE
Trichomonas Donné
Wenyon et al., 1917b
Attimonelli, 1940b
Akatov, 1955
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Werner, 1909b
Frye et al., 1932
Entamoeba coli (Grassi)
Wenyon et al., 1917a, 1917b
Frye et al., 1932
Entamoeba histolytica Schaudinn
Werner, 1909b

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House flies (cont.)

Wenyon et al., 1917a, 1917b
Rogers, 1929
Frye et al., 1932

PROTOZOA: SPOROZOA
COCCIDIDA: EIMERIIDAE
Eimeria Schneider
Wenyon et al., 1917a

PROTOZOA: CILIATA
GYMNOSTOMATIDA: HOLOPHRYIDAE
Holophrya Ehrenberg
Attimonelli 1940b

PLATYHELMINTHES: TREMATODA
DIGENEA: HETEROPHYIDAE
Heterophyes heterophyes (V. Siebold) Stiles and Hassall
Wenyon et al., 1917a

DIGENEA: SCHISTOSOMATIDAE
Schistosoma Weinland
Wenyon et al., 1917a

PLATYHELMINTHES: UNDETERMINED TREMATODA
Trematode operculated ova
Wenyon et al., 1917b
Trematode operculated ova (30 μ)
Wenyon et al., 1917b
Trematode operculated ova (35 x 20 μ)
Wenyon et al., 1917b

PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: DAVAINEIDAE
Davainea nana (Fuhrmann)
Calandruccio, 1906

CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Wenyon et al., 1917a

PLATYHELMINTHES: UNDETERMINED CESTOIDEA
Cestode ova
Wenyon et al., 1917b

ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Wenyon et al., 1917a

STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma duodenale (Dubini) Creplin
Wenyon et al., 1917a

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House flies (cont.)

SPIRURIDEA: SPIRURIDAE
Habronema muscae (Carter)
Leidy, 1874
Ransom, 1911
ARTHROPODA: ARACHNIDA
UNDETERMINED
PSEUDOSCORPIONIDEA
Manning, 1902
ARANEAE: DICTYNIDAE
Coenothele gregalis Simon
Diguet, 1909
ACARINA: MACROCHELIDAE
Macrocheles muscaedomesticae (Scopoli)
Schröck, 1686
Axtell, 1964
Macrocheles subbadius Berlese
Axtell, 1964
ACARINA: LAELAPTIDAE
Alliphis halleri (Canestrini)
= ?[*Pediculus* or *Pulex muscarum* per Heister; = *Gamasus halleri* per Oudemans, 1926]
Heister, 1727
Holostaspis badius (Koch) Berlese = ?[*Acarus muscaedomesticae* per Scopoli; = *Macrocheles badius* per Oudemans, 1929]
Scopoli, 1772
ACARINA: TROMBIDIIDAE
Atomus parasiticus (De Geer)
= ?[Small red mite per Goeze; = *Acarus parasiticus* per Oudemans, 1929]
Goeze, 1774
Atomus parasiticus (De Geer)
De Geer, 1778
Murray, 1877
ACARINA: ANOETIDAE
Myianoetus muscarum (Linnaeus)
= ?[*Tinea muscarum* and *Teredo muscarum* per Gahrliep; = *Acarus muscarum* per Oudemans, 1926]
Gahrliep, 1696
Myianoetus muscarum (Linnaeus)
= ?[insect per Winterschmidt; = *Acarus muscarum* per Oudemans, 1929]

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House flies (cont.)

Winterschmidt, 1765
Myianoetus muscarum (Linnaeus)
= ?[very small mites per De Geer; = *Acarus muscarum* per Oudemans, 1929]
De Geer, 1771, v. 2
Myianoetus muscarum (Linnaeus)
= ?[*Acarus coleoptratorum* per Schrank; = *Acarus muscarum* per Oudemans, 1929]
Schrank, 1776
Myianoetus muscarum (Linnaeus)
= ?[*Acarus muscorum* per Fabricius; = *Acarus muscarum* per Oudemans, 1929]
Fabricius, 1780
Myianoetus muscarum (Linnaeus)
Mohr, 1786
Walckenaer, 1802

ARTHROPODA: INSECTA

HYMENOPTERA: TENTHREDINIDAE
Tenthredo pectoralis Norton
Venables, 1914

HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Simmonds, 1940

HYMENOPTERA: CHALCIDIDAE
Dirhinus luzonensis Rohwer
Dresner, 1954

HYMENOPTERA: PTEROMALIDAE
Spalangia[1] *cameroni* Perkins
Simmonds, 1929
Spalangia muscidarum Richardson
Simmonds, 1940
Spalangia philippinensis Fullaway
Fullaway, 1917a

HYMENOPTERA: FORMICIDAE
Pheidole megacephala (Fabricius)
Illingworth, 1915

DIPTERA: ASILIDAE
Efferia aestuans (Linnaeus)
Bromley, 1946
Efferia pogonias (Wiedemann)
Bromley, 1946
Neoitamus flavofemoratus (Hine)
Bromley, 1946

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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House flies (cont.)	*Proctacanthus philadelphicus* Macquart Bromley, 1946
	Regasilus notatus (Wiedemann) Bromley, 1946
	Regasilus sadyates (Walker) Bromley, 1946
Musca domestica	ENTEROVIRUSES
domestica Linnaeus	Poliovirus strain 113 Levkovich et al., 1957
	Poliovirus Type 2, Lansing strain Levkovich et al., 1957
Musca domestica vicina	ENTEROVIRUSES
Macquart	Poliovirus Type 1
(Synonyms: *Musca vicina, Musca vitrina*)	Brygoo et al., 1962
	SCHIZOPHYTA: SCHIZOMYCETES
	PSEUDOMONADALES: PSEUDOMONADACEAE
	Pseudomonas Migula Floyd et al., 1953
	EUBACTERIALES: ACHROMOBACTERACEAE
	Alcaligenes Castellani and Chalmers Floyd et al., 1953
	Alcaligenes faecalis Castellani and Chalmers Shterngol'd, 1949
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Floyd et al., 1953 Silverman et al., 1953 Levinson, 1960
	Paracolobactrum Borman, Stuart, and Wheeler Shterngol'd, 1949
	Proteus Hauser Shterngol'd, 1949 Floyd et al., 1953
	Proteus vulgaris Hauser Shterngol'd, 1949
	Providencia Kauffmann Floyd et al., 1953
	Salmonella typhi Warren and Scott Floyd et al., 1953
	Salmonella typhimurium (Loeffler) Castellani and Chalmers Floyd et al., 1953 Brygoo et al., 1962

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Musca domestica vicina (cont.)

Bethesda Edwards, West, and Bruner
Floyd et al., 1953
?*Shigella* Castellani and Chalmers
Sychevskaĭa et al., 1959a
Shigella dysenteriae Castellani and Chalmers
Shterngol'd, 1949
Shigella dysenteriae (Shiga) Castellani and Chalmers 1
Sychevskaĭa et al., 1959a
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Floyd et al., 1953
Sychevskaĭa et al., 1959a
Shigella dysenteriae (Shiga) Castellani and Chalmers 3-7
Floyd et al., 1953
Shigella flexneri Castellani and Chalmers
Shterngol'd, 1949
Sukhova, 1954
Shura-Bura, 1955
Sychevskaĭa et al., 1959a
Arskiĭ et al., 1961
Shigella flexneri Castellani and Chalmers = [*Shigella paradysentariae*]
Shterngol'd, 1949
Shigella flexneri Castellani and Chalmers, 1a
Sychevskaĭa et al., 1959a, 1959b
Shigella flexneri Castellani and Chalmers, 2a, 5, X
Floyd et al., 1953
Shigella flexneri Castellani and Chalmers, 6
Sychevskaĭa et al., 1959b
Shigella flexneri Castellani and Chalmers, Y
Shterngol'd, 1949
Shigella sonnei (Levine) Weldin
Floyd et al., 1953
Arskiĭ et al., 1961

EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE

Coliform
McGuire et al., 1957

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Musca domestica vicina (cont.)

EUBACTERIALES: BRUCELLACEAE
Hemophilus influenzae (Lehmann and Neumann) Winslow et al.
McGuire et al., 1957
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach (beta-hemolytic)
McGuire et al., 1957
Staphylococcus Rosenbach (non-hemolytic)
McGuire et al., 1957
Staphylococcus Rosenbach (pathogenic)
Brygoo et al., 1962
Gaffkya Trevisan
McGuire et al., 1957
Sarcina Goodsir
Silverman et al., 1953
McGuire et al., 1957
EUBACTERIALES: NEISSERIACEAE
Neisseria gonorrhoeae Trevisan
McGuire, 1957
EUBACTERIALES: LACTOBACILLACEAE
Streptococcus Rosenbach (alpha-hemolytic)
McGuire et al., 1957
Streptococcus Rosenbach (beta-hemolytic)
McGuire et al., 1957
Streptococcus Rosenbach (non-hemolytic)
McGuire et al., 1957
Lactobacillus Beijerinck
Silverman et al., 1953
EUBACTERIALES: CORYNEBACTERIACEAE
Corynebacterium Lehmann and Neumann
McGuire et al., 1957
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
McGuire et al., 1957
Bacillus anthracis Cohn
Anonymous, 1952
Bacillus subtilis Cohn
Silverman et al., 1953
Clostridium Prazmowski
McGuire et al., 1957

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Musca domestica vicina (cont.)

SPIROCHAETALES:
TREPONEMATACEAE
Treponema pertenue Castellani
Satchell et al., 1953
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Aspergillus flavus Link
Usui, 1960
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Chang, 1940
Herpetomonas muscarum (Leidy) Kent
Pletneva, 1937
POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Chang, 1940
POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Pletneva, 1937
TRICHOMONADIDA:
TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Chang, 1940
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Chang, 1940
Entamoeba coli (Grassi)
Pletneva, 1937
Chang, 1940
Entamoeba histolytica Schaudinn
Pletneva, 1937
Chang, 1940
Iodamoeba butschli (Prowazek)
Chang, 1940
PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA:
HYMENOLEPIDIDAE
Hymenolepis nana (V. Siebold) Blanchard
Pletneva, 1937
Sychevskaĭa et al., 1959b
CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Zmeev, 1936
Sychevskaĭa et al., 1958

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Musca domestica vicina (cont.)

CYCLOPHYLLIDEA: UNDETERMINED
TAENIIDAE
Sychevskaîà et al., 1959b
SPECIES OF UNCERTAIN AFFINITY
Bassus laetatorius, unvalidated
Sychevskaîà, 1964b
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Chang, 1940
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Chang, 1940
OXYURIDEA: OXYURIDAE
Enterobius vermicularis (Linnaeus) Leach
Pletneva, 1937
ASCARIDIDEA: ASCARIDIDAE
Ascaris lumbricoides Linnaeus
Chang, 1940
Sychevskaîà et al., 1958
TYLENCHIDA: ALLANTONEMATIDAE
Allantonema muscae (Roy and Mukherjee)
Roy et al., 1937a
Allantonema stricklandi (Roy and Mukherjee)
Roy et al., 1937b
ARTHROPODA: ARACHNIDA
ACARINA: UNDETERMINED
PARASITIDAE
Sychevskaîà, 1964a
ACARINA: MACROCHELIDAE
Macrocheles Latreille
DeCoursey et al., 1956
Macrocheles glaber (Müller)
Sychevskaîà, 1964a
Macrocheles muscaedomesticae (Scopoli)
Sychevskaîà, 1964a
ACARINA: GAMASOLAELAPTIDAE
Digamasellus Berlese
Sychevskaîà, 1964a
ARTHROPODA: INSECTA
HYMENOPTERA: CHALCIDIDAE
Brachymeria minuta (Fabricius)
Sychevskaîà, 1966
Dirhinus pachycerus Masi
Roy et al., 1940

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Musca domestica vicina (cont.)	HYMENOPTERA: PTEROMALIDAE *Spalangia*[1] Latreille Roy et al., 1939 Sychevskaĭa, 1964b *Spalangia cameroni* Perkins Bouček, 1963 *Spalangia endius* Walker Bouček, 1963 *Spalangia nigripes* Curtis Bouček, 1963 *Spalangia nigroaenea* Curtis Sychevskaĭa, 1964b *Spalangia stomoxysiae* Girault Sychevskaĭa, 1964b
Musca domestica ?*vicina* Macquart	ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Cothonaspis nigricornis* (Kieffer) Sychevskaĭa, 1964b
Musca fergusoni Johnston and Bancroft	ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema megastoma* (Rudolphi) Seurat Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936 *Habronema microstoma* (Schneider) Johnston, 1920 *Habronema muscae* (Carter) Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936
	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia nigroaenea* Curtis Bouček, 1963
Musca gibsoni Patton and Cragg	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia muscophaga* Girault Bouček, 1963
Musca hilli Johnston and Bancroft	ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema megastoma* (Rudolphi) Seurat Johnston, 1920 Johnston et al., 1920a

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Musca hilli (cont.)	*Habronema microstoma* (Schneider) Johnston, 1920
	Habronema muscae (Carter) Johnston, 1920 Johnston et al., 1920a
	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker) Johnston et al., 1920b
	Spalangia muscidarum Richardson Johnston et al., 1920b
	Spalangia nigroaenea Curtis Bouček, 1963
Musca inferior Stein	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: BRUCELLACEAE
	Pasteurella multocida (Lehmann and Neumann) Rosenbusch and Merchant Nieschulz et al., 1929
	EUBACTERIALES: BACILLACEAE
	Bacillus anthracis Cohn Nieschulz, 1928a
	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Trypanosoma evansi (Steel) Nieschulz, 1927
	ARTHROPODA: INSECTA
	HYMENOPTERA: CHALCIDIDAE
	Dirhinus pachycerus Masi Roy et al., 1939
Musca insignis (Austen) (Synonym: *Philaematomyia insignis*)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Trypanosoma evansi (Steel) Fletcher, 1916
Musca larvipara Porchinskiĭ	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli var. *acidilactici* (Topley and Wilson) Yale Zmeev, 1943
	Escherichia coli var. *acidilactici* (Topley and Wilson) Yale = [*Escherichia paraacidilactici* A] Zmeev, 1943
	Escherichia coli var. *acidilactici* (Topley and Wilson) Yale

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Musca larvipara (cont.)	= [*Escherichia paraacidilactici* B] Zmeev, 1943
	?*Shigella* Castellani and Chalmers Sychevskaĭa et al., 1959a
	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: THELAZIIDAE
	Thelazia gulosa Raillet and Henry Klesov, 1951
	Világiová, 1962
	Thelazia rhodesii (Desmarest) Klesov, 1949, 1951
	Világiová, 1962
	Tukhmanyants et al., 1963
	TYLENCHIDA: CONTORTYLENCHIDAE
	Heterotylenchus autumnalis Nickle Világiová, 1968
	ARTHROPODA: ARACHNIDA
	ACARINA: UNDETERMINED PARASITIDAE
	Sychevskaĭa, 1964a
	ACARINA: GAMASOLAELAPTIDAE
	Saintdidieria sexclavatus (Oudemans)
	Sychevskaĭa, 1964a
	ACARINA: TROMBIBIIDAE
	Atomus inexpectatus (Oudemans) Sychevskaĭa, 1964a
Musca lusoria Wiedemann	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: SPIRURIDAE
	Habronema megastoma (Rudolphi) Seurat
	Neveu-Lemaire, 1936
	Habronema muscae (Carter) Neveu-Lemaire, 1936
	ARTHROPODA: INSECTA
	HYMENOPTERA: BRACONIDAE
	Idiasta lusoriae (Bridwell) Bridwell, 1919
	HYMENOPTERA: CYNIPIDAE
	Bothrochacis stercoraria Bridwell Bridwell, 1919
Musca nebulo Fabricius	SCHIZOPHYTA:
	PSEUDOMONADALES: PSEUDOMONADACEAE
	Pseudomonas septica Bergey et al.
	Amonkar, 1967

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Musca nebulo (cont.)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Patton, 1910a Patton, 1912a *Herpetomonas muscarum* (Leidy) Kent = [*Herpetomonas muscaedomesticae*] Patton, 1921a *Herpetomonas muscarum* (Leidy) Kent = [*Herpetomonas sarcophagae*] Patton, 1921a *Leishmania donovani* Laveran and Mesnil Patton, 1921-22 *Leptomonas mirabilis* Roubaud Patton, 1921a PROTOMONADIDA: BODONIDAE *Rhynchoidomonas luciliae* (Patton) Patton Patton, 1910c ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Dirhinus pachycerus* Masi Roy et al., 1940 HYMENOPTERA: EULOPHIDAE *Syntomosphyrum glossinae* Waterston Lamborn, 1925
Musca osiris Wiedemann	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE ?*Shigella* Castellani and Chalmers Sychevskaĭa et al., 1959a
Musca planiceps .. . . Wiedemann	THALLOPHYTA: ASCOMYCETES LABOULBENIALES: LABOULBENIACEAE *Stygmatomyces baeri* (Knoch) Peyritsch Senior-White et al., 1945 ARTHROPODA: INSECTA COLEOPTERA: STAPHYLINIDAE *Aleochara trivialis* Kraatz Senior-White et al., 1945

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Musca sorbens ....
Wiedemann
(Synonyms: *Musca humilis*, *Musca spectanda*)

VIRUSES
PSITACOSIS GROUP
Trachoma virus
Gear et al., 1962
SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
?*Shigella* Castellani and Chalmers
Sychevskaĭa et al., 1959a
Shigella dysenteriae (Shiga) Castellani and Chalmers 1
Sychevskaĭa et al., 1959a
Shigella flexneri Castellani and Chalmers
Sychevskaĭa et al., 1959a
EUBACTERIALES: UNDETERMINED
ENTEROBACTERIACEAE
Coliform
McGuire et al., 1957
EUBACTERIALES: BRUCELLACEAE
Haemophilus influenzae (Lehmann and Neumann) Winslow et al.
McGuire et al., 1957
Haemophilus ?influenzae (Lehmann and Neumann) Winslow et al.
Sukhova, 1953
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach (beta-hemolytic)
McGuire et al., 1957
Staphylococcus Rosenbach (non-hemolytic)
McGuire et al., 1957
Gaffkya Trevisan
McGuire et al., 1957
Sarcina Goodsir
McGuire et al., 1957
EUBACTERIALES: NEISSERIACEAE
Neisseria gonorrhoeae Trevisan
McGuire et al., 1957
EUBACTERIALES: LACTOBACILLACEAE
Streptococcus Rosenbach (alpha-hemolytic)
McGuire et al., 1957
Streptococcus Rosenbach (beta-hemolytic)
McGuire et al., 1957
Streptococcus Rosenbach (non-hemolytic)
McGuire et al., 1957

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Musca sorbens (cont.)

EUBACTERIALES:
CORYNEBACTERIACEAE
Corynebacterium Lehmann and Neumann
McGuire et al., 1957
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
McGuire et al., 1957
Clostridium Prazmowski
McGuire et al., 1957
ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium leprae (Hansen) Lehmann and Neumann = [*Bacillus leprae*]
Lamborn, 1935, 1937
Mycobacterium ?leprae (Hansen) Lehmann and Neumann = [acid-fast bacillus]
Lamborn, 1938
Mycobacterium tuberculosis (Zopf) Lehmann and Neumann
Lamborn, 1938, 1939
SPIROCHAETALES:
TREPONEMATACEAE
Treponema pertenue Castellani
Thomson et al., 1934
Lamborn, 1936a, 1936b
Satchell et al., 1953
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Chang, 1940
Herpetomonas muscarum (Leidy) Kent
Patton, 1921a
Leishmania donovani Laveran and Mesnil
Patton, 1921-22
Thomson et al., 1934
Lamborn, 1935, 1955
Leishmania donovani Laveran and Mesnil = [*Leishmania infantum*]
Thomson et al., 1934
Lamborn, 1955
Leishmania tropica (Wright)
Thomson et al., 1934
Lamborn, 1935, 1955

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Musca sorbens (cont.)

Trypanosoma brucei Plimmer and Bradford
Lamborn, 1934
Thomson et al., 1934
Trypanosoma congolense Broden
Lamborn, 1934
Trypanosoma rhodesiense Stephens and Fantham
Lamborn, 1936a
Lamborn et al., 1936
Trypanosoma suis Ochmann
Lamborn, 1934
POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Chang, 1940
POLYMASTIGIDA: HEXAMITIDAE
Giardia lamblia Stiles
Chang, 1940
TRICHOMONADIDA: TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Chang, 1940
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Chang, 1940
Entamoeba coli (Grassi)
Chang, 1940
Entamoeba histolytica Schaudinn
Chang, 1940
Iodamoeba bütschlii (Prowazek)
Chang, 1940
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Kramer, 1965b
UNDETERMINED MICROSPORIDA
Lamborn, 1935, 1955
PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Sychevskaĭa et al., 1958
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Chang, 1940
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Chang, 1940

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Musca sorbens (cont.)	ASCARIDIDEA: ASCARIDIDAE
	Ascaris lumbricoides Linnaeus
	Chang, 1940
	SPIRURIDEA: SPIRURIDAE
	Habronema megastoma (Rudolphi) Seurat
	Neveu-Lemaire, 1936
	Habronema muscae (Carter)
	Neveu-Lemaire, 1936
	TYLENCHIDA: CONTORTYLENCHIDAE
	Heterotylenchus Stoffolano and Nickle
	Hughes et al., 1969
	ARTHROPODA: ARACHNIDA
	ACARINA: MACROCHELIDAE
	Macrocheles Latreille
	DeCoursey et al., 1956
	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Spalangia[1] *endius* Walker
	Bouček, 1963
	Spalangia nigroaenea Curtis
	Bouček, 1963
Musca sorbens sorbens .... Wiedemann (Synonym: *Musca vetustissima*)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: BACILLACEAE
	Bacillus anthracis Cohn
	Cleland, 1912, 1913
	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: SPIRURIDAE
	Habronema Diesing
	Johnston, 1912
	Tryon, 1914
	Habronema megastoma (Rudolphi) Seurat
	Johnston, 1920
	Johnston et al., 1920a
	Neveu-Lemaire, 1936
	Habronema microstoma (Schneider)
	Johnston, 1920
	Habronema ?*muscae* (Carter)
	Johnston, 1913
	Habronema muscae (Carter)
	Johnston, 1920
	Johnston et al., 1920a
	Neveu-Lemaire, 1936

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Musca sorbens sorbens (cont.)	FILARIIDEA: DIPETALONEMATIDAE *Oncocerca gibsoni* (Cleland and Johnston) Henry, 1927 FILARIIDEA: FILARIIDAE ?*Filaria* Mueller Place, 1915 ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Johnston et al., 1920b *Spalangia muscidarum* Richardson Johnston et al., 1920b *Spalangia nigroaenea* Curtis Bouček, 1963 HYMENOPTERA: SPHECIDAE *Sericophorus sydneyi* Rayment Rayment, 1954 *Sericophorus viridis roddi* Rayment Rayment, 1954
Musca tempestiva Fallén	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Trypanosoma brucei* Plimmer and Bradford Lamborn, 1934 *Trypanosoma congolense* Broden Lamborn, 1934 *Trypanosoma suis* Ochmann Lamborn, 1934 ASCHELMINTHES: NEMATODA TYLENCHIDA: CONTORTYLENCHIDAE *Heterotylenchus autumnalis* Nickle Világiová, 1968 ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Oxybelus* Latreille Pridantseva, 1959
Musca terraereginae .... Johnston and Bancroft	ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema megastoma* (Rudolphi) Seurat Johnston et al., 1920a Johnston, 1920 Neveu-Lemaire, 1936 *Habronema microstoma* (Schneider) Johnston, 1920

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Musca terraereginae (cont.)	*Habronema muscae* (Carter) Johnston et al., 1920a Johnston, 1920 Neveu-Lemaire, 1936
	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Johnston et al., 1920b *Spalangia muscidarum* Richardson Johnston et al., 1920b *Spalangia nigroaenea* Curtis Bouček, 1963
Musca ventrosa Wiedemann	ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema megastoma* (Rudolphi) Seurat Neveu-Lemaire, 1936 *Habronema muscae* (Carter) Neveu-Lemaire, 1936
Subfamily: STOMOXYINAE *Haematobia* Lepeletier and Serville (Synonyms: ?*Lyperosia* *Bdellolarynx*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Trypanosoma* Gruby Krishna Iyer et al., 1935 *Trypanosoma evansi* (Steel) Mitzmain, 1912a
	ARTHROPODA: INSECTA ANOPLURA: HAEMATOPINIDAE *Haematopinus tuberculatus* (Burmeister) Mitzmain, 1912a
	COLEOPTERA: STAPHYLINIDAE *Aleochara handschini* Scheerpeltz Scheerpeltz, 1934 *Aleochara windredi* Scheerpeltz Scheerpeltz, 1934 *Philonthus politus* Linnaeus Fullaway, 1926
	HYMENOPTERA: PTEROMALIDAE *Muscidifurax raptor* Girault and Sanders Fullaway, 1917b *Pachycrepoideus vindemmiae* Rondani Fullaway, 1917b *Spalangia*[1] *cameroni* Perkins Fullaway, 1917b

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Haematobia (cont.)	*Spalangia philippinensis* Fullaway Fullaway, 1917b
	HYMENOPTERA: SPHECIDAE
	Bembix lunata Fabricius Ramakrishna Ayyar, 1920
Haematobia angustifrons Malloch (Synonym: *Bdellolarynx latifrons*)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Trypanosoma brucei Plimmer and Bradford Lamborn, 1934
	Trypanosoma congolense Broden Lamborn, 1934
Haematobia exigua (de Meijere) (Synonyms: *Lyperosia exigua, Siphona exigua*)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: BRUCELLACEAE
	Pasteurella boviseptica (Kruse) Holland Nieschulz et al., 1929
	EUBACTERIALES: BACILLACEAE
	Bacillus anthracis Cohn Nieschulz, 1928a
	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Trypanosoma evansi (Steel) Schat, 1909 Nieschulz, 1927
	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: SPIRURIDAE
	Habronema microstoma (Schneider) Neveu-Lemaire, 1936
	ARTHROPODA: INSECTA
	COLEOPTERA: HISTERIDAE
	Pachylister chinensis Quens. Bornemissza, 1968
	COLEOPTERA: STAPHYLINIDAE
	Aleochara handschini Scheerpeltz Handschin, 1934a
	Aleochara windredi Scheerpeltz Handschin, 1934a
	Oxytelus ocularis Fauvel Handschin, 1932
	HYMENOPTERA: PTEROMALIDAE
	Pachycrepoideus vindemmiae Rondani Handschin, 1934a

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Haematobia exigua (cont.)	*Spalangia*[1] *cameroni* Perkins Bouček, 1963 *Spalangia endius* Walker Bouček, 1963 *Spalangia nigroaenea* Curtis Bouček, 1963 *Spalangia orientalis* Graham Handschin, 1932, 1934a, 1934b *Spalangia sundaica* Graham Handschin, 1932, 1934a, 1934b Lever, 1936 HYMENOPTERA: ENCYRTIDAE *Cerchysius lyperosae* Ferrière Handschin, 1934a *Tachinaephagus giraulti* Johnston and Tiegs Handschin, 1934a HYMENOPTERA: EULOPHIDAE *Trichospilus pupivora* Ferrière Handschin, 1934a HYMENOPTERA: DIAPRIIDE *Phaenopria* Ashmead Handschin, 1932 *Phaenopria fimicola* Ferrière Handschin, 1934a *Trichopria* Ashmead Handschin, 1932 HYMENOPTERA: FORMICIDAE *Pheidole oceanica* Mayr Lever, 1936
Haematobia ?exigua ..... (de Meijere)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Trypanosoma evansi* (Steel) Schat, 1903
Haematobia irritans .... (Linnaeus) (Synonyms: *Lyperosia irritans*, *Siphona irritans*, *Haematobia serrata*)	ENTEROVIRUSES Poliovirus Francis, 1914 SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ACHROMOBACTERACEAE *Alcaligenes* Castellani and Chalmers Stirrat et al., 1955 *Achromobacter* Bergey, Harrison, Breed, Hammer, and Huntoon Stirrat et al., 1955

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Haematobia irritans (cont.)

EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula)
Castellani and Chalmers
Stirrat et al., 1955
Escherichia freundii (Braak) Yale
Stirrat et al., 1955
Escherichia intermedia (Werkman and Gillen) Vaughn and Levine
Stirrat et al., 1955
Aerobacter aerogenes (Kruse)
Beijerinck
Stirrat et al., 1955
Aerobacter cloacae (Jordan)
Bergey et al.
Stirrat et al., 1955
Proteus rettgeri (Hadley et al.)
Rustigian and Stuart
Stirrat et al., 1955
EUBACTERIALES: MICROCOCCACEAE
Micrococcus candidus Cohn
Stirrat et al., 1955
Micrococcus caseolyticus Evans
Stirrat et al., 1955
Staphylococcus epidermidis
(Winslow and Winslow) Evans
Stirrat et al., 1955
Staphylococcus flavus (Trevisan)
Wood
Stirrat et al., 1955
EUBACTERIALES:
LACTOBACILLACEAE
Streptococcus Rosenbach
Stirrat et al., 1955
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Stirrat et al., 1955
Bacillus anthracis Cohn
Morris, 1918, 1920
Bacillus cereus var. *mycoides*
(Flügge) Smith et al.
Stirrat et al., 1955
Bacillus subtilis Cohn
Stirrat et al., 1955
Bacillus subtilis var. *niger*
Smith et al.
Stirrat et al., 1955
Bacillus thuringiensis var.
thuringiensis Heimpel and Angus
Gingrich, 1965

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Haematobia irritans (cont.)

THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Aspergillus (Micheli) Corda
Stirrat et al., 1955
Geotrichum Link
Stirrat et al., 1955
Oidium Link
Stirrat et al., 1955
Penicillium Link
Stirrat et al., 1955
Trichothecium Link
Stirrat et al., 1955
EUBACTERIALES: DEMATIACEAE
Cladosporium Link
Stirrat et al., 1955
Pullalaria Berkhout
Stirrat et al., 1955
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Trypanosoma congolense Broden
Jack, 1917
ARTHROPODA: ARACHNIDA
ACARINA: ACARIDAE
Acarus Linnaeus
Wilhelmi, 1917a
ARTHROPODA: INSECTA
ORTHOPTERA: GRYLLIDAE
Nemobius fasciatus (De Geer)
Bourne et al., 1967
COLEOPTERA: STAPHYLINIDAE
Aleochara Gravenhorst
Wolcott, 1922
HYMENOPTERA: UNDETERMINED
ICHNEUMONIDAE
Hammer, 1942
HYMENOPTERA: FIGITIDAE
Neralsia bifoveolata (Cresson)
Wolcott, 1922
HYMENOPTERA: PTEROMALIDAE
Spalangia[1] Latreille
Wolcott, 1922
Spalangia cameroni Perkins
Bouček, 1963
Spalangia drosophilae Ashmead
Lindquist, 1936

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Haematobia irritans (cont.)	Bartlett, 1939 Bouček, 1963 *Spalangia endius* Walker Bouček, 1963 *Spalangia haematobiae* Ashmead Riley et al., 1891 Ashmead, 1894, 1900 von Dalla Torre, 1898 Schmiedeknecht, 1909 Viereck, 1909, 1916 Richardson, 1913b Bartlett, 1939 Bouček, 1963 *Spalangia muscidarum* Richardson Pinkus, 1913 *Spalangia nigra* Latreille Bouček, 1963 *Spalangia nigroaenea* Curtis Bouček, 1963 *Spalangia philippinensis* Fullaway Bartlett, 1939 *Spalangia stomoxysiae* Girault Lindquist, 1936 Peck, 1951 DIPTERA: MUSCIDAE *Hydrotaea dentipes* (Fabricius) Wilhelmi, 1917a
Haematobia titillans . .. . (Bezzi) (Synonym: *Lyperosia titillans*)	ASCHELMINTHES: NEMATODA SPIRURIDEA: ACUARIIDAE *Parabronema skrjabini* Rassowska Ivashkin, 1959 ARTHROPODA: ARACHNIDA ACARINA: UNDETERMINED ASCAIDAE Pridantseva, 1959 ACARINA: UNDETERMINED PARASITIDAE Pridantseva, 1959 ACARINA: UNDETERMINED TARSONEMIDAE Pridantseva, 1959 ACARINA: UNDETERMINED TROMBICULIDAE Pridantseva, 1959 ARTHROPODA: INSECTA COLEOPTERA: UNDETERMINED CARABIDAE Pridantseva, 1959 COLEOPTERA: UNDETERMINED STAPHYLINIDAE Pridantseva, 1959

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Haematobia titillans (cont.)	COLEOPTERA: UNDETERMINED
	HISTERIDAE
	Pridantseva, 1959
	HYMENOPTERA: SPHECIDAE
	Oxybelus Latreille
	Pridantseva, 1959
Lyperosiops stimulans	ARTHROPODA: INSECTA
(Meigen)	HYMENOPTERA: SPHECIDAE
(Synonym: *Haematobia stimulans*)	*Crabro alpinus* Imhof
	Vergne, 1931
	Mellinus Fabricius
	Hammer, 1942
	HYMENOPTERA: VESPIDAE
	Vespa Linnaeus
	Hammer, 1942
	DIPTERA: MUSCIDAE
	Myospila meditabunda (Fabricius)
	Thomson, 1937
	Mydaea urbana (Meigen)
	Thomson, 1937
	Polietes albolineata (Fallén)
	Porchinskiĭ, 1910
	Mesembrina meridiana Linnaeus
	Thomson, 1937
	POXVIRUSES
Stomoxys Geoffroy	Vaccinia
	Terni, 1909
	Variola
	Terni, 1909
	ENTEROVIRUSES
	Poliovirus
	Paul et al., 1941
	Trask et al., 1943
	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES:
	CORYNEBACTERIACEAE
	Erysipelothrix insidiosa (Trevisan)
	Langford and Hansen
	Megnin, 1874, 1875
	EUBACTERIALES: BACILLACEAE
	Bacillus anthracis Cohn
	Megnin, 1874
	Terni, 1908a
	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Herpetomonas Kent
	Wenyon, 1911a

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Stomoxys (cont.)

Herpetomonas muscarum (Leidy) Kent
Patton et al., 1909
Wenyon, 1911b
Trypanosoma Gruby
Nabarro et al., 1905
Sergent et al., 1905, 1922a
Wenyon, 1908
Trypanosoma congolense Broden
van Saceghem, 1922
Trypanosoma ?congolense Broden
Jowett, 1911
Trypanosoma dimorphon Laveran and Mesnil
Nabarro et al., 1905
Trypanosoma evansi (Steel)
Penning, 1904
Nabarro et al., 1905
Fraser, 1909
Donatien et al., 1922, 1923
Broudin et al., 1926
Trypanosoma gambiense Dutton
Greig et al., 1905
Gray, 1907
Dutton et al., 1908
Minchin, 1908
Beck, 1910
Trypanosoma pecorum Bruce, Hamerton, Bateman, and Mackie
van Saceghem, 1921, 1922b
Trypanosoma rhodesiense Stephens and Fantham
Duke, 1934
Trypanosoma vivax Ziemann
Bouffard, 1907a, 1907b

ASCHELMINTHES: NEMATODA
FILARIIDEA: FILARIIDAE
?*Filaria* Mueller
Wenyon, 1911a
Setaria cervi (Rudolphi)
Noe, 1903
Neveu-Lemaire, 1936

ARTHROPODA: ARACHNIDA
PSEUDOSCORPIONIDEA: CHERNETIDAE
Pselaphochernes scorpioides (Hermann)
Graham-Smith, 1916

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Stomoxys (cont.)	HYMENOPTERA: PTEROMALIDAE
	Spalangia sundaica Graham
	Handschin, 1932, 1934a
	HYMENOPTERA: SPHECIDAE
	Bembix lunata Fabricius
	Ramakrishna Ayyar, 1920
	Crabro clypeatus (Schreber)
	Hamm et al., 1926
	Oxybelus Latreille
	Roubaud, 1911a
	Barotte, 1925
	DIPTERA: TABANIDAE
	Tabanus striatus Fabricius
	Mitzmain, 1913
	CHORDATA: AVES
	PASSERIFORMES: UNDETERMINED
	STURNIDAE
	Fletcher, 1920
Stomoxys bilineata . . .. Grünberg (Synonym: *Stomoxys sexvittata*)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Trypanosoma evansi (Steel)
	Bouet et al., 1912
	Trypanosoma evansi (Steel)
	= [*Trypanosoma soudanense*]
	Bouet et al., 1912
	Trypanosoma gambiense Dutton
	Roubaud, 1909
Stomoxys boueti Roubaud	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Trypanosoma brucei Plimmer and Bradford
	Bouet et al., 1912
	Trypanosoma vivax Ziemann
	Bouet et al., 1912
Stomoxys brunnipes Grünberg	THALLOPHYTA: PHYCOMYCETES
	ENTOMOPHTHORALES:
	ENTOMOPHTHORACEAE
	?*Entomophthora* Fresenius
	Roubaud, 1911a
	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Trypanosoma evansi (Steel)
	Nieschulz, 1930
	POXVIRUSES
Stomoxys calcitrans . . (Linnaeus)	Vaccinia
	Terni, 1908b

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Stomoxys calcitrans (cont.)

Borreliota avium
Schuberg et al., 1912
Bos, 1932

ARBOVIRUSES

Yellow fever virus
Hoskins, 1933

ENTEROVIRUSES

Poliovirus
Anderson et al., 1912
Rosenau, 1912a
Rosenau et al., 1912b
Boudreau et al., 1914
Francis, 1914

OTHER ANIMAL VIRUSES

Equine infectious anemia virus
Flocken et al.
Howard, 1917
Scott, 1917, 1920, 1922
Lührs, 1919
Stein et al., 1942

Foot and mouth disease virus
Kunike, 1927a, 1927b
Schmit-Jensen, 1927
Wilhelmi, 1927

Southwest African horse death virus (Windhuher)
Schuberg et al., 1912

Tortor suis virus
Mohler, 1920

Vesicular stomatitis virus
Ferris et al., 1955

SCHIZOPHYTA: SCHIZOMYCETES

PSEUDOMONADALES: PSEUDOMONADACEAE

Pseudomonas aeruginosa (Schroeter) Migula
Duncan, 1926

PSEUDOMONADALES: SPIRILLACEAE

Vibrio comma (Schroeter) Winslow et al.
Duncan, 1926

EUBACTERIALES: ENTEROBACTERIACEAE

Escherichia coli (Migula) Castellani and Chalmers
Povolný et al., 1961
Love et al., 1965

Escherichia coli var. *communior* (Topley and Wilson) Yale
Graham-Smith, 1909

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Stomoxys calcitrans (cont.)

Escherichia coli var. *communis* (Escherich) Breed
Duncan, 1926
Escherichia coli var. *neapolitana* (Topley and Wilson) Yale
Graham-Smith, 1909
Escherichia freundii (Braak) Yale
Love et al., 1965
Escherichia intermedia (Werkman and Gillen) Vaughn and Levine
Love et al., 1965
Aerobacter aerogenes (Kruse) Beijerinck
Love et al., 1965
Aerobacter cloacae (Jordan) Bergey et al.
Love et al., 1965
Serratia Bizio
Povolný et al., 1961
Serratia marcescens Bizio
Duncan, 1926
Proteus Hauser
Testi, 1909
Proteus vulgaris Hauser
Povolný et al., 1961
Salmonella Lignières
Greenberg et al., 1964
Salmonella blockley Kauffmann
Greenberg et al., 1964
Salmonella paratyphi B Castellani and Chalmers
Birk, 1932
Salmonella typhi Warren and Scott
Duncan, 1926
Shigella Castellani and Chalmers
Greenberg et al., 1964
Shigella dysenteriae (Shiga) Castellani and Chalmers
Duncan, 1926

EUBACTERIALES: BRUCELLACEAE

Pasteurella multocida (Lehmann and Neumann) Rosenbusch and Merchant
Nieschulz et al., 1929
Pasteurella pestis (Lehmann and Neumann) Holland
Duncan, 1926
Pasteurella tularensis (McCoy and Chapin) Bergey et al.
Wayson, 1914

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Stomoxys calcitrans (cont.)

Somov et al., 1937
Olsufiev, 1940
Romanova, 1947
Bozhenko et al., 1948

Brucella abortus (Schmidt) Meyer and Shaw
Duncan, 1926
Ruhland et al., 1941
Wellmann, 1950-1, 1959

Brucella melitensis (Hughes) Meyer and Shaw
Duncan, 1926
Eyre et al., 1907
Wellmann, 1950-1, 1959

Brucella suis Huddleson
Wellmann, 1950-1, 1959

Cillopasteurella delendae-muscae (Roubaud and Descazeaux) Prevot
Roubaud et al., 1923

EUBACTERIALES: BACTEROIDACEAE

Bacteroides vulgatus
Duncan, 1926

EUBACTERIALES: MICROCOCCACEAE

Staphylococcus Rosenbach (pathogenic)
Brygoo et al., 1962a

Staphylococcus aureus Rosenbach
Duncan, 1926

Staphylococcus aureus Rosenbach = [*Staphylococcus albus*]
Duncan, 1926

EUBACTERIALES: LACTOBACILLACEAE

Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961

Streptococcus Rosenbach
Schuberg et al., 1913, 1914
Love et al., 1965

Streptococcus durans Sherman and Wing
Duncan, 1926

Streptococcus faecium Orla-Jensen
Love et al., 1965

EUBACTERIALES: CORYNEBACTERIACEAE

Erysipelothrix insidiosa (Trevisan) Langford and Hansen

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Stomoxys calcitrans (cont.)

Wellmann, 1948-9a, 1948-9b, 1949, 1950, 1959
Tolstĭak, 1956

EUBACTERIALES: BACILLACEAE

Bacillus anthracis Cohn
Schuberg et al., 1912, 1913, 1914
Mitzmain, 1914a, 1914c
Duncan, 1926
Nieschulz, 1928a, 1928b
Sen et al., 1944

Bacillus cereus var. *mycoides* (Flügge) et al.
Duncan, 1926

Bacillus mesentericus Trevisan
Duncan, 1926

Bacillus subtilis Cohn
Duncan, 1926

Bacillus thuringiensis var. *thuringiensis* Heimpel and Angus
Gingrich, 1965

Clostridium botulinum (van Ermengem) Bergey et al.
Bail, 1900

ACTINOMYCETALES: MYCOBACTERIACEAE

Mycobacterium ?leprae (Hansen) Lehmann and Neumann
Honeij et al., 1914

ACTINOMYCETALES: DERMATOPHILACEAE

Dermatophilus congolensis van Saceghem
Richard et al., 1966

SPIROCHAETALES: SPIROCHAETACEAE

Spirochaeta stomoxyae Jegen
Jegen, 1924

SPIROCHAETALES: TREPONEMATACEAE

Borrelia anserina (Sakharoff) Bergey et al.
Schuberg et al., 1909

Borrelia berbera (Sergent and Foley) Bergey et al.
Wollman et al., 1928

Borrelia recurrentis (Lebert) Bergey et al.
Schuberg et al., 1909, 1912
Fränkel, 1912

Leptospira canicola Okell et al.
Schmidtke, 1959

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Stomoxys calcitrans (cont.)

Leptospira grippotyphosa
Topley and Wilson
Schmidtke, 1959
Leptospira icterohaemorrhagiae
(Inada and Ido) Noguchi
Reiter, 1917
Uhlenhuth et al., 1917
Schmidtke, 1959

SCHIZOPHYTA: MICROTATOBIOTES
RICKETTSIALES: RICKETTSIACEAE
Rickettsia da Rocha-Lima
Hertig et al., 1924
RICKETTSIALES: CHLAMYDIACEAE
Colesiota conjunctivae (Coles)
Rake
Mitscherlich, 1943
RICKETTSIALES: ANAPLASMATACEAE
Anaplasma marginale Theiler
Taylor, 1935
Anonymous, 1936

THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
?*Entomophthora* Fresenius
Roubaud, 1911a
Entomophthora muscae Cohn
Surcouf, 1923

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Crithidia Leger
Taylor, 1930
Crithidia haematopotae Jegen
Jegen, 1924
Herpetomonas Kent
Patton, 1912b
Leishmania mexicana Biagi
Lainson et al., 1965
Leishmania tropica (Wright)
Berberian, 1938, 1939
Leptomonas stomoxyae Jegen
Jegen, 1924
Trypanosoma Gruby
Martini, 1903
Nieschulz, 1928b
Trypanosoma brucei Plimmer
and Bradford
Martin et al., 1908
Roubaud, 1909

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Stomoxys calcitrans (cont.)

Schuberg et al., 1909
Taylor, 1930
Trypanosoma congolense Broden
Roubaud, 1909
Carmichael, 1934
Trypanosoma equinum Vages
Sivori et al., 1902
Lignières, 1903
Trypanosoma equiperdum Doflein
Sieber et al., 1908
Schuberg et al., 1909
Trypanosoma evansi (Steel)
Schat, 1903
Leese, 1909
Baldrey, 1911
Bouet et al., 1912
Mitzmain, 1912b
Sergent et al., 1922b
Nieschulz, 1927, 1928b, 1929a, 1930
Dieben, 1928
Trypanosoma ?evansi (Steel)
Curry, 1902a
Trypanosoma gambiense Dutton
Roubaud, 1909
Schuberg et al., 1909a
Duke, 1913
Trypanosoma rhodesiense
Stephens and Fantham
Lamborn, 1933
Trypanosoma vivax Ziemann
Bouet et al., 1912
PROTOMONADIDA: BODONIDAE
Bodo Ehrenberg
Duke, 1913
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Entamoeba histolytica Schaudinn
Jausion et al., 1923
PROTOZOA: SPOROZOA
COCCIDIDA: EIMERIDAE
Eimeria irresidua Kessel and Janciewicz
Metelkin, 1935
Eimeria perforans (Leuckart)
Sluiter and Swellengrebel
Metelkin, 1935
HAPLOSPORIDA: UNCERTAIN FAMILY
Toxoplasma Nicolle and Manceaux
van Thiel et al., 1953

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Stomoxys calcitrans (cont.)

Schmidtke, 1959
Toxoplasma gondii Nicolle and Manceaux
Blanc et al., 1950
Kunert et al., 1953
Laarman, 1956, 1957

PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: DILEPIDIDAE
Choanotaenia infundibulum (Bloch)
Gutberlet, 1916
CYCLOPHYLLIDEA: HYMENOLEPIDIDAE
Echinolepis carioca (Magalhaes) Spassky and Spasskaja
Gutberlet, 1920
Neveu-Lemaire, 1936

ASCHELMINTHES: NEMATODA
RHABDITIDA: RHABDITIDAE
Rhabditis axei (Cobbold)
Hague, 1963
SPIRURIDEA: SPIRURIDAE
Habronema megastoma (Rudolphi) Seurat
Bull, 1919
Hill, 1919
Habronema microstoma (Schneider)
Bull, 1919
Hill, 1919
Johnston, 1920
Johnston et al., 1920a
Roubaud et al., 1922a, 1922b
Neveu-Lemaire, 1936
Habronema muscae (Carter)
Johnston, 1913
Bull, 1919
Hill, 1919
SPIRURIDEA: FILARIIDAE
?*Filaria* Mueller
Place, 1915
Iwanoff, 1934
Setaria cervi (Rudolphi)
von Linstow, 1875

ARTHROPODA: ARACHNIDA
PSEUDOSCORPIONIDEA: CHERNETIDAE
Lamprochernes nodosus (Schrank)
Graham-Smith, 1916

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Stomoxys calcitrans (cont.)

ACARINA: PARASITIDAE
Eulaelaps stabularis Koch
Bouvier et al., 1944
Parasitus coleoptratorum (Linnaeus)
Wilhelmi, 1917b
ACARINA: MACROCHELIDAE
Macrocheles glaber (Müller)
Filipponi, 1960
Macrocheles muscaedomesticae (Scopoli)
Filipponi, 1960
Axtell, 1964
Kinn, 1966
Macrocheles perglaber Filipponi and Pegazzano
Filipponi, 1960
Macrocheles subbadius Berlese
Filipponi, 1960
Axtell, 1964
ACARINA: LAELAPTIDAE
Holostaspis marginatus (Hermann)
Wilhelmi, 1917b
ACARINA: TROMBIDIIDAE
Microtrombidium striaticeps (Oudemans)
Ewing, 1919
ACARINA: ANOETIDAE
Myianoetus muscarum (Linnaeus)
Greenberg et al., 1960
ARTHROPODA: INSECTA
ORTHOPTERA: LOCUSTIDAE
Schistocerca paranensis Burmeister
Lahille, 1907
DERMAPTERA: LABIDURIDAE
Euborellia annulipes (Lucas)
Illingworth, 1923a
DERMAPTERA: LABIIDAE
Labia pilicornis (Motschulsky)
Illingworth, 1923a
Spingolabis hawaiiensis (Bormans)
Illingworth, 1923a
ODONATA: COENAGRIONIDAE
Agria fumipennis (Burmeister)
Wright, 1945
Enallagma durum Hagen
Wright, 1945
Ischnura ramburii Selys
Wright, 1945

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Stomoxys calcitrans (cont.)

ODONATA: LIBELLULIDAE
Celithemis amanda Hagen
Wright, 1945
Erythemis simplicicollis Say
Wright, 1945
Libellula auripennis Burmeister
Wright, 1945
Libellula pulchella Drury
Wright, 1945
Libellula vibrans Fabricius
Wright, 1945
Pachydiplax longipennis Burmeister
Wright, 1945
Pantala flavescens Fabricius
Wright, 1945
Tramea carolina Linnaeus
Wright, 1945
ODONATA: AESCHNIDAE
Anax junius Drury
Wright, 1945
Coryphaeschna ingens Rambur
Wright, 1945
UNDETERMINED ODONATA
Brues, 1946
LEPIDOPTERA: LASIOCAMPIDAE
Dendrolimus pini Linnaeus
Sitowski, 1928
COLEOPTERA: HYDROPHILIDAE
Cryptopleurum minutum Fabricius
Illingworth, 1923a
Dactylosternum abdominale
Fabricius
Illingworth, 1923a
COLEOPTERA: STAPHYLINIDAE
Oxytelus Gravenhorst
Illingworth, 1923a
Philonthus discoideus Gravenhorst
Illingworth, 1923a
Philonthus longicornis Stephens
Illingworth, 1923a
Tachyporus Gravenhorst
Illingworth, 1923a
COLEOPTERA: UNDETERMINED
HISTERIDAE
Bishopp, 1913a
HYMENOPTERA: CHALCIDIDAE
Dirhinus pachycerus Masi
Roy et al., 1940

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Stomoxys calcitrans (cont.)

HYMENOPTERA: UNDETERMINED
CHALCIDIDAE
Surcouf, 1923
HYMENOPTERA: PTEROMALIDAE
Muscidifurax raptor Girault and Saunders
Bartlett, 1939
Legner (pre-publication), 1966
Nasonia vitripennis (Walker)
Séguy, 1929
Pachycrepoideus vindemmiae Rondani
Bartlett, 1939
Prospalangia platensis Brèthes
Brèthes, 1915
Spalangia[1] Latreille
Roy et al., 1939
Spalangia cameroni Perkins
Legner (pre-publication), 1966
Legner et al., 1969a
Spalangia endius Walker
Legner (pre-publication), 1966
Spalangia longepetiolata Bouček
Legner et al., 1969a
Spalangia muscae Howard
Bishopp, 1913a
Girault, 1921
Spalangia muscidarum Richardson
Pinkus, 1913
Richardson, 1913b
Johnston et al., 1920b, 1921
Bartlett, 1939
Spalangia nigra Latreille
Bishopp, 1913b, 1939
Bouček, 1963
Spalangia nigripes Curtis
Legner et al., 1969a
Spalangia nigroaenea Curtis
Legner (pre-publication), 1966
Legner et al., 1969a
Spalangia philippinensis Fullaway
Bartlett, 1939
Spalangia platensis (Brèthes)
Bouček, 1963
Spalangia rugosicollis Ashmead
Girault, 1920
Peck, 1951

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Stomoxys calcitrans (cont.)

Spalangia stomoxysiae Girault
Girault, 1916, 1920
Peck, 1951
Sphegigaster Spinola
Legner et al., 1969a
HYMENOPTERA: UNDETERMINED
PTEROMALIDAE
Pinkus, 1913
Bishopp, 1913a
HYMENOPTERA: DIAPRIIDAE
Trichopria Ashmead
Bartlett, 1939
Legner et al., 1969a
HYMENOPTERA: FORMICIDAE
Pheidole megacephala (Fabricius)
Illingworth, 1923a
Ponera perkinsi Forel
Illingworth, 1923a
HYMENOPTERA: SPHECIDAE
Bembix oculata Latreille
Fabre, 1914
Crabro cribraria (Linnaeus)
Hamm et al., 1926
Stictia denticornis (Handlirsch)
Bodkin, 1917
HYMENOPTERA: VESPIDAE
Vespa germanica Fabricius
Kühlhorn, 1961
Vespa vulgaris Linnaeus
Kühlhorn, 1961
DIPTERA: UNDETERMINED
CULICIDAE
Surcouf, 1923
DIPTERA: UNDETERMINED
CHIRONOMIDAE
Surcouf, 1923
DIPTERA: UNDETERMINED ASILIDAE
Bishopp, 1913a
DIPTERA: ANTHOMYIIDAE
Scatophaga stercoraria (Linnaeus)
Hewitt, 1914
DIPTERA: MUSCIDAE
Hydrotaea dentipes (Fabricius)
Derbeneva-Ukhova, 1961
DIPTERA: CUTEREBRIDAE
Dermatobia hominis (Linnaeus)
Neiva et al., 1917
Neel et al., 1955
Zeledón, 1957

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Stomoxys calcitrans (cont.)	CHORDATA: AMPHIBIA
	OPISTHOCOELA: DISCOGLOSSIDAE
	Discoglossus pictus Otth
	Surcouf, 1923
	PROCOELA: BUFONIDAE
	Bufo mauritanicus Schlegel
	Surcouf, 1923
	Bufo viridis Laurenti
	Surcouf, 1923
	PROCOELA: HYLIDAE
	Hyla viridis Laurenti var. *grisea*
	Surcouf, 1923
	DIPLASTIOCOELA: RANIDAE
	Rana ridibunda Pallas
	Surcouf, 1923
	CHORDATA: REPTILIA
	SQUAMATA: AGAMIDAE
	Agama agilis Olivier
	Surcouf, 1923
	SQUAMATA: SCINCIDAE
	Chalcides tridactylus Gray
	Surcouf, 1923
	SQUAMATA: LACERTIDAE
	Acanthodactylus boskianus (Lichtenstein)
	Surcouf, 1923
	CHORDATA: AVES
	GALLIFORMES: PHASIANIDAE
	Gallus gallus Linnaeus
	Bushnell et al., 1924
	PASSERIFORMES: HIRUNDINIDAE
	Hirundo rustica Linnaeus subsp. *rustica*
	Séguy, 1929
Stomoxys ?calcitrans ..... (Linnaeus)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Herpetomonas Kent
	Gray, 1906
	Trypanosoma brucei Plimmer and Bradford
	Hall, 1927
	Trypanosoma congolense Broden
	Hall, 1927
	Trypanosoma evansi (Steel)
	Musgrave et al., 1903
	Schat, 1909
	Trypanosoma gambiense Dutton
	Gray, 1906

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Stomoxys ?calcitrans (cont.)	*Trypanosoma vivax* Ziemann Hall, 1927
Stomoxys calcitrans .... (Linnaeus) var. *soudanense*	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Trypanosoma brucei* Plimmer and Bradford Bouet et al., 1912
Stomoxys nigra Macquart .... (Synonyms: *Stomoxys bouvieri, Stomoxys glauca*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE ?*Entomophthora* Fresenius Roubaud, 1911a
	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Trypanosoma* Gruby Edington et al., 1907 *Trypanosoma brucei* Plimmer and Bradford Martin et al., 1908 Roubaud, 1909 Bouet et al., 1912 *Trypanosoma congolense* Broden Roubaud, 1909 Carmichael, 1934 *Trypanosoma evansi* (Steel) Bouet et al., 1912 Moutia, 1928 *Trypanosoma gambiense* Dutton Roubaud, 1909 Duke, 1913 *Trypanosoma rhodesiense* Stephens and Fantham Lamborn, 1933 *Trypanosoma vivax* Ziemann Bouet et al., 1912 PROTOMONADIDA: BODONIDAE *Bodo* Ehrenberg Duke, 1913
UNDETERMINED MUSCIDAE	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella chester* Kauffmann Bulling et al., 1959 *Salmonella kottbus* Schütze et al. Bulling et al., 1959 *Salmonella typhimurium* (Loeffler) Castellani and Chalmers Bulling et al., 1959

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UNDETERMINED MUSCIDAE (cont.)	EUBACTERIALES: BACILLACEAE *Clostridium chauvoei* (Arloing, Cornevin, and Thomas) Scott Sauer, 1908 ACTINOMYCETALES: MYCOBACTERIACEAE *Mycobacterium leprae* (Hansen) Lehmann and Neumann Lamborn, 1936a
	ARTHROPODA: INSECTA COLEOPTERA: STAPHYLINIDAE *Aleochara handschini* Scheerpeltz Handschin, 1934a HYMENOPTERA: PTEROMALIDAE *Pachycrepoideus vindemmiae* Rondani Handschin, 1934a *Spalangia*[1] *orientalis* Graham Handschin, 1932, 1934b *Spalangia sundaica* Graham Handschin, 1932, 1934a, 1934b HYMENOPTERA: ENCYRTIDAE *Cerchysius lyperosae* Ferrière Handschin, 1934a *Tachinaephagus giraulti* Johnston and Tiegs Handschin, 1934a HYMENOPTERA: EULOPHIDAE *Trichospilus pupivora* Ferrière Handschin, 1934a HYMENOPTERA: DIAPRIIDAE *Phaenopria* Ashmead Handschin, 1934a HYMENOPTERA: FORMICIDAE *Monomorium pharaonis* (Linnaeus) Handschin, 1934a DIPTERA: CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) Neel et al., 1955
	ENTEROVIRUSES
Superfamily: OESTROIDEA Family: CALLIPHORIDAE Subfamily: MESEMBRINELLINAE *Huascaromusca bicolor* (Fabricius)	Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Subfamily: RHINIINAE	
Rhyncomyia pictifacies Bigot	ARTHROPODA: INSECTA DIPTERA: BOMBYLIIDAE *Thyridanthrax abruptus* Loew McDonald, 1958
Subfamily: CHRYSOMYINAE	
Cochliomyia Townsend (Synonyms: *Compsomyia*, *Callitroga*)	ASCHELMINTHES: NEMATODA TRICHURIDEA: TRICHURIDAE *Trichuris* Roederer Tao, 1936 STRONGYLIDEA: ANCYLOSTOMATIDAE *Ancylostoma* (Dubini) Tao, 1936 ASCARIDIDEA: ASCARIDIDAE *Ascaris* Linnaeus Tao, 1936 ARTHROPODA: INSECTA HYMENOPTERA: FORMICIDAE *Tapinoma melanocephalum* (Fabricius) Pimentel, 1955
Cochliomyia hominivorax (Coquerel) (Synonym: *Cochliomyia americana*)	ARTHROPODA: INSECTA HYMENOPTERA: FORMICIDAE *Crematogaster lineolata* (Say) Lindquist, 1942 *Eciton* Latreille Strong, 1938 *Forelius foetidus* (Buckley) Lindquist, 1942 *Labidus coecus* (Latreille) Lindquist, 1942 *Pheidole* Westwood Strong, 1938 Lindquist, 1942 *Pheidole morrisii* var. *impexa* Wheeler Lindquist, 1942 *Pogonomyrmex barbatus* var. *fuscatus* Emery Lindquist, 1942 *Pogonomyrmex barbatus* var. *molefaciens* (Buckley) Lindquist, 1942 *Solenopsis geminata* (Fabricius) Lindquist, 1942 ENTEROVIRUSES Poliovirus Melnick et al., 1945 Francis, Jr. et al., 1948
Cochliomyia macellaria (Fabricius) (Synonyms: *Callitroga*	

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macellaria, Chrysomyia
macellaria, Lucillia
macellaria)

Poliovirus Type 1
Melnick et al., 1953
Paul et al., 1962
Poliovirus Type 3
Paul et al., 1962
Coxsackievirus Alaska 5 (A10)
Melnick et al., 1953
Coxsackievirus Texas 1 (A4)
Melnick et al., 1953
Coxsackievirus Texas 15 (A7)
Melnick et al., 1953
Coxsackievirus Type 3 (A3)
Melnick et al., 1953
ECHO virus Types 8, 12, 14
Paul et al., 1962

SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE

Escherichia coli (Migula)
Castellani and Chalmers
Beyer, 1925
Salmonella Lignières
Alcivar et al., 1946
Greenberg et al., 1964
Salmonella alachua Kauffmann
Greenberg et al., 1963b
Salmonella amersfoort Henning
Alcivar, 1946
Salmonella anatum (Rettger and
Scoville) Bergey et al.
Alcivar et al., 1946
Greenberg et al., 1963b
Salmonella ballerup Kauffmann
and Møller
Alcivar et al., 1946
Salmonella cholerae-suis (Smith)
Weldin
Alcivar et al., 1946
Salmonella derby Warren and Scott
Greenberg et al., 1963b
Salmonella dublin Kauffmann
Alcivar et al., 1946
Salmonella enteritidis (Gaertner)
Castellani and Chalmers
Alcivar et al., 1946
Salmonella florida Cherry,
Edwards, and Bruner
Alcivar et al., 1946

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Cochliomyia macellaria (cont.)

Salmonella give Kauffmann
Alcivar et al., 1946
Greenberg et al., 1963b
Salmonella kentucky Edwards
Alcivar et al., 1946
Salmonella kottbus Schütze et al.
Alcivar et al., 1946
Salmonella meleagridis Bruner and Edwards
Alcivar et al., 1946
Greenberg et al., 1963b
Salmonella narashino Kauffmann
Alcivar et al., 1946
Salmonella new brunswick Edwards
Greenberg, 1963b
Salmonella newport Schütze
Greenberg et al., 1963b
Salmonella onderstepoort Henning
Alcivar et al., 1946
Salmonella oranienburg Kauffmann
Alcivar et al., 1946
Salmonella oregon Edwards and Bruner
Alcivar et al., 1946
Salmonella panama Kauffmann
Greenberg et al., 1963b
Salmonella paratyphi B
Castellani and Chalmers
Alcivar et al., 1946
Salmonella reading Schütze
Alcivar et al., 1946
Salmonella typhi Warren and Scott
Beyer, 1925
Salmonella typhimurium (Loeffler)
Castellani and Chalmers
Alcivar et al., 1946
Salmonella zanzibar Kauffmann
Alcivar et al., 1946
Shigella alkalescens (Andrewes)
Weldin
Alcivar et al., 1946
Shigella boydii Ewing 1, 2, 3, 4, 5, 6, 8, 9
Alcivar et al., 1946
Shigella ceylonensis (Weldin)
Weldin
Alcivar et al., 1946
Shigella dispar (Andrewes)
Bergey et al.
Alcivar et al., 1946

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Cochliomyia macellaria (cont.)

Shigella flexneri Castellani and Chalmers 1a, 2a, Y, 6
Alcivar et al., 1946

EUBACTERIALES: BRUCELLACEAE

Pasteurella pestis (Lehmann and Neumann) Holland
Gosio, 1925

PROTOZOA: MASTIGOPHORA

PROTOMONADIDA: TRYPANOSOMATIDAE

Herpetomonas muscarum (Leidy) Kent
Becker, 1922-3, 1924

POLYMASTIGIDA: CHILOMASTIGIDAE

Chilomastix mesnili (Wenyon)
Root, 1921

POLYMASTIGIDA: HEXAMITIDAE

Giardia intestinalis (Lambl)
Root, 1921

PROTOZOA: SARCODINA

AMOEBIDA: ENDAMOEBIDAE

Endolimax nana (Wenyon and O'Connor)
Root, 1921

Entamoeba coli (Grassi)
Root, 1921

Entamoeba histolytica Schaudinn
Root, 1921
Pipkin, 1942, 1949

PROTOZOA: CNIDOSPORIDIA

MICROSPORIDA: MRAZEKIIDAE

Octosporea muscae-domesticae Flu
Kramer, 1964a, 1965b

ARTHROPODA: INSECTA

HYMENOPTERA: BRACONIDAE

Alysia ridibunda Say
Roberts, 1935

HYMENOPTERA: CYNIPIDAE

Eucoila Westwood
Roberts, 1935

HYMENOPTERA: FIGITIDAE

Neralsia Cameron
Roberts, 1935

HYMENOPTERA: CHALCIDIDAE

Brachymeria fonscolombei (Dufour)
Bishopp, 1929-30
Marlatt, 1931
Roberts, 1933a, 1933b, 1935

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Cochliomyia macellaria (cont.)	HYMENOPTERA: PTEROMALIDAE *Muscidifurax raptor* Girault and Sanders Girault et al., 1910b *Nasonia vitripennis* (Walker) Girault et al., 1910a Marlatt, 1931 Roberts, 1933a, 1935 HYMENOPTERA: FORMICIDAE *Paratrechina longicornis* (Latreille) Pimentel, 1955 *Solenopsis geminata* (Fabricius) Pimentel, 1955 DIPTERA: UNDETERMINED CULICINAE Zepeda, 1913 DIPTERA: CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) Lins de Almeida, 1933 Neel et al., 1955
Chrysomya .... Robineau-Desvoidy (Synonyms: *Chrysomyia*, *Pycnosoma*)	SCHIZOPHYTA: SCHIZOMYCETES PSEUDOMONADALES: PSEUDOMONADACEAE *Pseudomonas* Migula de la Paz, 1938 PSEUDOMONADALES: SPIRILLACEAE *Vibrio* Müller de la Paz, 1938 EUBACTERIALES: ACHROMOBACTERACEAE *Alcaligenes* Castellani and Chalmers de la Paz, 1938 EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia* Castellani and Chalmers de la Paz, 1938 *Aerobacter* Beijerinck de la Paz, 1938 *Proteus* Hauser de la Paz, 1938 *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale de la Paz, 1938 *Salmonella cholerae-suis* (Smith) Weldin de la Paz, 1938

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Chrysomya (cont.)

Salmonella columbensis (Castellani) Castellani and Chalmers
de la Paz, 1938
Salmonella typhi Warren and Scott
de la Paz, 1938
Eberthella belfastiensis (Weldin and Levine) Bergey et al.
de la Paz, 1938
Shigella ambigua (Andrewes) Weldin
de la Paz, 1938
Shigella boydii Ewing 2, 5, 6
Richards et al., 1961
Shigella dysenteriae (Shiga) Castellani and Chalmers
de la Paz, 1938
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Richards et al., 1961
Shigella flexneri Castellani and Chalmers
de la Paz, 1938
Shigella flexneri Castellani and Chalmers 1a, 2a, 3, 4a, 4b, 6
Richards et al., 1961
Shigella giumai (Castellani) Hauduroy et al.
de la Paz, 1938
Shigella sonnei (Levine) Weldin
de la Paz, 1938
Shigella sonnei (Levine) Weldin 1
Richards et al., 1961

EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach
de la Paz, 1938

EUBACTERIALES: LACTOBACILLACEAE
Streptococcus Rosenbach
de la Paz, 1938

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA: TRYPANOSOMATIDAE
Leptomonas soudanensis Roubaud
Roubaud, 1911d

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Entamoeba histolytica Schaudinn
Anonymous ("Korean authors et al.")

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Chrysomya (cont.)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Roubaud, 1917
Chrysomya albiceps (Wiedemann)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: BACILLACEAE *Clostridium parabotulinum bovis* Robinson Theiler, 1927
	PLATYHELMINTHES: CESTOIDEA CYCLOPHYLLIDEA: TAENIIDAE *Taeniarhynchus saginatum* (Goeze) Round, 1961
	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Alysia manducator* Panzer Smit, 1929
	HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis*[1] (Walker) Anonymous, 1925 Smit, 1929 Ullyett, 1950
	Spalangia endius Walker Bouček, 1963
	HYMENOPTERA: EULOPHIDAE *Syntomosphyrum glossinae* Waterston Nash, 1933
Chrysomya chloropyga (Wiedemann)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: BACILLACEAE *Clostridium parabotulinum bovis* Robinson Theiler, 1927
	PLATYHELMINTHES: CESTOIDEA CYCLOPHYLLIDEA: TAENIIDAE *Taeniarhynchus saginatum* (Goeze) Round, 1961
	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Ullyett, 1950
	HYMENOPTERA: EUPELMIDAE *Mesocomys pulchriceps* Cameron Anonymous, 1925

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Chrysomya chloropyga (cont.)	HYMENOPTERA: EULOPHIDAE *Syntomosphyrum glossinae* Waterston Nash, 1933
Chrysomya marginalis (Wiedemann) (Synonyms: *Chrysomyia marginatum, Pycnosoma marginale*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: BACILLACEAE *Clostridium parabotulinum bovis* Robinson Theiler, 1927 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Roubaud, 1908b *Leptomonas mirabilis* Roubaud Roubaud, 1908b, 1911c ARTHROPODA: INSECTA HYMENOPTERA: EULOPHIDAE *Syntomosphyrum glossinae* Waterston Nash, 1933
Chrysomya megacephala (Fabricius) (Synonyms: *Calliphora incisuralis, Pycnosoma dux, Chrysomyia dux*)	ENTEROVIRUSES Poliovirus Type 2 Asahina et al., 1963 SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Chow, 1940 *Escherichia coli* (Migula) Castellani and Chalmers Shimizu et al., 1965 *Proteus mirabilis* Hauser Shimizu et al., 1965 *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965 *Proteus vulgaris* Hauser Shimizu et al., 1965 *Providencia* Kauffmann Shimizu et al., 1965 *Salmonella* Lignières Shimizu et al., 1965 *Salmonella typhi* Warren and Scott Chow, 1940

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Chrysomya megacephala (cont.)

Shigella Castellani and Chalmers
Shimizu et al., 1965
How
Shigella dysenteriae (Shiga)
Castellani and Chalmers
Chow, 1940

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Chang, 1940
Leptomonas mirabilis Roubaud
Patton, 1921a

POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Chang, 1940
Harris et al., 1946

POLYMASTIGIDA: HEXAMITIDAE
Giardia lamblia Stiles
Chang, 1940
Harris et al., 1946

TRICHOMONADIDA:
TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Chang, 1940
Harris et al., 1946

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Chang, 1940
Harris et al., 1946
Entamoeba coli (Grassi)
Chang, 1940
Harris et al., 1946
Entamoeba histolytica Schaudinn
Chang, 1940, 1945
Harris et al., 1946
Iodamoeba bütschlii (Prowazek)
Chang, 1940
Harris et al., 1946

PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA:
HYMENOLEPIDIDAE
Hymenolepis diminuta (Rudolphi)
Blanchard
Harris et al., 1946

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Chrysomya megacephala (cont.)	ASCHELMINTHES: NEMATODA TRICHURIDEA: TRICHURIDAE *Trichuris* Roederer Chang, 1945 *Trichuris trichiura* (Linnaeus) Chang, 1940 Harris et al., 1946 STRONGYLIDEA: ANCYLOSTOMATIDAE *Ancylostoma* (Dubini) Chang, 1940, 1945 Harris et al., 1946 ASCARIDIDEA: ASCARIDIDAE *Ascaris* Linnaeus Chang, 1945 *Ascaris lumbricoides* Linnaeus Chang, 1940 Harris et al., 1946 ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria fulvitarsis* (Cameron) Roy et al., 1939 *Dirhinus pachycerus* Masi Roy et al., 1939 HYMENOPTERA: PTEROMALIDAE *Spalangia*[1] Latreille Roy et al., 1939 *Spalangia endius* Walker Bouček, 1963 *Spalangia muscidarum* Richardson Johnston et al., 1920b, 1921 *Spalangia nigroaenea* Curtis Bouček, 1963 HYMENOPTERA: ENCYRTIDAE *Australencyrtus giraulti* Johnston and Tiegs Johnston et al., 1921
Chrysomya pinguis (Walker)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Shimizu et al., 1965 *Proteus mirabilis* Hauser Shimizu et al., 1965 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Chrysomya pinguis (cont.)

Chrysomya putoria (Wiedemann) (Synonyms: *Chrysomyia putoria, Chrysomyia putorium, Pycnosoma putorium*)

Proteus vulgaris Hauser
Shimizu et al., 1965
Providencia Kauffmann
Shimizu et al., 1965
ENTEROVIRUSES
Poliovirus Types 1 and 3
Brygoo et al., 1962
Coxsackievirus
Brygoo et al., 1962
UNDETERMINED ENTEROVIRUSES
Brygoo et al., 1962
SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers 26 B6
Brygoo et al., 1962
Escherichia coli (Migula) Castellani and Chalmers III B4
Brygoo et al., 1962
Salmonella cholerae-suis (Smith) Weldin
Brygoo et al., 1962
Salmonella give Kauffmann
Brygoo et al., 1962
Salmonella typhimurium (Loeffler) Castellani and Chalmers
Brygoo et al., 1962
Shigella flexneri Castellani and Chalmers
Brygoo et al., 1962
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach (pathogenic)
Brygoo et al., 1962
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
?*Entomophthora* Fresenius
Roubaud, 1911a
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Roubaud, 1912a
Herpetomonas muscarum (Leidy) Kent
Roubaud, 1908b, 1909
Leptomonas Kent
Roubaud, 1909

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Chrysomya putoria (cont.)	*Leptomonas mirabilis* Roubaud Roubaud, 1908b, 1909, 1912a *Leptomonas pycnosomae* Roubaud Roubaud, 1909 *Leptomonas soudanensis* Roubaud Roubaud, 1912a
	ARTHROPODA: INSECTA HYMENOPTERA: EULOPHIDAE *Syntomosphyrum glossinae* Waterston Lamborn, 1925 Nash, 1933
Chrysomya rufifacies ... .. (Macquart) (Synonyms: *Chrysomyia albiceps*, *Pycnosoma rufifacies*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Zmeev, 1943
	ACTINOMYCETALES: MYCOBACTERIACEAE *Mycobacterium tuberculosis* (Zopf) Lehmann and Neumann Morellini et al., 1947
	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas mirabilis* Roubaud Patton, 1921a
	PLATYHELMINTHES: CESTOIDEA CYCLOPHYLLIDEA: TAENIIDAE *Taeniarhynchus saginatum* (Goeze) Sychevskaĭa et al., 1958
	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Alysia manducator* Panzer Miller, 1927 Newman, 1928 Morgan, 1929
	HYMENOPTERA: CHALCIDIDAE *Dirhinus sarcophagae* Froggatt Johnston et al., 1921
	HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis*[1] (Walker) Froggatt et al., 1917 Froggatt, 1919, 1921, 1922 Johnston et al., 1921 Gurney et al., 1926a

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Chrysomya rufifacies (cont.)	*Spalangia*[1] *muscidarum* Richardson Johnston et al., 1920b, 1921 *Spalangia nigroaenea* Curtis Bouček, 1963 HYMENOPTERA: ENCYRTIDAE *Australencyrtus giraulti* Johnston and Tiegs Johnston et al., 1921 *Stenoterys fulvoventralis* Dodd Newman et al., 1930 DIPTERA: CALLIPHORIDAE *Chrysomya villeneuvei* Patton Patton, 1922
Chrysomya varipes . . . . . (Macquart) (Synonyms: *Microcalliphora varipes, Pycnosoma varipes*)	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Dirhinus sarcophagae* Froggatt Johnston et al., 1921 HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis*[2] (Walker) Froggatt et al., 1917 Froggatt, 1919 Johnston et al., 1921 *Spalangia muscidarum* Richardson Johnston et al., 1920b, 1921 *Spalangia nigroaenea* Curtis Bouček, 1963 HYMENOPTERA: ENCYRTIDAE *Australencyrtus giraulti* Johnston and Tiegs Johnston et al., 1921 HYMENOPTERA: SPHECIDAE *Nysson* Latreille Froggatt, 1917 *Stizus* Latreille Froggatt, 1917 *Stizus turneri* Froggatt Froggatt, 1917
Paralucilia fulvipes (Macquart) (Synonyms: ?*Calliphora tibialis*)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Sericophorus teliferopodus* Rayment Rayment, 1954

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

[2] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Phormia . . . . . Robineau-Desvoidy

ENTEROVIRUSES
Poliovirus
Trask et al., 1943
Coxsackievirus
Melnick et al., 1954
SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES: BACILLACEAE
Clostridium perfringens (Veillon and Zuber) Holland
Green, 1953

Phormia regina (Meigen) . . VIRUSES
ARBOVIRUSES
Eastern equine encephalomyelitis
Bourke, 1964
ENTEROVIRUSES
Poliovirus
Paul et al., 1941
Sabin et al., 1942
Melnick et al., 1945
Francis Jr. et al., 1948
Melnick, 1949
Poliovirus Delaware '48 strain
Melnick et al., 1952
Poliovirus Type 1
Riordan et al., 1961
Downey, 1963
Poliovirus Attenuated Type 1, LSc
Gudnadóttir, 1960
Gudnadóttir et al., 1960
Poliovirus Mahoney Type 1
Gudnadóttir, 1960
Gudnadóttir et al., 1960
Poliovirus New York City '44 strain (Type 1)
Melnick et al., 1947, 1952
Poliovirus Philippine Islands '45 strain (Type 1)
Melnick et al., 1952
Poliovirus Texas '48 strain (Type 1)
Melnick et al., 1952
Poliovirus W-S '48 strain (Type 1)
Melnick et al., 1952
Poliovirus Type 2, Lansing strain
Melnick et al., 1947, 1952
Poliovirus Y-SK strain, murine adapted, Type 2
Melnick et al., 1947, 1952
Poliovirus Type 3
Riordan et al., 1961

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Phormia regina (cont.)

Theiler's mouse encephalomyelitis virus, TO strain
Melnick et al., 1947, 1952
Coxsackievirus Texas 1 (A4)
Melnick et al., 1952
Coxsackievirus Texas '48 (new type)
Melnick et al., 1952
Coxsackievirus Type A9 (A9)
Riordan et al., 1961
Coxsackievirus Type B5 (B5)
Riordan et al., 1961
Coxsackievirus W-S '48 (B1)
Melnick et al., 1952
ECHO virus Types 1, 5, 11
Riordan et al., 1961
ECHO virus Types 6 and 7
Downey, 1963

SCHIZOPHYTA: SCHIZOMYCETES

PSEUDOMONADALES: PSEUDOMONADACEAE

Pseudomonas aeruginosa (Schroeter) Migula
Greenberg, 1962

EUBACTERIALES: ENTEROBACTERIACEAE

Escherichia coli (Migula) Castellani and Chalmers
Beyer, 1925
Greenberg, 1962
Escherichia freundii (Braak) Yale
O'Keefe et al., 1954
Aerobacter Beijerinck
Knuckles, 1959
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Knuckles, 1959
Proteus vulgaris Hauser
Maseritz, 1934
O'Keefe et al., 1954
Greenberg, 1962
Salmonella blockley Kauffmann
Greenberg et al., 1964
Salmonella derby Warren and Scott
Greenberg et al., 1963b
Salmonella give Kauffmann
Greenberg et al., 1963b
Salmonella muenchen Kauffmann
Greenberg et al., 1963b

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Phormia regina (cont.)

Salmonella new brunswick Edwards
Greenberg et al., 1963b
Salmonella newport Schütze
Greenberg et al., 1963b
Salmonella schottmuelleri
(Winslow, Kligler, and Rothberg)
Bergey et al.
Knuckles, 1959
Salmonella typhi Warren and Scott
Maseritz, 1934
Greenberg, 1962
Salmonella typhimurium (Loeffler)
Castellani and Chalmers
Knuckles, 1959
Shigella Castellani and Chalmers
Greenberg et al., 1964
Shigella flexneri Castellani and
Chalmers
Greenberg, 1962
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach
Picado, 1935
Staphylococcus aureus Rosenbach
Maseritz, 1934
Greenberg, 1962
Staphylococcus flavus (Trevisan)
Wood
Guyénot, 1907
Maseritz, 1934
Sarcina subflava Ravenel
Beyer, 1925
EUBACTERIALES:
LACTOBACILLACEAE
Diplococcus pneumoniae
Weichselbaum
Maseritz, 1934
Streptococcus durans Sherman
and Wing
Greenberg, 1962
EUBACTERIALES: BACILLACEAE
Bacillus subtilis Cohn
Greenberg, 1962
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy)
Kent
Becker, 1922-3, 1924

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Phormia regina (cont.)

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Entamoeba histolytica Schaudinn
Pipkin, 1942, 1949
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: NOSEMATIDAE
Nosema apis Zander
Kramer, 1962
Nosema kingi Kramer
Kramer, 1964b
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Kramer, 1964a, 1965a, 1965b, 1965c, 1966
ARTHROPODA: ARACHNIDA
ACARINA: MACROCHELIDAE
Macrocheles muscaedomesticae (Scopoli)
Kinn, 1966
ARTHROPODA: INSECTA
HYMENOPTERA: BRACONIDAE
Aphaereta pallipes Say
Beard, 1964
HYMENOPTERA: CHALCIDIDAE
Brachymeria fonscolombei (Dufour)
Marlatt, 1931
Roberts, 1933b, 1935
HYMENOPTERA: PTEROMALIDAE
Muscidifurax raptor Girault and Sanders
Girault et al., 1910b
Legner (pre-publication), 1966
Nasonia vitripennis[1] (Walker)
Girault et al., 1910a
Marlatt, 1931
Roberts, 1935
Legner (pre-publication), 1966
Nasonia ?vitripennis (Walker)
Bishopp et al., 1915b
CHORDATA: AVES
PASSERIFORMES: HIRUNDINIDAE
Delichon urbica (Linnaeus) subsp. *urbica*
Séguy, 1929
Hirundo rustica Linnaeus subsp. *rustica*
Séguy, 1929

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Phormia sordida Zetterstedt

Boreellus atriceps .. (Zetterstedt) (Synonym: *Phormia coerulea*)
Protophormia Townsend

Protophormia terraenovae (Robineau-Desvoidy) (Synonyms: *Phormia terraenovae, Phormia groenlandica*)

ARTHROPODA: INSECTA
HYMENOPTERA: PTEROMALIDAE
Nasonia vitripennis (Walker)
Roubaud, 1917
ARTHROPODA: INSECTA
DIPTERA: MUSCIDAE
Myospila meditabunda (Fabricius)
Porchinskiĭ, 1910
ENTEROVIRUSES
Poliovirus
Trask et al., 1943
ENTEROVIRUSES
Poliovirus
Sabin et al., 1942
Poliovirus Strain 113
Levkovich et al., 1957
Poliovirus Type 2, Lansing strain
Levkovich et al., 1957
SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES:
PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Havlik, 1964
Pseudomonas fluorescens Migula
Lysenko et al., 1961
EUBACTERIALES:
ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Lysenko, 1958
Gregor et al., 1960
Lysenko et al., 1961
Havlik, 1964
Flavobacterium Bergey et al.
Lysenko et al., 1961
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia Castellani and Chalmers
Lysenko et al., 1961
Escherichia coli (Migula) Castellani and Chalmers
Pavillard et al., 1957

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Protophormia terraenovae (cont.)	Lysenko, 1958 Gregor et al., 1960 Radvan, 1960a, 1960b, 1960c Havlik, 1964
	Aerobacter aerogenes (Kruse) Beijerinck Gregor et al., 1960 Havlik, 1964
	Klebsiella Trevisan Lysenko et al., 1961
	Klebsiella cloacae (Jordan) Brisou Gregor et al., 1960
	Paracolobactrum coliforme Borman, Stuart, and Wheeler Radvan, 1960a, 1960b
	Serratia marcescens Bizio Radvan, 1960c Gregor et al., 1960 Havlik, 1964
	Proteus inconstans (Ornstein) Shaw and Clarke Lysenko, 1958 Gregor et al., 1960
	Proteus mirabilis Hauser Lysenko, 1958 Gregor et al., 1960 Lysenko et al., 1961 Shimizu et al., 1965
	Proteus morganii (Winslow, Kligler, and Rothberg) Yale Lysenko, 1958 Gregor et al., 1960 Lysenko et al., 1961 Havlik, 1964 Shimizu et al., 1965
	Proteus rettgeri (Hadley et al.) Rustigian and Stuart Lysenko, 1958 Gregor et al., 1960 Lysenko et al., 1961 Shimizu et al., 1965
	Proteus vulgaris Hauser Pavillard et al., 1957 Lysenko, 1958 Gregor et al., 1960 Radvan, 1960a, 1960b, 1960c Lysenko et al., 1961 Havlik, 1964 Shimizu et al., 1965

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Protophormia terraenovae (cont.)

Providencia Kauffmann
Radvan, 1960a, 1960b, 1960c
Lysenko et al., 1961
Shimizu et al., 1965
Salmonella schottmuelleri (Winslow, Kligler, and Rothberg) Bergey et al.
Radvan, 1960a, 1960b, 1960c
Salmonella typhi Warren and Scott
Webb et al., 1956
Salmonella typhimurium (Loeffler) Castellani and Chalmers
Pavillard et al., 1957
Ojala et al., 1966
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
Shigella Castellani and Chalmers
Zaidenov, 1961
Shigella sonnei (Levine) Weldin
Radvan, 1960a, 1960b, 1960c
EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE
Klebsiella-Cloaca intermed. forms
Lysenko et al., 1961
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Pavillard et al., 1957
Gregor et al., 1960
Radvan, 1960a, 1960c
Staphylococcus lactis Shaw, Stitt, and Cowan
Lysenko, 1958
Gregor et al., 1960
Lysenko et al., 1961
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960
Lysenko et al., 1961
Sarcina flava de Bary
Lysenko et al., 1961
EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae Weichselbaum I
Pavillard et al., 1957

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Protophormia terraenovae (cont.)

Streptococcus Rosenbach
Radvan, 1960a, 1960c
Streptococcus agalactiae Lehmann and Neumann Group B
Pavillard et al., 1957
Streptococcus durans Sherman and Wing
Gregor et al., 1960
Lysenko et al., 1961
Streptococcus faecalis var. *liquefaciens* (Sternberg) Mattick
Lysenko et al., 1961
Streptococcus mitis Andrewes and Horder
Pavillard et al., 1957
Radvan, 1960c
Streptococcus pyogenes Rosenbach Group A
Pavillard et al., 1957

EUBACTERIALES: CORYNEBACTERIACEAE

Listeria monocytogenes (Murray et al.) Pirie
Radvan, 1960a

EUBACTERIALES: BACILLACEAE

Bacillus anthracis Cohn
Radvan, 1960a, 1960b, 1960c
Bacillus cereus Frankland and Frankland
Radvan, 1960b, 1960c
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
Bacillus subtilis Cohn
Pavillard et al., 1957
Lysenko, 1958
Radvan, 1960a, 1960c
Lysenko et al., 1961
Clostridium perfringens (Veillon and Zuber) Holland
Pavillard et al., 1957

THALLOPHYTA: FUNGI IMPERFECTI
CRYPTOCOCCALES: CRYPTOCOCCACEAE

Candida albicans (Robin) Berkhout
Pavillard et al., 1957

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Protophormia terraenovae (cont.)	PROTOZOA: SPOROZOA COCCIDIDA: EIMERIIDAE *Eimeria irresidua* Kessel and Janciewicz Metelkin, 1935 *Eimeria perforans* (Leuckart) Sluiter and Swellengrebel Metelkin, 1935
	ASCHELMINTHES: NEMATODA ASCARIDIDEA: ASCARIDIDAE *Ascaris lumbricoides* Linnaeus Sukhacheva, 1963
	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Alysia manducator* Panzer Altson, 1920
	HYMENOPTERA: PTEROMALIDAE *Dibrachys cavus* (Walker) Graham-Smith, 1919 *Nasonia vitripennis*[1] (Walker) Altson, 1920 Smirnov, 1934 Smirnov et al., 1934 Vladimirova et al., 1934
Protocalliphora Hough	ENTEROVIRUSES Poliovirus Paul et al., 1941 Trask et al., 1943
Protocalliphora azurea (Fallén)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Bufolucilia silvarum (Meigen)	ENTEROVIRUSES Poliovirus Melnick et al., 1945
Lucilia ... Robineau-Desvoidy	ENTEROVIRUSES Poliovirus Paul et al., 1941
	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Salmonella chester* Kauffmann Bulling et al., 1959 *Salmonella kottbus* Schütze et al. Bulling et al., 1959

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Lucilia (cont.)

Salmonella typhimurium (Loeffler) Castellani and Chalmers
Bulling et al., 1959

EUBACTERIALES: BRUCELLACEAE

Pasteurella pestis (Lehmann and Neumann) Holland
Lang, 1940

Brucella abortus (Schmidt) Meyer and Shaw
Ruhland et al., 1941

EUBACTERIALES: BACILLACEAE

Clostridium botulinum (Van Ermengem) Bergey et al.
Bail, 1900

Clostridium perfringens (Veillon and Zuber) Holland
Green, 1953

ACTINOMYCETALES: MYCOBACTERIACEAE

Mycobacterium leprae (Hansen) Lehmann and Neumann
Currie, 1910
Leboeuf, 1912

Mycobacterium ?leprae (Hansen) Lehmann and Neumann
Honeij et al., 1914
Arizumi, 1934

PROTOZOA: MASTIGOPHORA

PROTOMONADIDA: TRYPANOSOMATIDAE

Crithidia Léger
Roubaud, 1908a

Herpetomonas Kent
Roubaud, 1908a

Herpetomonas muscarum (Leidy) Kent
Drbohlov, 1925

Herpetomonas ?muscarum (Leidy) Kent
Strickland, 1911

Leptomonas mesnili Roubaud
Roubaud, 1908a

PROTOMONADIDA: BODONIDAE

Rhynchoidomonas luciliae (Patton) Patton
Alexeieff, 1911

POLYMASTIGIDA: CHILOMASTIGIDAE

Chilomastix mesnili (Wenyon)
Harris et al., 1946

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Lucilia (cont.)

PROTOMONADIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Wenyon et al., 1917a
Giardia lamblia Stiles
Harris et al., 1946
TRICHOMONADIDA:
TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Harris et al., 1946
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Harris et al., 1946
Entamoeba coli (Grassi)
Wenyon et al., 1917a
Harris et al., 1946
Entamoeba histolytica Schaudinn
Wenyon et al., 1917a
Harris et al., 1946
Anonymous ("Korean authors et al.")
Iodamoeba bütschlii (Prowazek)
Harris et al., 1946
PLATYHELMINTHES: CESTOIDEA
PSEUDOPHYLLIDEA:
DIPHYLLOBOTHRIIDAE
Diphyllobothrium Cobbold
Pokrovskiĭ et al., 1938
PSEUDOPHYLLIDEA:
HYMENOLEPIDIDAE
Hymenolepis diminuta (Rudolphi) Blanchard
Harris et al., 1946
PSEUDOPHYLLIDEA: TAENIIDAE
Echinococcus granulosus (Batsch) Rudolphi
Perez-Fontana et al., 1961
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris Roederer
Tao, 1936
Perez-Fontana et al., 1961
Trichuris trichiura (Linnaeus)
Harris et al., 1946
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Tao, 1936
Harris et al., 1946

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Lucilia (cont.)

OXYURIDEA: OXYURIDAE
Enterobius vermicularis (Linnaeus) Leach
Pokrovskiĭ et al., 1938
ASCARIDIDEA: ASCARIDIDAE
Ascaris Linnaeus
Tao, 1936
Ascaris lumbricoides Linnaeus
Harris et al., 1946
Ascaris ?lumbricoides Linnaeus
Perez-Fontana et al., 1961
ARTHROPODA: INSECTA
HYMENOPTERA: ICHNEUMONIDAE
Atractodes gravidus Gravenhorst
Myers, 1929
HYMENOPTERA: BRACONIDAE
Alysia fossulata Provancher
Roberts, 1935
Alysia manducator Panzer
Myers, 1927
HYMENOPTERA: CHALCIDIDAE
Brachymeria fonscolombei (Dufour)
Masi, 1916
Parker, 1923
Dirhinus sarcophagae Froggatt
Johnston et al., 1921
HYMENOPTERA: PTEROMALIDAE
Nasonia Ashmead
Hardy, 1924
Nasonia vitripennis[1] (Walker)
Roubaud, 1917
Johnston et al., 1921
Hardy, 1925
Parker et al., 1928
Myers, 1929
Roberts, 1935
Spalangia[2] *muscidarum* Richardson
Johnston et al., 1921
Spalangia nigripes Curtis
Bouček, 1963
Spalangia nigroaenea Curtis
Bouček, 1963
HYMENOPTERA: ENCYRTIDAE
Australencyrtus giraulti Johnston and Tiegs
Johnston et al., 1921

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

[2] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Lucilia (cont.)	*Tachinaephagus* Ashmead Hardy, 1924
	HYMENOPTERA: EULOPHIDAE
	Syntomosphyrum albiclavus Kerrich Saunders, 1964
	Syntomosphyrum glossinae Waterston Saunders, 1964
	HYMENOPTERA: DIAPRIIDAE
	Paraspilomicrus Johnston and Tiegs Hardy, 1924
	Paraspilomicrus froggatti Johnston and Tiegs Johnston et al., 1921
	HYMENOPTERA: UNDETERMINED FORMICIDAE Pavlovskiĭ, 1921
	DIPTERA: MUSCIDAE
	Muscina pabulorum (Fallén) Thomson, 1937
Lucilia argyricephala ..... Macquart (Synonym: ?*Lucilia serenissima*)	SCHIZOPHYTA: SCHIZOMYCETES
	ACTINOMYCETALES: MYCOBACTERIACEAE
	Mycobacterium leprae (Hansen) Lehmann and Neumann Asami, 1934
	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Herpetomonas muscarum (Leidy) Kent Patton, 1912a
	Leptomonas mirabilis Roubaud Patton, 1912a
	PROTOMONADIDA: BODONIDAE
	Rhynchoidomonas luciliae (Patton) Patton Patton, 1910b
	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Sericophorus teliferopodus Rayment Rayment, 1954
	Sericophorus viridis roddi Rayment Rayment, 1954
Lucilia bufonivora ..... Moniez	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker) Cousin, 1933

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Lucilia caesar (Linnaeus) (North American *Lucilia caesar* are considered by most authorities to be *Lucilia illustris*)

ENTEROVIRUSES
Poliovirus Type 2, Lansing strain
Bang et al., 1943
Theiler's mouse encephalomyelitis virus, GD VII strain
Bang et al., 1943
SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES: PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Muzzarelli, 1925
Weil et al., 1933
Pseudomonas eisenbergii Migula
Cao, 1906
Pseudomonas fluorescens Migula
Cao, 1906
Pseudomonas jaegeri Migula
Cao, 1906
PSEUDOMONADALES: SPIRILLACEAE
Vibrio comma (Schroeter) Winslow et al.
Alessandrini, 1912
EUBACTERIALES: ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Weil et al., 1933
Gregor et al., 1960
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES: ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Beyer, 1925
Yao et al., 1929
Gregor et al., 1960
Escherichia coli var. *communior* (Topley and Wilson) Yale
Beyer, 1925
Weil et al., 1933
Aerobacter aerogenes (Kruse) Beijerinck
Gregor et al., 1960

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Lucilia caesar (cont.)

Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Serratia marcescens Bizio
Gregor et al., 1960
Proteus inconstans (Ornstein) Shaw and Clarke
Gregor et al., 1960
Proteus mirabilis Hauser
Cao, 1906
Gregor et al., 1960
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Gregor et al., 1960
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Gregor et al., 1960
Proteus vulgaris Hauser
Cao, 1906
Weil et al., 1933
Gregor et al., 1960
Salmonella enteritidis (Gaertner) Castellani and Chalmers
Graham-Smith, 1912
Salmonella hirschfeldii Weldin
Yao et al., 1929
Salmonella typhi Warren and Scott
Krontowski, 1913
Teodoro, 1916
Wollman, 1921
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
Shigella dysenteriae (Shiga) Castellani and Chalmers
Krontowski, 1913
Wollman, 1921
Beyer, 1925
Yao et al., 1929

EUBACTERIALES: BRUCELLACEAE

Pasteurella pestis (Lehmann and Neumann) Holland
Russo, 1930
Brucella abortus
Wollman, 1927

EUBACTERIALES: MICROCOCCACEAE

Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960

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Lucilia caesar (cont.)

Staphylococcus aureus Rosenbach
Beyer, 1925
Gregor et al., 1960

Staphylococcus aureus Rosenbach = [*Micrococcus pyogenes* var. *albus*]
Weil et al., 1933

Staphylococcus aureus Rosenbach = [*Micrococcus pyogenes* var. *aureus*]
Weil et al., 1933

Staphylococcus epidermidis (Winslow and Winslow) Evans
Weil et al., 1933

Staphylococcus flavus (Trevisan) Wood
Guyénot, 1907

Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960

Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960

Gaffkya tetragena (Gaffky) Trevisan
Weil et al., 1933

EUBACTERIALES: BREVIBACTERIACEAE

Kurthia zenkeri (Hauser) Bergey et al.
Cao, 1906

EUBACTERIALES: LACTOBACILLACEAE

Streptococcus Rosenbach (alpha-hemolytic)
Weil et al., 1933

Streptococcus durans Sherman and Wing
Gregor et al., 1960

Streptococcus pyogenes Rosenbach
Weil et al., 1933

EUBACTERIALES: CORYNEBACTERIACEAE

?*Corynebacterium* Lehmann and Neumann
Weil et al., 1933

EUBACTERIALES: BACILLACEAE

Bacillus anthracis Cohn
Graham-Smith, 1912

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Lucilia caesar (cont.)

Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
Bacillus megaterium de Bary
Muzzarelli, 1925
Bacillus radiciformis Eberbach
Cao, 1906
Bacillus subtilis Cohn
Cao, 1906
Clostridium botulinum (van Ermengem) Bergey et al.
Saunders, 1921
Clostridium botulinum Type C Spray
Saunders, 1921
Bengtson, 1922
ACTINOMYCETALES: MYCOBACTERIACEAE
Mycobacterium lepraemurium Marchoux and Sorel
Wherry, 1908a
Mycobacterium ?lepraemurium Marchoux and Sorel
Wherry, 1908b
Mycobacterium paratuberculosis Bergey et al.
Muzzarelli, 1925
Mycobacterium tuberculosis (Zopf) Lehmann and Neumann
Hayward, 1904
SPIROCHAETALES: TREPONEMATACEAE
Borrelia berbera (Sergent and Foley) Bergey et al.
Wollman et al., 1928
THALLOPHYTA: PHYCOMYCETES
MUCORALES: MUCORACEAE
Rhizopus nigricans Ehrenberg
Baumberger, 1919
ENTOMOPHTHORALES: ENTOMOPHTHORACEAE
Entomophthora muscae Cohn
Thaxter, 1888
Graham-Smith, 1919
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Blastomyces Costantin and Rolland
Muzzarelli, 1925
Penicillium glaucum Link
Baumberger, 1919

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Lucilia caesar (cont.)

FUNGI OF UNCERTAIN AFFINITY
Streptotricea, unvalidated
Muzzarelli, 1925

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Chang, 1940
Leishmania tropica (Wright)
Wollman et al., 1928

POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Root, 1921
Chang, 1940

POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Root, 1921
Giardia lamblia Stiles
Chang, 1940

TRICHOMONADIDA:
TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Chang, 1940

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Root, 1921
Yao et al., 1929
Chang, 1940
Entamoeba coli (Grassi)
Root, 1921
Yao et al., 1929
Chang, 1940
Entamoeba histolytica Schaudinn
Root, 1921
Yao et al., 1929
Chang, 1940
Iodamoeba bütschlii (Prowazek)
Chang, 1940

PROTOZOA: SPOROZOA
COCCIDIDA: EIMERIIDAE
Eimeria irresidua Kessel and Janciewicz
Metelkin, 1935
Eimeria perforans (Leuckart)
Sluiter and Swellengrebel
Metelkin, 1935

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Lucilia caesar (cont.)

ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Chang, 1940
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Chang, 1940
ASCARIDIDEA: ASCARIDIDAE
Ascaris lumbricoides Linnaeus
Chang, 1940
ARTHROPODA: INSECTA
COLEOPTERA: STAPHYLINIDAE
Aleochara curtula Goeze
Kemner, 1926
Creophilus maxillosus Linnaeus
Porchinskiĭ, 1885
Emus hirtus Linnaeus
Porchinskiĭ, 1885
Ontholestes murinus Linnaeus
Porchinskiĭ, 1885
Philonthus politus Linnaeus
Porchinskiĭ, 1885
HYMENOPTERA: BRACONIDAE
Alysia manducator Panzer
Altson, 1920
Opius nitidulator Nees
Rambousek, 1929
HYMENOPTERA: CYNIPIDAE
Kleidotoma Westwood
James, 1928
Kleidotoma marshalli Marshall
James, 1928
HYMENOPTERA: FIGITIDAE
Figites anthomyiarum (Bouché)
James, 1928
HYMENOPTERA: CHALCIDIDAE
Brachymeria obtusata Foerster
Nikol'skaĭa, 1960a
HYMENOPTERA: PTEROMALIDAE
Habrocytus obscurus Dalman
Voukassovitch, 1924b
Nasonia vitripennis[1] (Walker)
Altson, 1920
Smirnov, 1934
Smirnov et al., 1934
Vladimirova et al., 1934
Nasonia ?vitripennis (Walker)
Bishopp et al., 1915b

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Lucilia caesar (cont.)	HYMENOPTERA: SPHECIDAE
	Crabro cavifrons Thomson
	Hamm et al., 1926
	Crabro vagus (Linnaeus)
	Hamm et al., 1926
	Ectemnius quadricinctus (Fabricius)
	Hamm et al., 1926
Lucilia illustris (Meigen)	ENTEROVIRUSES
	Poliovirus
	Melnick et al., 1945
	Poliovirus Type 1
	Downey, 1963
	ECHO virus Types 6 and 7
	Downey, 1963
	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Salmonella typhimurium (Loeffler) Castellani and Chalmers
	Nuorteva, 1965
	Ojala et al., 1966
	CHORDATA: AVES
	PASSERIFORMES: UNDETERMINED PLOCEIDAE
	Séguy, 1929
Lucilia ?jeddensis Bigot	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Herpetomonas muscarum (Leidy) Kent
	Yamasaki, 1927
Lucilia porphyrina (Walker) (Synonym: *Lucilia craggii*)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA: TRYPANOSOMATIDAE
	Herpetomonas muscarum (Leidy) Kent
	Patton, 1921a
	Leptomonas mirabilis Roubaud
	Patton, 1921a
Phaenicia Robineau-Desvoidy	ENTEROVIRUSES
	Poliovirus
	Trask et al., 1943
	Poliovirus Types 1 and 3
	Paul et al., 1962
	Coxsackievirus
	Melnick (personal communication from Curnen), 1950

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Phaenicia (cont.)	Melnick et al., 1954 ECHO virus Types 8, 12, 14 Paul et al., 1962
	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE
	Shigella boydii Ewing 2, 5, 6 Richards et al., 1961
	Shigella dysenteriae (Shiga) Castellani and Chalmers 2 Richards et al., 1961
	Shigella flexneri Castellani and Chalmers 1a, 2a, 3, 4a, 4b, 6 Richards et al., 1961
	Shigella sonnei (Levine) Weldin 1 Richards et al., 1961
	ARTHROPODA: INSECTA HYMENOPTERA: FORMICIDAE
	Paratrechina longicornis (Latreille) Pimentel, 1955
	Solenopsis corticalis Forel Pimentel, 1955
	Solenopsis geminata (Fabricius) Pimentel, 1955
Phaenicia cluvia Walker (Synonym: ?*Lucilia pilatei*)	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE
	Leptomonas mesnili Roubaud Roubaud, 1909
Phaenicia cuprina .. . Wiedemann (Synonym: *Lucilia cuprina*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Shimizu et al., 1965
	Proteus mirabilis Hauser Shimizu et al., 1965
	Proteus morganii (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965
	Proteus rettgeri (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965
	Proteus vulgaris Hauser Shimizu et al., 1965
	Providencia Kauffmann Shimizu et al., 1965

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Phaenicia cuprina (cont.)	PROTOZOA: CNIDOSPORIDA
	MICROSPORIDA: NOSEMATIDAE
	Nosema kingi Kramer
	Kramer, 1964b
	ASCHELMINTHES: NEMATODA
	ASCARIDIDEA: ASCARIDIDAE
	Ascaris lumbricoides Linnaeus
	Roberts, 1934
	ARTHROPODA: INSECTA
	HYMENOPTERA: DIAPRIIDAE
	Hemilexomyia abrupta Dodd
	Dodd, 1920
Phaenicia eximia ..... (Wiedemann)	SCHIZOPHYTA: SCHIZOMYCETES
(Synonyms: *Lucilia eximia*,	EUBACTERIALES: MICROCOCCACEAE
Lucilia hirtiforceps,	*Staphylococcus* Rosenbach
Lucilia ruficornis)	Picado, 1935
	ARTHROPODA: INSECTA
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria fonscolombei (Dufour)
	Roberts, 1933a
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker)
	Roberts, 1933a
	DIPTERA: CUTEREBRIDAE
	Dermatobia hominis (Linnaeus)
	Blanchard, 1899
Phaenicia mexicana ..... (Macquart)	THALLOPHYTA: PHYCOMYCETES
(Synonym: *Lucilia unicolor*)	ENTOMOPHTHORALES:
	ENTOMOPHTHORACEAE
	Entomophthora americana Thaxter
	Dresner, 1949
	ARTHROPODA: INSECTA
	HYMENOPTERA: BRACONIDAE
	Alysia ridibunda Say
	Roberts, 1935
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria fonscolombei (Dufour)
	Roberts, 1933a, 1933b, 1935
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker)
	Roberts, 1933a
Phaenicia pallescens ..... (Shannon)	ENTEROVIRUSES
(Synonym: *Lucilia pallescens*)	Poliovirus
	Melnick et al., 1949
	Poliovirus non-paralytic
	Melnick et al., 1949
	Poliovirus Type 1
	Melnick et al., 1953

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Phaenicia pallescens (cont.)	Coxsackievirus Easton 2 (A1) Melnick et al., 1953 Coxsackievirus Easton 10 (A8) Melnick et al., 1953 Coxsackievirus Easton 14 (A5) Melnick et al., 1953 Coxsackievirus Texas 1 (A4) Melnick et al., 1953 Coxsackievirus Texas 12 (new type) Melnick et al., 1953 Coxsackievirus Texas 14 (new type) Melnick et al., 1953 Coxsackievirus Type 3 (A3) Melnick et al., 1953 PROTOZOA: SARCODINA AMOEBIDA: ENDAMOEBIDAE *Entamoeba histolytica* Schaudinn Pipkin, 1942, 1949 ARTHROPODA: INSECTA COLEOPTERA: HISTERIDAE *Saprinus lugens* Erichson Vogt, 1948 COLEOPTERA: DERMESTIDAE *Dermestes ater* De Geer Vogt, 1948 *Dermestes caninus* Germar Vogt, 1948
Phaenicia sericata . .. . (Meigen) (Synonyms: *Lucilia sericata, Lucilia latifrons, Lucilia flavipennis*)	VIRUSES ENTEROVIRUSES Poliovirus Sabin et al., 1942 Melnick et al., 1945, 1949 Francis, Jr. et al., 1948 Melnick, 1949 Poliovirus non-paralytic Melnick et al., 1949 Poliovirus Type 1 Melnick et al., 1953 Riordan et al., 1961 Downey, 1963 Poliovirus Attenuated Type 1, LSc Dave et al., 1965 Poliovirus Philippine Islands '45 strain (Type 1) Melnick et al., 1952 Poliovirus Texas '48 strain (Type 1) Melnick et al., 1952 Poliovirus Type 2, Lansing strain Melnick et al., 1947, 1952

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Phaenicia sericata (cont.)

Poliovirus Y-SK strain, murine adapted, Type 2
Melnick et al., 1947, 1952
Poliovirus Type 3
Riordan et al., 1961
Poliovirus Attenuated Type 3, Leon
Dave et al., 1965
Poliovirus North Carolina '44 strain (Type 3)
Melnick et al., 1952
Theiler's mouse encephalomyelitis virus, TO strain
Melnick et al., 1947, 1952
Coxsackievirus Easton 2 (A1)
Melnick et al., 1953
Coxsackievirus Easton 10 (A8)
Melnick et al., 1953
Coxsackievirus Easton 14 (A5)
Melnick et al., 1953
Coxsackievirus Texas 1 (A4)
Melnick et al., 1953
Coxsackievirus Texas 12 (new type)
Melnick et al., 1953
Coxsackievirus Texas 14 (new type)
Melnick et al., 1953
Coxsackievirus Texas '48 (new type)
Melnick et al., 1952
Coxsackievirus Type 3 (A3)
Melnick et al., 1953
Coxsackievirus Type A9 (A9)
Riordan et al., 1961
Coxsackievirus Type B5 (B5)
Riordan et al., 1961
ECHO virus Types 1, 5, 11
Riordan et al., 1961
ECHO virus Types 6 and 7
Downey, 1963

OTHER ANIMAL VIRUSES

Foot and mouth disease virus
Dhennin et al., 1961

SCHIZOPHYTA: SCHIZOMYCETES

PSEUDOMONADALES: PSEUDOMONADACEAE

Pseudomonas aeruginosa (Schroeter) Migula
Weil et al., 1933
Greenberg, 1962
Havlik, 1964

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Phaenicia sericata (cont.)

Pseudomonas fluorescens Migula
Lysenko et al., 1961
EUBACTERIALES:
ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Michelbacher et al., 1932
Weil et al., 1933
Gregor et al., 1960
Havlik, 1964
Flavobacterium Bergey et al.
Lysenko et al., 1961
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia Castellani and Chalmers
Lysenko et al., 1961
Escherichia coli (Migula) Castellani and Chalmers
Michelbacher et al., 1932
Hobson, 1932b, 1935
Zmeev, 1943
Gregor et al., 1960
Povolný et al., 1961
Greenberg, 1962
Havlik, 1964
Escherichia coli var. *acidilactici* (Topley and Wilson) Yale
=? [*Escherichia paraacidilactici* A]
Zmeev, 1943
Escherichia coli var. *acidilactici* (Topley and Wilson) Yale
=? [*Escherichia paraacidilactici* B]
Zmeev, 1943
Escherichia coli var. *communior* (Topley and Wilson) Yale
Weil et al., 1933
Aerobacter Beijerinck
Zmeev, 1943
Aerobacter aerogenes (Kruse) Beijerinck
Gregor et al., 1960
Havlik, 1964

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Phaenicia sericata (cont.)

Aerobacter cloacae (Jordan) Bergey et al.
Michelbacher et al., 1932
Klebsiella Trevisan
Lysenko et al., 1961
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Cloaca Castellani and Chalmers
Zmeev, 1943
Lysenko et al., 1961
Paracolobactrum aerogenoides Borman, Stuart, and Wheeler
Zmeev, 1943
Erwinia amylovora (Burrill) Winslow et al.
Ark et al., 1936
Serratia Bizio
Povolný et al., 1961
Serratia marcescens Bizio
Michelbacher et al., 1932
Gregor et al., 1960
Havlik, 1964
Proteus inconstans (Ornstein) Shaw and Clarke
Gregor et al., 1960
Proteus mirabilis Hauser
Gregor et al., 1960
Lysenko et al., 1961
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Gregor et al., 1960
Lysenko et al., 1961
Havlik, 1964
Shimizu et al., 1965
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Gregor et al., 1960
Lysenko et al., 1961
Shimizu et al., 1965
Proteus vulgaris Hauser
Hobson, 1932a, 1935
Michelbacher et al., 1932
Weil et al., 1933
Simmons, 1935a, 1935b
O'Keefe et al., 1954
Sukhova, 1954
Gregor et al., 1960
Lysenko et al., 1961
Povolný et al., 1961
Greenberg, 1962
Havlik, 1964

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Phaenicia sericata (cont.)

Providencia Kauffmann
Lysenko et al., 1961
Shimizu et al., 1965
Salmonella Lignières
Alcivar et al., 1946
Greenberg et al., 1964
Shimizu et al., 1965
Salmonella amersfoort Henning
Alcivar et al., 1946
Salmonella anatum (Rettger and Scoville) Bergey et al.
Alcivar et al., 1946
Salmonella ballerup Kauffmann and Moller
Alcivar et al., 1946
Salmonella blockley Kauffmann
Greenberg et al., 1964
Salmonella cholerae-suis (Smith) Weldin
Alcivar et al., 1946
Salmonella dublin Kauffmann
Alcivar et al., 1946
Salmonella enteritidis (Gaertner) Castellani and Chalmers
Alcivar et al., 1946
Gross et al., 1953
Salmonella florida Cherry, Edwards, and Bruner
Alcivar et al., 1946
Salmonella give Kauffmann
Alcivar et al., 1946
Gross et al., 1953
Salmonella kentucky Edwards
Alcivar et al., 1946
Salmonella kottbus Schütze et al.
Alcivar et al., 1946
Salmonella meleagridis Bruner and Edwards
Alcivar et al., 1946
Salmonella narashino Kauffmann
Alcivar et al., 1946
Salmonella new brunswick Edwards
Greenberg et al., 1963b
Salmonella onderstepoort Henning
Alcivar et al., 1946
Salmonella oranienburg Kauffmann
Alcivar et al., 1946
Salmonella oregon Edwards and Bruner
Alcivar et al., 1946

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Phaenicia sericata (cont.)

Salmonella paratyphi A (Brion and Kayser) Castellani and Chalmers
Gross et al., 1953
Salmonella paratyphi B Castellani and Chalmers
Alcivar et al., 1946
Gross et al., 1953
Salmonella reading Schütze
Alcivar et al., 1946
Salmonella typhi Warren and Scott
Simmons, 1935a, 1935b
Anonymous, 1952
Gross et al., 1953
Sukhova, 1954
Greenberg, 1962
Salmonella typhimurium (Loeffler) Castellani and Chalmers
Alcivar et al., 1946
Ojala et al., 1966
Salmonella zanzibar Kauffmann
Alcivar et al., 1946
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
Shigella alkalescens (Andrewes) Weldin
Alcivar et al., 1946
Shigella boydii Ewing 1, 2, 3, 4, 5, 6, 8, 9
Alcivar et al., 1946
Shigella ceylonensis (Weldin) Weldin
Alcivar et al., 1946
Shigella dispar (Andrewes) Bergey et al.
Alcivar et al., 1946
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Sychevskaĭa et al., 1959a
Shigella flexneri Castellani and Chalmers
Gross et al., 1953
Arskiĭ et al., 1961
Greenberg, 1962
Shigella flexneri Castellani and Chalmers 1a
Sychevskaĭa et al., 1959a
Shigella flexneri Castellani and Chalmers 1a, 2a, Y, 6
Alcivar et al., 1946

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Phaenicia sericata (cont.)

Shigella sonnei (Levine) Weldin
Gross et al., 1953
Arskiĭ et al., 1961
EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE
Klebsiella-Cloaca intermed. forms
Lysenko et al., 1961
Paraescherichia, unvalidated
Zmeev, 1943
EUBACTERIALES: MICROCOCCACEAE
Micrococcus rushmorei Brown
Brown, 1927
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Robinson et al., 1933, 1934
Simmons, 1935a, 1935b
Gregor et al., 1960
Greenberg, 1962
Staphylococcus aureus Rosenbach =[*Micrococcus pyogenes* var. *albus*]
Michelbacher et al., 1932
Staphylococcus aureus Rosenbach =[*Micrococcus pyogenes* var. *albus*]
Weil et al., 1933
Staphylococcus aureus Rosenbach =[*Micrococcus pyogenes* var. *aureus*]
Weil et al., 1933
Staphylococcus aureus Rosenbach =[*Staphylococcus pyogenes*]
Greenberg, 1962
Staphylococcus epidermidis (Winslow and Winslow) Evans
Weil et al., 1933
Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Lysenko et al., 1961
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960
Lysenko et al., 1961
Gaffkya tetragena (Gaffky) Trevisan
Weil et al., 1933

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Phaenicia sericata (cont.)

Sarcina Goodsir
Michelbacher et al., 1932
Sarcina flava de Bary
Lysenko et al., 1961
EUBACTERIALES: NEISSERIACEAE
Neisseria luciliarum Brown
Brown, 1927
EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae Weichselbaum
Gregor et al., 1960
Povolný et al., 1961
Streptococcus Rosenbach (alpha-hemolytic)
Weil et al., 1932
Streptococcus Rosenbach (beta-hemolytic)
Robinson et al., 1934
Streptococcus durans Sherman and Wing
Simmons, 1935a, 1935b
Gregor et al., 1960
Lysenko et al., 1961
Povolný et al., 1961
Greenberg, 1962
Streptococcus faecalis var. *liquefaciens* (Sternberg) Mattick
Lysenko et al., 1961
Streptococcus mitis Andrewes and Horder
Simmons, 1935a, 1935b
Streptococcus pyogenes Rosenbach
Robinson et al., 1933
Weil et al., 1933
Simmons, 1935a, 1935b
EUBACTERIALES: CORYNEBACTERIACEAE
?*Corynebacterium* Lehmann and Neumann
Weil et al., 1933
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Povolný et al., 1961
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
Bacillus lutzae Brown
Brown, 1927
Bacillus subtilis Cohn
Michelbacher et al., 1932

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Phaenicia sericata (cont.)

Lysenko et al., 1961
Greenberg, 1962
Bacillus thuringiensis Berliner
Greenwood, 1964
Clostridium botulinum
Type C Spray
Bengtson, 1922
Clostridium perfringens (Veillon and Zuber) Holland
Michelbacher et al., 1932
Simmons, 1935a, 1935b
ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium tuberculosis (Zopf) Lehmann and Neumann
Morellini et al., 1947
Leptospira canicola Okell et al.
Kunert et al., 1952
Schmidtke, 1959
Leptospira grippotyphosa
Topley and Wilson
Kunert et al., 1952
Schmidtke, 1959
Leptospira icterohaemorrhagiae (Inada and Ido) Noguchi
Kunert et al., 1952
Schmidtke, 1959
Bacterium mathisi Roubaud and Treillard, unvalidated
Roubaud et al., 1935
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora muscae Cohn
Dove, 1916
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Crithidia Léger
Thomson, 1933
Crithidia luciliae (Strickland) Wallace and Clark
Wallace et al., 1959
Herpetomonas Kent
Chang, 1940
Herpetomonas muscarum (Leidy) Kent
Becker, 1922-3, 1924
Drbohlav, 1926
Fantham et al., 1927

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Phaenicia sericata (cont.)

Thomson, 1933
Bellosillo, 1937
Wallace et al., 1959
Leptomonas mesnili Roubaud
Roubaud, 1908a, 1909, 1911c
PROTOMONADIDA: BODONIDAE
Rhynchoidomonas intestinalis (Roubaud) Alexieff
Roubaud, 1911b
POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Chang, 1940
POLYMASTIGIDA: HEXAMITIDAE
Giardia lamblia Stiles
Chang, 1940
TRICHOMONADIDA: TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Hegner, 1928
Chang, 1940
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Chang, 1940
Entamoeba coli (Grassi)
Chang, 1940
Entamoeba histolytica Schaudinn
Chang, 1940, 1945
Iodamoeba bütschlii (Prowazek)
Chang, 1940
PROTOZOA: SPOROZOA
HAPLOSPORIDA: UNCERTAIN POSITION
Toxoplasma Nicolle and Manceaux
Schmidtke, 1959
Toxoplasma gondii Nicolle and Manceaux
Kunert et al., 1953
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Kramer, 1964a, 1965b
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris Roederer
Chang, 1945
Trichuris trichiura (Linnaeus)
Chang, 1940

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Phaenicia sericata (cont.)

STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Chang, 1940, 1945
STRONGYLIDEA: SYNGAMIDAE
Syngamus trachea (Montagu)
Clapham, 1939
ASCARIDIDEA: ASCARIDIDAE
Ascaris Linnaeus
Chang, 1945
Ascaris lumbricoides Linnaeus
Chang, 1940
ARTHROPODA: ARACHNIDA
ACARINA: MACROCHELIDAE
Macrocheles glaber (Müller)
Sychevskaĭa, 1964a
Macrocheles muscaedomesticae (Scopoli)
Sychevskaĭa, 1964a
ACARINA: GAMASOLAELAPTIDAE
Digamasellus Berlese
Sychevskaĭa, 1964a
ACARINA: ANOETIDAE
Myianoetus muscarum (Linnaeus)
Greenberg et al., 1960
ARTHROPODA: INSECTA
DERMAPTERA: LABIDURIDAE
Euborellia annulipes (Lucas)
Illingworth, 1923a
DERMAPTERA: LABIIDAE
Labia pilcornis (Motschulsky)
Illingworth, 1923a
Spingolabis hawaiiensis (Bormans)
Illingworth, 1923a
COLEOPTERA: HYDROPHILIDAE
Cryptopleurum minutum Fabricius
Illingworth, 1923a
Dactylosternum abdominale Fabricius
Illingworth, 1923a
COLEOPTERA: SILPHIDAE
Nicrophorus nigritus Mannerheim
Illingworth, 1927
COLEOPTERA: UNDETERMINED SILPHIDAE
Illingworth, 1927
COLEOPTERA: STAPHYLINIDAE
Creophilus maxillosus var. *villosus* Gravenhorst
Illingworth, 1927

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Phaenicia sericata (cont.)

Oxytelus Gravenhorst
Illingworth, 1923a
Philonthus discoideus Gravenhorst
Illingworth, 1923a
Philonthus longicornis Stephens
Illingworth, 1923a
Tachyporus Gravenhorst
Illingworth, 1923a
COLEOPTERA: HISTERIDAE
Saprinus lugens Erichson
Illingworth, 1927
Xerosaprinus fimbriatus (LeConte)
Illingworth, 1927
Xerosaprinus lubricus (LeConte)
Illingworth, 1927
COLEOPTERA: UNDETERMINED HISTERIDAE
Holdaway, 1930
COLEOPTERA: UNDETERMINED DERMESTIDAE
Holdaway, 1930
COLEOPTERA: OSTOMATIDAE
Temnochila virescens (Fabricius)
Struble, 1942
HYMENOPTERA: BRACONIDAE
Alysia manducator Panzer
Altson, 1920
Gurney et al., 1926a
Miller, 1927
Newman, 1928
Morgan, 1929
Smit, 1929
Holdaway et al., 1930, 1932
Tillyard, 1930
Salt, 1932
Evans, 1933
Alysia ridibunda Say
Roberts, 1935
Aphaereta minuta Nees
Holdaway et al., 1930
Evans, 1933
Aphaereta pallipes Say
Beard, 1964
Aspilota nervosa Haliday
Evans, 1933
HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Roberts, 1935a
Kleidotoma Westwood
James, 1928

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Phaenicia sericata (cont.)

Kleidotoma marshalli Marshall
James, 1928
Pseudeucoila trichopsila (Hartig)
Sychevskaĭa, 1964b
HYMENOPTERA: FIGITIDAE
Figites anthomyiarum (Bouché)
James, 1928
HYMENOPTERA: CHALCIDIDAE
Brachymeria fonscolombei
(Dufour)
Roberts, 1933b, 1935
Brachymeria minuta (Fabricius)
Sychevskaĭa, 1966
Dirhinus sarcophagae Froggatt
Johnston et al., 1921
HYMENOPTERA: PTEROMALIDAE
?*Nasonia* Ashmead
Feng, 1933
Nasonia vitripennis[1] (Walker)
Froggatt, 1919
Altson, 1920
Johnston et al., 1921
Anonymous, 1925
Smit, 1929
Cousin, 1933
Evans, 1933
Ullyett, 1950
Pimentel et al., 1963
Nasonia ?vitripennis (Walker)
Bishopp et al., 1915b
Spalangia nigra Latreille
Roberts, 1935
Spalangia nigroaenea Curtis
Bouček, 1963
HYMENOPTERA: ENCYRTIDAE
*Australencyrtus girault*i Johnston
and Tiegs
Johnston et al., 1921
HYMENOPTERA: FORMICIDAE
Pheidole megacephala (Fabricius)
Illingworth, 1923a
Ponera perkinsi Forel
Illingworth, 1923a
HYMENOPTERA: SPHECIDAE
Crabro advenus Smith
Kurczewski et al., 1968
Bembix olivata Dahlbom
Ullyett et al., 1941

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Phaenicia sericata (cont.)		*Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
		DIPTERA: MUSCIDAE
		Musca domestica Linnaeus Pimentel et al., 1965b
		DIPTERA: CALLIPHORIDAE
		Chrysomya Robineau-Desvoidy Salt, 1932
		Chrysomya rufifacies (Macquart) Holdaway, 1930 Mackerras, 1930
		Phaenicia cuprina Wiedemann Mackerras, 1933
		Calliphora Robineau-Desvoidy Salt, 1932
		DIPTERA: SARCOPHAGIDAE
		Sarcophaga Meigen Salt, 1932
		DIPTERA: UNDETERMINED SARCOPHAGIDAE Holdaway, 1930
Eucalliphora lilaea (Walker) (Synonym: *Calliphora latifrons*)	.....	SCHIZOPHYTA: SCHIZOMYCETES
		EUBACTERIALES: ENTEROBACTERIACEAE
		Salmonella typhi Warren and Scott Gwatkin et al., 1938
		EUBACTERIALES: BRUCELLACEAE
		Brucella abortus (Schmidt) Meyer and Shaw Gwatkin et al., 1938
		EUBACTERIALES: MICROCOCCACEAE
		Staphylococcus aureus Rosenbach Gwatkin et al., 1938
		EUBACTERIALES: LACTOBACILLACEAE
		Streptococcus agalactiae Lehmann and Neumann Gwatkin et al., 1938
Aldrichina grahami (Aldrich)	.....	SCHIZOPHYTA: SCHIZOMYCETES
		EUBACTERIALES: ENTEROBACTERIACEAE
		Escherichia coli (Migula) Castellani and Chalmers Shimizu et al., 1965
		Proteus morganii (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965
		Proteus rettgeri (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965

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Calliphora .. ..
Robineau-Desvoidy

ENTEROVIRUSES
Poliovirus
Trask et al., 1943
Poliovirus Type 1
Riordan et al., 1961
Downey, 1963
Poliovirus Type 3
Riordan et al., 1961
Coxsackievirus Type A9 (A9)
Riordan et al., 1961
Coxsackievirus Type B5 (B5)
Riordan et al., 1961
ECHO virus Types 1, 5, 11
Riordan et al., 1961
ECHO virus Types 6 and 7
Downey, 1963
SCHIZOPHYTA: SCHIZOMYCETES
EUBACTERIALES:
ENTEROBACTERIACEAE
Salmonella chester Kauffmann
Bulling et al., 1959
Salmonella derby Warren and Scott
Tacal et al., 1967
Salmonella kottbus Schütze et al.
Bulling et al., 1959
Salmonella typhimurium (Loeffler)
Castellani and Chalmers
Bulling et al., 1959
EUBACTERIALES: BRUCELLACEAE
Brucella abortus (Schmidt)
Meyer and Shaw
Ruhland et al., 1941
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Zmeev, 1943
Clostridium perfringens (Veillon
and Zuber)
Green, 1953
THALLOPHYTA: ASCOMYCETES
GYMNOASCALES: GYMNOASCACEAE
Trichophyton mentagrophytes
(Robin) Blanchard var.
granulosum
Gip et al., 1968
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora calliphorae Giard
Thaxter, 1888

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Calliphora (cont.)

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Leptomonas gracilis (Léger)
Wenyon
Alexeieff, 1911
Leptomonas pyrrhocoris (Zotta)
Zotta
Zotta, 1921
POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Wenyon et al., 1917a, 1917b
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Entamoeba coli (Grassi)
Wenyon et al., 1917a, 1917b
Entamoeba histolytica Schaudinn
Wenyon et al., 1917a, 1917b
PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: TAENIIDAE
Echinococcus granulosus (Batsch)
Rudolphi
Perez-Fontana et al., 1961
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris Roederer
Perez-Fontana et al., 1961
STRONGYLIDEA:
ANCYLOSTOMATIDAE
Ancylostoma caninum (Ercolani)
Harada, 1953, 1954
ASCARIDIDEA: ASCARIDIDAE
Ascaris lumbricoides Linnaeus
Perez-Fontana et al., 1961
ARTHROPODA: INSECTA
ODONATA: AESCHNIDAE
Aeschna cyanea (Müller)
Freeman, 1934
HYMENOPTERA: BRACONIDAE
Alysia manducator Panzer
Myers, 1927
Morgan, 1929
Laing, 1937
HYMENOPTERA: PTEROMALIDAE
Nasonia vitripennis[1] (Walker)
Parker et al., 1928
Roberts, 1935
Edwards, 1954

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Calliphora (cont.)	HYMENOPTERA: EULOPHIDAE
	Syntomosphyrum albiclavus Kerrich
	Saunders, 1964
	Syntomosphyrum glossinae
	Waterston
	Saunders, 1964
	HYMENOPTERA: SPHECIDAE
	Crabro vagus (Linnaeus)
	Hamm et al., 1926
	DIPTERA: MUSCIDAE
	Muscina pabulorum (Fallén)
	Thomson, 1937
Calliphora clausa	ANNELIDA: OLIGOCHAETA
Macquart	OPISTHOPORA: LUMBRICIDAE
(Synonym: *Onesia accepta*)	*Allolobophora caliginosa* (Savigny)
	subsp. *trapezoides*
	Fuller, 1933
	OPISTHOPORA: MEGASCOLECIDAE
	Microscolex dubius (Fletcher)
	Fuller, 1933
	ARTHROPODA: INSECTA
	HEMIPTERA: APHIDAE
	Myzus persicae (Sulzer)
	Fuller, 1933
Calliphora coloradensis	PROTOZOA: MASTIGOPHORA
Hough	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Herpetomonas muscarum (Leidy)
	Kent
	Swingle, 1911
	ARTHROPODA: INSECTA
	HYMENOPTERA: BRACONIDAE
	Alysia ridibunda Say
	Roberts, 1935
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria fonscolombei
	(Dufour)
	Roberts, 1933b, 1935
Calliphora icela	ARTHROPODA: INSECTA
(Walker)	HYMENOPTERA: BRACONIDAE
	Alysia manducator Panzer
	Miller, 1927
Calliphora lata .	SCHIZOPHYTA: SCHIZOMYCETES
Coquillet	EUBACTERIALES:
	ENTEROBACTERIACEAE
	Proteus mirabilis Hauser
	Shimizu et al., 1965
	Proteus morganii (Winslow,
	Kligler, and Rothberg) Yale
	Shimizu et al., 1965

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Calliphora lata (cont.)	*Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965
	ACTINOMYCETALES: MYCOBACTERIACEAE
	Mycobacterium leprae (Hansen) Lehmann and Neumann Asami, 1934
Calliphora stygia (Fabricius) (Synonyms: *Calliphora villosa*, *Pollenia stygia*)	ARTHROPODA: INSECTA
	HYMENOPTERA: CHALCIDIDAE
	Dirhinus sarcophagae Froggatt Froggatt, 1921, 1922
	HYMENOPTERA: UNDETERMINED CHALCIDIDAE Froggatt, 1914b
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis[1] (Walker) Froggatt et al., 1914 Froggatt, 1919 Johnston et al., 1921
	Spalangia muscidarum Richardson Johnston et al., 1921
	HYMENOPTERA: DIAPRIIDAE
	Hemilexomyia abrupta[2] Dodd Dodd, 1920 Froggatt, 1921, 1922 Johnston et al., 1921
	DIPTERA: CALLIPHORIDAE
	Chrysomya rufifacies (Macquart) Mackerras, 1930
Calliphora terraenovae Macquart (Synonym: *Calliphora vomitoria nigribarda*)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Salmonella typhi Warren and Scott Gwatkin et al., 1938
	EUBACTERIALES: BRUCELLACEAE
	Brucella abortus (Schmidt) Meyer and Shaw Gwatkin et al., 1938
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenberg Gwatkin et al., 1938
	EUBACTERIALES: LACTOBACILLACEAE
	Streptococcus agalactiae Lehmann and Neumann Gwatkin et al., 1938

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

[2] Although not specifically mentioned in each entry, it is assumed that all *Hemilexomyia abrupta* are parasites.

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Calliphora vicina . . . .
Robineau-Desvoidy
(Synonyms: *Calliphora erythrocephala*, *Calliphora rufifacies*)

ENTEROVIRUSES
Poliovirus
Sabin et al., 1942
Poliovirus Type 2, Lansing strain
Bang et al., 1943
Theiler's mouse encephalomyelitis virus, GD VII strain
Bang et al., 1943

SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES: PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Graham-Smith, 1911a, 1911b
Balzam, 1937
Greenberg, 1962
Havlik, 1964

PSEUDOMONADALES: SPIRILLACEAE
Vibrio comma (Schroeter) Winslow et al.
Graham-Smith, 1911a, 1911b
Alessandrini, 1912

EUBACTERIALES: ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960

EUBACTERIALES: ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Yao et al., 1929
Parisot et al., 1934
Balzam, 1937
Hoffmann, 1950
Gregor et al., 1960
Povolný et al., 1961
Greenberg, 1962
Greenberg et al., 1963c
Havlik, 1964

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Calliphora vicina (cont.)

Escherichia coli (Migula)
Castellani and Chalmers 25
Greenberg et al., 1963c
Escherichia coli var. *acidilactici*
(Topley and Wilson) Yale
Shura-Bura, 1952
Escherichia coli var. *communior*
(Topley and Wilson) Yale
Graham-Smith, 1909
Escherichia coli var. *neapolitana*
(Topley and Wilson) Yale
Graham-Smith, 1909
Aerobacter aerogenes (Kruse)
Beijerinck
Graham-Smith, 1909
Gregor et al., 1960
Greenberg, 1962
Havlik, 1964
Aerobacter cloacae (Jordan)
Bergey et al.
Povolný et al., 1961
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Serratia marcescens Bizio
Graham-Smith, 1911a, 1911b
Balzam, 1937
Gregor et al., 1960
Havlik, 1964
Proteus inconstans (Ornstein)
Shaw and Clarke
Gregor et al., 1960
Proteus mirabilis Hauser
Gregor et al., 1960
Greenberg et al., 1963c
Greenberg, 1966
Proteus morganii (Winslow,
Kligler, and Rothberg) Yale
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
Proteus rettgeri (Hadley et al.)
Rustigian and Stuart
Gregor et al., 1960
Proteus vulgaris Hauser
Gregor et al., 1960
Povolný et al., 1961
Greenberg, 1962
Havlik, 1964

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Calliphora vicina (cont.)

Salmonella enteritidis (Gaertner) Castellani and Chalmers
Graham-Smith, 1911a, 1911b, 1912
Gross et al., 1953
Greenberg, 1966
Salmonella give Kauffmann
Gross et al., 1953
Salmonella hirschfeldii Weldin
Yao et al., 1929
Salmonella paratyphi A (Brion and Kayser) Castellani and Chalmers
Gross et al., 1953
Salmonella paratyphi B Castellani and Chalmers
Gross et al., 1953
Salmonella schottmuelleri (Winslow, Kligler, and Rothberg) Bergey et al.
Greenberg, 1962
Salmonella typhi Warren and Scott
Graham-Smith, 1911a, 1911b
Teodoro, 1916
Gwatkin et al., 1938
Gross et al., 1953
Salmonella typhimurium (Loeffler) Castellani and Chalmers
Greenberg et al., 1963c
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
?*Shigella* Castellani and Chalmers
Sychevskaĭa et al., 1959a
Shigella dysenteriae (Shiga) Castellani and Chalmers
Yao et al., 1929
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Sychevskaĭa et al., 1959a
Shigella flexneri Castellani and Chalmers
Gross et al., 1953
Sychevskaĭa et al., 1959a
Greenberg, 1962
Shigella flexneri Castellani and Chalmers 1a
Sychevskaĭa et al., 1959a
Shigella sonnei (Levine) Weldin
Gross et al., 1953
Greenberg, 1962

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Calliphora vicina (cont.)

EUBACTERIALES: BRUCELLACEAE
Brucella abortus (Schmidt) Meyer and Shaw
Gwatkin et al., 1938
Haemophilis influenzae (Lehmann and Neumann) Winslow et al.
Greenberg, 1962
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Gwatkin et al., 1938
Gregor et al., 1960
Greenberg, 1962
Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960
Sarcina loewenbergi Macé
Galli-Vallerio, 1908
EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961
Streptococcus Rosenbach
Povolný et al., 1961
Streptococcus agalactiae Lehmann and Neumann
Gwatkin et al., 1938
Streptococcus faecalis Andrewes and Horder
Gregor et al., 1960
Streptococcus lactis (Lister) Löhnis
Greenberg, 1962
EUBACTERIALES: BACILLACEAE
Bacillus anthracis Cohn
Graham-Smith, 1911a, 1911b, 1912
Sen et al., 1944
Bacillus cereus var. *mycoides* (Flügge) Smith et al.
Gregor et al., 1960
Bacillus subtilis Cohn
Balzam, 1937
Greenberg, 1962

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Calliphora vicina (cont.)

ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium tuberculosis (Zopf) Lehmann and Neumann
Morellini et al., 1947
SPIROCHAETALES:
TREPONEMATACEAE
Leptospira canicola Okell et al.
Kunert et al., 1952
Schmidtke, 1959
Leptospira grippotyphosa Topley and Wilson
Kunert et al., 1952
Schmidtke, 1959
Leptospira icterohaemorrhagiae (Inada and Ido) Noguchi
Kunert et al., 1952
Schmidtke, 1959
THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora Fresenius
Graham-Smith, 1916
THALLOPHYTA: ASCOMYCETES
ENDOMYCETALES:
ENDOMYCETACEAE
Saccharomyces cerevisae Hansen
Berlese, 1896
Saccharomyces pastorianus Hansen
Berlese, 1896
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Beauveria bassiana (Balsamo) Vuillemin
Rostrup, 1916
CRYPTOCOCCALES:
CRYPTOCOCCACEAE
Candida Berkhout
Berlese, 1896
Candida mycoderma (Reess)
Berlese, 1896
Kloeckera apiculata (Reess emend Klöcker) Janke
Berlese, 1896
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Alexeieff, 1911

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Calliphora vicina (cont.)

Laveran et al., 1920
Root, 1921
Becker, 1924
Herpetomonas muscarum (Leidy) Kent=[*Crithidia calliphorae*]
Becker, 1922-3
Herpetomonas muscarum (Leidy) Kent=[*Herpetomonas muscaedomesticae*]
Becker, 1922-3
PROTOMONADIDA: BODONIDAE
Rhynchoidomonas luciliae (Patton) Patton
Alexeieff, 1911
POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Root, 1921
POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Root, 1921
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Root, 1921
Yao et al., 1929
Entamoeba coli (Grassi)
Root, 1921
Yao et al., 1929
Entamoeba histolytica Schaudinn
Root, 1921
Yao et al., 1929
PROTOZOA: SPOROZOA
COCCIDIDA: EIMERIIDAE
Eimeria irresidua Kessel and Janciewicz
Metelkin, 1935
Eimeria perforans (Leuckart) Sluiter and Swellengrebel
Metelkin, 1935
HAPLOSPORIDA: UNCERTAIN POSITION
Toxoplasma Nicolle and Manceaux
van Thiel, 1949
Schmidtke, 1959
Toxoplasma gondii Nicolle and Manceaux
Kunert et al., 1953
Schmidtke, 1955

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Calliphora vicina (cont.)

PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: NOSEMATIDAE
Nosema apis Zander
Fantham et al., 1913
Kramer, 1962
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Fantham et al., 1958
Spiroglugea Léger and Hesse
Porter, 1953
Fantham et al., 1958
Toxoglugea Léger and Hesse
Porter, 1953
Fantham et al., 1958
MICROSPORIDA: TELOMYXIDAE
Telomyxa Léger and Hesse
Porter, 1953
Fantham et al., 1958
PLATYHELMINTHES: CESTOIDEA
PSEUDOPHYLLIDEA:
DIPHYLLOBOTHRIIDAE
Bothriocephalus marginatus Krefft
Nicoll, 1911b
Diphyllobothrium latum (Linnaeus)
Lühe
Pod"ĭapol'skaĭa et al., 1934
CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Sychevskaĭa et al., 1958
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris trichiura (Linnaeus)
Pod"ĭapol'skaĭa et al., 1934
OXYURIDEA: OXYURIDAE
Enterobius vermicularis (Linnaeus)
Leach
Pod"ĭapol'skaĭa et al., 1934
ASCARIDIDEA: ASCARIDIDAE
Ascaris Linnaeus
Pod"ĭapol'skaĭa et al., 1934
Ascaris lumbricoides Linnaeus
Sukhacheva, 1963
ARTHROPODA: INSECTA
LEPIDOPTERA: SPHINGIDAE
Acherontia atropos Linnaeus
Keilin (reviewing Mik, 1890),
1917
COLEOPTERA: STAPHYLINIDAE
Aleochara curtula Goeze
Fuldner, 1964

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Calliphora vicina (cont.)

Creophilus erythrocephalus Fabricius
Froggatt, 1914a

HYMENOPTERA: ICHNEUMONIDAE

Atractodes bicolor Gravenhorst
Graham-Smith, 1919

Nemeritis canescens (Gravenhorst)
Salt, 1957

Phygadeuon speculator Thomson
Graham-Smith, 1919

HYMENOPTERA: BRACONIDAE

Alysia manducator Panzer
MacDougall, 1909
Graham-Smith, 1916, 1919
Altson, 1920
Gurney et al., 1926a
Miller, 1927
Morgan, 1929
Holdaway et al., 1932
Evans, 1933
Caudri, 1941

Aphaereta cephalotes Haliday
Graham-Smith, 1916

Aphaereta minuta Nees
Evans, 1933

HYMENOPTERA: CYNIPIDAE

Kleidotoma Westwood
James, 1928

Kleidotoma marshalli Marshall
James, 1928

HYMENOPTERA: FIGITIDAE

Figites anthomyiarum (Bouché)
James, 1928

HYMENOPTERA: CHALCIDIDAE

Brachymeria minuta (Fabricius)
Sychevskaĭa, 1964b, 1966

HYMENOPTERA: UNDETERMINED CHALCIDIDAE
Froggatt, 1914a, 1914b

HYMENOPTERA: PTEROMALIDAE

Dibrachys affinis Masi
Voukassovitch, 1924a

Nasonia vitripennis[1] (Walker)
Froggatt et al., 1914
Graham-Smith, 1916
Roubaud, 1917
Altson, 1920
Johnston et al., 1920b, 1921

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Calliphora vicina (cont.)

Séguy, 1929
Cousin, 1933
Smirnov et al., 1933, 1934
Smirnov, 1934
Vladimirova et al., 1934
Velthuis et al., 1965
Crabro cavifrons Thomson
Hamm et al., 1926
Crabro cribraria (Linnaeus)
Hamm et al., 1926
Crabro peltarius (Schreber)
Hamm et al., 1926
Ectemnius quadricinctus (Fabricius)
Hamm et al., 1926
Gorytes Latreille
Froggatt, 1914a
DIPTERA: ANTHOMYIIDAE
Scatophaga stercoraria (Linnaeus)
Hewitt, 1914
CHORDATA: AVES
PASSERIFORMES: HIRUNDINIDAE
Delichon urbica (Linnaeus) subsp. *urbica*
Séguy, 1929
Hirundo rustica Linnaeus subsp. *rustica*
Séguy, 1929

Calliphora vomitoria .... (Linnaeus)
(Synonym: *Musca vomitoria*)

VIRUSES
ENTEROVIRUSES
Poliovirus
Noguchi et al., 1917
INSECT VIRUSES
Tipula iridescent virus
Smith et al., 1961
SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES: PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Muzzarelli, 1925
Pseudomonas eisenbergii Migula
Cao, 1906
Pseudomonas fluorescens Migula
Cao, 1906
Pseudomonas jaegeri Migula
Cao, 1906

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Calliphora vomitoria (cont.)

PSEUDOMONADALES: SPIRILLACEAE
Vibrio comma (Schroeter)
Winslow et al.
Maddox, 1885a, 1885b
Alessandrini, 1912
EUBACTERIALES:
ACHROMOBACTERACEAE
Alcaligenes faecalis Castellani and Chalmers
Gregor et al., 1960
Flavobacterium devorans (Zimmermann) Bergey et al.
Gregor et al., 1960
Flavobacterium invisible (Vaughan) Bergey et al.
Gregor et al., 1960
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Wollman, 1911
Yao et al., 1929
Hoffmann, 1950
Gregor et al., 1960
Povolný et al., 1961
Escherichia coli var. *communior* (Topley and Wilson) Yale
Graham-Smith, 1909
Escherichia coli var. *neapolitana* (Topley and Wilson) Yale
Graham-Smith, 1909
Aerobacter aerogenes (Kruse) Beijerinck
Graham-Smith, 1909
Gregor et al., 1960
Klebsiella cloacae (Jordan) Brisou
Gregor et al., 1960
Paracolobactrum aerogenoides Borman, Stuart, and Wheeler
O'Keefe et al., 1954
Serratia marcescens Bizio
Gregor et al., 1960
Proteus inconstans (Ornstein) Shaw and Clarke
Gregor et al., 1960
Proteus mirabilis Hauser
Cao, 1906
Gregor et al., 1960
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Gregor et al., 1960

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Calliphora vomitoria (cont.)

Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Gregor et al., 1960
Proteus vulgaris Hauser
Cao, 1906
Wollman, 1911
Gregor et al., 1960
Povolný et al., 1961
Salmonella cholerae-suis (Smith) Weldin
Buchanan, 1907
Salmonella hirschfeldii Weldin
Yao et al., 1929
Salmonella typhi Warren and Scott
Wollman, 1921
Citrobacter freundii Werkman and Gillen
Gregor et al., 1960
Shigella Castellani and Chalmers
Zaidenov, 1961
Shigella dysenteriae (Shiga) Castellani and Chalmers
Wollman, 1921
Yao et al., 1929
Shigella flexneri Castellani and Chalmers
Beyer, 1925
EUBACTERIALES: UNDETERMINED ENTEROBACTERIACEAE
Coliforms
Testi, 1909
EUBACTERIALES: BRUCELLACEAE
Pasteurella pestis (Lehmann and Neumann) Holland
Gosio, 1925
Russo, 1930
Cillopasteurella delendae-muscae (Roubaud and Descazeaux) Prévot
Roubaud et al., 1923
EUBACTERIALES: MICROCOCCACEAE
Micrococcus Cohn
Maddox, 1885b
Bogdanow, 1906, 1908
Staphylococcus afermentans Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus aureus Rosenbach
Wollman, 1911
Gregor et al., 1960

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Calliphora vomitoria (cont.)

Staphylococcus lactis Shaw, Stitt, and Cowan
Gregor et al., 1960
Staphylococcus saprophyticus Fairbrother
Gregor et al., 1960
Gaffkya tetragena (Gaffky) Trevisan
Testi, 1909
EUBACTERIALES: BREVIBACTERIACEAE
Kurthia zenkeri (Hauser) Bergey et al.
Cao, 1906
EUBACTERIALES: LACTOBACILLACEAE
Streptococcus faecalis Andrewes and Horder
Gregor et al., 1960
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Maddox, 1885a
Bacillus ?anthracis Cohn
Maddox, 1885a
Bacillus anthracis Cohn
Raimbert, 1870
Buchanan, 1907
Bacillus cereus var. *mycoides* (Flügge) Smith, Gordon, and Clark
Gregor et al., 1960
Bacillus megaterium de Bary
Muzzarelli, 1925
Bacillus radiciformis Eberbach
Cao, 1906
Bacillus subtilis Cohn
Cao, 1906
Bacillus ?subtilis Cohn
Maddox, 1885a
ACTINOMYCETALES: MYCOBACTERIACEAE
Mycobacterium lepraemurium Marchoux and Sorel
Wherry, 1908a
Mycobacterium ?lepraemurium Marchoux and Sorel
Wherry, 1908b
Mycobacterium paratuberculosis Bergey et al.
Muzzarelli, 1925

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Calliphora vomitoria (cont.)

Mycobacterium tuberculosis (Zopf)
Lehmann and Neumann
Wollman, 1921

THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora americana
Thaxter
Rozsypal, 1957
Entomophthora calliphorae Giard
Giard, 1888
Entomophthora muscae Cohn
Thaxter, 1888
Zoophthora vomitoriae (Rozsypal)
Rozsypal, 1966

THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Blastomyces Costantin and Rolland
Muzzarelli, 1925
?*Penicillium* Link
Maddox, 1885b

FUNGI OF UNCERTAIN AFFINITY
Streptotricea
Muzzarelli, 1925

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and
O'Connor)
Yao et al., 1929
Entamoeba coli (Grassi)
Yao et al., 1929
Entamoeba histolytica Schaudinn
Jausion et al., 1923
Yao et al., 1929

PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Fantham et al., 1958
Kramer, 1965b
Spiroglugea Léger and Hesse
Porter, 1953
Fantham et al., 1958
Toxoglugea Léger and Hesse
Porter, 1953
Fantham et al., 1958
MICROSPORIDA: TELOMYXIDAE
Telomyxa Léger and Hesse
Porter, 1953
Fantham et al., 1958

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Calliphora vomitoria (cont.)	ARTHROPODA: ARACHNIDA
	PSEUDOSCORPIONIDEA: CHELIFERIDAE
	Chelifer Geoffroy Donovan, 1797
	ACARINA: PARASITIDAE
	Parasitus Latreille Graham-Smith, 1916
	ACARINA: MACROCHELIDAE
	Macrocheles muscaedomesticae (Scopoli) Trojan, 1908
	ARTHROPODA: INSECTA
	HYMENOPTERA: ICHNEUMONIDAE
	Theronia atalantae (Poda) Fahringer, 1922
	HYMENOPTERA: BRACONIDAE
	Alysia manducator Panzer Altson, 1920 Holdaway et al., 1932
	Aphaereta minuta Nees Evans, 1933
	Opius nitidulator Nees Rambousek, 1929
	HYMENOPTERA: PTEROMALIDAE
	Dibrachys affinis Masi Voukassovitch, 1924a
	Habrocytus obscurus Dalman Voukassovitch, 1924b
	Nasonia vitripennis (Walker) Altson, 1920
	HYMENOPTERA: SPHECIDAE
	Crabro cribraria (Linnaeus) Hamm et al., 1926
	Crabro vagus (Linnaeus) Hamm et al., 1926
	Ectemnius quadricinctus (Fabricius) Hamm et al., 1926
Calliphora vomitoria ..... var. ***dunensis*** Giard	THALLOPHYTA: PHYCOMYCETES
	ENTOMOPHTHORALES: ENTOMOPHTHORACEAE
	Entomophthora calliphorae Giard Giard, 1879
Calliphora uralensis ..... Villeneuve	ENTEROVIRUSES
	Poliovirus strain 113 Levkovich et al., 1957
	Poliovirus Type 2, Lansing strain Levkovich et al., 1957

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Calliphora uralensis (cont.)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES:
	ENTEROBACTERIACEAE
	Shigella flexneri Castellani and Chalmers
	Sukhova, 1950
	Shigella ?flexneri Castellani and Chalmers
	Sukhova, 1950
Neopollenia stygia .... (Fabricius) (Synonym: *Calliphora villosa*)	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker)
	Johnston et al., 1920b
	Spalangia muscidarum Richardson
	Johnston et al., 1920b
	Spalangia nigroaenea Curtis
	Bouček, 1963
	HYMENOPTERA: SPHECIDAE
	Sericophorus teliferopodus Rayment
	Rayment, 1954
Anastellorhina augur . .. . (Fabricius) (Synonyms: *Calliphora oceanicae, Calliphora oceaniae, Paracalliphora augur, Calliphora augur*)	ASCHELMINTHES: NEMATODA
	SPIRURIDEA: SPIRURIDAE
	Habronema Diesing
	Johnston, 1920
	Johnston et al., 1920a
	ARTHROPODA: INSECTA
	HYMENOPTERA: BRACONIDAE
	Alysia manducator Panzer
	Gurney et al., 1926a
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria calliphorae (Froggatt)
	Froggatt, 1916
	Johnson et al., 1921
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis[1] (Walker)
	Froggatt et al., 1914
	Froggatt, 1919
	Johnston et al., 1920b, 1921
	Spalangia muscidarum Richardson
	Johnston et al., 1920b, 1921
	Spalangia nigroaenea Curtis
	Bouček, 1963
	HYMENOPTERA: ENCYRTIDAE
	Australencyrtus giraulti Johnston and Tiegs
	Johnston et al., 1921

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

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Anastellorhina augur (cont.)	DIPTERA: CALLIPHORIDAE
	Chrysomya rufifacies (Macquart)
	Mackerras, 1930
Onesia cognata Meigen	ARTHROPODA: INSECTA
(Synonym: *Onesia coerulea*)	HYMENOPTERA: SPHECIDAE
	Crabro cribraria (Linnaeus)
	Hamm et al., 1926
Onesia sepulchralis	ARTHROPODA: INSECTA
Meigen	HYMENOPTERA: SPHECIDAE
	Crabro peltarius (Schreber)
	Hamm et al., 1926
	Ectemnius quadricinctus
	(Fabricius)
	Hamm et al., 1926
	Oxybelus quattuordecimnotatus
	Jurine
	Chevalier, 1926
Onesia townsendi Hall	ARTHROPODA: INSECTA
(Synonym: *Onesia aculeata*)	HYMENOPTERA: SPHECIDAE
	Ectemnius quadricinctus
	(Fabricius)
	Hamm et al., 1926
Cynomyopsis cadaverina . . .	ENTEROVIRUSES
(Robineau-Desvoidy)	Poliovirus
(Synonym: *Cynomya*	Sabin et al., 1942
cadaverina)	Melnick, 1949
	SCHIZOPHYTA: SCHIZOMYCETES
	PSEUDOMONADALES:
	PSEUDOMONADACEAE
	Pseudomonas aeruginosa
	(Schroeter) Migula
	Greenberg, 1962
	EUBACTERIALES:
	ENTEROBACTERIACEAE
	Escherichia coli (Migula)
	Castellani and Chalmers
	Greenberg, 1962
	Proteus vulgaris Hauser
	O'Keefe et al., 1954
	Greenberg, 1962
	Salmonella typhi Warren and Scott
	Gwatkin et al., 1938
	Webb et al., 1956
	Greenberg, 1962
	Shigella flexneri Castellani and
	Chalmers
	Greenberg, 1962
	EUBACTERIALES: BRUCELLACEAE
	Brucella abortus (Schmidt)
	Meyer and Shaw
	Gwatkin et al., 1938

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Cynomyopsis cadaverina (cont.)	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenbach
	Gwatkin et al., 1938
	Greenberg, 1962
	EUBACTERIALES: LACTOBACILLACEAE
	Streptococcus agalactiae Lehmann and Neumann
	Gwatkin et al., 1938
	Streptococcus durans Sherman and Wing
	Greenberg, 1962
	EUBACTERIALES: BACILLACEAE
	Bacillus subtilis Cohn
	Greenberg, 1962
	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Herpetomonas ?muscarum (Leidy) Kent
	Wallace et al., 1964
	Leptomonas mirabilis Roubaud
	Wallace et al., 1964
	TRICHOMONADIDA:
	TRICHOMONADIDAE
	Trichomonas hominis (Davaine)
	Hegner, 1928
	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker)
	Girault et al., 1910a
Cynomya mortuorum ..... (Linnaeus) (Synonyms: *Cynomyia mortuorum, Sarcophaga mortuorum*)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES:
	ENTEROBACTERIACEAE
	Salmonella typhi Warren and Scott
	Krontowski, 1913
	Shigella dysenteriae (Shiga)
	Castellani and Chalmers
	Krontowski, 1913
	PROTOZOA: SPOROZOA
	COCCIDIDA: EIMERIIDAE
	Eimeria irresidua Kessel and Janciewicz
	Metelkin, 1935
	Eimeria perforans (Leuckart)
	Sluiter and Swellengrebel
	Metelkin, 1935
Auchmeromyia luteola ..... (Fabricius)	PROTOZOA: MASTIGOPHORA
	PROTOMONADIDA:
	TRYPANOSOMATIDAE
	Herpetomonas caulleryi (Roubaud) Wenyon
	Roubaud, 1911c

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Auchmeromyia luteola (cont.)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Bembix olivata* Dahlbom Roubaud, 1913
UNDETERMINED LUCILIINI	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Shimizu et al., 1965 *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965 *Proteus vulgaris* Hauser Shimizu et al., 1965 *Providencia* Kauffmann Shimizu et al., 1965 *Salmonella* Lignières Shimizu et al., 1965 *Shigella* Castellani and Chalmers Shimizu et al., 1965
UNDETERMINED CALLIPHORINI	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965 *Providencia* Kauffmann Shimizu et al., 1965
UNDETERMINED CALLIPHORINAE	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Patton, 1921a
Subfamily: POLLENIINAE *Pollenia* .... Robineau-Desvoidy	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro vagus* (Linnaeus) Hamm et al., 1926

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Pollenia rudis (Fabricius) . ... THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora ?americana Thaxter
Judd, 1955
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Léger, 1903
PROTOZOA: CNIDOSPORIDIA
MICROSPORIDA: MRAZEKIIDAE
Octosporea muscae-domesticae Flu
Kramer, 1964a, 1965b
PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Sychevskaîâ et al., 1958
ANNELIDA: OLIGOCHAETA
OPISTHOPORA: LUMBRICIDAE
Helodrilus caliginosus (Savigny)
Pimentel et al., 1960
Helodrilus chloroticus (Savigny)
Keilin, 1909, 1911
Webb et al., 1916
Garrison, 1924
DeCoursey, 1927
Helodrilus foetidus (Savigny)
Pimentel et al., 1960
Helodrilus roseus (Savigny)
DeCoursey, 1927
Pimentel et al., 1960
Lumbricus herculeus Savigny
Barnes, 1924
Lumbricus rubellus Hoffmeister
Pimentel et al., 1960
Lumbricus terrestris Linnaeus
Pimentel et al., 1960
Octolasium lacteum (Orley)
Pimentel et al., 1960
OPISTHOPORA: MEGASCOLECIDAE
Diplocardia communis Garman
Pimentel et al., 1960
UNDETERMINED ANNELIDA
Blakitnaîâ, 1962

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Pollenia rudis (cont.)	ARTHROPODA: INSECTA
	HYMENOPTERA: SPHECIDAE
	Crabro advenus Smith
	Kurczewski et al., 1968
	Crabro cribraria (Linnaeus)
	Hamm et al., 1926
	Crabro leucostoma (Linnaeus)
	Hamm et al., 1926
	Crabro peltarius (Schreber)
	Hamm et al., 1926
	Crabro serripes Panzer
	Hamm et al., 1926
	Ectemnius quadricinctus (Fabricius)
	Hamm et al., 1926
	Mellinus arvensis (Linnaeus)
	Chevalier, 1923a
	Oxybelus uniglumis (Linnaeus)
	Chevalier, 1926
	DIPTERA: ANTHOMYIIDAE
	Scatophaga stercoraria (Linnaeus)
	Hewitt, 1914
UNDETERMINED CALLIPHORIDAE	ENTEROVIRUSES
	Poliovirus
	Toomey et al., 1941
	SCHIZOPHYTA: SCHIZOMYCETES
	PSEUDOMONADALES: PSEUDOMONADACEAE
	Pseudomonas aeruginosa (Schroeter) Migula
	Holdaway, 1932
	PSEUDOMONADALES: SPIRILLACEAE
	Vibrio comma (Schroeter) Winslow et al.
	Savchenko, 1892a, 1892b
	EUBACTERIALES: ENTEROBACTERIACEAE
	Salmonella pullorum (Rettger) Bergey
	Gwatkin et al., 1952
	Salmonella typhi Warren and Scott
	Firth et al., 1902
	EUBACTERIALES: BACILLACEAE
	Bacillus anthracis Cohn
	Morris, 1920
	Clostridium perfringens (Veillon and Zuber) Holland
	Baer, 1929
	West, 1953

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UNDETERMINED CALLIPHORIDAE (cont.)		SPIROCHAETALES: TREPONEMATACEAE *Treponema pertenue* Castellani Yasuyama, 1928
		THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn White et al., 1877
		ARTHROPODA: INSECTA HEMIPTERA: REDUVIIDAE *Pristhesancus papuensis* Stål Noble, 1936
		COLEOPTERA: HISTERIDAE *Saprinus cyaneus* Fabricius Gurney et al., 1926b
		HYMENOPTERA: BRACONIDAE *Alysia manducator* Panzer Graham-Smith, 1916 *Aphaereta auripes* (Provancher) Roberts, 1935
		HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Gurney et al., 1926b
		HYMENOPTERA: DIAPRIIDAE *Trichopria hirticollis* (Ashmead) Roberts, 1935
		HYMENOPTERA: FORMICIDAE *Labidus coecus* (Latreille) Lindquist, 1942 *Pheidole megacephala* (Fabricius) Phillips, 1934
		CHORDATA: AVES PASSERIFORMES: MUSCICAPIDAE *Leucocirca leucophrys* (Latham) Froggatt et al., 1917
		PASSERIFORMES: MELIPHAGIDAE *Meliphaga penicillata* Gould Froggatt et al., 1917 *Myzantha melanocephala* Latham Froggatt et al., 1917
Family: SARCOPHAGIDAE Subfamily: MILTOGRAMMINAE *Agria latifrons* Fallén	.....	ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaîa, 1964a

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Pseudosarcophaga affinis . . Fallén (Synonyms: *Sarcophaga affinis, Agria affinis*)	THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn Baird, 1957 ARTHROPODA: INSECTA LEPIDOPTERA: LIPARIDAE *Liparis dispar* Linnaeus Sitowski, 1928 LEPIDOPTERA: LYMANTRIIDAE *Leucoma salicis* Linnaeus Sitowski, 1928 *Lymantria monacha* Linnaeus Sitowski, 1928 LEPIDOPTERA: LASIOCAMPIDAE *Dendrolimus pini* Linnaeus Sitowski, 1928 COLEOPTERA: STAPHYLINIDAE *Baryodma ontarionis* Casey Colhoun, 1953 HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Barlow, 1964 HYMENOPTERA: CHALCIDIDAE *Brachymeria minuta* (Fabricius) Nikol'skaîâ, 1960a
Wohlfahrtia nuba . . Wiedemann	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Dirhinoides wohlfahrtiae* Ferrière Nikol'skaîâ, 1960b
Subfamily: SARCOPHAGINAE	
Blaesoxipha impar . . . (Aldrich) (Synonym: *Sarcophaga impar*)	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria fonscolombei* (Dufour) Roberts, 1933b, 1935 HYMENOPTERA: PTEROMALIDAE *Spalangia endius* Walker Bouček, 1963 *Spalangia stomoxysiae* Girault Lindquist, 1936 Peck, 1951
Blaesoxipha lineata .... Fallén	ARTHROPODA: INSECTA ORTHOPTERA: LOCUSTIDAE *Dociostaurus maroccanus* (Thunberg) Baranov, 1924
Blaesoxipha plinthopyga (Wiedemann)	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962

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(Synonyms: *Sarcophaga plinthopyas, Sarcophaga plinthopyga*)

ECHO virus Types 8, 12, 14
Paul et al., 1962

ARTHROPODA: INSECTA

COLEOPTERA: SILPHIDAE

Nicrophorus nigritus Mannerheim
Illingworth, 1927

COLEOPTERA: UNDETERMINED SILPHIDAE
Illingworth, 1927

COLEOPTERA: HISTERIDAE

Saprinus lugens Erichson
Illingworth, 1927

Xerosaprinus fimbriatus (LeConte)
Illingworth, 1927

Xerosaprinus lubricus (LeConte)
Illingworth, 1927

COLEOPTERA: STAPHYLINIDAE

Creophilus maxillosus var. *villosus* Gravenhorst
Illingworth, 1927

HYMENOPTERA: BRACONIDAE

Alysia fossulata Provancher
Roberts, 1935

Alysia ridibunda Say
Roberts, 1935

HYMENOPTERA: CYNIPIDAE

Eucoila Westwood
Roberts, 1935

HYMENOPTERA: FIGITIDAE

Neralsia Cameron
Roberts, 1935

Neralsia armata (Say)
Roberts, 1935

HYMENOPTERA: CHALCIDIDAE

Brachymeria fonscolombei (Dufour)
Roberts, 1933b, 1935

Dirhinus texanus (Ashmead)
Roberts, 1935

HYMENOPTERA: PTEROMALIDAE

Nasonia vitripennis (Walker)
Roberts, 1935

HYMENOPTERA: DIAPRIIDAE

Trichopria hirticollis (Ashmead)
Roberts, 1935

DIPTERA: CUTEREBRIDAE

Dermatobia hominis (Linnaeus)
Blanchard, 1899

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Helicobia quadrisetosa Coquillett	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia muscidarum* Richardson Pinkus, 1913
Oxysarcodexia ochripyga (Wulp) (Synonym: *Sarcophaga orchripyga*)	ENTEROVIRUSES Poliovirus Types 1 and 3 Paul et al., 1962 ECHO virus Types 8, 12, 14 Paul et al., 1962
Oxysarcodexia ventricosa (Wulp) (Synonym: *Sarcophaga ventricosa*)	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Sanders et al., 1966
Ravinia derelicta (Walker) (Synonym: *Sarcophaga derelicta*)	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Benson et al., 1963
Ravinia effrenata (Walker) (Synonym: *Sarcophaga effrenata*)	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia endius* Walker Bouček, 1963 *Spalangia stomoxysiae* Girault Lindquist, 1936 Peck, 1951
Ravinia latisetosa Parker (Synonym: *Sarcophaga latisetosa*)	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Blickle, 1961 HYMENOPTERA: CYNIPIDAE *Eucoila* Westwood Blickle, 1961 HYMENOPTERA: FIGITIDAE *Xyalophora quinquelineata* (Say) Blickle, 1961
Ravinia lherminieri (Robineau-Desvoidy) (Synonyms: *Sarcophaga pallinervis, Sarcophaga lherminiera*)	SCHIZOPHYTA: SCHIZOMYCETES ACTINOMYCETALES: MYCOBACTERIACEAE *Mycobacterium phlei* Lehmann and Neumann Currie, 1910 ASCHELMINTHES: NEMATODA TYLENCHIDA: CONTORTYLENCHIDAE *Heterotylenchus autumnalis* Nickle Stoffolano, 1970 ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Blickle, 1961

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Ravinia lherminieri (cont.)	HYMENOPTERA: CYNIPIDAE *Eucoila* Westwood Blickle, 1961 HYMENOPTERA: FIGITIDAE *Xyalophora quinquelineata* (Say) Blickle, 1961
Ravinia querula (Walker) . . .. (Synonym: *Sarcophaga querula*)	ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta pallipes* Say Blickle, 1961 Sanders et al., 1966 Houser et al., 1967 HYMENOPTERA: CYNIPIDAE *Eucoila* Westwood Blickle, 1961 Sanders et al., 1966 *Eucoila impatiens* (Say) Turner et al., 1968 HYMENOPTERA: FIGITIDAE *Xyalophora quinquelineata* (Say) Blickle, 1961 HYMENOPTERA: PTEROMALIDAE *Muscidifurax raptor* Girault Turner et al., 1968 *Spalangia nigra* Latreille Turner et al., 1968
Ravinia striata ..... Fabricius	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Shigella flexneri* Castellani and Chalmers 1a Sychevskaĭa et al., 1959b ARTHROPODA: ARACHNIDA ACARINA: MACROCHELIDAE *Macrocheles muscaedomesticae* (Scopoli) Sychevskaĭa, 1964a ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta minuta* Nees Sychevskaĭa, 1964b HYMENOPTERA: CYNIPIDAE *Pseudeucoila trichopsila* (Hartig) Sychevskaĭa, 1964b, 1966 HYMENOPTERA: FIGITIDAE *Figites discordis* Belizin Sychevskaĭa, 1964b *Figites scutellaris* (Rossi) Sychevskaĭa, 1964b

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Ravinia striata (cont.)	*Figites striolatus* Hartig Sychevskaĭa, 1964b
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria minuta (Fabricius) Sychevskaĭa, 1964b, 1966
	Dirhinoides vlasovi Nikolśkaĭa Sychevskaĭa, 1964b
	Euchalcidia blanda Nikolśkaĭa Nikolśkaĭa, 1960b
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker) Sychevskaĭa, 1964b
	Spalangia[1] *cameroni* Perkins Bouček, 1963
	Spalangia endius Walker Bouček, 1963
	Spalangia nigroaenea Curtis Bouček, 1963
	HYMENOPTERA: DIAPRIIDAE
	Diapria conica (Fabricius) Sychevskaĭa, 1964b
Ravinia sueta (Wulp) . (Synonym: *Sarcophaga sueta*)	ARTHROPODA: INSECTA
	HYMENOPTERA: PTEROMALIDAE
	Spalangia endius Walker Bouček, 1963
	Spalangia stomoxysiae Girault Lindquist, 1936 Peck, 1951
Sarcodexia pedunculata ..... (Hall) (Synonym: *Sarcophaga pedunculata*)	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Eucoila Westwood Roberts, 1935
Sarcophaga Meigen	ENTEROVIRUSES
	Poliovirus Trask et al., 1943 Melnick et al., 1945, 1949 Francis, Jr. et al., 1948 Melnick, 1949
	Poliovirus non-paralytic Melnick et al., 1949
	Poliovirus Types 1 and 3 Riordan et al., 1961 Paul et al., 1962
	Coxsackievirus Type A9 (A9) Riordan et al., 1961
	Coxsackievirus Type B5 (B5) Riordan et al., 1961

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Sarcophaga (cont.)

ECHO virus Types 1, 5, 11
Riordan et al., 1961
ECHO virus Types 8, 12, 14
Paul et al., 1962

SCHIZOPHYTA: SCHIZOMYCETES

PSEUDOMONADALES: SPIRILLACEAE

Vibrio comma (Schroeter)
Winslow et al.
Pavan, 1949

EUBACTERIALES:
ACHROMOBACTERACEAE

Alcaligenes Castellani and
Chalmers
de la Paz, 1938

EUBACTERIALES:
ENTEROBACTERIACEAE

Escherichia Castellani and
Chalmers
de la Paz, 1938

Escherichia coli (Migula)
Castellani and Chalmers
Pavan, 1949

Aerobacter Beijerinck
de la Paz, 1938

Serratia marcescens Bizio
Nicholls, 1912

Proteus Hauser
de la Paz, 1938

Proteus morganii (Winslow,
Kligler, and Rothberg) Yale
de la Paz, 1938

Salmonella Lignières
Alcivar et al., 1946

Salmonella amersfoort Henning
Alcivar et al., 1946

Salmonella anatum (Rettger and
Scoville) Bergey et al.
Alcivar et al., 1946

Salmonella ballerup Kauffmann
and Møller
Alcivar et al., 1946

Salmonella cholerae-suis (Smith)
Weldin
Alcivar et al., 1946

Salmonella columbensis (Castellani)
Castellani and Chalmers
de la Paz, 1938

Salmonella dublin Kauffmann
Alcivar et al., 1946

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Sarcophaga (cont.)

Salmonella enteritidis (Gaertner) Castellani and Chalmers
Alcivar et al., 1946
Salmonella florida Cherry, Edwards, and Bruner
Alcivar et al., 1946
Salmonella give Kauffmann
Alcivar et al., 1946
Salmonella kentucky Edwards
Alcivar et al., 1946
Salmonella kottbus Schütze et al.
Alcivar et al., 1946
Salmonella meleagridis Bruner and Edwards
Alcivar et al., 1946
Salmonella narashino Kauffmann
Alcivar et al., 1946
Salmonella onderstepoort Henning
Alcivar et al., 1946
Salmonella oranienburg Kauffmann
Alcivar et al., 1946
Salmonella oregon Edwards and Bruner
Alcivar et al., 1946
Salmonella paratyphi B Castellani and Chalmers
Alcivar et al., 1946
Pavan, 1949
Salmonella reading Schütze
Alcivar et al., 1946
Salmonella typhi Warren and Scott
Nicholls, 1912
Pavan, 1949
Salmonella typhimurium (Loeffler) Castellani and Chalmers
Alcivar et al., 1946
Salmonella zanzibar Kauffmann
Alcivar et al., 1946
Shigella alkalescens (Andrewes) Weldin
Alcivar et al., 1946
Shigella ambigua (Andrewes) Weldin
de la Paz, 1938
Shigella boydii Ewing 1, 2, 3, 4, 5, 6, 8, 9
Alcivar et al., 1946
Shigella boydii Ewing 2, 5, 6
Richards et al., 1961

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Sarcophaga (cont.)

Shigella ceylonensis (Weldin) Weldin
Alcivar et al., 1946
Shigella dispar (Andrewes) Bergey et al.
Alcivar et al., 1946
Shigella dysenteriae (Shiga) Castellani and Chalmers
de la Paz, 1938
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Richards et al., 1961
Shigella flexneri Castellani and Chalmers
de la Paz, 1938
Pavan, 1949
Shigella flexneri Castellani and Chalmers 1a
Richards et al., 1961
Shigella flexneri Castellani and Chalmers 1a, 2a, Y, 6
Alcivar et al., 1946
Shigella flexneri Castellani and Chalmers 2a, 3, 4a, 4b, 6
Richards et al., 1961
Shigella sonnei (Levine) Weldin 1
Richards et al., 1961
EUBACTERIALES: BRUCELLACEAE
Brucella melitensis (Hughes) Meyer and Shaw
Pavan, 1949
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus Rosenbach
Picado, 1935
de la Paz, 1938
Staphylococcus aureus Rosenbach
Nicholls, 1912
Pavan, 1949
EUBACTERIALES: BACILLACEAE
Bacillus Cohn
Nicholls, 1912
Bacillus anthracis Cohn
Sen et al., 1944
Bacillus bifermentans Weinbery and Séguin
Picado, 1935
Clostridium botulinum (van Ermengem) Bergey et al.
Bail, 1900

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Sarcophaga (cont.)

Clostridium perfringens (Veillon and Zuber) Holland
Picado, 1935

ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium phlei Lehmann and Neumann
Pavan, 1949

THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
?*Entomophthora* Fresenius
Roubaud, 1911a

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Chang, 1940
Herpetomonas muscarum (Leidy) Kent
Patton, 1921a

PROTOMONADIDA: BODONIDAE
Rhynchoidomonas Patton
Franchini, 1922

POLYMASTIGIDA: CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)
Chang, 1940
Harris et al., 1946

POLYMASTIGIDA: HEXAMITIDAE
Giardia intestinalis (Lambl)
Wenyon et al., 1917b
Giardia lamblia Stiles
Chang, 1940
Harris et al., 1946

TRICHOMONADIDA:
TRICHOMONADIDAE
Trichomonas hominis (Davaine)
Chang, 1940
Harris et al., 1946

PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and O'Connor)
Chang, 1940
Harris et al., 1946
Entamoeba coli (Grassi)
Wenyon et al., 1917b
Chang, 1940
Harris et al., 1946

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Sarcophaga (cont.)

Entamoeba histolytica Schaudinn
Wenyon et al., 1917b
Anonymous ("Korean authors et al.")
Chang, 1940, 1945
Sieyro, 1942
Harris et al., 1946
Iodamoeba bütschlii (Prowazek)
Chang, 1940
Harris et al., 1946
PLATYHELMINTHES: CESTOIDEA
CYCLOPHYLLIDEA: HYMENOLEPIDIDAE
Hymenolepis diminuta (Rudolphi) Blanchard
Harris et al., 1946
CYCLOPHYLLIDEA: TAENIIDAE
Taeniarhynchus saginatum (Goeze)
Round, 1961
ASCHELMINTHES: NEMATODA
TRICHURIDEA: TRICHURIDAE
Trichuris Roederer
Chang, 1945
Trichuris trichiura (Linnaeus)
Chang, 1940
Harris et al., 1946
STRONGYLIDEA: ANCYLOSTOMATIDAE
Ancylostoma (Dubini)
Chang, 1940, 1945
Harris et al., 1946
OXYURIDEA: OXYURIDAE
Enterobius vermicularis (Linnaeus) Leach
Pokrovskiĭ et al., 1938
ASCARIDIDEA: ASCARIDIDAE
Ascaris Linnaeus
Chang, 1945
Ascaris lumbricoides Linnaeus
Chang, 1940
Harris et al., 1946
ARTHROPODA: INSECTA
COLEOPTERA: STAPHYLINIDAE
Baryodma bimaculata Gravenhorst
Lindquist, 1936
HYMENOPTERA: ICHNEUMONIDAE
Atractodes mallyi Bridwell
Bridwell, 1919
Atractodes muiri Bridwell
Bridwell, 1919

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Sarcophaga (cont.)

HYMENOPTERA: BRACONIDAE
Alysia manducator Panzer
Holdaway et al., 1932
Aphaereta sarcophaga Gahan
Bridwell, 1919
HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Sanders et al., 1966
HYMENOPTERA: FIGITIDAE
Neralsia Cameron
Roberts, 1935
HYMENOPTERA: CHALCIDIDAE
Brachymeria fonscolombei (Dufour)
Masi, 1916
Parker, 1923
Roberts, 1933a
HYMENOPTERA: PTEROMALIDAE
Nasonia Ashmead
Feng, 1933
Nasonia vitripennis[1] (Walker)
Girault et al., 1910a
Roubaud, 1917
Parker et al., 1928
Fujita, 1932
Roberts, 1933a, 1935
Nasonia ?vitripennis (Walker)
Bishopp et al., 1915b
Spalangia[2] Latreille
Roy et al., 1939
Spalangia drosophilae Ashmead
Lindquist, 1936
Spalangia muscidarum Richardson
Johnston et al., 1920b
Spalangia nigra Latreille
Parker et al., 1928
Spalangia stomoxysiae Girault
Lindquist, 1936
HYMENOPTERA: UNDETERMINED PTEROMALIDAE
Sanders et al., 1966
HYMENOPTERA: ENCYRTIDAE
Australencyrtus giraulti Johnston and Tiegs
Johnston et al., 1921

[1] Although not specifically mentioned in each entry, it is assumed that all *Nasonia vitripennis* are pupal parasites.

[2] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Sarcophaga (cont.)	HYMENOPTERA: EULOPHIDAE
	Syntomosphyrum albiclavus Kerrich Saunders, 1964
	Syntomosphyrum glossinae Waterston Lamborn, 1925 Saunders, 1964
	HYMENOPTERA: FORMICIDAE
	Paratrechina longicornis (Latreille) Pimentel, 1955
	Solenopsis geminata (Fabricius) Pimentel, 1955
	HYMENOPTERA: SPHECIDAE
	Bembix spinolae (Lepeletier) Parker, 1917
	Crabro cavifrons Thomson Hamm et al., 1926
	Crabro vagus (Linnaeus) Hamm et al., 1926
	Ectemnius quadricinctus (Fabricius) Hamm et al., 1926
	HYMENOPTERA: MUTILLIDAE
	Mutilla glossinae Turner Lamborn, 1925
	DIPTERA: CALLIPHORIDAE
	Chrysomya villeneuvei Patton Patton, 1922
Sarcophaga argyrostoma .. ... (Robineau-Desvoidy) (Synonyms: *Sarcophaga falculata*, *Sarcophaga barbata*, *Parasarcophaga argyrostoma*)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia coli (Migula) Castellani and Chalmers Beyer, 1925
	EUBACTERIALES: NEISSERIACEAE
	Neisseria catarrhalis (Froschand and Kolle) Holland Beyer, 1925
	ACTINOMYCETALES: MYCOBACTERIACEAE
	Mycobacterium leprae (Hansen) Lehmann and Neumann Currie, 1910
	Mycobacterium phlei Lehmann and Neumann Currie, 1910

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Sarcophaga argyrostoma (cont.)	*Mycobacterium tuberculosis* (Zopf) Lehmann and Neumann Morellini et al., 1947, 1949 Levinsky et al., 1948
	ARTHROPODA: INSECTA
	HYMENOPTERA: CYNIPIDAE
	Pseudeucoila trichopsila (Hartig) Sychevskaĭa, 1964b
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria minuta (Fabricius) Sychevskaĭa, 1964b
	DIPTERA: CALLIPHORIDAE
	Chrysomya rufifacies (Macquart) Illingworth, 1923b
Sarcophaga aurifinis .... Walker	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Serratia marcescens Bizio Nicholls, 1912
	Salmonella typhi Warren and Scott Nicholls, 1912
	EUBACTERIALES: MICROCOCCACEAE
	Staphylococcus aureus Rosenbach Nicholls, 1912
	EUBACTERIALES: BACILLACEAE
	Bacillus Cohn Nicholls, 1912
Sarcophaga aurifrons ..... Macquart	ARTHROPODA: INSECTA
	HYMENOPTERA: CHALCIDIDAE
	Dirhinus sarcophagae Froggatt Froggatt, 1919, 1922
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker) Froggatt, 1919
	Spalangia muscidarum Richardson Johnston et al., 1921
Sarcophaga bullata ... . Parker	ENTEROVIRUSES
	Poliovirus Type 2, Lansing strain Melnick et al., 1947
	Poliovirus Y-SK strain, murine adapted, Type 2 Melnick et al., 1947
	Theiler's mouse encephalomyelitis virus, TO strain Melnick et al., 1947, 1952
	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: BACILLACEAE
	Bacillus thuringiensis Berliner McConnell et al., 1959

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Sarcophaga bullata (cont.)

PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas muscarum (Leidy) Kent
Becker, 1922-3, 1924
ARTHROPODA: INSECTA
HYMENOPTERA: BRACONIDAE
Aphaereta pallipes Say
Beard, 1964
HYMENOPTERA: CYNIPIDAE
Eucoila Westwood
Roberts, 1935
HYMENOPTERA: FIGITIDAE
Neralsia armata (Say)
Roberts, 1935

Sarcophaga carnaria (Linnaeus) .. . ...

SCHIZOPHYTA: SCHIZOMYCETES
PSEUDOMONADALES:
PSEUDOMONADACEAE
Pseudomonas aeruginosa (Schroeter) Migula
Muzzarelli, 1925
Petragnani, 1925
Pseudomonas eisenbergii Migula
Cao, 1906
Pseudomonas fluorescens Migula
Cao, 1906
Pseudomonas jaegeri Migula
Cao, 1906
PSEUDOMONADALES: SPIRILLACEAE
Vibrio comma (Schroeter) Winslow et al.
Alessandrini, 1912
Petragnani, 1925
EUBACTERIALES:
ENTEROBACTERIACEAE
Escherichia coli (Migula) Castellani and Chalmers
Testi, 1909
Petragnani, 1925
Yao et al., 1929
Hoffmann, 1950
Povolný et al., 1961
Serratia Bizio
Povolný et al., 1961
Proteus mirabilis Hauser
Cao, 1906
Proteus vulgaris Hauser
Cao, 1906
Testi, 1909

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Sarcophaga carnaria (cont.)

EUBACTERIALES:
ENTEROBACTERIACEAE
Salmonella hirschfeldii Weldin
Yao et al., 1929
Salmonella typhi Warren and Scott
Krontowski, 1913
Teodoro, 1916
Petragnani, 1925
Shigella dysenteriae (Shiga)
Castellani and Chalmers
Krontowski, 1913
Yao et al., 1929
EUBACTERIALES: BRUCELLACEAE
Pasteurella pestis (Lehmann and
Neumann) Holland
Petragnani, 1925
Russo, 1930
EUBACTERIALES: MICROCOCCACEAE
Staphylococcus aureus Rosenbach
Testi, 1909
EUBACTERIALES:
BREVIBACTERIACEAE
Kurthis zenkeri (Hauser)
Bergey et al.
Cao, 1906
EUBACTERIALES: LACTOBACILLACEAE
Diplococcus pneumoniae
Weichselbaum
Povolný et al., 1961
EUBACTERIALES: BACILLACEAE
Bacillus anthracis Cohn
Petragnani, 1925
Bacillus megaterium de Bary
Muzzarelli, 1925
Bacillus radiciformis Eberbach
Cao, 1906
Bacillus subtilis Cohn
Cao, 1906
ACTINOMYCETALES:
MYCOBACTERIACEAE
Mycobacterium paratuberculosis
Bergey et al.
Muzzarelli, 1925
Mycobacterium tuberculosis
(Zopf) Lehmann and Neumann
Petragnani, 1925
BACTERIA OF UNCERTAIN AFFINITY
Bacterium mathisi Roubaud and
Treillard, unvalidated
Roubaud et al., 1935

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Sarcophaga carnaria (cont.)

THALLOPHYTA: PHYCOMYCETES
ENTOMOPHTHORALES:
ENTOMOPHTHORACEAE
Entomophthora muscae Cohn
Graham-Smith, 1919
THALLOPHYTA: ASCOMYCETES
ENDOMYCETES: ENDOMYCETACEAE
Saccharomyces cerevisiae Hansen
Berlese, 1896
THALLOPHYTA: FUNGI IMPERFECTI
MONILIALES: MONILIACEAE
Blastomyces Costantin and Rolland
Muzzarelli, 1925
CRYPTOCOCCALES:
CRYPTOCOCCACEAE
Candida Berkhout
Berlese, 1896
Kloeckera apiculata (Reess emend
Klöcker) Janke
Berlese, 1896
FUNGI OF UNCERTAIN AFFINITY
Streptotricea, unvalidated
Muzzarelli, 1925
PROTOZOA: MASTIGOPHORA
PROTOMONADIDA:
TRYPANOSOMATIDAE
Herpetomonas Kent
Franchini, 1922
Leishmania Ross
Franchini, 1922
PROTOZOA: SARCODINA
AMOEBIDA: ENDAMOEBIDAE
Endolimax nana (Wenyon and
O'Connor)
Yao et al., 1929
Entamoeba coli (Grassi)
Yao et al., 1929
Entamoeba histolytica Schaudinn
Yao et al., 1929
ARTHROPODA: INSECTA
COLEOPTERA: HISTERIDAE
Saprinus detersus (Illiger)
Pavlovskiĭ, 1921
Saprinus politus (Brahm) or
S. aenus (Fabricius)
Pavlovskiĭ, 1921
HYMENOPTERA: CYNIPIDAE
Kleidotoma Westwood
James, 1928

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Sarcophaga carnaria (cont.)	*Kleidotoma marshalli* Marshall James, 1928 HYMENOPTERA: FIGITIDAE *Figites anthomyiarum* (Bouché) James, 1928 HYMENOPTERA: CHALCIDIDAE *Brachymeria fonscolombei* (Dufour) Stefani, 1889 Roberts, 1935 Nikol'skaĭa, 1960b HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Cousin, 1933 HYMENOPTERA: SPHECIDAE *Ectemnius quadricinctus* (Fabricius) Hamm et al., 1926
Sarcophaga destructor .. .. Malloch	ARTHROPODA: INSECTA ORTHOPTERA: LOCUSTIDAE *Locusta migratoria* Linnaeus Wood, 1933
Sarcophaga dux .... Thompson	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria argentifrons* (Ashmead) Roy et al., 1939 HYMENOPTERA: PTEROMALIDAE *Spalangia nigroaenea* Curtis Bouček, 1963
Sarcophaga dux ..... Thompson var. *tuberosa*	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria argentifrons* (Ashmead) Roy et al., 1939 *Dirhinus pachycerus* Masi Roy et al., 1939
Sarcophaga frontalis ..... Doleschall	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia nigroaenea* Curtis Bouček, 1963
Sarcophaga ?frontalis ..... Doleschall	ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia muscidarum* Richardson Johnston et al., 1920b
Sarcophaga fuscicauda ..... Böttcher	ARTHROPODA: INSECTA DERMAPTERA: LABIDURIDAE *Euborellia annulipes* (Lucas) Illingworth, 1923a

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Sarcophaga fuscicauda (cont.)	DERMAPTERA: LABIIDAE *Labia pilicornis* (Motschulsky) Illingworth, 1923a *Spingolabis hawaiiensis* (Bormans) Illingworth, 1923a COLEOPTERA: HYDROPHILIDAE *Cryptopleurum minutum* Fabricius Illingworth, 1923a *Dactylosternum abdominale* Fabricius Illingworth, 1923a COLEOPTERA: STAPHYLINIDAE *Oxytelus* Gravenhorst Illingworth, 1923a *Philonthus discoideus* Gravenhorst Illingworth, 1923a *Philonthus longicornis* Stephens Illingworth, 1923a *Tachyporus* Gravenhorst Illingworth, 1923a HYMENOPTERA: CYNIPIDAE *Eucoila impatiens* (Say) Illingworth, 1923a HYMENOPTERA: FORMICIDAE *Pheidole megacephala* (Fabricius) Illingworth, 1923a *Ponera perkinsi* Forel Illingworth, 1923a
Sarcophaga haemorrhoidalis .. .. (Fallén) (Synonyms: *Coprosarcophaga haemorrhoidalis*, *Bercaea haemorrhoidalis*)	ENTEROVIRUSES Poliovirus Paul et al., 1941 Poliovirus Type 2, Lansing strain Bang et al., 1943 Theiler's mouse encephalomyelitis virus, GD VII strain Bang et al., 1943 SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Zmeev, 1943 Povolný et al., 1961 *Escherichia coli* var. *acidilactici* (Topley and Wilson) = [*Escherichia paraacidilactici* A] Zmeev, 1943

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Sarcophaga haemorrhoidalis (cont.)

Escherichia coli var. *acidilactici* (Topley and Wilson) = [*Escherichia paraacidilactici* B] Zmeev, 1943
Escherichia coli var. *communior* (Topley and Wilson) Yale
Zmeev, 1943
Escherichia intermedia (Werkman and Gillen) Vaughn and Gillen
Zmeev, 1943
Aerobacter aerogenes (Kruse) Beijerinck
Zmeev, 1943
Cloaca Castellani and Chalmers
Zmeev, 1943
Serratia Bizio
Povolný et al., 1961
Proteus morganii (Winslow, Kligler, and Rothberg) Yale
Povolný et al., 1961
Proteus rettgeri (Hadley et al.) Rustigian and Stuart
Povolný et al., 1961
Proteus vulgaris Hauser
Sukhova, 1954
Povolný et al., 1961
Salmonella enteritidis (Gaertner) Castellani and Chalmers
Gross et al., 1953
Salmonella give Kauffmann
Gross et al., 1953
Salmonella paratyphi A (Brion and Kayser) Castellani and Chalmers
Gross et al., 1953
Salmonella paratyphi B Castellani and Chalmers
Gross et al., 1953
Salmonella typhi Warren and Scott
Gross et al., 1953
Citrobacter freundii Werkman and Gillen
Zmeev, 1943
?*Shigella* Castellani and Chalmers
Sychevskaĭa et al., 1959a
Shigella dysenteriae (Shiga) Castellani and Chalmers 2
Sychevskaĭa et al., 1959a

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Sarcophaga haemorrhoidalis (cont.)

Shigella flexneri Castellani and Chalmers
Gross et al., 1953
Arskiĭ et al., 1961

Shigella flexneri Castellani and Chalmers 1a, 6
Sychevskaĭa et al., 1959a

Shigella sonnei (Levine) Weldin
Gross et al., 1953
Arskiĭ et al., 1961

EUBACTERIALES: LACTOBACILLACEAE

Diplococcus pneumoniae Weichselbaum
Povolný et al., 1961

Streptococcus Rosenbach
Povolný et al., 1961

Streptococcus lactis (Lister) Löhnis
Zmeev, 1943

EUBACTERIALES: BACILLACEAE

Bacillus Cohn
Povolný et al., 1961

Bacillus megaterium de Bary
Zmeev, 1943

PROTOZOA: MASTIGOPHORA

PROTOMONADIDA: TRYPANOSOMATIDAE

Herpetomonas muscarum (Leidy) Kent
Laveran et al., 1920

PLATYHELMINTHES: CESTOIDEA

CYCLOPHYLLIDEA: TAENIIDAE

Taeniarhynchus saginatum (Goeze)
Sychevskaĭa et al., 1958

ASCHELMINTHES: NEMATODA

ASCARIDIDEA: ASCARIDIDAE

Ascaris lumbricoides Linnaeus
Sychevskaĭa et al., 1958

ARTHROPODA: INSECTA

ORTHOPTERA: LOCUSTIDAE

Schistocerca gregaria Fórskal
Régnier, 1931

HYMENOPTERA: BRACONIDAE

Aphaereta minuta Nees
Sychevskaĭa, 1964b

HYMENOPTERA: CYNIPIDAE

Pseudeucoila trichopsila (Hartig)
Sychevskaĭa, 1964b, 1966

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Sarcophaga haemorrhoidalis (cont.)	HYMENOPTERA: FIGITIDAE
	Figites discordis Belizin
	Sychevskaîâ, 1964b
	HYMENOPTERA: CHALCIDIDAE
	Brachymeria fonscolombei (Dufour)
	von Dalla Torre, 1898
	Roberts, 1935
	Brachymeria minuta (Fabricius)
	Nikol'skaîâ, 1960a
	Sychevskaîâ, 1964b, 1966
	Euchalcidia blanda Nikol'skaîâ
	Nikol'skaîâ, 1960a
	Sychevskaîâ, 1964b
	HYMENOPTERA: PTEROMALIDAE
	Nasonia vitripennis (Walker)
	Anonymous, 1925
	Smit, 1929
	Spalangia[1] Latreille
	Sychevskaîâ, 1964b
	Spalangia cameroni Perkins
	Bouček, 1963
	Spalangia endius Walker
	Bouček, 1963
	HYMENOPTERA: EULOPHIDAE
	Syntomosphyrum glossinae Waterston
	Nash, 1933
Sarcophaga hirtipes Wiedemann (Synonym: *Parasarcophaga hirtipes*)	SCHIZOPHYTA: SCHIZOMYCETES
	EUBACTERIALES: ENTEROBACTERIACEAE
	Escherichia anaerogenes (Chester) Bergey et al.
	Zmeev, 1943
	Escherichia anindolica (Chester) Bergey et al.
	Zmeev, 1943
	Escherichia coli (Migula) Castellani and Chalmers
	Zmeev, 1943
	Escherichia coli var. *acidilactici* (Topley and Wilson) Yale
	Zmeev, 1943
	Escherichia coli var. *communior* (Topley and Wilson) Yale
	Zmeev, 1943
	Aerobacter Beijerinck
	Zmeev, 1943

[1] Although not specifically mentioned in each entry, it is assumed that all *Spalangia* are pupal parasites.

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Sarcophaga hirtipes (cont.)	*Cloaca* Castellani and Chalmers Zmeev, 1943
	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria minuta* (Fabricius) Nikol'skaîâ, 1960a Sychevskaîâ, 1964b
Sarcophaga impatiens (Walker)	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Dirhinus sarcophagae* Froggatt Johnston et al., 1921 HYMENOPTERA: PTEROMALIDAE *Spalangia nigroaenea* Curtis Bouček, 1963
Sarcophaga melanura Meigen (Synonym: *Bellieria melanura*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Povolný et al., 1961 *Serratia* Bizio Povolný et al., 1961 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Povolný et al., 1961 PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas* Kent Franchini, 1922 *Leishmania* Ross Franchini, 1922 *Leptomonas mirabilis* Roubaud Franchini, 1922 ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema microstoma* (Schneider) Neveu-Lemaire, 1936 ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Aphaereta cephalotes* Haliday Graham-Smith, 1916 *Aphaereta minuta* Nees Sychevskaîâ, 1964b HYMENOPTERA: CYNIPIDAE *Pseudeucoila trichopsila* (Hartig) Sychevskaîâ, 1964b

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Sarcophaga melanura (cont.)	HYMENOPTERA: FIGITIDAE *Figites scutellaris* (Rossi) Sychevskaĭa, 1964b HYMENOPTERA: CHALCIDIDAE *Brachymeria minuta* (Fabricius) Sychevskaĭa, 1964b CHORDATA: AVES PASSERIFORMES: HIRUNDINIDAE *Hirundo rustica* Linnaeus subsp. *rustica* Séguy, 1929
Sarcophaga misera Walker	PROTOZOA: SARCODINA AMOEBIDA: ENDAMOEBIDAE *Entamoeba histolytica* Schaudinn Pipkin, 1942, 1949 ASCHELMINTHES: NEMATODA SPIRURIDEA: SPIRURIDAE *Habronema megastoma* (Rudolphi) Seurat Johnston, 1920 Johnston et al., 1920a *Habronema microstoma* (Schneider) Johnston, 1920 *Habronema muscae* (Carter) Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936 ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Johnston et al., 1921 *Spalangia muscidarum* Richardson Johnston et al., 1920b, 1921
Sarcophaga nurus Rondani	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas* Kent Franchini, 1922 *Herpetomonas muscarum* (Leidy) Kent Roubaud, 1909 *Leishmania* Ross Franchini, 1922
Sarcophaga parkeri (Rohdendorf) (Synonym: *Parasarcophaga parkeri*)	ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Pseudeucoila trichopsila* (Hartig) Sychevskaĭa, 1964b

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Sarcophaga parkeri (cont.)	HYMENOPTERA: FIGITIDAE *Figites sarcophagarum* Belizin Sychevskaîâ, 1964b HYMENOPTERA: CHALCIDIDAE *Brachymeria minuta* (Fabricius) Nikol'skaîâ, 1960a HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Sychevskaîâ, 1964b
Sarcophaga peregrina . .. Robineau-Desvoidy (Synonyms: *Boettcherisca peregrina, Sarcophaga irrequieta*)	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965 *Salmonella pullorum* (Rettger) Bergey Kaneko et al., 1960 ARTHROPODA: INSECTA HYMENOPTERA: ICHNEUMONIDAE *Mesoleptus laevigatus* (Gravenhorst) Suenaga et al., 1963 HYMENOPTERA: CHALCIDIDAE *Brachymeria fonscolombei* (Dufour) Suenaga et al., 1963 HYMENOPTERA: PTEROMALIDAE *Nasonia vitripennis* (Walker) Johnston et al., 1921
Sarcophaga ruficornis ..... Fabricius	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria fulvitarsis* (Cameron) Roy et al., 1939 *Dirhinus pachycerus* Masi Roy et al., 1939
Sarcophaga sarraceniae ..... Riley	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Proteus* Hauser Beyer, 1925 *Shigella flexneri* Castellani and Chalmers Beyer, 1925

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	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Leptomonas lineata* (Swingle) Swingle, 1911
Sarcophaga sarraceniodes .... Aldrich (Synonym: *Sarcophaga misera* var. *sarracenioides*)	PROTOZOA: SARCODINA AMOEBIDA: ENDAMOEBIDAE *Entamoeba histolytica* Schaudinn Pipkin, 1949 ARTHROPODA: INSECTA HYMENOPTERA: BRACONIDAE *Alysia ridibunda* Say Roberts, 1935 HYMENOPTERA: CYNIPIDAE *Eucoila* Westwood Roberts, 1935
Sarcophaga scoparia ..... (Pand.)	ARTHROPODA: INSECTA HYMENOPTERA: SPHECIDAE *Crabro advenus* Smith Kurczewski et al., 1968
Sarcophaga securifera ..... Villeneuve	PROTOZOA: MASTIGOPHORA PROTOMONADIDA: TRYPANOSOMATIDAE *Herpetomonas muscarum* (Leidy) Kent Becker, 1922-23, 1924
Sarcophaga tibialis ..... Macquart	PLATYHELMINTHES: CESTOIDEA CYCLOPHYLLIDEA: TAENIIDAE *Echinococcus granulosus* (Batsch) Rudolphi Heinz et al., 1955
Sarcophaga wiedemanni . .... Aldrich (Synonym: ?*Sarcophaga chrysostoma*) *Tricharaea* Thomson .... (Synonym: *Sarcophagula*)	ARTHROPODA: INSECTA DIPTERA: CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) Blanchard, 1899 ENTEROVIRUSES Poliovirus Melnick et al., 1949 Poliovirus non-paralytic Melnick et al., 1949 Poliovirus Type 1 Melnick et al., 1953 Paul et al., 1962 Poliovirus Type 3 Paul et al., 1962 Coxsackievirus Connecticut 5 (B1) Melnick et al., 1953 Coxsackievirus Easton 10 (A8) Melnick et al., 1953

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Tricharaea (cont.)	Coxsackievirus Easton 14 (A5) Melnick et al., 1953 Coxsackievirus Nancy (B3) Melnick et al., 1953 Coxsackievirus Texas 1 (A4) Melnick et al., 1953 Coxsackievirus Texas 12 (new type) Melnick et al., 1953 Coxsackievirus Texas 14 (new type) Melnick et al., 1953 Coxsackievirus Type 2 (A2) Melnick et al., 1953 Coxsackievirus Type 3 (A3) Melnick et al., 1953 ECHO virus Types 8, 12, 14 Paul et al., 1962 SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Serratia marcescens* Bizio Nicholls, 1912 *Salmonella typhi* Warren and Scott Nicholls, 1912 EUBACTERIALES: MICROCOCCACEAE *Staphylococcus aureus* Rosenbach Nicholls, 1912 EUBACTERIALES: BACILLACEAE *Bacillus* Cohn Nicholls, 1912 ARTHROPODA: INSECTA HYMENOPTERA: PTEROMALIDAE *Spalangia philippinensis* Fullaway Bartlett, 1939
UNDETERMINED SARCOPHAGIDAE	SCHIZOPHYTA: SCHIZOMYCETES EUBACTERIALES: ENTEROBACTERIACEAE *Escherichia coli* (Migula) Castellani and Chalmers Shimizu et al., 1965 *Proteus mirabilis* Hauser Shimizu et al., 1965 *Proteus morganii* (Winslow, Kligler, and Rothberg) Yale Shimizu et al., 1965 *Proteus rettgeri* (Hadley et al.) Rustigian and Stuart Shimizu et al., 1965

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UNDETERMINED SARCOPHAGIDAE (cont.)	*Proteus vulgaris* Hauser Shimizu et al., 1965 *Providencia* Kauffmann Shimizu et al., 1965 ARTHROPODA: INSECTA HYMENOPTERA: CYNIPIDAE *Eucoila impatiens* (Say) Illingworth, 1923a HYMENOPTERA: CHALCIDIDAE *Brachymeria* Westwood Dowden, 1935 *Dirhinoides vlasovi* Nikol'skaîâ Nikol'skaîâ, 1960a *Dirhinus* Dalman Simmonds, 1940 HYMENOPTERA: PTEROMALIDAE *Spalangia cameroni* Perkins Simmonds, 1929
Family: TACHINIDAE Subfamily: TACHININAE *Linnaeymya haemorrhoidalis* .... Fallén (Synonym: *Linnaemyia haemorrhoidalis*)	ARTHROPODA: INSECTA HYMENOPTERA: CHALCIDIDAE *Brachymeria fonscolombei* (Dufour) Nikol'skaîâ, 1960b
UNDETERMINED TACHINIDAE	SCHIZOPHYTA: SCHIZOMYCETES ACTINOMYCETALES: MYCOBACTERIACEAE *Mycobacterium leprae* (Hansen) Lehmann and Neumann de Souza-Araujo, 1944 THALLOPHYTA: PHYCOMYCETES ENTOMOPHTHORALES: ENTOMOPHTHORACEAE *Entomophthora muscae* Cohn de Souza-Araujo, 1944

The following associations involving competition between flies were not included in the main body of associations.

Drosophila melanogaster . . Meigen	ARTHROPODA: INSECTA DIPTERA: DROSOPHILIDAE *Drosophila melanogaster* Meigen L'Héritier et al., 1933, 1934 Miller, 1964 Cannon, 1966 *Drosophila simulans* Sturtevant Miller, 1964

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Musca domestica Linnaeus	DIPTERA: MUSCIDAE *Musca domestica* Linnaeus Matsuo, 1962 Sokal et al., 1963 Sullivan et al., 1963, 1965 Bhalla et al., 1964 Enon, 1965
Chrysomya albiceps (Wiedemann)	DIPTERA: CALLIPHORIDAE *Chrysomya chloropyga* (Wiedemann) Ullyet, 1950 *Phaenicia sericata* (Meigen) Ullyet, 1950
Chrysomya chloropyga (Wiedemann)	DIPTERA: CALLIPHORIDAE *Phaenicia sericata* (Meigen) Ullyet, 1950[1]
Phaenicia sericata (Meigen)	DIPTERA: CALLIPHORIDAE *Phaenicia sericata* (Meigen) Salt, 1930
Sarcophaga peregrina Robineau-Desvoidy	DIPTERA: SARCOPHAGIDAE *Sarcophaga peregrina* Robineau-Desvoidy Matsuo, 1962

[1] Also, competition between three species: *C. albiceps, C. chloropyga*, and *P. sericata.*

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7

Organism-Fly Associations with Systematic Lists of Organisms

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SYSTEMATIC LIST OF ORGANISMS ASSOCIATED WITH FLIES

VIRUSES	GROUPS	SUBGROUPS	TYPES AND STRAINS
	7	27	40
PHYLUM	FAMILIES	GENERA	SPECIES
Schizophyta	20	52	178
Thallophyta	13	33	31
Protozoa	14	25	64
Platyhelminthes	8	16	17
Aschelminthes	19	26	33
Mollusca	2	2	2
Annelida	2	6	11
Arthropoda			
Arachnida	20	41	48
Myriapoda	1	1	1
Insecta	76	214	319
Chordata			
Amphibia	4	4	5
Reptilia	3	4	4
Aves	9	12	12
Mammalia	2	1	1
Total	193	437	726

VIRUSES

GROUP	SUBGROUP	TYPES AND STRAINS	TOTAL NO. SPECIES
Psittacosis	Trachoma		1
Poxviruses	Variola		1
	Vaccinia		1
	Borreliota		1
Arborviruses	Eastern equine encephalomyelitis		1
	Sindbis virus		1
	Yellow fever virus		1

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VIRUSES

GROUP	SUBGROUP	TYPES AND STRAINS	TOTAL NO. SPECIES
Enteroviruses	Poliovirus	Non-paralytic, Strain 113, Delaware '48 strain, Type 1, Attenuated Type 1, LSc., Mahoney Type 1, New York City '44 strain (Type 1), Philippine Islands '45 strain (Type 1), Texas '48 strain (Type 1), W-S '48 strain (Type 1), Type 2, Y-SK strain, murine adapted, Type 2, Type 3, Attenuated Type 3, Leon, North Carolina '44 strain (Type 3)	15
	Theiler's mouse encephalo-myelitis virus, GD VII		1
	Theiler's mouse encephalo-myelitis virus, TO strain		1
	Coxsackievirus	Alaska 5(A10), Connecticut 5(B1), Easton 2(A1), Easton 10(A8), Easton 14(A5), Nancy (B3), Texas 1(A4), Texas 12(new type), Texas 13(B4), Texas 14(new type), Texas 15(A7), Texas '48 (new type), Type 2(A2), Type 3(A3), Type A9(A9), Type B5(B5), W-S '48(B1)	17
	ECHO virus	Types 1, 5, 6, 7, 8, 11, 12, 14	8
Other Animal Viruses	Danysz rat virus		1
	Equine infectious anemia virus		1
	Foot and mouth disease virus		1
	Mink enteritis virus		1
	Rous-sarcoma virus (oncogenic)		1

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VIRUSES

GROUP	SUBGROUP	TYPES AND STRAINS	TOTAL NO. SPECIES
	Southwest African horse death virus (Windhuker)		1
	Tipula iridescent virus		1
	Tortor bovis virus		1
	Tortor suis virus		1
	Vesicular stomatitis virus		1
Insect Viruses	Borrelina bombycis virus		1
	Sex-ratio virus		1
	Sigma virus	P^- strain	1
Bacteriophages	*Staphylococcus muscae*		1
	Streptococcus C55		1

SCHIZOPHYTA

FAMILY	GENUS	SPECIES, TYPES, AND VARIETIES	TOTAL NO. SPECIES
Pseudomonadaceae	*Pseudomonas*	*aeruginosa, eisenbergii, fluorescens, ichthyosmia, jaegeri*	5
	Acetobacter	*aceti, pasteurianus, xylinum*	3
Spirillaceae	*Vibrio*	*comma*	1
Chlamydobacteriaceae	*Leptothrix*		
Achromobacteraceae	*Alcaligenes*	*faecalis*	1
	Achromobacter		
	Flavobacterium	*devorans, invisible*	2

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FAMILY	GENUS	SPECIES, TYPES, AND VARIETIES	TOTAL NO. SPECIES
Entero-bacteriaceae	*Escherichia*	*anaerogenes, anindolica, coli, coli* 25, *coli* 26-B6, *coli* 086-B7, *coli* 111B4, *coli* var. *acidilactici, coli* var. *communior, coli* var. *communis, coli* var. *neapolitana, freundii, intermedia*	5
	Aerobacter	*aerogenes, cloacae, oxytocum*	3
	Klebsiella	*cloacae, pneumoniae*	2
	Cloaca		
	Paracolo-bactrum	*aerogenoides, coliforme, intermedium*	3
	Erwinia	*amylovora*	1
	Serratia	*marcesens*	1
	Proteus	*inconstans, mirabilis, morganii, rettgeri, vulgaris*	5
	Providencia		
	Salmonella	*alachua, amersfoort, anatum, ballerup, blockley, bovis-morbificans, budapest, chester, cholerae-suis, columbensis, derby, dublin, enteritidis, florida, gallinarum, give, hirschfeldii, kentucky, kottbus, meleagridis, minnesota, muenchen, narashino, new brunswick, newport, onderstepoort, oranienburg, oregon, panama, paratyphi A, paratyphi B, paratyphi C, pullorum, reading, saintpaul, sandiego, schottmuelleri, typhi, typhimurium, worthington, zanzibar*	41
	Eberthella	*belfastiensis, dubia, kandiensis, telavensis*	4
	Citrobacter	*freundii*	1
	Bethesda		
	Shigella	*alkalescens, ambigua, boydii, boydii* 1, 2, 3, 4, 5, 6, *ceylonensis, dispar, dysenteriae, dysenteriae* 1, 2, 3, 7, *flexneri, flexneri* 1a, 2a, 3, 4a, 4b, 5, 6, X, Y, *giumai, madampensis, pfaffi, sonnei, sonnei* 1	12
Brucellaceae	*Pasteurella*	*boviseptica, multocida, pestis, tularensis*	4
	Brucella	*abortus, melitensis, suis*	3
	Haemophilus	*influenzae*	1
	Moraxella	*bovis, lacunata*	2

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FAMILY	GENUS	SPECIES, TYPES, AND VARIETIES	TOTAL NO. SPECIES
	Cillo-pasteurella	*delendae-muscae*	1
Bacteroidaceae	*Bacteroides*	*vulgatus*	1
Micrococcaceae	*Micrococcus*	*candidus, caseolyticus, rushmorei*	3
	Staphy-lococcus[1]	*afermentans, aureus, epidermidis, flavus, lactis, muscae, saprophyticus*	7
	Gaffkya	*tetragena*	1
	Sarcina	*alba, aurantiaca, flava, loewenbergi, lutea, subflava*	6
Neisseriaceae	*Neisseria*	*catarrhalis, gonorrhoeae, luciliarum*	3
Brevibacteriaceae	*Brevibacterium*	*ammoniagenes*	1
	Kurthia	*zenkeri, zopfii*	2
Lactobacillaceae	*Diplococcus*	*pneumoniae* I, II	1
	Streptococcus[2]	*agalactiae, agalactiae* (group B), *durans, faecalis, faecalis* var. *faecalis, faecalis* var. *liquefaciens, faecium, lactis, mitis, pyogenes*	7
	Lactobacillus		
Coryne-bacteriaceae	*Coryne-bacterium*	*diphtheriae, pyogenes*	2
	Listeria	*monocytogenes*	1
	Erysipelothrix	*insidiosa*	1
Bacillaceae	*Bacillus*	*anthracis, bifermentans, cereus, cereus* var. *mycoides, coli mutabilis, gasoformans, gruenthali, lutzae, megaterium, mesentericus, radiciformis, subtilis, subtilis* var. *niger, thuringiensis, thuringiensis* var. *sotto, thuringiensis* var. *thuringiensis, vesiculosus*	13
	Clostridium	*bifermentans, botulinum, botulinum* Type C, *chauvoei, parabotulinum bovis, perfringens, putrefaciens, tetani*	7
Mycobacteriaceae	*Mycobacterium*	*leprae, lepraemurium, paratuberculosis, phlei, tuberculosis*	5
Dermatophilaceae	*Dermatophilus*	*congolensis*	1

[1] *Staphylococcus* = unspecified types distinguished only by hemolytic and pathogenic characteristics are not included here.

[2] *Streptococcus* = unspecified types distinguished only by hemolytic and capsular features are not included here.

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SCHIZOPHYTA

FAMILY	GENUS	SPECIES, TYPES, AND VARIETIES	TOTAL NO. SPECIES
Spirochaetaceae	*Spirochaeta*	*acuminata, obtusa, stomoxyae*	3
Treponemataceae	*Borrelia*	*anserina, berbera, refringens*	3
	Treponema	*carateum, pertenue, recurrentis*	3
	Leptospira	*canicola, grippotyphosa, icterohaemorrhagiae*	3
Rickettsiaceae	*Rickettsia*		
	Coxiella	*burneti*	1
Chlamydiaceae	*Colesiota*	*conjunctivae*	1
Anaplasmataceae	*Anaplasma*	*marginale*	1

THALLOPHYTA

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Mucoraceae	*Mucor*	*ambiguus, mucedo*	2
Gymnoascaceae	*Rhizopus*	*nigricans*	1
	Trichophyton	*mentagrophytes* (Robin) Blanchard var. *granulosum, tonsurans*	2
Entomophthoraceae	*Entomophthora*	*americana, calliphorae, muscae, muscivora, ovispora, richteri, sphaerosperma*	7
Laboulbeniaceae	*Stygmatomyces*	*baeri*	1
Endomycetaceae	*Coccidiascus*	*legeri*	1
	Saccharomyces	*cerevisiae, ?melli, pastorianus, theobromae*	4
Hypocreaceae	*Cordyceps*	*dipterigena*	1
Agaricaceae	*Agaricus*	*campestris*	1
Moniliaceae	*Aspergillus*	*clavatus, flavus, niger*	3
	Beauveria	*bassiana*	1
	Blastomyces		
	Botrytis		
	Geotrichum	*candidum*	1
	Gliocladium		
	Metarrhizium	*anisopliae*	1
	Monilia		
	Oidium		
	Penicillium	*camemberti, glaucum*	2
	Trichothecium		

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THALLOPHYTA

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Dematiaceae	*Altenaria*		
	Cladosporium		
	Curvularia		
	Hormo-dendrum		
	Macrosporium		
	Pullalaria		
	Torula		
Stilbaceae	*Isaria*		
Tuberculariaceae	*Fusarium*		
Blastocystidaceae	*Blastocystis*		
Cryptococcaceae	*Candida*	*albicans, mycoderma*	2
	Kloeckera	*apiculata*	1
Uncertain Affinity	*Streptotricea*		

PROTOZOA

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Trypanosomatidae	*Crithidia*	*acanthocephali, fasciculata, haematopotae, lesnei, luciliae, oncopelti*	6
	Herpetomonas	*caulleryi, ?muscae, muscarum, roubaudi, rubrio-striatae*	5
	Leishmania	*donovani, mexicana, tropica*	3
	Leptomonas	*ampelophilae, anthomyia, craggi, drosophilae, gracilis, legerorum, lineata, mesnili, mirabilis, pycnosomae, pyrrhocoris, soudanenis, stomoxyae*	13
	Trypanosoma	*brucei, congolense, dimorphon, equinum, equiperdum, evansi, gambiense, hippicum, pecorum, rhodesiense, suis, vivax*	12
Bodonidae	***Bodo***		
	Rhynchoido-monas	*intestinalis, luciliae, roubaudi, siphunculinae*	4
Tetramitidae	*Tetramitus*		
Chilomastigidae	*Chilomastix*	*mesnili*	1
Hexamitidae	*Giardia*	*intestinalis, lamblia*	2

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PROTOZOA

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Trichomonadidae	*Trichomonas*	*hominis*	1
	Tritrichomonas	*foetus*	1
Amoebidae	*Hartmannella*	*hyalina*	1
Endamoebidae	*Endolimax*	*nana*	1
	Entamoeba	*coli, histolytica*	2
	Iodamoeba	*bütschlii*	1
Eimeriidae	*Eimeria*	*acervalina, irresidua, perforans*	3
Unknown Family	*Toxoplasma*	*gondii*	1
Nosematidae	*Nosema*	*apis, bombycis, kingi*	3
	Thelohania	*ovata, thomsoni*	2
Mrazekiidae	*Octosporea*	*monospora, muscae-domesticae*	2
	Spiroglugea		
	Toxoglugea		
Telomyxidae	*Telomyxa*		
Holophryidae	*Holophrya*		

PLATYHELMINTHES

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Heterophyidae	*Heterophyes*	*heterophyes*	1
Schistosomatidae	*Schistosoma*		
Diphyllobothriidae	*Bothriocephalus*	*marginatus*	1
	Diphyllobothrium	*latum*	1
Anoplocephalidae	*Moniezia*	*expansa*	1
Davaineidae	*Davainea*	*nana*	1
	Raillietina	*cesticillus, tetragona*	2
Dilepididae	*Choanotaenia*	*infundibulum*	1
	Dipylidium	*caninum*	1
Hymenolepididae	*Echinolepis*	*carioca*	1
	Hymenolepis	*diminuta, nana*	2
	Vampirolepis	*fraterna*	1
Taeniidae	*Echinococcus*	*granulosus*	1
	Taenia	*pisiformis*	1
	Taeniarhynchus	*saginatum*	1
Uncertain Affinity	*Bassus*	*laetatorius*	1

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ASCHELMINTHES

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Tetradonematidae	*Mermithonema*	*entomophilum*	1
Rhabditidae	*Rhabditis*	*axei, pellio*	2
Panagrolaimidae	*Panagrellus*	*zymosiphilus*	1
Strongyloididae	*Strongyloides*	*stercoralis*	1
Trichuridae	*Trichuris*	*trichiura*	1
Ancylostomatidae	*Ancylostoma*	*caninum, duodenale*	2
	Necator	*americanus*	1
Strongylidae	*Strongylus*	*equinus*	1
Syngamidae	*Syngamus*	*trachea*	1
Trichostrongylidae	*Trichostrongylus*	*colubriformis*	1
Oxyuridae	*Enterobius*	*vermicularis*	1
Ascarididae	*Ascaris*	*lumbricoides*	1
	Parascaris	*equorum*	1
	Toxascaris	*leonina*	1
Acuariidae	*Dispharynx*	*?nasuta*	1
	Parabronema	*skrjabini*	1
Spiruridae	*Habronema*	*megastoma, microstoma, muscae*	3
Thelaziidae	*Thelazia*	*californiensis, gulosa, rhodesii, skrjabini*	4
Dipetalonematidae	*Oncocerca*	*gibsoni*	1
Filariidae	*Filaria*		
	Setaria	*cervi*	1
Stephanofilariidae	*Stephanofilaria*	*assamensis*	1
Allantonematidae	*Allantonema*	*muscae, stricklandi*	2
	Howardula	*aoronymphium*	1
	Parasitylenchus	*diplogenus*	1
Contortylenchidae	*Heterotylenchus*	*aberrans*	1

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MOLLUSCA

FAMILY	GENUS	SPECIES	TOTAL NO. SPECIES
Achatinidae	*Burtoa*	*nilotica*	1
Helicidae	*Cryptomphalus*	*aspersa*	1

ANNELIDA

FAMILY	GENUS	SPECIES AND SUBSPECIES	TOTAL NO. SPECIES
Lumbricidae	*Allolobophora*	*caliginosa* subsp. *trapezoides*	1
	Helodrilus	*caliginosus, chloroticus, foetidus, roseus*	4
	Lumbricus	*herculeus, rubellus, terrestris*	3
	Octolasium	*lacteum*	1
Megascolecidae	*Diplocardia*	*communis*	1
	Microscolex	*dubius*	1

ARTHROPODA—ARACHNIDA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Chernetidae	*Lamprochernes*	*nodosus*	1
	Pselaphochernes	*scorpioides*	1
	Toxochernes	*panzeri*	1
Cheliferidae	*Chelifer*		
Dictynidae	*Coenothele*	*gregalis*	1
Theridiidae	*Lactrodectus*	*mactans, mactans* subsp. *tredecimguttatus*	2
	Steatoda		
	Teutana		
	Theridium		
Eresidae	*Stegodyphus*	*mimosarum*	1
Argiopidae	*Epeira*	*diadema*	1
Salticidae	*Salticus*	*scenicus*	1
Ascaidae	*Gamasellus*		
Parasitidae	*Eulaelaps*	*stabularis*	1
	Parasitus	*coleoptratorum, lunaris*	2

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Macrochelidae	*Glyptholaspis*	*confusa*	1
	Macrocheles	*glaber, merdarius, muscaedomesticae, peniculatus, perglaber, plumiventris, robustulus, scutatus, subbadius*	9
			1
Gamasolaelaptidae	*Digamasellus*		
	Saintdidieria	*sexclavatus*	1
Laelaptidae	*Alliphis*	*halleri*	1
	Holostaspis	*badius, marginatus*	2
Uropodidae	*Fuscuropoda*	*vegetans*	1
Pyemotidae	*Pygmephorus*		
Tarsonemidae			
Trombidiidae	*Allothrombium*	*fuliginosum*	1
	Atomus	*inexpectatus, parasiticus*	2
	Micro-trombidium	*?muscarum, striaticeps*	2
Trombiculidae	*Ascoschoen-gastia*	*indica*	1
	Euschoengastia	*peromysci*	1
	Eutrombicula	*alfreddugesi, splendens*	2
	Fonsecia	*gurneyi*	1
	Hannemania		
	Kayella	*lacerta*	1
	Neoschoen-gastia	*americana*	1
	Neotrombicula	*lipovskyi*	1
	Neotrom-biculoides	*montanensis*	1
	Pseudoschoen-gastia	*farneri, hungerfordi*	2
Acaridae	*Acarus*	*siro*	1
Anoetidae	*Histiostoma*	*laboratorium*	1
	Myianoetus	*muscarum*	1
Sarcoptidae	*Sarcoptes*		
Undetermined Family	*Gamasus*	*musci*	1

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ARTHROPODA—MYRIAPODA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Scutigeridae	*Scutigera*	*coleoptrata*	1

ARTHROPODA—INSECTA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Sminthuridae	*Sminthurus viridis*		1
Gryllidae	*Nemobius*	*fasciatus*	1
Locustidae	*Chortophaga*	*viridifasciata*	1
	Dociostaurus	*maroccanus*	1
	Encoptolophus	*sordidus* subsp. *costalis*	1
	Locusta	*migratoria*	1
	Nomadacris	*septemfasciata*	1
	Schistocerca	*gregaria, paranensis*	2
	Xanthippus	*corallipes*	1
Labiduridae	*Euborellia*	*annulipes*	1
Labiidae	*Labia*	*minor, pilicornis*	2
	Spingolabis	*hawaiiensis*	1
Forficulidae	*Forficula*	*auricularia*	1
Haematopinidae	*Haematopinus*	*tuberculatus*	1
Coenagrionidae	*Agria*	*fumipennis*	1
	Enallagma	*durum*	1
	Ischnura	*ramburii*	1
Libellulidae	*Celithemis*	*amanda*	1
	Erythemis	*simplicicollis*	1
	Libellula	*auripennis, pulchella, vibrans*	3
	Pachydiplax	*longipennis*	1
	Pantala	*flavescens*	1
	Tramea	*carolina*	1
Aeschnidae	*Aeshna*	*cyanea*	1
	Anax	*junius*	1
	Coryphaeschna	*ingens*	1
Phymatidae	*Phymata*	*pennsylvanica*	1
Reduviidae	*Apiomerus*	*pilipes*	1
	Pristhesancus	*papuensis*	1
	Sinea	*diadema*	1

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Aphidae	*Myzus*	*persicae*	1
Hyponomeutidae	*Hyponomeuta*	*padella*	1
Olethreutidae	*Epiblema*	*otiosana*	1
	Suleima	*helianthana*	1
Pyralididae	*Epischnia*	*incanella*	1
Noctuidae	*Agrotis*	*castanea* var. *neglecta, segetum*	2
	Archanara	*oblonga*	1
	Heliothis	*obsoleta*	1
	Laphygma	*frugiperda*	1
	Leucania	*unipuncta*	1
	Macronoctua	*onusta*	1
	Papaipema	*nebris*	1
	Peridroma	*margitosa* form *saucia*	1
Liparidae	*Liparis*	*dispar*	1
Lymantriidae	*Leucoma*	*salicis*	1
	Lymantria	*monacha*	1
Sphingidae	*Acherontia*	*atropos*	1
Lasiocampidae	*Dendrolimus*	*pini*	1
	Malacosoma	*americana*	1
Carabidae	*Carabus*	*italicus*	1
Hydrophilidae	*Cryptopleurum*	*minutum*	1
	Dactylosternum	*abdominale*	1
	Sphaeridium	*scarabaeoides*	1
Silphidae	*Nicrophorus*	*nigritus*	1
Staphylinidae	*Aleochara*	*algarum, bimaculata, curtula, handschini, laevigata, taeniata, tristis, trivialis, windredi*	9
	Baryodma	*bimaculata, ontarionis*	2
	Creophilus	*erythrocephalus, maxillosus, maxillosus* var. *villosus*	2
	Emus	*hirtus*	1
	Ontholestes	*murinus, tessellatus*	2
	Oxytelus	*ocularis, sculptus*	2
	Philonthus	*discoideus, fimetarius, longicornis, politus*	4
	Tachyporus		

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Histeridae	*Pachylister*	*chinensis*	1
	Saprinus	*cyaneus, detersus, lugens, politus* or *aenus*	4
	Xerosaprinus	*fimbriatus, lubricus*	2
Cleridae	*Necrobia*	*rufipes*	1
Dermestidae	*Dermestes*	*ater, caninus*	2
Ostomatidae	*Temnochila*	*virescens*	1
Coccinellidae	*Adonia*	*variegata*	1
	Coccinella	*septempunctata*	1
	Thea	*vigintiduopunctata*	1
	Vibidia	*duodecimguttata*	1
Scarabaeidae	*Copris*	*incertus*	1
	Lachnosterna		
	Melolontha	*melolontha*	1
Cerambycidae	*Dorysthenes*	*forficatus*	1
Chrysomelidae	*Gallerucella*	*luteola*	1
Curculionidae	*Conotrachelus*	*retentus*	1
	Pissodes	*strobi*	1
	Rhodobaenus	*tredecimpunctatus*	1
Tenthredinidae	*Tenthredo*	*pectoralis*	1
Diprionidae	*Diprion*	*pallidus, pini*	2
Ichneumonidae	*Atractodes*	*bicolor, gravidus, mallyi, miuri*	4
	Mesoleptus	*laevigatus*	1
	Nemeritis	*canescens*	1
	Opius	*nitidulator*	1
	Phygadeuon	*speculator*	1
	Stilpnus	*anthomyidiperda*	1
	Theronia	*atalantae*	1
Braconidae	*Alysia*	*fossulata, manducator, ridibunda*	3
	Aphaereta	*auripes, cephalotes, minuta, pallipes, sarcophaga*	5
	Asobara	*tabida*	1
	Aspilota	*concolor, nervosa*	2
	Idiasta	*lusoriae*	1
	Opius	*nitidulator*	1
Cynipidae	*Bothrochacis*	*stercoraria*	1
	Cothonaspis	*nigricornis*	1

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
	Eucoila	*drosophilae, impatiens*	2
	Hexacola		
	Kleidotoma	*certa, marshalli*	2
	Pseudeucoila	*bochei, trichopsila*	2
	Trybliographa		
Figitidae	*Figites*	*anthomyiarum, discordis, sarcophagarum, scutellaris, striolatus*	5
	Neralsia	*armata, bifoveolata*	2
	Xyalophora	*quinquelineata*	1
Chalcididae	*Brachymeria*	*argentifrons, calliphorae, fulvitarsis, fonscolombei, minuta, obtusata, ontarionis, vicina*	8
	Dirhinoides	*vlasovi, wohlfahrtiae*	2
	Dirhinus	*luzonensis, pachycerus, sarcophagae, texanus*	4
	Euchalcidia	*blanda*	1
	Stenomalus	*muscarum*	1
Pteromalidae	*Dibrachys*	*affinis, cavus*	2
	Eupteromales	*hemipterus, nidulans*	2
	Habrocytus	*obscurus*	1
	Muscidifurax	*raptor*	1
	Nasonia	*vitripennis*	1
	Pachy-crepoideus	*vindemmiae*	1
	Pachyneuron	*vindemmiae*	1
	Prospalangia	*platensis*	1
	Spalangia	*cameroni, chontalensis, drosophilae, endius, erythromera brachyceps, haematobiae, hirta, longepetiolata, muscae, muscidarum, muscophaga, nigra, nigripes, nigroaenea, orientalis, philippinensis, platensis, rugosicollis, rugulosa, simplex, stomoxysiae, sundaica*	22
	Sphegigaster		
	Stenomolina	*muscarum*	1
Encyrtidae	*Australencyrtus*	*girault*	1
	Cerchysius	*lyperosae*	1
	Homalotylus	*eitelweinii*	1
	Ooencyrtus	*submetallicus*	1
	Stenoterys	*fulvoventralis*	1
	Tachinae-phagus	*girault*	1

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Eupelmidae	*Mesocomys*	*pulchriceps*	1
Eulophidae	*Syntomosphyrum*	*albiclavus, glossinae*	2
	Trichospilus	*pupivora*	1
Diapriidae	*Diapria*	*conica*	1
	Hemilexomyia	*abrupta*	1
	Paraspilomicrus	*froggatti*	1
	Phaenopria	*fimicola, occidentalis*	2
	Trichopria	*commoda, hirticollis*	2
Formicidae	*Camponotus*	*pennsylvanicus*	1
	Crematogaster	*lineolata*	1
	Eciton		
	Forelius	*foetidus*	1
	Iridomyrmex	*humilis*	1
	Labidus	*coecus*	1
	Monomorium	*pharaonis*	1
	Paratrechina	*longicornis*	1
	Pheidole	*megacephala, morrisii* var. *impexa, subarmata borinquenensis, oceanica*	4
	Pogonomyrmex	*barbatus* var. *fuscatus, barbatus* var. *molefaciens*	1
	Pheidologeton	*affinis*	1
	Ponera	*perkinsi*	1
	Solenopsis	*corticalis, geminata*	2
	Tapinoma	*melanocephalum*	1
	Tetramorium	*quineense*	1
	Wasmannia	*auropunctata*	1
Sphecidae	*Bembix*	*lunata, oculata, olivata, spinolae*	4
	Crabro	*advenus, alpinus, cavifrons, clypeatus, cribraria, elongatus, leucostoma, palmarius, peltarius, pubescens, serripes, signatus, vagus*	13
	Crossocerus	*lentus, quadrimaculatus*	2
	Dinetus	*pictus*	1
	Diodontus	*minutus*	1
	Ectemnius	*chrysostomus, quadricinctus*	2
	Gorytes		
	Mellinus	*arvensis*	1
	Nysson		
	Oxybelus	*bipunctatus, quattuordecimnotatus, uniglumis*	3

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FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
	Sericophorus	*sydneyi, teliferopodus, viridis roddi*	3
	Stictia	*denticornis*	1
	Stizus	*turneri*	1
Mutillidae	*Mutilla*	*glossinae*	1
Vespidae	*Polistes*	*hebraeus*	1
	Vespa	*germanica, vulgaris*	2
Apidae	*Bombus*	*agrorum, terrestris*	2
Trichoceridae	*Trichocera*		
Tipulidae	*Ula*	*macroptera*	1
Ptychopteridae	*Ptychoptera*	*contaminata*	1
Culicidae	*Aedes*	*geniculatus*	1
	Culex	*pipiens*	1
Ceratopogonidae			
Chironomidae			
Simuliidae	*Simulium*	*damnosum*	1
Anisopodidae	*Mycetobia*	*pallipes*	1
Mycetophilidae	*Mycetophila*	*lineola, ornata*	2
Sciaridae	*Sciara*	*militaris*	1
Stratiomyidae	*Hermetia*	*illucens*	1
Tabanidae	*Tabanus*	*striatus*	1
Asilidae	*Isopogon*	*brevirostris*	1
	Lasiopogon	*cinctus*	1
	Laphria	*flava*	1
	Efferia	*aestuans, pogonias*	2
	Neoitamus	*flavofemoratus*	1
	Proctacanthus	*philadelphicus*	1
	Regasilus	*notatus, sadyates*	2
Bombyliidae	*Thyridanthrax*	*abruptus*	1
Empididae	*Empis*	*grisea*	1
Syrphidae	*Eristalis*		
Sphaeroceridae	*Borborus*		
	Copromyza	*equina*	1
Drosophilidae	*Drosophila*	*melanogaster*	1
Clusiidae	*Clusiodes*	*albimanus*	1

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ARTHROPODA—INSECTA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Aulacigastridae	*Aulacigaster*	*leucopeza*	1
Anthomyiidae	*Scatophaga*	*merdaria, stercoraria*	2
	Hylemya	*brassicae*	1
Muscidae	*Coenosia*	*tigrina*	1
	Hebecnema	*umbratica*	1
	Myospila	*meditabunda*	1
	Mydaea	*urbana, pagana*	2
	Hydrotaea	*dentipes*	1
	Ophyra	*leucostoma*	1
	Phaonia	*variegata*	1
	Muscina	*assimilis, pabulorum, stabulans*	3
	Polietes	*albolineata, hirticrura*	2
	Mesembrina	*meridiana*	1
	Musca	*domestica*	1
Calliphoridae	*Chrysomya*	*rufifacies, villeneuvei*	2
	Protophormia	*terraenovae*	1
	Phaenicia	*cuprina*	1
	Calliphora		
Sarcophagidae	*Ravinia*	*striata*	1
	Sarcophaga	*haemorrhoidalis*	1
Cuterebridae	*Dermatobia*	*hominis*	1

CHORDATA—AMPHIBIA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Discoglossidae	*Discoglossus*	*pictus*	1
Bufonidae	*Bufo*	*mauritanicus, viridis*	2
Hylidae	*Hyla*	*viridis* var. *grisea*	1
Ranidae	*Rana*	*ridibunda*	1

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CHORDATA—REPTILIA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Agamidae	*Agama*	*agilis*	1
Scincidae	*Chalcides*	*tridactylus*	1
Lacertidae	*Acantho-dactylus*	*boskianus*	1
	Lacerta	*agilis*	1

CHORDATA—AVES

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Phasianidae	*Gallus*	*gallus*	1
Hirundinidae	*Delichon*	*urbica* subsp. *urbica*	1
	Hirundo	*rustica* subsp. *rustica*	1
Paridae	*Aegithalus*	*caudatus*	1
	Parus	*caeruleus* subsp. *caeruleus*	1
Turdidae	*Luscinia*	*megarhynchos*	1
Muscicapidae	*Leucocira*	*leucophrys*	1
Sturnidae	*Sturnus*	*vulgaris*	1
Meliphagidae	*Melliphaga*	*penicillata*	1
	Myzantha	*melanocephala*	1
Fringillidae	*Fringilla*	*coelebs*	1
Ploceidae	*Passer*	*domesticus*	1

CHORDATA—MAMMALIA

FAMILY	GENUS	SPECIES, VARIETIES, AND SUBSPECIES	TOTAL NO. SPECIES
Muridae	*Apodemus*	*sylvaticus*	1
Gliridae			

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CLASSIFICATION OF ORGANISMS	*ASSOCIATED FLIES*
VIRUSES	
PSITTACOSIS GROUP	MUSCIDAE: MUSCINAE
Trachoma virus	*Musca domestica* Linnaeus Nicolle et al., 1919 Zardi, 1964 *Musca sorbens Wiedemann* Gear et al., 1962
POXVIRUSES	
Variola	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Terni, 1908b MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Terni, 1909
Vaccinia	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Terni, 1908b Merk, 1910 MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Terni, 1909 *Stomoxys calcitrans* (Linnaeus) Terni, 1908b
Borreliota avium (Synonym: fowlpox virus)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Schuberg et al., 1912 Bos, 1932
ARBOVIRUSES	
Eastern equine encephalomyelitis (Synonym: Eastern encephalitis virus)	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Bourke, 1964
Sindbus virus	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Herring, 1967 Ohanessian et al., 1967
Yellow fever virus	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Hoskins, 1933
ENTEROVIRUSES	
Poliovirus	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga* Meigen Power et al., 1942 MUSCIDAE: LIMNOPHORINAE *Gymnodia arcuata* (Stein) Francis, Jr. et al., 1948

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Poliovirus (cont.)

MUSCIDAE: MYDAEINAE
Myospila meditabunda (Fabricius)
Francis, Jr., et al., 1948
MUSCIDAE: FANNIINAE
Fannia Robineau-Desvoidy
Toomey et al., 1941
Trask et al., 1943
Melnick et al., 1945
Fannia canicularis (Linnaeus)
Francis, Jr. et al., 1948
MUSCIDAE: PHAONIINAE
Ophyra Robineau-Desvoidy
Trask et al., 1943
Ophyra leucostoma (Wiedemann)
Paul et al., 1941
Sabin et al., 1942
Melnick et al., 1945
Muscina Robineau-Desvoidy
Trask et al., 1943
Muscina assimilis (Fallén)
Francis, Jr. et al., 1948
Muscina stabulans (Fallén)
Paul et al., 1941
Sabin et al., 1942
Melnick et al., 1945
Francis, Jr. et al., 1948
MUSCIDAE: MUSCINAE
Musca Linnaeus
Trask et al., 1943
Musca domestica Linnaeus
Francis, 1914
Paul et al., 1941
Sabin et al., 1942
Gordon, 1943
Melnick et al., 1945, 1949
Francis, Jr. et al., 1948
Melnick, 1949
House fly (presumably *Musca domestica* Linnaeus)
Flexner, 1911
Toomey et al., 1941
MUSCIDAE: STOMOXYINAE
Haematobia irritans (Linnaeus)
Francis, 1914
Stomoxys Geoffroy
Paul et al., 1941
Trask et al., 1943
Stomoxys calcitrans (Linnaeus)
Anderson et al., 1912
Rosenau, 1912a

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Poliovirus (cont.)

Rosenau et al., 1912b
Boudreau et al., 1914
Francis, 1914

CALLIPHORIDAE: CHRYSOMYINAE

Cochliomyia macellaria (Fabricius)
Melnick et al., 1945
Francis, Jr. et al., 1948

Phormia Robineau-Desvoidy
Trask et al., 1943

Phormia regina (Meigen)
Paul et al., 1941
Sabin et al., 1942
Melnick et al., 1945
Francis, Jr. et al., 1948
Melnick, 1949

Protophormia Townsend
Trask et al., 1943

Protophormia terraenovae (Robineau-Desvoidy)
Sabin et al., 1942

Protocalliphora Hough
Paul et al., 1941
Trask et al., 1943

CALLIPHORIDAE: CALLIPHORINAE

Bufolucilia silvarum (Meigen)
Melnick et al., 1945

Lucilia Robineau-Desvoidy
Paul et al., 1941

Lucilia illustris (Meigen)
Melnick et al., 1945

Phaenicia Robineau-Desvoidy
Trask et al., 1943

Phaenicia pallescens (Shannon)
Melnick et al., 1949

Phaenicia sericata (Meigen)
Sabin et al., 1942
Melnick et al., 1945, 1949
Francis, Jr. et al., 1948
Melnick, 1949

Calliphora Robineau-Desvoidy
Trask et al., 1943

Calliphora vicina Robineau-Desvoidy
Sabin et al., 1942

Calliphora vomitoria (Linnaeus)
Noguchi et al., 1917

Cynomyopsis cadaverina (Robineau-Desvoidy)
Sabin et al., 1942
Melnick, 1949

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Poliovirus (cont.)

UNDETERMINED CALLIPHORIDAE
Blow flies
Toomey et al., 1941
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Trask et al., 1943
Melnick et al., 1945, 1949
Francis, Jr. et al., 1948
Melnick, 1949
Sarcophaga haemorrhoidalis (Fallén)
Paul et al., 1941
Tricharaea Thomson
Melnick et al., 1949

Poliovirus non-paralytic

MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Melnick et al., 1949
CALLIPHORIDAE: CALLIPHORINAE
Phaenicia pallescens (Shannon)
Melnick et al., 1949
Phaenicia sericata (Meigen)
Melnick et al., 1949
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Melnick et al., 1949
Tricharaea Thomson
Melnick et al., 1949

Poliovirus Strain 113

.. MUSCIDAE: PHAONIINAE
Ophyra leucostoma (Wiedemann)
Levkovich et al., 1957
MUSCIDAE: MUSCINAE
Musca domestica domestica Linnaeus
Levkovich et al., 1957
CALLIPHORIDAE: CHRYSOMYINAE
Protophormia terraenovae (Robineau-Desvoidy)
Levkovich et al., 1957
CALLIPHORIDAE: CALLIPHORINAE
Calliphora uralensis Villeneuve
Levkovich et al., 1957

Poliovirus Delaware '48 strain

. CALLIPHORIDAE: CHRYSOMYINAE
Phormia regina (Meigen)
Melnick et al., 1952

Poliovirus Type 1

.. RICHARDIIDAE
Richardia viridiventris Wulp
Paul et al., 1962
MUSCIDAE: COENESIINAE
Atherigona orientalis Schiner
Paul et al., 1962

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Poliovirus Type 1 (cont.)

MUSCIDAE: LIMNOPHORINAE
Limnophora Robineau-Desvoidy
Paul et al., 1962
MUSCIDAE: FANNIINAE
Fannia Robineau-Desvoidy
Riordan et al., 1961
Paul et al., 1962
MUSCIDAE: PHAONIINAE
Ophyra Robineau-Desvoidy
Riordan et al., 1961
Ophyra aenescens (Wiedemann)
Paul et al., 1962
Muscina Robineau-Desvoidy
Riordan et al., 1961
Muscina stabulans (Fallén)
Paul et al., 1962
MUSCIDAE: MUSCINAE
Graphomya maculata (Scopoli)
Paul et al., 1962
Synthesiomyia nudiseta (Wulp)
Paul et al., 1962
Neomuscina Townsend
Paul et al., 1962
Philornis Meinert
Paul et al., 1962
Musca Linnaeus
Paul et al., 1962
Musca domestica Linnaeus
Melnick et al., 1953
Riordan et al., 1961
Downey, 1963
Musca domestica vicina Macquart
Brygoo et al., 1962
CALLIPHORIDAE: MESEMBRINELLINAE
Huascaromusca bicolor (Fabricius)
Paul et al., 1962
CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Melnick et al., 1953
Paul et al., 1962
Chrysomya putoria (Wiedemann)
Brygoo et al., 1962
Phormia regina (Meigen)
Riordan et al., 1961
Downey, 1963
CALLIPHORIDAE: CALLIPHORINAE
Lucilia illustris (Meigen)
Downey, 1963
Phaenicia Robineau-Desvoidy
Paul et al., 1962

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Poliovirus Type 1 (cont.)	*Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953 Riordan et al., 1961 Downey, 1963 *Calliphora* Robineau-Desvoidy Riordan et al., 1961 Downey, 1963 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Paul et al., 1962 *Oxysarcodexia ochripyga* (Wulp) Paul et al., 1962 *Sarcophaga* Meigen Riordan et al., 1961 Paul et al., 1962 *Tricharaea* Thomson Melnick et al., 1953 Paul et al., 1962
Poliovirus Attenuated Type 1, LSc	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Gudnadóttir, 1960 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Gudnadóttir, 1960 Gudnadóttir et al., 1960 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Davé et al., 1965
Poliovirus Mahoney Type 1	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Gudnadóttir, 1960 Gudnadóttir et al., 1960
Poliovirus New York City '44 strain (Type 1)	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1947, 1952
Poliovirus Philippine Islands '45 strain (Type 1)	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1952 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Melnick et al., 1952
Poliovirus Texas '48 strain (Type 1)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1952 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1952

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Poliovirus Texas '48 strain (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Melnick et al., 1952
Poliovirus W-S '48 strain (Type 1)	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1952
Poliovirus Type 2	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya megacephala* (Fabricius) Asahina et al., 1963
Poliovirus Type 2 Lansing strain	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Toomey et al., 1947 MUSCIDAE: PHAONIINAE *Ophyra leucostoma* (Wiedemann) Levkovich et al., 1957 *Muscina stabulans* (Fallén) Bang et al., 1943 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bang et al., 1943 Rendtorff et al., 1943 Hurlbut, 1950 *Musca domestica domestica* Linnaeus Levkovich et al., 1957 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1947, 1952 *Protophormia terraenovae* (Robineau-Desvoidy) Levkovich et al., 1957 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Bang et al., 1943 *Phaenicia sericata* (Meigen) Melnick et al., 1947, 1952 *Calliphora vicina* Robineau-Desvoidy Bang et al., 1943 *Calliphora uralensis* Villeneuve Levkovich et al., 1957 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga bullata* Parker Melnick et al., 1947 *Sarcophaga haemorrhoidalis* (Fallén) Bang et al., 1943
Poliovirus Y-SK strain murine adapted, Type 2	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1947, 1952

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Poliovirus Type 3 ... .

CALLIPHORIDAE: CALLIPHORINAE
Phaenicia sericata (Meigen)
Melnick et al., 1947, 1952
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga bullata Parker
Melnick et al., 1947
RICHARDIIDAE
Richardia viridiventris Wulp
Paul et al., 1962
MUSCIDAE: COENOSIINAE
Atherigona orientalis Schiner
Paul et al., 1962
MUSCIDAE: LIMNOPHORINAE
Limnophora Robineau-Desvoidy
Paul et al., 1962
MUSCIDAE: FANNIINAE
Fannia Robineau-Desvoidy
Riordan et al., 1961
Paul et al., 1962
MUSCIDAE: PHAONIINAE
Ophyra Robineau-Desvoidy
Riordan et al., 1961
Ophyra aenescens (Wiedemann)
Paul et al., 1962
Muscina Robineau-Desvoidy
Riordan et al., 1961
Muscina stabulans (Fallén)
Paul et al., 1962
MUSCIDAE: MUSCINAE
Graphomya maculata (Scopoli)
Paul et al., 1962
Synthesiomyia nudiseta (Wulp)
Paul et al., 1962
Neomuscina Townsend
Paul et al., 1962
Philornis Meinert
Paul et al., 1962
Musca Linnaeus
Paul et al., 1962
Musca domestica Linnaeus
Riordan et al., 1961
CALLIPHORIDAE: MESEMBRINELLINAE
Huascaromusca bicolor (Fabricius)
Paul et al., 1962
CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Paul et al., 1962
Chrysomya putoria (Wiedemann)
Brygoo et al., 1962

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Poliovirus Type 3 (cont.)	*Phormia regina* (Meigen) Riordan et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Paul et al., 1962 *Phaenicia sericata* (Meigen) Riordan et al., 1961 *Calliphora* Robineau-Desvoidy Riordan et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Paul et al., 1962 *Oxysarcodexia ochripyga* (Wulp) Paul et al., 1962 *Sarcophaga* Meigen Riordan et al., 1961 Paul et al., 1962 *Tricharaea* Thomson Paul et al., 1962
Poliovirus Attenuated Type 3, Leon	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Davé et al., 1965
Poliovirus North Carolina '44 strain (Type 3)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Melnick et al., 1947, 1952
Theiler's mouse encephalomyelitis virus, GD VII (Synonym: mouse "poliomyelitis" virus)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Bang et al., 1943 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bang et al., 1943 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Bang et al., 1943 *Calliphora vicina* Robineau-Desvoidy Bank et al., 1943 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Bang et al., 1943
Theiler's mouse encephalomyelitis virus, TO strain	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1947, 1952 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Melnick et al., 1947, 1952 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga bullata* Parker Melnick et al., 1947, 1952

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Coxsackievirus	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1954 Duca et al., 1958 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Brygoo et al., 1962 *Phormia* Robineau-Desvoidy Melnick et al., 1954 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Melnick (personal communication from Curnen), 1950 Melnick et al., 1954
Coxsackievirus Alaska 5 (A10)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* Fabricius Melnick et al., 1953
Coxsackievirus Connecticut 5 (B1)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953
Coxsackievirus Easton 2 (A1)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953
Coxsackievirus Easton 10 (A8)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953
Coxsackievirus Easton 14 (A5)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953

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Coxsackievirus Nancy (B3)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953
Coxsackievirus Texas 1 (A4)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* Fabricius Melnick et al., 1953 *Phormia regina* (Meigen) Melnick et al., 1952 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953
Coxsackievirus Texas 12 (new type)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953
Coxsackievirus Texas 13 (B4)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1953
Coxsackievirus Texas 14 (new type)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Melnick et al., 1953 *Phaenicia sericata* (Meigen) Melnick et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Tricharaea* Thomson Melnick et al., 1953
Coxsackievirus Texas 15 (A7)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* Fabricius Melnick et al., 1953
Coxsackievirus Texas '48 (new type)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Melnick et al., 1952

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	CALLIPHORIDAE: CHRYSOMYINAE
	Phormia regina (Meigen)
	Melnick et al., 1952
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Melnick et al., 1952
Coxsackievirus Type 2 (A2)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Melnick et al., 1953
	SARCOPHAGIDAE: SARCOPHAGINAE
	Tricharaea Thomson
	Melnick et al., 1953
Coxsackievirus Type 3 (A3)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Melnick et al., 1953
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria Fabricius
	Melnick et al., 1953
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia pallescens (Shannon)
	Melnick et al., 1953
	Phaenicia sericata (Meigen)
	Melnick et al., 1953
	SARCOPHAGIDAE: SARCOPHAGINAE
	Tricharaea Thomson
	Melnick et al., 1953
Coxsackievirus Type A9 (A9)	MUSCIDAE: FANNIINAE
	Fannia Robineau-Desvoidy
	Riordan et al., 1961
	MUSCIDAE: PHAONIINAE
	Ophyra Robineau-Desvoidy
	Riordan et al., 1961
	Muscina Robineau-Desvoidy
	Riordan et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Riordan et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Phormia regina (Meigen)
	Riordan et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Riordan et al., 1961
	Calliphora Robineau-Desvoidy
	Riordan et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Riordan et al., 1961

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Coxsackievirus Type B5 (B5) .	MUSCIDAE: FANNIINAE *Fannia* Robineau-Desvoidy Riordan et al., 1961
	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Riordan et al., 1961 *Muscina* Robineau-Desvoidy Riordan et al., 1961
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Riordan et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Riordan et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Riordan et al., 1961 *Calliphora* Robineau-Desvoidy Riordan et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Riordan et al., 1961
Coxsackievirus W-S '48 (B1)	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Melnick et al., 1952
ECHO VIRUS	
ECHO virus Type 1	MUSCIDAE: FANNIINAE *Fannia* Robineau-Desvoidy Riordan et al., 1961
	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Riordan et al., 1961 *Muscina* Robineau-Desvoidy Riordan et al., 1961
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Riordan et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Riordan et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Riordan et al., 1961 *Calliphora* Robineau-Desvoidy Riordan et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Riordan et al., 1961

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ECHO virus Type 5	MUSCIDAE: FANNIINAE *Fannia* Robineau-Desvoidy Riordan et al., 1961
	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Riordan et al., 1961 *Muscina* Robineau-Desvoidy Riordan et al., 1961
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Riordan et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Riordan et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Riordan et al., 1961 *Calliphora* Robineau-Desvoidy Riordan et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Riordan et al., 1961
ECHO virus Type 6	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Downey, 1963
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Downey, 1963
	CALLIPHORIDAE: CALLIPHORINAE *Lucilia illustris* (Meigen) Downey, 1963 *Phaenicia sericata* (Meigen) Downey, 1963 *Calliphora* Robineau-Desvoidy Downey, 1963
ECHO virus Type 7	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Downey, 1963
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Downey, 1963
	CALLIPHORIDAE: CALLIPHORINAE *Lucilia illustris* (Meigen) Downey, 1963 *Phaenicia sericata* (Meigen) Downey, 1963 *Calliphora* Robineau-Desvoidy Downey, 1963

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ECHO virus Type 8	RICHARDIIDAE
	Richardia viridiventris Wulp
	Paul et al., 1962
	MUSCIDAE: COENOSIINAE
	Atherigona orientalis Schiner
	Paul et al., 1962
	MUSCIDAE: LIMNOPHORINAE
	Limnophora Robineau-Desvoidy
	Paul et al., 1962
	MUSCIDAE: FANNIINAE
	Fannia Robineau-Desvoidy
	Paul et al., 1962
	MUSCIDAE: PHAONIINAE
	Ophyra aenescens (Wiedemann)
	Paul et al., 1962
	Muscina stabulans (Fallén)
	Paul et al., 1962
	MUSCIDAE: MUSCINAE
	Graphomya maculata (Scopoli)
	Paul et al., 1962
	Synthesiomyia nudiseta (Wulp)
	Paul et al., 1962
	Neomuscina Townsend
	Paul et al., 1962
	Philornis Meinert
	Paul et al., 1962
	Musca Linnaeus
	Paul et al., 1962
	CALLIPHORIDAE: MESEMBRINELLINAE
	Huascaromusca bicolor (Fabricius)
	Paul et al., 1962
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Paul et al., 1962
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia Robineau-Desvoidy
	Paul et al., 1962
	SARCOPHAGIDAE: SARCOPHAGINAE
	Blaesoxipha plinthopyga (Wiedemann)
	Paul et al., 1962
	Oxysarcodexia ochripyga (Wulp)
	Paul et al., 1962
	Sarcophaga Meigen
	Paul et al., 1962
	Tricharaea Thomson
	Paul et al., 1962
ECHO virus Type 11 .. .	MUSCIDAE: FANNIINAE
	Fannia Robineau-Desvoidy
	Riordan et al., 1961

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	MUSCIDAE: PHAONIINAE
	Ophyra Robineau-Desvoidy
	Riordan et al., 1961
	Muscina Robineau-Desvoidy
	Riordan et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Riordan et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Phormia regina (Meigen)
	Riordan et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Riordan et al., 1961
	Calliphora Robineau-Desvoidy
	Riordan et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Riordan et al., 1961
ECHO virus Type 12	RICHARDIIDAE
	Richardia viridiventris Wulp
	Paul et al., 1962
	MUSCIDAE: COENOSIINAE
	Atherigona orientalis Schiner
	Paul et al., 1962
	MUSCIDAE: LIMNOPHORINAE
	Limnophora Robineau-Desvoidy
	Paul et al., 1962
	MUSCIDAE: FANNIINAE
	Fannia Robineau-Desvoidy
	Paul et al., 1962
	MUSCIDAE: PHAONIINAE
	Ophyra aenescens (Wiedemann)
	Paul et al., 1962
	Muscina stabulans (Fallén)
	Paul et al., 1962
	MUSCIDAE: MUSCINAE
	Graphomya maculata (Scopoli)
	Paul et al., 1962
	Synthesiomyia nudiseta (Wulp)
	Paul et al., 1962
	Neomuscina Townsend
	Paul et al., 1962
	Philornis Meinert
	Paul et al., 1962
	Musca Linnaeus
	Paul et al., 1962
	CALLIPHORIDAE: MESEMBRINELLINAE
	Huascaromusca bicolor (Fabricius)
	Paul et al., 1962

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ECHO virus Type 12 (cont.)	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Paul et al., 1962
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia Robineau-Desvoidy
	Paul et al., 1962
	SARCOPHAGIDAE: SARCOPHAGINAE
	Blaesoxipha plinthopyga (Wiedemann)
	Paul et al., 1962
	Oxysarcodexia ochripyga (Wulp)
	Paul et al., 1962
	Sarcophaga Meigen
	Paul et al., 1962
	Tricharaea Thomson
	Paul et al., 1962
ECHO virus Type 14	RICHARDIIDAE
	Richardia viridiventris Wulp
	Paul et al., 1962
	MUSCIDAE: COENOSIINAE
	Atherigona orientalis Schiner
	Paul et al., 1962
	MUSCIDAE: LIMNOPHORINAE
	Limnophora Robineau-Desvoidy
	Paul et al., 1962
	MUSCIDAE: FANNIINAE
	Fannia Robineau-Desvoidy
	Paul et al., 1962
	MUSCIDAE: PHAONIINAE
	Ophyra aenescens (Wiedemann)
	Paul et al., 1962
	Muscina stabulans (Fallén)
	Paul et al., 1962
	MUSCIDAE: MUSCINAE
	Graphomya maculata (Scopoli)
	Paul et al., 1962
	Synthesiomyia nudiseta (Wulp)
	Paul et al., 1962
	Neomuscina Townsend
	Paul et al., 1962
	Philornis Meinert
	Paul et al., 1962
	Musca Linnaeus
	Paul et al., 1962
	CALLIPHORIDAE: MESEMBRINELLINAE
	Huascaromusca bicolor (Fabricius)
	Paul et al., 1962
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Paul et al., 1962

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ECHO virus Type 14 (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Paul et al., 1962 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Paul et al., 1962 *Oxysarcodexia ochripyga* (Wulp) Paul et al., 1962 *Sarcophaga* Meigen Paul et al., 1962 *Tricharaea* Thomson Paul et al., 1962
UNDETERMINED ENTEROVIRUSES	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Brygoo et al., 1962
OTHER ANIMAL VIRUSES	
Danysz rat virus	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1910
Equine infectious anemia virus	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Flocken et al. Howard, 1917 Scott, 1917, 1920, 1922 Lührs, 1919 Stein et al., 1942
Foot and mouth disease virus	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Lebailly, 1924 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lebailly, 1924 Kunike, 1927b Dhennin et al., 1961 House fly (presumably *Musca domestica* Linnaeus) Kunike, 1927a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Kunike, 1927a, 1927b Schmit-Jensen, 1927 Wilhelmi, 1927 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Dhennin et al., 1961
Mink enteritis virus	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bouillant et al., 1965

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Rous-sarcoma virus (Oncogenic)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Burdette et al., 1967
Southwest African horse death virus (Windhuker)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Schuberg et al., 1912
Tipula iridescent virus	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Smith et al., 1961
Tortor bovis	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Sen, 1925-26
Tortor suis (Synonym: hog cholera virus)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Mohler, 1920 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Mohler, 1920
Vesicular stomatitis virus	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Ferris et al., 1955

INSECT VIRUSES

Borrelina bombycis (Synonym: Polyhedral granules of silkworm jaundice)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Smuidsinovicia, 1889
Sex-ratio virus	DROSOPHILIDAE: DROSOPHILINAE *Drosophila bifasciata* Pomini Magni, 1954 Poulson et al., 1961a *Drosophila equinoxialis* Dobzhansky Malogolowkin et al., 1960 Poulson et al., 1961a *Drosophila melanogaster* Meigen Sakaguchi et al., 1960 Counce et al., 1961 Poulson et al., 1961a Rico, 1964 *Drosophila nebulosa* Sturtevant Counce et al., 1961 Poulson et al., 1961a *Drosophila paulistorum* Dobzhansky Malogolowkin, 1958 *Drosophila prosaltans* Duda Cavalcanti et al., 1957, 1958 *Drosophila willistoni* Sturtevant Malogolowkin et al., 1957, 1959, 1960 Malogolowkin, 1958 Sakaguchi et al., 1959, 1960, 1961

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	Poulson et al., 1959, 1961a Counce et al., 1961
Sigma virus	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Vigier, 1961 *Drosophila melanogaster* Meigen Plus, 1950, 1954 de Lestrange, 1954 Duhamel et al., 1956 L'Héritier, 1957 Bussereau, 1964 Berkaloff et al., 1965 Bregliano, 1965 Seecof, 1965, 1969 Bernard, 1968 *Drosophila ?melanogaster* Meigen L'Héritier et al., 1937 *Drosophila melanogaster* Meigen, Oregon, R. C. Brun et al., 1955a Plus, 1955 *Drosophila melanogaster* Meigen, strain ρ (rho) Brun et al., 1955b
Sigma virus, P^- strain	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Bernard, 1964
BACTERIOPHAGES	
Bacteriophage (of *Staphylococcus muscae*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Glaser, 1938
Bacteriophage (of *Streptococcus* C 55)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Shope, 1927
PSEUDOMONADACEAE	
Pseudomonas Migula	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 *Musca domestica* Linnaeus Prado et al., 1955 *Musca domestica vicina* Macquart Floyd et al., 1953 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938
Pseudomonas aeruginosa (Schroeter) Migula (Synonyms: *Bacillus pyocyaneus*, *Pseudomonas pyocyaneus*)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Havlik, 1964

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Pseudomonas aeruginosa (cont.)

MUSCIDAE: MUSCINAE

Musca domestica Linnaeus
Bacot, 1911a, 1911b
Graham-Smith, 1911b
Ledingham, 1911
Cox, 1912
Duncan, 1926
Ostrolenk et al., 1942a
Peppler, 1944
Vanni, 1946
Stephens, 1963
Havlik, 1964

House fly (presumably *Musca domestica* Linnaeus)
Manning, 1902

MUSCIDAE: STOMOXYINAE

Stomoxys calcitrans (Linnaeus)
Duncan, 1926

CALLIPHORIDAE: CHRYSOMYINAE

Phormia regina (Meigen)
Greenberg, 1962

Protophormia terraenovae (Robineau-Desvoidy)
Havlik, 1964

CALLIPHORIDAE: CALLIPHORINAE

Lucilia caesar (Linnaeus)
Muzzarelli, 1925
Weil et al., 1933

Phaenicia sericata (Meigen)
Weil et al., 1933
Greenberg, 1962
Havlik, 1964

Calliphora vicina Robineau-Desvoidy
Graham-Smith, 1911a, 1911b
Balzam, 1937
Greenberg, 1962
Havlik, 1964

Calliphora vomitoria (Linnaeus)
Muzzarelli, 1925

Cynomyopsis cadaverina (Robineau-Desvoidy)
Greenberg, 1962

UNDETERMINED CALLIPHORIDAE

Blow flies
Holdaway, 1932

SARCOPHAGIDAE: SARCOPHAGINAE

Sarcophaga carnaria (Linnaeus)
Muzzarelli, 1925
Petragnani, 1925

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Pseudomonas eisenbergii Migula (Synonym: *Bacillus fluorescens non-liquefaciens*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Cao, 1906 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Cao, 1906 *Calliphora vomitoria* (Linnaeus) Cao, 1906 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906
Pseudomonas fluorescens Migula (Synonym: *Bacillus fluorescens liquefaciens*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Cao, 1906 Lysenko et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Lysenko et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Cao, 1906 *Phaenicia sericata* (Meigen) Lysenko et al., 1961 *Calliphora vomitoria* (Linnaeus) Cao, 1906 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906
Pseudomonas ichthyosmia (Hammer) Bergey et al.	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hawley et al., 1951
Pseudomonas jaegeri Migula (Synonym: *Bacillus proteus fluorescens*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Cao, 1906 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Cao, 1906 *Calliphora vomitoria* (Linnaeus) Cao, 1906 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906
Pseudomonas septica Bergey et al.	MUSCIDAE: MUSCINAE *Musca nebulo* Fabricius Amonkar, 1967
Acetobacter Beijerinck (Synonym: acetic acid bacillus)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Baumberger, 1919

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Acetobacter aceti (Beijerinck) (Synonym: *Bacillus aceti*)	. DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Delcourt et al., 1910
Acetobacter pasteurianus Beijerinck (Synonym: *Bacterium pasteurianum*)	.. DROSOPHILIDAE: DROSOPHILINAE *Drosophila fenestrarum* Fallén Henneberg, 1902 *Drosophila funebris* (Fabricius) Henneberg, 1902
Acetobacter xylinum (Brown) (Synonym: *Bacterium xylinum*)	. DROSOPHILIDAE: DROSOPHILINAE *Drosophila fenestrarum* Fallén Henneberg, 1902 *Drosophila funebris* (Fabricius) Henneberg, 1902
SPIRILLACEAE	
Vibrio Müller	. MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 *Musca domestica* Linnaeus Smuidsinovicia, 1889 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938
Vibrio comma (Schroeter) Winslow et al. (Synonyms: *Vibrio cholerae*, Cholera, comma bacillus)	PHORIDAE: METOPININAE *Megaselia ferruginea* (Brunetti) Roberg, 1915 SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Maddox, 1885b ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya* Robineau-Desvoidy Anonymous, 1952 MUSCIDAE: FANNIINAE *Fannia* Robineau-Desvoidy Savchenko, 1892a, 1892b MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 Lal et al., 1939 *Musca domestica* Linnaeus Chantemesse et al., 1905 Ganon, 1908 Graham-Smith, 1910 Alessandrini, 1912 Duncan, 1926 Shope, 1927 Dishon, 1956 House fly (presumably *Musca domestica* Linnaeus) Cattani, 1886 Celli et al., 1888

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	Craig, 1894
	Alessandrini et al., 1912
	Flu, 1915
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Duncan, 1926
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Alessandrini, 1912
	Calliphora vicina Robineau-Desvoidy
	Graham-Smith, 1911a, 1911b
	Alessandrini, 1912
	Calliphora vomitoria (Linnaeus)
	Maddox, 1885a, 1885b
	Alessandrini, 1912
	UNDETERMINED CALLIPHORIDAE
	Blue bottle flies
	Savchenko, 1892a, 1892b
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Pavan, 1949
	Sarcophaga carnaria (Linnaeus)
	Alessandrini, 1912
	Petragnani, 1925
CHLAMYDOBACTERIACEAE	
Leptothrix Kützing	MUSCIDAE: MUSCINAE
	House fly (presumably *Musca domestica* Linnaeus)
	Wenyon et al., 1917b
ACHROMOBACTERACEAE	
Alcaligenes Castellani and Chalmers (Synonym: *Alkaligenes*)	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	de la Paz, 1938
	Musca domestica Linnaeus
	Prado et al., 1955
	Musca domestica vicina Macquart
	Floyd et al., 1953
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus)
	Stirrat et al., 1955
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya Robineau-Desvoidy
	de la Paz, 1938
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	de la Paz, 1938
Alcaligenes faecalis Castellani and Chalmers	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Gregor et al., 1960
	Lysenko et al., 1961

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Alcaligenes faecalis (cont.)	SPHAEROCERIDAE
	Leptocera ferruginata (Stenhammar)
	Lysenko, 1958
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	Havlik, 1964
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Hamilton, 1903
	Testi, 1909
	Lysenko et al., 1961
	Havlik, 1964
	Musca domestica vicina Macquart
	Shterngol'd, 1949
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Lysenko, 1958
	Gregor et al., 1960
	Lysenko et al., 1961
	Havlik, 1964
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Weil et al., 1933
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Michelbacher et al., 1932
	Weil et al., 1933
	Gregor et al., 1960
	Havlik, 1964
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Povolný et al., 1961
	Havlik, 1964
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
Achromobacter Bergey, Harrison, Breed, Hammer, and Huntoon	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Prado et al., 1955

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Achromobacter (cont.)	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus)
	Stirrat et al., 1955
Flavobacterium Bergey et al.	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Lysenko et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae
	(Robineau-Desvoidy)
	Lysenko et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Lysenko et al., 1961
Flavobacterium devorans	PIOPHILIDAE
(Zimmermann) Bergey et al.	*Piophila casei* (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Lysenko, 1958
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae
	(Robineau-Desvoidy)
	Gregor et al., 1960
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Gregor et al., 1960
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
Flavobacterium invisible	PIOPHILIDAE
(Vaughan) Bergey et al.	*Piophila casei* (Linnaeus)
	Gregor et al., 1960

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Flavobacterium invisible (cont.)

SPHAEROCERIDAE
Leptocera ferruginata (Stenhammar)
Lysenko, 1958
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Gregor et al., 1960
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Gregor et al., 1960
Hydrotaea irritans (Fallén)
Gregor et al., 1960
Ophyra leucostoma (Wiedemann)
Gregor et al., 1960
Muscina stabulans (Fallén)
Gregor et al., 1960
CALLIPHORIDAE: CHRYSOMYINAE
Protophormia terraenovae
(Robineau-Desvoidy)
Gregor et al., 1960
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Gregor et al., 1960
Phaenicia sericata (Meigen)
Gregor et al., 1960
Calliphora vicina Robineau-Desvoidy
Gregor et al., 1960
Calliphora vomitoria (Linnaeus)
Gregor et al., 1960

ENTEROBACTERIACEAE
Escherichia Castellani and
Chalmers
(Synonyms: MacConkey's
bacillus No. 1, MacConkey's
bacillus No. 33a, MacConkey's
bacillus No. 66, MacConkey's
bacillus No. 66a, MacConkey's
bacillus No. 71, MacConkey's
bacillus No. 101, MacConkey's
bacillus No. 106, MacConkey's
bacillus No. 106a)

PIOPHILIDAE
Piophila casei (Linnaeus)
Lysenko et al., 1961
MUSCIDAE: FANNIINAE
Fannia scalaris (Fabricius)
Zmeev, 1943
MUSCIDAE: MUSCINAE
Musca Linnaeus
de la Paz, 1938
Musca domestica Linnaeus
Nicoll, 1911a
Prado et al., 1955
Lysenko et al., 1961
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya Robineau-Desvoidy
de la Paz, 1938
Protophormia terraenovae
(Robineau-Desvoidy)
Lysenko et al., 1961
CALLIPHORIDAE: CALLIPHORINAE
Phaenicia sericata (Meigen)
Lysenko et al., 1961

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Escherichia (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	de la Paz, 1938
Escherichia anaerogenes	MUSCIDAE: MUSCINAE
(Chester) Bergey et al.	*Musca domestica* Linnaeus
(Synonym: *Bacterium coli anaerogenes*)	Scott, 1917a
	Jones, 1941
	Hawley et al., 1951
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga hirtipes Wiedemann
	Zmeev, 1943
Escherichia anindolica	MUSCIDAE: PHAONIINAE
(Chester) Bergey et al.	*Phaonia querceti* (Bouché)
	Zmeev, 1943
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga hirtipes Wiedemann
	Zmeev, 1943
Escherichia coli (Migula)	OTITIDAE: ULIDIINAE
Castellani and Chalmers	*Physiphora demandata* (Fabricius)
(Synonyms: *Bacterium coli*, MacConkey's bacillus No. 35, *B. schafferi, B. coli, Bacillus coli*)	Povolný et al., 1961
	SEPSIDAE
	Sepsis punctum (Fabricius)
	Povolný et al., 1961
	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Beyer, 1925
	Gregor et al., 1960
	Povolný et al., 1961
	Piophila pectiniventris Duda
	Lysenko, 1958
	SPHAEROCERIDAE
	Copromyza atra (Meigen)
	Povolný et al., 1961
	Leptocera ferruginata (Stenhammar)
	Lysenko, 1958
	Limosina punctipennis (Wiedemann)
	Nicholls, 1912
	UNDETERMINED SPHAEROCERIDAE
	Povolný et al., 1961
	UNDETERMINED DROSOPHILIDAE
	Povolný et al., 1961
	ANTHOMYIIDAE: SCATOPHAGINAE
	Scatophaga stercoraria (Linnaeus)
	Povolný et al., 1961
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén)
	Povolný et al., 1961
	Anthomyia pluvialis (Linnaeus)
	Povolný et al., 1961

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Escherichia coli (cont.)

MUSCIDAE: MYDAEINAE
Helina Robineau-Desvoidy
Graham-Smith, 1909
Mydaea urbana (Meigen)
Povolný et al., 1961
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Yao et al., 1929
Gregor et al., 1960
Povolný et al., 1961
Fannia incisurata (Zetterstedt)
Lysenko, 1958
Fannia scalaris (Fabricius)
Yao et al., 1929
Povolný et al., 1961
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Lysenko, 1958
Gregor et al., 1960
Povolný et al., 1961
Hydrotaea irritans (Fallén)
Gregor et al., 1960
Hydrotaea occulta (Meigen)
Povolný et al., 1961
Ophyra leucostoma (Wiedemann)
Gregor et al., 1960
Povolný et al., 1961
Lasiops simplex (Wiedemann)
Povolný et al., 1961
Phaonia incana (Wiedemann)
Hoffmann, 1950
Phaonia querceti (Bouché)
Zmeev, 1943
Muscina stabulans (Fallén)
Beyer, 1925
Zmeev, 1943
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
MUSCIDAE: MUSCINAE
Synthesiomyia nudiseta (Wulp)
Beyer, 1925
Orthellia caerulea Wiedemann
Shimizu et al., 1965
Musca domestica Linnaeus
Hamilton, 1903
Graham-Smith, 1909
Nicoll, 1911a
Tebbutt, 1913
Scott, 1917a

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Escherichia coli (cont.)
Reinstorf, 1923
Beyer, 1925
Shope, 1927
Yao et al., 1929
Parisot et al., 1934
Jones, 1941
Ostrolenk et al., 1942a
Vanni, 1946
Emmel, 1949
Hoffmann, 1950
Hawley et al., 1951
Gerberich, 1951
Gabaldón, 1955
Cova Garcia, 1956
Ingram et al., 1956
Radvan, 1956
Coutinho et al., 1957
Radvan, 1960a, 1960b, 1960c
Povolný et al., 1961
Greenberg et al., 1963a
Havlik, 1964
House fly (presumably *Musca domestica* Linnaeus)
Purdy, 1906
Jenkins et al., 1954
Musca domestica vicina Macquart
Floyd et al., 1953
Silverman et al., 1953
Levinson, 1960
MUSCIDAE: STOMOXYINAE
Haemotobia irritans (Linnaeus)
Stirrat et al., 1955
Stomoxys calcitrans (Linnaeus)
Povolný et al., 1961
Love et al., 1965
CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Beyer, 1925
Chrysomya megacephala (Fabricius)
Chow, 1940
Shimizu et al., 1965
Chrysomya pinguis (Walker)
Shimizu et al., 1965
Phormia regina (Meigen)
Beyer, 1925
Greenberg, 1962
Protophormia terraenovae (Robineau-Desvoidy)
Pavillard et al., 1957
Lysenko, 1958

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Escherichia coli (cont.)
Gregor et al., 1960
Radvan, 1960a, 1960b, 1960c
Havlik, 1964
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Beyer, 1925
Yao et al., 1929
Gregor et al., 1960
Phaenicia cuprina Wiedemann
Shimizu et al., 1965
Phaenicia sericata (Meigen)
Michelbacher et al., 1932
Hobson, 1932b, 1935
Zmeev, 1943
Gregor et al., 1960
Povolný et al., 1961
Greenberg, 1962
Havlik, 1964
Aldrichina grahami (Aldrich)
Shimizu et al., 1965
Calliphora vicina Robineau-Desvoidy
Yao et al., 1929
Parisot et al., 1934
Balzam, 1937
Hoffmann, 1950
Gregor et al., 1960
Povolný et al., 1961
Greenberg, 1962
Greenberg et al., 1963c
Havlik, 1964
Calliphora vomitoria (Linnaeus)
Wollman, 1911
Yao et al., 1929
Hoffmann, 1950
Gregor et al., 1960
Povolný et al., 1961
Cynomyopsis cadaverina (Robineau-Desvoidy)
Greenberg, 1962
UNDETERMINED LUCILIINI
Shimizu et al., 1965
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Pavan, 1949
Sarcophaga argyrostoma (Robineau-Desvoidy)
Beyer, 1925
Sarcophaga carnaria (Linnaeus)
Testi, 1909
Petragnani, 1925

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Escherichia coli (cont.)	Yao et al., 1929 Hoffmann, 1950 Povolný et al., 1961 *Sarcophaga haemorrhoidalis* (Fallén) Zmeev, 1943 Povolný et al., 1961 *Sarcophaga hirtipes* Wiedemann Zmeev, 1943 *Sarcophaga melanura* Meigen Povolný et al., 1961 UNDETERMINED SARCOPHAGIDAE Shimizu et al., 1965
Escherichia coli (Migula) Castellani and Chalmers 25	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Greenberg et al., 1963c
Escherichia coli (Migula) Castellani and Chalmers 26 B6	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Brygoo et al., 1962
Escherichia coli (Migula) Castellani and Chalmers 086-B7	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Coutinho et al., 1957
Escherichia coli (Migula) Castellani and Chalmers 111 B4	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Brygoo et al., 1962
Escherichia coli var. *acidilactici* (Topley and Wilson) Yale (Synonyms: *Escherichia paraacidilactici* A, *Escherichia paraacidilactici* B, MacConkey's bacillus No. 2, *B. acidi lactici*, *Escherichia paraacidilactici*)	MUSCIDAE: MYDAEINAE *Helina* Robineau-Desvoidy Graham-Smith, 1909 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Graham-Smith, 1909 Zmeev, 1943 *Fannia leucosticta* (Meigen) Zmeev, 1943 *Fannia scalaris* (Fabricius) Zmeev, 1943 MUSCIDAE: PHAONIINAE *Ophyra leucostoma* (Wiedemann) Shura Bura, 1952 *Phaonia querceti* (Bouché) Zmeev, 1943 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1909 Nicoll, 1911a Cox et al., 1912 Scott, 1917a *Musca larvipara* Porchinskiĭ Zmeev, 1943

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Escherichia coli var. *acidilactici* (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Zmeev, 1943 *Calliphora vicina* Robineau-Desvoidy Shura Bura, 1952 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Zmeev, 1943 *Sarcophaga hirtipes* Wiedemann Zmeev, 1943
Escherichia coli var. *communior* (Topley and Wilson) Yale (Synonym: *Escherichia communior*)	SEPSIDAE *Sepsis violacea* Meigen Beyer, 1925 *Helina* Robineau-Desvoidy Graham-Smith, 1909 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Graham-Smith, 1909 *Fannia scalaris* (Fabricius) Zmeev, 1943 MUSCIDAE: PHAONIINAE *Ophyra aenescens* (Wiedemann) Beyer, 1925 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1909 Scott, 1917a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Graham-Smith, 1909 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Beyer, 1925 Weil et al., 1933 *Phaenicia sericata* (Meigen) Weil et al., 1933 *Calliphora vicina* Robineau-Desvoidy Graham-Smith, 1909 *Calliphora vomitoria* (Linnaeus) Graham-Smith, 1909 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Zmeev, 1943 *Sarcophaga hirtipes* Wiedemann Zmeev, 1943
Escherichia coli var. *communis* ... (Escherich) Breed (Synonyms: *Bacillus coli communis*, MacConkey's bacillus No. 34)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911a Cox et al., 1912 Buchanan, 1913

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Escherichia coli var. *communis* (cont.)	Duncan, 1926 Tarasov et al., 1941 House fly (presumably *Musca domestica* Linnaeus) Manning, 1902 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Duncan, 1926
Escherichia coli var. *neapolitana* (Topley and Wilson) Yale (Synonyms: MacConkey's bacillus No. 72, *Bacillus neapolitanus*)	MUSCIDAE: MYDAEINAE *Helina* Robineau-Desvoidy Graham-Smith, 1909 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Graham-Smith, 1909 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1909 Nicoll, 1911a Cox et al., 1912 Buchanan, 1913 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Graham-Smith, 1909 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Graham-Smith, 1909 *Calliphora vomitoria* (Linnaeus) Graham-Smith, 1909
Escherichia freundii (Braak) Yale	ANTHOMYIIDAE: FUCELLINAE *Fucellia rufitibia* Stein O'Keefe et al., 1954 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya antiqua* (Meigen) O'Keefe et al., 1954 MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) O'Keefe et al., 1954 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955 *Stomoxys calcitrans* (Linnaeus) Love et al., 1965 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) O'Keefe et al., 1954
Escherichia intermedia (Werkman and Gillen) Vaughn and Levine	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Zmeev, 1943 O'Keefe et al., 1954

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(Synonyms: *Citrobacter intermedium*, *Escherichia intermedium*)

Fannia leucosticta (Meigen)
Zmeev, 1943
Fannia scalaris (Fabricius)
Zmeev, 1943
O'Keefe et al., 1954
MUSCIDAE: STOMOXYINAE
Haematobia irritans (Linnaeus)
Stirrat et al., 1955
Stomoxys calcitrans (Linnaeus)
Love et al., 1965
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga haemorrhoidalis (Fallén)
Zmeev, 1943

Aerobacter Beijerinck
(Synonyms: MacConkey's bacillus No. 67, MacConkey's bacillus No. 75, MacConkey's bacillus No. 102, MacConkey's bacillus No. 108a)

MUSCIDAE: FANNIINAE
Fannia leucosticta (Meigen)
Zmeev, 1943
Fannia scalaris (Fabricius)
Zmeev, 1943
MUSCIDAE: PHAONIINAE
Muscina stabulans (Fallén)
Zmeev, 1943
MUSCIDAE: MUSCINAE
Musca Linnaeus
de la Paz, 1938
Musca domestica Linnaeus
Nicoll, 1911a
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya Robineau-Desvoidy
de la Paz, 1938
Phormia regina (Meigen)
Knuckles, 1959
CALLIPHORIDAE: CALLIPHORINAE
Phaenicia sericata (Meigen)
Zmeev, 1943
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
de la Paz, 1938
Sarcophaga hirtipes Wiedemann
Zmeev, 1943

Aerobacter aerogenes (Kruse) Beijerinck
(Synonym: *Bacillus lactis aerogenes*)

PIOPHILIDAE
Piophila casei (Linnaeus)
Gregor et al., 1960
MUSCIDAE: MYDAEINAE
Helina Robineau-Desvoidy
Graham-Smith, 1909
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Zmeev, 1943
O'Keefe et al., 1954

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Aerobacter aerogenes (cont.)

Gregor et al., 1960
Povolný et al., 1961
Fannia leucosticta (Meigen)
Zmeev, 1943
Fannia scalaris (Fabricius)
Zmeev, 1943
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Gregor et al., 1960
Hydrotaea irritans (Fallén)
Gregor et al., 1960
Ophyra leucostoma (Wiedemann)
Gregor et al., 1960
Muscina stabulans (Fallén)
Gregor et al., 1960
Havlik, 1964
MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Graham-Smith, 1909
Cox et al., 1912
Buchanan, 1913
Ostrolenk et al., 1942a
Hawley et al., 1951
Greenberg, 1959b
Povolný et al., 1961
Greenberg et al., 1963a
Havlik, 1964
MUSCIDAE: STOMOXYINAE
Haematobia irritans (Linnaeus)
Stirrat et al., 1955
Stomoxys calcitrans (Linnaeus)
Love et al., 1965
CALLIPHORIDAE: CHRYSOMYINAE
Protophormia terraenovae (Robineau-Desvoidy)
Gregor et al., 1960
Havlik, 1964
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Gregor et al., 1960
Phaenicia sericata (Meigen)
Gregor et al., 1960
Havlik, 1964
Calliphora vicina Robineau-Desvoidy
Graham-Smith, 1909
Gregor et al., 1960
Greenberg, 1962
Havlik, 1964
Calliphora vomitoria (Linnaeus)
Graham-Smith, 1909

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Aerobacter aerogenes (cont.)	Gregor et al., 1960
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga haemorrhoidalis (Fallén) Zmeev, 1943
Aerobacter cloacae . . . . . (Jordan) Bergey et al. (Synonyms: MacConkey's bacillus No. 108, *Bacillus cloacae*)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a Povolný et al., 1961
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus) Stirrat et al., 1955
	Stomoxys calcitrans (Linnaeus) Love et al., 1965
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Michelbacher et al., 1932
	Calliphora vicina Robineau-Desvoidy Povolný et al., 1961
Aerobacter oxytocum . . . (Trevisan) Bergey et al. (Synonyms: MacConkey's bacillus No. 65, *Bacillus oxytocus perniciosus*)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a
Klebsiella Trevisan	PIOPHILIDAE
	Piophila casei (Linnaeus) Lysenko et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Prado et al., 1955 Lysenko et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy) Lysenko et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Lysenko et al., 1961
Klebsiella cloacae . . . . . (Jordan) Brisou	PIOPHILIDAE
	Piophila casei (Linnaeus) Gregor et al., 1960
	SPHAEROCERIDAE
	Leptocera ferruginata (Stenhammar) Lysenko, 1958
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus) Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius) Gregor et al., 1960

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Klebsiella cloacae (cont.)	*Hydrotaea irritans* (Fallén) Gregor et al., 1960 *Ophyra leucostoma* (Wiedemann) Gregor et al., 1960 *Muscina stabulans* (Fallén) Gregor et al., 1960 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lysenko, 1958 CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Gregor et al., 1960 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Gregor et al., 1960 *Phaenicia sericata* (Meigen) Gregor et al., 1960 *Calliphora vicina* Robineau-Desvoidy Gregor et al., 1960 *Calliphora vomitoria* (Linnaeus) Gregor et al., 1960
Klebsiella pneumoniae .... . (Schroeter) Trevisan (Synonyms: *Bacillus pneumoniae*, Friedlander's bacillus)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Buchanan, 1913 Shope, 1927
Klebsiella ?pneumoniae (Schroeter) Trevisan (Synonym: *Bacillus mucosus capsulatus*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Testi, 1909
Cloaca Castellani and Chalmers	PIOPHILIDAE *Piophila casei* (Linnaeus) Lysenko et al., 1961 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Zmeev, 1943 *Fannia leucosticta* (Meigen) Zmeev, 1943 *Fannia scalaris* (Fabricius) Zmeev, 1943 MUSCIDAE: PHAONIINAE *Phaonia querceti* (Bouché) Zmeev, 1943 *Muscina stabulans* (Fallén) Zmeev, 1943 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lysenko et al., 1961

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Cloaca (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Zmeev, 1943
	Lysenko et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga haemorrhoidalis (Fallén)
	Zmeev, 1943
	Sarcophaga hirtipes Wiedemann
	Zmeev, 1943
Paracolobactrum	MUSCIDAE: MUSCINAE
Borman, Stuart, and Wheeler	*Musca domestica* Linnaeus
	Prado et al., 1955
	Musca domestica vicina Macquart
	Shterngol'd, 1949
Paracolobactrum aerogenoides	ANTHOMYIIDAE: FUCELLINAE
Borman, Stuart, and Wheeler	*Fucellia rufitibia* Stein
(Synonym: *Paraaerobacter*)	O'Keefe et al., 1954
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya antiqua (Meigen)
	O'Keefe et al., 1954
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Zmeev, 1943
	Fannia leucosticta (Meigen)
	Zmeev, 1943
	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	O'Keefe et al., 1954
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Zmeev, 1943
	Calliphora vomitoria (Linnaeus)
	O'Keefe et al., 1954
Paracolobactrum coliforme ..	MUSCIDAE: MUSCINAE
Borman, Stuart, and Wheeler	*Musca domestica* Linnaeus
(Synonym: *Bacterium paracoli*)	Jones, 1941
	Radvan, 1960a, 1960b
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae
	(Robineau-Desvoidy)
	Radvan, 1960a, 1960b
Paracolobactrum intermedium ...	ANTHOMYIIDAE: FUCELLINAE
Borman, Stuart, and Wheeler	*Fucellia rufitibia* Stein
(Synonym: Coliform	O'Keefe et al., 1954
intermediates)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Prado et al., 1955
Erwinia amylovora .	DROSOPHILIDAE: DROSOPHILINAE
(Burrill) Winslow et al.	*Drosophila melanogaster* Meigen
	Ark et al., 1936

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Erwinia amylovora (cont.)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Ark et al., 1936
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Ark et al., 1936
Serratia Bizio	OTITIDAE: ULIDIINAE
	Physiphora demandata (Fabricius)
	Povolný et al., 1961
	SEPSIDAE
	Sepsis punctum (Fabricius)
	Povolný et al., 1961
	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Povolný et al., 1961
	UNDETERMINED SPHAEROCERIDAE
	Povolný et al., 1961
	UNDETERMINED DROSOPHILIDAE
	Povolný et al., 1961
	ANTHOMYIIDAE: SCATOPHAGINAE
	Scatophaga stercoraria (Linnaeus)
	Povolný et al., 1961
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén)
	Povolný et al., 1961
	Anthomyia pluvialis (Linnaeus)
	Povolný et al., 1961
	MUSCIDAE: MYDAEINAE
	Mydaea urbana (Meigen)
	Povolný et al., 1961
	MUSCIDAE: FANNIINAE
	Fannia scalaris (Fabricius)
	Povolný et al., 1961
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Povolný et al., 1961
	Hydrotaea occulta (Meigen)
	Povolný et al., 1961
	Lasiops simplex (Wiedemann)
	Povolný et al., 1961
	Muscina stabulans (Fallén)
	Povolný et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Prado et al., 1955
	Povolný et al., 1961
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Povolný et al., 1961

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Serratia (cont.)		CALLIPHORIDAE: CALLIPHORINAE
		Phaenicia sericata (Meigen)
		Povolný et al., 1961
		SARCOPHAGIDAE: SARCOPHAGINAE
		Sarcophaga carnaria (Linnaeus)
		Povolný et al., 1961
		Sarcophaga haemorrhoidalis (Fallén)
		Povolný et al., 1961
		Sarcophaga melanura Meigen
		Povolný et al., 1961
Serratia marcescens Bizio .	...	SEPSIDAE
(Synonyms: *Bacterium prodigiosum*, *Micrococcus prodigiosus*, *Bacillus prodigiosus*)		*Sepsis* Fallén
		Nicholls, 1912
		PIOPHILIDAE
		Piophila casei (Linnaeus)
		Gregor et al., 1960
		SPHAEROCERIDAE
		Limosina punctipennis (Wiedemann)
		Nicholls, 1912
		DROSOPHILIDAE: DROSOPHILINAE
		Drosophila fenestrarum Fallén
		Henneberg, 1902
		Drosophila funebris (Fabricius)
		Henneberg, 1902
		Drosophila melanogaster Meigen
		Nicholls, 1912
		MUSCIDAE: FANNIINAE
		Fannia canicularis (Linnaeus)
		Gregor et al., 1960
		MUSCIDAE: PHAONIINAE
		Hydrotaea dentipes (Fabricius)
		Gregor et al., 1960
		Hydrotaea irritans (Fallén)
		Gregor et al., 1960
		Ophyra leucostoma (Wiedemann)
		Gregor et al., 1960
		Muscina stabulans (Fallén)
		Gregor et al., 1960
		Havlik, 1964
		MUSCIDAE: MUSCINAE
		Musca domestica Linnaeus
		Graham-Smith, 1910, 1911a, 1911b
		Orton et al., 1910
		Herms, 1911
		Ledingham, 1911
		Duncan, 1926
		Bychkov, 1932
		Peppler, 1944
		Vanni, 1946
		Gerberich, 1951

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Serratia marcescens (cont.)	Radvan, 1956, 1960a, 1960c Stephens, 1963 Havlik, 1964
	House fly (presumably *Musca domestica* Linnaeus) Marpmann, 1884 Manning, 1902 Terry, 1912
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Duncan, 1926
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy) Gregor et al., 1960 Radvan, 1960c Havlik, 1964
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus) Gregor et al., 1960
	Phaenicia sericata (Meigen) Michelbacher et al., 1932 Gregor et al., 1960 Havlik, 1964
	Calliphora vicina Robineau-Desvoidy Graham-Smith, 1911a, 1911b Balzam, 1937 Gregor et al., 1960 Havlik, 1964
	Calliphora vomitoria (Linnaeus) Gregor et al., 1960
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Nicholls, 1912
	Sarcophaga aurifinis Walker Nicholls, 1912
	Tricharaea Thomson Nicholls, 1912
Proteus Hauser	MUSCIDAE: MUSCINAE
	Musca Linnaeus de la Paz, 1938
	Musca domestica Linnaeus Hamilton, 1903 Reinstorf, 1923 Prado et al., 1955 Coutinho et al., 1957
	Musca domestica vicina Macquart Shterngol'd, 1949 Floyd et al., 1953

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Proteus (cont.)	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Testi, 1909
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya Robineau-Desvoidy
	de la Paz, 1938
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	de la Paz, 1938
	Sarcophaga sarraceniae Riley
	Beyer, 1925
Proteus inconstans	PIOPHILIDAE
(Ornstein) Shaw and Clarke	*Piophila casei* (Linnaeus)
	Gregor et al., 1960
	SPHAEROCERIDAE
	Leptocera ferruginata (Stenhammar)
	Lysenko, 1958
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	Fannia incisurata (Zetterstedt)
	Lysenko, 1958
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Lysenko, 1958
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Lysenko, 1958
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae
	(Robineau-Desvoidy)
	Lysenko, 1958
	Gregor et al., 1960
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Gregor et al., 1960
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960

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Proteus mirabilis Hauser

.. PIOPHILIDAE
Piophila casei (Linnaeus)
Gregor et al., 1960
Lysenko et al., 1961
Piophila pectiniventris Duda
Lysenko, 1958
SPHAEROCERIDAE
Leptocera ferruginata (Stenhammar)
Lysenko, 1958
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
O'Keefe et al., 1954
Gregor et al., 1960
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Lysenko, 1958
Gregor et al., 1960
Hydrotaea irritans (Fallén)
Gregor et al., 1960
Ophyra leucostoma (Wiedemann)
Gregor et al., 1960
Muscina stabulans (Fallén)
Gregor et al., 1960
MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Cao, 1906
Greenberg, 1959b
Lysenko et al., 1961
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya megacephala (Fabricius)
Shimizu et al., 1965
Chrysomya pinguis (Walker)
Shimizu et al., 1965
Protophormia terraenovae
(Robineau-Desvoidy)
Lysenko, 1958
Gregor et al., 1960
Lysenko et al., 1961
Shimizu et al., 1965
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Cao, 1906
Gregor et al., 1960
Phaenicia cuprina Wiedemann
Shimizu et al., 1965
Phaenicia sericata (Meigen)
Gregor et al., 1960
Lysenko et al., 1961
Calliphora lata Coquillet
Shimizu et al., 1965

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Proteus mirabilis (cont.)	*Calliphora vicina* Robineau-Desvoidy Gregor et al., 1960 Greenberg et al., 1963c Greenberg, 1966 *Calliphora vomitoria* (Linnaeus) Cao, 1906 Gregor et al., 1960 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906 UNDETERMINED SARCOPHAGIDAE Shimizu et al., 1965
Proteus morganii .... (Winslow, Kligler, and Rothberg) Yale (Synonyms: *Morganella*, Morgan's bacillus, Morgan's bacillus No. 1, Morgan's bacillus No. 19, ?Pseudo No. 1 bacilli)	PIOPHILIDAE *Piophila casei* (Linnaeus) Gregor et al., 1960 Lysenko et al., 1961 MUSCIDAE: MYDAEINAE *Mydaea urbana* (Meigen) Povolný et al., 1961 MUSCIDAE: FANNIINAE *Fannia* Robineau-Desvoidy Shimizu et al., 1965 *Fannia canicularis* (Linnaeus) O'Keefe et al., 1954 Gregor et al., 1960 *Fannia scalaris* (Fabricius) O'Keefe et al., 1954 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Gregor et al., 1960 *Hydrotaea irritans* (Fallén) Gregor et al., 1960 *Ophyra leucostoma* (Wiedemann) Gregor et al., 1960 Povolný et al., 1961 *Lasiops simplex* (Wiedemann) Povolný et al., 1961 *Muscina stabulans* (Fallén) Gregor et al., 1960 Povolný et al., 1961 Havlik, 1964 MUSCIDAE: MUSCINAE *Orthellia caerulea* Wiedemann Shimizu et al., 1965 *Musca* Linnaeus de la Paz, 1938 Shimizu et al., 1965 *Musca domestica* Linnaeus Morgan et al., 1909 Nicoll, 1911a

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Proteus morganii (cont.)

Cox et al., 1912
Buchanan, 1913
Tebbutt, 1913
Jones, 1941
Hawley et al., 1951
Radvan, 1956, 1960a
Lysenko, 1958
Lysenko et al., 1961
Povolný et al., 1961
Havlik, 1964

House fly (presumably *Musca domestica* Linnaeus)
Nicoll, 1917b

CALLIPHORIDAE: CHRYSOMYINAE

Chrysomya Robineau-Desvoidy
de la Paz, 1938

Chrysomya megacephala (Fabricius)
Shimizu et al., 1965

Phormia regina (Meigen)
Knuckles, 1959

Protophormia terraenovae (Robineau-Desvoidy)
Lysenko, 1958
Gregor et al., 1960
Lysenko et al., 1961
Havlik, 1964
Shimizu et al., 1965

CALLIPHORIDAE: CALLIPHORINAE

Lucilia caesar (Linnaeus)
Gregor et al., 1960

Phaenicia cuprina Wiedemann
Shimizu et al., 1965

Phaenicia sericata (Meigen)
Gregor et al., 1960
Lysenko et al., 1961
Havlik, 1964
Shimizu et al., 1965

Aldrichina grahami (Aldrich)
Shimizu et al., 1965

Calliphora lata Coquillet
Shimizu et al., 1965

Calliphora vicina Robineau-Desvoidy
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964

Calliphora vomitoria (Linnaeus)
Gregor et al., 1960

UNDETERMINED LUCILIINI
Shimizu et al., 1965

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Proteus morganii (cont.)	UNDETERMINED CALLIPHORINI Shimizu et al., 1965 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen de la Paz, 1938 *Sarcophaga haemorrhoidalis* (Fallén) Povolný et al., 1961 *Sarcophaga peregrina* Robineau-Desvoidy Shimizu et al., 1965 UNDETERMINED SARCOPHAGIDAE Shimizu et al., 1965
Proteus rettgeri . . . . . (Hadley et al.) Rustigian and Stuart (Synonym: *Rettgerella*)	PIOPHILIDAE *Piophila casei* (Linnaeus) Gregor et al., 1960 Lysenko et al., 1961 *Piophila pectiniventris* Duda Lysenko, 1958 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Gregor et al., 1960 *Fannia incisurata* (Zetterstedt) Lysenko, 1958 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Lysenko, 1958 Gregor et al., 1960 *Hydrotaea irritans* (Fallén) Gregor et al., 1960 *Ophyra* Robineau-Desvoidy Shimizu et al., 1965 *Ophyra leucostoma* (Wiedemann) Lysenko, 1958 Gregor et al., 1960 *Muscina stabulans* (Fallén) Gregor et al., 1960 MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 Shimizu et al., 1965 *Musca domestica* Linnaeus Lysenko et al., 1961 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya megacephala* (Fabricius) Shimizu et al., 1965 *Chrysomya pinguis* (Walker) Shimizu et al., 1965

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Proteus rettgeri (cont.)	*Protophormia terraenovae* (Robineau-Desvoidy)
	Lysenko, 1958
	Gregor et al., 1960
	Lysenko et al., 1960
	Shimizu et al., 1965
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia cuprina Wiedemann
	Shimizu et al., 1965
	Phaenicia sericata (Meigen)
	Gregor et al., 1960
	Lysenko et al., 1961
	Shimizu et al., 1965
	Aldrichina grahami (Aldrich)
	Shimizu et al., 1965
	Calliphora lata Coquillet
	Shimizu et al., 1965
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
	UNDETERMINED LUCILIINI
	Shimizu et al., 1965
	UNDETERMINED CALLIPHORINI
	Shimizu et al., 1965
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga haemorrhoidalis (Fallén)
	Povolný et al., 1961
	Sarcophaga peregrina Robineau-Desvoidy
	Shimizu et al., 1965
	UNDETERMINED SARCOPHAGIDAE
	Shimizu et al., 1965
Proteus vulgaris Hauser ..... (Synonyms: *B. proteus vulgaris*, *Bacillus proteus*)	OTITIDAE: ULIDIINAE
	Physiphora demandata (Fabricius)
	Povolný et al., 1961
	SEPSIDAE
	Sepsis punctum (Fabricius)
	Povolný et al., 1961
	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Gregor et al., 1960
	Lysenko et al., 1961
	Povolný et al., 1961
	Piophila pectiniventris Duda
	Lysenko, 1958
	SPHAEROCERIDAE
	Copromyza atra (Meigen)
	Povolný et al., 1961

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Proteus vulgaris (cont.)

Leptocera ferruginata (Stenhammar)
Lysenko, 1958
UNDETERMINED SPHAEROCERIDAE
Povolný et al., 1961
UNDETERMINED DROSOPHILIDAE
Povolný et al., 1961
ANTHOMYIIDAE: FUCELLINAE
Fucellia rufitibia Stein
O'Keefe et al., 1954
ANTHOMYIIDAE: ANTHOMYIINAE
Hylemya antiqua (Meigen)
O'Keefe et al., 1954
Hylemya cinerella (Fallén)
Povolný et al., 1961
Anthomyia pluvialis (Linnaeus)
Povolný et al., 1961
MUSCIDAE: MYDAEINAE
Mydaea urbana (Meigen)
Povolný et al., 1961
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
O'Keefe et al., 1954
Gregor et al., 1960
Povolný et al., 1961
Fannia incisurata (Zetterstedt)
Lysenko, 1958
Fannia scalaris (Fabricius)
O'Keefe et al., 1954
Povolný et al., 1961
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Lysenko, 1958
Gregor et al., 1960
Povolný et al., 1961
Hydrotaea irritans (Fallén)
Gregor et al., 1960
Hydrotaea occulta (Meigen)
Povolný et al., 1961
Ophyra leucostoma (Wiedemann)
Gregor et al., 1960
Povolný et al., 1961
Muscina stabulans (Fallén)
O'Keefe et al., 1954
Gregor et al., 1960
Povolný et al., 1961
Havlik, 1964
MUSCIDAE: MUSCINAE
Orthellia caerulea Wiedemann
Shimizu et al., 1965

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Proteus vulgaris (cont.)

Musca domestica Linnaeus
Ficker, 1903
Cao, 1906
Testi, 1909
Ledingham, 1911
Buchanan, 1913
Scott, 1917a
Shope, 1927
Gerberich, 1951
Radvan, 1956, 1960a, 1960b, 1960c
Greenberg, 1959b
Lysenko et al., 1961
Povolný et al., 1961
Greenberg et al., 1963a
Havlik, 1964
Musca domestica vicina Macquart
Shterngol'd, 1949
Sukhova, 1954
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Povolný et al., 1961
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya megacephala (Fabricius)
Shimizu et al., 1965
Chrysomya pinguis (Walker)
Shimizu et al., 1965
Phormia regina (Meigen)
Maseritz, 1934
O'Keefe et al., 1954
Greenberg, 1962
Protophormia terraenovae (Robineau-Desvoidy)
Pavillard et al., 1957
Lysenko, 1958
Gregor et al., 1960
Radvan, 1960a, 1960b, 1960c
Lysenko et al., 1961
Havlik, 1964
Shimizu et al., 1965
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Cao, 1906
Weil, 1933
Gregor et al., 1960
Phaenicia cuprina Wiedemann
Shimizu et al., 1965
Phaenicia sericata (Meigen)
Hobson, 1932a, 1935
Michelbacher et al., 1932
Weil et al., 1933

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Proteus vulgaris (cont.)		Simmons, 1935a, 1935b O'Keefe et al., 1954 Sukhova, 1954 Gregor et al., 1960 Lysenko et al., 1961 Povolný et al., 1961 Greenberg, 1962 Havlik, 1964
		Calliphora vicina Robineau-Desvoidy Gregor et al., 1960 Povolný et al., 1961 Greenberg, 1962 Havlik, 1964
		Calliphora vomitoria (Linnaeus) Cao, 1906 Wollman, 1911 Gregor et al., 1960 Povolný et al., 1961
		Cynomyopsis cadaverina (Robineau-Desvoidy) O'Keefe et al., 1954 Greenberg, 1962
		UNDETERMINED LUCILIINI Shimizu et al., 1965
		SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906 Testi, 1909
		Sarcophaga haemorrhoidalis (Fallén) Sukhova, 1954 Povolný et al., 1961
		UNDETERMINED SARCOPHAGIDAE Shimizu et al., 1965
Providencia Kauffmann (Synonym: *Providentia*)	. . . .	OTITIDAE: ULIDIINAE *Physiphora demandata* (Fabricius) Povolný et al., 1961
		PIOPHILIDAE *Piophila casei* (Linnaeus) Povolný et al., 1961
		SEPSIDAE *Sepsis punctum* (Fabricius) Povolný et al., 1961
		UNDETERMINED SPHAEROCERIDAE Povolný et al., 1961
		UNDETERMINED DROSOPHILIDAE Povolný et al., 1961
		ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya cinerella* (Fallén) Povolný et al., 1961

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Providencia (cont.)	*Anthomyia pluvialis* (Linnaeus) Povolný et al., 1961 MUSCIDAE: FANNIINAE *Fannia scalaris* (Fabricius) Povolný et al., 1961 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Povolný et al., 1961 *Hydrotaea occulta* (Meigen) Povolný et al., 1961 *Ophyra* Robineau-Desvoidy Shimizu et al., 1965 MUSCIDAE: MUSCINAE *Musca* Linnaeus Shimizu et al., 1965 *Musca domestica* Linnaeus Radvan, 1960b, 1960c Lysenko et al., 1961 Shimizu et al., 1965 *Musca domestica vicina* Macquart Floyd et al., 1953 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya megacephala* (Fabricius) Shimizu et al., 1965 *Chrysomya pinguis* (Walker) Shimizu et al., 1965 *Protophormia terraenovae* (Robineau-Desvoidy) Radvan, 1960a, 1960b, 1960c Lysenko et al., 1961 Shimizu et al., 1965 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia cuprina* Wiedemann Shimizu et al., 1965 *Phaenicia sericata* (Meigen) Lysenko et al., 1961 Shimizu et al., 1965 UNDETERMINED LUCILIINI Shimizu et al., 1965 UNDETERMINED CALLIPHORINI Shimizu et al., 1965 UNDETERMINED SARCOPHAGIDAE Shimizu et al., 1965
Salmonella Lignières	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: PHAONIINAE *Ophyra aenescens* (Wiedemann) Greenberg et al., 1964

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Salmonella (cont.)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Alcivar et al., 1946
	Lindsay et al., 1953
	Gabaldón et al., 1956
	Bolaños, 1959
	Greenberg et al., 1964
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Greenberg et al., 1964
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	Greenberg et al., 1964
	Chrysomya megacephala (Fabricius)
	Shimizu et al., 1965
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	Greenberg et al., 1964
	Shimizu et al., 1965
	UNDETERMINED LUCILIINI
	Shimizu et al., 1965
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946
Salmonella alachua ..... Kauffmann	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Greenberg et al., 1963b
Salmonella amersfoort .... Henning	SYRPHIDAE: MILESIINAE
	Volucella obesa (Fabricius)
	Alcivar et al., 1946
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946
Salmonella anatum ..... (Rettger and Scoville) Bergey et al.	SYRPHIDAE: MILESIINAE
	Volucella obesa (Fabricius)
	Alcivar et al., 1946
	SEPSIDAE
	Paleosepsis Duda
	Greenberg et al., 1963b

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Salmonella anatum (cont.)	*Sepsis biflexuosa* Strobl Greenberg et al., 1963b *Sepsis punctum* (Fabricius) Greenberg et al., 1963b MUSCIDAE: PHAONIINAE *Ophyra aenescens* (Wiedemann) Greenberg et al., 1963b MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 Bolaños, 1959 Greenberg et al., 1963b CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 Greenberg et al., 1963b CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella ballerup .... Kauffmann and Møller	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella blockley ... . Kauffmann	MUSCIDAE: PHAONIINAE *Ophyra aenescens* (Wiedemann) Greenberg et al., 1964 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Greenberg et al., 1964 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Greenberg et al., 1964 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Greenberg et al., 1964

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Salmonella blockley (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Greenberg et al., 1964
Salmonella bovis-morbificans (Basenau) Schütze et al.	MUSCIDAE: PHAONIINAE
	Ophyra aenescens (Wiedemann) Greenberg et al., 1963b
Salmonella budapest . .. ... Kauffmann	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Prado et al., 1955
Salmonella chester . . . . Kauffmann	MUSCIDAE: PHAONIINAE
	Ophyra Robineau-Desvoidy Bulling et al., 1959
	UNDETERMINED MUSCIDAE Bulling et al., 1959
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy Bulling et al., 1959
	Calliphora Robineau-Desvoidy Bulling et al., 1959
Salmonella cholerae-suis . ... . (Smith) Weldin (Synonym: bacillus of swine fever)	SYRPHIDAE: MILESIINAE
	Volucella obesa (Fabricius) Alcivar et al., 1946
	MUSCIDAE: MUSCINAE
	Musca Linnaeus de la Paz, 1938
	Musca domestica Linnaeus Scott, 1917a Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius) Alcivar et al., 1946
	Chrysomya Robineau-Desvoidy de la Paz, 1938
	Chrysomya putoria (Wiedemann) Brygoo et al., 1962
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Alcivar et al., 1946
	Calliphora vomitoria (Linnaeus) Buchanan, 1907
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Alcivar et al., 1946
Salmonella columbensis . ... (Castellani) Castellani and Chalmers	MUSCIDAE: MUSCINAE
	Musca Linnaeus de la Paz, 1938
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya Robineau-Desvoidy de la Paz, 1938

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Salmonella columbensis (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	de la Paz, 1938
Salmonella derby	SEPSIDAE
Warren and Scott	*Paleosepsis* Duda
	Greenberg et al., 1963b
	Sepsis biflexuosa Strobl
	Greenberg et al., 1963b
	Sepsis punctum (Fabricius)
	Greenberg et al., 1963b
	SPHAEROCERIDAE
	Leptocera ferruginata (Stenhammar)
	Greenberg et al., 1963b
	Leptocera vagans (Haliday)
	Greenberg et al., 1963b
	MUSCIDAE: PHAONIINAE
	Ophyra aenescens (Wiedemann)
	Greenberg et al., 1963b
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Prado et al., 1955
	Greenberg et al., 1963b
	Tacal et al., 1967
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Greenberg et al., 1963b
	Phormia regina (Meigen)
	Greenberg et al., 1963b
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora Robineau-Desvoidy
	Tacal et al., 1967
Salmonella dublin	SYRPHIDAE: MILESIINAE
Kauffmann	*Volucella obesa* (Fabricius)
	Alcivar et al., 1946
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946

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Salmonella enteritidis .... (Gaertner) Castellani and Chalmers (Synonyms: *Bacillus enteritidis* of Gaertner, *Bacillus enteritidis*)	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1910 Cox et al., 1912 Buchanan, 1913 Ostrolenk et al., 1942a, 1942b Peppler, 1944 Alcivar et al., 1946 Gross et al., 1953 Prado et al., 1955 Greenberg, 1959a, 1959c CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Graham-Smith, 1912 *Phaenicia sericata* (Meigen) Alcivar et al., 1946 Gross et al., 1953 *Calliphora vicina* Robineau-Desvoidy Graham-Smith, 1911a, 1911b, 1912 Gross et al., 1953 Greenberg, 1966 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946 *Sarcophaga haemorrhoidalis* (Fallén) Gross et al., 1953
Salmonella florida . . .. Cherry, Edwards, and Bruner	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella gallinarum .... (Klein) Bergey	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938

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Salmonella gallinarum (cont.)	*Musca domestica* Linnaeus Gerberich, 1951
Salmonella give Kauffmann	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 Gross et al., 1953 Bolaños, 1959 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 Greenberg et al., 1963b *Chrysomya putoria* (Wiedemann) Brygoo et al., 1962 *Phormia regina* (Meigen) Greenberg et al., 1963b CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 Gross et al., 1953 *Calliphora vicina* Robineau-Desvoidy Gross et al., 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946 *Sarcophaga haemorrhoidalis* (Fallén) Gross et al., 1953
Salmonella hirschfeldii Weldin	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Yao et al., 1929 *Fannia scalaris* (Fabricius) Yao et al., 1929 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Yao et al., 1929 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Yao et al., 1929 *Calliphora vicina* Robineau-Desvoidy Yao et al., 1929 *Calliphora vomitoria* (Linnaeus) Yao et al., 1929 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Yao et al., 1929
Salmonella kentucky Edwards	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946

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Salmonella kentucky (cont.)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Alcivar et al., 1946
	Greenberg et al., 1963b
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946
Salmonella kottbus	SYRPHIDAE: MILESIINAE
Schütze et al.	*Volucella obesa* (Fabricius)
(Synonym: *Salmonella cottbus*)	Alcivar et al., 1946
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Alcivar et al., 1946
	UNDETERMINED MUSCIDAE
	Bulling et al., 1959
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Bulling et al., 1959
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	Calliphora Robineau-Desvoidy
	Bulling et al., 1959
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946
Salmonella meleagridis	SYRPHIDAE: MILESIINAE
Bruner and Edwards	*Volucella obesa* (Fabricius)
	Alcivar et al., 1946
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	Greenberg et al., 1963b
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946

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Salmonella minnesota .... Edwards and Bruner	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Prado et al., 1955
Salmonella muenchen . . . . . Kauffmann	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Greenberg et al., 1963b
Salmonella narashino ..... Kauffmann	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella new brunswick Edwards	MUSCIDAE: PHAONIINAE *Ophyra aenescens* (Wiedemann) Greenberg et al., 1963b
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Greenberg et al., 1963b
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Greenberg et al., 1963b *Phormia regina* (Meigen) Greenberg et al., 1963b
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Greenberg et al., 1963b
Salmonella newport Schütze . .	SPHAEROCERIDAE *Leptocera ferruginata* (Stenhammar) Greenberg et al., 1963b *Leptocera vagans* (Haliday) Greenberg et al., 1963b
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bolaños, 1959
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Greenberg et al., 1963b *Phormia regina* (Meigen) Greenberg et al., 1963b

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Salmonella onderstepoort Henning	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella oranienburg Kauffmann	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella oregon Edwards and Bruner	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella panama Kauffmann	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bolaños, 1959

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Salmonella panama (cont.)	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Greenberg et al., 1963b
Salmonella paratyphi A	MUSCIDAE: MUSCINAE
(Brion and Kayser)	*Musca domestica* Linnaeus
Castellani and Chalmers	Shope, 1927
(Synonym: *Bacillus paratyphi*	Boikov, 1932
Type I)	Gross et al., 1951, 1953
	Prado et al., 1955
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Gross et al., 1953
	Calliphora vicina Robineau-Desvoidy
	Gross et al., 1953
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga haemorrhoidalis (Fallén)
	Gross et al., 1953
Salmonella paratyphi B	SYRPHIDAE: MILESIINAE
Castellani and Chalmers	*Volucella obesa* (Fabricius)
	Alcivar et al., 1946
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Nicoll, 1911a
	Alcivar et al., 1946
	Gross et al., 1951, 1953
	Dishon, 1956
	Radvan, 1956
	Greenberg, 1959a
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Birk, 1932
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Alcivar et al., 1946
	Gross et al., 1953
	Calliphora vicina Robineau-Desvoidy
	Gross et al., 1953
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Alcivar et al., 1946
	Pavan, 1949
	Sarcophaga haemorrhoidalis (Fallén)
	Gross et al., 1953
Salmonella paratyphi C	HELEOMYZIDAE: HELEOMYZINAE
Castellani and Chalmers	*Heleomyza modesta* Meigen
	Anonymous, 1952

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Salmonella pullorum (Rettger) Bergey	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Gwatkin et al., 1944 Gerberich, 1951, 1952 House fly (presumably *Musca domestica* Linnaeus) Gwatkin et al., 1952 UNDETERMINED CALLIPHORIDAE Blow flies Gwatkin et al., 1952
Salmonella reading Schütze	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 Bolaños, 1959 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella saintpaul Edwards and Bruner	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bolaños, 1959
Salmonella sandiego Kauffmann	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bolaños, 1959
Salmonella schottmuelleri (Winslow, Kligler, and Rothberg) Bergey et al.	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hawley et al., 1951 Radvan, 1960a, 1960b, 1960c CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Knuckles, 1959 *Protophormia terraenovae* (Robineau-Desvoidy) Radvan, 1960a, 1960b, 1960c CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Greenberg, 1962
Salmonella typhi Warren and Scott (Synonyms: *Bacillus typhosus*, Typhoid, *Bacillus typhi abdominalis*, *Eberthella typhi*)	SEPSIDAE *Sepsis* Fallén Nicholls, 1912 SPHAEROCERIDAE *Leptocera* Macquart Boikov, 1932

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Salmonella typhi (cont.)

Limosina punctipennis (Wiedemann)
Nicholls, 1912
DROSOPHILIDAE: DROSOPHILINAE
Drosophila melanogaster Meigen
Nicholls, 1912
HELEOMYZIDAE: HELEOMYZINAE
Heleomyza modesta Meigen
Anonymous, 1952
ANTHOMYIIDAE: ANTHOMYIINAE
Hylemya Robineau-Desvoidy
Anonymous, 1952
MUSCIDAE: PHAONIINAE
Muscina stabulans (Fallén)
Anonymous, 1952
MUSCIDAE: MUSCINAE
Musca Linnaeus
de la Paz, 1938
Musca domestica Linnaeus
Firth et al., 1902
Ficker, 1903
Hamilton, 1903
Buchanan, 1907
Graham-Smith, 1910
Ledingham, 1911
Cochrane, 1912
Thomson, 1912
Krontowski, 1913
Tebbutt, 1913
Teodoro, 1916
Nicoll, 1917a
Wollman, 1921
Duncan, 1926
Shope, 1927
Ara et al., 1932
Boikov, 1932
Jones, 1941
Curbelo et al., 1945
Gross et al., 1951, 1953
Prado et al., 1955
Radvan, 1956, 1960a
Webb et al., 1956
Greenberg, 1959a, 1959c
Greenberg et al., 1963a
House fly (presumably *Musca domestica* Linnaeus)
Celli et al., 1888
Manning, 1902
Bertarelli, 1909
Ara, 1933
Musca domestica vicina Macquart
Floyd et al., 1953

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Salmonella typhi (cont.)

MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Duncan, 1926

CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Beyer, 1925
Chrysomya Robineau-Desvoidy
de la Paz, 1938
Chrysomya megacephala (Fabricius)
Chow, 1940
Phormia regina (Meigen)
Maseritz, 1934
Greenberg, 1962
Protophormia terraenovae
(Robineau-Desvoidy)
Webb et al., 1956

CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Krontowski, 1913
Teodoro, 1916
Wollman, 1921
Phaenicia sericata (Meigen)
Simmons, 1935a, 1935b
Anonymous, 1952
Gross et al., 1953
Sukhova, 1954
Greenberg, 1962
Eucalliphora lilaea (Walker)
Gwatkin et al., 1938
Calliphora terraenovae Macquart
Gwatkin et al., 1938
Calliphora vicina Robineau-Desvoidy
Graham-Smith, 1911a, 1911b
Teodoro, 1916
Gwatkin et al., 1938
Gross et al., 1953
Calliphora vomitoria (Linnaeus)
Wollman, 1921
Cynomyopsis cadaverina
(Robineau-Desvoidy)
Gwatkin et al., 1938
Webb et al., 1956
Greenberg, 1962
Cynomya mortuorum (Linnaeus)
Krontowski, 1913

UNDETERMINED CALLIPHORIDAE
Blue bottle fly
Firth et al., 1902

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Salmonella typhi (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Nicholls, 1912
	Pavan, 1949
	Sarcophaga aurifinis Walker
	Nicholls, 1912
	Sarcophaga carnaria (Linnaeus)
	Krontowski, 1913
	Teodoro, 1916
	Petragnani, 1925
	Sarcophaga haemorrhoidalis (Fallén)
	Gross et al., 1953
	Tricharaea Thomson
	Nicholls, 1912
Salmonella typhimurium . . . . . (Loeffler) Castellani and Chalmers	SYRPHIDAE: MILESIINAE
	Volucella obesa (Fabricius)
	Alcivar et al., 1946
	MUSCIDAE: PHAONIINAE
	Ophyra Robineau-Desvoidy
	Bulling et al., 1959
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	McNeil et al., 1944
	Alcivar et al., 1946
	Radvan, 1956, 1960a
	Greenberg, 1964
	Musca domestica vicina Macquart
	Floyd et al., 1953
	Brygoo et al., 1962
	UNDETERMINED MUSCIDAE
	Bulling et al., 1959
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Alcivar et al., 1946
	Chrysomya putoria (Wiedemann)
	Brygoo et al., 1962
	Phormia regina (Meigen)
	Knuckles, 1959
	Protophormia terraenovae (Robineau-Desvoidy)
	Pavillard et al., 1957
	Ojala et al., 1966
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Bulling et al., 1959
	Lucilia illustris (Meigen)
	Nuorteva, 1965
	Ojala et al., 1966

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Salmonella typhimurium (cont.)	*Phaenicia sericata* (Meigen) Alcivar et al., 1946 Ojala et al., 1966 *Calliphora* Robineau-Desvoidy Bulling et al., 1959 *Calliphora vicina* Robineau-Desvoidy Greenberg et al., 1963c SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Salmonella worthington ..... Edwards and Bruner	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Greenberg, 1963b
Salmonella zanzibar ..... Kauffmann	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 Bolaños, 1959 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Eberthella belfastiensis .. .. (Weldin and Levine) Bergey et al.	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938
Eberthella dubia . .. . (Chester) Bergey et al.	MUSCIDAE: PHAONIINAE *Musca* Linnaeus de la Paz, 1938
Eberthella kandiensis .... (Castellani) Bergey et al.	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938
Eberthella talavensis . . . . (Castellani) Bergey et al.	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938
Citrobacter . .. . Werkman and Gillen	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lysenko et al., 1961

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Citrobacter freundii . . Werkman and Gillen (Synonyms: *Escherichia anindolica, Escherichia freundii*)	PIOPHILIDAE *Piophila casei* (Linnaeus) Gregor et al., 1960 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Zmeev, 1943 Gregor et al., 1960 *Fannia incisurata* (Zetterstedt) Lysenko, 1958 *Fannia leucosticta* (Meigen) Zmeev, 1943 *Fannia scalaris* (Fabricius) Zmeev, 1943 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Gregor et al., 1960 *Hydrotaea irritans* (Fallén) Gregor et al., 1960 *Ophyra leucostoma* (Wiedemann) Lysenko, 1958 Gregor et al., 1960 *Muscina stabulans* (Fallén) Gregor et al., 1960 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lysenko, 1958 Greenberg, 1959b CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Gregor et al., 1960 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Gregor et al., 1960 *Phaenicia sericata* (Meigen) Gregor et al., 1960 *Calliphora vicina* Robineau-Desvoidy Gregor et al., 1960 *Calliphora vomitoria* (Linnaeus) Gregor et al., 1960 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Zmeev, 1943
Bethesda . . . . . Edwards, West, and Bruner	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Floyd et al., 1953
Shigella . . . . . Castellani and Chalmers (Synonym: Dysentery bacillus)	SCIARIDAE *Sciara* Meigen Boikov, 1932

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Shigella (cont.)	SPHAEROCERIDAE
	Leptocera Macquart
	Boikov, 1932
	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila funebris (Fabricius)
	Boikov, 1932
	MUSCIDAE: FANNIINAE
	Fannia scalaris (Fabricius)
	Zaidenov, 1961
	MUSCIDAE: PHAONIINAE
	Ophyra Robineau-Desvoidy
	Shimizu et al., 1965
	Ophyra aenescens (Wiedemann)
	Greenberg et al., 1964
	Muscina stabulans (Fallén)
	Zaidenov, 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Boikov, 1932
	Lindsay et al., 1953
	Boyd, 1957
	Zaidenov, 1961
	Greenberg et al., 1964
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Greenberg et al., 1964
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius)
	Shimizu et al., 1965
	How (original not seen)
	Phormia regina (Meigen)
	Greenberg et al., 1964
	Protophormia terraenovae (Robineau-Desvoidy)
	Zaidenov, 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vomitoria (Linnaeus)
	Zaidenov, 1961
	UNDETERMINED LUCILIINI
	Shimizu et al., 1965
?Shigella	MUSCIDAE: PHAONIINAE
Castellani and Chalmers	*Muscina stabulans* (Fallén)
	Sychevskaĭa et al., 1959a
	MUSCIDAE: MUSCINAE
	Musca domestica vicina Macquart
	Sychevskaĭa et al., 1959a
	Musca larvipara Porchinskiĭ
	Sychevskaĭa et al., 1959a
	Musca osiris Wiedemann
	Sychevskaĭa et al., 1959a

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?Shigella (cont.)	*Musca sorbens* Wiedemann Sychevskaîâ et al., 1959a CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Sychevskaîâ et al., 1959a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaîâ et al., 1959a
Shigella alkalescens (Andrewes) Weldin	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 Gabaldón et al., 1956 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Shigella ambigua . . . (Andrewes) Weldin	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen de la Paz, 1938
Shigella boydii Ewing	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bolaños, 1959
Shigella boydii .... Ewing 1, 2, 3, 4, 5, 6, 8, 9 (Synonym: *Shigella paradysenteriae*)	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946

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Shigella boydii Ewing 2 . . .	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella boydii Ewing 5	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella boydii Ewing 6	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961

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Shigella boydii Ewing 6 (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella ceylonensis (Weldin) Weldin	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Shigella dispar (Andrewes) Bergey et al.	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946 Gabaldón et al. (in review), 1956 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Shigella dysenteriae (Shiga) Castellani and Chalmers (Synonyms: Shiga's bacillus, Bacillus dysenterique Shiga, Dysentery bacillus, Shiga-Kruse bacillus, *Shigella paradysenteriae* var. *Shiga-Kruse*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila ferruginea* Becker Beyer, 1925 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya* Robineau-Desvoidy Anonymous, 1952 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Yao et al., 1929 *Fannia scalaris* (Fabricius) Yao et al., 1929 MUSCIDAE: PHAONIINAE *Ophyra aenescens* (Wiedemann) Beyer, 1925

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Shigella dysenteriae (cont.)

MUSCIDAE: MUSCINAE
Synthesiomyia nudiseta (Wulp)
Beyer, 1925
Musca Linnaeus
de la Paz, 1938
Musca domestica Linnaeus
Krontowski, 1913
Manson-Bahr, 1919
Paraf, 1920
Wollman, 1921
Reinstorf, 1923
Duncan, 1926
Yao et al., 1929
R. M., 1937
Emmel, 1949
Hawley et al., 1951
Boyd, 1957
Stephens, 1963
House fly (presumably *Musca domestica* Linnaeus)
Bahr, 1914
Musca domestica vicina Macquart
Shterngol'd, 1949
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Duncan, 1926
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya Robineau-Desvoidy
de la Paz, 1938
Chrysomya megacephala (Fabricius)
Chow, 1940
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Krontowski, 1913
Wollman, 1921
Beyer, 1925
Yao et al., 1929
Calliphora vicina Robineau-Desvoidy
Yao et al., 1929
Calliphora vomitoria (Linnaeus)
Wollman, 1921
Yao et al., 1929
Cynomya mortuorum (Linnaeus)
Krontowski, 1913
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
de la Paz, 1938
Sarcophaga carnaria (Linnaeus)
Krontowski, 1913
Yao et al., 1929

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Shigella dysenteriae (Shiga) Castellani and Chalmers 1 (Synonym: Grigor'ev-Shiga dysentery bacillus)	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Sychevskaĭa et al., 1959a *Musca sorbens* Wiedemann Sychevskaĭa et al., 1959a MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961
Shigella dysenteriae (Shiga) Castellani and Chalmers 2 (Synonym: Schmitz-Shtutser dysentery bacillus)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 *Musca domestica vicina* Macquart Floyd et al., 1953 Sychevskaĭa et al., 1959a CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 *Phaenicia sericata* (Meigen) Sychevskaĭa et al., 1959a *Calliphora vicina* Robineau-Desvoidy Sychevskaĭa et al., 1959a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961 *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaĭa et al., 1959a
Shigella dysenteriae (Shiga) Castellani and Chalmers 3-7	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Floyd et al., 1953
Shigella flexneri .... Castellani and Chalmers (Synonyms: *Shigella paradysenteriae*, Flexner dysentery bacillus, *Bacillus dysenteriae* type "Y," *Pseudodysenteriae* A6154, *Pseudodysenteriae* D9112, *Shigella dysenteriae* Hiss-Flexner)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila ananassae* Doleschall Gabaldón et al., 1956 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Sychevskaĭa et al., 1959a Arskiĭ et al., 1961 *Fannia scalaris* (Fabricius) Sychevskaĭa et al., 1959a MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Sychevskaĭa et al., 1959a Arskiĭ et al., 1961

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Shigella dysenteriae
Castellani and Chalmers 3-7 (cont.)

MUSCIDAE: MUSCINAE
Musca Linnaeus
de la Paz, 1938
Musca domestica Linnaeus
Auché, 1906
Tebbutt, 1913
Emmel, 1949
Gross et al., 1953
Shura-Bura, 1955, 1957
Gabaldón et al., 1956
Greenberg, 1959c
Reinstorf, 1923
House fly (presumably *Musca domestica* Linnaeus)
Auché, 1906
Musca domestica vicina Macquart
Shterngol'd, 1949
Sukhova, 1954
Shura-Bura, 1955
Sychevskaĭa et al., 1959a
Arskiĭ et al., 1961
Musca sorbens Wiedemann
Sychevskaĭa et al., 1959a
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya Robineau-Desvoidy
de la Paz, 1938
Chrysomya putoria (Wiedemann)
Brygoo et al., 1962
Phormia regina (Meigen)
Greenberg, 1962
CALLIPHORIDAE: CALLIPHORINAE
Phaenicia sericata (Meigen)
Gross et al., 1953
Arskiĭ et al., 1961
Greenberg, 1962
Calliphora vicina Robineau-Desvoidy
Gross et al., 1953
Sychevskaĭa et al., 1959a
Greenberg, 1962
Calliphora vomitoria (Linnaeus)
Beyer, 1925
Calliphora uralensis Villeneuve
Sukhova, 1950
Cynomyopsis cadaverina (Robineau-Desvoidy)
Greenberg, 1962
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
de la Paz, 1938
Pavan, 1949

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Shigella dysenteriae Castellani and Chalmers 3-7 (cont.)	*Sarcophaga haemorrhoidalis* (Fallén) Gross et al., 1953 Arskiĭ et al., 1961
	Sarcophaga sarraceniae Riley Beyer, 1925
Shigella ?flexneri ..... Castellani and Chalmers (Synonym: *Shigella dysenteriae* Hiss-Flexner)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora uralensis* Villeneuve Sukhova, 1950
Shigella flexneri ..... Castellani and Chalmers 1a (Synonym: Flexner dysentery bacillus type "f")	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961
	Muscina Robineau-Desvoidy Richards et al., 1961
	Muscina stabulans (Fallén) Sychevskaĭa et al., 1959b
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Sychevskaĭa et al., 1959b Richards et al., 1961
	Musca domestica vicina Macquart Sychevskaĭa et al., 1959a, 1959b
	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961
	Phaenicia sericata (Meigen) Sychevskaĭa et al., 1959a
	Calliphora vicina Robineau-Desvoidy Sychevskaĭa et al., 1959a
	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaĭa et al., 1959b
	Sarcophaga Meigen Richards et al., 1961
	Sarcophaga haemorrhoidalis (Fallén) Sychevskaĭa et al., 1959a
Shigella flexneri ..... Castellani and Chalmers 1a, 2a, Y (Synonym: *Shigella paradysenteriae* Flexner V, W, Y)	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Alcivar et al., 1946
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946

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Shigella dysenteriae Castellani and Chalmers 1a, 2a, Y (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946
Shigella flexneri .... Castellani and Chalmers 2a	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Greenberg, 1959a Richards et al., 1961 Evtodienko, 1968 *Musca domestica vicina* Macquart Floyd et al., 1953 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella flexneri .. .. Castellani and Chalmers 3	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella flexneri . ... Castellani and Chalmers 4a	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961

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Shigella flexneri (cont.)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella flexneri .. .. Castellani and Chalmers 4b	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
Shigella flexneri .. . . Castellani and Chalmers 5	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Floyd et al., 1953
Shigella flexneri . ... Castellani and Chalmers 6 (Synonyms: *Shigella paradysenteriae* Boyd 88, *Shigella newcastle*, Newcastle dysentery bacillus)	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Alcivar et al., 1946 MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kuhns et al., 1944 Alcivar et al., 1946 Prado et al., 1955 Richards et al., 1961 *Musca domestica vicina* Macquart Sychevskaĭa et al., 1959b

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Shigella dysenteriae Castellani and Chalmers 6 (cont.)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Alcivar et al., 1946 *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 *Phaenicia sericata* (Meigen) Alcivar et al., 1946 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Alcivar et al., 1946 Richards et al., 1961 *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaîâ et al., 1959a
Shigella flexneri ..... Castellani and Chalmers X (Synonym: Shigella variant "X" [flexner 7])	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Floyd et al., 1953
Shigella flexneri ..... Castellani and Chalmers Y (Synonyms: Hiss and Russel Y bacillus, *Shigella paradysenteriae* var. Hiss-Russel)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bahr, 1914 *Musca domestica vicina* Macquart Shterngol'd, 1949
Shigella giumai ..... (Castellani) Hauduroy et al.	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938
Shigella madampensis (Castellani) Weldin	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938
Shigella pfaffi ..... (Hadley et al.) Weldin	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938
Shigella sonnei ..... (Levine) Weldin	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Arskiĭ et al., 1961 MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Arskiĭ et al., 1961 MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 *Musca domestica* Linnaeus Gross et al., 1953 Shura-Bura, 1955

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Shigella sonnei (cont.)	Gabaldón et al., 1956 Radvan, 1956, 1960a, 1960b, 1960c Evtodienko, 1968 *Musca domestica vicina* Macquart Floyd et al., 1953 Arskiĭ et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938 *Protophormia terraenovae* (Robineau-Desvoidy) Radvan, 1960a, 1960b, 1960c CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* Meigen Gross et al., 1953 Arskiĭ et al., 1961 *Calliphora vicina* Robineau-Desvoidy Gross et al., 1953 Greenberg, 1962 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Gross et al., 1953 Arskiĭ et al., 1961
Shigella sonnei ..... (Levine) Weldin 1	MUSCIDAE: PHAONIINAE *Ophyra* Robineau-Desvoidy Richards et al., 1961 *Muscina* Robineau-Desvoidy Richards et al., 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richards et al., 1961 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy Richards et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Richards et al., 1961 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Richards et al., 1961
UNDETERMINED ENTEROBACTERIACEAE	
Coliform ..... (Synonym: *Coli-aerogenes*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Ficker, 1903 Peppler, 1944 House fly (presumably *Musca domestica* Linnaeus) Geldreich et al., 1963

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Coliform (cont.)	*Musca domestica vicina* Macquart McGuire et al., 1957
	Musca sorbens Wiedemann McGuire et al., 1957
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vomitoria (Linnaeus) Testi, 1909
Klebsiella-Cloaca intermediate forms	PIOPHILIDAE
	Piophila casei (Linnaeus) Lysenko et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Lysenko et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy) Lysenko et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Lysenko et al., 1961
MacConkey's bacillus No. 7, unvalidated	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a
MacConkey's bacillus No. 36, unvalidated	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a
MacConkey's bacillus No. 36a, unvalidated	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a
MacConkey's bacillus No. 74, unvalidated	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a
MacConkey's bacillus No. 109, unvalidated	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Nicoll, 1911a
Paraescherichia, unvalidated	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus) Zmeev, 1943
	MUSCIDAE: PHAONIINAE
	Phaonia querceti (Bouché) Zmeev, 1943
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Zmeev, 1943
BRUCELLACEAE	
Pasteurella boviseptica (Kruse) Holland	MUSCIDAE: STOMOXYINAE
	Haematobia exigua (de Meijere) Nieschulz et al., 1929

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Pasteurella multocida (Lehmann and Neumann) Rosenbusch and Merchant (Synonyms: *Bacillus cuniculicida, Septicaemia haemorrhagica bubalorum*, bacillus of swine plague)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Scott, 1917a, 1917b Shope, 1927 Skidmore, 1932 *Musca inferior* Stein Nieschulz et al., 1929 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Nieschulz et al., 1929
Pasteurella pestis (Lehmann and Neumann) Holland (Synonyms: plague bacillus, *Bacillus pestis*)	ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya* Robineau-Desvoidy Anonymous, 1952 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nuttall, 1897 Hunter, 1906 Gosio, 1925 Duncan, 1926 Wollman, 1927 Russo, 1930 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Duncan, 1926 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Gosio, 1925 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Lang, 1940 *Lucilia caesar* (Linnaeus) Russo, 1930 *Calliphora vomitoria* (Linnaeus) Gosio, 1925 Russo, 1930 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Petragnani, 1925 Russo, 1930
Pasteurella tularensis (McCoy and Chapin) Bergey et al. (Synonym: *B. tularense*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Wayson, 1914 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wayson, 1914 Somov et al., 1937 Olsufiev, 1940 Romanova, 1947 Bozhenko et al., 1948

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Brucella (Meyer and Shaw) Pribram	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Antonov, 1945
Brucella abortus (Schmidt) Meyer and Shaw	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Ruhland et al., 1941 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Duncan, 1926 Wollman, 1927 Ruhland et al., 1941 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Duncan, 1926 Ruhland et al., 1941 Wellmann, 1950/51, 1959 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Ruhland et al., 1941 *Lucilia caesar* (Linnaeus) Wollman, 1927 *Eucalliphora lilaea* (Walker) Gwatkin et al., 1938 *Calliphora* Robineau-Desvoidy Ruhland et al., 1941 *Calliphora terraenovae* Macquart Gwatkin et al., 1938 *Calliphora vicina* Robineau-Desvoidy Gwatkin et al., 1938 *Cynomyopsis cadaverina* (Robineau-Desvoidy) Gwatkin et al., 1938
Brucella melitensis (Hughes) Meyer and Shaw (Synonym: *B. melitensis*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Duncan, 1926 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Eyre et al., 1907 Duncan, 1926 Wellmann, 1950/51, 1959 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Pavan, 1949
Brucella suis Huddleson	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wellmann, 1950/51, 1959
Haemophilus influenzae (Lehmann and Neumann) Winslow et al.	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicolle et al., 1919 Wollman, 1927

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Haemophilus influenzae (cont.)	*Musca domestica vicina* Macquart McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Greenberg, 1962
Haemophilus ?influenzae ..... (Lehmann and Neumann) Winslow et al.	MUSCIDAE: MUSCINAE *Musca sorbens* Wiedemann Sukhova, 1953
Moraxella bovis . . . . . . (Hauduroy et al.) Murray	MUSCIDAE: MUSCINAE *Musca autumnalis* De Geer Brown, 1965 Steve et al., 1965
Moraxella lacunata . . . . . . (Eyre) Lwoff	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Wollman, 1927
Cillopasteurella . . . . . . *delendae-muscae* (Roubaud and Descazeaux) Prévot (Synonym: *Bacterium delendae-muscae*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Roubaud et al., 1923 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Roubaud et al., 1923 CALLIPHORIDAE: CALLIPHORINAE ?*Calliphora vomitoria* (Linnaeus) Roubaud et al., 1923
BACTEROIDACEAE	
Bacteroides vulgatus . . . . . Eggerth and Gagnon	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Duncan, 1926 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Duncan, 1926
MICROCOCCACEAE	
Micrococcus Cohn	SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Maddox, 1885b MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Smuidsinovicia, 1889 *Musca domestica* Linnaeus Prado et al., 1955 Coutinho et al., 1957 House fly (presumably *Musca domestica* Linnaeus) Ramirez, 1898 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Maddox, 1885b Bogdanow, 1906, 1908

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Micrococcus candidus Cohn	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
Micrococcus caseolyticus Evans	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
Micrococcus rushmorei Brown	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Brown, 1927
Staphylococcus Rosenbach (beta-hemolytic)	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957
Staphylococcus Rosenbach (non-hemolytic)	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957
Staphylococcus Rosenbach (non-pathogenic)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Ewing, 1942
Staphylococcus Rosenbach (pathogenic)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Ewing, 1942 *Musca domestica vicina* Macquart Brygoo et al., 1962 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Brygoo et al., 1962 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Brygoo et al., 1962
Staphylococcus Rosenbach	MUSCIDAE: MUSCINAE *Musca* Linnaeus de la Paz, 1938 *Musca domestica* Linnaeus Cox et al., 1912 Picado, 1935 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya* Robineau-Desvoidy de la Paz, 1938 *Phormia regina* (Meigen) Picado, 1935 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia eximia* (Wiedemann) Picado, 1935

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Staphylococcus (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Picado, 1935
	de la Paz, 1938
Staphylococcus afermentans	PIOPHILIDAE
Shaw, Stitt, and Cowan	*Piophila casei* (Linnaeus)
	Gregor et al., 1960
	SPHAEROCERIDAE
	Leptocera ferruginata (Stenhammar)
	Lysenko, 1958
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae
	(Robineau-Desvoidy)
	Gregor et al., 1960
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Gregor et al., 1960
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
Staphylococcus aureus	OTITIDAE: ULIDIINAE
Rosenbach	*Physiphora demandata* (Fabricius)
(Synonyms: *Staphylococcus pyogenes, Micrococcus pyogenes* var. *aureus, Staphylococcus albus, Micrococcus aureus, Micrococcus citreus, Micrococcus pyogenes* var. *albus, Staphylococcus pyogenes* var. *aureus, Micrococcus albus*)	Povolný et al., 1961
	SEPSIDAE
	Sepsis Fallén
	Nicholls, 1912
	Sepsis punctum (Fabricius)
	Povolný et al., 1961
	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Gregor et al., 1960
	Povolný et al., 1961

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Staphylococcus aureus (cont.)

SPHAEROCERIDAE
Limosina punctipennis (Wiedemann)
Nicholls, 1912

UNDETERMINED SPHAEROCERIDAE
Povolný et al., 1961

DROSOPHILIDAE: DROSOPHILINAE
Drosophila melanogaster Meigen
Nicholls, 1912

UNDETERMINED DROSOPHILIDAE
Povolný et al., 1961

CHLOROPIDAE: OSCINELLINAE
Hippelates flavipes Loew
Nicholls, 1912
Taplin et al., 1965
Siphunculina funicola de Miejere
Syddiq, 1938

ANTHOMYIIDAE: ANTHOMYIINAE
Hylemya cinerella (Fallén)
Povolný et al., 1961
Anthomyia pluvialis (Linnaeus)
Povolný et al., 1961

MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Gregor et al., 1960
Povolný et al., 1961

MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Gregor et al., 1960
Povolný et al., 1961
Hydrotaea irritans (Fallén)
Gregor et al., 1960
Hydrotaea occulta (Meigen)
Povolný et al., 1961
Ophyra leucostoma (Wiedemann)
Gregor et al., 1960
Muscina stabulans (Fallén)
Gregor et al., 1960

MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Buchanan, 1907
Herms, 1911
Scott, 1917a
Reinstorf, 1923
Duncan, 1926
Shope, 1927
Hawley et al., 1951
Gerberich, 1951
Coutinho et al., 1957
Radvan, 1960a, 1960b, 1960c

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Staphylococcus aureus (cont.)

Povolný et al., 1961
Greenberg et al., 1963a
House fly (presumably *Musca domestica* Linnaeus)
Celli et al., 1888
Manning, 1902
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Duncan, 1926
CALLIPHORIDAE: CHRYSOMYINAE
Phormia regina (Meigen)
Maseritz, 1934
Greenberg, 1962
Protophormia terraenovae (Robineau-Desvoidy)
Pavillard et al., 1957
Gregor et al., 1960
Radvan, 1960a, 1960c
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Beyer, 1925
Weil et al., 1933
Gregor et al., 1960
Phaenicia sericata (Meigen)
Michelbacher et al., 1932
Robinson et al., 1933
Weil et al., 1933
Robinson et al., 1934
Simmons, 1935a, 1935b
Gregor et al., 1960
Greenberg, 1962
Eucalliphora lilaea (Walker)
Gwatkin et al., 1938
Calliphora terraenovae Macquart
Gwatkin et al., 1938
Calliphora vicina Robineau-Desvoidy
Gwatkin et al., 1938
Gregor et al., 1960
Greenberg, 1962
Calliphora vomitoria (Linnaeus)
Wollman, 1911
Gregor et al., 1960
Cynomyopsis cadaverina (Robineau-Desvoidy)
Gwatkin et al., 1938
Greenberg, 1962
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Nicholls, 1912
Pavan, 1949

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Staphylococcus aureus (cont.)	*Sarcophaga aurifinis* Walker Nicholls, 1912 *Sarcophaga carnaria* (Linnaeus) Testi, 1909 *Tricharaea* Thomson Nicholls, 1912
Staphylococcus epidermidis (Winslow and Winslow) Evans (Synonym: *Micrococcus epidermidis*)	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Weil et al., 1933 *Phaenicia sericata* (Meigen) Weil et al., 1933
Staphylococcus flavus (Trevisan) Wood (Synonyms: *Micrococcus flavus*, *Micrococcus flavus liquefaciens*)	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Guyénot, 1907 Maseritz, 1934 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Guyénot, 1907
Staphylococcus lactis Shaw, Stitt, and Cowan	PIOPHILIDAE *Piophila casei* (Linnaeus) Gregor et al., 1960 SPHAEROCERIDAE *Leptocera ferruginata* (Stenhammar) Lysenko, 1958 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Gregor et al., 1960 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Gregor et al., 1960 *Hydrotaea irritans* (Fallén) Gregor et al., 1960 *Ophyra leucostoma* (Wiedemann) Gregor et al., 1960 *Muscina stabulans* (Fallén) Gregor et al., 1960 CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Lysenko, 1958 Gregor et al., 1960 Lysenko et al., 1961

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Staphylococcus lactis (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Gregor et al., 1960
	Lysenko et al., 1961
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
Staphylococcus muscae Glaser	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Glaser, 1924, 1938
	Shope, 1927
	House fly (presumably *Musca domestica* Linnaeus)
	Glaser, 1926
Staphylococcus saprophyticus ..... Fairbrother	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Gregor et al., 1960
	Lysenko et al., 1961
	SPHAEROCERIDAE
	Leptocera ferruginata (Stenhammar)
	Lysenko, 1958
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén)
	Lysenko, 1958
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Lysenko, 1958
	Lysenko et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Gregor et al., 1960
	Lysenko et al., 1961

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Staphylococcus saprophyticus (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Gregor et al., 1960 *Phaenicia sericata* (Meigen) Gregor et al., 1960 Lysenko et al., 1961 *Calliphora vicina* Robineau-Desvoidy Gregor et al., 1960 *Calliphora vomitoria* (Linnaeus) Gregor et al., 1960
Gaffkya Trevisan	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957
Gaffkya tetragena . . . . . (Gaffky) Trevisan (Synonym: *Gaffkya tetragenus*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Scott, 1917a CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Weil et al., 1933 *Phaenicia sericata* (Meigen) Weil et al., 1933 *Calliphora vomitoria* (Linnaeus) Testi, 1909
Sarcina Goodsir	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hamilton, 1903 Cox et al., 1912 Reinstorf, 1923 *Musca domestica vicina* Macquart Silverman et al., 1953 McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Michelbacher et al., 1932
Sarcina alba Zimmermann	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Manning, 1902
Sarcina aurantiaca Flügge . . (Synonym: *Sarcina aurantia*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Manning, 1902
Sarcina flava de Bary .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lysenko et al., 1961

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Sarcina flava (cont.)	CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Lysenko et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Lysenko et al., 1961
Sarcina loewenbergi Macé	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Galli-Vallerio, 1908
	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Galli-Vallerio, 1908
Sarcina lutea Schroeter	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hawley et al., 1951
Sarcina subflava Ravenel	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Beyer, 1925
NEISSERIACEAE	
Neiserria catarrhalis . . . (Froschand and Kolle) Holland	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Beyer, 1925
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Beyer, 1925
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga argyrostoma* (Robineau-Desvoidy) Beyer, 1925
Neisseria gonorrhoeae . ... Trevisan	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart McGuire et al., 1957
	Musca sorbens Wiedemann McGuire et al., 1957
Neisseria luciliarum Brown . . .	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Brown, 1927
BREVIBACTERIACEAE	
Brevibacterium ammoniagenes (Cooke and Keith) Breed (Synonym: *Bacterium ammoniagenes*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hawley et al., 1951
Kurthia zenkeri (Hauser) Bergey et al. (Synonym: *Proteus zenkeri*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Cao, 1906
	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Cao, 1906

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Kurthia zenkeri (cont.)	*Calliphora vomitoria* (Linnaeus) Cao, 1906
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga carnaria (Linnaeus) Cao, 1906
Kurthia zopfii (Kurth)	MUSCIDAE: MUSCINAE
(Synonym: *zopfii*)	*Musca domestica* Linnaeus Hamilton, 1903
LACTOBACILLACEAE	
Diplococcus pneumoniae	OTITIDAE: ULIDIINAE
Weichselbaum	*Physiphora demandata* (Fabricius) Povolný et al., 1961
(Synonym: *Pneumococcus*)	*Sepsis punctum* (Fabricius) Povolný et al., 1961
	PIOPHILIDAE
	Piophila casei (Linnaeus) Povolný et al., 1961
	UNDETERMINED SPHAEROCERIDAE Povolný et al., 1961
	UNDETERMINED DROSOPHILIDAE Povolný et al., 1961
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén) Povolný et al., 1961
	Anthomyia pluvialis (Linnaeus) Povolný et al., 1961
	MUSCIDAE: FANNIINAE
	Fannia scalaris (Fabricius) Povolný et al., 1961
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius) Povolný et al., 1961
	Hydrotaea occulta (Meigen) Povolný et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Povolný et al., 1961
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Povolný et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Phormia regina (Meigen) Maseritz, 1934
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Gregor et al., 1960 Povolný et al., 1961
	Calliphora vicina Robineau-Desvoidy Povolný et al., 1961

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Diplococcus pneumoniae (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga carnaria (Linnaeus) Povolný et al., 1961
	Sarcophaga haemorrhoidalis (Fallén) Povolný et al., 1961
Diplococcus pneumoniae Weichselbaum I (Synonym: *Pneumococcus* I)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Shope, 1927
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy) Pavillard et al., 1957
Diplococcus pneumoniae Weichselbaum II (Synonym: *Pneumococcus* II)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Shope, 1927
Streptococcus Rosenbach (alpha-hemolytic)	MUSCIDAE: MUSCINAE
	Musca domestica vicina Macquart McGuire et al., 1957
	Musca sorbens Wiedemann McGuire et al., 1957
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus) Weil et al., 1933
	Phaenicia sericata (Meigen) Weil et al., 1932
Streptococcus Rosenbach (beta-hemolytic)	MUSCIDAE: MUSCINAE
	Musca domestica vicina Macquart McGuire et al., 1957
	Musca sorbens Wiedemann McGuire et al., 1957
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Robinson et al., 1934
Streptococcus Rosenbach (non-hemolytic)	CHLOROPIDAE: OSCINELLINAE
	Siphunculina funicola de Meijere Syddiq, 1938
	MUSCIDAE: MUSCINAE
	Musca domestica vicina Macquart McGuire et al., 1957
	Musca sorbens Wiedemann McGuire et al., 1957
Streptococcus Rosenbach (Synonym: ?*Enterococcus*)	CHLOROPIDAE: OSCINELLINAE
	Siphunculina funicola de Meijere Syddiq, 1938
	MUSCIDAE: PHAONIINAE
	Ophyra leucostoma (Wiedemann) Povolný et al., 1961
	Muscina stabulans (Fallén) Povolný et al., 1961

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Streptococcus (cont.)	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	de la Paz, 1938
	Musca domestica Linnaeus
	Ledingham, 1911
	Cox et al., 1912
	Reinstorf, 1923
	Ewing, 1942
	Radvan, 1960c
	Povolný et al., 1961
	House fly (presumably *Musca domestica* Linnaeus)
	Geldreich et al., 1963
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus)
	Stirrat et al., 1955
	Stomoxys calcitrans (Linnaeus)
	Schuberg et al., 1913, 1914
	Love et al., 1965
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya Robineau-Desvoidy
	de la Paz, 1938
	Protophormia terraenovae (Robineau-Desvoidy)
	Radvan, 1960a, 1960c
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy
	Povolný et al., 1961
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga haemorrhoidalis (Fallén)
	Povolný et al., 1961
Streptococcus Rosenbach C 54	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Shope, 1927
Streptococcus Rosenbach C 55	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Shope, 1927
Streptococcus Rosenbach 744	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Shope, 1927
Streptococcus	CHLOROPIDAE: OSCINELLINAE
Rosenbach, Lancefield's Group A	*Hippelates currani* Aldrich
	Bassett, 1967
	Hippelates peruanus Becker
	Bassett, 1967
Streptococcus agalactiae	CHLOROPIDAE: OSCINELLINAE
Lehmann and Neumann	*Hippelates* Loew
(Synonyms: bovine mastitis, *Streptococcus mastitidis*)	Sanders, 1940a

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Streptococcus agalactiae (cont.)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Sanders, 1940b
	Ewing, 1942
	Schumann, 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Eucalliphora lilaea (Walker)
	Gwatkin et al., 1938
	Calliphora terraenovae Macquart
	Gwatkin et al., 1938
	Calliphora vicina Robineau-Desvoidy
	Gwatkin et al., 1938
	Cynomyopsis cadaverina (Robineau-Desvoidy)
	Gwatkin et al., 1938
Streptococcus agalactiae . Lehmann and Neumann Group B (Synonym: *Streptococcus haemolyticus*)	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Pavillard et al., 1957
Streptococcus durans ... Sherman and Wing (Synonyms: *Streptococcus faecalis*, *Streptococcus faecalis* var. *durans*)	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Gregor et al., 1960
	Lysenko et al., 1961
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén)
	Lysenko, 1958
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Duncan, 1926
	CALLIPHORIDAE: CHRYSOMYINAE
	Phormia regina (Meigen)
	Greenberg, 1962
	Protophormia terraenovae (Robineau-Desvoidy)
	Gregor et al., 1960
	Lysenko et al., 1961

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Streptococcus durans (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Simmons, 1935a, 1935b
	Gregor et al., 1960
	Lysenko et al., 1961
	Povolný et al., 1961
	Greenberg, 1962
	Cynomyopsis cadaverina (Robineau-Desvoidy)
	Greenberg, 1962
Streptococcus faecalis Andrewes and Horder (Synonym: *Streptococcus faecalis* var. *faecalis*)	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Lysenko, 1958
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Scott, 1917a
	Duncan, 1926
	Gerberich, 1951
	Lysenko et al., 1961
	House fly (presumably *Musca domestica* Linnaeus)
	Geldreich et al., 1963
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
Streptococcus faecalis . . . Andrewes and Horder var. *faecalis*	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén)
	Lysenko, 1958
Streptococcus faecalis var. *liquefaciens* (Sternberg) Mattick	PIOPHILIDAE
	Piophila casei (Linnaeus)
	Lysenko et al., 1961
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Lysenko et al., 1961
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Lysenko et al., 1961
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Lysenko et al., 1961
Streptococcus faecium . . . . . Orla-Jensen (Synonym: *Streptococcus faecalis faecium*)	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Love et al., 1965

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Streptococcus lactis (Lister) Löhnis (Synonym: *Streptococcus* of the group *Faecalis lactis*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Greenberg et al., 1963a CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Greenberg, 1962 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Zmeev, 1943
Streptococcus mitis Andrewes and Horder (Synonyms: *Streptococcus viridans, Streptococcus mitior*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Radvan, 1960c CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Pavillard et al., 1957 Radvan, 1960c CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Simmons, 1935a, 1935b
Streptococcus pyogenes Rosenbach (Synonyms: *hemolytic Streptococci* group A, *Streptococcus haemolyticus, Streptococcus pyogenes haemolyticus*)	CHLOROPIDAE: OSCINELLINAE *Hippelates currani* Aldrich Bassett, 1970 *Hippelates flavipes* Loew Bassett, 1970 *Hippelates peruanus* Becker Bassett, 1970 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Scott, 1917a Wellmann, 1955 CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Pavillard et al., 1957 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Weil et al., 1933 *Phaenicia sericata* (Meigen) Robinson et al., 1933 Weil et al., 1933 Simmons, 1935a, 1935b
Lactobacillus Beijerinck (Synonym: ?*Thermobakterien*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila fenestrarum* Fallén Henneberg, 1902 *Drosophila funebris* (Fabricius) Henneberg, 1902 MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Silverman et al., 1953

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CORYNEBACTERIACEAE	
Corynebacterium Lehmann and Neumann	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957
?*Corynebacterium* Lehmann and Neumann (Synonym: Diphtheroids)	CHLOROPIDAE: OSCINELLINAE *Siphunculina funicola* de Meijere Syddiq, 1938 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Weil et al., 1933 *Phaenicia sericata* (Meigen) Weil et al., 1933
Corynebacterium diphtheriae (Kruse) Lehmann and Neumann (Synonym: Diphtheria bacillus)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1910 House fly (presumably *Musca domestica* Linnaeus) Smith, 1898
Corynebacterium pyogenes (Glage) Eberson	MUSCIDAE: PHAONIINAE *Hydrotaea irritans* (Fallén) Bahr, 1952, 1953
Listeria monocytogenes (Murray et al.) Pirie	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Radvan, 1956, 1960a CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Radvan, 1960a
Erysipelothrix insidiosa (Trevisan) Langford and Hansen (Synonyms: ?Erysipelis, Rotlauf der Schweine)	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Megnin, 1874, 1875 *Stomoxys calcitrans* (Linnaeus) Wellmann, 1948-49a, 1948-49b, 1949, 1950, 1959 Tolstîak, 1956
BACILLACEAE	
Bacillus Cohn (Synonyms: ?spore-forming microbes, Bacilli A, B1, 2 and 3, C, D and E, *Bacillus* A, Ledingham, non-lactose-fermenting bacillus)	OTITIDAE: ULIDIINAE *Physiphora demandata* (Fabricius) Povolný et al., 1961 SEPSIDAE *Sepsis punctum* (Fabricius) Povolný et al., 1961 PIOPHILIDAE *Piophila casei* (Linnaeus) Povolný et al., 1961 SPHAEROCERIDAE *Copromyza atra* (Meigen) Povolný et al., 1961

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Bacillus (cont.)

UNDETERMINED SPHAEROCERIDAE
Povolný et al., 1961

DROSOPHILIDAE: DROSOPHILINAE
Drosophila melanogaster Meigen
Nicholls, 1912
Tatum, 1939

UNDETERMINED DROSOPHILIDAE
Povolný et al., 1961

ANTHOMYIIDAE: SCATOPHAGINAE
Scatophaga stercoraria (Linnaeus)
Povolný et al., 1961

ANTHOMYIIDAE: ANTHOMYIINAE
Hylemya cinerella (Fallén)
Povolný et al., 1961
Anthomyia pluvialis (Linnaeus)
Povolný et al., 1961
Calythea albicincta (Fallén)
Zmeev, 1943

MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Povolný et al., 1961
Fannia scalaris (Fabricius)
Povolný et al., 1961

MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Povolný et al., 1961
Hydrotaea occulta (Meigen)
Povolný et al., 1961
Ophyra leucostoma (Wiedemann)
Povolný et al., 1961
Muscina stabulans (Fallén)
Povolný et al., 1961

MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Ledingham, 1911
Tebbutt, 1913
Povolný et al., 1961
House fly (presumably *Musca domestica* Linnaeus)
Ramirez, 1898
Graham-Smith, 1913
Musca domestica vicina Macquart
McGuire et al., 1957
Musca sorbens Wiedemann
McGuire et al., 1957

MUSCIDAE: STOMOXYINAE
Haematobia irritans (Linnaeus)
Stirrat et al., 1955

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Bacillus (cont.)	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya rufifacies* (Macquart) Zmeev, 1943 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Povolný et al., 1961 *Calliphora* Robineau-Desvoidy Zmeev, 1943 *Calliphora vomitoria* (Linnaeus) Maddox, 1885a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Nicholls, 1912 *Sarcophaga aurifinis* Walker Nicholls, 1912 *Sarcophaga haemorrhoidalis* (Fallén) Povolný et al., 1961 *Sarcophaga melanura* Meigen Povolný et al., 1961 *Tricharaea* Thomson Nicholls, 1912
Bacillus anthracis Cohn (Synonyms: Anthrax or Anthrax bacillus, Bacillus anthrax, anthracis)	PIOPHILIDAE *Piophila casei* (Linnaeus) Legroux et al., 1945 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya* Robineau-Desvoidy Anonymous, 1952 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Raimbert, 1869, 1870 Buchanan, 1907 Graham-Smith, 1910, 1911a, 1911b, 1912 Wollman, 1921 Duncan, 1926 Sen et al., 1944 Radvan, 1956, 1960a, 1960b, 1960c House fly (presumably *Musca domestica* Linnaeus) Dalrymple, 1912, 1914 Morris, 1920 Rinonpoli, 1930 *Musca domestica vicina* Macquart Anonymous, 1952 *Musca inferior* Stein Nieschulz, 1928a *Musca sorbens sorbens* Wiedemann Cleland, 1912, 1913

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Bacillus anthracis (cont.)	MUSCIDAE: STOMOXYINAE
	Haematobia exigua (de Meijere)
	Nieschulz, 1928a
	Haematobia irritans (Linnaeus)
	Morris, 1918, 1920
	Stomoxys Geoffroy
	Mégnin, 1874
	Terni, 1908a
	Stomoxys calcitrans (Linnaeus)
	Schuberg et al., 1912, 1913
	Mitzmain, 1914a, 1914c
	Schuberg et al., 1914
	Duncan, 1926
	Nieschulz, 1928a, 1928b
	Sen et al., 1944
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Radvan, 1960a, 1960b, 1960c
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Graham-Smith, 1912
	Calliphora vicina Robineau-Desvoidy
	Graham-Smith, 1911a, 1911b, 1912
	Sen et al., 1944
	Calliphora vomitoria (Linnaeus)
	Raimbert, 1870
	Calliphora vomitoria (Linnaeus)
	Buchanan, 1907
	UNDETERMINED CALLIPHORIDAE
	Blue bottle fly
	Morris, 1920
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Sen et al., 1944
	Sarcophaga carnaria (Linnaeus)
	Petragnani, 1925
Bacillus ?anthracis Cohn	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vomitoria (Linnaeus)
	Maddox, 1885a
Bacillus bifermentans . . Weinberg and Séguin	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Picado, 1935
Bacillus cereus ... ... Frankland and Frankland	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Hawley et al., 1951
	Briggs, 1960
	Harvey et al., 1960
	Radvan, 1960a, 1960b, 1960c
	Stephens, 1963

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Bacillus cereus (cont.)	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Radvan, 1960b, 1960c
Bacillus cereus	PIOPHILIDAE
var. *mycoides* (Flügge)	*Piophila casei* (Linnaeus)
Smith et al.	Gregor et al., 1960
(Synonym: *Bacillus mycoides*)	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Gregor et al., 1960
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Gregor et al., 1960
	Hydrotaea irritans (Fallén)
	Gregor et al., 1960
	Ophyra leucostoma (Wiedemann)
	Gregor et al., 1960
	Muscina stabulans (Fallén)
	Gregor et al., 1960
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Hamilton, 1903
	Duncan, 1926
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus)
	Stirrat et al., 1955
	Stomoxys calcitrans (Linnaeus)
	Duncan, 1926
	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Gregor et al., 1960
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Gregor et al., 1960
	Phaenicia sericata (Meigen)
	Gregor et al., 1960
	Calliphora vicina Robineau-Desvoidy
	Gregor et al., 1960
	Calliphora vomitoria (Linnaeus)
	Gregor et al., 1960
Bacillus coli mutabilis Neisser	MUSCIDAE: MUSCINAE
(Synonym: MacConkey's bacillus No. 8)	*Musca domestica* Linnaeus
	Nicoll, 1911a
Bacillus gasoformans Eisenberg	MUSCIDAE: MUSCINAE
(Synonym: MacConkey's bacillus No. 104 or *B. gasoformans non-liquefaciens*)	*Musca domestica* Linnaeus
	Nicoll, 1911a

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Bacillus gruenthali Morgan (Synonym: MacConkey's bacillus No. 4, *Bacillus grünthal*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911a
Bacillus lutzae Brown	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Brown, 1927
Bacillus megaterium de Bary (Synonym: *Bacillus megatherium*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hamilton, 1903 Hawley et al., 1951 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Muzzarelli, 1925 *Calliphora vomitoria* (Linnaeus) Muzzarelli, 1925 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Muzzarelli, 1925 *Sarcophaga haemorrhoidalis* (Fallén) Zmeev, 1943
Bacillus mesentericus Trevisan	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hamilton, 1903 Duncan, 1926 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Duncan, 1926
Bacillus radiciformis Eberbach (Synonym: *B. radiciformis*)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Cao, 1906 *Calliphora vomitoria* (Linnaeus) Cao, 1906 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906
Bacillus ?radiciformis Eberbach (Synonym: *B. radiciformis*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Cao, 1906
Bacillus subtilis Cohn . .. (Synonyms: *B. subtilis*, ?hay bacillus group)	PIOPHILIDAE *Piophila casei* (Linnaeus) Lysenko et al., 1961 SPHAEROCERIDAE *Leptocera ferruginata* (Stenhammar) Lysenko, 1958 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya cinerella* (Fallén) Lysenko, 1958 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hamilton, 1903

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Bacillus radiciformis (cont.)	Cao, 1906 Reinstorf, 1923 Duncan, 1926 Radvan, 1956, 1960a, 1960c Lysenko, 1958 Lysenko et al., 1961 Greenberg et al., 1963a *Musca domestica vicina* Macquart Silverman et al., 1953 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955 *Stomoxys calcitrans* (Linnaeus) Duncan, 1926 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Greenberg, 1962 *Protophormia terraenovae* (Robineau-Desvoidy) Pavillard et al., 1957 Lysenko, 1958 Radvan, 1960a, 1960c Lysenko et al., 1961 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Cao, 1906 *Phaenicia sericata* (Meigen) Michelbacher et al., 1932 Lysenko et al., 1961 Greenberg, 1962 *Calliphora vicina* Robineau-Desvoidy Balzam, 1937 Greenberg, 1962 *Calliphora vomitoria* (Linnaeus) Cao, 1906 *Cynomyopsis cadaverina* (Robineau-Desvoidy) Greenberg, 1962 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Cao, 1906
Bacillus ?subtilis Cohn (Synonym: *B. subtilis*)	... CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Maddox, 1885a
Bacillus subtilis .. var. *niger* Smith et al.	. . MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
Bacillus thuringiensis Berliner (pathogen)	. . . MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Eversole et al., 1965

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Bacillus thuringiensis (cont.)	MUSCIDAE: MUSCINAE *Musca autumnalis* De Geer Yendol et al., 1967 *Musca domestica* Linnaeus Hall et al., 1959 Figueiredo et al., 1960 Burns et al., 1961 Borgatti et al., 1963 Feigin, 1963 Greenwood, 1964 Harvey, 1964 Tonkonozhenko, 1967 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Greenwood, 1964 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga bullata* Parker McConnell et al., 1959
Bacillus thuringiensis ..... var. *sotto* Heimpel and Angus (pathogen)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Briggs, 1960
Bacillus thuringiensis ..... var. *thuringiensis* Heimpel and Angus (pathogen)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Briggs, 1960 Dunn, 1960 Burgerjohn et al., 1965 Gingrich, 1965 Harvey et al., 1965 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Gingrich, 1965 *Stomoxys calcitrans* (Linnaeus) Gingrich, 1965
Bacillus vesiculosus ..... Matzuschita (Synonyms: ?MacConkey's bacillus No. 5, *B. vesiculosus*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911a
Clostridium Prazmowski	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart McGuire et al., 1957 *Musca sorbens* Wiedemann McGuire et al., 1957
Clostridium bifermentans ..... (Weinberg and Séguin) Bergey et al. (Synonym: *Bacillus foetidus*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Marpmann, 1884
Clostridium botulinum ..... (van Ermengem) Bergey et al. (Synonyms: *Bac. botulinus*, ?Botulism, ?limberneck)	SYRPHIDAE: MILESIINAE *Eristalis* Latreille Bail, 1900

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Clostridium bifermentans (cont.)	PIOPHILIDAE
	Piophila casei (Linnaeus) Legroux et al., 1945
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Bail, 1900
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Bail, 1900
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy Bail, 1900
	Lucilia caesar (Linnaeus) Saunders, 1921
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Bail, 1900
Clostridium botulinum Type C Spray	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus) Saunders, 1921 Bengtson, 1922
	Phaenicia sericata (Meigen) Bengtson, 1922
Clostridium chauvoei . ... . (Arloing, Cornevin, and Thomas) Scott	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Sauer, 1908a
	UNDETERMINED MUSCIDAE Sauer, 1908a
Clostridium parabotulinum bovis . ... Robinson	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Theiler, 1927
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya albiceps (Wiedemann) Theiler, 1927
	Chrysomya chloropyga (Wiedemann) Theiler, 1927
	Chrysomya marginalis (Wiedemann) Theiler, 1927
Clostridium perfringens .... (Veillon and Zuber) Holland (Synonyms: *Clostridium welchii*, Gas bacillus, *Bacillus perfringens*)	CALLIPHORIDAE: CHRYSOMYINAE
	Phormia Robineau-Desvoidy Green, 1953
	Protophormia terraenovae (Robineau-Desvoidy) Pavillard et al., 1957
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy Green, 1953

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Clostridium perfringens (cont.)	*Phaenicia sericata* (Meigen) Michelbacher et al., 1932 Simmons, 1935a, 1935b *Calliphora* Robineau-Desvoidy Green, 1953 UNDETERMINED CALLIPHORIDAE Blow fly maggots Baer, 1929 Blow flies West, 1953 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Picado, 1935
Clostridium putrefaciens . . . . . (McBryde) Sturges and Drake (Synonym: *B. putrefaciens*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Purdy, 1906
Clostridium tetani . . . . . (Flügge) Bergey et al.	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bail, 1900
MYCOBACTERIACEAE	
Mycobacterium leprae . . . . . (Hansen) Lehmann and Neumann (Synonyms: Leprosy bacilli, bacillus of Hansen, *Bacillus leprae*)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Asami, 1934 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Currie, 1910, 1911 Leboeuf, 1912, 1914 Minett, 1912 Asami, 1934 House fly (presumably *Musca domestica* Linnaeus) Römer, 1906 *Musca sorbens* Wiedemann Lamborn, 1935, 1937 UNDETERMINED MUSCIDAE Lamborn, 1936a CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Currie, 1910 Leboeuf, 1912a *Lucilia argyrocephala* Macquart Asami, 1934 *Calliphora lata* Coquillet Asami, 1934 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga argyrostoma* (Robineau-Desvoidy) Currie, 1910

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Mycobacterium leprae (cont.)	UNDETERMINED TACHINIDAE
	de Souza-Araujo, 1944
Mycobacterium ?leprae	MUSCIDAE: PHAONIINAE
(Hansen) Lehmann and	*Muscina stabulans* (Fallén)
Neumann	Honeij et al., 1914
(Synonyms: acid-fast bacillus,	MUSCIDAE: MUSCINAE
acid-fast leprae-like bacillus,	*Musca* Linnaeus
Leprosy bacillus)	Arizumi, 1934
	Musca bezzii Patton and Cragg
	de Mello et al., 1926
	Musca domestica Linnaeus
	Wherry, 1908a, 1908b
	Sandes, 1911, 1912
	Honeij et al., 1914
	Barros et al., 1947
	Musca sorbens Wiedemann
	Lamborn, 1938
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Honeij et al., 1914
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Honeij et al., 1914
	Arizumi, 1934
Mycobacterium lepraemurium ..	MUSCIDAE: MUSCINAE
Marchoux and Sorel	*Musca domestica* Linnaeus
(Synonym: Rat leprosy bacilli)	Wherry, 1908a
	Marchoux, 1916
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Wherry, 1908a
	Calliphora vomitoria (Linnaeus)
	Wherry, 1908a
Mycobacterium ?lepraemurium	MUSCIDAE: MUSCINAE
Marchoux and Sorel	*Musca domestica* Linnaeus
(Synonym: ?Rat leprosy bacillus)	Wherry, 1908b
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Wherry, 1908b
	Calliphora vomitoria (Linnaeus)
	Wherry, 1908b
Mycobacterium	
paratuberculosis	CALLIPHORIDAE: CALLIPHORINAE
Bergey et al.	*Lucilia caesar* (Linnaeus)
	Muzzarelli, 1925
	Calliphora vomitoria (Linnaeus)
	Muzzarelli, 1925
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga carnaria (Linnaeus)
	Muzzarelli, 1925

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Mycobacterium phlei Lehmann and Neumann (Synonym: acid-fast grass bacillus of Moeller)	SYRPHIDAE: MILESIINAE *Volucella obesa* (Fabricius) Currie, 1910 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Currie, 1910 SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia lherminieri* (Robineau-Desvoidy) Currie, 1910 *Sarcophaga* Meigen Pavan, 1949 *Sarcophaga argyrostoma* (Robineau-Desvoidy) Currie, 1910
Mycobacterium tuberculosis (Zopf) Lehmann and Neumann	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Hayward, 1904 André, 1906 Buchanan, 1907 Graham-Smith, 1910 Wollman, 1921 Morellini et al., 1947, 1953 Tison, 1950 Morellini, 1952, 1956 House fly (presumably *Musca domestica* Linnaeus) Celli et al., 1888 Hofmann, 1888 Lord, 1904, 1905 André, 1908 *Musca sorbens* Wiedemann Lamborn, 1938, 1939 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya rufifacies* (Macquart) Morellini et al., 1947 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Hayward, 1904 *Phaenicia sericata* (Meigen) Morellini et al., 1947 *Calliphora vicina* Robineau-Desvoidy Morellini et al., 1947 *Calliphora vomitoria* (Linnaeus) Wollman, 1921a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga argyrostoma* (Robineau-Desvoidy) Morellini et al., 1947, 1949 Levinsky et al., 1948

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Mycobacterium tuberculosis (cont.)	*Sarcophaga carnaria* (Linnaeus) Petragnani, 1925
DERMATOPHILACEAE	
Dermatophilus congolensis ... van Saceghem	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richard et al., 1966 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Richard et al., 1966
SPIROCHAETACEAE	
Spirochaeta Ehrenberg .. (Synonym: Spirochete of shrew)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Wollman, 1927
Spirochaeta acuminata Castellani (Synonym: *Treponema acuminata*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Castellani, 1907
Spirochaeta obtusa .. Castellani (Synonym: *Treponema obtusa*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Castellani, 1907
Spirochaeta stomoxyae Jegen	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Jegen, 1924
TREPONEMATACEAE	
Borrelia anserina . (Sakharoff) Bergey et al. (Synonym: *Spirochaeta gallinarum*)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Schuberg et al., 1909
Borrelia berbera . (Sergent and Foley) Bergey et al. (Synonym: spirochetes of relapsing fever)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Sergent et al., 1910 Wollman et al., 1928 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wollman et al., 1928 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Wollman et al., 1928
Borrelia recurrentis ... . (Lebert) Bergey et al. (Synonyms: *Spirochaeta obermeieri*, relapsing fever)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Schuberg et al., 1909, 1912 Fränkel, 1912
Borrelia refringens . . . . (Schaudinn and Hoffmann) Bergey et al. (Synonym: *Spirochaeta refringens*)	CHLOROPIDAE: OSCINELLINAE *Hippelates flavipes* Loew Kumm, 1935 Kumm et al., 1935
Treponema Schaudinn	DROSOPHILIDAE: DROSOPHILINAE *Drosophila fasciata* Dufour Ikeda, 1965

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Treponema (cont.)	*Drosophila melanogaster* Meigen Ikeda, 1965 *Drosophila nebulosa* Sturtevant Poulson et al., 1961b *Drosophila willistoni* Sturtevant Poulson et al., 1961b Ikeda, 1965
Treponema carateum Brumpt	CHLOROPIDAE: OSCINELLINAE *Hippelates* Loew Leon Blanco et al., 1941 Soberón y Parra et al., 1944
Treponema pertenue Castellani	CHLOROPIDAE: OSCINELLINAE *Hippelates currani* Aldrich Kumm et al., 1936 *Hippelates illicis* Curran Kumm et al., 1936 *Hippelates flavipes* Loew Kumm, 1935 Kumm et al., 1935, 1936 *Hippelates peruanus* Becker Kumm et al., 1936 *Hippelates pusio* Loew Kumm et al., 1936 *Conioscinella mars* (Curran) Kumm et al., 1936 MUSCIDAE: COENOSIINAE *Atherigona orientalis* Schiner Satchell et al., 1953 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Castellani, 1907, 1908 Oho, 1921 House fly (presumably *Musca domestica* Linnaeus) Yasuyama, 1928 *Musca domestica vicina* Macquart Satchell et al., 1953 *Musca sorbens* Wiedemann Thomson et al., 1934 Lamborn, 1936a, 1936b Satchell et al., 1953 UNDETERMINED CALLIPHORIDAE Blue bottle fly Yasuyama, 1928
Leptospira canicola Okell et al.	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kunert et al., 1952 Schmidtke, 1959

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Leptospira canicola (cont.)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Schmidtke, 1959 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Kunert et al., 1952 Schmidtke, 1959 *Calliphora vicina* Robineau-Desvoidy Kunert et al., 1952 Schmidtke, 1959
Leptospira grippotyphosa Topley and Wilson	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kunert et al., 1952 Schmidtke, 1959 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Schmidtke, 1959 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Kunert et al., 1952 Schmidtke, 1959 *Calliphora vicina* Robineau-Desvoidy Kunert et al., 1952 Schmidtke, 1959
Leptospira icterohaemorrhagiae (Inada and Ido) Noguchi (Synonym: Weil's disease)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kunert et al., 1952 Schmidtke, 1959 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Reiter, 1917 Uhlenhuth et al., 1917 Schmidtke, 1959 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Kunert et al., 1952 Schmidtke, 1959 *Calliphora vicina* Robineau-Desvoidy Kunert et al., 1952 Schmidtke, 1959
BACTERIA OF UNCERTAIN AFFINITY	
Bacterium mathisi Roubaud and Treillard (unvalidated)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Roubaud et al., 1935 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Roubaud et al., 1935

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Bacterium mathisi (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga carnaria (Linnaeus)
	Roubaud et al., 1935
RICKETTSIACEAE	
Rickettsia da Rocha-Lima	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Hertig et al., 1924
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Hertig et al., 1924
Coxiella burneti	MUSCIDAE: MUSCINAE
(Derrick) Philip	*Musca domestica* Linnaeus
	Philip, 1948
CHLAMYDIACEAE	
Colesiota conjunctivae	MUSCIDAE: MUSCINAE
(Coles) Rake	*Musca* Linnaeus
(Synonym: *Rickettsia*	Mitscherlich, 1941
conjunctivae)	*Musca domestica* Linnaeus
	Mitscherlich, 1943
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Mitscherlich, 1943
ANAPLASMATACEAE	
Anaplasma marginale	MUSCIDAE: STOMOXYINAE
Theiler	*Stomoxys calcitrans* (Linnaeus)
	Taylor, 1935
	Anonymous, 1936
MUCORACEAE	
Mucor Micheli	SCIARIDAE
	Sciara Meigen
	Baumberger, 1919
	MILICHIIDAE: MADIZINAE
	Desmometopa m-nigrum (Zetterstedt)
	Baumberger, 1919
	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila melanogaster Meigen
	Baumberger, 1919
	Griffith, 1952
Mucor ambiguus Vuillemin	CALLIPHORIDAE: POLLENIINAE
	Ophyra calcogaster Wiedemann
	Usui, 1960
Mucor mucedo	CHLOROPIDAE: OSCINELLINAE
(Linnaeus) Brefeld	*Siphunculina funicola* de Meijere
	Syddiq, 1938
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Reinstorf, 1923
Rhizopus Ehrenberg	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila melanogaster Meigen
	Griffith, 1952

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Rhizopus nigricans Ehrenberg	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Baumberger, 1919 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Baumberger, 1919 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Baumberger, 1919
ENTOMOPHTHORACEAE	
Entomophthora Fresenius (Synonym: *Empusa*) (pathogen)	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga stercoraria* (Linnaeus) Bail, 1960 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya aestiva* (Meigen) Hammer, 1942 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Graham-Smith, 1916 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Graham-Smith, 1916 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1916 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Graham-Smith, 1916
?*Entomophthora* Fresenius (Synonym: *Empusa*) (pathogen)	ANTHOMYIIDAE: ANTHOMYIINAE *Anthomyia* Meigen Roubaud, 1911a MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Roubaud, 1911a *Musca domestica* Linnaeus Roubaud, 1911a MUSCIDAE: STOMOXYINAE *Stomoxys brunnipes* Grünberg Roubaud, 1911a *Stomoxys calcitrans* (Linnaeus) Roubaud, 1911a *Stomoxys nigra* Macquart Roubaud, 1911a CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Roubaud, 1911a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Roubaud, 1911a

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Entomophthora americana .... . . Thaxter (Synonym: *Empusa americana*) (pathogen)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Thaxter, 1888 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia mexicana* (Macquart) Dresner, 1949 *Calliphora vomitoria* (Linnaeus) Rozsypal, 1957
Entomophthora ?americana .. .. Thaxter (pathogen)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Judd, 1955
Entomophthora calliphorae .... Giard (pathogen)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora* Robineau-Desvoidy Thaxter, 1888 *Calliphora vomitoria* (Linnaeus) Giard, 1888 *Calliphora vomitoria* var. *dunensis* Giard Giard, 1879
Entomophthora muscae Cohn . (Synonym: *Empusa muscae*) (pathogen)	SYRPHIDAE: SYRPHINAE *Syrphus* Fabricius Thaxter, 1888 *Melanostoma mellinum* (Linnaeus) Rostrup, 1916 *Melanostoma scalare* Fabricius Rostrup, 1916 UNDETERMINED SYRPHIDAE Thaxter, 1888 DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Goldstein, 1927 *Drosophila repleta* Wollaston Goldstein, 1927 ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga furcata* (Say) Rostrup, 1916 *Scatophaga stercoraria* (Linnaeus) Rostrup, 1916 Graham-Smith, 1919 Hammer, 1942 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya cardui* (Meigen) Rostrup, 1916 *Hylemya coarctata* (Fallén) Rostrup, 1916 *Hylemya radicum* (Linnaeus) Graham-Smith, 1919 *Anthomyia* Meigen Thaxter, 1888

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Entomophthora muscae (cont.)

MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Buchanan, 1913
Graham-Smith, 1919
Wilhelmi, 1919
Tischler, 1950
Steve, 1959
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Graham-Smith, 1919
Lasiops variabilis (Robineau-Desvoidy)
Rostrup, 1916
Muscina stabulans (Fallén)
Judd, 1955
MUSCIDAE: MUSCINAE
Musca corvina Fabricius
Graham-Smith, 1919
Musca domestica Linnaeus
Cohn, 1855
White, 1880
Thaxter, 1888
Cavara, 1899
Brefeld, 1908
Buchanan, 1913
Güssow, 1913
Picard, 1914
Bishopp et al., 1915a
Dove, 1916
Lodge, 1916
Graham-Smith, 1919
Lakon, 1919
Friederichs, 1920
Roubaud, 1922
Roubaud, et al., 1922b
Schweizer, 1936, 1947
de Salles et al., 1944
Judd, 1955
Baird, 1957
Krenner, 1961
House fly (presumably *Musca domestica* Linnaeus)
Cohn, 1857
Solms-Laubach, 1870
White et al., 1877
Goldstein, 1927
Yeager, 1939
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Surcouf, 1923

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Entomophthora muscae (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Thaxter, 1888
	Graham-Smith, 1919
	Phaenicia sericata (Meigen)
	Dove, 1916
	Calliphora vomitoria (Linnaeus)
	Thaxter, 1888
	UNDETERMINED CALLIPHORIDAE
	Blow flies
	White et al., 1877
	SARCOPHAGIDAE: MILTOGRAMMINAE
	Pseudosarcophaga affinis Fallén
	Baird, 1957
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga carnaria (Linnaeus)
	Graham-Smith, 1919
	UNDETERMINED TACHINIDAE
	de Souza-Araujo, 1944
*Entomophthora muscivora** ..... Schroeter (pathogen)	RHAGIONIDAE: RHAGIONINAE
	Rhagio lineola Fabricius
	Rostrup, 1916
	SCIOMYZIDAE: SCIOMYZINAE
	Sciomyza Fallén
	Rostrup, 1916
	LAUXANIIDAE
	Lauxania aenes Fallén
	Rostrup, 1916
	Sapromyza obesa Zetterstedt
	Rostrup, 1916
Entomophthora ovispora ..... Nowakowski (pathogen)	UNDETERMINED SYRPHIDAE
	Thaxter, 1888
	LAUXANIIDAE
	Sapromyza Fallén
	Thaxter, 1888
	LONCHAEIDAE
	Lonchaea chorea (Fabricius)
	Thaxter, 1888
Entomophthora richteri ..... (Bresadola and Staritz) Bubák (Synonym: *Tarichium richteri*) (pathogen)	LAUXANIIDAE
	Lauxania aenea Fallén
	Bubák, 1903
	Lakon, 1915
Entomophthora sphaerosperma .... Fresenius (Synonym: *Empusa sphaerosperma*) (pathogen)	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	Thaxter, 1888

* Treated as a synonym of *E. calliphorae* in D. M. MacLeod and E. Müller-Kögler, Mycologia, 62:33-66, 1970.

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Zoophthora vomitoriae (Rozsypal)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Rozsypal, 1966
LABOULBENIACEAE	
Stygmatomyces baeri (Knoch) Peyritsch (pathogen)	MUSCIDAE: MUSCINAE *Musca planiceps* Wiedemann Senior-White et al., 1945
ENDOMYCETACEAE	
Coccidiascus legeri Chatton	DROSOPHILIDAE: DROSOPHILINAE *Drosophila funebris* (Fabricius) Chatton, 1913
Saccharomyces Hansen	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Baumberger, 1919
Saccharomyces cerevisiae Hansen (Synonym: *Saccharomyces ellipsoideus*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila cellaris* Linnaeus Berlese, 1896 *Drosophila melanogaster* Meigen Baumberger, 1919 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Peppler, 1944 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Berlese, 1896 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Berlese, 1896
Saccharomyces ?melli (Fabian and Quinet) (Synonym: *Saccharomyces mali*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Delcourt et al., 1910
Saccharomyces pastorianus Hansen	DROSOPHILIDAE: DROSOPHILINAE *Drosophila cellaris* Linnaeus Berlese, 1896 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Berlese, 1896
Saccharomyces theobromae	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Nicholls, 1912
HYPOCREACEAE	
Cordyceps dipterigena Berkeley and Broome	MUSCIDAE: MYDAEINAE *Mydaea* Robineau-Desvoidy Petch, 1923
AGARICACEAE	
Agaricus campestris Linnaeus (Synonym: *Agaricus citrinus*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Baumberger, 1919 MUSCIDAE: PHAONIINAE *Muscina pascuorum* (Meigen) von Bremi, 1846

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UNDETERMINED	
BASIDIOMYCETES	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila funebris (Fabricius)
	Austin, 1933
MONILIACEAE	
Aspergillus (Micheli) Corda	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila Fallén
	Blochwitz, 1929
	Drosophila melanogaster Meigen
	Baumberger, 1919
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Baumberger, 1919
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus)
	Stirrat et al., 1955
Aspergillus clavatus Desmazières	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila melanogaster Meigen
	Griffith, 1952
Aspergillus flavus Link	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Amonkar et al., 1965
	Beard et al., 1965
	Musca domestica vicina Macquart
	Usui, 1960
Aspergillus niger van Tieghem	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila melanogaster Meigen
	Griffith, 1952
Beauveria bassiana (Balsamo) Vuillemin (Synonym: *Botrytis bassiana*)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Dresner, 1949, 1950
	Steinhaus et al., 1953
	Dunn et al., 1963
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy
	Rostrup, 1916
Blastomyces Costantin and Rolland	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus)
	Muzzarelli, 1925
	Calliphora vomitoria (Linnaeus)
	Muzzarelli, 1925
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga carnaria (Linnaeus)
	Muzzarelli, 1925
?*Botrytis* Micheli	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Gómez et al., 1888-9
Geotrichum Link	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus)
	Stirrat et al., 1955

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Geotrichum candidum Link (Synonym: *Oidium lactis*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Ficker, 1903
Gliocladium Corda (Synonym: *Gleocladium*)	SCIARIDAE *Sciara* Meigen Baumberger, 1919
Metarrhizium anisopliae (Metschnikoff) Sorokin	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Friederichs, 1919, 1920 Notini et al., 1944 House fly (presumably *Musca domestica* Linnaeus) Schaerffenberg, 1959
Monilia (Persoon) Saccardo	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
Oidium Link	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
Penicillium Link	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Baumberger, 1919 House fly (presumably *Musca domestica* Linnaeus) Cohn, 1857 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
?*Penicillium*	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Maddox, 1885b
Penicillium camemberti Thom	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
Penicillium glaucum Link	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Baumberger, 1919 Griffith, 1952 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Baumberger, 1919 Reinstorf, 1923 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Baumberger, 1919
Trichothecium Link	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955

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DEMATIACEAE	
Alternaria Nees	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
Cladosporium Link	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
Curvularia Boedijn	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
Hormodendrum Bonorden	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
Macrosporium Fries	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
Pullalaria Berkhout	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Stirrat et al., 1955
Torula Persoon	DROSOPHILIDAE: DROSOPHILINAE *Drosophila cellaris* Linnaeus Berlese et al., 1897 MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Berlese, 1896
STILBACEAE	
Isaria Persoon ex Fries	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bail, 1860
TUBERCULARIACEAE	
Fusarium Link	SCIARIDAE *Sciara* Meigen Baumberger, 1919 DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Griffith, 1952
BLASTOCYSTIDACEAE (uncertain position)	
Blastocystis Alexeieff	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Buxton, 1920
CRYPTOCOCCACEAE	
Candida Berkhout (Synonym: *Dematium*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila cellaris* Linnaeus Berlese, 1896 Berlese et al., 1897 MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Berlese, 1896

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Candida (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Berlese, 1896 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Berlese, 1896
Candida albicans . . . . . (Robin) Berkhout	CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Pavillard et al., 1957
Candida mycoderma (Reess) . . . . . (Synonym: *Saccharomyces mycoderma*)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Berlese, 1896
Kloeckera apiculata . . . . . (Reess emend Klöcker) Janke (Synonym: *Saccharomyces apiculatus*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila cellaris* Linnaeus Berlese, 1896 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Berlese, 1896 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Berlese, 1896
FUNGI OF UNCERTAIN AFFINITY	
Streptotricea, unvalidated	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Muzzarelli, 1925 *Calliphora vomitoria* (Linnaeus) Muzzarelli, 1925 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Muzzarelli, 1925
TRYPANOSOMATIDAE	
Crithidia Léger ... (Synonym: *Strigomonas*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila virilis* Sturtevant McGhee et al., 1965 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Taylor, 1930 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Roubaud, 1908a *Phaenicia sericata* (Meigen) Thomson, 1933
Crithidia acanthocephali .. Hanson and McGhee	DROSOPHILIDAE: DROSOPHILINAE *Drosophila virilis* Sturtevant McGhee et al., 1965
Crithidia fasciculata Léger ..	DROSOPHILIDAE: DROSOPHILINAE *Drosophila virilis* Sturtevant McGhee et al., 1965

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Crithidia haematopotae Jegen	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Jegen, 1924
Crithidia lesnei (Léger) (Synonym: *Herpetomonas lesnei*)	MUSCIDAE: MUSCINAE *Dasyphora pratorum* (Meigen) Léger, 1903
Crithidia luciliae ..... (Strickland) Wallace and Clark	DROSOPHILIDAE: DROSOPHILINAE *Drosophila virilis* Sturtevant McGhee et al., 1965 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Wallace et al., 1959 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Wallace et al., 1959
Crithidia oncopelti ..... (Noguchi and Tilden) sensu M. and A. Lwoff	DROSOPHILIDAE: DROSOPHILINAE *Drosophila virilis* Sturtevant McGhee et al., 1965
Herpetomonas Kent	CHLOROPIDAE: OSCINELLINAE *Siphunculina funicola* de Meijere Patton, 1921c MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Dunkerly, 1911 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Wenyon, 1911a Darling, 1912b *Musca domestica vicina* Macquart Chang, 1940 *Musca sorbens* Weidemann Chang, 1940 MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Wenyon, 1911a *Stomoxys calcitrans* (Linnaeus) Patton, 1912b *Stomoxys ?calcitrans* (Linnaeus) Gray, 1906 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya megacephala* (Fabricius) Chang, 1940 *Chrysomya putoria* (Wiedemann) Roubaud, 1912a CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Roubaud, 1908a *Lucilia caesar* (Linnaeus) Chang, 1940

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Herpetomonas (cont.)	*Phaenicia sericata* (Meigen) Chang, 1940
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Chang, 1940
	Sarcophaga carnaria (Linnaeus) Franchini, 1922
	Sarcophaga melanura Meigen Franchini, 1922
	Sarcophaga nurus Rondani Franchini, 1922
Herpetomonas caulleryi ..... (Roubaud) Wenyon (Synonym: *Cercoplasma caulleryi*)	CALLIPHORIDAE: CALLIPHORINAE
	Auchmeromyia luteola (Fabricius) Roubaud, 1911c
Herpetomonas ?muscae ..... (Carter)	OTITIDAE: OTITINAE
	Melieria crassipennis Fabricius Laveran et al., 1920
Herpetomonas muscarum ..... (Leidy) Kent (Synonyms: *Herpetomonas muscae domesticae, Crithidia calliphorae, Leptomonas muscae domesticae, Herpetomonas homalomyiae, Crithidia muscae domesticae, Trypanosoma muscae domesticae, Herpetomonas luciliae, Herpetomonas sarcophagae, Herpetomonas calliphorae*)	SPHAEROCERIDAE
	Borborus Meigen Patton, 1921a
	Leptocera Macquart Becker, 1922-23
	EPHYDRIDAE: EPHYDRINAE
	Teichomyza fusca Macquart Léger, 1903
	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila Fallén Patton, 1921a
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus) Dunkerly, 1911 Patton, 1921a
	Fannia scalaris (Fabricius) Léger, 1903 Brug, 1915
	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén) Becker, 1922-23
	MUSCIDAE: MUSCINAE
	Morellia micans (Macquart) Becker, 1924
	Musca corvina Fabricius Roubaud, 1909
	Musca domestica Linnaeus Prowazek, 1904 Carter, 1909 Roubaud, 1909 Rosenbusch, 1910 Flu, 1911

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Herpetomonas muscarum (cont.)
Wenyon, 1911a
Cardamatis, 1912a
Chatton et al., 1913
Franchini et al., 1915
Root, 1921
Becker, 1922-23, 1924
Ross et al., 1924
Fantham et al., 1927
Vanni, 1946
Coutinho et al., 1957
Wallace et al., 1959
Kramer, 1961a
House fly (presumably *Musca domestica* Linnaeus)
Werner, 1909a
Wenyon, 1911b, 1913
Glaser, 1922
Musca domestica vicina Macquart
Pletneva, 1937
Musca nebulo Fabricius
Patton, 1910a, 1912a, 1921a
Musca sorbens Wiedemann
Patton, 1921a
MUSCIDAE: STOMOXYINAE
Stomoxys Geoffroy
Patton et al., 1909
Wenyon, 1911b
CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Becker, 1922-23, 1924
Chrysomya marginalis (Wiedemann)
Roubaud, 1908b
Chrysomya putoria (Wiedemann)
Roubaud, 1908b, 1909
Phormia regina (Meigen)
Becker, 1922-23, 1924
CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Drbohlav, 1925
Lucilia argyricephala Macquart
Patton, 1912a, 1921a
Lucilia ?jeddensis Bigot
Yamasaki, 1927
Lucilia porphyrina (Walker)
Patton, 1921a
Phaenicia sericata (Meigen)
Becker, 1922-23, 1924
Drbohlav, 1926
Fantham et al., 1927
Thomson, 1933

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Herpetomonas muscarum (cont.)	Bellosillo, 1937 Wallace et al., 1959 *Calliphora coloradensis* Hough Swingle, 1911 *Calliphora vicina* Robineau-Desvoidy Alexeieff, 1911 Laveran et al., 1920 Root, 1921 Becker, 1922-23, 1924 UNDETERMINED CALLIPHORINAE Patton, 1921a CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Léger, 1903 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga bullata* Parker Becker, 1922-23, 1924 *Sarcophaga haemorrhoidalis* (Fallén) Laveran et al., 1920 *Sarcophaga nurus* Rondani Roubaud, 1909 *Sarcophaga securifera* Villeneuve Becker, 1922-23, 1924
Herpetomonas ?muscarum (Leidy) Kent (Synonyms: *Herpetomonas muscae domesticae*, *Herpetomonas luciliae*)	DRYOMYZIDAE *Dryomyza anilis* Fallén Mackinnon, 1910 ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga lutaria* (Fabricius) Mackinnon, 1910 MUSCIDAE: FANNIINAE *Fannia ?corvina* (Verrall) Mackinnon, 1910 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Strickland, 1911 *Cynomyopsis cadaverina* (Robineau-Desvoidy) Wallace et al., 1964
Herpetomonas roubaudi .. .. (Chatton) Drbohlav (Synonym: *Leptomonas roubaudi*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila confusa* Staeger Chatton, 1912b
Herpetomonas rubrio-striatae ..... Chatton and Leger (Synonym: *Leptomonas rubrio-striatae*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila rubrio-striata* Becker Chatton et al., 1911c, 1912
Leishmania Ross	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Franchini, 1922

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Leishmania (cont.)

Leishmania donovani Laveran and Mesnil (Synonym: *Leishmania infantum*)

Leishmania mexicana Biagi

Leishmania tropica (Wright) (Synonym: *Crithidia cunninghami*)

Leishmania ?tropica (Wright)

Leptomonas Kent

Sarcophaga melanura Meigen
Franchini, 1922
Sarcophaga nurus Rondani
Franchini, 1922

CHLOROPIDAE: OSCINELLINAE
Siphunculina funicola de Meijere
Patton, 1921-22

MUSCIDAE: MUSCINAE
Musca nebulo Fabricius
Patton, 1921-22
Musca sorbens Wiedemann
Patton, 1921-22
Thomson et al., 1934
Lamborn, 1935, 1955

MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Lainson et al., 1965

MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Carter, 1909
Row, 1911
Laveran, 1915
Wollman, 1927
Wollman et al., 1928
House fly (presumably *Musca domestica* Linnaeus)
Blanc et al., 1921
Musca sorbens Wiedemann
Thomson et al., 1934
Lamborn, 1935

MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Berberian, 1938, 1939

CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Wollman et al., 1928

MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Cardamitis et al., 1911
Wenyon, 1911b

SPHAEROCERIDAE
Leptocera hirtula var. *thalhammeri* Strobl
Chatton, 1912a

DROSOPHILIDAE: DROSOPHILINAE
Drosophila confusa Staeger
Chatton et al., 1912
Drosophila rubrio-striata Becker
Chatton et al., 1912

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Leptomonas (cont.)	CHLOROPIDAE: OSCINELLINAE *Hippelates flavipes* Loew Kumm et al., 1935
	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Dunkerly, 1911
	MUSCIDAE: MUSCINAE *Pyrellia* Robineau-Desvoidy Roubaud, 1912a
	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya putoria* (Wiedemann) Roubaud, 1909
Leptomonas ampelophilae . . .. Chatton and Léger	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Chatton et al., 1911c, 1912
Leptomonas anthomyia ... . (Franchini) Wenyon (Synonym: *Herpetomonas anthomyiae*)	ANTHOMYIIDAE: ANTHOMYIINAE *Hydrophoria ruralis* Meigen Franchini, 1922
Leptomonas craggi (Patton) Wenyon (Synonym: *Herpetomonas craggi*)	MUSCIDAE: MUSCINAE *Musca bezzii* Patton and Cragg Patton, 1921a
Leptomonas drosophilae .. . Chatton and Alilaire (Synonym: *Trypanosoma drosophilae*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila confusa* Staeger Chatton et al., 1908, 1911a, 1911b, 1911c, 1912
Leptomonas gracilis . . . (Léger) Wenyon (Synonym: *Herpetomonas gracilis*)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora* Robineau-Desvoidy Alexeieff, 1911
Leptomonas legerorum . ... Chatton	SPHAEROCERIDAE *Sphaerocera curvipes* Latreille Chatton, 1912a
Leptomonas lineata (Swingle) . (Synonym: *Herpetomonas lineata*)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga sarraceniae* Riley Swingle, 1911
Leptomonas mesnili Roubaud (Synonym: *Cercoplasma mesnili*)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Roubaud, 1908a *Phaenicia cluvia* Walker Roubaud, 1909 *Phaenicia sericata* (Meigen) Roubaud, 1908a, 1909, 1911c
Leptomonas mirabilis Roubaud (Synonyms: *Herpetomonas graphomyae, Herpetomonas mirabilis, Cercoplasma mirabilis*)	MUSCIDAE: MUSCINAE *Graphomya maculata* (Scopoli) Franchini, 1922 *Musca nebulo* Fabricius Patton, 1921a

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Leptomonas mirabilis (cont.)	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya marginalis (Wiedemann) Roubaud, 1908b, 1911c
	Chrysomya megacephala (Fabricius) Patton, 1921a
	Chrysomya putoria (Wiedemann) Roubaud, 1908b, 1909, 1912a
	Chrysomya rufifacies (Macquart) Patton, 1921a
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia argyricephala Macquart Patton, 1921a
	Lucilia porphyrina (Walker) Patton, 1921a
	Cynomyopsis cadaverina (Robineau-Desvoidy) Wallace et al., 1964
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga melanura Meigen Franchini, 1922
Leptomonas pycnosomae .... Roubaud	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya putoria (Wiedemann) Roubaud, 1909
Leptomonas pyrrhocoris . . . . (Zotta) Zotta	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora Robineau-Desvoidy Zotta, 1921
Leptomonas soudanensis .... Roubaud	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya Robineau-Desvoidy Roubaud, 1911d
	Chrysomya putoria (Wiedemann) Roubaud, 1912a
Leptomonas stomoxyae Jegen (Synonym: *Herpetomonas stomoxyae*)	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Jegen, 1924
Trypanosoma Gruby	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Wenyon, 1911a
	MUSCIDAE: STOMOXYINAE
	Haematobia Lepeletier and Serville Krishna Iyer et al., 1935
	Stomoxys Geoffroy Nabarro et al., 1905 Sergent et al., 1905, 1922a Wenyon, 1908
	Stomoxys calcitrans (Linnaeus) Martini, 1903 Nieschulz, 1928c
	Stomoxys nigra Macquart Edington et al., 1907

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Trypanosoma brucei .... Plimmer and Bradford (Synonym: *Trypanosoma pecaudi*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Vanni, 1946 *Musca sorbens* Wiedemann Lamborn, 1934 Thomson et al., 1934 *Musca tempestiva* Fallén Lamborn, 1934 MUSCIDAE: STOMOXYINAE *Haematobia angustifrons* Malloch Lamborn, 1934 *Stomoxys boueti* Roubaud Bouet et al., 1912b *Stomoxys calcitrans* (Linnaeus) Martin et al., 1908 Roubaud, 1909 Schuberg et al., 1909 Taylor, 1930 *Stomoxys ?calcitrans* (Linnaeus) Hall, 1927 *Stomoxys calcitrans* (Linnaeus) var. *soudanense* Bouet et al., 1912 *Stomoxys nigra* Macquart Martin et al., 1908 Roubaud, 1909 Bouet et al., 1912
Trypanosoma congolense . . . Broden	MUSCIDAE: MUSCINAE *Musca sorbens* Wiedemann Lamborn, 1934 *Musca tempestiva* Fallén Lamborn, 1934 MUSCIDAE: STOMOXYINAE *Haematobia angustifrons* Malloch Lamborn, 1934 *Haematobia irritans* (Linnaeus) Jack, 1917 *Stomoxys* Geoffroy van Saceghem, 1922b *Stomoxys calcitrans* (Linnaeus) Roubaud, 1909 Carmichael, 1934 *Stomoxys ?calcitrans* (Linnaeus) Hall, 1927 *Stomoxys nigra* Macquart Roubaud, 1909
Trypanosoma ?congolense ..... Broden	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Jowett, 1911

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Trypanosoma dimorphon Laveran and Mesnil	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Nabarro et al., 1905
Trypanosoma equinum Vages	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Sivori et al., 1902 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Sivori et al., 1902 Lignières, 1903
Trypanosoma equiperdum Doflein	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Sieber et al., 1908 Schuberg et al., 1909a
Trypanosoma evansi (Steel) ..... . (Synonyms: Surra, *Trypanosoma berberium, Trypanosoma annamense, Trypanosoma soudanense*)	MUSCIDAE: MUSCINAE *Musca crassirostris* Stein Nieschulz, 1927 *Musca domestica* Linnaeus Musgrave et al., 1903 Mitzmain, 1912b *Musca inferior* Stein Nieschulz, 1927 *Musca insignis* (Austen) Fletcher, 1916 MUSCIDAE: STOMOXYINAE *Haematobia* Lepeletier and Serville Mitzmain, 1912a *Haematobia exigua* (de Meijere) Schat, 1909 Nieschulz, 1927 *Haematobia ?exigua* (de Meijere) Schat, 1903 *Stomoxys* Geoffroy Penning, 1904 Nabarro et al., 1905 Fraser, 1909 Donatien et al., 1922, 1923 Broudin, 1926 *Stomoxys bilineata* Grünberg Bouet et al., 1912 *Stomoxys brunnipes* Grünberg Nieschulz, 1930 *Stomoxys calcitrans* (Linnaeus) Schat, 1903 Leese, 1909 Baldrey, 1911 Bouet et al., 1912 Mitzmain, 1912b Sergent et al., 1922b

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Trypanosoma evansi (cont.)	Nieschulz, 1927, 1928b, 1929, 1930 Dieben, 1928 *Stomoxys ?calcitrans* (Linnaeus) Musgrave et al., 1903 *Stomoxys nigra* Macquart Bouet et al., 1912 Moutia, 1928
Trypanosoma ?evansi (Steel) ..	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Curry, 1902a
Trypanosoma gambiense .... Dutton	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Beck, 1910 MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Greig et al., 1905 Gray, 1907 Dutton et al., 1908 Minchin, 1908 Beck, 1910 *Stomoxys bilineata* Grünberg Roubaud, 1909 *Stomoxys calcitrans* (Linnaeus) Roubaud, 1909 Schuberg et al., 1909 Duke, 1913 *Stomoxys ?calcitrans* (Linnaeus) Gray, 1906 *Stomoxys nigra* Macquart Roubaud, 1909 Duke, 1913
Trypanosoma hippicum . Darling	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Darling, 1912b, 1912c
Trypanosoma pecorum . Bruce, Hamerton, Bateman, and Mackie	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy van Saceghem, 1921, 1922b
Trypanosoma rhodesiense .... Stephans and Fantham	MUSCIDAE: MUSCINAE *Musca sorbens* Wiedemann Lamborn, 1936a Lamborn et al., 1936 MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Duke, 1934 *Stomoxys calcitrans* (Linnaeus) Lamborn, 1933 *Stomoxys nigra* Macquart Lamborn, 1933

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Trypanosoma suis Ochmann ...	MUSCIDAE: MUSCINAE
(Synonym: *Trypanosoma simiae*)	*Musca sorbens* Wiedemann
	Lamborn, 1934
	Musca tempestiva Fallén
	Lamborn, 1934
Trypanosoma vivax Ziemann .	MUSCIDAE: STOMOXYINAE
(Synonym: *Trypanosoma*	*Stomoxys* Geoffroy
cazalboui)	Bouffard, 1907a, 1907b
	Stomoxys boueti Roubaud
	Bouet et al., 1912
	Stomoxys calcitrans (Linnaeus)
	Bouet et al., 1912
	Stomoxys ?calcitrans (Linnaeus)
	Hall, 1927
	Stomoxys nigra Macquart
	Bouet et al., 1912
BODONIDAE	
Bodo Ehrenberg	MUSCIDAE: FANNIINAE
(Synonym: *Prowazekia*)	*Fannia canicularis* (Linnaeus)
	Dunkerly, 1912
	MUSCIDAE: MUSCINAE
	House fly (presumably *Musca*
	domestica Linnaeus)
	Flu, 1915
	Attimonelli, ?1940b
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Duke, 1913
	Stomoxys nigra Macquart
	Duke, 1913
Rhynchoidomonas Patton	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Franchini, 1922
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Franchini, 1922
Rhynchoidomonas intestinalis .	CALLIPHORIDAE: CALLIPHORINAE
(Roubaud) Alexeieff	*Phaenicia sericata* (Meigen)
(Synonym: *Cystotrypanosoma*	Roubaud, 1911b
intestinalis)	
Rhynchoidomonas luciliae	MUSCIDAE: MUSCINAE
(Patton) Patton	*Musca nebulo* Fabricius
	Patton, 1910c
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Alexeieff, 1911
	Lucilia argyricephala Macquart
	Patton, 1910b
	Calliphora vicina Robineau-Desvoidy
	Alexeieff, 1911

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Rhynchoidomonas roubaudi . . . . Roubaud
(Synonym: *Cercoplasma drosophila*)
Rhynchoidomonas siphunculinae . . . . . Patton

TETRAMITIDAE
Tetramitus Perty . . . .

CHILOMASTIGIDAE
Chilomastix mesnili (Wenyon)

DROSOPHILIDAE: DROSOPHILINAE
Drosophila Fallén
Roubaud, 1912b

CHLOROPIDAE: OSCINELLINAE
Siphunculina funicola de Meijere
Patton, 1921c

MUSCIDAE: MUSCINAE
House fly (presumably *Musca domestica* Linnaeus)
Attimonelli, ?1940b

OTITIDAE: ULIDIINAE
Physiphora Fallén
Harris et al., 1946

PLATYSTOMATIDAE: PLATYSTOMATINAE
Scholastes Loew
Harris et al., 1946

MUSCIDAE: COENOSIINAE
Atherigona Rondani
Harris et al., 1946

MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Root, 1921

MUSCIDAE: MUSCINAE
Musca Linnaeus
Harris et al., 1946
Musca domestica Linnaeus
Root, 1921
Musca domestica vicina Macquart
Chang, 1940
Musca sorbens Wiedemann
Chang, 1940

CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Root, 1921
Chrysomya megacephala (Fabricius)
Chang, 1940
Harris et al., 1946

CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Harris et al., 1946
Lucilia caesar (Linnaeus)
Root, 1921
Chang, 1940
Phaenicia sericata (Meigen)
Chang, 1940

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Chilomastix mesnili (cont.)	*Calliphora vicina* Robineau-Desvoidy Root, 1921
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Chang, 1940 Harris et al., 1946
HEXAMITIDAE	
Giardia Kunstler	MUSCIDAE: MUSCINAE
(Synonym: *Lamblia*)	House fly (presumably *Musca domestica* Linnaeus) Frye et al., 1932 Attimonelli, ?1940b
Giardia intestinalis (Lambl)	MUSCIDAE: FANNIINAE
(Synonym: *Lamblia intestinalis*)	*Fannia* Robineau-Desvoidy Wenyon et al., 1917a
	Fannia canicularis (Linnaeus) Root, 1921
	MUSCIDAE: MUSCINAE
	Musca Linnaeus Wenyon et al., 1917a
	Musca domestica Linnaeus Roubaud, 1918 Buxton, 1920 Root, 1921 Jausion et al., 1923 Aleksander et al., 1935 Sieyro, 1942 Vanni, 1946
	House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917a, 1917b
	Musca domestica vicina Macquart Pletneva, 1937
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius) Root, 1921
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy Wenyon et al., 1917a
	Lucilia caesar (Linnaeus) Root, 1921
	Calliphora vicina Robineau-Desvoidy Root, 1921
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Wenyon et al., 1917b
	Calliphora Robineau-Desvoidy Wenyon et al., 1917a, 1917b

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Giardia lamblia Stiles	OTITIDAE: ULIDIINAE
	Physiphora Fallén
	Harris et al., 1946
	PLATYSTOMATIDAE: PLATYSTOMATINAE
	Scholastes Loew
	Harris et al., 1946
	MUSCIDAE: COENOSIINAE
	Atherigona Rondani
	Harris et al., 1946
	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	Harris et al., 1946
	Musca domestica Linnaeus
	Rendtorff et al., 1954
	Musca domestica vicina Macquart
	Chang, 1940
	Musca sorbens Wiedemann
	Chang, 1940
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius)
	Chang, 1940
	Harris et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Harris et al., 1946
	Lucilia caesar (Linnaeus)
	Chang, 1940
	Phaenicia sericata (Meigen)
	Chang, 1940
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Chang, 1940
	Harris et al., 1946
TRICHOMONADIDAE	
Trichomonas Donné	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Sieyro, 1942
	House fly (presumably *Musca domestica* Linnaeus)
	Wenyon et al., 1917b
	Attimonelli, ?1940b
	Akatov, 1955
Trichomonas hominis .. . . (Davaine)	OTITIDAE: ULIDIINAE
	Physiphora Fallén
	Harris et al., 1946
	PLATYSTOMATIDAE: PLATYSTOMATINAE
	Scholastes Loew
	Harris et al., 1946

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Trichomonas hominis (cont.)	MUSCIDAE: COENOSIINAE
	Atherigona Rondani
	Harris et al., 1946
	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	Harris et al., 1946
	Musca domestica Linnaeus
	Hegner, 1928
	Musca domestica vicina Macquart
	Chang, 1940
	Musca sorbens Wiedemann
	Chang, 1940
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius)
	Chang, 1940
	Harris et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Harris et al., 1946
	Lucilia caesar (Linnaeus)
	Chang, 1940
	Phaenicia sericata (Meigen)
	Hegner, 1928
	Chang, 1940
	Cynomyopsis cadaverina
	(Robineau-Desvoidy)
	Hegner, 1928
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Chang, 1940
	Harris et al., 1946
Trichomonas ?hominis (Davaine)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Simitch et al., 1937
Tritrichomonas foetus (Riedmüller)	MUSCIDAE: MUSCINAE
(Synonym: *Trichomonas foetus*)	*Musca domestica* Linnaeus
	Morgan, 1942
	Holz, 1953
AMOEBIDAE	
Hartmannella hyalina Dangeard	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Coutinho et al., 1957
ENDAMOEBIDAE	
Endolimax nana (Wenyon and O'Connor)	OTITIDAE: ULIDIINAE
(Synonym: *Amoeba limax*)	*Physiphora* Fallén
	Harris et al., 1946
	PLATYSTOMATIDAE:
	PLATYSTOMATINAE
	Scholastes Loew
	Harris et al., 1946

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Endolimax nana (cont.)

MUSCIDAE: COENOSIINAE
Atherigona Rondani
Harris et al., 1946
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Root, 1921
Yao et al., 1929
Fannia scalaris (Fabricius)
Yao et al., 1929
MUSCIDAE: MUSCINAE
Musca Linnaeus
Harris et al., 1946
Musca domestica Linnaeus
Root, 1921
Yao et al., 1929
Coutinho et al., 1957
House fly (presumably *Musca domestica* Linnaeus)
Werner, 1909b
Frye et al., 1932
Musca domestica vicina Macquart
Chang, 1940
Musca sorbens Wiedemann
Chang, 1940
CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia macellaria (Fabricius)
Root, 1921
Chrysomya megacephala (Fabricius)
Chang, 1940
Harris et al., 1946
CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Harris et al., 1946
Lucilia caesar (Linnaeus)
Root, 1921
Yao et al., 1929
Chang, 1940
Phaenicia sericata (Meigen)
Chang, 1940
Calliphora vicina Robineau-Desvoidy
Root, 1921
Yao et al., 1929
Calliphora vomitoria (Linnaeus)
Yao et al., 1929
SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Chang, 1940
Harris et al., 1946
Sarcophaga carnaria (Linnaeus)
Yao et al., 1929

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Entamoeba coli (Grassi) ..... OTITIDAE: ULIDIINAE

Physiphora Fallén
Harris et al., 1946

PLATYSTOMATIDAE: PLATYSTOMATINAE

Scholastes Loew
Harris et al., 1946

MUSCIDAE: COENOSIINAE

Atherigona Rondani
Harris et al., 1946

MUSCIDAE: FANNIINAE

Fannia Robineau-Desvoidy
Wenyon et al., 1917a

Fannia canicularis (Linnaeus)
Root, 1921
Yao et al., 1929

Fannia scalaris (Fabricius)
Yao et al., 1929

MUSCIDAE: MUSCINAE

Musca Linnaeus
Wenyon et al., 1917a
Harris et al., 1946

Musca domestica Linnaeus
Roubaud, 1918
Buxton, 1920
Root, 1921
Yao et al., 1929
Aleksander et al., 1935
Vanni, 1946
Roberts, 1947
Rendtorff et al., 1954
Coutinho et al., 1957

House fly (presumably *Musca domestica* Linnaeus)
Wenyon et al., 1917a, 1917b
Frye et al., 1932

Musca domestica vicina Macquart
Pletneva, 1937
Chang, 1940

Musca sorbens Wiedemann
Chang, 1940

CALLIPHORIDAE: CHRYSOMYINAE

Cochliomyia macellaria (Fabricius)
Root, 1921

Chrysomya megacephala (Fabricius)
Chang, 1940
Harris et al., 1946

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Entamoeba coli (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Wenyon et al., 1917a
	Harris et al., 1946
	Lucilia caesar (Linnaeus)
	Root, 1921
	Yao et al., 1929
	Chang, 1940
	Phaenicia sericata (Meigen)
	Chang, 1940
	Calliphora Robineau-Desvoidy
	Wenyon et al., 1917a, 1917b
	Calliphora vicina Robineau-Desvoidy
	Root, 1921
	Yao et al., 1929
	Calliphora vomitoria (Linnaeus)
	Yao et al., 1929
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Wenyon et al., 1917b
	Chang, 1940
	Harris et al., 1946
	Sarcophaga carnaria (Linnaeus)
	Yao et al., 1929
Entamoeba histolytica .... Schaudinn (Synonym: *Entamoeba tetragena*)	OTITIDAE: ULIDIINAE
	Physiphora Fallén
	Harris et al., 1946
	PLATYSTOMATIDAE: PLATYSTOMATINAE
	Scholastes Loew
	Harris et al., 1946
	MUSCIDAE: COENOSIINAE
	Atherigona Rondani
	Harris et al., 1946
	MUSCIDAE: FANNIINAE
	Fannia Robineau-Desvoidy
	Wenyon et al., 1917a
	Fannia canicularis (Linnaeus)
	Root, 1921
	Yao et al., 1929
	Fannia scalaris (Fabricius)
	Yao et al., 1929
	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	Wenyon et al., 1917a
	Harris et al., 1946
	Musca domestica Linnaeus
	Kuenen et al., 1913
	Roubaud, 1918
	Buxton, 1920

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Entamoeba histolytica (cont.)

Root, 1921
Jausion et al., 1923
Yao et al., 1929
Aleksander et al., 1935
Pipkin, 1942, 1949
Sieyro, 1942
Vanni, 1946
Roberts, 1947

House fly (presumably *Musca domestica* Linnaeus)
Werner, 1909b
Wenyon et al., 1917a, 1917b
Rogers, 1929
Frye et al., 1932

Musca domestica vicina Macquart
Pletneva, 1937
Chang, 1940

Musca sorbens Wiedemann
Chang, 1940

MUSCIDAE: STOMOXYINAE

Stomoxys calcitrans (Linnaeus)
Jausion et al.,1923

CALLIPHORIDAE: CHRYSOMYINAE

Cochliomyia macellaria (Fabricius)
Root, 1921
Pipkin, 1942, 1949

Chrysomya Robineau-Desvoidy
Anonymous Korean authors

Chrysomya megacephala (Fabricius)
Chang, 1940, 1945
Harris et al., 1946

Phormia regina (Meigen)
Pipkin, 1942, 1949

CALLIPHORIDAE: CALLIPHORINAE

Lucilia Robineau-Desvoidy
Wenyon et al., 1917a
Harris et al., 1946
Anonymous Korean authors

Lucilia caesar (Linnaeus)
Root, 1921
Yao et al., 1929
Chang, 1940

Phaenicia pallescens (Shannon)
Pipkin, 1942, 1949

Phaenicia sericata (Meigen)
Chang, 1940, 1945

Calliphora Robineau-Desvoidy
Wenyon et al., 1917a, 1917b

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Fannia histolytica (cont.)		*Calliphora vicina* Robineau-Desvoidy
		Root, 1921
		Yao et al., 1929
		Calliphora vomitoria (Linnaeus)
		Jausion et al., 1923
		Yao et al., 1929
		SARCOPHAGIDAE: SARCOPHAGINAE
		Sarcophaga Meigen
		Wenyon et al., 1917b
		Anonymous Korean authors
		Chang, 1940, 1945
		Sieyro, 1942
		Harris et al., 1946
		Sarcophaga carnaria (Linnaeus)
		Yao et al., 1929
		Sarcophaga misera Walker
		Pipkin, 1942, 1949
		Sarcophaga sarracenioides Aldrich
		Pipkin, 1949
Iodamoeba bütschlii (Prowazek)	.. ..	OTITIDAE: ULIDIINAE
		Physiphora Fallén
		Harris et al., 1946
		PLATYSTOMATIDAE: PLATYSTOMATINAE
		Scholastes Loew
		Harris et al., 1946
		MUSCIDAE: COENOSIINAE
		Atherigona Rondani
		Harris et al., 1946
		MUSCIDAE: MUSCINAE
		Musca Linnaeus
		Harris et al., 1946
		Musca domestica Linnaeus
		Aleksander et al., 1935
		Coutinho et al., 1957
		Musca domestica vicina Macquart
		Chang, 1940
		Musca sorbens Wiedemann
		Chang, 1940
		CALLIPHORIDAE: CHRYSOMYINAE
		Chrysomya megacephala (Fabricius)
		Chang, 1940
		Harris et al., 1946
		CALLIPHORIDAE: CALLIPHORINAE
		Lucilia Robineau-Desvoidy
		Harris et al., 1946
		Lucilia caesar (Linnaeus)
		Chang, 1940
		Phaenicia sericata (Meigen)
		Chang, 1940

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Iodamoeba bütschlii (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Chang, 1940 Harris et al., 1946
EIMERIIDAE	
Eimeria Schneider	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Coutinho et al., 1957 House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917a
Eimeria acervalina (Tyzzer)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Roberts, 1947
Eimeria irresidua Kessel and Janciewicz	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Metelkin, 1935 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Metelkin, 1935 CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Metelkin, 1935 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Metelkin, 1935 *Calliphora vicina* Robineau-Desvoidy Metelkin, 1935 *Cynomya mortuorum* (Linnaeus) Metelkin, 1935
Eimeria perforans (Leuckart) Sluiter and Swellengrebel (Synonym: *Eimeria exigua*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Metelkin, 1935 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Metelkin, 1935 CALLIPHORIDAE: CHRYSOMYINAE *Protophormia terraenovae* (Robineau-Desvoidy) Metelkin, 1935 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Metelkin, 1935 *Calliphora vicina* Robineau-Desvoidy Metelkin, 1935 *Cynomya mortuorum* (Linnaeus) Metelkin, 1935

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Toxoplasma ..... Nicolle and Manceaux	MUSCIDAE: PHAONIINAE *Musca stabulans* (Fallén) Kåss, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kåss, 1954 Schmidtke, 1959 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) van Thiel et al., 1953 Schmidtke, 1959 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Schmidtke, 1959 *Calliphora vicina* Robineau-Desvoidy van Thiel, 1949 Schmidtke, 1959
Toxoplasma gondii ..... Nicolle and Manceaux	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kunert et al., 1953 Varela et al., 1961 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Blanc et al., 1950 Kunert et al., 1953 Laarman, 1956, 1957 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Kunert et al., 1953 *Calliphora vicina* Robineau-Desvoidy Kunert et al., 1953 Schmidtke, 1955
NOSEMATIDAE	
Nosema apis Zander	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kramer, 1962 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Kramer, 1962 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Fantham et al., 1913 Kramer, 1962
Nosema bombycis Nägeli ..... (Synonym: Pébrine)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Smuidsinovicia, 1889 Teodoro, 1926
Nosema kingi Kramer	DROSOPHILIDAE: DROSOPHILINAE *Drosophila willistoni* Sturtevant Kramer, 1964b

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Nosema kingi (cont.)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kramer, 1964b
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Kramer, 1964b
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia cuprina* Wiedemann Kramer, 1964b
Thelohania ovata Dunkerly	MUSCIDAE: FANNIINAE *Fannia scalaris* (Fabricius) Dunkerly, 1912
Thelohania thomsoni Kramer	MUSCIDAE: PHAONIINAE *Muscina assimilis* (Fallén) Kramer, 1961b
MRAZEKIIDAE	
Octosporea monospora . ... Chatton and Krempf	DROSOPHILIDAE: DROSOPHILINAE *Drosophila confusa* Staeger Chatton et al., 1911d *Drosophila plurilineata* Villeneuve Chatton et al., 1911d
	MUSCIDAE: FANNIINAE *Fannia scalaris* (Fabricius) Brug, 1914
Octosporea muscae-domesticae Flu	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Kramer, 1965b *Drosophila confusa* Staeger Chatton et al., 1911d *Drosophila funebris* (Fabricius) Chatton et al., 1911d *Drosophila melanogaster* Meigen Chatton et al., 1911d *Drosophila phalerata* Meigen Chatton et al., 1911d *Drosophila plurilineata* Villeneuve Chatton et al., 1911d
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Flu, 1911 Porter, 1953 Fantham et al., 1958 Kramer, 1964a, 1965b, 1966 *Musca sorbens* Wiedemann Kramer, 1965b
	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Kramer, 1964a, 1965b

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Octosporea muscae-domesticae (cont.)	*Phormia regina* (Meigen) Kramer, 1964a, 1965a, 1965b, 1965c, 1966 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Kramer, 1964a, 1965b *Calliphora vicina* Robineau-Desvoidy Fantham et al., 1958 *Calliphora vomitoria* (Linnaeus) Fantham et al., 1958 Kramer, 1965b CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Kramer, 1964a, 1965b
Octosporea ?muscae-domesticae . . . . . Flu	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Cardamatis, 1912b
Spiroglugea Léger and Hesse .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Fantham et al., 1958 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Porter, 1953 Fantham et al., 1958 *Calliphora vomitoria* (Linnaeus) Porter, 1953 Fantham et al., 1958
Toxoglugea Léger and Hesse .	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Porter, 1953 Fantham et al., 1958 *Calliphora vomitoria* (Linnaeus) Porter, 1953 Fantham et al., 1958
TELOMYXIDAE *Telomyxa* Léger and Hesse .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Fantham et al., 1958 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Porter, 1953 Fantham et al., 1958 *Calliphora vomitoria* (Linnaeus) Porter, 1953 Fantham et al., 1958
UNDETERMINED MICROSPORIDA	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Bell, 1952 Stalker et al., 1963

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UNDETERMINED MICROSPORIDA (cont.)	*Drosophila melanogaster* Meigen Wolfson et al., 1957 Stalker et al., 1963 *Drosophila paramelanica* Patterson Wolfson et al., 1957 *Drosophila parthenogenetica* Stalker Wolfson et al., 1957 *Drosophila robusta* Sturtevant Stalker et al., 1963 *Drosophila willistoni* Sturtevant Burnett et al., 1962 *Scaptomyza* Hardy Stalker et al., 1963 MUSCIDAE: MUSCINAE *Musca sorbens* Wiedemann Lamborn, 1935
HOLOPHRYIDAE	
Holophrya . . . . . (Synonym: *Holophria*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Attimonelli, ?1940b
HETEROPHYIDAE	
Heterophyes heterophyes (V. Siebold) Stile and Hassall	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917a
SCHISTOSOMATIDAE	
Schistosoma Weinland . (Synonym: *Bilharzia*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917a
UNDETERMINED TREMATODA	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917b
DIPHYLLOBOTHRIIDAE	
Bothriocephalus marginatus . . . Krefft (Synonym: *Taenia marginata*)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Nicoll, 1911b MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911b CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Nicoll, 1911b
Diphyllobothrium Cobbold .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pokrovskiĭ et al., 1938

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Diphyllobothrium (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Pokrovskiĭ et al., 1938
Diphyllobothrium latum (Linnaeus) Lühe (Synonym: *Dibothriocephalus latus*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pod"îapol'skaîa et al., 1934 Aleksander et al., 1935 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Pod"îapol'skaîa et al., 1934
ANOPLOCEPHALIDAE	
Moniezia expansa (Rudolphi)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911b
DAVAINEIDAE	
Davainea nana (Fuhrmann) (Synonym: *Taenia nana*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Calandruccio, 1906
Raillietina cesticillus (Molin) (Synonyms: *Taenia infundibuliformis*, *Davainea cesticillus*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Grassi et al., 1889 Gutberlet, 1916 Ackert, 1919 Neveu-Lemaire, 1936
Raillietina tetragona (Molin) (Synonym: *Davainea tetragona*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Gutberlet, 1916 Ackert, 1920 Neveu-Lemaire, 1936
DILEPIDIDAE	
Choanotaenia infundibulum (Bloch) (Synonym: *Choanotaenia infundibuliformis*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Gutberlet, 1916 Neveu-Lemaire, 1936 Wetzel, 1936 Reid et al., 1937 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Gutberlet, 1916
Dipylidium caninum (Linnaeus) Railliet	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911b
HYMENOLEPIDIDAE	
Echinolepis carioca (Magalhâes) Spassky and Spasskaja (Synonym: *Hymenolepis carioca*)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Gutberlet, 1920 Neveu-Lemaire, 1936

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Hymenolepis Weinland	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Pokrovskiĭ et al., 1938
	Coutinho et al., 1957
Hymenolepis diminuta (Rudolphi) Blanchard	OTITIDAE: ULIDIINAE
	Physiphora Fallén
	Harris et al., 1946
	PLATYSTOMATIDAE: PLATYSTOMATINAE
	Scholastes Loew
	Harris et al., 1946
	MUSCIDAE: COENOSIINAE
	Atherigona Rondani
	Harris et al., 1946
	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	Harris et al., 1946
	Musca domestica Linnaeus
	Nicoll, 1911b
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius)
	Harris et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Harris et al., 1946
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Harris et al., 1946
Hymenolepis nana (V. Siebold) Blanchard	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Bogoîâvlenskiĭ et al., 1928
	Sychevskaîâ et al., 1959b
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Buxton, 1920
	Bogoîâvlenskiĭ et al., 1928
	Aleksander et al., 1935
	Musca domestica vicina Macquart
	Pletneva, 1937
	Sychevskaîâ et al., 1959b
Vampirolepis fraterna (Stiles) Spassky (Synonym: *Hymenolepis fraterna*)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Joyeux, 1920
TAENIIDAE	
Echinococcus granulosus (Batsch) Rudolphi	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Perez-Fontana et al., 1961
	Calliphora Robineau-Desvoidy
	Perez-Fontana et al., 1961

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Echinococcus granulosus (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga tibialis Macquart
	Heinz et al., 1955
Taenia pisiformis (Bloch)	MUSCIDAE: MUSCINAE
(Synonym: *Taenia serrata*)	*Musca domestica* Linnaeus
	Nicoll, 1911b
Taeniarhynchus saginatum	SYRPHIDAE: MILESIINAE
(Goeze)	*Eristalis aeneus* (Scopoli)
(Synonym: *Taenia saginata*)	Sychevskaĭa et al., 1958
	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Bogoĭavlenskiĭ et al., 1928
	Sychevskaĭa et al., 1958
	MUSCIDAE: MUSCINAE
	Dasyphora asiatica Zimin
	Sychevskaĭa et al., 1958
	Musca domestica Linnaeus
	Buxton, 1920
	Bogoĭavlenskiĭ et al., 1928
	Aleksander et al., 1935
	House fly (presumably *Musca domestica* Linnaeus)
	Wenyon et al., 1917a
	Musca domestica vicina Macquart
	Zmeev, 1936
	Sychevskaĭa et al., 1958
	Musca sorbens Wiedemann
	Sychevskaĭa et al., 1958
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya albiceps (Wiedemann)
	Round, 1961
	Chrysomya chloropyga Wiedemann
	Round, 1961
	Chrysomya rufifacies (Macquart)
	Sychevskaĭa et al., 1958
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy
	Sychevskaĭa et al., 1958
	CALLIPHORIDAE: POLLENIINAE
	Pollenia rudis (Fabricius)
	Sychevskaĭa et al., 1958
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Round, 1961
	Sarcophaga haemorrhoidalis (Fallén)
	Sychevskaĭa et al., 1958
UNDETERMINED	
TAENIIDAE	MUSCIDAE: MUSCINAE
	Musca domestica vicina Macquart
	Sychevskaĭa et al., 1959b

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UNDETERMINED	
CESTOIDEA	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917b
Bassus laetatorius, unvalidated	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Sychevskaîâ, 1964b
TETRADONEMATIDAE	
Mermithonema entomophilum Goodey	SEPSIDAE *Sepsis cynipsea* (Linnaeus) Goodey, 1941
RHABDITIDAE	
Rhabditis axei (Cobbold)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Hague, 1963
Rhabditis pellio (Schneider)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Aubertot, 1923 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Menzel, 1924
PANAGROLAIMIDAE	
Panagrellus zymosiphilus (Brunold) (Synonym: *Anguillula zymosiphila*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Brunold, 1950
STRONGYLOIDIDAE	
Strongyloides stercoralis (Babay)	MUSCIDAE: MUSCINAE *Musca domestica* Linaneus Buxton, 1920
TRICHURIDAE	
Trichuris Roederer (Synonym: *Trichocephalus*)	MUSCIDAE: MUSCINAE *Musca* Linnaeus Tao, 1936 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia* Townsend Tao, 1936 *Chrysomya megacephala* (Fabricius) Chang, 1945 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Tao, 1936 Perez-Fontana et al., 1961 *Phaenicia sericata* (Meigen) Chang, 1945 *Calliphora* Robineau-Desvoidy Perez-Fontana et al., 1961

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Trichuris (cont.)

Trichuris trichiura (Linnaeus) .....
(Synonyms: *Trichocephalus dispar*, *Trichocephalus trichiuris*)

SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Chang, 1945

OTITIDAE: ULIDIINAE
Physiphora Fallén
Harris et al., 1946

PLATYSTOMATIDAE: PLATYSTOMATINAE
Scholastes Loew
Harris et al., 1946

SPHAEROCERIDAE
Limosinae punctipennis (Wiedemann)
Nicholls, 1912

MUSCIDAE: COENOSIINAE
Atherigona Rondani
Harris et al., 1946

MUSCIDAE: PHAONIINAE
Muscina stabulans (Fallén)
Bogoîavlenskiĭ et al., 1928

MUSCIDAE: MUSCINAE
Musca Linnaeus
Harris et al., 1946
Musca domestica Linnaeus
Nicoll, 1911b
Buxton, 1920
Bogoîavlenskiĭ et al., 1928
Pod"îapol'skaîa et al., 1934
Aleksander et al., 1935
House fly (presumably *Musca domestica* Linnaeus)
Wenyon et al., 1917a
Musca domestica vicina Macquart
Chang, 1940

CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya megacephala (Fabricius)
Chang, 1940
Harris et al., 1946

CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Harris et al., 1946
Lucilia caesar (Linnaeus)
Chang, 1940
Phaenicia sericata (Meigen)
Chang, 1940
Calliphora vicina Robineau-Desvoidy
Pod"îapol'skaîa et al., 1934

SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Chang, 1940
Harris et al., 1946

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ANCYLOSTOMATIDAE	
Ancylostoma (Dubini) . .. (Synonym: Hookworm)	OTITIDAE: ULIDIINAE
	Physiphora Fallén
	Harris et al., 1946
	PLATYSTOMATIDAE: PLATYSTOMATINAE
	Scholastes Loew
	Harris et al., 1946
	MUSCIDAE: COENOSIINAE
	Atherigona Rondani
	Harris et al., 1946
	MUSCIDAE: MUSCINAE
	Musca Linnaeus
	Tao, 1936
	Harris et al., 1946
	Musca domestica Linnaeus
	Buxton, 1920
	Musca domestica vicina Macquart
	Chang, 1940
	Musca sorbens Wiedemann
	Chang, 1940
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia Townsend
	Tao, 1936
	Chrysomya megacephala (Fabricius)
	Chang, 1940, 1945
	Harris et al., 1946
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Tao, 1936
	Harris et al., 1946
	Lucilia caesar (Linnaeus)
	Chang, 1940
	Phaenicia sericata (Meigen)
	Chang, 1940, 1945
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Chang, 1940, 1945
	Harris et al., 1946
Ancylostoma caninum .... (Ercolani)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Nicoll, 1911b
	Harada, 1953, 1954
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora Robineau-Desvoidy
	Harada, 1953, 1954
Ancylostoma duodenale .... (Dubini) Creplin (Synonym: *Ankylostoma duodenale*)	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Bogoîavlenskiĭ et al., 1928

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Ancylostoma duodenale (cont.)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Buxton, 1920 Bogoîâvlenskiĭ et al., 1928 House fly (presumably *Musca domestica* Linnaeus) Wenyon et al., 1917a
Necator americanus (Stiles)	SPHAEROCERIDAE *Limosina punctipennis* (Wiedemann) Nicholls, 1912 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Buxton, 1920
STRONGYLIDAE	
Stronglus equinus Mueller	MUSCIDAE: MUSCINAE
(Synonym: *Sclerostomum equinum*)	*Musca domestica* Linnaeus Nicoll, 1911b
SYNGAMIDAE	
Syngamus trachea (Montagu) .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Clapham, 1939 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Clapham, 1939
TRICHOSTRONGYLIDAE	
Trichostrongylus colubriformis	MUSCIDAE: PHAONIINAE
(Giles)	*Muscina stabulans* (Fallén)
(Synonym: *Trichostrongylus instabilis*)	Bogoîâvlenskiĭ et al., 1928 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bogoîâvlenskiĭ et al., 1928
OXYURIDAE	
Enterobius vermicularis	MUSCIDAE: PHAONIINAE
(Linnaeus) Leach	*Muscina stabulans* (Fallén) Bogoîâvlenskiĭ et al., 1928 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bogoîâvlenskiĭ et al., 1928 Pod"îâpol'skaîâ et al., 1934 Aleksander et al., 1935 *Musca domestica vicina* Macquart Pletneva, 1937 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Pokrovskiĭ et al., 1938 *Calliphora vicina* Robineau-Desvoidy Pod"îâpol'skaîâ et al., 1934 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Pokrovskiĭ et al., 1938

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ASCARIDIDAE

Ascaris Linnaeus .. ..

MUSCIDAE: MUSCINAE
Musca Linnaeus
Tao, 1936
Musca domestica Linnaeus
Pod"îâpol'skaîâ et al., 1934
Pokrovskiĭ et al., 1938

CALLIPHORIDAE: CHRYSOMYINAE
Cochliomyia Townsend
Tao, 1936
Chrysomya megacephala (Fabricius)
Chang, 1945

CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Tao, 1936
Phaenicia sericata (Meigen)
Chang, 1945
Calliphora vicina Robineau-Desvoidy
Pod"îâpol'skaîâ et al., 1934

SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga Meigen
Chang, 1945

Ascaris lumbricoides Linnaeus (Synonym: *Ascaris suum*)

SYRPHIDAE: MILESIINAE
Eristalis Latreille
Sukhacheva, 1963

OTITIDAE: ULIDIINAE
Physiphora Fallén
Harris et al., 1946

PLATYSTOMATIDAE: PLATYSTOMATINAE
Scholastes Loew
Harris et al., 1946

SPHAEROCERIDAE
Limosina punctipennis (Wiedemann)
Nicholls, 1912

MUSCIDAE: COENOSIINAE
Atherigona Rondani
Harris et al., 1946

MUSCIDAE: FANNIINAE
Fannia Robineau-Desvoidy
Sukhacheva, 1963

MUSCIDAE: PHAONIINAE
Ophyra Robineau-Desvoidy
Sukhacheva, 1963
Muscina stabulans (Fallén)
Bogoîâvlenskiĭ et al., 1928

MUSCIDAE: MUSCINAE
Musca Linnaeus
Harris et al., 1946

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Ascaris lumbricoides (cont.)	*Musca domestica* Linnaeus Stiles, 1889 (see Nuttall et al., 1909) Bogoîâvlenskiĭ et al., 1928 Roberts, 1934 Aleksander et al., 1935 Sukhacheva, 1963 *Musca domestica vicina* Macquart Chang, 1940 Sychevskaîâ et al., 1958 *Musca sorbens* Wiedemann Chang, 1940 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya megacephala* (Fabricius) Chang, 1940 Harris et al., 1946 *Protophormia terraenovae* (Robineau-Desvoidy) Sukhacheva, 1963 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Harris et al., 1946 *Lucilia caesar* (Linnaeus) Chang, 1940 *Phaenicia cuprina* Wiedemann Roberts, 1934 *Phaenicia sericata* (Meigen) Chang, 1940 *Calliphora* Robineau-Desvoidy Perez-Fontana et al., 1961 *Calliphora vicina* Robineau-Desvoidy Sukhacheva, 1963 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Chang, 1940 Harris et al., 1946 *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaîâ et al., 1958
Ascaris ?lumbricoides Linnaeus ...	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Perez-Fontana et al., 1961
Parascaris equorum (Goeze) . .... (Synonym: *Ascaris megalocephala*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911b
Toxascaris leonina (Linstow) .. ... (Synonym: *Toxascaris limbata*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Nicoll, 1911b

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ACUARIIDAE

Dispharynx ?nasuta (Rudolphi) (Synonym: *Dispharagus nasutus*)
- MUSCIDAE: MUSCINAE
  - *Musca domestica* Linnaeus
    - Piana, 1896

Parabronema skrjabini Rassowska
- MUSCIDAE: STOMOXYINAE
  - *Haematobia titillans* (Bezzi)
    - Ivashkin, 1959

SPIRURIDAE

Habronema Diesing
- MUSCIDAE: MUSCINAE
  - *Musca domestica* Linnaeus
    - Generali, 1886?
    - Mello et al., 1934b
    - Coutinho et al., 1957
  - *Musca sorbens sorbens* Wiedemann
    - Johnston, 1912
    - Tryon, 1914
- CALLIPHORIDAE: CALLIPHORINAE
  - *Anastellorhina augur* (Fabricius)
    - Johnston, 1920
    - Johnston et al., 1920a

Habronema megastoma (Rudolphi) Seurat
- MUSCIDAE: FANNIINAE
  - *Fannia canicularis* (Linnaeus)
    - Roubaud et al., 1922b
- MUSCIDAE: PHAONIINAE
  - *Muscina stabulans* (Fallén)
    - Roubaud et al., 1922b
- MUSCIDAE: MUSCINAE
  - *Orthellia* Robineau-Desvoidy
    - Johnston, 1920
    - Johnston et al., 1920a
    - Neveu-Lemaire, 1936
  - *Musca domestica* Linnaeus
    - Bull, 1919
    - Hill, 1919
    - Johnston, 1920
    - Johnston et al., 1920a
    - Roubaud et al., 1921, 1922a, 1922b
    - Descazeaux et al., 1933
    - Neveu-Lemaire, 1936
  - *Musca fergusoni* Johnston and Bancroft
    - Johnston, 1920
    - Johnston et al., 1920a
    - Neveu-Lemaire, 1936
  - *Musca hilli* Johnston and Bancroft
    - Johnston, 1920
    - Johnston et al., 1920a
  - *Musca lusoria* Wiedemann
    - Neveu-Lemaire, 1936

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Habronema megastoma (cont.)	*Musca sorbens* Wiedemann Neveu-Lemaire, 1936 *Musca sorbens sorbens* Wiedemann Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936 *Musca terraereginae* Johnston and Bancroft Johnston, 1920 Johnston et al., 1920a Neveu-Lemaire, 1936 *Musca ventrosa* Wiedemann Neveu-Lemaire, 1936 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Bull, 1919 Hill, 1919 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga misera* Walker Johnston, 1920 Johnston et al., 1920a
Habronema ?megastoma (Rudolphi) Seurat	UNDETERMINED DROSOPHILIDAE Crawford, 1926 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bull, 1918
Habronema microstoma (Schneider) .	MUSCIDAE: MUSCINAE *Orthellia* Robineau-Desvoidy Johnston, 1920 *Musca domestica* Linnaeus Bull, 1919 Hill, 1919 Johnston, 1920 Roubaud, 1922b Neveu-Lemaire, 1936 *Musca fergusoni* Johnston and Bancroft Johnston, 1920 *Musca hilli* Johnston and Bancroft Johnston, 1920 *Musca sorbens sorbens* Wiedemann Johnston, 1920 *Musca terraereginae* Johnston and Bancroft Johnston, 1920 MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Neveu-Lemaire, 1936 *Stomoxys calcitrans* (Linnaeus) Bull, 1919

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Habronema microstoma (cont.)		Hill, 1919
		Johnston, 1920
		Johnston et al., 1920a
		Roubaud et al., 1922a, 1922b
		Neveu-Lemaire, 1936
		SARCOPHAGIDAE: SARCOPHAGINAE
		Sarcophaga melanura Meigen
		Neveu-Lemaire, 1936
		Sarcophaga misera Walker
		Johnston, 1920
Habronema muscae (Carter) (Synonym: *Filaria muscae*)	...	MUSCIDAE: FANNIINAE
		Fannia canicularis (Linnaeus)
		Roubaud et al., 1922b
		MUSCIDAE: PHAONIINAE
		Muscina stabulans (Fallén)
		Roubaud et al., 1922b
		MUSCIDAE: MUSCINAE
		Orthellia Robineau-Desvoidy
		Johnston, 1920
		Johnston et al., 1920a
		Neveu-Lemaire, 1936
		Musca domestica Linnaeus
		Carter, 1861
		Johnston, 1913, 1920
		Ransom, 1913
		van Saceghem, 1917, 1918a
		Bull, 1919
		Hill, 1919
		Johnston et al., 1920a
		Roubaud et al., 1922a, 1922b
		de Magarinos Torres et al., 1923
		Descazeaux et al., 1933
		Neveu-Lemaire, 1936
		Mello et al., 1943a
		House fly (presumably *Musca domestica* Linnaeus)
		Leidy, 1874
		Ransom, 1911
		Musca fergusoni Johnston and Bancroft
		Johnston, 1920
		Johnston et al., 1920a
		Neveu-Lemaire, 1936
		Musca hilli Johnston and Bancroft
		Johnston, 1920
		Johnston et al., 1920a
		Musca lusoria Wiedemann
		Neveu-Lemaire, 1936
		Musca sorbens Wiedemann
		Neveu-Lemaire, 1936

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Habronema muscae (cont.)

Musca sorbens sorbens Weidemann
Johnston, 1920
Johnston et al., 1920a
Neveu-Lemaire, 1936
Musca terraereginae Johnston and Bancroft
Johnston, 1920
Johnston et al., 1920a
Neveu-Lemaire, 1936
Musca ventrosa Wiedemann
Neveu-Lemaire, 1936

MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Johnston, 1913
Bull, 1919
Hill, 1919

SARCOPHAGIDAE: SARCOPHAGINAE
Sarcophaga misera Walker
Johnston, 1920
Johnston et al., 1920a
Neveu-Lemaire, 1936

Habronema ?muscae (Carter) .. MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Piana, 1896
Musca sorbens sorbens Wiedemann
Johnston, 1913

THELAZIIDAE

Thelazia californiensis Price .. .. MUSCIDAE: MUSCINAE
Musca autumnalis de Geer
Sabrosky, 1959

Thelazia gulosa . .. . MUSCIDAE: MUSCINAE
Railliet and Henry
Musca amica Zimin
Krastin, 1950, 1952
Musca autumnalis de Geer
Világiová, 1962
Musca larvipara Porchinskiĭ
Klesov, 1951
Világiová, 1962

Thelazia rhodesii (Desmarest) .... MUSCIDAE: MUSCINAE
Musca autumnalis de Geer
Klesov, 1949a
Sabrosky, 1959
Világiová, 1962
Musca convexifrons Thomson
Krastin, 1949a, 1949b
Musca larvipara Porchinskiĭ
Klesov, 1949a, 1951
Világiová, 1962
Tukhmanyants et al., 1963

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Thelazia skrjabini Erschov	MUSCIDAE: MUSCINAE *Musca amica* Zimin Krastin, 1950, 1952
DIPETALONEMATIDAE	
Oncocerca gibsoni (Cleland and Johnson) (Synonym: *Onchocerca gibsoni*)	MUSCIDAE: PHAONIINAE *Hydrotea australis* Malloch Henry, 1927 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Henry, 1927 *Musca sorbens sorbens* Wiedemann Henry, 1927
FILARIIDAE	
?*Filaria Mueller* (Synonyms: ?*Dermatitis verminosa, vulnerosa bovis*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Place, 1915 Iwanoff, 1934 *Musca sorbens sorbens* Wiedemann Place, 1915 MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Wenyon, 1911a *Stomoxys calcitrans* (Linnaeus) Place, 1915 Iwanoff, 1934
Setaria cervi (Rudolphi) (Synonyms: ?*Filaria labiato-papillosa, Setaria labiato-papillosa, ?Filaria stomoxeos*)	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy von Linstow, 1875 Noè, 1903 Neveu-Lemaire, 1936
STEPHANOFILARIIDAE	
Stephanofilaria assamensis Pande	MUSCIDAE: MUSCINAE *Musca conducens* Walker Srivastava et al., 1963 Patnaik, 1965
ALLANTONEMATIDAE	
Allantonema muscae (Roy and Mukherjee)	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Roy et al., 1937a
Allantonema stricklandi (Roy and Mukherjee)	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Roy et al., 1937b
Howardula aoronymphium Welch	DROSOPHILIDAE: DROSOPHILINAE *Drosophila kuntzei* Duda Welch, 1959 *Drosophila phalerata* Meigen Welch, 1959
Parasitylenchus diplogenus Welch	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Welch, 1959

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Parasitylenchus diplogenus (cont.)	*Drosophila obscura* Fallén Welch, 1959 *Drosophila silvestris* Basden Welch, 1959 *Drosophila subobscura* Collin Welch, 1959
UNDETERMINED ALLANTONEMATIDAE	.. DROSOPHILIDAE: DROSOPHILINAE *Drosophila confusa* Staeger Welch, 1959
CONTORTYLENCHIDAE	
Heterotylenchus Stoffolano and Nickle	.... MUSCIDAE: MUSCINAE *Morellia hortorum* (Fallén) Stoffolano, 1969 *Musca autumnalis* De Geer Stoffolano, Jr. et al, 1966 *Musca sorbens* Wiedemann Hughes et al., 1969
Heterotylenchus aberrans Bovien	... ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya antigua* (Meigen) Stoffolano, 1969
Heterotylenchus autumnalis Nickle	..... MUSCIDAE: PHAONIINAE *Hydrotaea meteorica* (Linnaeus) Világiová, 1968 MUSCIDAE: MUSCINAE *Morellia simplex* (Loew) Világiová, 1968 *Orthellia caesarion* (Meigen) Stoffolano, 1970 *Musca autumnalis* De Geer Jones et al., 1967 Nickle, 1967 Stoffolano, 1967, 1969, 1970 Treece et al., 1968 Világiová, 1968 *Musca domestica* Linnaeus Stoffolano, 1970 *Musca larvipara* Porchinskiĭ Világiová, 1968 *Musca tempestiva* Fallén Világiová, 1968 SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia lherminieri* (Robineau-Desvoidy) Stoffolano, 1970
UNDETERMINED NEMATODES	.. CHLOROPIDAE: OSCINELLINAE *Hippelates flavipes* Loew Kumm et al., 1935

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Heterotylenchus autumnalis (cont.)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Coutinho et al., 1957
ACHATINIDAE	
Burtoa nilotica (Pfeiffer)	MUSCIDAE: MYDAEINAE *Mydaea* Robineau-Desvoidy Rodhain et al., 1916
HELICIDAE	
Cryptomphalus aspersa (Müller)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Séguy, 1934
LUMBRICIDAE	
Allolobophora caliginosa (Savigny) subsp. *trapezoides*	CALLIPHORIDAE: CALLIPHORINAE *Calliphora clausa* Macquart Fuller, 1933
Helodrilus caliginosus (Savigny)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Pimentel et al., 1960
Helodrilus chloroticus (Savigny) (Synonym: *Allolobophora chlorotica*)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Keilin, 1909, 1911 Webb et al., 1916 Garrison, 1924 De Coursey, 1927
Helodrilus foetidus (Savigny)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Pimentel et al., 1960
Helodrilus roseus (Savigny) (Synonym: *Eisenia rosea*)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) De Coursey, 1927 Pimentel et al., 1960
Lumbricus herculeus Savigny	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Barnes, 1924
Lumbricus rubellus Hoffmeister	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Pimentel et al., 1960
Lumbricus terrestris Linnaeus	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Pimentel et al., 1960
Octolasium lacteum (Orley)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Pimentel et al., 1960
MEGASCOLECIDAE	
Diplocardia communis Garman	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Pimentel et al., 1960
Microscolex dubius (Fletcher)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora clausa* Macquart Fuller, 1933

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UNDETERMINED OLIGOCHAETA	MUSCIDAE: COENOSIINAE *Allognota agromyzina* (Fallén) Keilin, 1917
UNDETERMINED ANNELIDA	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Blakitnaîâ, 1962
CHERNETIDAE	
Lamprochernes nodosus (Schrank) (Synonym: *Chelifer nodosus*)	MUSCIDAE: PHAONIINAE *Ophyra leucostoma* (Wiedemann) Graham-Smith, 1916 MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Graham-Smith, 1916 *Musca domestica* Linnaeus Graham-Smith, 1916 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Graham-Smith, 1916
Pselaphochernes scorpioides (Hermann) (Synonym: *Chelifer scorpioides*)	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Graham-Smith, 1916
Toxochernes panzeri (Koch) (Synonym: *Chelifer panzeri*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Preudhomme de Borre, 1873
CHELIFERIDAE	
Chelifer Geoffroy	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Stainton, 1864 Stevens, 1866 Hagen, 1867 Knab, 1897 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Donovan, 1797
UNDETERMINED PSEUDOSCORPIONIDEA (Synonym: red false scorpion)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Manning, 1902
DICTYNIDAE	
Coenothele gregalis Simon	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Diguet, 1909
THERIDIIDAE	
Latrodectus mactans (Fabricius) (predator)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Herms et al., 1935

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	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Herms et al., 1935
Latrodectus mactans ..... (Fabricius) subsp. *tredecimguttatus*	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bettini, 1965
Steatoda Sundevall .... (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pavlovskiĭ, 1921
Teutana Simon .. .. (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pavlovskiĭ, 1921
Theridium Walckenaer . . .... (Synonym: *Teridium*) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pavlovskiĭ, 1921
ERESIDAE	
Stegodyphus mimosarum . .. . Pavesi (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Steyn, 1959
ARGIOPIDAE	
Epeira diadema Walker ... ... (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pavlovskiĭ, 1921
SALTICIDAE	
Salticus scenicus (Clerck) .... (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Steve, 1959
ASCAIDAE	
Gamasellus Berlese	MUSCIDAE: PHAONIINAE *Hydrotaea armipes* (Fallén) Sychevskaĭa, 1964a *Ophyra leucostoma* (Wiedemann) Sychevskaĭa, 1964a
UNDETERMINED ASCAIDAE . ..	MUSCIDAE: STOMOXYINAE *Haematobia titillans* (Bezzi) Pridantseva, 1959
PARASITIDAE	
Eulaelaps stabularis Koch . .. (Synonym: *Gamasus*)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Bouvier et al., 1944
Parasitus Latreille . ..... (Synonym: ?*Gamasus*)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Graham-Smith, 1916
Parasitus coleoptratorum ..... (Linnaeus) (Synonym: *Gamasus coleoptratorum*)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wilhelmi, 1917b
Parasitus lunaris Berlese . .	SPHAEROCERIDAE *Copromyza* Fallén Sychevskaĭa, 1964a

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Parasitus lunaris (cont.)	MUSCIDAE: PHAONIINAE *Ophyra anthrax* (Meigen) Sychevskaĭa, 1964a
UNDETERMINED PARASITIDAE	SCATOPSIDAE: SCATOPSINAE *Scatopse fuscipes* Meigen Sychevskaĭa, 1964a ANTHOMYIIDAE: ANTHOMYIINAE *Calythea albicincta* (Fallén) Sychevskaĭa, 1964a MUSCIDAE: MUSCINAE *Dasyphora gussakovskii* Zimin Sychevskaĭa, 1964a *Musca domestica vicina* Macquart Sychevskaĭa, 1964a *Musca larvipara* Porchinskiĭ Sychevskaĭa, 1964a MUSCIDAE: STOMOXYINAE *Haematobia titillans* (Bezzi) Pridantseva, 1959
MACROCHELIDAE *Glyptholaspis confusa* Foa ... (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Axtell, 1961a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Axtell, 1961a, 1961b, 1963a, 1963b Rodriguez et al., 1962a
Macrocheles Latreille . ..... (predator)	SEPSIDAE *Sepsis violacea* Meigen Sychevskaĭa, 1964a OTITIDAE: OTITINAE *Ceroxys robusta* Loew Sychevskaĭa, 1964a MUSCIDAE: FANNIINAE *Fannia scalaris* (Fabricius) Sychevskaĭa, 1964a MUSCIDAE: PHAONIINAE *Hydrotaea irritans* (Fallén) Sychevskaĭa, 1964a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Axtell, 1961b *Musca domestica vicina* Macquart DeCoursey et al., 1956 *Musca sorbens* Wiedemann DeCoursey et al., 1956
Macrocheles glaber (Müller) . (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Filipponi, 1960

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Macrocheles glaber (cont.)	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Sychevskaîâ, 1964a
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Filipponi, 1960
	Filipponi et al., 1963a
	Musca domestica vicina Macquart
	Sychevskaîâ, 1964a
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Filipponi, 1960
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Sychevskaîâ, 1964a
Macrocheles merdarius .... (Berlese)	ANTHOMYIIDAE: ANTHOMYIINAE
(predator)	*Hylemya brassicae* Bouché
	Chant, 1960
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Axtell, 1963b
	Filipponi et al., 1963b, 1964
Macrocheles muscaedomesticae (Scopoli)	SCATOPSIDAE: SCATOPSINAE
(Synonyms: ?*Gamasus musci*,	*Scatopse fuscipes* Meigen
Macrocheles muscae,	Sychevskaîâ, 1964a
Macrocheles insectum)	SYRPHIDAE: MILESIINAE
(predator)	*Xylota pipiens* (Linnaeus)
	Sychevskaîâ, 1964a
	PIOPHILIDAE
	Piophila nigrimana Meigen
	Sychevskaîâ, 1964a
	SPHAEROCERIDAE
	Leptocera fontinalis (Fallén)
	Sychevskaîâ, 1964a
	MILICHIIDAE: MADIZINAE
	Desmometopa tarsalis Loew
	Sychevskaîâ, 1964a
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella (Fallén)
	Sychevskaîâ, 1964a
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Buchanan, 1916
	Steve, 1959
	Filipponi, 1960
	Axtell, 1961a
	Anderson, 1964
	Singh et al., 1966
	O'Donnell, 1967

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Macrocheles muscaedomesticae (cont.)

Fannia leucosticta (Meigen)
Sychevskaĭa, 1964a
Fannia scalaris (Fabricius)
Sychevskaĭa, 1964a
MUSCIDAE: PHAONIINAE
Ophyra anthrax (Meigen)
Sychevskaĭa, 1964a
Ophyra leucostoma (Wiedemann)
Sychevskaĭa, 1964a
Dendrophaonia querceti (Bouché)
Sychevskaĭa, 1964a
Muscina stabulans (Fallén)
Anderson, 1964
Sychevskaĭa, 1964a
MUSCIDAE: MUSCINAE
Musca autumnalis De Geer
Singh et al., 1966
Musca domestica Linnaeus
Dugès, 1834
Berlese, 1882a, 1882b
Leonardi, 1900
Oudemans, 1900, 1904
Ewing, 1913
Pereira et al., 1945, 1947
Filipponi, 1955, 1960, 1964, 1965
Rodriguez et al., 1960, 1961, 1962a
Axtell, 1961a, 1961b, 1963a, 1963b
Wade et al., 1961
Filipponi et al., 1963a, 1963b, 1964a
Wallwork et al., 1963
Anderson, 1964
O'Donnell et al., 1965
Farish et al., 1966
Kinn, 1966
Singh et al., 1966
Willis et al., 1968
House fly (presumably *Musca domestica* Linnaeus)
Schröck, 1686
Axtell, 1964
Musca domestica vicina Macquart
Sychevskaĭa, 1964a
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Filipponi, 1960
Axtell, 1964
Kinn, 1966
CALLIPHORIDAE: CHRYSOMYINAE
Phormia regina (Meigen)
Kinn, 1966

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Macrocheles muscaedomesticae (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Sychevskaĭa, 1964a *Calliphora vomitoria* (Linnaeus) Trojan, 1908 SARCOPHAGIDAE: MILTOGRAMMINAE *Agria latifrons* Fallén Sychevskaĭa, 1964a MUSCIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaĭa, 1964a
Macrocheles peniculatus .... Berlese (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Filipponi et al., 1963a, 1964a, 1964b Filipponi, 1964
Macrocheles perglaber ..... Filipponi and Pegazzano (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Filipponi, 1960 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Filipponi, 1960 Filipponi et al., 1963a, 1964 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Filipponi, 1960
Macrocheles plumiventris Hull (predator)	MUSCIDAE: FANNIINAE *Fannia leucosticta* (Meigen) Sychevskaĭa, 1964a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Rodriguez et al., 1960
Macrocheles robustulus . . ... Berlese (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Axtell, 1961b, 1963b Filipponi et al., 1963a
Macrocheles scutatus (Berlese) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Filipponi et al., 1963a
Macrocheles subbadius Berlese . (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Filipponi, 1960 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Filipponi, 1960 Axtell, 1961b, 1963b Filipponi et al., 1964 House fly (presumably *Musca domestica* Linnaeus) Axtell, 1964

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Macrocheles subbadius (cont.)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Filipponi, 1960 Axtell, 1964
GAMASOLAELAPTIDAE	
Digamasellus Berlese .... (predator)	MUSCIDAE: MUSCINAE *Musca domestica vicina* Macquart Sychevskaĭa, 1964a CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Sychevskaĭa, 1964a
Saintdidieria sexclavatus . . . (Oudemans) (Synonym: ?*Saintididicria sexclavatus*) (predator)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Sychevskaĭa, 1964a MUSCIDAE: MUSCINAE *Musca larvipara* Porchinskiĭ Sychevskaĭa, 1964a
LAELAPTIDAE	
Alliphis halleri (Canestrini) . . .	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Heister, 1727
Holostaspis Kolenati .... (Synonym: *Holotaspis*)	MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Graham-Smith, 1916 *Ophyra leucostoma* (Wiedemann) Graham-Smith, 1916 *Muscina stabulans* (Fallén) Graham-Smith, 1916 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1916
Holostaspis badius . . .. (Koch) Berlese (Synonym: *Macrocheles badius*)	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga stercoraria* (Linnaeus) Weiss, 1915 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Zanini, 1930 House fly (presumably *Musca domestica* Linnaeus) Scopoli, 1772
Holostaspis ?badius . . . . . (Koch) Berlese	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Scopoli, 1772 Goeze, 1776
Holostaspis marginatus .. .. (Hermann)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wilhelmi, 1917b

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UROPODIDAE	
Fuscuropoda Vitzthum	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Anderson, 1964 MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Anderson, 1964 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Anderson, 1964
Fuscuropoda vegetans (De Geer)	MUSCIDAE: FANNIINAE *Fannia canicularis* Linnaeus O'Donnell, 1967 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus O'Donnell et al., 1965 Willis et al., 1968
PYEMOTIDAE	
Pygmephorus Kramer	ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya cinerella* (Fallén) Sychevskaîâ, 1964a
UNDETERMINED	
TARSONEMIDAE	MUSCIDAE: STOMOXYINAE *Haematobia titillans* (Bezzi) Pridantseva, 1959
TROMBIDIIDAE	
Allothrombium fuliginosum (Hermann)	SEPSIDAE *Sepsis cynipsea* (Linnaeus) Scopoli, 1763
Atomus inexpectatus (Oudemans) (Synonym: ?*Scarabaspis inexpectatus*)	MUSCIDAE: MUSCINAE *Musca larvipara* Porchinskiĭ Sychevskaîâ, 1964a
Atomus parasiticus (De Geer) (Synonyms: ?*Acarus parasiticus*, *Trombidium parasiticum*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Goeze, 1774 De Geer, 1778 Murray, 1877
Microtrombidium ?muscarum (Linnaeus) (Synonym: *Trombidium muscarum*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Riley, 1877 Griffith, 1907 Ewing et al., 1918
Microtrombidium striaticeps (Oudemans) (Synonym: *Trombidium striaticeps*)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Ewing, 1919

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TROMBICULIDAE

Ascoschoengastia indica (Hirst) (Synonym: *Neoschœngastia indica*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Wharton et al., 1946 *Drosophila melanogaster* Meigen Wharton, 1946
Euschoengastia peromysci (Ewing)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Eutrombicula alfreddugesi (Oudemans) (Synonym: *Trombicula alfredugesi*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Eutrombicula splendens (Ewing) (Synonym: *Trombicula splendens*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Fonsecia gurneyi (Ewing) (Synonym: *Trombicula gurneyi*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Hannemania Oudemans	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Kayella lacerta (Brennan) (Synonym: *Euschöngastia lacerta*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Neoschoengastia americana (Hirst)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954

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Neotrombicula lipovskyi .... . . (Brennan and Wharton) (Synonym: *Trombicula lipovskyi*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Neotrombiculoides montanensis (Brennan) (Synonym: *Trombicula montanensis*)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Pseudoschoengastia farneri . Lipovsky	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
Pseudoschoengastia hungerfordi .... Lipovsky	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Lipovsky, 1954 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Lipovsky, 1954
UNDETERMINED TROMBICULIDAE	MUSCIDAE: STOMOXYINAE *Haematobia titillans* (Bezzi) Pridantseva, 1959
ACARIDAE	
Acarus Linnaeus . . .	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Wilhelmi, 1917a
Acarus siro Linnaeus (Synonym: *Tyroglyphus siro*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Graham-Smith, 1916
ANOETIDAE	
Histiostoma laboratorium Hughes (phoresy)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Hughes, 1950 Perron, 1954a *Drosophila melanogaster* Meigen Stolpe, 1938 Brown, 1965
Myianoetus Oudemans (phoresy)	SEPSIDAE *Sepsis violacea* Meigen Sychevskaĭa, 1964a MILICHIIDAE: MADIZINAE *Desmometopa tarsalis* Loew Sychevskaĭa, 1964a

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Myianoetus (cont.)

ANTHOMYIIDAE: ANTHOMYIINAE
Hylemya cinerella (Fallén)
Sychevskaĭa, 1964a
MUSCIDAE: FANNIINAE
Fannia scalaris (Fabricius)
Sychevskaĭa, 1964a
MUSCIDAE: PHAONIINAE
Hydrotaea armipes (Fallén)
Sychevskaĭa, 1964a
Hydrotaea irritans (Fallén)
Sychevskaĭa, 1964a
Ophyra anthrax (Meigen)
Sychevskaĭa, 1964a
Ophyra leucostoma (Wiedemann)
Sychevskaĭa, 1964a
Muscina stabulans (Fallén)
Sychevskaĭa, 1964a
MUSCIDAE: MUSCINAE
Musca autumnalis De Geer
Sychevskaĭa, 1964a

Myianoetus muscarum (Linnaeus)
(Synonym: ?*Acarus muscarum*)
(phoresy) ..... DROSOPHILIDAE: DROSOPHILINAE
Drosophila ?fenestrarum Fallén
Goeze, 1776
Drosophila melanogaster Meigen
Greenberg et al., 1960
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Greenberg et al., 1960
MUSCIDAE: PHAONIINAE
Muscina stabulans (Fallén)
Berlese, 1881
Greenberg et al., 1960
Greenberg, 1961
MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Menzel et al., 1683
De Geer, 1778
Greenberg et al., 1960
House fly (presumably *Musca domestica* Linnaeus)
Gahrliep, 1696
Winterschmidt, 1765
De Geer, 1771
Schrank, 1776
Fabricius, 1780
Mohr, 1786
Walckenaer, 1802
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Greenberg et al., 1960

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Myianoetus muscarum (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Greenberg et al., 1960
SARCOPTIDAE	
Sarcoptes Latreille	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Newsad, 1930
SCUTIGERIDAE	
Scutigera coleoptrata (Linnaeus) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pavlovskiĭ, 1921
SMINTHURIDAE	
Smithurus viridis (Linnaeus)	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga stercoraria* (Linnaeus) Walters, 1966
LOCUSTIDAE	
Chortophaga viridifasciata (De Geer)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Knutson, 1941
Locusta migratoria Linnaeus	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga destructor* Malloch Wood, 1933
Nomadacris septemfasciata Serville	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Jack, 1935
Dociostaurus maroccanus (Thunberg)	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha lineata* Fallén Baranov, 1924
Encoptolophus sordidus (Burmeister) subsp. *costalis*	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Knutson, 1941
	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Jack, 1935
Schistocerca gregaria Fôrskal (Synonym: *Schistocerca peregrina*)	PHORIDAE: METOPININAE *Megaselia scalaris* (Loew) Nocedo, 1921
	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Nocedo, 1921 Régnier, 1931
	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Nocedo, 1921 Régnier, 1931
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga haemorrhoidalis* (Fallén) Régnier, 1931

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Schistocerca paranensis .... Burmeister	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Lahille, 1907
Xanthippus corallipes .... (Haldeman) subsp. *pantherinus*	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Knutson, 1941
GRYLLIDAE	
Nemobius fasciatus (De Geer)	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Bourne et al., 1967
LABIDURIDAE	
Euborellia annulipes (Lucas) (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a
	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a
	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
LABIIDAE	
Labia minor (Linnaeus)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Mourier et al., 1968
Labia pilicornis .... (Motschulsky) (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a
	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a

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Labia pilicornis (cont.)	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Spingolabis hawaiiensis .... (Bormans) (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a
	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a
	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
FORFICULIDAE	
Forficula auricularia . . . . Linnaeus (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Anderson, 1964
	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Anderson, 1964
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Anderson, 1964

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HAEMATOPINIDAE

Haematopinus tuberculatus (Burmeister) (Synonym: *Haematopinus bituberculatus*)	MUSCIDAE: STOMOXYINAE *Haematobia* Lepeletier and Serville Mitzmain, 1912a

COENAGRIONIDAE

Agria fumipennis (Burmeister) (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Enallagma durum Hagen (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Ischnura ramburii Selys (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945

LIBELLULIDAE

Celithemis amanda Hagen (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Erythemis simplicicollis Say (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Libellula auripennis Burmeister (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Libellula pulchella Drury (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Libellula vibrans Fabricius (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Pachydiplax longipennis Burmeister (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Pantala flavescens Fabricius (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
Tramea carolina Linnaeus (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945

AESCHNIDAE

Aeschna cyanea (Müller) (predator)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora* Robineau-Desvoidy Freeman, 1934
Anax junius Drury (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945

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Coryphaeschna ingens Rambur (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Wright, 1945
UNDETERMINED ODONATA (predators)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Brues, 1946
PHYMATIDAE	
Phymata pennsylvanica americana Melin (predator)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Balduf, 1947 *Drosophila melanogaster* Meigen Balduf, 1941, 1948 MUSCIDAE: MUSCINAE *Musca* Linnaeus Balduf, 1947 *Musca domestica* Linnaeus Balduf, 1941, 1948
REDUVIIDAE	
Apiomerus pilipes (Fabricius) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Uribe, 1926
Pristhesancus papuensis Stål (predator)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Noble, 1936 UNDETERMINED CALLIPHORIDAE Blow flies Noble, 1936
Sinea diadema (Fabricius) (predator)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Balduf, 1947 MUSCIDAE: MUSCINAE *Musca* Linnaeus Balduf, 1947
APHIDAE	
Myzus persicae (Sulzer)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora clausa* Macquart Fuller, 1933
HYPONOMEUTIDAE	
Hyponomeuta padella Linnaeus (Synonym: *Hyponomeuta malinellus*)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Séguy, 1934
OLETHREUTIDAE	
Epiblema otiosana Clemens	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Decker, 1932
Suleima helianthana Riley	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Satterthwait, 1943

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PYRALIDIDAE	
Epischnia incanella Holst	MUSCIDAE: FANNIINAE
(Synonym: *Epischnia canella*)	*Fannia canicularis* (Linnaeus) Heeger, 1848
NOCTUIDAE	
Agrotis castanea	MUSCIDAE: PHAONIINAE
var. *neglecta* Hubner	*Muscina stabulans* (Fallén) von Gercke, 1882
(Synonym: *Agrotis neglecta*)	
Agrotis segetum	MUSCIDAE: PHAONIINAE
(Denis and Schiffermüller)	*Muscina stabulans* (Fallén) Herold, 1923
Archanara oblonga Grote	MUSCIDAE: PHAONIINAE
(Synonym: *Archanara subcarnea*)	*Muscina stabulans* (Fallén) Cole, 1930
Heliothis obsoleta Fabricius	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén) Rodionov, 1927
Laphygma frugiperda	MUSCIDAE: PHAONIINAE
(Smith, J. B.)	*Muscina stabulans* (Fallén) Smith, 1921
Leucania unipuncta Haworth	MUSCIDAE: PHAONIINAE
(Synonym: *Cirphis unipuncta*)	*Muscina stabulans* (Fallén) Satterthwait, 1943
Macronoctua onusta Grote	MUSCIDAE: MYDAEINAE
	Myospila meditabunda (Fabricius) Breakey, 1929
	MUSCIDAE: PHAONIINAE
	Muscina assimilis (Fallén) Breakey, 1929
	Muscina stabulans (Fallén) Breakey, 1929
Papaipema nebris Guenée	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén) Decker, 1931
Peridroma margitosa	MUSCIDAE: PHAONIINAE
form *saucia* Hubner	*Muscina stabulans* (Fallén) Fletcher, 1900
(Synonym: *Peridromia saucia*)	
LIPARIDAE	
Liparis dispar Linnaeus	MUSCIDAE: PHAONIINAE
(Synonym: *Porthetria dispar*)	*Muscina stabulans* (Fallén) Levitt, 1935
	SARCOPHAGIDAE: MILTOGRAMMINAE
	Pseudosarcophaga affinis Fallén Sitowski, 1928
LYMANTRIIDAE	
Leucoma salicis Linnaeus	SARCOPHAGIDAE: MILTOGRAMMINAE
(Synonym: *Stilpnotia salicis*)	*Pseudosarcophaga affinis* Fallén Sitowski, 1928
Lymantria monacha Linnaeus	MUSCIDAE: PHAONIINAE
(Synonym: *Bombyx monacha*)	*Muscina pabulorum* (Fallén) Ratzeburg, 1844

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Lymantria monacha (cont.)	SARCOPHAGIDAE: MILTOGRAMMINAE
	Pseudosarcophaga affinis Fallén
	Sitowski, 1928
SPHINGIDAE	
Acherontia atropos Linnaeus	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Keilin, 1917
	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Keilin, 1917
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Keilin, 1917
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy
	Keilin, 1917
LASIOCAMPIDAE	
Dendrolimus pini Linnaeus	MUSCIDAE: PHAONIINAE
(Synonym: *Bombyx pini*)	*Muscina pabulorum* (Fallén)
	Ratzeburg, 1844
	Sitowski, 1928
	Muscina stabulans (Fallén)
	Keilin, 1917
	Sitowski, 1928
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Sitowski, 1928
	SARCOPHAGIDAE: MILTOGRAMMINAE
	Pseudosarcophaga affinis Fallén
	Sitowski, 1928
Malacosoma americana Fabricius	MUSCIDAE: PHAONIINAE
(Synonym: *Malacosoma americanum*)	*Muscina stabulans* (Fallén)
	Curran, 1942
CARABIDAE	
Carabus italicus Dejean	MUSCIDAE: PHAONIINAE
(predator)	*Phaonia signata* (Meigen)
	Giglio-Tos, 1892
UNDETERMINED CARABIDAE	MUSCIDAE: STOMOXYINAE
(predators)	*Haematobia titillans* (Bezzi)
	Pridantseva, 1959
HYDROPHILIDAE	
Cryptopleurum minutum Fabricius	OTITIDAE: ULIDIINAE
	Euxesta annonae (Fabricius)
	Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE
	Milichiella lacteipennis (Loew)
	Illingworth, 1923a

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Cryptopleurum minutum (cont.)	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a
	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Dactylosternum abdominale Fabricius (Synonym: *Dactylospermum abdominale*)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a
	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a
	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Sphaeridium scarabaeoides . . . . . (Linnaeus)	MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Hammer, 1942
SILPHIDAE	
Nicrophorus nigritus . . . . . . Mannerheim (Synonym: *Necrophorus nigritis*)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1927

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Nicrophorus nigritus (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Illingworth, 1927
UNDETERMINED SILPHIDAE	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1927 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Illingworth, 1927
STAPHYLINIDAE	
Aleochara Gravenhorst (predator)	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Wolcott, 1922
Aleochara algarum Fauvel (predator)	COELOPIDAE *Coelopa frigida* (Fabricius) Lesne et al., 1922 *Coelopa pilipes* Haliday Lesne et al., 1922
Aleochara bimaculata Gravenhorst	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Thomas et al., 1968
Aleochara curtula Goeze (predator)	SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Balduf, 1935 ANTHOMYIIDAE: ANTHOMYIINAE *Pegomya hyoscyami* (Panzer) Kemner, 1926 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Kemner, 1926 *Calliphora vicina* Robineau-Desvoidy Fuldner, 1964
Aleochara handschini Scheerpeltz (predator)	MUSCIDAE: STOMOXYINAE *Haematobia* Lepeletier and Serville Scheerpeltz, 1934 *Haematobia exigua* (de Meijere) Handschin, 1934a UNDETERMINED MUSCIDAE Handschin, 1934a
Aleochara laevigata Gyllenhall (Synonym: *Polychara laevigata*) (predator)	ANTHOMYIIDAE: ANTHOMYIINAE *Pegomya hyoscyami* (Panzer) Kemner, 1926
Aleochara taeniata Erichson (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner et al., 1966a White et al., 1966

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Aleochara tristis Gravenhorst	MUSCIDAE: MUSCINAE *Musca autumnalis* De Geer Drea, 1966 Jones, 1969
Aleochara trivialis Kraatz (predator)	MUSCIDAE: MUSCINAE *Musca planiceps* Wiedemann Senior-White et al., 1945
Aleochara windredi Scheerpeltz (predator)	MUSCIDAE: STOMOXYINAE *Haematobia* Lepeletier and Serville Scheerpeltz, 1934 *Haematobia exigua* (de Meijere) Handschin, 1934a
Baryodma bimaculata Gravenhorst (predator)	MUSCIDAE: MUSCINAE *Orthellia* Robineau-Desvoidy Lindquist, 1936 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Lindquist, 1936
Baryodma ontarionis Casey (predator)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Colhoun, 1953 ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya brassicae* Bouché Colhoun, 1953 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Colhoun, 1953 SARCOPHAGIDAE: MILTOGRAMMINAE *Pseudosarcophaga affinis* Fallén Colhoun, 1953
Creophilus erythrocephalus Fabricius (predator)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Froggatt, 1914a
Creophilus maxillosus Linnaeus (predator)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Porchinskiĭ, 1885
Creophilus maxillosus var. *villosus* Gravenhorst (Synonym: *Creophilus villosus*) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Mourier et al., 1968 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1927 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Illingworth, 1927
Emus hirtus Linnaeus (predator)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Porchinskiĭ, 1885

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Ontholestes murinus Linnaeus (Synonym: *Leistotrophus murinus*) (predator)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Porchinskiĭ, 1885
Ontholestes tessellatus Fourcroy (Synonym: *Ontholestes nebulosus*) (predator)	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga stercoraria* (Linnaeus) Hammer, 1942 MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Hammer, 1942 *Musca domestica* Linnaeus Mourier et al., 1968
Oxytelus Gravenhorst (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Oxytelus ocularis Fauvel (predator)	MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1932
Oxytelus sculptus Gravenhorst	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Mourier et al., 1968
Philonthus Curtis (predator)	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga stercoraria* (Linnaeus) Hammer, 1942 MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Hammer, 1942

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Philonthus discoideus Gravenhorst (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Philonthus fimetarius Gravenhorst (predator)	SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Balduf, 1935
Philonthus longicornis Stephens (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a

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	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Philonthus politus Linnaeus . (Synonyms: *Philonthus aeneus*, *Philonthus erythrocephala*) (predator)	SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Balduf, 1935
	MUSCIDAE: STOMOXYINAE ?*Haematobia* Lepeletier and Serville Fullaway, 1926
	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Porchinskiĭ, 1885
Tachyporus Gravenhorst . . . . . (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a
	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a
	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
UNDETERMINED STAPHYLINIDAE ... ... (predators)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Anderson, 1964
	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Anderson, 1964
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Anderson, 1964
	MUSCIDAE: STOMOXYINAE *Haematobia titillans* (Bezzi) Pridantseva, 1959

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HISTERIDAE	
Pachylister chinensis Quensel (Synonym: *Platylister chinensis*) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Simmonds, 1958
	MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Bornemissza, 1968
Saprinus cyaneus Fabricius (Synonym: *Saprinus laetus*) (predator)	UNDETERMINED CALLIPHORIDAE Blow flies Gurney et al., 1926b
Saprinus detersus (Illiger) (predator)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Pavlovskiĭ, 1921
Saprinus lugens Erichson (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Vogt, 1948
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Vogt, 1948
	Phaenicia sericata (Meigen) Illingworth, 1927
	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Illingworth, 1927
Saprinus politus (Brahm) or *Saprinus aenus* (Fabricius) (Synonym: *Saprinus speculifer*) (predator)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) Pavlovskiĭ, 1921
Xerosaprinus fimbriatus (LeConte) (Synonym: *Saprinus fimbriatus*) (predator)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1927
	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Illingworth, 1927
Xerosaprinus lubricus (LeConte) (predator)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1927
	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Illingworth, 1927
UNDETERMINED HISTERIDAE	MUSCIDAE: STOMOXYINAE *Haematobia titillans* (Bezzi) Pridantseva, 1959
	Stomoxys calcitrans (Linnaeus) Bishopp, 1913a

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UNDETERMINED HISTERIDAE (cont.)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Holdaway, 1930
CLERIDAE	
Necrobia rufipes De Geer ..	PIOPHILIDAE *Piophila casei* (Linnaeus) Simmons, 1922
DERMESTIDAE	
Dermestes ater De Geer	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Vogt, 1948 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Vogt, 1948
Dermestes caninus Germar	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Vogt, 1948 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia pallescens* (Shannon) Vogt, 1948
UNDETERMINED DERMESTIDAE . .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Packard, 1873 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Holdaway, 1930
OSTOMATIDAE	
Temnochila virescens .. .. (Fabricius) (predator)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Struble, 1942
COCCINELLIDAE	
Adonia variegata Goeze .. .	PHORIDAE: METOPININAE *Megaselia fasciata* (Fallén) Martelli, 1913
Coccinella septempunctata ... Linnaeus	PHORIDAE: METOPININAE *Megaselia fasciata* (Fallén) Rondani, du Buysson, 1917
Thea vigintiduopunctata . ..... Linnaeus	PHORIDAE: METOPININAE *Megaselia fasciata* (Fallén) Martelli, 1913 Lichtenstein, 1920
Vibidia duodecimguttata . . Poda	PHORIDAE: METOPININAE *Megaselia fasciata* (Fallén) Lichtenstein, 1920
SCARABAEIDAE	
Copris incertus Say	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Simmonds, 1958

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Lachnosterna Hope	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Davis, 1919
Melolontha melolontha ... . Linnaeus	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Kamner, 1928
CERAMBYCIDAE	
Dorysthenes forficatus . Fabricius	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Bouhélier et al., 1936
CHRYSOMELIDAE	
Gallerucella luteola Müller .	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Curran, 1942
CURCULIONIDAE	
Conotrachelus retentus Say	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Brooks, 1922
Pissodes strobi Peck	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) MacAloney, 1930
Rhodobaenus tredecimpunctatus (Illiger)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Satterthwait, 1943
TENTHREDINIDAE	
Tenthredo pectoralis Norton . (Synonym: *Tenthredo variegatus*)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Venables, 1914
DIPRIONIDAE	
Diprion pallidus Klug (Synonym: *Lophyrus pallidus*)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) van der Wulp, 1869
Diprion pini (Linnaeus) (Synonym: *Tenthredo pini*)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Keilin, 1917
ICHNEUMONIDAE	
Atractodes bicolor .. .. . . Gravenhorst (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Graham-Smith, 1919
Atractodes gravidus . . .. . Gravenhorst (parasite)	MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Myers, 1929 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Myers, 1929
Atractodes ?gravidus .. .. . . Gravenhorst (parasite)	MUSCIDAE: PHAONIINAE *Ophyra leucostoma* (Wiedemann) Sychevskaĭa, 1964b

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Atractodes mallyi Bridwell (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Bridwell, 1919
Atractodes muiri Bridwell (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Bridwell, 1919
Mesoleptus laevigatus (Gravenhorst) (Synonym: *Exolytus laevigatus*) (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga peregrina* Robineau-Desvoidy Suenaga et al., 1963
Nemeritis canescens (Gravenhorst) (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Salt, 1957
Opius nitidulator Nees (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Rambousek, 1929
Phygadeuon Gravenhorst	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner et al., 1966a Mourier et al., 1968
Phygadeuon speculator Thomson (Synonym: *Phygadenon speculator*) (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Graham-Smith, 1919
Stilpnus Gravenhorst (parasite)	MUSCIDAE: FANNIINAE *Fannia incisurata* (Zetterstedt) Sychevskaĭa, 1964b *Fannia scalaris* (Fabricius) Sychevskaĭa, 1964b MUSCIDAE: PHAONIINAE *Dendrophaonia querceti* (Bouché) Sychevskaĭa, 1964b
Stilpnus anthomyidiperda Viereck (parasite of maggots)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b
Theronia atalantae (Poda) (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vomitoria* (Linnaeus) Fahringer, 1922
UNDETERMINED ICHNEUMONIDAE (parasites)	SEPSIDAE *Saltella sphondylii* (Schrank) Hammer, 1942 *Sepsis pilipes* Wulp Hammer, 1942

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UNDETERMINED

ICHNEUMONIDAE (cont.)

SPHAEROCERIDAE

Copromyza atra (Meigen)
Hammer, 1942

Leptocera moesta (Villeneuve)
Hammer, 1942

ANTHOMYIIDAE: SCATOPHAGINAE

Scatophaga stercoraria (Linnaeus)
Hammer, 1942

MUSCIDAE: PHAONIINAE

Hydrotaea albipuncta (Zetterstedt)
Hammer, 1942

MUSCIDAE: MUSCINAE

Mesembrina meridiana (Linnaeus)
Hammer, 1942

Morellia hortorum (Fallén)
Hammer, 1942

Orthellia caesarion (Meigen)
Hammer, 1942

MUSCIDAE: STOMOXYINAE

Haematobia irritans (Linnaeus)
Hammer, 1942

BRACONIDAE

Alysia fossulata Provancher . ..... CALLIPHORIDAE: CALLIPHORINAE
(parasite)

Lucilia Robineau-Desvoidy
Roberts, 1935

SARCOPHAGIDAE: SARCOPHAGINAE

Blaesoxipha plinthopyga
(Wiedemann)
Roberts, 1935

Alysia manducator Panzer .. MUSCIDAE: FANNIINAE
(parasite)

Fannia Robineau-Desvoidy
Myers, 1927

MUSCIDAE: MUSCINAE

Musca domestica Linnaeus
Froggatt, 1922
Gurney et al., 1926a
Legner et al., 1966a

CALLIPHORIDAE: CHRYSOMYINAE

Chrysomya albiceps (Wiedemann)
Smit, 1929

Chrysomya rufifacies (Macquart)
Miller, 1927
Newman, 1928
Morgan, 1929

Protophormia terraenovae (Robineau-Desvoidy)
Altson, 1920

CALLIPHORIDAE: CALLIPHORINAE

Lucilia Robineau-Desvoidy
Myers, 1927

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Alysia manducator (cont.)	*Lucilia caesar* (Linnaeus) Altson, 1920 *Phaenicia sericata* (Meigen) Altson, 1920 Gurney et al., 1926a Miller, 1927 Newman, 1928 Morgan, 1929 Smit, 1929 Holdaway et al., 1930, 1932 Tillyard, 1930 Salt, 1932 Evans, 1933 *Calliphora* Robineau-Desvoidy Myers, 1927 Morgan, 1929 Laing, 1937 *Calliphora icela* (Walker) Miller, 1927 *Calliphora vicina* Robineau-Desvoidy MacDougall, 1909 Graham-Smith, 1916, 1919 Altson, 1920 Gurney et al., 1926a Miller, 1927 Morgan, 1929 Holdaway et al., 1932 Evans, 1933 Caudri, 1941 *Calliphora vomitoria* (Linnaeus) Altson, 1920 Holdaway et al., 1932 *Anastellorhina augur* (Fabricius) Gurney et al., 1926a UNDETERMINED CALLIPHORIDAE Blow fly pupae Graham-Smith, 1916 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Holdaway et al., 1932
Alysia ridibunda Say (parasite)	MUSCIDAE: PHAONIINAE *Ophyra leucostoma* (Wiedemann) Roberts, 1935 MUSCIDAE: MUSCINAE *Synthesiomyia nudiseta* (Wulp) Roberts, 1935 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Roberts, 1935

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Alysia ridibunda (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia mexicana (Macquart) Roberts, 1935
	Phaenicia sericata (Meigen) Roberts, 1935
	Calliphora coloradensis Hough Roberts, 1935
	SARCOPHAGIDAE: SARCOPHAGINAE
	Blaesoxipha plinthopyga (Wiedemann) Roberts, 1935
	Sarcophaga sarracenioides Aldrich Roberts, 1935
Aphaereta auripes (Provancher) (Synonym: *Aphaereta muscae*) (parasite)	UNDETERMINED CALLIPHORIDAE Blow flies Roberts, 1935
Aphaereta cephalotes Haliday (parasite)	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy Graham-Smith, 1916
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga melanura Meigen Graham-Smith, 1916
Aphaereta minuta Nees (parasite)	ANTHOMYIIDAE: SCATOPHAGINAE
	Scatophaga stercoraria (Linnaeus) Sychevskaĭa, 1964b
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Holdaway et al., 1930
	Phaenicia sericata (Meigen) Evans, 1933
	Calliphora vicina Robineau-Desvoidy Evans, 1933
	Calliphora vomitoria (Linnaeus) Evans, 1933
	SARCOPHAGIDAE: SARCOPHAGINAE
	Ravinia striata Fabricius Sychevskaĭa, 1964b
	Sarcophaga haemorrhoidalis (Fallén) Sychevskaĭa, 1964b
	Sarcophaga melanura Meigen Sychevskaĭa, 1964b
Aphaereta pallipes Say (Synonym: *Aphaerta pallipes*) (parasite)	PIOPHILIDAE
	Piophila casei (Linnaeus) Beard, 1964
	MUSCIDAE: MUSCINAE
	Orthellia caesarion (Meigen) Blickle, 1961 Benson et al., 1963

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Aphaereta pallipes (cont.)	Sanders et al., 1966 Houser et al., 1967
	Musca autumnalis De Geer Blickle, 1961 Benson et al., 1963 Beard, 1964 Sanders et al., 1966 Houser et al., 1967 Thomas et al., 1968 Turner et al., 1968
	Musca domestica Linnaeus Blickle, 1961 Beard, 1964
	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Beard, 1964
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Beard, 1964
	SARCOPHAGIDAE: MILTOGRAMMINAE *Pseudosarcophaga affinis* Fallén Barlow, 1964
	Oxysarcodexia ventricosa (Wulp) Sanders et al., 1966
	Ravinia derelicta (Walker) Benson et al., 1963
	Ravinia latisetosa Parker Blickle, 1961
	Ravinia lherminieri (Robineau-Desvoidy) Blickle, 1961
	Ravinia querula (Walker) Blickle, 1961 Sanders et al., 1966 Houser et al., 1967
	Sarcophaga bullata Parker Beard, 1964
Aphaereta sarcophaga Gahan (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Bridwell, 1919
Asobara tabida (Nees) (Synonyms: *Phaenocarpa tabida*, *Phaenocarpa tapida*) (parasite)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Jenni, 1951 Walker, 1963
Aspilota concolor Nees (parasite)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila funebris* (Fabricius) Austin, 1933
Aspilota nervosa Haliday (parasite)	PHORIDAE: METOPININAE *Megaselia* Brues Evans, 1933

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Aspilota nervosa (cont.)	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Evans, 1933
Idiasta lusoriae (Bridwell)	MUSCIDAE: MUSCINAE
(Synonym: *Alysia lusoriae*)	*Musca lusoria* Wiedemann
(parasite)	Bridwell, 1919
Opius nitidulator Nees	CALLIPHORIDAE: CALLIPHORINAE
(parasite)	*Lucilia caesar* (Linnaeus)
	Rambousek, 1929
	Calliphora vomitoria (Linnaeus)
	Rambousek, 1929
CYNIPIDAE	
Bothrochacis stercoraria	MUSCIDAE: MUSCINAE
Bridwell	*Orthellia cyanea* (Fabricius)
(parasite)	Bridwell, 1919
	Musca lusoria Wiedemann
	Bridwell, 1919
Cothonaspis nigricornis	SEPSIDAE
(Kieffer)	*Sepsis* Fallén
(parasite)	Sychevskaîà, 1964b
	MUSCIDAE: PHAONIINAE
	Ophyra anthrax (Meigen)
	Sychevskaîà, 1964b
	MUSCIDAE: MUSCINAE
	Orthellia caesarion (Meigen)
	Sychevskaîà, 1964b
	Musca domestica ?vicina Macquart
	Sychevskaîà, 1964b
Eucoila Westwood	DROSOPHILIDAE: DROSOPHILINAE
(Synonym: *Psilodora*)	*Drosophila melanogaster* Meigen
(parasite)	Jenni, 1947
	MUSCIDAE: PHAONIINAE
	Ophyra leucostoma (Wiedemann)
	Roberts, 1935
	MUSCIDAE: MUSCINAE
	Synthesiomyia nudiseta (Wulp)
	Roberts, 1935
	Orthellia caesarion (Meigen)
	Blickle, 1961
	Sanders et al., 1966
	Musca autumnalis De Geer
	Blickle, 1961
	Musca domestica Linnaeus
	Simmonds, 1958
	Blickle, 1961
	House fly (presumably *Musca domestica* Linnaeus)
	Simmonds, 1940

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Eucoila (cont.)	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius)
	Roberts, 1935
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen)
	Roberts, 1935
	SARCOPHAGIDAE: SARCOPHAGINAE
	Blaesoxipha plinthopyga
	(Wiedemann)
	Roberts, 1935
	Ravinia latisetosa Parker
	Blickle, 1961
	Ravinia lherminieri
	(Robineau-Desvoidy)
	Blickle, 1961
	Ravinia querula (Walker)
	Blickle, 1961
	Sanders et al., 1966
	Sarcodexia pedunculata (Hall)
	Roberts, 1935
	Sarcophaga Meigen
	Sanders et al., 1966
	Sarcophaga bullata Parker
	Roberts, 1935
	Sarcophaga sarracenioides Aldrich
	Roberts, 1935
Eucoila drosophilae Kieffer (parasite)	DROSOPHILIDAE: DROSOPHILINAE
	Drosophila Fallén
	Bouché, 1936
	Drosophila melanogaster Meigen
	Boche, 1939
Eucoila impatiens (Say) (parasite)	MUSCIDAE: MUSCINAE
	Musca autumnalis De Geer
	Thomas et al., 1968
	Turner et al., 1968
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga fuscicauda Böttcher
	Illingworth, 1923a
	SARCOPHAGIDAE: MILTOGRAMMINAE
	Ravinia querula (Walker)
	Turner et al., 1968
	UNDETERMINED SARCOPHAGIDAE
	Illingworth, 1923
Hexacola Foerster (parasite)	CHLOROPIDAE: OSCINELLINAE
	Hippelates Loew
	Mulla, 1962
	Oscinella frit (Linnaeus)
	Bay et al., 1963

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Kleidotoma Westwood . . . (parasite)		MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) James, 1928 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus James, 1928 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) James, 1928 *Phaenicia sericata* (Meigen) James, 1928 *Calliphora vicina* Robineau-Desvoidy James, 1928 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) James, 1928
Kleidotoma certa Belizin (parasite)	...	SEPSIDAE *Sepsis* Fallén Sychevskaĭa, 1964b
Kleidotoma marshalli Marshall (parasite)		MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) James, 1928 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus James, 1928 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) James, 1928 *Phaenicia sericata* (Meigen) James, 1928 *Calliphora vicina* Robineau-Desvoidy James, 1928 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) James, 1928
Pseudeucoila bochei Weld (parasite)		DROSOPHILIDAE: DROSOPHILINAE *Drosophila busckii* Coquillett Jenni, 1951 *Drosophila funebris* (Fabricius) Jenni, 1951 *Drosophila hydei* Sturtevant Jenni, 1951 *Drosophila littoralis* Meigen Jenni, 1951 *Drosophila melanogaster* Meigen Jenni, 1951 Schlegel-Oprecht, 1953 Nøstvik, 1954 Walker, 1959, 1961, 1963

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Pseudeucoila bochei (cont.)	*Drosophila phalerata* Meigen Jenni, 1951 *Drosophila subobscura* Collin Jenni, 1951
Pseudeucoila trichopsila . . . . . (Hartig) (Synonym: *Eucoila trichopsila*) (parasite)	ANTHOMYIIDAE: SCATOPHAGINAE *Scatophaga stercoraria* (Linnaeus) Sychevskaîâ, 1964b CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Sychevskaîâ, 1964b SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaîâ, 1964b, 1966 *Sarcophaga argyrostoma* (Robineau-Desvoidy) Sychevskaîâ, 1964b *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaîâ, 1964b, 1966 *Sarcophaga melanura* Meigen Sychevskaîâ, 1964b *Sarcophaga parkeri* (Rohdendorf) Sychevskaîâ, 1964b
Trybliographa Foerster . . . . . (parasite)	CHLOROPIDAE: OSCINELLINAE *Hippelates* Loew Legner et al., 1964 *Hippelates collusor* (Townsend) Legner et al., 1969b *Hippelates pusio* Loew Legner et al., 1965d
FIGITIDAE	
Figites Latreille . . . . . (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner (pre-publication), 1966
Figites anthomyiarum . . . . . (Bouché) (parasite)	MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) James, 1928 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus James, 1928 CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) James, 1928 *Phaenicia sericata* (Meigen) James, 1928 *Calliphora vicina* Robineau-Desvoidy James, 1928 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga carnaria* (Linnaeus) James, 1928

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Figites discordis Belizin (parasite)	MUSCIDAE: PHAONIINAE *Ophyra anthrax* (Meigen) Sychevskaîâ, 1964b
	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaîâ, 1964b *Sarcophaga haemorrhoidalis* (Fallén) Sychevskaîâ, 1964b
Figites sarcophagarum ... ... Belizin (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga parkeri* (Rohdendorf) Sychevskaîâ, 1964b
Figites scutellaris (Rossi) . (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaîâ, 1964b *Sarcophaga melanura* Meigen Sychevskaîâ, 1964b
Figites striolatus Hartig . . . . (parasite)	MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Myers, 1929
	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaîâ, 1964b
Neralsia Cameron .... (Synonym: *Xyalosema*) (parasite)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Roberts, 1935
	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Roberts, 1935 *Sarcophaga* Meigen Roberts, 1935
Neralsia armata (Say) . . (Synonym: *Xyalosema armata*) (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Roberts, 1935 *Sarcophaga bullata* Parker Roberts, 1935
Neralsia bifoveolata (Cresson) (Synonym: *Xyalosema bifoveolata*) (parasite)	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Wolcott, 1922
Xyalophora quinquelineata .... (Say) (parasite)	MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Blickle, 1961 *Musca autumnalis* De Geer Blickle, 1961 *Musca domestica* Linnaeus Blickle, 1961

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Xyalophora quinquelineata (cont.)	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia latisetosa* Parker Blickle, 1961 *Ravinia lherminieri* (Robineau-Desvoidy) Blickle, 1961 *Ravinia querula* (Walker) Blickle, 1961
CHALCIDIDAE	
Brachymeria argentifrons ..... (Ashmead) (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga dux* Thomson Roy et al., 1939 *Sarcophaga dux* var. *tuberosa* Thomson Roy et al., 1939
Brachymeria calliphorae ..... (Froggatt) (Synonym: *Chalcis calliphorae*) (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Anastellorhina augur* (Fabricius) Froggatt, 1916 Johnston et al., 1921
Brachymeria fonscolombei ..... (Dufour) (Synonym: *Chalcis fonscolombei*) (parasite)	MUSCIDAE: MUSCINAE *Synthesiomyia nudiseta* (Wulp) Roberts, 1933a, 1933b, 1935 *Musca* Linnaeus Masi, 1916 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Bishopp, 1929-30 Marlatt, 1931 Roberts, 1933a, 1933b, 1935 *Phormia regina* (Meigen) Marlatt, 1931 Roberts, 1933b, 1935 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Masi, 1916 Parker, 1923 *Phaenicia eximia* (Wiedemann) Roberts, 1933a *Phaenicia mexicana* (Macquart) Roberts, 1933a, 1933b, 1935 *Phaenicia sericata* (Meigen) Roberts, 1933b, 1935 *Calliphora coloradensis* Hough Roberts, 1933b, 1935 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha impar* (Aldrich) Roberts, 1933b, 1935

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Brachymeria fonscolombei (cont.)

Blaesoxipha plinthopyga (Wiedemann)
Roberts, 1933b, 1935
Sarcophaga Meigen
Masi, 1916
Parker, 1923
Roberts, 1933a
Sarcophaga carnaria (Linnaeus)
Stefani, 1889
Roberts, 1935
Nikol'skaĭa, 1960b
Sarcophaga haemorrhoidalis (Fallén)
von Dalla Torre, 1898
Roberts, 1935
Sarcophaga peregrina Robineau-Desvoidy
Suenaga et al., 1963
Sarcophaga ruficornis Fabricius
Roy et al., 1939
TACHINIDAE: TACHININAE
Linnaemya haemorrhoidalis Fallén
Nikol'skaĭa, 1960b

Brachymeria fulvitarsis (Cameron) (parasite) ..... CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya megacephala (Fabricius)
Roy et al., 1939

Brachymeria minuta (Fabricius) (parasite) ..... MUSCIDAE: PHAONIINAE
Dendrophaonia querceti (Bouché)
Sychevskaĭa, 1966
Muscina stabulans (Fallén)
Sychevskaĭa, 1966
MUSCIDAE: MUSCINAE
Musca domestica vicina Macquart
Sychevskaĭa, 1966
CALLIPHORIDAE: CALLIPHORINAE
Phaenicia sericata (Meigen)
Sychevskaĭa, 1966
Calliphora vicina Robineau-Desvoidy
Sychevskaĭa, 1964b, 1966
SARCOPHAGIDAE: MILTOGRAMMINAE
Pseudosarcophaga affinis Fallén
Nikol'skaĭa, 1960a
SARCOPHAGIDAE: SARCOPHAGINAE
Ravinia striata Fabricius
Sychevskaĭa, 1964b, 1966
Sarcophaga argyrostoma (Robineau-Desvoidy)
Sychevskaĭa, 1964b
Sarcophaga haemorrhoidalis (Fallén)
Nikol'skaĭa, 1960a
Sychevskaĭa, 1964b, 1966

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Brachymeria minuta (cont.)	*Sarcophaga hirtipes* Wiedemann Nikol'skaîâ, 1960 Sychevskaîâ, 1964b *Sarcophaga melanura* Meigen Sychevskaîâ, 1964b *Sarcophaga parkeri* (Rohdendorf) Nikol'skaîâ, 1960a
Brachymeria obtusata . . . . . Foerster (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Nikol'skaîâ, 1960a
Brachymeria vicina Walker . (parasite)	SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Nikol'skaîâ, 1960a
Dirhinoides vlasovi .... Nikol'skaîâ (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaîâ, 1964b UNDETERMINED SARCOPHAGIDAE Nikol'skaîâ, 1960a
Dirhinoides wohlfahrtiae . .... Ferrière (parasite)	SARCOPHAGIDAE *Wohlfahrtia nuba* Wiedemann Nikol'skaîâ, 1960b
Dirhinus Dalman (parasite of fly pupae)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Simmonds, 1940
Dirhinus luzonensis Rohwer . (parasite)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Dresner, 1954
Dirhinus pachycerus Masi . . . . (parasite)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila melanogaster* Meigen Roy et al., 1940 MUSCIDAE: MUSCINAE *Musca inferior* Stein Roy et al., 1939 *Musca domestica vicina* Macquart Roy et al., 1940 *Musca nebulo* Fabricius Roy et al., 1940 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Roy et al., 1940 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya megacephala* (Fabricius) Roy et al., 1939 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga dux* Thompson var. *tuberosa* Roy et al., 1939 *Sarcophaga ruficornis* Fabricius Roy et al., 1939

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Dirhinus sarcophagae Froggatt (parasite)	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya rufifacies* (Macquart) Johnston et al., 1921 *Chrysomya varipes* (Macquart) Johnston et al., 1921 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Johnston et al., 1921 *Phaenicia sericata* (Meigen) Johnston et al., 1921 *Calliphora stygia* (Fabricius) Froggatt, 1921, 1922 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga aurifrons* Macquart Froggatt, 1919, 1922 *Sarcophaga impatiens* (Walker) Johnston et al., 1921
Dirhinus texanus (Ashmead) (Synonym: *Eniaca texana*) (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Roberts, 1935
Euchalcidia blanda Nikol'skaĭa (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Nikol'skaĭa, 1960b *Sarcophaga haemorrhoidalis* (Fallén) Nikol'skaĭa, 1960a Sychevskaĭa, 1964b
Stenomalus muscarum Linnaeus (parasite)	MUSCIDAE: MUSCINAE *Musca* Linnaeus Waterston, 1916
UNDETERMINED CHALCIDIDAE (parasites)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923 CALLIPHORIDAE: CALLIPHORINAE *Calliphora stygia* (Fabricius) Froggatt, 1914 *Calliphora vicina* Robineau-Desvoidy Froggatt, 1914a, 1914b
PTEROMALIDAE	
Dibrachys affinis Masi (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Voukassovitch, 1924a *Calliphora vomitoria* (Linnaeus) Voukassovitch, 1924a
Dibrachys cavus (Walker) (parasite)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Graham-Smith, 1919

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Dibrachys cavus (cont.)	CALLIPHORIDAE: CHRYSOMYINAE
	Protophormia terraenovae (Robineau-Desvoidy)
	Graham-Smith, 1919
Eupteromales hemipterus .... (Walker)	CHLOROPIDAE: OSCINELLINAE
(parasite)	*Hippelates collusor* (Townsend)
	Legner et al., 1965, 1966
Eupteromales nidulans ..... (Thomson)	CHLOROPIDAE: OSCINELLINAE
	Hippelates collusor (Townsend)
	Bay (unpublished)
Habrocytus obscurus Dalman . ..	CALLIPHORIDAE: CALLIPHORINAE
(parasite)	*Lucilia caesar* (Linnaeus)
	Voukassovitch, 1924b
	Calliphora vomitoria (Linnaeus)
	Voukassovitch, 1924b
Muscidifurax raptor	MUSCIDAE: FANNIINAE
Girault and Sanders	*Fannia canicularis* (Linnaeus)
(pupal parasite)	Legner (pre-publication), 1966
	Fannia femoralis (Stein)
	Legner et al. (pre-publication), 1965a
	Legner (pre-publication), 1966
	Legner et al., 1966b
	MUSCIDAE: PHAONIINAE
	Ophyra leucostoma (Wiedemann)
	Legner et al. (pre-publication), 1965a
	Legner (pre-publication), 1966
	Legner et al., 1966b
	MUSCIDAE: MUSCINAE
	Musca autumnalis De Geer
	Thomas et al., 1968
	Turner et al., 1968
	Musca domestica Linnaeus
	Girault et al., 1910a, 1910b
	Roberts, 1935
	Puerto Rico, USDA Experim. Sta., 1938
	Bartlett, 1939
	Legner et al. (pre-publication), 1965a
	Legner et al., 1965e, 1966
	Legner (pre-publication), 1966
	Mourier et al., 1968
	Legner, 1969
	MUSCIDAE: STOMOXYINAE
	Haematobia Lepeletier and Serville
	Fullaway, 1917b

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Muscidifurax raptor (cont.)	*Stomoxys calcitrans* (Linnaeus) Bartlett, 1939 Legner (pre-publication), 1966
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia macellaria (Fabricius) Girault et al., 1910b
	Phormia regina (Meigen) Girault et al., 1910b Legner (pre-publication), 1966
	SARCOPHAGIDAE: MILTOGRAMMINAE
	Ravinia querula (Walker) Turner et al., 1968
Nasonia Ashmead ..... . (Synonym: *Mormoniella*) (parasite)	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy Hardy, 1924
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Feng, 1933
?*Nasonia* Ashmead (parasite)	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Feng, 1933
Nasonia vitripennis (Walker) (Synonyms: *Mormoniella vitripennis, Nasonia brevicornis, Mormoniella brevicornis*)	PIOPHILIDAE
	Piophila casei (Linnaeus) Roberts, 1935
	MUSCIDAE: FANNIINAE
	Fannia femoralis (Stein) Roberts, 1933a Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b
	MUSCIDAE: PHAONIINAE
	Ophyra aenescens (Wiedemann) Roberts, 1933a
	Ophyra leucostoma (Wiedemann) Roberts, 1933a Legner (pre-publication), 1966
	Ophyra nigra Wiedemann Froggatt, 1919 Johnston et al., 1921
	Muscina stabulans (Fallén) Séguy, 1929
	MUSCIDAE: MUSCINAE
	Synthesiomyia nudiseta (Wulp) Roberts, 1933a
	Musca Linnaeus Johnston et al., 1921 Parker et al., 1928

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Nasonia vitripennis (cont.)

Musca autumnalis De Geer
Beard, 1964
Hair et al., 1965

Musca domestica Linnaeus
Girault et al., 1910a
Roubaud, 1917
Altson, 1920
Johnston et al., 1920c, 1921
Froggatt, 1921, 1922
Séguy, 1929
Fujita, 1932
Smirnov et al., 1933, 1934
Smirnov, 1934
Vladimirova et al., 1934
DeBach et al., 1947
Edwards, 1954
Wylie, 1962, 1965a, 1965b, 1965c
Nagel et al., 1963
Pimentel, 1963
Pimentel et al., 1963, 1965a
Beard, 1964
Madden, 1964
Hair et al., 1965
Madden et al., 1965
Legner (pre-publication), 1966
Legner et al., 1966a

Musca hilli Johnston and Bancroft
Johnston et al., 1920b

Musca sorbens sorbens Wiedemann
Johnston et al., 1920b

Musca terraereginae Johnston and Bancroft
Johnston et al., 1920b

MUSCIDAE: STOMOXYINAE

Stomoxys calcitrans (Linnaeus)
Séguy, 1929

CALLIPHORIDAE: CHRYSOMYINAE

Cochliomyia macellaria (Fabricius)
Girault et al., 1910a
Marlatt, 1931
Roberts, 1933a, 1935

Chrysomya Robineau-Desvoidy
Roubaud, 1917

Chrysomya albiceps (Wiedemann)
Anonymous, 1925
Smit, 1929
Ullyett, 1950

Chrysomya chloropyga (Wiedemann)
Ullyett, 1950

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Nasonia vitripennis (cont.)

Chrysomya rufifacies (Macquart)
Froggatt et al., 1917
Froggatt, 1919, 1921, 1922
Johnston et al., 1921
Gurney et al., 1926a
Chrysomya varipes (Macquart)
Froggatt, 1917, 1919
Johnston et al., 1921
Phormia regina (Meigen)
Girault et al., 1910a
Marlatt, 1931
Roberts, 1935
Legner (pre-publication), 1966
Phormia sordida Zetterstedt
Roubaud, 1917
Protophormia terraenovae (Robineau-Desvoidy)
Altson, 1920
Smirnov, 1934
Smirnov et al., 1934
Vladimirova et al., 1934
CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Roubaud, 1917
Johnston et al., 1921
Hardy, 1925
Parker et al., 1928
Myers, 1929
Cousin, 1933
Roberts, 1935
Lucilia caesar (Linnaeus)
Altson, 1920
Smirnov, 1934
Smirnov et al., 1934
Vladimirova et al., 1934
Phaenicia eximia (Wiedemann)
Roberts, 1933a
Phaenicia mexicana (Macquart)
Roberts, 1933a
Phaenicia sericata (Meigen)
Froggatt, 1919
Altson, 1920
Johnston et al., 1921
Anonymous, 1925
Smit, 1929
Cousin, 1933
Evans, 1933
Ullyett, 1950
Pimentel et al., 1963
Calliphora Robineau-Desvoidy
Parker et al., 1928

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Nasonia vitripennis (cont.)
Roberts, 1935
Edwards, 1954
Calliphora stygia (Fabricius)
Froggatt et al., 1914
Froggatt, 1919
Johnston et al., 1921
Calliphora vicina Robineau-Desvoidy
Froggatt et al., 1914
Graham-Smith, 1916
Roubaud, 1917
Altson, 1920
Johnston et al., 1921
Séguy, 1929
Cousin, 1933
Smirnov et al., 1933, 1934
Smirnov, 1934
Vladimirova et al., 1934
Velthuis et al., 1965
Calliphora vicina Robineau-Desvoidy = [*Calliphora eyrthrocephala*]
Johnston et al., 1920b
Calliphora vicina Robineau-Desvoidy = [*Calliphora rufifacies*]
Johnston et al., 1920b
Calliphora vomitoria (Linnaeus)
Altson, 1920
Neopollenia stygia (Fabricius)
Johnston et al., 1920b
Anastellorhina augur (Fabricius)
Froggatt et al., 1914
Froggatt, 1919
Johnston et al., 1920b, 1921
Cynomyopsis cadaverina (Robineau-Desvoidy)
Girault et al., 1910a
UNDETERMINED CALLIPHORIDAE
Blow flies
Gurney et al., 1926b
SARCOPHAGIDAE: SARCOPHAGINAE
Blaesoxipha plinthopyga (Wiedemann)
Roberts, 1935
Ravinia striata Fabricius
Sychevskaĭa, 1964b
Sarcophaga Meigen
Girault et al., 1910a
Roubaud, 1917
Parker et al., 1928
Fujita, 1932
Roberts, 1933a, 1935

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Nasonia vitripennis (cont.)	*Sarcophaga aurifrons* Macquart Froggatt, 1919 *Sarcophaga carnaria* (Linnaeus) Cousin, 1933 *Sarcophaga haemorrhoidalis* (Fallén) Anonymous, 1925 Smit, 1929 *Sarcophaga misera* Walker Johnston et al., 1921 *Sarcophaga parkeri* (Rohdendorf) Sychevskaĭa, 1964b *Sarcophaga peregrina* Johnston et al., 1921
Nasonia ?vitripennis (Walker) (Synonym: *Nasonia brevicornis*) (pupal parasite)	CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Bishopp et al., 1915b CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Bishopp et al., 1915b *Phaenicia sericata* (Meigen) Bishopp et al., 1915b SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Bishopp et al., 1915b
Pachycrepoideus vindemmiae Rondani (Synonym: *Pachycrepoideus dubius*) (pupal parasite)	PIOPHILIDAE *Piophila casei* (Linnaeus) Simmons, 1922 Crandell, 1939 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Steve, 1959 *Fannia scalaris* (Fabricius) Steve, 1959 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bartlett, 1939 McCoy, 1963 Legner et al., 1965e, 1966a MUSCIDAE: STOMOXYINAE *Haematobia* Lepeletier and Serville Fullaway, 1917b *Haematobia exigua* (de Meijere) Handschin, 1934a *Stomoxys calcitrans* (Linnaeus) Bartlett, 1939 UNDETERMINED MUSCIDAE Handschin, 1934a
Pachyneuron vindemmiae (Synonym: *Pachineuron vindemmiae*) (parasite)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila funebris* (Fabricius) Milani, 1947

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Pachyneuron vindemmiae (cont.)	*Drosophila immigrans* Sturtevant Milani, 1947
	Drosophila melanogaster Meigen Milani, 1947
	Drosophila similis Williston Milani, 1947
Prospalangia platensis Brèthes .. (parasite)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Brèthes, 1915
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Brèthes, 1915
Spalangia Latreille .. .. (pupal parasite)	CHLOROPIDAE: OSCINELLINAE
	Hippelates pusio Loew Legner et al., 1965d
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus) Sychevskaĭa, 1964b
	Fannia leucosticta (Meigen) Sychevskaĭa, 1964b
	Fannia scalaris (Fabricius) Sychevskaĭa, 1964b
	MUSCIDAE: PHAONIINAE
	Ophyra anthrax (Meigen) Sychevskaĭa, 1964b
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Girault et al., 1910a Simmonds, 1922 Vandenberg, 1930 Legner et al., 1966a
	Musca domestica vicina Macquart Roy et al., 1939 Sychevskaĭa, 1964b
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus) Wolcott, 1922
	Stomoxys calcitrans (Linnaeus) Roy et al., 1939
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius) Roy et al., 1939
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Roy et al., 1939
	Sarcophaga haemorrhoidalis (Fallén) Sychevskaĭa, 1964b
Spalangia cameroni Perkins .. (pupal parasite)	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus) Legner (pre-publication), 1966

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Spalangia cameroni (cont.)

Fannia femoralis (Stein)
Legner et al. (pre-publication), 1965a
Legner (pre-publication), 1966
Legner et al., 1966b
Fannia leucosticta (Meigen)
Bouček, 1963
Fannia scalaris (Fabricius)
Bouček, 1963
MUSCIDAE: PHAONIINAE
Hydrotaea dentipes (Fabricius)
Bouček, 1963
Ophyra anthrax (Meigen)
Bouček, 1963
Ophyra leucostoma (Wiedemann)
Legner (pre-publication), 1966
Phaonia querceti (Bouché)
Bouček, 1963
MUSCIDAE: MUSCINAE
Musca Linnaeus
Bouček, 1963
Musca domestica Linnaeus
Legner (pre-publication), 1966
Legner et al., 1966a, 1969a
Gerling et al., 1968
Mourier et al., 1968
Legner, 1969
House fly (presumably *Musca domestica* Linnaeus)
Simmonds, 1929
Musca domestica vicina Macquart
Bouček, 1963
MUSCIDAE: STOMOXYINAE
Haematobia Lepeletier and Serville
Fullaway, 1917b
Haematobia exigua (de Meijere)
Bouček, 1963
Haematobia irritans (Linnaeus)
Bouček, 1963
Stomoxys calcitrans (Linnaeus)
Legner (pre-publication), 1966
Legner et al., 1969a
SARCOPHAGIDAE: SARCOPHAGINAE
Ravinia striata Fabricius
Bouček, 1963
Sarcophaga haemorrhoidalis (Fallén)
Bouček, 1963
UNDETERMINED SARCOPHAGIDAE
Simmonds, 1929

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Spalangia chontalensis (Cameron) (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner et al., 1966a
Spalangia drosophilae Ashmead (pupal parasite)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila* Fallén Ashmead, 1887, 1900 Riley et al., 1891 Richardson, 1913a Viereck, 1916 *Drosophila melanogaster* Meigen Simmonds, 1944 Bouček, 1963 CHLOROPIDAE: OSCINELLINAE *Hippelates* Loew Legner et al., 1964 *Hippelates collusor* (Townsend) Bay et al., 1963 Bay, unpublished Legner, 1967, 1969 *Hippelates pusio* Loew Legner et al., 1965d *Oscinella frit* (Linnaeus) Bay et al., 1963 MUSCIDAE: MUSCINAE *Orthellia* Robineau-Desvoidy Lindquist, 1936 *Musca domestica* Linnaeus Lindquist, 1936 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Lindquist, 1936 Bartlett, 1939 Bouček, 1963 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Lindquist, 1936
Spalangia endius Walker (pupal parasite)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Legner (pre-publication), 1966 *Fannia femoralis* (Stein) Legner et al. (pre-publication), 1966 Legner et al., 1966b *Fannia leucosticta* (Meigen) Bouček, 1963 *Fannia scalaris* (Fabricius) Bouček, 1963 MUSCIDAE: PHAONIINAE *Hydrotaeà australis* Malloch Bouček, 1963

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Spalangia endius (cont.)	*Ophyra leucostoma* (Wiedemann) Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b *Muscina stabulans* (Fallén) Legner (pre-publication), 1966 MUSCIDAE: MUSCINAE *Orthellia* Robineau-Desvoidy Bouček, 1963 *Musca domestica* Linnaeus Legner et al. (pre-publication), 1965a Legner et al., 1965c Legner (pre-publication), 1966 Legner et al., 1966a *Musca domestica vicina* Macquart Bouček, 1963 *Musca sorbens* Wiedemann Bouček, 1963 MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Bouček, 1963 *Haematobia irritans* (Linnaeus) Bouček, 1963 *Stomoxys calcitrans* (Linnaeus) Legner (pre-publication), 1966 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya albiceps* (Wiedemann) Bouček, 1963 *Chrysomya megacephala* (Fabricius) Bouček, 1963 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha impar* (Aldrich) Bouček, 1963 *Ravinia effrenata* (Walker) Bouček, 1963 *Ravinia striata* Fabricius Bouček, 1963 *Ravinia sueta* (Wulp) Bouček, 1963 *Sarcophaga haemorrhoidalis* (Fallén) Bouček, 1963
Spalangia ?endius Walker .. .. (pupal parasite)	MUSCIDAE: PHAONIINAE *Phaonia querceti* (Bouché) Bouček, 1963
Spalangia erythromera brachyceps Bouček ... . (pupal parasite)	ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya cinerea* Fallén Bouček, 1963

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Spalangia erythromera (cont.)	*Hylemya platura* (Meigen) Bouček, 1963 *Pegomya* Robineau-Desvoidy Bouček, 1963
Spalangia haematobiae . . . . Ashmead (parasite)	MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Riley et al., 1891 Ashmead, 1894 von Dalla Torre, 1898 Ashmead, 1900 Schmiedeknecht, 1909 Viereck, 1909, 1916 Richardson, 1913b Bartlett, 1939 Bouček, 1963
Spalangia hirta Haliday . . . . . . (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Richardson, 1913a
Spalangia longepetiolata . . . . . . Bouček	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner et al., 1969a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Legner et al., 1969a
Spalangia muscae Howard (pupal parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Howard, 1911 Girault, 1916 Peck, 1951 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Bishopp, 1913a Girault, 1921
Spalangia muscidarum . . . . Richardson (parasite)	MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Pinkus, 1913 *Musca* Linnaeus Johnston et al., 1921 *Musca domestica* Linnaeus Pinkus, 1913 Richardson, 1913a, 1913b Johnston et al., 1920b, 1921 Froggatt, 1922 Bartlett, 1939 Simmonds, 1958 House fly (presumably *Musca domestica* Linnaeus) Simmonds, 1940 *Musca hilli* Johnston and Bancroft Johnston et al., 1920b

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Spalangia muscidarum (cont.)	*Musca sorbens sorbens* Wiedemann Johnston et al., 1920b
	Musca terraereginae Johnston and Bancroft Johnston et al., 1920b
	MUSCIDAE: STOMOXYINAE
	Haematobia irritans (Linnaeus) Pinkus, 1913
	Stomoxys calcitrans (Linnaeus) Pinkus, 1913 Richardson, 1913b Johnston et al., 1920b, 1921 Bartlett, 1939
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius) Johnston et al., 1920b, 1921
	Chrysomya rufifacies (Macquart) Johnston et al., 1920b, 1921
	Chrysomya varipes (Macquart) Johnston et al., 1920b, 1921
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy Johnston et al., 1921
	Calliphora stygia (Fabricius) Johnston et al., 1921
	Neopollenia stygia (Fabricius) Johnston et al., 1920b
	Anastellorhina augur (Fabricius) Johnston et al., 1920b, 1921
	SARCOPHAGIDAE: SARCOPHAGINAE
	Helicobia quadrisetosa Coquillett Pinkus, 1913
	Sarcophaga Meigen Johnston et al., 1920b
	Sarcophaga aurifrons Macquart Johnston et al., 1920
	Sarcophaga ?frontalis Doleschall Johnston et al., 1920b
	Sarcophaga misera Walker Johnston et al., 1920b, 1921
Spalangia muscophaga Girault .... (pupal parasite)	MUSCIDAE: MUSCINAE
	Musca gibsoni Patton and Cragg Bouček, 1963
Spalangia nigra Latreille .. .. (parasite)	PHORIDAE: METOPININAE
	Megaselia ?iroquoiana (Malloch) Roberts, 1935
	MUSCIDAE: MUSCINAE
	Musca autumnalis De Geer Turner et al., 1968

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Spalangia nigra (cont.)		*Musca domestica* Linnaeus Richardson, 1913b Parker, 1924 Parker et al., 1928 Sanders, 1942 Legner, 1969 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Bouček, 1963 *Stomoxys calcitrans* (Linnaeus) Bishopp, 1913b, 1939 Bouček, 1963 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Roberts, 1935 SARCOPHAGIDAE: MILTOGRAMMINAE *Ravinia querula* (Walker) Turner et al., 1968 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Parker et al., 1928
Spalangia nigripes Curtis (pupal parasite)	.. ..	MUSCIDAE: FANNIINAE *Fannia leucosticta* (Meigen) Bouček, 1963 *Fannia scalaris* (Fabricius) Bouček, 1963 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bouček, 1963 Legner et al., 1969a *Musca domestica vicina* Macquart Bouček, 1963 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Legner et al., 1969a CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Bouček, 1963
Spalangia nigroaenea Curtis (pupal parasite)	.....	PHORIDAE: METOPININAE *Megaselia iroquoiana* (Malloch) Bouček, 1963 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Legner (pre-publication), 1966 *Fannia femoralis* (Stein) Legner et al. (pre-publication), 1965a Legner (pre-publication), 1966 Legner et al., 1966b

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Spalangia nigroaenea (cont.)

MUSCIDAE: PHAONIINAE
Ophyra leucostoma (Wiedemann)
Legner et al. (pre-publication), 1965a
Legner (pre-publication), 1966
Legner et al., 1966b
Phaonia corbetti Malloch
Bouček, 1963
Phaonia querceti (Bouché)
Bouček, 1963
MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Legner et al., 1965c, 1966a, 1969a
Legner (pre-publication), 1966
Musca domestica vicina Macquart
Sychevskaĭa, 1964b
Musca fergusoni
Johnston and Bancroft
Bouček, 1963
Musca hilli Johnston and Bancroft
Bouček, 1963
Musca sorbens Wiedemann
Bouček, 1963
Musca sorbens sorbens Wiedemann
Bouček, 1963
Musca terraereginae
Johnston and Bancroft
Bouček, 1963
MUSCIDAE: STOMOXYINAE
Haematobia exigua (de Meijere)
Bouček, 1963
Haematobia irritans (Linnaeus)
Bouček, 1963
Stomoxys calcitrans (Linnaeus)
Legner (pre-publication), 1966
Legner et al., 1969a
CALLIPHORIDAE: CHRYSOMYINAE
Chrysomya megacephala (Fabricius)
Bouček, 1963
Chrysomya rufifacies (Macquart)
Bouček, 1963
Chrysomya varipes (Macquart)
Bouček, 1963
CALLIPHORIDAE: CALLIPHORINAE
Lucilia Robineau-Desvoidy
Bouček, 1963
Phaenicia sericata (Meigen)
Bouček, 1963
Neopollenia stygia (Fabricius)
Bouček, 1963

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Spalangia nigroaenea (cont.)	*Anastellorhina augur* (Fabricius) Bouček, 1963
	SARCOPHAGIDAE: SARCOPHAGINAE
	Ravinia striata Fabricius Bouček, 1963
	Sarcophaga dux Thompson Bouček, 1963
	Sarcophaga frontalis Doleschall Bouček, 1963
	Sarcophaga impatiens (Walker) Bouček, 1963
Spalangia orientalis Graham (pupal parasite)	MUSCIDAE: PHAONIINAE
	Hydrotaea australis Malloch Mackerras, 1932
	MUSCIDAE: STOMOXYINAE
	Haematobia exigua (de Meijere) Handschin, 1932, 1934a, 1934b
	UNDETERMINED MUSCIDAE Handschin, 1932, 1934b
Spalangia philippinensis Fullaway (pupal parasite)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Bartlett, 1939
	House fly (presumably *Musca domestica* Linnaeus) Fullaway, 1917a
	MUSCIDAE: STOMOXYINAE
	Haematobia Lepeletier and Serville Fullaway, 1917b
	Haematobia irritans (Linnaeus) Bartlett, 1939
	Stomoxys calcitrans (Linnaeus) Bartlett, 1939
	SARCOPHAGIDAE: SARCOPHAGINAE
	Tricharaea Thomson Bartlett, 1939
Spalangia platensis (Brèthes) (pupal parasite)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Bouček, 1963
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Bouček, 1963
Spalangia rugosicollis Ashmead (pupal parasite)	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya antiqua (Meigen) Perron, 1954b
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Girault, 1920 Peck, 1951

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Spalangia rugulosa Foerster . . . (pupal parasite)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Bouček, 1963
Spalangia simplex Perkins ..... (pupal parasite)	MUSCIDAE: FANNIINAE *Fannia femoralis* (Stein) Legner et al. (pre-publication), 1965a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner et al., 1966a
Spalangia stomoxysiae Girault .... (Synonym: *Spalangia muscidarum stomoxysiae*) (pupal parasite)	MUSCIDAE: PHAONIINAE *Ophyra anthrax* (Meigen) Bouček, 1963 MUSCIDAE: MUSCINAE *Orthellia* Robineau-Desvoidy Lindquist, 1936 Peck, 1951 *Musca domestica* Linnaeus Lindquist, 1936 Legner et al., 1965c *Musca domestica vicina* Macquart Sychevskaĭa, 1964b MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Lindquist, 1936 Peck, 1951 *Stomoxys calcitrans* (Linnaeus) Girault, 1916, 1920 Peck, 1951 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha impar* (Aldrich) Lindquist, 1936 Peck, 1951 *Ravinia effrenata* (Walker) Lindquist, 1936 Peck, 1951 *Ravinia sueta* (Wulp) Lindquist, 1936 Peck, 1951 *Sarcophaga* Meigen Lindquist, 1936
Spalangia sundaica Graham ..... (pupal parasite)	MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1932, 1934a, 1934b Lever, 1936 *Stomoxys* Geoffroy Handschin, 1932, 1934a UNDETERMINED MUSCIDAE Handschin, 1932, 1934a, 1934b

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Sphegigaster Spinola	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Legner et al., 1969a
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Legner et al., 1969a
Stenomolina muscarum (Linnaeus) (Synonym: *Pteromalus muscarum*) (parasite)	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Ratzeburg, 1844
UNDETERMINED PTEROMALIDAE (parasites)	CHLOROPIDAE: OSCINELLINAE
	Hippelates pusio Loew
	Legner et al., 1965d
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus
	Bishopp, 1913a
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Pinkus, 1913
	Bishopp, 1913a
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Sanders et al., 1966
ENCYRTIDAE	
*Australencyrtus girault*i Johnston and Tiegs (parasite)	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya megacephala (Fabricius)
	Johnston et al., 1921
	Chrysomya rufifacies (Macquart)
	Johnston et al., 1921
	Chrysomya varipes (Macquart)
	Johnston et al., 1921
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia Robineau-Desvoidy
	Johnston et al., 1921
	Phaenicia sericata (Meigen)
	Johnston et al., 1921
	Anastellorhina augur (Fabricius)
	Johnston et al., 1921
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen
	Johnston et al., 1921
Cerchysius lyperosae Ferrière (parasite)	MUSCIDAE: STOMOXYINAE
	Haematobia exigua (de Meijere)
	Handschin, 1934a
	UNDETERMINED MUSCIDAE
	Handschin, 1934a
Homalotylus eitelweinii Ratzeberg	PHORIDAE: METOPININAE
	Megaselia fasciata (Fallén)
	du Buysson, 1921

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Ooencyrtus submetallicus (Howard) (parasite)	CHLOROPIDAE: OSCINELLINAE *Hippelates pusio* Loew Legner et al., 1965b, 1965d
Stenoterys fulvoventralis Dodd (parasite)	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya rufifacies* (Macquart) Newman et al., 1930
Tachinaephagus Ashmead (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Hardy, 1924
*Tachinaephalus girault*i Johnston and Tiegs (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Legner et al., 1966a MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1934a UNDETERMINED MUSCIDAE Handschin, 1934a
EUPELMIDAE	
Mesocomys pulchriceps Cameron (parasite)	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya chloropyga* (Wiedemann) Anonymous, 1925
EULOPHIDAE	
Synthomosphyrum albiclavus Kerrich (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Saunders, 1964 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Saunders, 1964 *Calliphora* Robineau-Desvoidy Saunders, 1964 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Saunders, 1964
Syntomosphyrum glossinae Waterston (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Saunders, 1964 *Musca nebulo* Fabricius Lamborn, 1925 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya albiceps* (Wiedemann) Nash, 1933 *Chrysomya chloropyga* (Wiedemann) Nash, 1933 *Chrysomya marginalis* (Wiedemann) Nash, 1933 *Chrysomya putoria* (Wiedemann) Lamborn, 1925 Nash, 1933 CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Saunders, 1964

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Syntomosphyrum glossinae (cont.)	*Calliphora* Robineau-Desvoidy Saunders, 1964 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Lamborn, 1925 Saunders, 1964 *Sarcophaga haemorrhoidalis* (Fallén) Nash, 1933
Trichospilus pupivora Ferrière (parasite)	MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1934a UNDETERMINED MUSCIDAE Handschin, 1934a
DIAPRIIDAE	
Diapria conica (Fabricius) (parasite)	SYRPHIDAE: MILESIINAE *Eristalis tenax* (Linnaeus) Sychevskaĭa, 1964b SARCOPHAGIDAE: SARCOPHAGINAE *Ravinia striata* Fabricius Sychevskaĭa, 1964b
Hemilexomyia abrupta Dodd (parasite)	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Dodd, 1920 Johnston et al., 1921 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Johnston et al., 1921 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia cuprina* Wiedemann Dodd, 1920 *Calliphora stygia* (Fabricius) Dodd, 1920 Froggatt, 1921, 1922 Johnston et al., 1921
Paraspilomicrus Johnston and Tiegs (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Hardy, 1924
Paraspilomicrus froggatti Johnston and Tiegs (parasite)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Johnston et al., 1921
Phaenopria Ashmead (parasite)	MUSCIDAE: PHAONIINAE *Hydrotaea australis* Malloch Mackerras, 1932 MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1932 UNDETERMINED MUSCIDAE Handschin, 1934a
Phaenopria fimicola Ferrière (parasite)	MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1934a

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Phaenopria occidentalis Fouts (parasite)	CHLOROPIDAE: OSCINELLINAE *Hippelates collusor* (Townsend) Bay et al., 1963 Bay, unpublished Legner et al., 1966 Legner et al., 1969a
Trichopria Ashmead (Synonym: *Ashmeadopria*) (parasite)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Legner (pre-publication), 1966 *Fannia femoralis* (Stein) Legner (pre-publication), 1966 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bartlett, 1939 Legner et al., 1965c, 1966, 1969a Legner (pre-publication), 1966 MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Handschin, 1932 *Stomoxys calcitrans* (Linnaeus) Bartlett, 1939 Legner et al., 1969a
Trichopria commoda Muesebeck (parasite)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Muesebeck, 1961
Trichopria hirticollis (Ashmead) (parasite)	UNDETERMINED CALLIPHORIDAE Blow flies Roberts, 1935a SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Roberts, 1935a
FORMICIDAE	
Camponotus pennsylvanicus De Geer (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Steve, 1959
Crematogaster lineolata (Say) (predator)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Lindquist, 1942
Eciton Latreille (predator)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Strong, 1938
Forelius foetidus (Buckley) (Synonym: *Forelius maccooki*) (predator)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Lindquist, 1942
Iridomyrmex humilis (Mayr)	DROSOPHILIDAE: DROSOPHILINAE *Drosophila funebris* (Fabricius) Pavan, 1952 *Drosophila virilis* Sturtevant Pavan, 1952

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		MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pavan, 1952
Labidus coecus (Latreille) (Synonym: *Eciton coecum*) (predator)	....	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Lindquist, 1942 UNDETERMINED CALLIPHORIDAE Blow flies Lindquist, 1942
Monomorium pharaonis (Linnaeus) (Synonym: *Tetramorium pharaonis*) (predator)	.....	CHLOROPIDAE: OSCINELLINAE *Hippelates pusio* Loew Legner et al., 1965d UNDETERMINED MUSCIDAE Handschin, 1934a
Paratrechina longicornis (Latreille) (predator)	.....	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pimentel, 1955 CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Pimentel, 1955 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia* Robineau-Desvoidy Pimentel, 1955 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Pimentel, 1955
Pheidole (predator)	.....	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Strong, 1938 Lindquist, 1942
Pheidole megacephala (Fabricius) (predator)	.....	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Bridwell, 1918 Illingworth, 1923a Phillips, 1934 Simmonds, 1958

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Pheidole megacephala (cont.)	House fly (presumably *Musca domestica* Linnaeus) Illingworth, 1915
	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Illingworth, 1923a
	UNDETERMINED CALLIPHORIDAE Blow flies Phillips, 1934
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga fuscicauda* Böttcher Illingworth, 1923a
Pheidole morrisii .... var. *impexa* Wheeler (predator)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Lindquist, 1942
Pheidole subarmata .... *borinquenensis* Wheeler (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pimentel, 1955
Pheidole oceanica Mayr . . . . (predator)	MUSCIDAE: STOMOXYINAE *Haematobia exigua* (de Meijere) Lever, 1936
Pheidologeton affinis (Jerd.) .	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Pimentel et al., 1969
Pogonomyrmex barbatus .... . var. *fuscatus* Emery (predator)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Lindquist, 1942
Pogonomyrmex barbatus .. .. .. var. *molefaciens* (Buckley) (predator)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia hominivorax* (Coquerel) Lindquist, 1942
Ponera perkinsi Forel . ... (predator)	OTITIDAE: ULIDIINAE *Euxesta annonae* (Fabricius) Illingworth, 1923a
	MILICHIIDAE: MILICHIINAE *Milichiella lacteipennis* (Loew) Illingworth, 1923a
	MUSCIDAE: FANNIINAE *Fannia pusio* (Wiedemann) Illingworth, 1923a
	MUSCIDAE: PHAONIINAE *Ophyra nigra* Wiedemann Illingworth, 1923a
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Illingworth, 1923a

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Ponera perkinsi (cont.)	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Illingworth, 1923a
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Illingworth, 1923a
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga fuscicauda Böttcher Illingworth, 1923a
Solenopsis corticalis Forel (predator)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Pimentel, 1955
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia Robineau-Desvoidy Pimentel, 1955
Solenopsis geminata (Fabricius) (predator)	CHLOROPIDAE: OSCINELLINAE
	Hippelates pusio Loew Legner et al., 1965d
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Pimentel, 1955
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia hominivorax (Coquerel) Lindquist, 1942
	Cochliomyia macellaria (Fabricius) Pimentel, 1955
	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia Robineau-Desvoidy Pimentel, 1955
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Pimentel, 1955
Tapinoma melanocephalum (Fabricius) (predator)	CHLOROPIDAE: OSCINELLINAE
	Hippelates pusio Loew Legner et al., 1965d
	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Pimentel, 1955
	CALLIPHORIDAE: CHRYSOMYINAE
	Cochliomyia Townsend Pimentel, 1955
Tetramorium guineense (Fabricius) (predator)	CHLOROPIDAE: OSCINELLINAE
	Hippelates pusio Loew Legner et al., 1965d
Wasmamia auropunctata (Roger) (predator)	CHLOROPIDAE: OSCINELLINAE
	Hippelates pusio Loew Legner et al., 1965d

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UNDETERMINED	
FORMICIDAE . . . . . (predators)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Pavlovskiĭ, 1921
SPHECIDAE	
Bembix Fabricius .... (Synonym: *Bembex*) (predator)	MUSCIDAE: MUSCINAE *Musca* Linnaeus Peckham et al., 1905
Bembix lunata (Fabricius) (Synonym: *Bembex lunata*) (predator)	MUSCIDAE: MUSCINAE *Musca* Linnaeus Ramakrishna, Ayyar, 1920 MUSCIDAE: STOMOXYINAE *Haematobia* Lepeletier and Serville Ramakrishna, Ayyar, 1920 *Stomoxys* Geoffroy Ramakrishna, Ayyar, 1920
Bembix oculata Latreille ..... (Synonym: *Bembex oculata*) (predator)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Farre, 1914
Bembex olivata Dahlbom (Synonym: *Bembex olivata*) (predator)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Ullyett et al., 1941 CALLIPHORIDAE: CALLIPHORINAE *Auchmeromyia luteola* (Fabricius) Roubaud, 1913
Bembix spinolae (Lepeletier) (predator)	MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Parker, 1917 *Musca domestica* Linnaeus Parker, 1917 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Parker, 1917
Crabro advenus Smith	ANTHOMYIIDAE: ANTHOMYIINAE *Pegomya finitima* Stein Kurczewski et al., 1968 MUSCIDAE: COENOSIINAE *Coenosia tigrina* (Fabricius) Kurczewski et al., 1968 MUSCIDAE: FANNIINAE *Fannia scalaris* (Fabricius) Kurczewski et al., 1968 MUSCIDAE: PHAONIINAE *Muscina assimilis** (Fallén) Kurczewski et al., 1968 MUSCIDAE: MUSCINAE *Musca autumnalis* (De Geer) Kurczewski et al., 1968

* Authors: *Musca* [*sic*] *assimilis* (Fallén).

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	CALLIPHORIDAE: CALLIPHORINAE
	Phaenicia sericata (Meigen) Kurczewski et al., 1968
	CALLIPHORIDAE: POLLENIINAE
	Pollenia rudis (Fabricius) Kurczewski et al., 1968
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga scoparia Pandellé Kurczewski et al., 1968
Crabro alpinus Imhof (Synonym: *Thyreopus alpinus*) (predator)	MUSCIDAE: STOMOXYINAE
	Lyperosiops stimulans (Meigen) Vergne, 1931
Crabro cavifrons Thomson (Synonym: *Clytochrysus cavifrons*) (predator)	SYRPHIDAE: SYRPHINAE
	Syrphus albimanus Fabricius Hamm et al., 1926
	Syrphus peltatus (Meigen) Hamm et al., 1926
	CALLIPHORIDAE: CALLIPHORINAE
	Lucilia caesar (Linnaeus) Hamm et al., 1926
	Calliphora vicina Robineau-Desvoidy Hamm et al., 1926
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Hamm et al., 1926
Crabro clypeatus (Schreber) (Synonym: *Thyreus clypeatus*) (predator)	ANTHOMYIIDAE: ANTHOMYIINAE
	Anthomyia Meigen Hamm et al., 1926
	MUSCIDAE: PHAONIINAE
	Muscina Robineau-Desvoidy Hamm et al., 1926
	MUSCIDAE: STOMOXYINAE
	Stomoxys Geoffroy Hamm et al., 1926
Crabro cribraria (Linnaeus) (Synonym: *Thyreopus cribrarius*) (predator)	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya strigosa (Fabricius) Hamm et al., 1926
	MUSCIDAE: MUSCINAE
	Morellia hortorum (Fallén) Hamm et al., 1926
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus) Hamm et al., 1926
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy Hamm et al., 1926
	Calliphora vomitoria (Linnaeus) Hamm et al., 1926
	Onesis cognata Meigen Hamm et al., 1926

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Crabro cribraria (cont.)	CALLIPHORIDAE: POLLENIINAE
	Pollenia rudis (Fabricius)
	Hamm et al., 1926
Crabro elongatus (Provancher) ...	PHORIDAE: METOPININAE
(Synonym: *Crossocerus elongatulus*)	*Megaselia pulicaria* (Fallén)
	Hamm et al., 1926
(predator)	DROSOPHILIDAE: DROSOPHILINAE
	Scaptomyza graminum (Fallén)
	Hamm et al., 1926
Crabro leucostoma (Linnaeus)	EMPIDIDAE: EMPIDINAE
(Synonym: *Blepharipus leucostomus*)	*Hilara litorea* Fallén
	Hamm et al., 1926
(predator)	SEPSIDAE
	Sepsis cynipsea (Linnaeus)
	Hamm et al., 1926
	Sepsis nigripes Meigen
	Hamm et al., 1926
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya Robineau-Desvoidy
	Hamm et al., 1926
	Hylemya fugax (Meigen)
	Hamm et al., 1926
	Hylemya radicum (Linnaeus)
	Hamm et al., 1926
	Anthomyia pluvialis (Linnaeus)
	Hamm et al., 1926
	MUSCIDAE: COENOSIINAE
	Coenosia lineatipes (Zetterstedt)
	Hamm et al., 1926
	Coenosia sexnotata Meigen
	Hamm et al., 1926
	MUSCIDAE: MYDAEINAE
	Helina duplicata (Meigen)
	Hamm et al., 1926
	MUSCIDAE: FANNIINAE
	Fannia armata (Meigen)
	Hamm et al., 1926
	Fannia kowarzi (Verrall)
	Hamm et al., 1926
	Fannia manicata (Meigen)
	Hamm et al., 1926
	Fannia polychaeta Stein
	Hamm et al., 1926
	Fannia similis Stein
	Hamm et al., 1926
	MUSCIDAE: PHAONIINAE
	Hydrotaea albipuncta (Zetterstedt)
	Hamm et al., 1926
	Hydrotaea armipes (Fallén)
	Hamm et al., 1926

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Crabro leucostoma (cont.)	*Hydrotaea irritans* (Fallén) Hamm et al., 1926 *Hydrotaea meteorica* (Linnaeus) Hamm et al., 1926 *Ophyra leucostoma* (Wiedemann) Hamm et al., 1926 *Phaonia* Robineau-Desvoidy Hamm et al., 1926 MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Hamm et al., 1926 CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Hamm et al., 1926
Crabro palmarius (Schreber) . ... (Synonym: *Crossocerus palmarius*) (predator)	DROSOPHILIDAE: DROSOPHILINAE *Scaptomyza graminum* (Fallén) Hamm et al., 1926 MUSCIDAE: COENOSIINAE *Coenosia tricolor* (Zetterstedt) Hamm et al., 1926 MUSCIDAE: MYDAEINAE *Helina duplicata* (Meigen) Hamm et al., 1926 *Helina impuncta* (Fallén) Hamm et al., 1926
Crabro peltarius (Schreber) ..... (Synonym: *Thyreopus peltarius*) (predator)	ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya nigrimana* (Meigen) Hamm et al., 1926 *Hylemya radicum* (Linnaeus) Hamm et al., 1926 *Hylemya variata* (Fallén) Hamm et al., 1926 *Anthomyia* Meigen Hamm et al., 1926 MUSCIDAE: COENOSIINAE *Coenosia tigrina* (Fabricius) var. *leonina* Hamm et al., 1926 MUSCIDAE: MYDAEINAE *Helina depuncta* (Fallén) Hamm et al., 1926 *Helina duplicata* (Meigen) Hamm et al., 1926 *Helina impuncta* (Fallén) Hamm et al., 1926 *Helina lucorum* (Fallén) Hamm et al., 1926 *Helina quadrum* (Fabricius) Hamm et al., 1926

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Crabro peltarius (cont.)	MUSCIDAE: FANNIINAE *Fannia armata* (Meigen) Hamm et al., 1926
	MUSCIDAE: PHAONIINAE *Hydrotaea irritans* (Fallén) Hamm et al., 1926 *Ophyra leucostoma* (Wiedemann) Hamm et al., 1926
	MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Hamm et al., 1926
	CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Hamm et al., 1926 *Onesia sepulchralis* (Meigen) Hamm et al., 1926
	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Hamm et al., 1926
Crabro pubescens Shuckard (Synonym: *Blepharipus pubescens*) (predator)	MUSCIDAE: FANNIINAE *Fannia polychaeta* Stein Hamm et al., 1926
Crabro serripes Panzer (Synonym: *Cuphopterus serripes*) (predator)	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Hamm et al., 1926
Crabro signatus Panzer (Synonym: *Blepharipus signatus*) (predator)	MUSCIDAE: FANNIINAE *Fannia scalaris* (Fabricius) Chevalier, 1923b
	MUSCIDAE: PHAONIINAE *Phaonia querceti* (Bouché) Chevalier, 1923b, 1926
Crabro vagus (Linnaeus) (Synonym: *Solenius vagus*) (predator)	MUSCIDAE: MUSCINAE *Musca* Linnaeus Hamm et al., 1926
	CALLIPHORIDAE: CALLIPHORINAE *Lucilia caesar* (Linnaeus) Hamm et al., 1926 *Calliphora* Robineau-Desvoidy Hamm et al., 1926 *Calliphora vomitoria* (Linnaeus) Hamm et al., 1926
	CALLIPHORIDAE: POLLENIINAE *Pollenia* Robineau-Desvoidy Hamm et al., 1926
	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Hamm et al., 1926

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Crabro venator (Rohwer)	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya cinerella Fallén
	Kurczewski et al., 1968
	MUSCIDAE: MYDAEINAE
	Myospila meditabunda (Fabricius)
	Kurczewski et al., 1968
	MUSCIDAE: MUSCINAE
	Orthellia caesarion (Meigen)
	Kurczewski et al., 1968
Crossocerus lentus (Fox)	MUSCIDAE: MUSCINAE
(Synonym: *Crabro lentus*)	*Musca* Linnaeus
(predator)	Peckham et al., 1905
Crossocerus quadrimaculatus	EMPIDIDAE: EMPIDINAE
(Fabricius)	*Hilara flavipes* Meigen
(Synonym: *Hoplocrabro quadrimaculatus*)	Hamm et al., 1926
	Hilara litorea Fallén
(predator)	Hamm et al., 1926
	MUSCIDAE: MYDAEINAE
	Helina clara (Meigen)
	Hamm et al., 1926
	Helina quadrum Fabricius
	Hamm et al., 1926
	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Hamm et al., 1926
	Fannia incisurata (Zetterstedt)
	Hamm et al., 1926
	Fannia scalaris (Fabricius)
	Hamm et al., 1926
Dinetus pictus (Fabricius)	ANTHOMYIIDAE: ANTHOMYIINAE
(parasitoid)	*Leucophora albiseta* (von Roser)
	Chevalier, 1923c
Diodontus minutus	ANTHOMYIIDAE: ANTHOMYIINAE
(Fabricius)	*Leucophora albiseta* (von Roser)
(Synonym: ?*Dinetus minutus*)	Chevalier, 1923c
(parasitoid)	
Ectemnius chrysostomus	MUSCIDAE: PHAONIINAE
Lepeletier and Brulle	*Phaonia vagans* (Fallén)
(Synonym: *Clytochrysus chrysotomus*)	Hamm et al., 1926
(predator)	
Ectemnius quadricinctus	SYRPHIDAE: SYRPHINAE
(Fabricius)	*Platycheirus radicum* Fabricius
(Synonym: *Metacrabro quadricinctus*)	Hamm et al., 1926
	MUSCIDAE: MYDAEINAE
(predator)	*Helina anceps* (Zetterstedt)
	Hamm et al., 1926
	Helina impuncta (Fallén)
	Hamm et al., 1926

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Ectemnius quadricinctus (cont.)

Mydaea detrita Zetterstedt
Hamm et al., 1926
Mydaea urbana (Meigen)
Hamm et al., 1926
MUSCIDAE: PHAONIINAE
Hydrotaea irritans (Fallén)
Hamm et al., 1926
Phaonia basalis (Zetterstedt)
Hamm et al., 1926
Phaonia errans (Meigen)
Hamm et al., 1926
Phaonia erratica (Fallén)
Hamm et al., 1926
Phaonia querceti (Bouché)
Hamm et al., 1926
Phaonia scutellaris (Fallén)
Hamm et al., 1926
Phaonia signata (Meigen)
Hamm et al., 1926
Phaonia variegata (Meigen)
Hamm et al., 1926
Muscina pabulorum (Fallén)
Hamm et al., 1926
Muscina stabulans (Fallén)
Hamm et al., 1926
MUSCIDAE: MUSCINAE
Polietes lardaria Fabricius
Hamm et al., 1926
Mesembrina meridiana (Linnaeus)
Hamm et al., 1926
Morellia Robineau-Desvoidy
Hamm et al., 1926
Musca autumnalis autumnalis
De Geer
Hamm et al., 1926
CALLIPHORIDAE: CHRYSOMYINAE
Protocalliphora azurea (Fallén)
Hamm et al., 1926
CALLIPHORIDAE: CALLIPHORINAE
Lucilia caesar (Linnaeus)
Hamm et al., 1926
Phaenicia sericata (Meigen)
Hamm et al., 1926
Calliphora vicina Robineau-Desvoidy
Hamm et al., 1926
Calliphora vomitoria (Linnaeus)
Hamm et al., 1926
Onesia sepulchralis (Meigen)
Hamm et al., 1926

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Ectemnius quadricinctus (cont.)	*Onesia townsendi* Hall Hamm et al., 1926
	CALLIPHORIDAE: POLLENIINAE
	Pollenia rudis (Fabricius) Hamm et al., 1926
	SARCOPHAGIDAE: SARCOPHAGINAE
	Sarcophaga Meigen Hamm et al., 1926
	Sarcophaga carnaria (Linnaeus) Hamm et al., 1926
Gorytes Latreille (predator)	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy Froggatt, 1914a
Mellinus Fabricius (predator of adult flies)	MUSCIDAE: MUSCINAE
	Orthellia caesarion (Meigen) Hammer, 1942
	Musca autumnalis De Geer Hammer, 1942
	MUSCIDAE: STOMOXYINAE
	Lyperosiops stimulans (Meigen) Hammer, 1942
Mellinus arvensis (Linnaeus) (predator)	MUSCIDAE: MUSCINAE
	Musca domestica Linnaeus Herold, 1922
	CALLIPHORIDAE: POLLENIINAE
	Pollenia rudis (Fabricius) Chevalier, 1923
Nysson Latreille (predator)	MUSCIDAE: MUSCINAE
	Musca corvina Fabricius Froggatt, 1917
	CALLIPHORIDAE: CHRYSOMYINAE
	Chrysomya varipes (Macquart) Froggatt, 1917
Oxybelus Latreille (predator of adult flies)	MUSCIDAE: MUSCINAE
	Musca amica Zimin Pridantseva, 1959
	Musca tempestiva Fallén Pridantseva, 1959
	MUSCIDAE: STOMOXYINAE
	Haematobia titillans (Bezzi) Pridantseva, 1959
	Stomoxys Geoffroy Roubaud, 1911a Barotte, 1925
Oxybelus bipunctatus Olivier (predator of adult flies)	STRATIOMYIDAE: BERIDINAE
	Chorisops tibialis Meigen Chevalier, 1926
	OTITIDAE: ULIDIINAE
	Physiphora demandata (Fabricius) Chevalier, 1926

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Oxybelus bipunctatus (cont.)	ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya radicum* (Meigen) Chevalier, 1926
	MUSCIDAE: FANNIINAE *Fannia polychaeta* Stein Chevalier, 1926
	MUSCIDAE: PHAONIINAE *Hydrotaea meteorica* (Linnaeus) Chevalier, 1926
Oxybelus quattuordecimnotatus . . . Jurine (predator of adult flies)	ANTHOMYIIDAE: ANTHOMYIINAE *Leucophora albiseta* (von Roser) Chevalier, 1926
	MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Chevalier, 1926 *Ophyra leucostoma* (Wiedemann) Chevalier, 1926
	CALLIPHORIDAE: CALLIPHORINAE *Onesia sepulchralis* (Meigen) Chevalier, 1926
Oxybelus uniglumis (Linnaeus) . . . (predator of adult flies)	OTITIDAE: ULIDIINAE *Physiphora demandata* (Fabricius) Chevalier, 1926
	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Chevalier, 1926 *Fannia scalaris* (Fabricius) Chevalier, 1926
	MUSCIDAE: PHAONIINAE *Phaonia querceti* (Bouché) Chevalier, 1926
	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Chevalier, 1926
	CALLIPHORIDAE: POLLENIINAE *Pollenia rudis* (Fabricius) Chevalier, 1926
Sericophorus sydneyi Rayment . (predator)	ANTHOMYIIDAE: ANTHOMYIINAE *Hylemya urbana* Malloch Rayment, 1954
	MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Rayment, 1954 *Musca sorbens sorbens* Wiedemann Rayment, 1954
Sericophorus teliferopodus ..... Rayment (predator)	MUSCIDAE: MUSCINAE *Musca convexifrons* Thomson Rayment, 1954

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Sericophorus teliferopodus (cont.)	CALLIPHORIDAE: CHRYSOMYINAE *Paralucilia fulvipes* (Macquart) Rayment, 1954 CALLIPHORIDAE: CALLIPHORINAE *Lucilia argyricephala* Macquart Rayment, 1954 *Neopollenia stygia* (Fabricius) Rayment, 1954
Sericophorus viridis roddi Rayment (predator)	MUSCIDAE: MUSCINAE *Musca convexifrons* Thomson Rayment, 1954 *Musca sorbens sorbens* Wiedemann Rayment, 1954 CALLIPHORIDAE: CHRYSOMYINAE *Paralucilia fulvipes* (Macquart) Rayment, 1954 CALLIPHORIDAE: CALLIPHORINAE *Lucilia argyricephala* Macquart Rayment, 1954
Stictia denticornis (Handlirsch) (Synonym: *Monedula denticornis*) (predator)	STRATIOMYIDAE: HERMETINAE *Hermetia illucens* Bodkin, 1917 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Bodkin, 1917
Stizus Latreille ..... (predator)	MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Froggatt, 1917 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya varipes* (Macquart) Froggatt, 1917
Stizus turneri Froggatt (predator)	MUSCIDAE: MUSCINAE *Musca corvina* Fabricius Froggatt, 1917 Rayment, 1954 CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya varipes* (Macquart) Froggatt, 1917
MUTILLIDAE	
Mutilla glossinae Turner (parasite)	SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Lamborn, 1925
VESPIDAE	
Polistes hebraeus (Fabricius) (predator)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Jepson, 1915
Vespa Linnaeus (predator)	MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Hammer, 1942

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Vespa (cont.)	*Musca autumnalis* De Geer Hammer, 1942 MUSCIDAE: STOMOXYINAE *Lyperosiops stimulans* (Meigen) Hammer, 1942
Vespa germanica Fabricius (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Kühlhorn, 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Herold, 1922 Kühlhorn, 1961 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Kühlhorn, 1961
Vespa vulgaris Linnaeus (predator)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Kühlhorn, 1961 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Kühlhorn, 1961 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Kühlhorn, 1961
APIDAE	
Bombus agrorum Fabricius	MUSCIDAE: PHAONIINAE *Muscina pabulorum* (Fallén) Verhoeff, 1891
Bombus terrestris Linnaeus	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Hewitt, 1912
TRICHOCERIDAE	
Trichocera Meigen	MUSCIDAE: PHAONIINAE *Phaonia variegata* (Meigen) Thomson, 1937
TIPULIDAE	
Ula macroptera (Macquart)	MUSCIDAE: COENOSIINAE *Allognota agromyzina* (Fallén) Keilin, 1917
UNDETERMINED TIPULIDAE	MUSCIDAE: MUSCINAE *Graphomya maculata* (Scopoli) Keilin, 1917
PTYCHOPTERIDAE	
Ptychoptera contaminata (Linnaeus)	MUSCIDAE: MUSCINAE *Graphomya maculata* (Scopoli) Keilin, 1917
CULICIDAE	
Aedes geniculatus Olivier	MUSCIDAE: PHAONIINAE *Phaonia exoleta* Meigen Tate, 1935

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Culex pipiens Linnaeus	MUSCIDAE: PHAONIINAE *Phaonia exoleta* Meigen Tate, 1935
UNDETERMINED CULICINAE	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Zepeda, 1913
UNDETERMINED CULICIDAE	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
UNDETERMINED CERATOPOGONIDAE	MUSCIDAE: PHAONIINAE *Phaonia cincta* (Zetterstedt) Keilin, 1917
UNDETERMINED CHIRONOMIDAE	ANTHOMYIIDAE: ANTHOMYIINAE *Paraprosalpia billbergi* (Zetterstedt) Hobby, 1934a MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
SIMULIIDAE *Simulium damnosum* Theobald	MUSCIDAE: LIMNOPHORINAE *Xenomyia oxycera* Emden Crosskey et al., 1962
ANISOPODIDAE *Mycetobia pallipes* Meigen	MUSCIDAE: PHAONIINAE *Phaonia cincta* (Zetterstedt) Keilin, 1917
MYCETOPHILIDAE *Mycetophila lineola* Meigen	MUSCIDAE: MYDAEINAE *Mydaea tincta* (Zetterstedt) Keilin, 1917
Mycetophila ornata Stephens	MUSCIDAE: PHAONIINAE *Phaonia variegata* (Meigen) Thomson, 1937
SCIARIDAE *Sciara militaris* Nowicki	MUSCIDAE: PHAONIINAE *Muscina pabulorum* (Fallén) Beling, 1868 Porchinskiĭ, 1913
STRATIOMYIDAE *Hermetia illucens* Linnaeus	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Furman et al., 1959 Vasquez-Gonzales et al., 1962-63
TABANIDAE *Tabanus striatus* Fabricius (predator of larvae of other species)	MUSCIDAE: STOMOXYINAE *Stomoxys* Geoffroy Mitzmain, 1913

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UNDETERMINED TABANIDAE	MUSCIDAE: MUSCINAE *Graphomya maculata* (Scopoli) Keilin, 1917
ASILIDAE	
Isopogon brevirostris (Meigen) (predator of adults of other species)	MUSCIDAE: FANNIINAE *Fannia aërea* (Zetterstedt) Hobby, 1934b
Lasiopogon cinctus (Fabricius) (predator of adults of other species)	MUSCIDAE: MUSCINAE *Musca autumnalis* De Geer Hobby, 1934b
Laphria flava (Linnaeus) (predator of adults of other species)	MUSCIDAE: PHAONIINAE *Hydrotaea irritans* (Fallén) Hobby, 1934b
Efferia aestuans (Linnaeus) (Synonym: *Erax aestuans*) (predator of adults of other species)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bromley, 1946
Efferia pogonias (Wiedemann) (Synonym: *Erax rufibarbis*) (predator of adults of other species)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bromley, 1946
Neoitamus flavofemoratus (Hine) (Synonym: *Asilus flavofemoratus*) (predator of adults of other species)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bromley, 1946
Proctacanthus philadelphicus Macquart (predator of adults of other species)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bromley, 1946
Regasilus notatus (Wiedemann) (Synonym: *Asilus notatus*) (predator of adults of other species)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bromley, 1946
Regasilus sadyates (Walker) (Synonym: *Asilus sadyates*) (predator of adults of other species)	MUSCIDAE: MUSCINAE House fly (presumably *Musca domestica* Linnaeus) Bromley, 1946
UNDETERMINED ASILIDAE (predators of adults of other species)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Bishopp, 1913a
BOMBYLIIDAE	
Thyridanthrax abruptus Loew (pupal parasite)	CALLIPHORIDAE: RHININAE *Rhyncomyia pictifacies* Bigot McDonald, 1958

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EMPIDIDAE	
Empis grisea Fallén	ANTHOMYIIDAE: ANTHOMYIINAE
	Paraprosalpia silvestris (Fallén) Hobby, 1934a
SYRPHIDAE	
Eristalis Latreille	MUSCIDAE: MUSCINAE
	Graphomya maculata (Scopoli) Keilin, 1917
UNDETERMINED ERISTALINI	MUSCIDAE: PHAONIINAE
	Phaonia cincta (Zetterstedt) Keilin, 1917
UNDETERMINED MILESIINAE	MUSCIDAE: PHAONIINAE
(Synonym: ERISTALINAE)	*Phaonia variegata* (Meigen) Keilin, 1917
SPHAEROCERIDAE	
Borborus Meigen	MUSCIDAE: MUSCINAE
	Polietes albolineata (Fallén) Porchinskiĭ, 1910
Copromyza equina (Fallén)	ANTHOMYIIDAE: SCATOPHAGINAE
(Synonym: *Borborus equinus*)	*Scatophaga stercoraria* (Linnaeus) Cotterell, 1920
DROSOPHILIDAE	
Drosophila melanogaster Meigen	DROSOPHILIDAE: DROSOPHILINAE
(interspecific larval competition)	*Drosophila simulans* Sturtevant Moore, 1952
CHLOROPIDAE	
Hippelates collusor (Townsend)	*Hippelates collusor* (Townsend) Legner, 1966
CLUSIIDAE	
Clusiodes albimanus (Meigen)	MUSCIDAE: PHAONIINAE
(Synonym: *Heteroneura albimana*)	*Phaonia goberti* (Mik) Keilin, 1917
AULACIGASTRIDAE	
Aulacigaster leucopeza (Meigen)	MUSCIDAE: PHAONIINAE
(Synonym: *Aulacigaster rufitarsis*)	*Phaonia cincta* (Zetterstedt) Keilin, 1917
ANTHOMYIIDAE	
Scatophaga merdaria (Fabricius)	SCATOPSIDAE: SCATOPSINAE
(predator of adults of other species)	*Scatopse notata* Linnaeus Hewitt, 1914
Scatophaga stercoraria (Linnaeus)	SEPSIDAE
(predator of adults of other species)	*Sepsis cynipsea* (Linnaeus) Hobby, 1934b
	ANTHOMYIIDAE: ANTHOMYIINAE
	Hylemya aestiva (Meigen) Hobby, 1934b

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Scatophaga stercoraria (cont.)	MUSCIDAE: FANNIINAE
	Fannia canicularis (Linnaeus)
	Hewitt, 1914
	Steve, 1959
	Fannia ?serena (Fallén)
	Hobby, 1934b
	MUSCIDAE: PHAONIINAE
	Hydrotaea dentipes (Fabricius)
	Hobby, 1934b
	Hydrotaea ?irritans (Fallén)
	Hobby, 1934b
	MUSCIDAE: MUSCINAE
	Orthellia caesarion (Meigen)
	Hewitt, 1914
	Musca domestica Linnaeus
	Hewitt, 1914
	MUSCIDAE: STOMOXYINAE
	Stomoxys calcitrans (Linnaeus)
	Hewitt, 1914
	CALLIPHORIDAE: CALLIPHORINAE
	Calliphora vicina Robineau-Desvoidy
	Hewitt, 1914
	MUSCIDAE: POLLENIINAE
	Pollenia rudis (Fabricius)
	Hewitt, 1914
UNDETERMINED	
SCATOPHAGINAE	MUSCIDAE: MUSCINAE
(Synonym: SCATOPHAGIDAE)	*Graphomya maculata* (Scopoli)
	Keilin, 1917
Hylemya brassicae (Bouché)	MUSCIDAE: PHAONIINAE
(Synonym: *Chortophila brassicae*)	*Phaonia trimaculata* (Bouché)
	Bouché, 1834
MUSCIDAE	
Coenosia tigrina	SPHAEROCERIDAE
(Zetterstedt)	*Leptocera humida* Haliday
(predator of adults of other species)	Hobby, 1934b
	MUSCIDAE: PHAONIINAE
	Hydrotaea parva Meade
	Hobby, 1934b
Hebecnema umbratica	MUSCIDAE: MUSCINAE
(Meigen)	*Orthellia caesarion* (Meigen)
(predator of larvae of other species)	Thomson, 1937
Myospila meditabunda	ANTHOMYIIDAE: ANTHOMYIINAE
(Fabricius)	*Hylemya strigosa* (Fabricius)
(Synonym: *Myiospila meditabunda*)	Porchinskiĭ, 1910
	MUSCIDAE: MUSCINAE
(predator of larvae of other species)	*Dasyphora cyanella* (Meigen)
	Thomson, 1937

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Myospila meditabunda (cont.)	*Orthellia caesarion* (Meigen) Porchinskiĭ, 1910 Thomson, 1937 *Musca autumnalis autumnalis* De Geer Porchinskiĭ, 1910 MUSCIDAE: STOMOXYINAE *Lyperosiops stimulans* (Meigen) Thomson, 1937 CALLIPHORIDAE: CHRYSOMYINAE *Boreellus atriceps* (Zetterstedt) Porchinskiĭ, 1910
Mydaea urbana (Meigen) ... . (predator of larvae of other species)	MUSCIDAE: MUSCINAE *Dasyphora cyanella* (Meigen) Thomson, 1937 *Orthellia caesarion* (Meigen) Thomson, 1937 MUSCIDAE: STOMOXYINAE *Lyperosiops stimulans* (Meigen) Thomson, 1937
Mydaea pagana (Fabricius) . .. (cannibalism among larvae)	MUSCIDAE: MYDAEINAE *Mydaea pagana* (Fabricius) Thomson, 1937
Hydrotaea dentipes .... (Fabricius)	MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Porchinskiĭ, 1913 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Porchinskiĭ, 1911 Derbeneva-Ukhova, 1935, 1961 MUSCIDAE: STOMOXYINAE *Haematobia irritans* (Linnaeus) Wilhelmi, 1917a *Stomoxys calcitrans* (Linnaeus) Derbeneva-Ukhova, 1961
Ophyra leucostoma .... (Wiedemann) (predator of larvae of other species)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Anderson, 1964 *Fannia femoralis* (Stein) Legner et al. (pre-publication), 1965a MUSCIDAE: PHAONIINAE *Muscina stabulans* (Fallén) Anderson, 1964 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Anderson, 1964 Anderson et al., 1964

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Phaonia variegata (Meigen) (predator of larvae of other species)	ANTHOMYIIDAE: ANTHOMYIINAE *Pegomya haemorrhoa* (Zetterstedt) Keilin, 1917 *Pegomya winthemi* (Meigen) Keilin, 1917
Muscina assimilis (Fallén) (predator of larvae of other species)	PHORIDAE: PHORINAE *Phora* Latreille Keilin, 1917 PHORIDAE: METOPININAE *Megaselia rufipes* (Meigen) Keilin, 1917 DROSOPHILIDAE: DROSOPHILINAE *Drosophila confusa* Staegel Keilin, 1917 MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Keilin, 1917
Muscina pabulorum (Fallén) (predator of larvae of other species)	CALLIPHORIDAE: CALLIPHORINAE *Lucilia* Robineau-Desvoidy Thomson, 1937 *Calliphora* Robineau-Desvoidy Thomson, 1937
Muscina stabulans (Fallén) (predator of larvae of other species)	HELEOMYZIDAE: SUILLIINAE *Suillia lineata* Robineau-Desvoidy Porchinskiĭ, 1913 *Suillia ustulata* Meigen Porchinskiĭ, 1913 HELEOMYZIDAE: HELEOMYZINAE *Heleomyza* Fallén Porchinskiĭ, 1913 *Heleomyza gigantea* Meigen Porchinskiĭ, 1913 MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Porchinskiĭ, 1913 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Porchinskiĭ, 1913
Polietes albolineata (Fallén) (predator of larvae of other species)	MUSCIDAE: PHAONIINAE *Hydrotaea dentipes* (Fabricius) Porchinskiĭ, 1910 *Muscina stabulans* (Fallén) Porchinskiĭ, 1913 MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Porchinskiĭ, 1910 *Musca corvina* Fabricius Porchinskiĭ, 1910 MUSCIDAE: STOMOXYINAE *Lyperosiops stimulans* (Meigen) Porchinskiĭ, 1910

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Polietes hirticrura Meade . (predator of larvae of other species)	MUSCIDAE: MUSCINAE *Orthellia caesarion* (Meigen) Thomson, 1937
Mesembrina meridiana .. . . . Linnaeus (predator of larvae of other species)	MUSCIDAE: MUSCINAE *Dasyphora cyanella* (Meigen) Thomson, 1937 *Orthellia caesarion* (Meigen) Thomson, 1937 MUSCIDAE: STOMOXYINAE *Lyperosiops stimulans* (Meigen) Thomson, 1937
Musca domestica Linnaeus (interspecific larval competition)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Pimentel et al., 1965b
CALLIPHORIDAE	
Chrysomya Robineau-Desvoidy (Synonym: *Chrysomyia*) (interspecific larval competition)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Salt, 1932
Chrysomya rufifacies . . .. (Macquart) (Synonyms: *Chrysomyia rufifacies, Chrysomyia albiceps*) (predator of larvae of other species)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Holdaway, 1930 Mackerras, 1930 *Calliphora stygia* (Fabricius) Mackerras, 1930 *Anastellorhina augur* Mackerras, 1930 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga argyrostoma* (Robineau-Desvoidy) Illingworth, 1923b
Chrysomya villeneuvei Patton (Synonym: *Chrysomyia villeneuvii*) (predator of larvae of other species)	CALLIPHORIDAE: CHRYSOMYINAE *Chrysomya rufifacies* (Macquart) Patton, 1922 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga* Meigen Patton, 1922
Protophormia terraenovae (Robineau-Desvoidy) (Synonym: *Phormia groenlandica*) (interspecific larval competition)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Vladimirova et al., 1938
Phaenicia cuprina Wiedemann (Synonym: *Lucilia cuprina*) (hybridization)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Mackerras, 1933
Calliphora Robineau-Desvoidy (interspecific larval competition)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Salt, 1932
SARCOPHAGIDAE	
Ravinia striata Fabricius (interspecific larval competition)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Sychevskaĭa, 1954

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Ravinia striata (cont.)	*Fannia leucosticta* (Meigen) Sychevskaîâ, 1954 *Fannia scalaris* (Fabricius) Sychevskaîâ, 1954 *Fannia subscalaris* Zimin Sychevskaîâ, 1954
Sarcophaga Meigen (interspecific larval competition)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Salt, 1932
Sarcophaga haemorrhoidalis (Fallén) (interspecific larval competition)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Sychevskaîâ, 1954 *Fannia leucosticta* (Meigen) Sychevskaîâ, 1954 *Fannia scalaris* (Fabricius) Sychevskaîâ, 1954 *Fannia subscalaris* Zimin Sychevskaîâ, 1954
UNDETERMINED SARCOPHAGIDAE (interspecific larval competition)	CALLIPHORIDAE: CALLIPHORINAE *Phaenicia sericata* (Meigen) Holdaway, 1930
CUTEREBRIDAE *Dermatobia hominis* (Linnaeus) (phoresy: *D. hominis* eggs carried by other species of flies)	ANTHOMYIIDAE: ANTHOMYIINAE *Anthomyia lindigii* Schiner Lutz, 1917 MUSCIDAE: LIMNOPHORINAE *Limnophora* Robineau-Desvoidy Dunn, 1930 Neel et al., 1955 MUSCIDAE: MUSCINAE *Synthesiomyia nudiseta* (Wulp) Lutz, 1917 *Sarcopromusca arcuata* Townsend Lins de Almeida, 1933 *Musca* Linnaeus Townsend, 1922 *Musca domestica* Linnaeus Neiva et al., 1917 Neel et al., 1955 Zeledón, 1957 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Neiva et al., 1917 Neel et al., 1955 Zeledón, 1957 UNDETERMINED MUSCIDAE Neel et al., 1955

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Dermatobia hominis (cont.)	CALLIPHORIDAE: CHRYSOMYINAE *Cochliomyia macellaria* (Fabricius) Lins de Almeida, 1933 Neel et al., 1955 CALLIPHORIDAE: CALLIPHORINAE *Phaenicia eximia* (Wiedemann) Blanchard, 1899 SARCOPHAGIDAE: SARCOPHAGINAE *Blaesoxipha plinthopyga* (Wiedemann) Blanchard, 1899 *Sarcophaga wiedemanni* Aldrich Blanchard, 1899
DISCOGLOSSIDAE	
Discoglossus pictus Otth (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
BUFONIDAE	
Bufo mauritanicus Schlegel (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
Bufo viridis Laurenti (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
HYLIDAE	
Hyla viridis Laurenti var. *grisea* (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
RANIDAE	
Rana ridibunda Pallas (Synonym: *Rana viridis* var. *rudibunda*) (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
AGAMIDAE	
Agama agilis Olivier (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
SCINCIDAE	
Chalcides tridactylus Gray (Synonym: *Sceps tridactylites*) (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
LACERTIDAE	
Acanthodactylus boskianus (Lichtenstein) (predator of adult flies)	MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Surcouf, 1923
Lacerta agilis Linnaeus (predator of adult flies)	MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Antonov, 1945

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PHASIANIDAE

Gallus gallus Linnaeus (predator)

MUSCIDAE: FANNIINAE
Fannia Robineau-Desvoidy
Rodriguez et al., 1962b
MUSCIDAE: PHAONIINAE
Ophyra Robineau-Desvoidy
Rodriguez et al., 1962b
Muscina Robineau-Desvoidy
Rodriguez et al., 1962b
MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Bushnell et al., 1924
Rodriguez et al., 1962b
MUSCIDAE: STOMOXYINAE
Stomoxys calcitrans (Linnaeus)
Bushnell et al., 1924

HIRUNDINIDAE

Delichon urbica (Linnaeus) subsp. *urbica* (Synonym: *Hirundo urbica*) (maggots breeding in nest)

SCENOPINIDAE
Scenopinus fenestralis (Linnaeus)
Séguy, 1929
MUSCIDAE: FANNIINAE
Fannia scalaris (Fabricius)
Séguy, 1929
MUSCIDAE: PHAONIINAE
Ophyra leucostoma (Wiedemann)
Séguy, 1929
Muscina stabulans (Fallén)
Séguy, 1929
MUSCIDAE: MUSCINAE
Musca domestica Linnaeus
Séguy, 1929
CALLIPHORIDAE: CHRYSOMYINAE
Phormia regina (Meigen)
Séguy, 1929
CALLIPHORIDAE: CALLIPHORINAE
Calliphora vicina Robineau-Desvoidy
Séguy, 1929

Hirundo rustica Linnaeus subsp. *rustica* (Synonym: *Chelidon rustica*) (maggots breeding in nest)

SCENOPINIDAE
Scenopinus albicincta (Rossi)
Séguy, 1929
Scenopinus fenestralis (Linnaeus)
Séguy, 1929
Scenopinus senilis (Fabricius)
Séguy, 1929
MUSCIDAE: FANNIINAE
Fannia canicularis (Linnaeus)
Séguy, 1929
Fannia scalaris (Fabricius)
Séguy, 1929

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Hirundo rustica rustica (cont.)	MUSCIDAE: PHAONIINAE *Ophyra leucostoma* (Wiedemann) Séguy, 1929 *Muscina stabulans* (Fallén) Séguy, 1929 MUSCIDAE: MUSCINAE *Musca domestica* Linnaeus Séguy, 1929 MUSCIDAE: STOMOXYINAE *Stomoxys calcitrans* (Linnaeus) Séguy, 1929 CALLIPHORIDAE: CHRYSOMYINAE *Phormia regina* (Meigen) Séguy, 1929 CALLIPHORIDAE: CALLIPHORINAE *Calliphora vicina* Robineau-Desvoidy Séguy, 1929 SARCOPHAGIDAE: SARCOPHAGINAE *Sarcophaga melanura* Meigen Séguy, 1929
PARIDAE	
Aegithalus caudatus . . . . . (Linnaeus) (maggots breeding in nest)	ANTHOMYIIDAE: ANTHOMYIINAE *Anthomyia pluvialis* (Linnaeus) Séguy, 1929
Parus caeruleus . . . . . Linnaeus subsp. *caeruleus* (Synonym: *Parus caeruleus*) (maggots breeding in nest)	PHORIDAE: METOPININAE *Megaselia rufipes* (Meigen) Séguy, 1929 ANTHOMYIIDAE: ANTHOMYIINAE *Anthomyia pluvialis* (Linnaeus) Séguy, 1929 MUSCIDAE: MYDAEINAE *Mydaea pertusa* Meigen Séguy, 1929
UNDETERMINED PARIDAE (Synonym: Titmouse) (maggots breeding in nest)	MUSCIDAE: FANNIINAE *Fannia incisurata* (Zetterstedt) Séguy, 1929 MUSCIDAE: PHAONIINAE *Phaonia querceti* (Bouché) Séguy, 1929
TURDIDAE	
Luscinia megarhynchos Brehm (Synonym: Nightingale) (maggots breeding in nest)	MUSCIDAE: FANNIINAE *Fannia canicularis* (Linnaeus) Séguy, 1929
MUSCICAPIDAE	
Leucocira leucophrys (Latham) (Synonym: *Rhipidura tricolor*) (predator)	UNDETERMINED CALLIPHORIDAE Blow flies Froggatt et al., 1917

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STURNIDAE	
Sturnus vulgaris Linnaeus	SCENOPINIDAE
(maggots breeding in nest)	*Scenopinus glabrifrons* Meigen
	Séguy, 1929
	ANTHOMYIIDAE: ANTHOMYIINAE
	Anthomyia pluvialis (Linnaeus)
	Séguy, 1929
	MUSCIDAE: FANNIINAE
	Fannia lineata Stein
	Séguy, 1929
	MUSCIDAE: PHAONIINAE
	Muscina stabulans (Fallén)
	Séguy, 1929
UNDETERMINED	
STURNIDAE	MUSCIDAE: STOMOXYINAE
(Synonym: Mynah birds)	*Stomoxys* Geoffroy
(maggots breeding in nest)	Fletcher, 1920
MELIPHAGIDAE	
Melliphaga penicillata Gould	UNDETERMINED CALLIPHORIDAE
(Synonym: *Ptilotis penicillata*)	Blow flies
(predator)	Froggatt et al., 1917
Myzantha melanocephala	UNDETERMINED CALLIPHORIDAE
(Synonym: *Myzantha garrula*)	Blow flies
(predator)	Froggatt et al., 1917
FRINGILLIDAE	
Fringilla coelebs Linnaeus	ANTHOMYIIDAE: ANTHOMYIINAE
(Synonym: *Fringilla caelebs*)	*Anthomyia pluvialis* (Linnaeus)
(maggots breeding in nest)	Séguy, 1929
PLOCEIDAE	
Passer domesticus (Linnaeus)	SCENOPINIDAE
(maggots breeding in nest)	*Scenopinus bouvieri* (Séguy)
	Séguy, 1929
	Scenopinus senilis (Fabricius)
	Séguy, 1929
	ANTHOMYIIDAE: ANTHOMYIINAE
	Anthomyia pluvialis (Linnaeus)
	Séguy, 1929
	MUSCIDAE: FANNIINAE
	Fannia scalaris (Fabricius)
	Séguy, 1929
UNDETERMINED	
PLOCEIDAE	CALLIPHORIDAE: CALLIPHORINAE
(Synonym: Sparrow)	*Lucilia illustris* (Meigen)
(maggots breeding in nest)	Séguy, 1929
MURIDAE	
Apodemus sylvaticus Linnaeus	SCENOPINIDAE
(Synonym: *Mus silvaticus*)	*Scenopinus fenestralis* (Linnaeus)
(maggots breeding in mouse nest)	Séguy, 1929
UNDETERMINED GLIRIDAE	MUSCIDAE: FANNIINAE
(Synonym: Dormouse)	*Fannia canicularis* (Linnaeus)
(maggots in Dormouse cage)	Hewitt, 1912

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