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BY

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KEY-CATALOGUE

OF

INSECTS OF IMPORTANCE IN PUBLIC HEALTH [2]

By C. W. STILES, *Professor of Zoology, Hygienic Laboratory, United States Public Health Service*, and ALBERT HASSALL, *Zoologist, United States Bureau of Animal Industry*

INTRODUCTION

This paper represents part 4 of Stiles and Hassall's Host Catalogue, Index Catalogue of Medical and Veterinary Zoology. It has been prepared in its present style for use by the class in medical zoology at the Hygienic Laboratory.

Collaborators.—Clara Edith Baker, A. B., Asenath Graves, Mabelle B. Orleman, A. B., Lucy Reardon, M. A., Nell R. Roberts, A. B., and Alma J. Speer, M. A., Hygienic Laboratory, have cooperated in preparation of the final manuscript, typewriting the folios from the entry cards, and reverifying many references.

Acknowledgments.—The body (pp. 311 to 397) of this bulletin is based on notes and observations collected (on the card-catalogue system) by the two authors since 1891. In preparation of the manuscript from this mass of material, an effort has been made to reverify as many of the original discussions as possible. In digesting the data it naturally became necessary to work out the nomenclature and synonymy together with the genotypes and the original authorities for the technical names as exactly as possible; for this purpose, Sherborn's wonderful *Index Animalium* was used as starting point; the Nomenclators by Agassiz, Marshall, Schulze (et al.), Scudder, and Waterhouse, were next consulted; the data were then checked against various lists of genotype designations by Latreille (1810a), Curtis, Westwood (1841a), Van Duzee (1917a), Wheeler, Howard, Dyar & Knab, Coquillett (1910a), etc.; further references were obtained from the Zoological Record and from various monographs. An effort was next made to reverify as many of the dates and places of publication as possible in so far as the literature was available in the Washington libraries, and special acknowledgments are due to the Smithsonian deposit of the Library of Congress, the main library of the United States Department of Agriculture, and the library of the Bureau of Entomology, for opportunity to consult the literature.

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[2] Manuscript submitted for publication July 26, 1927.

There still remained a considerable number of references in connection with which it became necessary to consult specialists on the groups in question, and in this connection special acknowledgments are due to H. S. Barber, E. A. Chapin, A. N. Caudell, R. A. Cushman, H. G. Dyar, A. B. Gahan, C. T. Greene, Carl Heinrich, and William G. Schaus (all of the United States Bureau of Entomology) for courtesies extended to us in this connection. At the end of this routine, there still remain a few references which (for various reasons) could not be checked against the original place of publication.

It is to be recalled that some of the records are of very early date, when conceptions of generic and of specific limits were less specialized than obtains to-day, and on this account some of these entries are naturally subject to confirmation on basis of further observations. Further, some of the medical literature has been written by men who were not specialists in zoology and who, very naturally, did not have the viewpoint of the present-day taxonomist.

As far as we are aware, this is the first attempt that has been made to bring together in condensed, systematized form, the fundamental data of the entire subject of entomology as applied to public health.

It is obvious that no catalogue of this kind can claim to be absolutely complete or final, although the combined catalogues of the Divisions of Zoology of the Bureau of Animal Industry and of the Hygienic Laboratory contain hundreds of thousands of references to the world's literature of zoology, human and comparative medicine, and public health. We will appreciate it if users of this catalogue call our attention to omissions or to differences of interpretations, so that addenda and corrigenda can be issued later.

Because of disagreement in entomological literature it has been necessary to use a double nomenclature in a number of superspecific groups.

How to use the catalogue.—See pp. 1–4, Bulletin 140, Key-Catalogue of the Protozoa reported for man.

The pagination of the present Key-Catalogue (Bull. 150) is continuous with that of Bulletin 148.

It is obvious that a catalogue of this kind can not give discussions of the entries. The work is intended to present a fairly comprehensive working reference index to the subject of medical and veterinary zoology, and as such must be contracted to a practical bulk for publication. In order to make it more useful to scientific workers, various abbreviations are used and an effort is made to designate the status of some of the names by use of type, as follows:

CAPS are used for systematic names above the superfamilies.

SMALL CAPS are used for valid, available, and in some cases for dead superfamily names (ending in OIDEA), family names (ending IDAE), and subfamily names (ending INAE).

Italics are used for—

(1) Generic names which have a definitely *valid*, or an *available* status for the species quoted in connection with said generic name, or are considered *sub judice;* i. e., they are not definitely known to be dead.

(2) Specific names which have a definitely *valid*, or at least an *available* status for the parasite in question, or are *sub judice;* i. e., they are not definitely known to be dead.

Roman type, lower case, is used for—

(1) Generic names which have a definitely *unavailable* (hence dead) status (as homonyms, or because of advances in classification) in connection with the species quoted with said generic name under the host cited.

(2) Specific names which are definitely *unavailable* (hence dead) for the parasites in question, especially as applied to the reported occurrence in the host cited.

In order to simplify the lists of species, the synonyms—when a considerable number are more or less generally recognized—are placed in footnotes; if the synonyms are only few in number they are cited in the text in order to save expense in printing.

For special information, in connection with some of the names, the following signs and abbreviations are used—*but their absence from any given entry has no significance.*

† In this and the companion key-catalogues, now in preparation, to the parasites of animals other than man, the dagger (†) is used before superspecific names to signify that characters, diagnoses, or other data regarding these superspecific groups are to be found in the key-catalogues of the parasites of man; when used before a specific name in the companion key-catalogues it signifies that the species in question has been reported for man. Thus the key-catalogues to the protozoa, the worms, and the arthropods of *Homo* are taken as bases for all the companion numbers. Groups not reported under *Homo* are diagnosed or keyed under the first host for which they are cited in these keys, or under one of the important domesticated animals or under the type host of the type species of the genus of parasites, according to circumstances.

* This species has been reported for this host for the United States.

? Doubts have been expressed or exist as to the name of the specific or to the generic determination.

[ ] The use of brackets around a specific entry signifies that the species has been classified, either as a synonym or otherwise, under the genus cited above but that our card catalogue contains no citation of an actual binominal combination with the generic name in question, and the present citation is not to be construed as a new binominal combination.

♂ Male.

♀ Female.

⚥ Hermaphrodite.

[a] Name is antedated by another available name, hence it is a synonym.

[b] Better or preferred name, under present nomenclatorial data.

[c] A variant or changed spelling, used by some authors; it should be eliminated from future literature except in direct quotation or historical data such as reviews and tables of synonymy.

[d] Dead name; it should be eliminated from future literature except in direct quotation or historical data such as reviews and tables of synonymy.

[e] Emendation of name originally printed with some other spelling.

Etd. or etd. Erroneous type designation, including pseudotype.[3]

[h] Homonym, hence dead name; see also [d].

[j] Name or systematic position is *sub judice* for this species or other unit quoted.

[l] Name used in a broad taxonomic sense (*sensu lato*), as of earlier authors, especially prior to 1870.

[m] Obvious misprint; see [d].

Mt. or mt. Type by monotypy; i. e., only one definite species was cited at time of original publication of generic name. Same as haplotype, monogenotype, monobasic. Art. 30c.

[n] No opinion expressed here.

[nv] Not verified.

[o] Objective (absolute) synonym, as in case of renaming a genus or species, or the genus has the same type species as an earlier named genus.

[p] Polynomial name, hence dead name; see [d].

[r] Name used in restricted taxonomic sense (*sensu restricto*), as of later authors, especially since 1900.

[s] Subjective synonym, generally admitted as such or at least by some authors.

seu Or.

So. or so. Synonym of.

[t] Type species of genus, or type locality, or type host.

Tat. or tat. Type by absolute tautonymy. Art. 30d (International Rules).

Tod. or tod. Type by original designation.[4] Same as orthotype, autogenotype. Art. 30a.

Tpd. or tpd. Type by present designation. Art. 30g.

Tsd. or tsd. Type by subsequent designation. Same as logotype, idiogenotype. Art. 30g.

[v] Valid name under International Rules.

Homo sapiens Linn., 1758a. World-wide.—Man; l'Homme; der Mensch; l'Uomo; el Hombre.

Public-health relations of insects.—For purposes of ready reference, the various insects cited in this Key-Catalogue are here cross-referenced in respect to their alleged, experimental, known, and speculative relations to various aspects of public health, alphabetically as follows:

A, biting insects; B, on cadavers or in graves; C, control of public-health pests; D, dermatology (lesions, dermatitis, eruptions, exanthema, parasites, urticaria); E, edible (food, drink); F, excreta; G, food and drink; H, jurisprudence; I, laity (fear, superstition); J, parasites and pseudoparasites (abdomen, ear, external, eye, head,

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[3] Lindholm, 1925, Zool. Anz., v. 63, 161, distinguishes—

Genotypi falsi, to include—

Paragenotype, erroneous type by subsequent designation;

Plesiogenotype, ditto under Art. 30e γ (International Rules of Zoological Nomenclature); i. e., species which the author of the genus doubtfully referred to it;

Pseudogenotype, ditto under Art. 30e α; i. e., species which were not included under the generic name at the time of its original publication.

[4] Diatype is used by some authors to signify type of a genus substituted for a homonym.

Apogenotype is used by some authors to signify type by renaming, including diatype.

intestine, miscellaneous, mouth, nose, stomach, subcutaneous, throat, urinary system); K, pests (books, clothes, drugs, records, miscellaneous); L, pinching insects; M, poisons (arrows, defensive, food, spines, miscellaneous); N, pollution (air, water); O, stinging insects; P, therapeutics (lay, professional); Q, vectors (Aspergillus, bacteria, filth, *PROTOZOA*, *TREMATODA*, *CESTODA*, *NEMATODA*, *ACANTHOCEPHALA*, *INSECTA*).

A. Biting Insects.—There is considerable confusion in literature in the zoological use of the word "bite."

"*To bite*" means to seize with the teeth, so that the latter enter or nip the thing seized. In an extended sense it means to puncture, abrade, sting, or prick with an organ *used in taking food.*

"*To chew*" means to bite and grind with the teeth.

"*To pierce*" means to thrust into, penetrate, or transfix with a pointed instrument.

"*To pinch*" means to press hard or squeeze between the ends of the fingers, between teeth or claws, or between the jaws of an instrument.

"*To prick*" means to pierce slightly.

"*To sting*" means to pierce or wound with a sting, such as bees have on the tail end of the body.

The "bites" of insects are of various kinds, due to differences in their mouth parts. Thus—

Chewing mouth parts are present in the †1051 *THYSANURA*, †1059 *COLLEMBOLA*, †1070 *ORTHOPTERA*, †1086 *ISOPTERA*, †1089 *NEUROPTERA*, †1090 *EPHEMERIDA* (in naiad stage), †1091 *ODONATA*, †1092 *PLECOPTERA*, †1093 *CORRODENTIA*, †1097 *MALLOPHAGA*, †1101 *EMBIIDINA*, †1171 *DERMAPTERA*, †1178 *COLEOPTERA*, †1327 *MECOPTERA*, and †1328 *TRICHOPTERA* (larvae).

Chewing or chewing and sucking mouth parts, and sting on tail, are found in †1640 *HYMENOPTERA*.

Piercing and sucking mouth parts are found in the †1059 (some) *COLLEMBOLA* (†1060 some PODURIDAE), †1102 *THYSANOPTERA*, †1103 *ANOPLURA*, †1113 *HEMIPTERA*, †1163 *HOMOPTERA*, †1437 *DIPTERA* (some), and †1621 *SIPHONAPTERA*.

Sucking mouth parts are found in the †1331 *LEPIDOPTERA* and †1437 *DIPTERA*.

Vestigial mouth parts are found in the †1090 *EPHEMERIDA* (adult), †1326 *STREPSIPTERA* (mouth parts may be absent), and †1328 *TRICHOPTERA* (adults).

Insects in the act of biting are in many cases definitely known to play a rôle in inoculating diseases into man, and the question naturally arises whether they do not in some cases inoculate into man the germs of some diseases of animals other than man, but possibly these germs do not find optimum conditions for their life cycle, and therefore produce only slight or abortive disease.

†1070 *ORTHOPTERA* (chew): †1079 *Blatta;* †1077 BLATTIDAE; †1072 *Orchelimum;* †1080 *Periplaneta;* †1072 *Stenopelmatus.*

†1113 *HEMIPTERA* (pierce and suck): †1129 *Anthocoris;* †1140 *Aphelonotus;* †1142B *Apiomerus;* †1143 *Arilus;* †1122 *Belostoma;* †1121 BELOSTOMIDAE; †1125B *Brachynotocoris;* †1133 *Cimex;* †1157 *Clerada;* †1156 *Dysdercus;* †1162 *Dysodius;* †1144 *Ectomocoris;* †1145 *Eratyrus;* †1146 *Eulyes;* †1159 *Geocoris;* †1134 *Haematosiphon;* †1147 *Lamus;* †1135 *Leptocimex;* †1160 *Leptodemus;* †1123 *Lethocerus;* †1136 *Loxaspis;* †1130 *Lyctocoris;* †1148 *Melanolestes;* †1139 *Nabis;* †1120 *Nepa;* †1118 *Notonecta;* †1117 NOTONECTIDAE; †1137 *Oeciacus;* †1149 *Phonergates;* †1127 *Plagiognathus;* †1141 REDUVIIDAE; †1142A *Reduvius;* †1150 *Rahasus;* †1451 *Rhodnius;* †1152 *Rhyncoris;* †1153 *Triatoma;* †1126 *Trigonotylus;* †1131 *Triphleps;* †1154 *Vescia.*

†1163 *HOMOPTERA* (pierce and suck): †1168 *Nephotettix;* †1167 *Phrynomorphus.*

†1437 *DIPTERA* (pierce and suck): †1459 *Aëdes;* †1460 *Anopheles;* †1580 *Auchmeromyia;* †1596 *Bdellolarynx;* †1450 *Ceratopogon;* †1488 *Chrysops;* †1458 *Culex;* †1451 *Culicoides;* †1461 *Culiseta;* †1481 *Eusimulium;* †1601 *Glossina;* †1602 *Haematobia;* †1452 *Haematomyidium;* †1489 *Haematopota;* †1551 *Hippelates;* †1490 *Lepiselaga;* †1454 *Leptoconops;* †1603 *Lyperosiops;* †1456 *Mansonia;* †1456 *Oecacta;* †1455 *Mycterotypus;* †1491 *Pangonius;* †1446 *Pericoma;* †1447 *Phlebotomus;* †1608 *Philaetomyia;* †1483 *Prosimulium;* †1585 *Protocalliphora;* †1469 *Psorophora;* †1453 *Serromyia;* †1479 SIMULIIDAE; †1480 *Simulium;* †1493 *Silvius;* †1613 *Stomoxys;* †1614 *Stygeromyia;* †1498 *Symphoromyia;* †1487 *Tabanus;* †1454 *Tersesthes;* †1471 *Uranotaenia;* †1472 *Wyeomyia.*

†1640 *HYMENOPTERA* (chew or chew and suck): †1681 *Formica;* †1670 *Myrmica;* †1679 *Oecophylla;* †1676 *Tetramorium;* †1690 *Vespa.*

B. On Cadavers or in Graves.—Many insects are attracted to dead human bodies. The lay conception that the dead are consumed by "worms" is based upon the fact that wormlike larvae of insects feed upon the dead. As a matter of experience, true †11 worms are rarely reported either in exposed cadavers or in graves. The question as to the presence of free living †331 nematodes in cadavers has, however, not yet been investigated.

Mégnin [5] (1895) has turned the presence of these insects to "medico-legal" account (zoological jurisprudence [6]), in case of murders. On basis of the kinds of insects present, he estimates the length of time a body has been dead and thus obtains a possible clew in certain cases of murder.

American authors, notably Motter (1898a) and Johnston & Villeneuve (1897a), studying chiefly the insects in graves, have not been able to confirm the medico-legal [6] (i. e., zoo-legal [6]) value of

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[5] Mégnin, 1895, La Faune des Cadavres. Paris. 214 pp., 28 figs.

Motter, 1898a, A Contribution to the Study of the Fauna of the Grave [etc.]<J. N. Y. Ent. Soc., v. 6 (4), 201–231.

Johnston (Wyatt) & Villeneuve (George), 1897a, On the medico-legal application of entomology<Montreal M. J., v. 26 (2), Aug., pp. 81–90, figs. 1–3.

[6] The terms "medico-legal" and "medical jurisprudence" are in more or less general use, but in their broader application they are misnomers. Numerous instances so classified have nothing whatever to do with medicine but are zoological in nature. The substantive expression "zoological jurisprudence" and the adjectival term "zoo-legal" (contracted for euphony from "zoologo-legal") are much more exact in very many instances.

the insects as applied to buried bodies. In fact, the data would probably vary to such an extent, according to climate, that the French theory appears to be exceedingly limited, if of any value, in its practical application.

The following insects have been reported:

†1051 *THYSANURA:* †1058 *Japyx.*

†1059 *COLLEMBOLA:* †1062 *Achorutes;* †1064 *Entomobrya;* †1065 *Lepidocyrtus;* †1067 *Templetonia.*

†1086 *ISOPTERA:* †1088 *Termes.*

†1163 *HOMOPTERA:* †1170 *Ripersia.*

†1178 *COLEOPTERA:* †1203 *Actobius;* †1253 *Anthrenus;* †1254 *Attagenus;* †1221B *Batrisodes;* †1235 *Corynetes;* †1252 *Dermestes;* †1185 *Dicaelus;* †1246 ELATERIDAE; †1206 *Eleusis;* †1186 *Harpalus;* †1207 *Homalota;* †1295 *Lachnosterna;* †1209 *Lathrobium;* †1248 *Monocrepidius;* †1236 *Necrobia;* †1211 *Neobisnius;* †1215 *Paederus;* †1216 *Philonthus;* †1276 *Ptinus;* †1263 *Rhizophagus;* †1187 *Schizogenius;* †1198 *Silpha;* †1325 *Sphenophorus;* †1201 STAPHILINIDAE; †1202 *Staphilinus;* †1269 *Tenebrio;* †1258 *Tenebroides.*

†1331 *LEPIDOPTERA:* †1368 *Aglossa;* †1355 *Tinea;* †1357 *Tineola.*

†1437 *DIPTERA:* †1560 *Anthomyia;* †1528 BORBORIDAE; †1579 *Calliphora;* †1581A *Cochliomyia;* †1512 *?Conicera;* †1554 *Drosophila;* †1562 *Fannia;* †1223 *Hister;* †1530 *Limosina;* †1533 *Lonchaea;* †1583 *Lucilia;* †1595 *Musca;* †1199 *Necrodes;* †1200 *Necrophorus;* †1568 *Ophyra;* †1510 *Phora;* †1509 PHORIDAE; †1543 *Piophila;* †1587 *Sarcophaga;* †1494 STRATIOMYIDAE; †1514 *Thyreophora.*

†1640 *HYMENOPTERA:* †1671 *Aphaenogaster;* †1682 *Camponotus;* †1672 *Crematogaster;* †1683 *Lasius;* †1673 *Monomorium.*

C. Control of public-health pests.—Insect life represents a continuous war, involving destruction, killing, slavery, torture, etc. Although much of this antagonism is directed against mankind, instances are not unknown in which the brutal (yet biologically natural) instinct of insects is of actual practical benefit to man. Thus, numerous insects parasitize or prey upon the insects which are antagonistic to human progress or welfare. To give a list of all of the enemies and parasites of insects injurious to man would take this catalogue far beyond its present scope, but the following are of immediate interest:

Control of insects in excreta.—Control of †1564 *Hydrotaea;* †1605 *Muscina;* †1568 *Ophyra,* found in studies on privy excreta.

†1640 *HYMENOPTERA:* †1650 *Aphaereta.*

Control of pests and parasites, aids in:

Of †863 *Ornithodoros moubata.*—†1113 *HEMIPTERA:* †1149 *Phonergates.*

Of †1595 *Musca.*—†1640 *HYMENOPTERA:* †1674 *Pheidole.*

Of †1457 CULICIDAE.—†1091 *ODONATA,* dragon flies.

D. Dermatology, insects of importance in.—Some insects may be parasites (see J) on or in the skin. Others cause various skin lesions by their bites (see A), by stings (see O), by poison spines (see M), or by causing urticaria (see D), etc.

Skin, dermatitis.—†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.
†1103 *ANOPLURA:* †1107 *Phthirus.*
†1178 *COLEOPTERA:* †1184 *Brachinus;* †1243 *Epicauta;* †1244A *Lytta;* †1244B *Mylabris.*
†1331 *LEPIDOPTERA:* †1435 *Adolia;* †1387 *Arctornis;* †1386B *Liparis.*

Skin, dermatitis, vesicular.—†1178 *COLEOPTERA:* †1229 *Cantharis;* †1214 *Paederidus;* †1215 *Paederus.*

Skin, eruptions.—†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.
†1331 *LEPIDOPTERA:* †1401 ARCTIIDAE.

Skin, exanthema.—†1640 *HYMENOPTERA:* †1647 *Bracon.*

Skin, lesions.—†1640 *HYMENOPTERA:* †1680 FORMICINAE.

Skin, parasites of.—See J.

Skin, urticaria, tingling sensation.—†1331 *LEPIDOPTERA:* †1377 *Acherontia;* †1398 *Acronycta;* †1343 *Adoneta;* †1418 *Anisota;* †1402 *Arctia;* †1387 *Arctornis;* †1413 *Automeris;* †1420 *Bombyx;* †1339 *Carama;* †1421 *Clisiocampa;* †1344 *Coenobasis;* †1414 *Cricula;* †1388 *Dasychira;* †1378 *Deilephila;* †1424 *Dendrolimus;* †1345 *Doratifera;* †1404 *Eilema;* †1342 *Euclea;* †1341 EUCLEIDAE; †1405 *Halisidota;* †1389 *Hemerocampa;* †1415 *Hemileuca;* †1416A *Hylesia;* †1340 *Lagoa;* †1423 *Lasiocampa;* †1433 *Leptalis;* †1390 *Leucoma;* †1386A *Lymantria;* †1425 *Macrothylacia;* †1338 *Megalopyge;* †1346 *Monoleuca;* †1347 *Natada;* †1391 *Nygmia;* †1392 *Ocneria;* †1393 *Olene;* †1394 *Orgyia;* †1348 *Packardia;* †1429 PAPILIONIDAE; †1349 *Parasa;* †1378 *Pergesa;* †1350 *Phobetron;* †1395 *Porthetria;* †1416B *Pseudohazis;* †1412 *Saturnia;* †1382 *Schizura;* †1351 *Sibine;* †1383 *Stauropus;* †1426 *Taragama;* †1384 *Thaumetopoea.*

E. Edible, used as food.—Many insects are used as food by more or less primitive people. As a matter of fact, some kinds of insects, properly prepared, might well be used as food by civilized people. There should be no more objection to eating certain insects than there is to eating crabs, snails, etc.

Used as food.—
†1070 *ORTHOPTERA:* †1077 BLATTIDAE; †1073A GRYLLIDAE; †1072 LOCUSTIDAE; †1075A PHASMIDAE.
†1113 *HEMIPTERA:* †1116 *Corixa;* †1165B *Tibicina.*
†1178 *COLEOPTERA:* †1308 *Ancylonotus;* †1271 *Blaps;* †1323 *Larinus;* †1310 *Macrodontia;* †1244B *Mylabris;* †1323 *Rhynchophorus;* †1198 *Silpha.*
†1331 *LEPIDOPTERA:* †1400 *Euxoa.*
†1640 *HYMENOPTERA:* †1682 *Camponotus;* †1684 *Myrmecocystus.*

Fermented for alcoholic drink.—†1640 *HYMENOPTERA:* †1684 *Myrmecocystus.*

F. Excreta, feces.—Many insects breed in or feed upon human excreta,[7] therefore they are actual or potential carriers of bacteria and filth to food.

†1178 *COLEOPTERA:* †1204 *Aleochara;* †1286 *Anomala;* †1288 *Aphodius;* †1289 *Ataenius;* †1205 *Atheta;* †1291 *Canthon;* †1182 *Celia;* †1195 *Cercyon;* †1294 *Geotrupes;* †1223 *Hister;* †1207 *Homalota;* †1208 *Hoplandria;* †1295 *Lachnosterna;* †1210 *Microglossa;* †1212 *Omalium;*

[7] Many of the species collected in this country are pictured by Howard, 1900, A Contribution to the Study of the Insect Fauna of Human Excrement. [With especial reference to the spread of Typhoid Fever by Flies.]<Proc. Wash. Acad. of Sciences, v. 2, pp. 541–604.

†1261 *Omosita;* †1297 *Onthophagus;* †1213 *Oxytelus;* †1299 *Phanaeus,* †1216 *Philonthus;* †1217 *Platystethus;* †1218 *Quedius;* †1224 *Saprinus;* †1198 *Silpha;* †1202 *Staphylinus;* †1189 *Stenolophus;* †1219 *Tachinus;* †1220 *Trichiusa;* †1302 *Trox;* †1225 *Xestipyge.*

†1331 *LEPIDOPTERA:* †1430 *Papilio.*

†1437 *DIPTERA:* †1559B Anthomyiidae; †1476 Bibionidae; †1529 *Borborus;* †1579 *Calliphora;* †1538 *Calobata;* †1450 *Ceratopogon;* †1556 *Cerodontha;* †1449 *Chironomus;* †1581A *Cochliomyia;* †1561 *Coenosia;* †1582 *Cynomya;* †1557 *Desmometopa;* †1502 *Diaphorus;* †1545 *Discocerina;* †1554 *Drosophila;* †1550 *Elachiptera;* †1535 *Euxesta;* †1562 *Fannia;* †1563 *Fucellia;* †1526 *Heleomyza;* †1589 *Helicobia;* †1513 *Hermetia;* †1551 *Hippelates;* †1546 *Hydrellia;* †1564 *Hydrotaea;* †1565 *Hylemya;* †1527 *Lentiphora;* †1442 *Limnobia;* †1566 *Limnophora;* †1530 *Limosina;* †1583 *Lucilia;* †1604 *Morellia;* †1595 *Musca;* †1605 *Muscina;* †1567 *Mydaea;* †1606 *Myospila;* †1541 *Nemopoda;* †1503 *Neurigona;* †1549 *Oscinis;* †1510 *Phora;* †1569 *Phorbia;* †1609 *Phormia;* †1610 *Pseudopyrellia;* †1612A *Pyrellia;* †1505 *Rhamphomyia;* †1536 *Rivellia;* †1547 *Scatella;* †1478 *Scathopse;* †1524 *Scatophaga;* †1540 *Sepsis;* †1531 *Sphaerocera;* †1613 *Stomoxys;* †1519 *Syritta;* †1506 *Tachydromia.*

†1640 *HYMENOPTERA:* †1649 *Alysia;* †1650 *Aphaereta;* †1706 *Apis;* †1704 *Bombus;* †1682 *Camponotus;* †1657C *Encyrtus;* †1701 *Halictus;* †1654 *Hexaplasta;* †1655 *Kleidotoma;* †1683 *Lasius;* †1665 *Ponera;* †1656A *Psilidora;* †1686 Teleomorium [m] for †1676 *Tetramorium;* †1656B *Xylosema.*

G. Food and drink, relations to.—Some insects are used as food (see E); many others live in and destroy foodstuffs and are therefore likely to be swallowed with the food; some are used in preparation of drinks (see E).

On butter, grease, lard.—

†1331 *LEPIDOPTERA:* †1368 *Aglossa.*

In cereals, flour, grain, or meal.—

†1051 *THYSANURA:* †1054 *Lepisma.*

†1070 *ORTHOPTERA:* †1079 *Blatta;* †1082 *Blattella.*

†1178 *COLEOPTERA:* †1254 *Attagenus;* †1266 *Oryzaephilus;* †1323 *Rhynchophorus;* †1324 *Sitophilus;* †1269 *Tenebrio;* †1258 *Tenebroides;* †1274 *Tribolium.*

†1331 *LEPIDOPTERA:* †1372 *Ephestia;* †1373 *Plodia;* †1367 *Pyralis;* †1359 *Sitotroga.*

On meats.—

†1178 *COLEOPTERA:* †1252 *Dermestes;* †1236 *Necrobia.*

†1437 *DIPTERA:* †1543 *Piophila.*

Milk, souring of.—

†1070 *ORTHOPTERA:* †1084 *Blattella.*

On peas.—

†1178 *COLEOPTERA:* †1314 *Bruchus.*

On sugar.—

†1051 *THYSANURA:* †1054 *Lepisma.*

†1640 *HYMENOPTERA:* †1673 *Monomorium.*

On various foods.—

†1051 *THYSANURA:* †1055 *Thermobia.*

†1070 *ORTHOPTERA:* †1079 *Blatta;* †1082 *Blattella.*

†1178 *COLEOPTERA:* †1317 *Aracaerus;* †1280 *Lasioderma;* †1281 *Sitodrepa.*

Water samples, sent to laboratory as found in drinking water.—
†1059 *COLLEMBOLA:* †1061 *Podura.*
†1171 *DERMAPTERA:* †1173 *Forficula.*
†1437 *DIPTERA:* †1474 *Sciara.*
Water, drinking, pollution of cistern.—
†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.

H. Jurisprudence, zoological (medico-legal aspects).—The possible zoo-legal (see footnote 4, p. 296) aspects of insects are still in the making, as far as actual court decisions are concerned. They involve especially the—

Law of nuisances, because of the fact that certain insects breed in—
Excreta (see F), as in the case of flies. This results in actual or potential—
Annoyance to the neighborhood or the community; with actual or potential—
Spread of—
Filth to food, which is thus deteriorated or spoiled; and—
Disease (see Q), such as typhoid fever and the dysenteries.
Water, as in the case of mosquitoes. This results in actual or potential—
Annoyance to the community, because of discomfort, loss of sleep, and decrease in property values; and
Spread of disease (see Q), such as—

Yellow fever. See †142 *Leptospira.*
Malaria. See †170 *Plasmodium;* †172 *Laverania.*
Dengue. See †212 *Plasmoeba.*
Filariasis. See †446 *Wuchereria.*

Criminal law, in murder cases.—See B, on Cadavers and in Graves.

I. Laity (popular) fear, lore, superstition.—Insect lore is of public health interest in so far as it influences popular belief in regard to death, diseases, injury, and health. Some of the ideas are unfounded; some are bizarre.

†1070 *ORTHOPTERA:* †1079 *Blatta;* †1077 BLATTIDAE (Bright's disease); †1075B MANTIDAE.
†1091 *ODONATA:* dragon flies.
†1093 *CORRODENTIA:* †1095 *Atropos.*
†1171 *DERMAPTERA:* †1173 *Forficula.*
†1178 *COLEOPTERA:* †1282 *Xestobium.*

J. Parasites and Pseudoparasites of Man.—Some insects, such as lice, are permanent true parasites of man; other insects, normally parasitic on animals other than man, occasionally become parasitic on man; some insects, such as mosquitoes and bedbugs, are temporarily parasitic on the human body in that they visit man to obtain food; still other insects are only accidentally and temporarily parasitic (pseudoparasites) on or in man.

Parasites of "abdomen" and "body cavity" (pseudoparasites):

†1178 *COLEOPTERA:* †1269 *Tenebrio.*
†1437 *DIPTERA:* †1560 *Anthomyia.*

Parasites of "chest" (pseudoparasites):

†1178 *COLEOPTERA:* †1320 *Curculio;* †1252 *Dermestes;* †1191 *Dytiscus*
†1437 *DIPTERA:* †1511 *Aphiochaeta;* †1495 *Stratiomys.*

Parasites of ear (true and pseudoparasites):

†1070 *ORTHOPTERA:* †1079 *Blatta;* †1084 *Blattella;* †1077 BLATTIDAE.
†1103 *ANOPLURA:* †1106 *Pediculus.*
†1171 *DERMAPTERA:* †1173 *Forficula.*
†1437 *DIPTERA:* †1560 *Anthomyia;* †1583 *Lucilia;* †1456 *Oecacta;* †1574 *Oestrus;* †1590 *Sarcophila;* †1591 *Wohlfahrtia.*

Parasites, external (true):

†1103 *ANOPLURA:* †1109 *Haematopinus;* †1106 *Pediculus;* †1107 *Phthirus.*
†1437 *DIPTERA:* †1457 CULICIDAE; †1617 *Hippobosca;* †1618 *Lipoptenus;* †1619 *Melophagus;* †1620 *Ornithomyia.*
†1621 *SIPHONAPTERA:* †1638 *Archaeopsyllus;* †1627 *Ceratophyllus;* †1639 *Ctenocephalus;* †1633 *Echidnophaga;* †1628 *Hoplopsyllus;* †1624 *Leptopsylla;* †1625C *Neopsylla;* †1635 *Pulex;* †1629 *Stivalius;* †1631 *Tunga;* †1636 *Xenopsylla.*

Parasites of eye (true and pseudoparasites), also insects in reference to conjunctivitis, Koch-Weeks bacillus, eyelashes, eyelids, oedema of eyelids, ophthalmia nodosa, sore eyes:

†1103 *ANOPLURA:* †1107 *Phthirus.*
†1178 *COLEOPTERA:* †1183 *Anthia;* †1236 *Necrobia.*
†1331 *LEPIDOPTERA:* †1381 *Cerura;* †1425 *Macrothylacia;* †1338 *Megalopyge;* †1391 *Nygmia.*
†1437 *DIPTERA:* †1579 *Calliphora;* †1599 *Cordylobia;* †1575 *Dermatobia;* †1517 *Eristalis;* †1551 *Hippelates;* †1564 *Hydrotaea;* †1576 *Hypoderma;* †1583 *Lucilia;* †1552 *Microneurum;* †1574 *Oestrus;* †1549 *Oscinis;* †1609 *Phormia;* †1611 *Pycnosoma;* †1587 *Sarcophaga;* †1593 *Tachina;* †1591 *Wohlfahrtia.*
†1640 *HYMENOPTERA:* †1673 *Monomorium.*

Parasites of head (true):

†1103 *ANOPLURA:* †1106 *Pediculus;* †1107 *Phthirus.*

Parasites of intestine (pseudoparasites), including parasites passed per anum:

†1171 *DERMAPTERA:* †1173 *Forficula.*
†1178 *COLEOPTERA:* †1288 *Aphodius;* †1271 *Blaps;* †1320 *Curculio;* †1252 *Dermestes;* †1297 *Onthophagus;* †1323 *Rhynchophorus;* †1324 *Sitophilus;* †1269 *Tenebrio.*
†1331 *LEPIDOPTERA:* †1368 *Aglossa;* †1362 *Carpocapsa.*
†1437 *DIPTERA:* †1560 *Anthomyia;* †1511 *Aphiochaeta;* †1579 *Calliphora;* †1538 *Calobata;* †1458 *Culex;* †1554 *Drosophila;* †1517 *Eristalis;* †1600 *Eumusca;* †1562 *Fannia;* †1572 *Gasterophilus;* †1518 *Heliophilus;* †1564 *Hydrotaea;* †1583 *Lucilia;* †1595 *Musca;* †1605 *Muscina;* †1543 *Piophila;* †1584 *Pollenia;* †1611 *Pycnosoma;* †1587 *Sarcophaga;* †1516 *Syrphus;* †1500 *Thereva;* †1441 TIPULIDAE.

Parasites, miscellaneous (pseudoparasites):

†1059 *COLLEMBOLA:* †1066 *Seira.*
†1178 *COLEOPTERA:* †1247 *Agrypnus;* †1254 *Attagenus;* †1241 *Meloe;* †1297 *Onthophagus.*
†1331 *LEPIDOPTERA:* †1372 *Ephestia;* †1373 *Plodia.*
†1437 *DIPTERA:* †1560 *Anthomyia.*

Parasites of mouth (true and pseudoparasites):

†1070 *ORTHOPTERA:* †1084 *Blatta* (in sputum).
†1437 *DIPTERA:* †1581A *Cochliomyia;* †1574 *Oestrus;* †1611 *Pycnosoma;* †1591 *Wohlfahrtia.*
†1640 *HYMENOPTERA:* †1678 *Iridomyrmex.*

Parasites of nose, nostrils, and frontal sinus (true and pseudoparasites):

†1178 *COLEOPTERA:* †1269 *Tenebrio.*
†1331 *LEPIDOPTERA:* †1368 *Aglossa.*
†1437 *DIPTERA:* †1579 *Calliphora;* †1581B *Callitroga;* †1581A *Cochliomyia;* †1517 *Eristalis;* †1564 *Hydrotaea;* †1456 *Oecacta;* †1574 *Oestrus;* †1611 *Pycnosoma;* †1587 *Sarcophaga;* †1591 *Wohlfahrtia.*
†1640 *HYMENOPTERA:* †1678 *Iridomyrmex.*

Parasites of pubis (true):

†1103 *ANOPLURA:* †1107 *Phthirus.*

Parasites of stomach (true and pseudoparasites), often vomited:

†1178 *COLEOPTERA:* †1271 *Blaps;* †1294 *Geotrupes;* †1209 *Lathrobium;* †1296 *Melolontha;* †1239 *Mordella;* †1188 *Sphodrus;* †1202 *Staphylinus;* †1219 *Tachinus;* †1269 *Tenebrio.*
†1328 *TRICHOPTERA:* †1330 *Phryganea.*
†1331 *LEPIDOPTERA:* †1368 *Aglossa;* †1399 *Barathra;* †1370 *Galleria;* †1397 *Noctua* [? *Agrotis*]; †1432 *Pieris.*
†1437 *DIPTERA:* †1560 *Anthomyia;* †1579 *Calliphora;* †1572 *Gasterophilus;* †1578 *Heliophilus;* †1583 *Lucilia;* †1595 *Musca;* †1584 *Pollenia;* †1446 *Psychode;* †1613 *Stomoxys;* †1593 *Tachina.*

Parasites, subcutaneous or in sores (true):

†1437 *DIPTERA:* †1560 *Anthomyia;* †1581B *Callitroga;* †1581A *Cochliomyia;* †1599 *Cordylobia;* †1582 *Cynomya;* †1575 *Dermatobia;* †1572 *Gasterophilus;* †1576 *Hypoderma;* †1583 *Lucilia;* †1595 *Musca;* †1574 *Oestrus;* †1577 *Rhinoestrus;* †1492 *Rhinomyza;* †1587 *Sarcophaga;* †1590 *Sarcophila;* †1612B *Stasisia;* †1613 *Stomoxys;* †1591 *Wohlfahrtia.*

Parasites of throat (pseudoparasites):

†1171 *DERMAPTERA:* †1173 *Forficula.*

Parasites of urinary system, bladder, urethra, urine (pseudoparasites):

†1178 *COLEOPTERA:* †1320 *Balaninus;* †1320 *Curculio;* †1260 *Nitidula;* †1269 *Tenebrio.*
†1437 *DIPTERA:* †1517 *Eristalis;* †1562 *Fannia;* †1518 *Heliophilus;* †1595 *Musca;* †1446 *Pericoma;* †1613 *Stomoxys;* †1441 TIPULIDAE.

K. Pests in drug stores, hospitals, households, bake shops, museums, restaurants, and ships.—An enormous literature exists on insect pests in the household; special leaflets on the various pests can be obtained from the United States Bureau of Entomology, Washington, D. C. Occasionally hospitals, houses, and laboratories are overrun by fleas; kitchens and restaurants by roaches. Many insects are destructive to books, drugs, foods, clothes, blankets, and other hospital supplies, records, specimens, tapestries, etc.

Destructive to books, records, labels, glue:

†1051 *THYSANURA:* †1054 *Lepisma;* †1066 *Seira;* †1055 *Thermobia.*

†1070 *ORTHOPTERA:* †1077 BLATTIDAE; †1080 *Periplaneta.*

†1086 *ISOPTERA:* †1088 *Termes.*

†1093 *CORRODENTIA:* †1094 ATROPIDAE; †1095 *Atropos;* †1096 *Troctes.*

†1178 *COLEOPTERA:* †1279 *Anobium;* †1276 *Ptinus.*

Injurious to clothes or tapestry:

†1059 *COLLEMBOLA:* †1062 *Achorutes;* †1065 *Lepidocyrtus.*

†1070 *ORTHOPTERA:* †1079 *Blatta;* †1077 BLATTIDAE; †1073B *Gryllus;* †1080 *Periplaneta.*

†1086 *ISOPTERA:* †1088 *Termes.*

†1093 *CORRODENTIA:* †1095 *Atropos;* †1096 *Troctes.*

†1178 *COLEOPTERA:* †1253 *Anthrenus;* †1254 *Attagenus;* †1252 *Dermestes;* †1272 *Gnathocerus;* †1266 *Oryzaephilus;* †1277 *Ptilinus;* †1324 *Sitophilus;* †1282 *Xestobium.*

†1331 *LEPIDOPTERA:* †1355 *Tinea;* †1354 TINEIDAE; †1357 *Tineola;* †1356 *Trichophaga.*

†1640 *HYMENOPTERA:* †1678 *Iridomyrmex;* †1673 *Monomorium;* †1675 *Solenopsis;* †1676 *Tetramorium.*

Injurious to drugs:

†1178 *COLEOPTERA:* †1281 *Sitodrepa.*

Pests, miscellaneous, household:

†1640 *HYMENOPTERA:* †1682 *Camponotus.*

L. Pinching insects.—

†1070 *ORTHOPTERA:* †1177 *Acnodes;* †1175 *Anisolabis.*

M. Poison.—The poisonous relations of insects are diverse. Some insects eject a poison; some are used in preparation of poison arrows; some have poison spines; some have poison hairs and produce urticaria (see D); some produce a food poisoning; numerous biting (see A) and stinging (see O) insects insert a poison into the wound.

Poison arrows:

†1178 *COLEOPTERA:* †1312 *Diamphidia.*

Poison, ejection of defensive fluid:

†1331 *LEPIDOPTERA:* †1336 *Cossus.*

†1640 *HYMENOPTERA:* †1681 *Formica.*

Poison food (honey from certain plants):

†1640 *HYMENOPTERA:* †1706 *Apis;* †1704 *Bombus;* †1691 *Nectarina.*

Poison spines, wounds made by:

†1178 *COLEOPTERA:* †1231 *Drilus;* †1249 *Tetralobus.*

Poison, miscellaneous:

†1171 *DERMAPTERA:* †1172 FORFICULIDAE.

N. Pollution.—The pollution of the air, ground, and water comes under the Law of Nuisances. Certain insects pollute air or water, and, in so far as this pollution is due to human carelessness, it would come under this law; in other cases, the pollution is not dependent upon the human factor, therefore the Law of Nuisances can not be invoked.

Pollution of air:

†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.

Pollution of water:

†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.

O. Stinging insects.—In the restricted sense, the sting apparatus of an adult insect is an ovipositor.

†1331 *LEPIDOPTERA* (larva armed with special stinging organs): †1344 *Doratifera.*

†1640 *HYMENOPTERA* (sting is an ovipositor, hence only ♀ ♀ sting): †1706 *Apis;* †1704 *Bombus;* †1660 *Mutilla;* †1691 *Nectarina;* †1644 *Ophion;* †1645 *Paripla*—? *Pimpla;* †1697 *Pelopaeus;* †1685 *Pogonomyrmex;* †1692 *Polistes;* †1693 *Polybia;* †1688 *Salius;* †1662 *Scolia;* †1675 *Solenopsis;* †1698 *Sphecius;* †1696 *Sphex;* †1690 *Vespa;* †1702 *Xylocopa.*

P. Therapeutics.—Both in lay and in professional therapeutics insects have played a considerable rôle. As drugs used by the laity, this subject is often bizarre. It is especially as vesicants that insects have played a rôle in therapeutics.

†1070 *ORTHOPTERA:* †1077 BLATTIDAE; †1073A GRYLLIDAE; †1073B *Gryllus;* †1072 LOCUSTIDAE.

†1171 *DERMAPTERA:* †1172 FORFICULIDAE.

†1178 *COLEOPTERA:* †1271 *Blaps;* †1314 *Bruchus;* †1292 *Cetonia;* †1322 *Larinus;* †1304 *Lucanus;* †1241 *Meloe;* †1244B *Mylabris;* †1324 *Sitophilus.*

†1178 *COLEOPTERA* (especially as vesicants): †1242 *Cabalia;* †1165A *Cicada;* †1243 *Epicauta;* †1241 *Meloe;* †1244B *Mylabris.*

†1640 *HYMENOPTERA:* †1706 *Apis;* †1420 *Bombyx;* †1653 *Diplolepis;* †1684 *Myrmecocystus.*

Q. Vectors, carriers, intermediate hosts, known or suspected.—Some insects play a necessary biological rôle in the life cycle of various parasitic †23 *PROTOZOA,* †221 *TREMATODA,* †283 *CESTODA,* †329 *NEMATODA,* and †501 *ACANTHOCEPHALA,* and are therefore necessary factors in the transmission of the diseases which these parasites produce; certain other insects act as mechanical transmitters of disease. In the present state of science it is difficult or even impossible to distinguish definitely between these two sets of vectors in certain cases, and, accordingly, the views expressed in literature are not always in agreement. In some cases the evidence of transmission is experimental and sound; in other cases it is circumstantial; in other cases it is hypothetical and

speculative and calls for experimental proof. In the present cross reference it is not feasible to classify the cases into these categories, and the reader is referred to the numbered paragraphs for further details.

Vectors of Aspergillus spores:
†1070 *ORTHOPTERA:* †1084 *Blattella.*

Vectors of bacteria.—All insects are potential vectors of the bacteria and filth with which they come into direct contact. In some instances the bacteria cling to the outside of the insect's body; in other cases the bacteria are taken into the insect through the latter's mouth, and either regurgitated or passed in the excreta, or they make their way into the tissues of the insect. In connection with certain diseases (dengue, malaria, plague, tularaemia, yellow fever, etc.) the evidence that the insects in question transmit the disease is based upon experiment; in some cases it is based upon epidemiological data; in still other instances it is purely hypothetical or even speculative. See the numbered paragraphs for further data, including positive or negative results.

Bacillus [1] *anthracis* Koch, 1876, or Rayer & Davaine, of anthrax:
†1110 *HEMIPTERA:* †1133 *Cimex.*
†1178 *COLEOPTERA:* †1253 *Anthrenus;* †1254 *Attagenus;* †1252 *Dermestes;* †1276 *Ptinus.*
†1437 *DIPTERA:* †1579 *Calliphora;* †1601 *Glossina;* †1602 *Haematobia;* †1583 *Lucilia;* †1595 *Musca;* †1491 *Pangonius;* †1480 *Simulium;* †1613 *Stomoxys;* †1486 TABANIDAE; †1487 *Tabanus.*
†1640 *HYMENOPTERA:* †1666 *Dinoponera;* †1659 MUTILLIDAE; †1667 *Paltothyreus;* †1668 *Paraponera;* †1665 *Ponera.*

Bacillus [1] *cholerae* [cf. *Vibrio comma* Koch, 1884]:
†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.
†1640 *HYMENOPTERA:* †1673 *Monomorium.*

Bacillus [1] *cloacae* Jordan, 1890 [cf. *Aerobacter cloacae*]:
†1070 *ORTHOPTERA:* †1084 *Blattella.*

Bacillus [1] of foot and mouth disease:
†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.

Bacillus [1] [seu *Bacterium* [1]] *coli communis* Escherich [cf. *Escherichia coli*]:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*

Bacillus [1] of Koch-Weeks, of conjunctivitis:
†1437 *DIPTERA:* †1552 *Microneuron;* †1549 *Oscinis.*

Bacterium [1] *lactis aerogenes* Escherich, 1886 [cf. *Aerobacter aerogenes*]:
†1070 *ORTHOPTERA:* †1084 *Blattella.*

Bacillus [1] of glanders:
†1437 *DIPTERA:* †1613 *Stomoxys.*

Bacillus [1] *diphtheriae* Klebs, 1883 [cf. *Corynebacterium diphtheriae*]:
†1070 *ORTHOPTERA:* †1077 BLATTIDAE.

Bacillus [1] *leprae* Hansen, 1879 [cf. *Mycobacterium leprae*] of leprosy:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1103 *ANOPLURA:* †1106 *Pediculus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1595 *Musca;* †1480 *Simulium;* †1549 *Titania.*

Bacillus [1] of gangrene:
†1621 *SIPHONAPTERA:* †1631 *Tunga* [vector ? or simply factor in making port of entry ?].

Bacillus[1] *pestae* Yersin & Kitasato, 1894 [cf. *Pasteurella pestis*] or *B. pestis bubonicae*, of bubonic plague:
†1070 *ORTHOPTERA:* †1079 *Blatta.*
†1103 *ANOPLURA:* †1106 *Pediculus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1595 *Musca.*
†1621 *SIPHONAPTERA:* †1627 *Ceratophyllus;* †1628 *Hoplopsyllus;* †1625C *Neopsylla;* †1635 *Pulex;* †1629 *Stivalius;* †1636 *Xenopsylla*
†1640 *HYMENOPTERA:* †1673 *Monomorium.*

Bacillus proteus vulgaris:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*

Bacillus[1] *tuberculosis* Koch, 1884 [cf. *Mycobacterium tuberculosis* [*hominis*]] of tuberculosis:
†1070 *ORTHOPTERA:* †1084 *Blattella;* †1077 BLATTIDAE; †1080 *Periplaneta.*
†1103 *ANOPLURA:* †1107 *Phthirus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1595 *Musca.*

Bacterium[1] *tularense* McCoy & Chapin, 1910 [cf. *Pasteurella tularensis*] of tularaemia:
†1103 *ANOPLURA:* †1109B *Haemodipsus;* †1109C *Polyplax.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1488 *Chrysops;* †1613 *Stomoxys.*
†1621 *SIPHONAPTERA:* †1627 *Ceratophyllus.*

Bacillus[1] *tetani* Nicolaier, 1884 [cf. *Clostridium tetani*] of tetanus:
†1621 *SIPHONAPTERA:* †1631 *Tunga* [probably only a factor in making port of entry].

Bacillus[1] *typhosus* or *B. typhi abdominalis* [cf. *Eberthella typhi* Eberth] of typhoid fever:
†1070 *ORTHOPTERA:* †1077 BLATTIDAE.
†1103 *ANOPLURA:* †1106 *Pediculus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1595 *Musca.*

Pneumococcus:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1103 *ANOPLURA:* †1106 *Pediculus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1621 *SIPHONAPTERA:* †1635 *Pulex.*

Staphylococcus [cf. also *Micrococcus*]:
†1070 *ORTHOPTERA:* †1084 *Blattella.*
†1103 *ANOPLURA:* †1106 *Pediculus.*

Staphylococcus aureus Rosenbach, 1884:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*

Staphylococcus [seu *Micrococcus*] *pyogenes albus* Rosenbach, of stitch abscess:
†1437 *DIPTERA:* †1487 *Tabanus.*

Staphylococcus [seu *Micrococcus*] *pyogenes aureus* Rosenbach, of air, soil, water, pus:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1487 *Tabanus.*

Streptococcus [cf. also *Micrococcus*]:
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1103 *ANOPLURA:* †1106 *Pediculus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1487 *Tabanus.*

Streptothrix:
†1437 *DIPTERA:* †1487 *Tabanus.*

Vectors of †23 PROTOZOA:

†37 *Endamoeba coli:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

†37 *Endamoeba histolytica:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

†88 *Leishmania braziliense*, in ulcer:
†1437 *DIPTERA:* †1447 *Phlebotomus.*

†88 *Leishmania donovani* of Tropical Kala-azar:
†1113 *HEMIPTERA:* †1133 *Cimex;* †1153 *Triatoma*
†1437 *DIPTERA:* †1447 *Phlebotomus.*
†1621 *SIPHONAPTERA:* †1639 *Ctenocephalus.*

†88 *Leishmania infantum* of Infantile Kala-azar:
†1621 *SIPHONAPTERA:* †1639 *Ctenocephalus.*

†88 *Leishmania tropica* of Oriental sore:
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1617 *Hippobosca;* †1595 *Musca;* †1447 *Phlebotomus.*

†88 Leishmaniasis:
†1437 *DIPTERA:* †1479 SIMULIIDAE.

†88 Leishmaniasis, S. American:
†1437 *DIPTERA:* †1486 TABANIDAE.

†94 *Trypanosoma brucei:*
†1113 *HEMIPTERA:* †1133 *Cimex.*

†94 *Trypanosoma castellanii:*
†1437 *DIPTERA:* †1601 *Glossina.*

†94 *Trypanosoma congolense:*
†1437 *DIPTERA:* †1601 *Glossina.*

†94 *Trypanosoma duttoni:*
†1113 *HEMIPTERA:* †1133 *Cimex.*

†94 *Trypanosoma gambiense:*
†1437 *DIPTERA:* †1458 *Culex;* †1601 *Glossina;* †1613 *Stomoxys.*

†94 *Trypanosoma nigeriense:*
†1437 *DIPTERA:* †1601 *Glossina.*

†94 Trypanosomiasis, sleeping sickness:
†1437 *DIPTERA:* †1487 *Tabanus.*

†95 *Schizotrypanum cruzi:*
†1113 *HEMIPTERA:* †1142B *Apiomerus;* †1133 *Cimex;* †1144 *Ectomocoris;* †1145 *Eratyrus;* †1147 *Lamus;* †1135 *Leptocimex;* †1137 *Oeciacus;* †1151 *Rhodnius;* †1153 *Triatoma.*

†139 *Giardia lamblia:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

†142a *Spirochaeta*[1] of recurrent type:
†1437 *DIPTERA:* †1447 *Phlebotomus.*

†142d *Borrelia carteri* of Asiatic relapsing fever:
†1113 *HEMIPTERA:* †1133 *Cimex.*

†142d *Borrelia duttoni* of W. African and Colombian tick fever:
†1103 *ANOPLURA:* †1109A *Haematopinus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1621 *SIPHONAPTERA:* †1627 *Ceratophyllus.*

†142d *Borrelia recurrentis* of European relapsing fever:
†1103 *ANOPLURA:* †1109A *Haematopinus;* †1106 *Pediculus;* †1107 *Phthirus.*
†1113 *HEMIPTERA:* †1133 *Cimex.*
†1437 *DIPTERA:* †1613 *Stomoxys.*

†142e *Leptospira icterohaemorrhagiae* of infective jaundice:
†1437 *DIPTERA:* †1489 *Haematopota;* †1487 *Tabanus.*
†142e *Leptospira icterohaemorrhagica* of infective jaundice:
†1437 *DIPTERA:* †1458 *Culex;* †1613 *Stomoxys.*
†142e *Leptospira interrogans* of yellow fever:
†1437 *DIPTERA:* †1459 *Aedes.*
†142f *Treponema macfici:*
†1437 *DIPTERA:* †1601 *Glossina.*
†142f *Treponema pertenue* of yaws:
†1437 *DIPTERA:* †1595 *Musca.*
†170 *Plasmodium malariae,* of tertian malaria:
†1437 *DIPTERA:* †1460 *Anopheles.*
†170 *Plasmodium vivax,* of quartan malaria:
†1437 *DIPTERA:* †1460 *Anopheles.*
†171 *Laverania falcipara,* of aestivo-autumnal malaria:
†1437 *DIPTERA:* †1460 *Anopheles.*
†212 *Microbion typhi-exanthematici* of typhus:
†1103 *ANOPLURA:* †1106 *Pediculus.*
†212 *Rickettsia* [*pediculi*] of quintana:
†1103 *ANOPLURA:* †1106 *Pediculus.*
†212 *Rickettsia prowazeki* of typhus:
†1103 *ANOPLURA:* †1106 *Pediculus.*
†212 [*Plasmoeba* of] dengue fever:
†1437 *DIPTERA:* †1459 *Aedes;* †1458 *Culex;* †1463 *Desvoidya.*

Vectors (mechanical) of †221 TREMATODA eggs:

†281 *Schistosoma haematobium:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†281 *Schistosoma mansoni:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

Vectors of †283 CESTODA:

†305 *Davainea madagascariensis:*
†1070 *ORTHOPTERA:* †1077 BLATTIDAE.
†308 *Dipylidium caninum:*
†1097 *MALLOPHAGA:* †1100 *Trichodectes.*
†1621 *SIPHONAPTERA:* †1639 *Ctenocephalus;* †1635 *Pulex.*
†314 *Hymenolepis diminuta:*
†1171 *DERMAPTERA:* †1175 *Anisolabis.*
†1178 *COLEOPTERA:* †1270 *Akis;* †1273 *Scaurus;* †1269 *Tenebrio.*
†1331 *LEPIDOPTERA:* †1367 *Pyralis.*
†1621 *SIPHONAPTERA:* †1639 *Ctenocephalus;* †1636 *Xenopsylla.*
†325d *Taenia saginata:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

Vectors of †329 NEMATODA:

†360 MERMITHIDAE:
†1071 *SALTATORIA.*
†370 *Trichuris trichiura:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

†387 *Ancylostoma ceylanicum:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†387 *Ancylostoma duodenale:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*
†390 *Necator americanus:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*
†435 *Filaria conjunctivae:*
†1437 *DIPTERA:* ? †1488 *Chrysops.*
†439 *Acanthocheilonema perstans:*
†1437 *DIPTERA:* †1488 *Chrysops.*
†442 *Loa loa:*
†1437 *DIPTERA:* †1488 *Chrysops;* †1458 *Culex.*
†444 *Onchocerca caecutiens:*
†1437 *DIPTERA:* †1479 SIMULIIDAE; †1480 *Simulium.*
†444 *Onchocerca volvulus:*
†1437 *DIPTERA:* †1601 *Glossina;* †1479 SIMULIIDAE; †1613 *Stomoxys.*
†446 *Wuchereria bancrofti:*
†1437 *DIPTERA:* †1459 *Aedes;* †1460 *Anopheles;* †1458 *Culex;* †1463 *Desvoidya;* †1464 *Leicesteria;* †1465 *Mansonia;* †1467 *Mimomyia.*
†447 *Dirofilaria immitis:*
†1437 *DIPTERA:* †1460 *Anopheles.*
†462 *Gongylonema:*
†1070 *ORTHOPTERA:* †1077 BLATTIDAE.
†462 *Gongylonema pulchrum:*
†1070 *ORTHOPTERA:* †1084 *Blattella;* †1080 *Periplaneta.*
†1178 *COLEOPTERA:* †1288 *Aphodius;* †1271 *Blaps;* †1297 *Onthophagus;* †1269 *Tenebrio.*
†462 *Gongylonema scutatum:*
†1178 *COLEOPTERA:* †1288 *Aphodius;* †1297 *Onthophagus.*
†481 *Ascaris lumbricoides:*
†1070 *ORTHOPTERA:* †1080 *Periplaneta.*
†1437 *DIPTERA:* †1595 *Musca.*

Vectors of †501 ACANTHOCEPHALA:

†505 *Moniliformis moniliformis:*
†1178 *COLEOPTERA:* †1271 *Blaps.*
†508 *Macracanthorhynchus hirudinaceus:*
†1178 *COLEOPTERA:* †1288 *Aphodius;* †1292 *Cetonia;* †1293 *Diloboderus;* †1295 *Lachnosterna;* †1296 *Melolontha;* †1298 *Oryctes;* †1299 *Phanaeus;* †1300 *Strategus.*

Vectors of †1048 insect eggs:

†1437 *DIPTERA:* †1575 *Dermatobia;* †1469 *Janthinosoma;* †1469 *Psorophora.*

Vectors of various diseases (see also under the causative organisms):

Blood poisoning:
†1640 *HYMENOPTERA:* †1643 ICHNEUMONIDAE.
Diarrhoea, dysentery:
†1070 *ORTHOPTERA:* †1072 LOCUSTIDAE.
†1331 *LEPIDOPTERA:* †1362 *Carpocapsa.*
†1437 *DIPTERA:* †1587 *Sarcophaga.*
Oroyo fever:
†1437 *DIPTERA:* †1447 *Phlebotomus.*

Papataci fever:
†1437 *DIPTERA:* †1447 *Phlebotomus.*
Poliomyelitis:
†1437 *DIPTERA:* †1613 *Stomoxys.*
Tonsilar angina:
†1331 *LEPIDOPTERA:* †1338 *Megalopyge.*
Trachoma:
†1437 *DIPTERA:* †1595 *Musca.*
Verruga:
†1437 *DIPTERA:* †1447 *Phlebotomus.*
Weil's disease:
†1437 *DIPTERA:* †1486 TABANIDAE.

1048 (998). Class *INSECTA* Linn., 1758a, 13; tpd. †1595 *Musca.* Seu *HEXAPODA.*—Insects. See †1049 to †1706.

Head, thorax, and abdomen distinct. Head bears 1 pair of antennae, also the eyes and mouth parts (labrum, labium, 2 pairs of jaws—upper, maxillae, lower, mandibles). Thorax (of adult and of some larvae) with 3 pairs of jointed legs (i. e., on thoracic segments I, II, and III), fundamentally also with 2 pairs of wings (i. e., on thoracic segments I and II of adults) but these may be reduced to 1 pair of functional wings (on segment I) and a rudimentary pair ("balancers" on segment II), or wings may be absent. Abdomen never bears true jointed legs, but may bear other appendages.

Fundamentally dioecious (♂♀), but pseudohermaphroditism also is reported. Reproduction in adult stage; in some cases in larval stage; parthenogenesis may occur. Oviparous, viviparous, occasionally pupiparous; polyembryony not uncommon.

Fundamentally terrestrial (including aerial), but many forms aquatic, especially as larvae and pupae. Free or parasitic.

Of tremendous importance in economics, as in agriculture and as causing or transmitting disease.

In view of the accessibility of so many more or less complete keys to the various groups of insects, especially as represented by Comstock (1925a, An Introduction to Entomology) and Brues & Melander, (1915a, Key to the Families of North American Insects), it does not seem necessary to give detailed keys in the present bulletin. Comstock's (1925a) classification, will be taken as basis, on the premise that this excellent book should be accessible to all persons likely to find use for this Key-Catalogue; groups not cited by Comstock will be inserted according to classification; genera are arranged alphabetically under subfamilies or families, but with type genus first.

Of the various orders of insects, the following are the more important from a health point of view:

a (d). Larval forms.—Wormlike. Wings absent. Legs present or absent. Parasitic or poisonous. See b.

b (c). *DIPTERA.*—Maggots. Legs absent. Parasitic; poisonous hairs absent. See †1437.

c (b). *LEPIDOPTERA.*—Caterpillars. Poisonous hairs on body; 6 thoracic legs, 4 to 10 abdominal legs present. See †1331.

d (a). Adults.—Thoracic legs I, II, and III present. Wings absent or present. See e.

(j). Wings absent. See f.

f (g). *SIPHONAPTERA*.—Fleas. Legs III for jumping. See †1621.

g (f). Legs III, not for jumping. See h.

h (i). *ANOPLURA*.—Sucking lice, as head louse. See †1103.

i (h). *MALLOPHAGA*.—Biting lice, as dog louse. See †1097.

j (e). Wings present. See k.

k (l). *DIPTERA*.—Flies and mosquitoes. Wings I well developed; wings II rudimentary. See †1437.

l (k). Wings I present, well developed, or rudimentary; may be leathery; II membranous. See m to o.

m. *HEMIPTERA*[1].—Bugs. Wings I rudimentary or the proximal half leathery. Mouth parts piercing and sucking. See †1110.

n. *ORTHOPTERA*.—Roaches. Wings I with venation. Larvae terrestrial. Mouth parts biting. See †1070.

o. *COLEOPTERA*.—Beetles. Wings I without venation. Larvae terrestrial or aquatic. Mouth parts biting. See †1178.

1049 (1068A; 1068B; 1068C). Group or subcl. *AMETABOLA* Leach, 1815, Edinb. Encycl., v. 9 (1), 76.—[C. 25a, 174.] See †1050.

1050 (1069). Subcl. *APTERA*[r s] Linn., 1758a, 341, as restricted by Zool. Record; tpd. *Lepisma*. Seu *APTERYGOGENEA*[o] Brauer, 1885, SAW Wien, 290; tpd. *Lepisma*.—Bristle-tails, spring-tails. [C. 25a, 214.] See †1051.

1051 (1059). Ord. *THYSANURA*[r o] Latr., 1796a, table; tpd. *Lepisma*.—Bristle-tails; Bortenschwänze. [C. 25a, 220.] See †1052.

1052 (1056). *ECTOTROPHI* Grassi, 1887, Atti Acc. Rom., v. 4, 582; tpd. *Lepisma*.—[C. 25a, 223; B. & M. 15a, 9.] Syn. Class *THYSANURA*.[r] See †1053.

1053. LEPISMATIDAE Burm., 1838, Handb. Ent., v. 2 (2), 458. Seu LEPISMIDAE[o] Lubbock, 1873, Monogr., 39, 217.—[C. 25a, 223; B. & M. 15a, 81.] See †1054.

1054 (1055). **Lepisma** Linn., 1758a, 344, 608; tsd. (1810; 1915) 1st sp. *saccharina*.—[C. 25a, 224; B. & M. 15a, 81.]

**saccharina* Linn., 1758a, 608: *Lepisma*.—"Fish-moths."—Book bindings badly scarred in effort to obtain included glue. Museum labels, hospital records, etc., destroyed. Feeds on sugar and meal.—America; Europe.

1055 (1054). **Thermobia**[10] Bergroth, 1890, Ent. Amer., v. 6 (12), 233, tod. by renaming (1890) *thermophila* s. *furnorum*.—Fire-brats. [C. 25a, 224.]

**domestica*[s] Pack., 1873, 5th Ann. Rep. Peabody Acad. Sci., July, 48 [Lepisma[1]]: *Thermobia*.—In bakeshops, etc. Destructive to books and records.—England; Salem,[t] U. S. A.

furnorum[s] Rovelli [nv]: *Thermobia;* Termophila;[h t] Lepisma.[1] See *domestica*.

1056 (1052). *ENTOTROPHI* Grassi, 1887, Atti, v. 4, 582; tpd. *Japyx*.—[C. 25a, 224.] See †1057.

1057. JAPYGIDAE Grassi, 1887, Atti, v. 4, 582 [C. 25a, 224; B. & M. 15a, 82]. Seu IAPYGIDAE[o] Lubb., 1873, 39, 214. See †1058.

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[s] Syns.: *APTERYGOTA*[o] Lang, 1889, Lehrb. vergl. Anat., 2 Abt., 495; tpd. *Lepisma*. *SYNAPTERA*[s] Pack., 1883, 3rd Rep. U. S. Ent. Com., 294. *SYNISTATA*[r s] Fabr., 1775a, v. 2, 294.

[t] Syns.: *APTERA*[r] as restricted by Shipley, 1904a, 261; tpd. *Lepisma*. *EUSTYLIGERA* Crampton, 1916, J. New York Ent. Soc., v. 24, 279; tpd. *Lepisma*.

[10] Syns.: Termophila[h] Grassi, 1887, Boll. Soc. ent. ital., v. 19, 62 [not *Thermophila* Huebn., 1816, lepidopt.; Hope, 1838, coleopt.], renamed; Thermophila[s h] Grassi & Rovelli, 1889, Atti, v. 8, 85, mt. tat. *thermophila* Lucas.

1058. Japyx [e] Haliday, 1864, Trans. Linn. Soc. London, v. 24, 442 (*Iapyx*) mt. *solifugus*.—[C. 25a, 224; B. & M. 15a, 82.]

?**subterraneus* Pack., 1874, Amer. Nat., v. 8 (8), 501: *Japyx*.—On cadaver in old grave (20 years, 7 months), Washington, D. C.

1059 (1051). Ord. or class *COLLEMBOLA* [11] Lubbock, 1873, 39; tpd. *Podura*.—Spring-tails. [C. 25a, 225; B. & M. 15a, 82.] See †1060.

1060 (1063). Poduridae Burm., 1838, Handb. Ent., v. 2 (2), 445; Lubbock, 1873, 39, 177. Seu Achorutidae.[e]—[C. 25a, 228; B. & M. 15a, 83.] See †1061.

1061 (1062). **Podura** Linn., 1758a, 344, 608; tsd. (1810) *plumbea*; (1915) 8th sp. *aquatica*.—[C. 25a, 229; B. & M. 15a, 83.]

**aquatica* Linn., 1758a, 609: *Podura;* Achorutes.[l]—Europe.[t]—Occasionally found by health officers in water samples taken in testing wells.

1062 (1061). **Achorutes** Templ., 1835, Trans. ent. Soc. London, v. 1 (5), 96, type [2nd and only certain original sp.] *muscorum*.—[C. 25a, 228.] Syn. *Achorutus* [e] Wahlgren, 1906, Ent. Tidskr., 240.

armatus Nicolet, 1842, N. D. allg. Schweiz. Gesellsch., v. 6, 57, pl. 5 [Podura [l]]: *Achorutes*.—Reported on exhumed cadavers, fide Mégnin, 1895, 99.

**nivicola* [nv]:*Achorutes*.—Household pests.—Texas.—"Snow flea;" "spring-tails."

1063 (1060). Entomobryidae.—[C. 25a, 229; B. & M. 15a, 83.] Syns.: Degeeriadae [d] Lubb., 1873, 39, 129; Degeeriidae.[d] [e] See †1064.

1064 (1065 to 1067). **Entomobrya** [12] Rondani, 1861, Dipt. ital., v. 4, 40; type (1915) *nivalis* L.

*species Motter, 1898a, 220: *Entomobrya*.—On cadaver 28 years in grave.—Washington, D. C.

1065 (1064). **Lepidocyrtus** Bourlet, 1839, Mém. Soc. r. Sci. Lille, 391–392, mt. *curvicollis*.

**americanus* [nv]: *Lepidocyrtus*.—Household pest.—American spring-tail.

*species Motter, 1898a, 216: *Lepidocyrtus*.—On cadaver in grave 21 years.—Washington, D. C.

1066 (1064). **Seira** Lubbock, 1870, Trans. Linn. Soc. London, v. 27 (2), 279, type *domestica* Nicolet, 1842. Syn. *Sira* [e] Wahlgren, 1906, Ent. Tidskr., 261.

domestica Nicolet, 1842, Recherches, 76, pl. 8, fig. 11 [Degeeria [h] [l]]: *Seira*.[t]—In houses.

species Gedoelst, 1911a, 179: *Seira*.—Pseudoparasite of *Homo*.

1067 (1064). **Templetonia** Lubb., 1862, Trans. Linn. Soc. London, v. 23, 590, 595, tod. *nitida* [s] [so. *crystallina*].

crystallina Mueller, 1776a, 184 [Podura [l]]: *Templetonia*.

nitida [s] Templ., 1835, Trans. Ent. Soc. London, v. 1 (2), 94, fig. 5: *Templetonia;* Podura [l]; Isotoma[l].—Present in exhumed bodies.—Cranmore [t] in grave.—So.[s] *crystallina*.

[*species Motter, 1898a, 207: Isotoma.[h]—On cadaver 5 years, and 10 years, 7 months in grave.—Washington, D. C.]

1068A (1049). Group *PAUROMETABOLA*.—[C. 25a, 176.] See †1070, †1086, †1102, †1113, †1171, †1193.

1068B (1049). Group *HEMIMETABOLA*.—[C. 25a, 179.] See †1090, †1091, †1092.

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[11] Syns.: *APONTOPTERA* [e] Shipley, 1904a, 261; tpd. *Podura*. *ASTYLIGERA* [e] Crampton, 1916, J. New York Ent. Soc., 277; tpd. *Podura*.

[12] Syn. Degeeria [h] [e] Nic., 1841, Bull. Univ. Genèv., v. 32, 384 [not *Degeeria* Meig., 1838, 249, dipt.] renamed; tsd. (1915) 1st. sp. *nivalis*.

1068C (1049). Group *HOLOMETABOLA*.—[C. 25a, 180.] See †1089, †1178, †1327, †1328, †1331, †1437, †1621, †1640.

1069 (1050). Subcl. or class *PTERYGOGENEA* Brauer, 1885, SAW Wien, 290 [C. 25a, 209.]; seu *PTERYGOTA* ° Lang, 1889, Lehrb. d. vergl. Anat., 2 Abt., 495.—[C. 25a, 214.] See †1070.

1070 (1085; 1086; 1089; 1090; 1091; 1092; 1093; 1097; 1101; 1102; 1103; 1110; 1113; 1163; 1171; 1178; 1326; 1327; 1328; 1331; 1437; 1621; 1640). Ord. *ORTHOPTERA* Olivier ["1814"], Encyl. méth., v. 8 (2), 550; seu *DERMAPTERA* deGeer, 1773, pars, cf. †1171.—Cockroaches, grasshoppers, crickets, etc. [C. 25a, 231.] See †1071.

For keys to groups in Canada and U. S. A., see Caudell, 1913, PUSNM, v. 44, 595–614.

1071 (1074; 1076). Subo. or ord. *SALTATORIA* deGeer, 1783, iv [not Owen, 1839, mammal; not arachn.]; seu *ORTHOPTERA*.[r]—Grasshoppers, crickets. [C. 25a, 233; B. & M. 15a, 13.] Some are of tremendous agricultural importance as destroyers of crops. See †1072.

1072 (1073A). LOCUSTIDAE [1] of authors.—Grasshoppers, Katydids, Locusts. Grasshopper plagues are of serious agricultural importance, controlled at least to some extent by †360 MERMITHIDAE. In some outbreaks, the grasshoppers have fallen into the sea, washed ashore, and their decaying bodies have polluted the air to such an extent that this is alleged (!) to have caused many deaths; in other outbreaks they have befouled the roofs of houses, been carried by the rain to cisterns, and it is alleged that the water has caused dysentery because of mechanical irritation to the intestine by the chitinous structures. Used as food; sometimes candied; also locust salad.

Locusts have been used as folks' remedy (alcoholic extract of triturated bodies as cure for haemorrhoides; a Swedish Katydid, the "wart-biter," alleged to cure warts). An African species alleged to carry cholera and foot-and-mouth disease long distances. An African Katydid reported as causing severe skin eruption.

The Meadow Grasshopper (*Orchelimum*) can bite severely. The Mexican Sand-Cricket (*Stenopelmatus*) is reported to bite with severe results.

1073A (1072). GRYLLIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 300.—Crickets. [C. 25a, 242; B. & M. 15a, 14.] See †1073B.

Some species have been used as food; other species have been used in folks' therapeutics (ashes to cure weak eyesight and enlarged tonsils).

1073B. Gryllus Linn., 1758a, 342, 425; tsd. (1810) 21st. sp. *campestris*.—[C. 25a, 248; B. & M. 15a, 14.] Used as folks' drug (boiled legs to prevent retention of urine).

**luctuosus* Serv., 1839, Hist. nat. Ins. Orthopt., 335: *Gryllus; Gryllus assimilis*.—Destroys woolen clothing.—North America.[t]

1074 (1071). Subo. *GRESSORIA* Retz., 1783, iv.—[B. & M. 15a, 14.] See †1075A.

1075A (1075B). PHASMIDAE.—[C. 25a, 260.] A species, known as "Karabidion," on Woodlark Islands reported as used as food by natives.

1075B (1075A). MANTIDAE.—*Praying Mantis or Soothsayers. [C. 25a, 234, 262; B. & M. 15a, 16.] Popularly held in fear, but of no known medical importance. Cf. †1113 and †1171.

1076 (1071). Subo. *CURSORIA* [not Gray, 1849, rept.]; seu *OOTHECARIA*.—Roaches. [B. & M. 15a, 16.] See †1077.

1077. *BLATTIDAE Steph., 1829, Syst. Cat. Brit. Ins., 303.—Cockroaches. [C. 25a, 234, 263; B. & M. 15a, 16.] Potentially, because of their filthy habits, roaches are possible mechanical distributers of filth and

pathogenic bacteria to food; not infrequently found in soup, bread, pie, salads, etc.; alleged to spread diphtheria, typhoid, and tuberculosis, especially on board ship; potentially a possible transmitter of †462 *Gongylonema* to man; known transmitter of cancer †462 *Gongylonema* to rats; one species under suspicion as possibly the intermediate host of a tapeworm, †305 *Davainea madagascariensis*, of man. Common pests in houses and hospitals, especially in food rooms. Pseudoparasites in ear (several authentic cases) resulting in severe pain. Attack face, eyelashes, lips, fingers, and toenails, attracted by grease. Used in folks' therapeutics (crushed with sugar, to cure ulcers, cancer, worms; ashes used as purgative; alcoholic extract to cure dropsy; intestine boiled in oil to cure earache). Salted roaches have been used as food. Lay belief as cause of Bright's disease. See †1078.

species Baldwin, 1906, Brit. Med. J., v. 2, 197: Cockroach (common ordinary). Haunts kitchens.—External auditory meatus.—London.

species Herrick, 1916, Ins. Inj. Hous., 128: Cockroach. "Large brown species" common throughout Brazil.—Attacks eyelashes and toenails.—Corumba on Upper Paraguay, Brazil. Household pest.

1078 (1081; 1083). BLATTINAE; seu PERIPLANETINAE. See †1079.

1079 (1080). ***Blatta**[13] Linn., 1758a, 342, 424; tsd. (1810) 7th sp. *orientalis*.—Lay superstition that if certain black roaches enter the room or fly against a person, severe illness or death follows.

**orientalis* Linn., 1758a, 424: *Blatta; Steleopyga* °; *Kakerlac* °; Periplaneta.[l]—Cosmopolitan. Supposed to come from Asia, spread by commerce; abundant in U. S. A.—Oriental cockroach; gemeine Küchenschabe, Brotschabe, Kakerlak.—43 yr. ♂ patient; slept in kitchen; ringing in ear, headache; insect dead in ear; had been there several days. In hospital February 19, 1895; discharged March 12, 1895 (fide Mader, 1897a).—Alleged to have cut a person's finger nails (Herrick 1916, 136). Syns.: *badia* Saussure; *culinaris* de Geer; *ferrugineo-fusca* Gronov.

1080 (1079). **Periplaneta** Burm., 1838, Handb. Ent., v. 2, 502; tsd. (1890; 1903) 1st sp. *americana*.—[C. 25a, 266; B. & M. 15a.]

**americana* Linn., 1758a, 424 [Blatta[l]]: *Periplaneta*[r].—America[t]; Orient; Russia; Sweden; Finland. Tropical and subtropical American cockroach; surinamischer Kakerlak.—Spread by commerce. Experimentally infected with virulent plague bacilli; inoculated with virulent plague into leg; some died and in one case a guinea pig inoculated therefrom contracted plague infection. Experimental passage through cockroaches: *Bacillus coli communis, Streptococcus, B. proteus vulgaris, Pneumococcus, Staphylococcus aureus, S. citreus*. Experimentally: *Bacillus tuberculosis* passes through intestine up to 14th day; *Bacillus leprae* 1 or 2 days; cysts of †37 *Endamoeba histolytica* and †37 *Endamoeba coli* up to 3 days; cysts of †139 *Giardia lamblia;* eggs of †387 *Ancylostoma duodenale;* of †387 *Ancylostoma ceylanicum;* of †390 *Necator americanus;* of †480 *Ascaris lumbricoides;* of †370 *Trichuris trichiura;* of †325d *Taenia saginata;* of †281 *Schistosoma haematobium*. A few experiments negative for Gonococci, *B. typhosus, B. paratyphosus* and *B. dysenteriae*, and for eggs of †1511 *Aphiochaeta xanthina*, fide Macfie, 1922, Ann. Trop. Med., Liverpool, 448. Experimental host for †462 *Gongylonema pulchrum*. Cut finger nails, book bindings. Ship pest.

1081 (1078). ECTOBIINAE. Syn. ECTOBINAE[d]. See †1082.

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[13] Syns.: *Kakerlac* ° Latr., 1825, 411 [nv], tsd. (1902) *orientalis; Steleopyga* ° Fischer, 1833, Bul. Soc. imp. Nat. Moscou, v. 6, 356 [*Kakerlac* renamed] as of Shelford, 1911, Ent. Res. Journ., 242, tsd. (1911) *orientalis* [not as of Caudell, 1911, Psyche, 88, tsd. 3d sp., by elimination, *trichoprocta*].

1082. Ectobius[r] Steph., 1835, Ill. Brit. Ent. Mandib., v. 6, 45; tsd. (1840; 1915) 3d sp. *lapponicus*.—Several prominent authors classify the croton-bug here; see, however, †1084 *Blattella*. Syn. *Ectobia*[e] Westw., 1839a, 419.

germanicus Linn., 1767, 688 [Blatta[l]]: *Blattella*, q. v.; Ectobia[l].—Intermediate host for †462 *Gongylonema pulchrum*, fide Brumpt, 1922a, 638. Experimental.

1083 (1078). Pseudomopinae Rehn, 1903, Trans. Amer. Ent. Soc., v. 29, 260; seu Phyllodromiinae[d]. See †1084.

1084. *Blattella Caudell, 1903, Proc. Ent. Soc. Wash., 234, tod. *germanica*. Syn. Phyllodromia[h] Serv., 1839, Hist. nat. Ins. Orthopt., 105; tsd. (1902) *germanica* [not *Phyllodromia* Zett., 1837, dipt.].

adspersicollis Stål, "1858," or "1860," or 1861, Eug. Resa., Ins., 308 [Phyllodromia[d]]: *Blattella*.—Rio Janeiro[t].

dilatata Sauss., 1868, Rev. Zool., v. 20, 98: *Blattella*.—Mexico[t].

**germanica* Linn., 1767, 688 [Blatta[l]]: *Blattella;* Phyllodromia[h]; Ectobia[l].—Practically cosmopolitan, because of commerce; Denmark[t]. Deutsche Schabe.—One unpublished case (Surgeon Foster) of pseudoparasitism in ear, St. Louis, near U. S. Marine Hospital. Also in sputum of luetic patient, Cleveland, Ohio, Hyg. Lab. Zoo. no. 11226, from Dr. H. N. Cole. Reported as (1) experimentally causing souring of milk; (2) infects food and milk with intestinal bacilli, *Bacillus lactis aerogenes, Bacillus cloacae;* (3) Tubercle bacilli, staphylococci; (4) destructive molds; spores of *Aspergillus* passed in feces after feeding.—Carrier of †462 *Gongylonema pulchrum*.

1085 (1070). Order *ZORAPTERA*.—[C. 25a, 270.] Of no known medical importance.

1086 (1070). Order *ISOPTERA* Brullé [nv].—White ants, termites. [C. 25a, 273; B. & M. 15a, 17.] See †1087.

1087. Termitidae.—[B. & M. 15a, 17.] See †1088.

1088. *Termes Linn., 1758a, 344, 609; tsd. (1915) 1st sp. *fatale*; etd. (1810) *flavicolle* (not an original species).—[C. 25a, 276; B. & M. 15a, 17.]

**flavipes* Kollar, 1883, Isis, 459 [nomen nudum here]: *Termes*.—Destruction of documents, papers, books, etc., serious pests to books and buildings. Economic importance. Reported in human* graves 4 to 12 yrs. 11 mos. old, Washington, D. C.—Atlantic to Pacific; Canada to Gulf of Mexico; Schönbrunn[t], Europe.

1089 (1070). Ord. *NEUROPTERA* Linn., 1758a, 341.—Dobsons, Aphis-lions, Ant-lions, etc. [C. 25a, 281; B. & M. 15a, 45.] Of no known medical importance.

1090 (1070). Ord. *EPHEMERIDA* Steph., 1835, Illus. Brit. Ent.—May-flies. [C. 25a, 281.] Of no known medical importance.

1091 (1070). Ord. *ODONATA* Fabr., 1793, Ent. Syst., v. 2, 373, 1st genus is *Libellula*.—Dragon-flies, Damsel-flies. [C. 25a, 314; B. & M. 15a, 43.] Of no known medical importance, but there is a popular fear of the dragon-flies. Prey upon †1457 mosquitoes.

1092 (1070). Ord. *PLECOPTERA*.—Stone-flies. [C. 25a, 325; B. & M. 15a, 44.] Of no known medical importance. Not *Plecoptera* Guér., 1852, lepidopt.

1093 (1070). Ord. *CORRODENTIA* Burm., 1837a, 604.—Psochids, Book-lice. [C. 25a, 231; B. & M. 15a, 17.] See †1094.

For catalogue of U. S. A. species, see Banks, 1907, Catalogue of neuropteroid insects, pp. 1–53, Amer. Ent. Soc.

1094. Atropidae.—Book-lice and allies. [C. 25a, 333; B. & M. 15a, 17.] See †1095.

1095 (1096). **Atropos** Leach, 1815, Edinb. Encycl., v. 9 (1), 139, mt. Termes[l] *lignarium*[s] de Geer (s. Termes[l] *pulsatorium* Linn.); tsd. (1915) *pulsatoria*.—Death watch. [C. 25a, 334; B. & M. 15a, 17.]

**pulsatoria* Linn., 1758a, 610 [Termes[l]]: *Atropos;* Clothilla[l]; Psocus[l]; Herobius; Trogium.—Death watch Psochid, Bücherlaus. Household pest.—Europe; America.

1096 (1095). **Troctes** Burm., 1839, Handb. Ent., v. 2, 773, 2 sp. *pulsatorius, faticidus*; tsd. (1915) *divinatorius* [s. pulsatorius of Latr., cf. †1095].—[C. 25a, 333; B. & M. 15a, 17.]

divinatoria Muell., 1776a, 184 [Termes[l]]: *Troctes;* Atropos.—Book louse, Staublaus.—Book bindings, straw or husk mattresses favorite breeding places; Household pest.

1097 (1070). Ord. *MALLOPHAGA* Nitzsch, 1818a, 280; tpd. *Trichodectes*.—Bird-lice, biting-lice. [C. 25a, 335; B. & M. 15a, 18.] Not known to attack man, but at least one species is reported as an intermediate host for a tape-worm, †308 *Dipylidium caninum*, occasionally reported for man. Some species are common on domesticated and laboratory animals. See †1098.

1098. Subo. *ISCHNOCERA* Mjöberg, 1910, Ark. Zool., 62.—[C. 25a, 337; B. & M. 15a, 18.] See †1099.

1099. Trichodectidae.—[C. 25a, 337; B. & M. 15a, 18.] See †1100.

1100. Trichodectes Nitzsch, 1818a, 294; tsd. (1915) 2d sp. *canis* s. *latus*.—[C. 25a, 336; B. & M. 15a, 18.]

canis Retz., 1783, 202 [Ricinus[l]]: *Trichodectes;* Pediculus[l].—Probably more or less cosmopolitan.—Reported as intermediate host of †308 *Dipylidium caninum;* transmission by swallowing the insect. Syns.: *?canis-familiaris* [nomen nudum] Muell., 1776a, 184; *latus* Burm., 1838 Handb. Ent., v. 2 (2), 436.

1101 (1070). Ord. *EMBIIDINA*.—[C. 25a, 338.] Of no known medical importance.

1102 (1070). Ord. *THYSANOPTERA* Haliday, 1836, Ent. Mag., v. 3, 439; syn. *THRIPSITES*, example *Thrips*.—[C. 25a, 341; B. & M. 15a, 15.] Of no known medical importance.

1103 (1070). Ord. *ANOPLURA*[14] Leach, 1815, Edinb. Encycl., v. 9 (1), 77; tpd. *Pediculus*.—True lice. Sucking lice. [C. 25a, 347; B. & M. 15a, 18.] See †1104.

For revision of world's genera, species, etc., with key to genera, and bibliography, see Ferris, 1916, Proc. Cal. Acad. Sci., v. 6 (6), 129–213. For revision and key to genera, see Enderlein, 1904, Zool. Anz., v. 28 (4), 121–147.

1104 (1108). Pediculidae Leach in Samouelle, 1819, 142; Steph., 1829, Syst. Cat. Brit. Ins., 329. See †1105.

1105. Pediculinae Enderlein, 1904, Zool. Anz., 136, 138.—See †1106.

1106 (1107). **Pediculus** Linn., 1758a, 610; tsd. (1810) *humanus*; tsd. (1915; 1916) *capitis* so. *humanus*[r].—[C. 25a, 349.] Pediculis[m]; Perdiculus[m].

**americanus* Ewing, 1926, Proc. U. S. Nat. Mus., v. 68 (2620), 20–22, figs. 1B, 2, 3B, pl. 3, figs. 9–11: *Pediculus* (*Pediculus*).—On hair of Indian mummies from Peru[t], and New Mexico; also Guatemala; Trinidad.

angustus Fahrenholz, 1915, Zeits. Morph. u. Anthro., v. 17, 597; 1916, Zool. Anz., 88: *Pediculus humanus; P. capitis; P. corporis*.—Japan[t]. Syns.: *chinensis*[s], *marginatus*[s].

**capitis*[s] deGeer, 1778a, v. 7, 67, pl. 1, fig. 6: *Pediculus; P. humanus*.—Head, reported as occasionally in ear.—So. *humanus*[r].

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[14] Syns.: *APTERA*[o] as of Steph., 1829, Syst. Cat. Brit. Ins., 329; *EPIZOA*[o]; *PARASITA*[o] Latr. 1802b, 72, tpd. *Pediculus; SIPHUNCULATA*[o] Meinert, 1896 [nv]; *PSEUDORHYNCHOTA*[o] Cholodk., 1903, Zool. Anz., v. 27 (4), 125, tpd. *Pediculus;* subsection *LIPOGNATHA*[o] Boerner, 1904, Zool. Anz., 527, tpd. *Pediculus; ELLIPOPTERA*[o] Shipley, 1904a, 261.

cervicalis° Latr., 1804d, v. 8, 94, *humanus*ʳ 1758 renamed: *Pediculus.*

chinensis Fahrenholz, 1916, Zool. Anz., 87: *Pediculus humanus.*—Chinaᵗ.—So.ˢ *angustus.*

**corporis* de Geer, 1778a, 67: *Pediculus; P. humanus.*—Body or clothes louse; tailor's louse.—Europe; America; etc.—Syn. *vestimenti.*—*Bacillus pestis* taken into intestine and passed in excreta to skin, Sw. & Otten, 1914; *Pneumococcus*, in intest. up to 48 hours, not to 60 hours, Widman. *Staphylococcus*, in intest. up to 48 hours, not to 60 hours, Widman. Transmits: Typhus, experimentally demonstrated; trench fever (Wohlhynica fever, febris quintana); [†142d *Borrelia duttoni*, negative, Nicolle, 1913]; †142d *B. recurrentis*, recurrent fever, Sergent & Foley, etc. [†453 *Acanthocheilonema perstans*, negative.]

humanus[1] Linn., 1758a, 610, originally included both *capitis* and *vestimenti: Pediculus.*—See next entry.

*humanus*ʳ Linn., 1758a, 610; restricted later to *capitis: Pediculus.*—Head louse, reported as occasionally in ear.—*Bacillus leprae*, in lice from patients, fide McCoy & Clegg, 1912; *B. typhi abdominalis*, in lice from patients, fide Abe & Nakao, 1907; *B. pestis*, in lice from patients, fide Herzog, Raadt, 1915; *Staphylococcus*, of impetigoʲ, from sick child to healthy child, germs on legs and hair like pollen, Dewère, 1892; †212 *Microbion typhi-exanthemica*, of typhus, Wolbach, 1923, J. Med. Res., 232; [†212 *Rickettsia prowazeki* of] typhus, Goldb. & Anderson, 1912; [†212 *R. pediculi* of] quintana, Toepfer, 1916; †142d *Borrelia recurrentis*, recurrent fever, Werner & Wiese, 1917; †453 *Acanthocheilonema perstans* negative, Low, 1903.—Europeᵗ; America; etc.

maculatus Fahrenholz, 1916, Zool. Anz., 87: *Pediculus capitis.*—Negroes, Hottentots.—Kamerunᵗ.

marginatus Fahrenholz, 1915, Zeits. Morph. u. Anthr., v. 17, 599; 1916, Zool. Anz., 87; *Pediculus humanus*[1].—Japanᵗ.—Soˢ. *angustus.*

**nigritarum* Fabr., 1805a, 340: *Pediculus* (*Pediculus*) *humanus.*—On negro. Africa; U. S. A.—Syn. *nigrescens*ˢ Olfers, 1816, 81.

vestimenti Nitzsch, 1818a, 305: *Pediculus.*—So. *corporis.*

1107 (1106). **Phthirus** Leach, 1815, Edinb. Encycl., v. 9 (1), 77, mt. *inguinalis*° so. *pubis.*—The crab louse. [C. 25a, 348, 349; B. & M. 15a, 19.] Syn. *Phthirius*° Denny, 1842, 9.

inguinalis° Leach, 1815, Edinb. Encycl., v. 9 (1), 77, *pubis* renamed: *Phthirus.*

**pubis* Linn., 1758a, 611 [Pediculus[1]]: *Phthirus*; *Phthirius*°.—Pubis, eyelashes, eyebrows, ear, hand. Eye troubles, dermatitis.—Europeᵗ; America; etc.—Suspected as carrying: *Bacillus tuberculosis*ʲ (cf. Imhoff); †142d *Borrelia recurrentis*, relapsing fever, cf. Wiese.

*tabescentium*ˢ Alt, 1818 or 1824, de phthiriasi, 8 [nv]: Pediculus[1].—So. *pubis* fide Ferris, 1916, 138; or so. †1106 *vestimenti*, fide Piaget, 1880a, 626.

1108 (1104). Haematopinidae Enderlein, 1904, Zool. Anz., 136.—[C. 25a, 349.] See †1109.

1109A (1109B; 1109C). **Haematopinus** Leach, 1815, Edinb. Encycl., v. 9 (1), [nv]; 1817, Zool. Misc., 64 [nv].

[*spinulosus* Burm., 1837, Gen. Ins., unpaged: *Haematopinus;* Pediculus[1].—Can transmit †142d *Borrelia duttoni* and †142d *B. recurrentis* from rat to rat, see Manteufel, 1908, and Neum., 1909.

**suis* Linn., 1758a, 611: *Haematopinus;* Pediculus[1].—Hog louse.—From swine, temporary on *Homo.*—Cosmopolitan.

1109B (1109A). **Haemodipsus** Enderlein, 1904, Zool. Anz., v. 28 (4), Oct. 7, 139, 143, tsd. (1916) *lyriocephalus.*

**ventricosus* Denny, 1842a, 30–31, pl. 25, fig. 6 [Haematopinus[1]]: *Haemodipsus.*—Rabbit louse.—Can transmit tularaemia.

1109C (1109A). **Polyplax** Enderlein, 1904, Zool. Anz., v. 28 (4), Oct. 7, 139, 142, 223, tod. *spinulosus*.—Syn. *Eremophthirius*[s] Glink., 1907, SkAW Wien, v. 116, 381–383.

**serrata* Burm., 1839, Gen. Rhyn., no. 6 [Pediculus[1]]: *Polyplax;* Haematopinus[1].—Mouse louse, on *Mus musculus*.—Can transmit tularaemia.

1110 (1070). *HEMIPTERA*[o 1 15] Linn., 1758a, 341 (HAEMIPTERA[d]), 434; tsd. (1904) *Cimex*.—True bugs; Schnabelkerfe; Halbfluegler; Wanzen. [C. 25a, 350.] See †1111.

For keys to *Connecticut genera and species, see Britton, 1923, Bul. 34, Conn. Geol. Nat. Hist. Surv. For check list of American (N. of Mexico) groups, genera and species, see Van Duzee. 1917a.

1111. Section *HEMELYTRATA* Fallén, 1829, preface. See †1112.

1112 (1163). *FRONTIROSTRIA* Zett., 1840, Ins. lap., 257. See †1113.

1113 (1070; 1163). *HEMIPTERA*[r 16] Linn., 1758a, 434; tsd. (1904) *Cimex*.—True bugs, etc.; Wanzen, Ungleichfluegler. [C. 25a, 350; B. & M. 15a, 76.] See †1114.

1114 (1124). *HYDROCORES* Burm., 1837a, 595; seu *CRYPTOCERATA*[•] Karsch, 1883a, 644; seu *HYDROCORIDA; AQUATICA*[o] Leach in Steph., 1829a, 353.—Wasserwanzen. See †1115.

1115 (1117; 1119; 1121). Corixidae Dohrn, 1859, 53 [nv]; seu Corisidae[•] Uhler, 1884, 250.—Water-Boatman.—Type of Subo. *SANDALIORRHYNCHA* Boerner, 1904, Zool. Anz., 522. See †1116.

1116. *Corixa Geoffr., 1762 (1799), 477, mt. (tsd. 1840; 1915) *striata* Linn., 1758a, 439 ["of Geoffr.=*geoffroyi* Leach"].—[C. 25a, 362; B. & M. 15a, 77.] Adults and eggs used as food for man and birds in Mexico and Egypt.

1117 (1115). Notonectidae[1] Leach in Samouelle, 1819, Ent. Useful Comp., 226; Steph., 1829, Syst. Cat. Brit. Ins., 353.—Back-swimmers. [C. 25a, 362; B. & M. 15a, 77.] May inflict painful bites. See †1118.

1118. *Notonecta[1] Linn., 1758a, 343, 439; tsd. (1810) *glauca*.—Boat-fly.

glauca Linn., 1758a, 439: *Notonecta*.—Europe[t].

1119 (1115). *Nepidae Fallén, 1829, Hemipt. Suec., 168.—Water-scorpions. [C. 25a, 364; B. & M. 15a, 77.] See †1120.

1120. *Nepa Linn., 1758a, 440; tsd. (1810) *cinerea*.—[C. 25a, 364; B. & M. 15a, 77.] Despite the vernacular name, these insects are not to be confused with the †734 scorpions. Capable of inflicting painful wound.

1121 (1115). *Belostomidae Dohrn, 1859, Cat. Hemipt., 54; seu Belostomatidae[o] Uhler, 1886, 28.—Giant water-bugs, electric-light bugs. [C. 25a, 365; B. & M. 15a, 77.] Capable of inflicting a severe sting, the effects of which may last several days. [In experiments upon myself, successive bites had a decreasing effect. The first sting caused a momentary intense pain, followed by considerable swelling of the experimental finger.—C. W. S.] See †1122.

1122 (1123). ***Belostoma**[1] Latr., 1807, Gen. Crust. Ins., v. 3, 144, mt. *testaceopallidum* [=*bosci*[s]].—[C. 25a, 367; B. & M. 15a, 77.]

*species Herrick, 1914, Ins. Inj. Househ., 417, fig. 144: *Belostoma*.—"Electric light bugs."—Painful wound inflicted by rostrum.

1123 (1122). ***Lethocerus** Mayer, 1852, VzbGWien, v. 2, 17–18, mt. *cordofanus*, Kordovan[t].—[C. 25a, 366; B. & M. 15a, 77.] Syn. Belostoma[hs] of Latr., 1810a, 434, type *grandis*, fide Van Duzee, 1917a, 465.

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[1] Syns.: *PROBOSCIDEA*[o] Scop., 1763, 112 [not Illiger, 1811, mammals; Schmidt, 1832, mollusk]; *RYNGOTA*[o] Fabr., 1775a, 673; *RHYNGOTA*[•] Fabr., 1803, 1; *RHYNCHOTA*[•] Burm., 1837a, 592 [B. & M. 15a, 4.]; *ARTHROIDIGNATHA*[o] Spin., 1850, 25.

[16] Syns.: *FRONTIROSTRES*[•] Fallen, 1829, preface; DERMAPTERA[d] Retz., 1783, iii, v, tpd. 2nd genus *Nepa* [not *DERMAPTERA* de Geer, 1773, tpd. *Forficula*]; *HETEROPTERA* Latr., "1802"; 1810a, 250; tsd. (1904) *Cimex* [not Heteroptera[h] Raf., 1814, mollusk; Macq., 1835, dipteron].

1124 (1114). *TERRESTRIA* Steph., 1829, Syst. Cat. Brit. Ins., 335, tod. *Cimex.* Seu *GEOCORES*[s] Burm., 1837a, 595; Leunis, 1886a, 443. Seu *GYMNOCERATA*[s] Karsch, 1883a, 617.—Long-horned bugs, semiaquatic bugs and land-bugs. Landwanzen. Example bed-bug. See †1125A.

1125A (1128; 1132; 1138; 1141; 1155; 1158; 1161). MIRIDAE Kirkaldy, 1906, Trans. Amer. Ent. Soc., v. 32, 122. Seu CAPSIDAE Reuter, 1878, Hemip. Gym. Europ., v. 1, 13.—Leaf-bug. [C. 25a, 375; B. & M. 15a, 78.] See †1125B.

1125B (1126; 1127). **Brachynotocoris** Reuter, 1881, Oefv. Fin. Soc., v. 22, 22, type *puncticornis* [nv].

puncticornis Reuter, 1881, 22 [nv]: *Brachynotocoris.*—Observed in Algeria biting man.—Mediterranean Region, Madrid[t].

1126 (1125B). **Trigonotylus** Fieb., 1858, Wien. ent. Monatschr., v. 2, 302, mt. [*Miris*[l]] *ruficornis* Fallen.

brevipes Jakowl., 1880, v. 11, 215: *Trigonotylus.*—A phytophagous species, which, near Lake Victoria, E. Africa, has been reported as biting man.—In tropical and subtropical regions.—Astrachan[t].

1127 (1125B). **Plagiognathus** Fieb., 1858, Wien. ent. Monatschr., 320; tsd. (1915) 1st sp. *arbustorum.* [Not *Plagiognatha* Duj., 1841, rotifer.]

**obscurus* Uhler, 1872, Hayden's Surv. Terr. (for 1871), 418: *Plagiognathus.*—Caudell (1901) has reported being bitten on the wrist by this insect.—Colorado[t], U. S. A.

1128 (1125A). ANTHOCORIDAE Dallas, 1852, List Hemipt., v. 2, 587.—Flower-bugs. [C. 25a, 377; B. & M. 15a, 78.] Several species of this family affecting man have been noted. See †1129.

1129 (1130; 1131). **Anthocoris** Rodhe, 1814, 9; Fallén, 1829, 65; tsd. (1840; 1910; 1915; 1917) 1st sp. *nemorum* Linn. so. *sylvestris* Linn.

congolensis Brumpt, 1910a, Précis Par., 564: *Anthocoris.*—Bites man.—Belgian Congo[t].

kingi Brumpt, 1910a, Précis Par., 564, fig. 407: *Anthocoris.*—Bites man, sucks blood.—Egyptian Soudan[t].

sylvestris Linn., 1758a, 449 [Cimex[l]]: *Anthocoris;* Acanthia[l].—Morley (1914, 216) recorded being bitten by this insect in England.

1130 (1129). ***Lyctocoris** Hahn, 1835, Wanz. Ins., v. 3, 19 [nv]; type (1917) *domesticus* Hahn, so. (type 1915; 1917) *campestris* Fabr.; (1900) *canadensis.*

**campestris* Fabr., 1794a, 75: *Lyctocoris* (*Lyctocoris*); Acanthia[l].—Bites *Homo.*—Europe; U. S. A.; New Zealand; Selandia.[t]

**fitchii*[s] Reuter, 1871, Öf. Vet. Ak. Forh., v. 28, 557: *Lyctocoris.*—New York[t].—So. *campestris*, fide Van Duzee, 1917a, 289.

1131 (1129). ***Triphleps** Fieb., 1860, Wien. ent. Monatsch., v. 4, 266, type (1906) 1st sp. *laevigatus*; 1861, Eur. Hemipt., 39; (1917) *niger* Wollf, so. 2nd sp. *obscurus.*—[C. 25a, 378; B. & M. 15a, 79.]

**insidiosus* Say, 1831 (1859), 801 (357): *Triphleps;* Reduvius [l].—Bites man occasionally.—U. S. A.[t]; Texas to Canada.

1132 (1125A). CIMICIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 223; Steph., 1829a, 335; Westw., 1840a, 120, 474.—Type bed-bug. [C. 25a, 378; B. & M. 15a, 77.] Syns.: ACANTHIADAE[do]; ACANTHIIDAE[o] Leach in Steph., 1829b, 351; CLINOCORIDAE[o]. See †1133.

1133 (1134; 1135; 1136; 1137). **Cimex**[17] Linn., 1758a, 343, 441; tsd. (1810) *lectularius.*—Bed-bugs. [C. 25a, 378; B. & M. 15a, 77.]

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[17] Syns.: *Acanthia* [o] Fabr., 1775a, 693, tsd. *lectularia; Clinocoris*[o] Fallén, 1829, Hemipt. Suec., 141, tsd. *lectularius; Klinophilos*[o] Kirkaldy, 1899, Ent., 219, mt. *lectularius; Clinophilus*[s] Blanford, 1903, Nature, 200; Acanthias [m] Cast. & Chalm., 1920a, 762.

[Not Cimex,[d] tsd. (1899 *bidens*), (1837, *junip*[l]*rinus*); not Acanthia,[h] etd. (1835) *littoralis*, etd. (1810; 1840) *saltatoria*, tsd. (1868) *zosterae.*]

See Opinion 81, Intern. Com. Zool. Nomenclature.

columbarius[l] Jenyne, 1839, Ann. Mag. Nat. Hist., v. 3, 242, 244: *Cimex; Acanthia*°; *Clinocoris*°.—Can attack man; normally on pigeons.

hemipterus Fabr., 1803, Syst. Rhyng., 113 [cf. *rotundatus*]: *Cimex.*—America meridionalis[t].—Reported as carrier of: †88 *Leishmania donovani, L. tropica;* †95 *Schizotrypanum cruzi;* †142d *Borrelia carteri.*—Common bed-bug of Amazon Valley, probably introduced from Africa.

**lectularius* Linn., 1758a, 441: *Cimex; Acanthia*°; *Clinocoris*°; *Klinophilos*°.—Beds. Bites.—This bed-bug has been accused of acting as carrier of many infections, but some of these views are speculative: carcinoma, sarcoma, leukemia, experiments negative (Thompson, 1914); *Bacillus anthracis* dies in intestine in 5 to 6 days (Nuttall experiments negative); *B. leprae* reported to live 16 days in intestine; *B. pestis* (remains virulent 45 to 48 days (Bacot, 1915); transmission experiments negative (Nuttall); cf., however, Verjbitsky, 1918 (transmission by bite and scratch); Jordansky & Klodnitzky, 1908; 1910; case (Yamagawa, 1897); *B. tuberculosis,* satisfactory experimental evidence lacking; *B. typhosus* evidence not convincing; *Bacterium tularense* experimental (Francis); *Micrococcus melitensis,* transmission experiments negative (Ross & Lewick); *Pneumococcus,* transmission experiments negative (André); *Streptococcus,* disappears rapidly (André); †88 *Leishmania tropica,* reported as carrier of; †94 *Trypanosoma*[l] *brucei,* infective 3 to 4 days; *T. duttoni,* of mouse, development obtained; *T. gambiense,* 4 days; †95 *Schizotrypanum cruzi,* develops; †142d *Borrelia duttoni,* lives 7 days; *B. recurrentis,* experimentally lives 3 to 5 days; †444 *Onchocerca volvulus* (negative); †446 *Wuchereria bancrofti* (negative).

pipistrelli Jen., 1839, Ann. Mag. Nat. Hist., v. 3, 243–244: *Cimex; Clinocoris.*°—Reported attacking man; normally in bats' nests.—Europe.

**pipistrelli* [h] ° of Chittenden, 1898, Bull. 18, Div. Ent. U. S. D. A., 97: *Cimex.*—So. *pilosellus* Horv., 1910, 12.

rotundatus Sign., 1852 [nv]: *Cimex; Acanthia* °; *Clinocoris.*°—Reported as carrier of: †88 *Leishmania* (?)*donovani* (intestine; Wenyon, 1912); †88 *L. tropica* (cf. Patton, 1907); †95 *Schizotrypanum cruzi* (develops well, Brumpt, 1913); †142d *Borrelia recurrentis* (mechanical transmission of recurrent fever); negative for *Bacillus leprae* (cf. Thomps., 1914); *B. pestis* remains virulent 38 days, but rôle minimal.

1134 (1133). **Haematosiphon** Champion, 1900, Biol. Centr. Am. Heteropt., v. 2, 337, mt. Cimex [l] *inodorus.*

**inodorum* Dugès, 1892, La Naturaleza, v. 2, 169–170, pl. 8, figs. 1–7: *Haematosiphon;* Clinocoris; [l] Cimex; [l] Acanthia.[l]—Attacks man.—Mexico[t]; Texas; New Mexico.

1135 (1133). **Leptocimex** Roubaud, 1913, Bul. Soc. ent., Paris, 349, mt. Cimex [l] *boueti.*

boueti Brumpt, 1910a, 563, figs. 405–406 [Cimex [l]]: *Leptocimex.*—Reported as experimental carrier of †95 *Schizotrypanum cruzi.*—Ivory Coast; Haute-Guinée.[t]

1136 (1133). **Loxaspis** Rothschild, 1912, BER, 363, tod. *mirandus.*

barbarus Roubaud, 1913, Bul. Soc. ent., Paris, 350: *Loxaspis;* Leptocimex [l].—On bats.—Bites man.—Senegal; Niger, Africa.

1137 (1133). ***Oeciacus*** Stål, 1873, Enum. Hemipt., pt. 3, 104, tod. Acanthia [l] *hirundinis.*—[C. 25a, 378.]

[ciliatus [h] [s] Eversmann, 1841, Bul. Soc. imp. Nat. Moscou, 359–360, pl. 6, fig. 6 [cf. *Cimex ciliatus* Fabr., 1775a, 706]: Acanthia; [l] Clinocoris.[l]—Attacks man in Kasan,[t] Oriental Russia.—So. *hirundinis* Jenyns, 1839, fide Brumpt, 1922a, 804.]

**hirundinis* Jenyns, 1839, Ann. Mag. Nat. Hist., v. 3, 243, 244: *Oeciacus;* Acanthia;[1] Clinocoris.[1]—Cambridgeshire;[t] Europe.—In swallows' nests.—Attacks man.—Harbors experimentally †95 *Schizotrypanum cruzi.*

[*hirundinis [d] Gillette & Baker, 1895, Hemipt. Colo. [Acanthia [1]]: Cimex.—So. *vicarius.*]

**vicarius* Horv., 1912, Ann. Mus. nat. Hung., v. 10, 261: *Oeciacus.*—Normally a parasite of swallows, has been observed biting children.—U. S. A.; Mexico.

1138 (1125A). *Nabidae.—[C. 25a, 380; B. & M. 15a, 78.] See †1139.

1139 (1140). ***Nabis** Latr., 1802b, 248; tsd. (1840; 1917) *vagans* Fabr. = (tsd. 1915) *ferus* Linn.; etd. (1810; 1832; 1904) *apterus.* Syn. *Reduviolus* [a] Kirby, 1837, 279, type *inscriptus.*

capsiformis Germar, 1837 or "1840," Rev. Ent., v. 5(3), 132: *Nabis.*—Observed at Bombay in the evening biting man.—Tropical and subtropical regions. Cape of Good Hope.[t]

**subcoleoptratus* Kirby, 1837, 282 [Nabicula]: *Nabis; Reduviolus* [a]*; Coriscus.*—Sucks blood of man.—N. Y.[t]

1140 (1139). **Aphelonotus** Uhler, 1894, Proc. Zool. Soc. London, v. 13, 209, mt. *simplus.*

simplus Uhler, 1894, Proc. Zool. Soc. London, v. 13, 209: *Aphelonotus.*—Attacks man without slightest provocation.—Grenada [t]; W. Indies.

1141 (1125A). Reduviidae Steph., 1829b, 350.—Assassin-bugs, kissing-bugs. [C. 25a, 380; B. & M. 15a, 79.] See †1142A.

For keys to genera and species of U. S. A., see Riley & Johannsen, 1915a, 281–284.

species King, 1906, J. Trop. Med., London, 373, 1 fig.: Genus.—Sucks blood of man in Sudan.

1142A (1142B to 1154). **Reduvius** Fabr., 1775a, 729; tsd. (1810; 1840; 1915; 1917) *personatus* Linn.; etd. (1803) *fuscipes* Stål.—Kissing-bug. [C. 25a, 381.]

mayeti Puton [nv]: *Reduvius.*—Bites man occasionally.—N. Africa.

**personatus* Linn., 1758a, 446 [Cimex [1] (Seticornis)]: *Reduvius; Opiscoetus.*—"Cannibal bug"; "masked bed-bug hunter." [C. 25a, 381.] Severe bite with intense pain.—Canada; U. S. A.; Europe.

pungens [a] Thunb., 1783, Nov. Ins. Spec. (2), 36 [nv]: *Reduvius;* Cimex[1].—So. *personatus,* fide Lec.—Intense pain following bite; "may prove fatal in very weak and nervous persons."

1142B (1142A). **Apiomerus** [Hahn, 1831, Wanz. Ins., v. 1, 29; "invalid here," fide Van Duzee, 1917a, 256;] Laporte [1832], Mag. Zool., 82, numerous species, cites only *hirtipes* (type 1917).

pilipes Fabr., 1787a, v. 2, 309 [Reduvius [1]]: *Apiomerus.*—Vector of †95 *Schizotrypanum cruzi.*—Cayenna.[t]

1143 (1142A). ***Arilus** Hahn, 1831, Wanz. Ins., 33 [nv]; type *serratus* Fabr. = *carinatus.*—[C. 25a, 381.] Syns.: *Prionidus* [a] Uhler, 1886, Check list, 23, Prionotus [b] 1832, renamed; Prionotus [b] Laporte, 1832, MdZ, 8, mt. *serratus* [not Lacép., 1802, fish].

carinatus Forster, 1771, N. Sp. Ins., 72 [Cimex [1]]: *Arilus;* Prionotus [b]; *Prionidus.*—Bites man. Sucks blood.—Brazil.

**cristatus* Johansson ["Linn."], 1763, Amoen. Acad., v. 6, 399 [Cimex [1]]: *Arilus;* Prionotus [b]; *Prionidus.*—"Wheel-bug."—Bites man; can cause painful wound, followed by sloughing.—N. Y. to Calif. and S. Carolina.[t]

1144 (1142A). **Ectomocoris** Mayr, 1865, VzbG Wien, 438, mt. *coloratus.*

ululans Rossi, 1790, Faun. etrus., v. 2, 256 [Reduvius [1]]: *Ectomocoris.*—Attacks man.—Mediterranean region.

1145 (1142A). **Eratyrus** Stål, 1859, Berl. ent. Zeit., v. 3, 103, contained 2 sp. (*mucronatus* Stål; *cuspidatus* Stål).

cuspidatus Stål, 1859, BeZ, v. 3, 103–104: *Eratyrus; Erathyrus.*—Carrier of †95 *Schizotrypanum cruzi.*—Venezuela; Columbia.[t]

1146 (1142A). **Eulyes** Am. & Serv., 1843, Hist. nat. Ins., 359, mt. *amoena* Guérin.

amoena Guér., 1838, Mag. d. Zool., 350 [nv]; 1844, 340 [nv] [Reduvius [l]]: *Eulyes.*—Bites man.—Borneo; Java.

1147 (1142A). **Lamus** Stål, 1859, Berl. ent. Zeit., v. 3, 115; type probably *megistus*, 1st sp.—Not Lamus Dejean, 1859, in Lacordaire, Hist. nat. Ins., Coleopt., v. 5, 387, mt. Boros *rufipes;* a museum label name of earlier date.

megistus Burm., 1839, 246 [†1153 *Triatoma*,[l] q.v.]: *Lamus.*—The "Barberio" of Brazil.—"Chief vector of" †95 *Schizotrypanum cruzi.*

1148 (1142A). **Melanolestes** Stål, 1866, Öf. Vet. Ak., v. 23(9), 251, 259; tsd. (1917) *picipes.*

**abdominalis* Herrich-Schaeffer, 1848, 63, fig. 832 [Pirates [l]] [nv]: *Melanolestes.*—Bites man severely.—Mexico; Guiana; U. S. A.

**morio* Erichson, 1848 [nv]: *Melanolestes.*—Bites man.—Mexico; Guiana; U. S. A.

**picipes* H.-Sch., 1848, Wanz. Ins., v. 8, 62 [Pirates [l]] [nv]: *Melanolestes.*—"Black corsair." Painful bite.—Mississippi.

1149 (1142A). **Phonergates** Stål, 1853, Öf. Vet. Ak. Forh., v. 10(10), 261, type (?).

bicoloripes Stål, 1855, 40 [nv]: *Phonergates* (*Phonergates*).—"Ochindundu."—Bites man; serious effects.—Preys on †863 *Ornithodoros moubata*, the tick which transmits relapsing fever and possibly filariasis and other diseases in the W. Indies.—S. Africa; W. Indies.

species King, 1906, J. Trop. Med., London, 373: *Phonergates.*—Produces small red lumps at point of bite.—S. Africa; Sudan.[t]

1150 (1142A). ***Rasahus** Am. & Serv., 1843, Hist. nat. Ins. Hemipt., 325; tsd. (1917) *sulcicollis.*

**biguttatus* [o] Say, 1832 (1859), 13 (307): *Rasahus;* Petalocheirus[l]; Pirates[l]; Callisphodrus.[l]—"Two-spotted corsair." Bites man.—Southern U. S. A., Louisiana[t]; Para; Cuba; Panama.—So. (1859) Pirates *mutillarius.*

**thoracicus* Stål, 1872, Enum. Hemipt., pt. 2, 106: *Rasahus.*—Bites man.—Most so-called "spider bites" of Calif. are due to *Rasahus* (fide Davidson).—Mexico[t]; S. W. U. S. A.

1151 (1142A). ***Rhodnius** Stål, 1859, Berlin. ent. Zeit., v. 3, 104, type ? (orig. 1. *prolixus* chef-de-file, 2. *nasatus*).

brethesi da Matta [nv]: *Rhodnius.*—Occasionally bites man.—Amazonas.

brumpti Pinto, 1925, Ensaio [nv]: *Rhodnius.*—Vector of †95 *Schizotrypanum cruzi.*

prolixus Stål, 1859, Berlin. ent. Zeit., v. 3, 104: *Rhodnius.*—Attacks man.—Reported as vector of †95 *Schizotrypanum cruzi.*—Venezuela, S. America; W. Indies.

1152 (1142A). **Rhynocoris** Hahn, 1834, Wanz. Ins., v. 2, 20 [nv]; tsd. (1917) *cruentus* Fabr.=*iracundus* Poda.

iracundus Poda, 1761, Ins. Mus. Graec., 58 [Cimex[l]]: *Rhynocoris;* Rhinocoris.—Bites man.—France.

1153 (1142A). ***Triatoma** Laporte, 1832, Mag. Zool., v. 2, 11, mt. *gigas* Fabr.=*rubrofasciatus* de Geer; cf. tsd. (1915) *infestans.*—"Barbeiros." [C. 25a, 382.] Syn. *Conorhinus*[o] Laporte, 1832, Mag. Zool., 77, *Triatoma* renamed, hence type *gigas*; etd. (1915) *sanguisugus.*

brasiliensis Pinto, 1923, Brazil med., Feb., 73: *Triatoma.*—Vector of †95 *Schizotrypanum cruzi.*—Rio Grande do Norte[t], Brazil.

chagasi Brumpt & Gomez, 1914, Ann. Paul. Med. Cirurg., 111 [nv]: *Triatoma.*—Vector of †95 *Schizotrypanum cruzi.*

dimidiata Latr. in Humb., 1811, 149, pl. 15, fig. 11: *Triatoma;* Reduvius[1].—Transmits †95 *Schizotrypanum cruzi;* bites man.—Peru[t], C. and S. America.

["diminuata L." for ? *dimidiata.*]

geniculata Latr. in Humb., 1811, 115, pl. 15, fig. 12 [Reduvius[1]]: *Triatoma; Conorhinus*°.—Bites man.—Reported as vector of †95 *Schizotrypanum cruzi.*—Peru[t], S. America.

**gerstaeckeri* Stål, 1859, Berlin. ent. Zeit., v. 3, 111 [*Conorhinus*°]: *Triatoma.*—Vector of †95 *Schizotrypanum cruzi.*—Texas[t].

infestans Klug, 1834 [nv]: *Triatoma; Conorhinus*°.—Vinchuca, Barbeiro, fincao, chupao.—Bites man. Frequently harbors †95 *Schizotrypanum cruzi.*—S. America; Argentine; Brazil; Chile; Bolivia; Paraguay.

maculata Erichson [nv]: *Triatoma.*—Bites man.—S. America.

maculipennis[s] [nv]: *Triatoma.*—Vector of †95 *Schizotrypanum cruzi.*—So. *dimidiata.*

megista Burm., 1839, Handb. Ent., v. 2, 246 [*Conorhinus*°]: *Triatoma;* †1147 *Lamus,* q. v.—Bites man. "Chief vector" of †95 *Schizotrypanum cruzi* in Brazil, remains indefinitely infectious.—Brazil[t].

nigrovarius [nv]: *Conorhinus.*—Bites.—"Bichugue" of S. America.

**protracta* Uhler, 1894, Proc. Cal. Acad. Sci., 284 [*Conorhinus*°]: *Triatoma.*—Beds.—Bites.—Utah; Mexico; Calif[t].

renggeri Herrich-Schaeff., 1848, 838 [nv]: *Conorhinus.*—Bites man.—"Black-bug of Pampas."—S. America.

rubrofasciata de Geer, 1773, Mém. Hist. Ins., v. 3, 349, pl. 35, fig. 12 [Cimex[1]]: *Triatoma; Conorhinus*°.—Bite severe.—Harbors (experimentally) †95 *Schizotrypanum cruzi.*—Suspected vector of †88 *Leishmania donovani,* but experiments (Patton, 1912) negative.—Called "punaise maupin" or "morpin" by natives of Mauritius, because the French governor Maupin was bitten by it and developed anthrax.—Neotropical; Madagascar; Africa; Philippines; Asia; Brazil.

rubrovaria Blanch., 1843 [nv]: *Triatoma.*—Bites man.—S. America; Java.—Vector of †95 *Schizotrypanum cruzi.*

**sanguisuga* Leconte, 1855, Proc. Acad. Nat. Sci., Phila., 404 [*Conorhinus*°]: *Triatoma.*—Cone-nosed blood-sucking bug. Mexican bed-bug, Kissing-bug.—Bites. Sucks blood of man, attacks bed-bugs, etc.; symptoms alleged to last for months in some cases, and even death alleged to occur. Harbors (experimentally) †95 *Schizotrypanum cruzi.*—N. America; Md. to Ill.

sordida Stål, 1859, Berlin. ent. Zeit., v. 3, 108 [*Conorhinus*°]: *Triatoma.*—Bites man.—Brazil[t].—Vector of †95 *Schizotrypanum cruzi.*

**variegata* Drury, 1770, Nat. Hist. Exot. Ins., v. 1, 109, pl. 45, fig. 5 [Cimex [1]]: *Triatoma; Conorhinus*°.—S. E. U. S. A.; Ga.; Ill.; Texas; Calif.; Fla.

vitticeps Stål, 1859, Berlin. ent. Zeit., v. 3, 109 [*Conorhinus*°]: *Triatoma.*—Vector of †95 *Schizotrypanum cruzi.*—Rio de Janeiro[t], Brazil.

1154 (1142A). **Vescia** Stål, 1865, Hemipt. afr., v. 3, 123, type?

minima Fracker & Bruner, 1924, Ann. Ent. Soc. Wash., v. 17, 166: *Vescia.*—Sucks blood.—Amazonia; Brazil[t].

1155 (1125A). PYRRHOCORIDAE. See †1156.

†1156 (1157). **Dysdercus** Boisduval, "1835," Voy. Astrolabe, (2), 640, contains 3 sp. (*decussatus, oceanicus, pyrochroa*), (*Astemma* quoted as syn.),

tsd. (1906) 1st sp. *decussatus;* cf. Am. & Serv., 1843, Hist. nat. Ins., 272, cites only *koenigii* (*Astemma* quoted as syn.), tsd. (1903) *cingulatus* (1917) "*koenigii* (=*cingulatus*)"; etd. (1915) *ruficollis* Linn., 1764.

superstitiosus Fabr. 1775a, 719 [Cimex[1]]: *Dysdercus.*—Bites man.—Sierra Leone.—Specific or geographic confusion?

1157 (1156). **Clerada** Signoret, 1864, Maillard Note sur l'Île Réunion, v. 2 28 [nv].

apicornis Sign. [nv]: *Clerada.*—Sucks blood.—Tropics; Hawaiian Islands.

1158 (1125A). LYGAEIDAE. See †1159.

1159 (1160). **Geocoris** Fallén, 1814, Spec. nov. Hemipt., 10; tsd. (1912; 1915; 1917) *grylloides;* etd. (1903) *megacephalus.*

henoni Puton [nv]: *Geocoris.*—Observed biting man.—N. Africa.

scutellaris Puton [nv]: *Geocoris.*—Bites man occasionally (recorded as *Geocoris* species by de Bergevin).—N. Africa.

1160 (1159). **Leptodemus** Reuter, 1900, Ofv. Finsk. Forh., xliii, for *minuta* Jakow. [nv].

minutus Jakow. [nv] [Macropterna[1]]: *Leptodemus.*—Observed biting man occasionally.—N. Africa.

1161 (1125A). ARADIDAE Stål, 1873, Enum. Hemipt., pt. 3, 135.—Flat bugs. [C. 25a, 388; B. & M. 15a, 78.] Syns.: DYSODIIDAE[s]; ARADITES[d] Spinola, 1837, Essai Hemipt., 157. See †1162.

1162. Dysodius Le Pelletier & Serv., 1825 or "1828," Encycl. méth., 654, tod. "Aradus *lunulatus* Fabr." [Cf. *lunatus*?]

lunatus[s] Fabr., 1787a, v. 2, 289 [Cimex[1]]: *Dysodius.*—"Pito bug" of S. America.—Bites severely.—S. America; Cayenne[t].—So. *Euryophthalmus lunaris,* fide Van Duzee, 1917a, 202.

1163 (1070; 1112; 1113). Order *HOMOPTERA* Latr., 1817a, v. 3, 400; tpd. *Cicada.*—Cicadas, Aphids, etc. [C. 25a, 394; B. & M. 15a, 73.] Syns.: *AUCHENORRHYNCHA* Boerner, 1904, Zool. Anz., 522; 1163 (1112) *GULAEROSTRIA* Zett., 1840, Ins. lap., 286.

1164 (1166; 1169). CICADIDAE Distant, 1881, Biol. Centr. Am. Homopt., v. 1, 1.—The Cicadas. [C. 25a, 401; B. & M. 15a, 73.] Syns.: CICADIADAE[d] Leach in Samouelle, 1819, Ent. Useful Comp., 229; CICADIIDAE[d] Steph., 1829b, 355. See †1165A.

1165A (1165B). **Cicada** Linn., 1758a, 343, 434; tsd. (1917) *orni;* etd. (1832; 1915) *plebeja;* etd. (1840) *anglica.*—[C. 25a, 401; B. & M. 15a, 73.]

sanguinolenta Scop., 1763, Ent. Carniol., 112: *Cicada;* Cercopsis.—Cigale de la Chine.—Weak vesicant.—China.

1165B (1065A). **Tibicina** Kolenati, 1857, Melet. Ent., v. 7, 16; tsd. (1905; 1917) *haematodes.*

**septendecim* Linn., 1758a, 436 [Cicada[1]]: *Tibicina.*—Periodical cicada or seventeen year "locust."—Has been used as food.

1166 (1164). CICADELLIDAE.—The Leaf-hoppers. [C. 25a, 406.] Syn. JASSIDAE[s]. See †1167.

1167 (1168). **Euscelis** Brullé, 1832, Expéd. Sci. Morée, v. 3, 109, mt. *lineolatus* [nv].—[C. 25a, 406.] Syns.: *Athysanus*[s] Burm., 1838, Gen. Ins., v. 1, not paged [;tsd. (1902; 1908; 1917) *argentatus*]; *Phrynomorphus*[s] Curtis, 1833, Ent. Mag., v. 1, 194, tod. *nitidus.*

indicus Dist. [nv]: *Phrynomorphus.*—Bites man freely.—India.

vulnerans E. de Bergevin [nv]: *Athysanus* [;*Phrynomorphus*].—Bites man.—Sahara.

species E. de Bergevin [nv].

1168 (1167). **Nephotettix** Mats., 1902, Termes Fuzet., v. 25, 378, mt. *cinctipes;* tsd. (1915; 1917) *apicalis* Motsch.

bipunctatus Fabr., 1794a, 203 [Reduvius[l]]; *Nephotettix.*—Bites man occasionally.—Philippines; India; Oriental India[t].

1169 (1164). Coccidae Leach in Samouelle, 1819, Ent. Useful Comp., 223.—Scale-insects or Bark-lice, Mealy-bugs, etc. [C. 25a, 440; B. & M. 15a, 75.] See †1170.

1170. Ripersia Sign., 1874, Ann. Soc. ent. France, (5), v. 4 [nv]; tsd. (1915) *falcifera.*—[C. 25a, 451.]

*species Motter, 1898a, 204: *Ripersia.*—In human *grave, 3 yrs. 1 mo., in a Phorid puparium, Washington, D. C.

†**1171** (1070). *DERMAPTERA*[r ◦] de Geer, 1773, Mém. Hist. Ins., v. 3, 399 (contains "la Mantis, la Sauterelle, le Criquet, le Grillon, la Blatte, & le Perce-oreille"), tpd. (to conform with present literature) *Forficula.* See †1172.

1172 (1174; 1176). *Forficulidae Steph., 1829a, 299.—Earwigs. Ohrwürmer. Perce-oreilles. [B. & M. 15a, 15.] An Angola species considered poisonous; thought to introduce septic matter with its forceps. Oil of Forficulidae used as folks-remedy (rubbed on temples, nostrils, and wrists, to strengthen nerves). See †1173.

1173. *Forficula Linn., 1758a, 342, 423, tat. (1758), and tsd. (1810; 1915) *auricularia* syns.: (1758) *forficula*◦ s. *vulgaris*◦.—Earwigs. Ohrwürmer. [C. 25a, 463; B. & M. 15a, 15.]

**auricularia* Linn., 1758a, 423: *Forficula.*—Pseudoparasite in throat, intestine. Alleged[j] to enter ear and pierce the tympanum, according to popular superstition, but proof lacking.—Europe[t]; Ireland; Rhode Island.

*species Hyg. Lab. no. 12138: *Forficula.*—In samples of drinking water, Alexandria, La.

1174 (1172). Labiduridae. [B. & M. 15a, 15.] See †1175.

1175. Anisolabis Fieber, 1853, Lotos, v. 3, 257; tsd. (1876; 1905; 1910; 1911; 1915) *maritima* Bonelli (so. *albipes*).—[C. 25a, 462; B. & M. 15a, 15.]

annulipes Lucas, 1847, Bul. Soc. ent., Paris, v. 5, lxxxiv [Forficula[l]] [nv]: *Anisolabis; Euborellia.*—Ring-legged earwig.—Intermediate host for †314 *Hymenolepis diminuta.*—Venezuela.

colossea Dohrn, 1864, Stett. ent. Zeit., v. 25, 286 [Forcinella[l]]: *Anisolabis.*—Giant earwig.—Capable of drawing a large drop of blood with its pincers. Lives in refuse heaps, therefore, capable of introducing septic matter under skin of victim.—Australia.

1176 (1172). Pygidicranidae.—[B. & M. 15a, 15.] See †1177.

1177. Acnodes Burr, 1911, Stett. ent. Zeit., v. 72, 328, mt. *wellmani.* Syn. Dacnodes[h ◦] Burr, 1907, Ent. Mag., v. 43, 60, mt. *wellmani*, not *Dacnodes* Dejean.

wellmani Burr, 1907, Ent. Mag., v. 43, 60: *Acnodes*[t]; Dacnodes[h].—Capable of drawing a large drop of blood with its pincers. Lives in refuse heaps, probably introduces septic matter under skin of victim.—Portugese W. Africa[t].

◦ Syns.: HEMIPTERA [h] Retzius, 1783, iii, v, (contained genera 30-35, *Mantis, Locusta, Acrydium, Gryllus, Blatta, Forficula*); *EUDERMAPTERA* [B. & M. 15a, 15]; *EUPLEXOPTERA* Westw., 1839a, 398. Not *Dermopterus* Burnett, 1829, mammal. [Not †1075B DERMAPTERA [h] Retzius, 1783, Gen. et Sp., iii, iv, contained only †1133 *Cimex* and †1120 *Nepa.*]

1178 (1070). Ord. *COLEOPTERA* [18] Linn., 1758a, 341.—Beetles, weevils. [C. 25a, 464; B. & M. 15a, 30.] See †1179. For classification of *COLEOPTERA* of North America, see LeConte & Horn, 1883, Smithsonian Misc. Collect. no. 507, pp. 1–567. For Catalogue of *COLEOPTERA* of America, North of Mexico, see Leng, 1920, Mt. Vernon, N. Y., 1–468.

*species Motter, 1898a, 206, 207, 211, 213: *Genera.—Various cases; in human *graves, 4 to 10 years. Washington, D. C.

1179 (1192). Subo. *ADEPHAGA*[c19].—[C. 25a, 476; B. & M. 15a, 30.] See †1180.

1180. Caraboidea Heer, 1841, 554. See †1181.

1181 (1190). Carabidae Leach, 1817 [nv]; Steph., 1829a, 8.—Ground-beetles. [C. 25a, 478; B. & M. 15a, 31.] See †1182.

1182 (1183 to 1189). ***Celia*** Zimmerm., 1832, Gistel Fauna, v. 1, 18, type ? [nv].

**musculis* Say, 1823 (1859), Trans. Amer. Phil. Soc., Phila., 34 (462) [Feronia[1]]: *Celia;* Amara[1].—Collected on human *excreta, accidental.—Virginia[t].—Also *musculus*.

1183 (1182). **Anthia** F. Weber, 1801, Obs. Ent., 17; tsd. (1810; 1915) 1st sp. *sexguttata*.

calida Pallas, 1781, Icon. Ins., 85 [Meloe[1]]: *Anthia*.—Ejects with great force a strong-smelling liquid from posterior part of abdomen, which gives rise to a severe conjunctivitis.

1184 (1182). ***Brachinus*** Weber, 1801, Obs. Ent., 22 [nv].—Many species. Eject very irritating liquid.

1185 (1182). ***Dicaelus*** Bonelli, 1813, Mem. Acc. sc., Torino, 446.—[C. 25a, 480.]

**ovalis* Lec., 1848, Ann. Lyc. Nat. Hist., New York, v. 4, 427: *Dicaelus*.—On cadaver 20 years, 9 mos. in *grave. Probably accidental from bottom of grave.—Washington, D. C.; Penn.; Ind.; Tex.

1186 (1182). **Harpalus** Latr., 1802b, 92–96; tsd. (1833; 1840) *ruficornis*; etd. (1915) *aeneus*.—[C. 25a, 480; B. & M. 15a, 31.]

**faunus* Say, 1823 (1859), Trans. Amer. Phil. Soc., Phila., 28 (457) (ex Melsh, 1806, Cat. [nomen nudum]) [Carabus[1]]: *Harpalus*.—On cadavar 5 years, 4 mos. in *grave, probably accidental.—Wash., D. C.; R. I.; Mo.; Ind.; Hanover,[t] Penna.

1187 (1182). ***Schizogenius*** Putzeys, 1846, Mém. Soc. r. Sci., Liège, v. 2, 523, 649, type?

**amphibius* Henz in Haldeman, 1843, Proc. Acad. Nat. Sci., Phila., 299 [Clivina[1]]: *Schizogenius*.—On cadaver 15 years, 10 mos. in *grave. Probably accidental.

1188 (1182). **Sphodrus** Schellenberg, 1806, 85, mt. *S. planus* Fabr. [Carab.], syn. Harpalus[1] *leucophthalmus* Illig. [Not *Sphodros* Walck., 1833, arach.].

leucophthalmus Linn., 1758a, 413 [Carabus[1]]: *Sphodrus*.—Pseudoparasite in stomach, Sweden; occasionally in cellars.—Europe[t].

1189 (1182). **Stenolophus** Latr., 1825a [nv]; or Ziegl., 1825 [nv]; tsd. (1840) Carabus[1] *vaporariorium* L.

**conjunctus* Say, 1823 (1859), Trans. Amer. Phila. Soc., Phila., 90 (504) [Trechus [1]]: *Stenolophus*.—Collected on human *excreta, accidental.

1190 (1181). Dytiscidae Agassiz, 1842–46a, 59.—Predaceous diving-beetles. [C. 25a, 482.] Syn. Dyticidae° Steph., 1829a, 42. See †1191.

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[18] Syns.: *ELEUTERATA* Fabr., 1775, Syst. Ent., 1, ex. *Lucanus* 1st genus; *ELEUTHERATA** [B. & M. 15a, 30]: *ELYTHROPTERA** [B. & M. 15a, 30] for *ELYTROPTERA** Schellenberg, 1798, 44.

[19] Syns.: *ADEPHAGANA* Kirby [nv]; *ENTOMOPHAGA* Latr.; *CARNIVORA* Cuv. [nv]; *ADEPHAGI*° Schellenberg, 1806, 3.

1191. Dytiscus Linn., 1758a, 342, 411; tsd. (1810; 1826; 1840; 1915) *marginalis* L.—[C. 25a, 483; B. & M. 15a, 31.] Syn. *Dyticus*° Geoffr., 1762 (1799), Hist. Ins. Paris, v. 1, 185, type *marginalis*.

marginalis Linn., 1758a, 411: *Dytiscus; Dyticus*.—Reported as pseudoparasite in "chest."—Middlesex; Europe[t].

1192 (1179). Subo. *POLYPHAGA*.—[C. 25a, 486; B. & M. 15a, 30.] [Not *Polyphaga* Brullé, 1835, orthop.] See †1193.

1193 (1196; 1226; 1255; 1283; 1305; 1315; 1318). Series *PALPICORNIA*.—[C. 25a, 467.] See †1194.

1194. Hydrophilidae "Muls., 1844"; Agassiz, 1842–46a, Col., 82.—[C. 25a, 485; B. & M. 15a, 32.] See †1195.

1195. Cercyon Leach, 1817a, 95, type ?*unipunctatum*, or ?*melanocephalum*.—[B. & M. 15a, 32.]

**haemorrhoidalis* Fabr., 1775a, 67 [Sphaeridium[1]]: *Cercyon*.—Captured on human *excreta.—England[t].

**ocellatus* Say, 1825, 191 [nv]: *Cercyon*.—Captured on human *excreta.

1196 (1193). Series *BRACHYLETRA;* seu *STAPHYLINIFORMIA*°.—[C. 25a, 467; B. & M. 15a, 2.] See †1197.

1197 (1201; 1221A; 1222). Silphidae Steph., 1829a, 74.—Carrion-beetles. [C. 25a, 487; B. & M. 15a, 36.] See †1198.

1198 (1199; 1200). **Silpha** Linn., 1758a, 342, 359; tsd. (1839) 17th sp. *obscura* L., (1840); 4th sp. 4-*punctata* L.; (1915) 14th sp. *opaca*.—[C. 25a, 487; B. & M. 15a, 36.]

**noveboracensis* Forst., 1771, N. Sp. Ins., 17: *Silpha*.—Captured on human *excreta.—Noveboracensi[t].

obscura Linn., 1758a, 342, 361: *Silpha*.—On human cadavers exposed to air, 5th period; ammoniacal fermentation, black liquefaction, fide Mégnin, 1895, 63.—Edible.—India; Indo-China; Europe[t].

1199 (1198). **Necrodes** Wilk. in Steph., 1829a, 75, mt. *littoralis*.

littoralis Linn., 1758a, 360 [Silpha]: *Necrodes*[t].—On human cadavers, exposed freely to air, 5th period; ammoniacal fermentation, black liquefaction 4 to 8 mos., fide Mégnin, 1895, 61, 62.—Europe[t].

1200 (1198). **Necrophorus** Fabr., 1775a, 71, contained 2 sp. (*germanicus, vulgaris*); etd. (1810; 1840; 1915) *vespillo*; etd. (1825) *humator*.—[C. 25a, 487; B. & M. 15a, 36.]

fossor Erichson, 1837, Käfer Mark Brand., v. 1 (1), 224 [nv]: *Necrophorus*.—On cadavers of man and large mammals exposed to air, 5th period; ammoniacal fermentation, black liquefaction, 4 to 8 mos., fide Mégnin, 1895, 62.

1201 (1197). Staphylinidae Steph., 1829a, 274.—Rove-beetles. [C. 25a, 488; B. & M. 15a, 32.] See †1202.

*species Motter, 1898a, 214: Staphylinidae.—Larvae on cadaver in *grave 12 years, 11 mos.—Washington, D. C.

1202 (1203 to 1220). **Staphylinus** Linn., 1758a, 421; tsd. (1839) 2nd sp. *murinus;* (1840; 1915) 4th sp. *erytropterus* L.—[C. 25a, 489; B. & M. 15a, 32.]

**cinnamopterus* Grav., 1802, Coleopt. micropt. Brunsv., 164: *Staphylinus*.—Cadaver 15 years, 5 mos. in *grave; probably accidental, found outside coffin in grave.—Washington, D. C.; Baltimore[t].

fuscipes Linn., 1758a, 423: *Staphylinus*.—Stomach.—Sweden; Europe[t].

**maculosus* Grav., 1802, Coleopt. micropt. Brunsv., 165: *Staphylinus*.—Captured on human *excreta.—Baltimore[t], U. S. A.

politus Linn., 1758a, 422: *Staphylinus*.—Stomach.—Sweden; Europe[t].

punctulatus Gmel., 1789a, v. 1 (4), 2035, quotes Geoffr., ins. Par., v. 1, 365, no. 11: *Staphylinus*.—Stomach.—Sweden; Gallia[t].

splendens Fabr., 1792, Ent. syst., v. 1 (2), 523: *Staphylinus*.—Stomach.—Sweden; Germania[t].

1203 (1202). **Actobius** Fauv., 1874, Faune, Suppl., 72, Erichsonius[h] Fauv., 1874, not Westw., 1849, renamed. Cf. *Actobia* Ag., 1848, lepidopt., emending *Actebia* Steph., 1829.

species Motter, 1898a, 206: ? *Actobius*.—Alive on cadaver 4 years, 1 month in *grave.

1204 (1202). **Aleochara** Grav., 1802, Coleopt. micropt. Brunsv., 67; tsd. (1840) 37th sp. *bipunctata* Ol., 1795; Gr., 1802; etd. (1810) pseudotype *bipustulatus*.

**bimaculata* Grav., 1802, Coleopt. micropt. Brunsv., 182: *Aleochara*.—Captured on human *excreta.—Predaceous.

**nitida* Grav., 1802, Coleopt. micropt. Brunsv., 97: *Aleochara*.—Captured on human *excreta.—Predaceous.

*species Howard, 1900, Proc. Wash. Acad. Sci., 555: *Aleochara*.—Captured on human *excreta.—Predaceous.

1205 (1202). **Atheta** Thoms., 1859, Scand. Coleopt., 39, tod. *graminicola*.

*species Motter, 1898a, 204: *Atheta*.—Cadaver 1 yr., 11 mos. in *grave.—Washington, D. C.

1206 (1202). **Eleusis** Laporte, 1835, Études Ent., 131, mt. *tibialis*, Madagascar[t].

**pallida* LeConte, 1863, 58 [Isomalus[l]]: *Eleusis*.—Cadaver 1 yr., 11 mos. to 11 years, 2 mos. in *grave.—Washington, D. C.; Penn[t].

*species Motter, 1898a, 208: ?*Eleusis*.—Cadaver 5 yrs., 4 mos. in *grave.—Washington, D. C.

1207 (1202). **Homalota** Mann., 1830, Brachel., 73 [nv].

*species Howard, 1900, Proc. Wash. Acad. Sci., 555: *Homalota*.—On human *excreta.

*species Motter, 1898a, 207: *Homalota;*? †1205 *Atheta*, q. v.—On cadavers 5 years, 4 mos. in *grave; 6 years, 2 mos., in *grave.

1208 (1202). **Hoplandria** Kraatz, "1856" or 1857, Linn. Ent., 4; type ?*terminata* or ?*umbrina*.

**lateralis* Melsh., 1844, 32 [nv]: *Hoplandria*.—Captured on human *excreta.—U. S. A.

1209 (1202). **Lathrobium** Grav., 1802, Coleopt. micropt., 51; tsd. (1810; 1837; 1840) 8th sp. *elongatus* L.; (1915) 10th sp. *brunneipes*[e].

elongatum Linn., 1767, 685 [Staphylinus [l]]: *Lathrobium*[t]; Paederus[l].—Stomach.—Sweden, Europe[t].

**simile* Lec., 1863, 43: *Lathrobium*.—On cadaver, 9 years, 9 mos. in *grave.—Washington, D. C.; Middle States[t], U. S. A.

*species Motter, 1898a, 207: *Lathrobium*.—On cadaver 4 yrs., 5 mos. in *grave.— Washington, D. C.

1210 (1202). ***Microglossa** Fauv., 1866, Bull. Soc. linn. Normandie, v. 10 (1864–65), 282; type? [so. **Nanoglossa** Fauv., 1867, 350]; of Ganglb., 1895, 52 [so. **Crataraea** Thoms., 1858, 34, fide Leng, 1920, 125.] [Not *Microglossum* Geoffr., 1809, birds; *Microglossus* Wagl., birds.]

*species Howard, 1900, Proc. Wash. Acad. Sci., 555: *Microglossa*.—Captured on human *excreta.—U. S. A.

1211 (1202). ***Neobisnius** Ganglb., 1895, Käf. mit. Eur., v. 2, 464, contained 3 sp. (*villosus, procerulus, prolixus*).

**paederoides* LeConte, 1863, Smithsonian Misc. Coll., no. 140, 24 [nomen nudum] [Philonthus[l]]: *Neobisnius;* Actobius[l].—On cadaver, 3 years, 2 mos. in *grave.—Washington, D. C.

**umbripennis* LeConte [nv]: *Neobisnius;* Actobius[1].—Adults and larvae on cadavers 3 years, 6 mos. to 10 years, 1 month in *grave.—Washington, D. C.

1212 (1202). ***Omalium** Grav., 1802, 111; type (1810; 1915) *rivulare.*

**repandum* Erichson, 1840, Gen. et Sp. Staph., 878: *Omalium.*—Captured on human *excreta, accidental.—N. America[t].

1213 (1202). ***Oxytelus** Grav., 1802, 101; tsd. (1810; 1840) *piceus* L.

**exiguus* Erichson, 1840, Gen. Sp. Staph., v. 2, 798: *Oxytelus.*—Captured on human *excreta.—U. S. A., N. America[t].

**insignitus* Grav., 1806, 188 [nv]: *Oxytelus.*—Captured on human *excreta.—U. S. A.

**nitidulus* Grav., 1802, Coleopt. micropt. Brunsv., 107: *Oxytelus.*—Captured on human *excreta.—U. S. A.

**pennsylvanicus* Erichson, 1840, Gen. Sp. Staph., v. 2, 792: *Oxytelus.*—Captured on human *excreta.—Penn[t].—U. S. A.

1214 (1202). **Paederidus** Muls. & Rey, 1877, Ann. Soc. Linn., Lyon, v. 24, 245, contained 2 sp. (*ruficollis, gemellus*).

gemellus[s] Kraatz, 1858, Naturg. Ins. Deutschl., 731 (syn. elongatus[d] Ferrari MS.): *Paederidus;* Paederus[1].—Causes experimental vesicular dermatitis.—Germany[t], Europe.—So. *ruficollis* Fabr., 1781, v. 1, 339.

1215 (1202). **Paederus** Fabr., 1775a, 268; tsd. (1810; 1826; 1840; 1915) 1st sp. *riparius* L.

amazonicus Sharp, 1876, Trans. Ent. Soc., London, 287: *Paederus.*—Causes vesicular dermatitis.—Amazon.

columbinus Laporte, 1832 or 1835, Études ent., no. 2, 123 [nv]: *Paederus.*—Causes vesicular dermatitis.—Brazil; Columbia; Guiana; Venezuela.

crebrepunctatus Eppelsheim, 1895, Ann. Mus. Genova, v. 15(35), 210, 211: *Paederus.*—Causes vesicular dermatitis.—Brit. Tropical E. Africa, Gamale Guddà[t].

fuscipes Curtis, 1826, Brit. Ent., pl. 108: *Paederus.*—Causes vesicular dermatitis; "spiderlick."—S. Russia; India.

goeldi Wasm. [nv]: *Paederus.*—Causes vesicular dermatitis.—Upper Amazon.

irritans Chapin, 1926, Arch. Schiffs- Tropen-Hyg., 370, 371: *Paederus.*—Causes vesicular dermatitis.—Ecuador[t].

limnophilus Erichson, 1840, Gen. Spec., 653: *Paederus.*—Causes experimental vesicular dermatitis.—Saxony[t], Europe.

littoralis Grav., 1802, Coleopt. micropt. Brunsv., 61: *Paederus.*—Blankenburg[t].

**littorarius* Grav., 1806, 142: *Paederus.*—On cadaver, 3 years, 2 months in *grave.—Washington, D. C.

peregrinus Erichson, 1840, 656 [nv]: *Paederus.*—Causes seasonal vesicular dermatitis.—Java.—Also as var. of *fuscipes* Curtis.

sabaeus Erichson, 1840, 655: *Paederus.*—Causes vesicular dermatitis.—Belgian Congo.

species Rodhain & Houssian, 1915, Bull. Soc. Path. exot., 588–591, pl. 4, fig.: *Paederus.*—Causes seasonal vesicular dermatitis.—Belgian Congo.—So. *sabaeus.*

1216 (1202). **Philonthus** Leach in Steph., 1829a, v. 1, 279; tsd. (1836; 1915) 4th sp. *splendens* Fabr.; tsd. (1840) 7th sp. *politus* L.—[B. & M. 15a, 32.] Cf. *Philanthus* Fabr.

**brunneus* Grav., 1802, Coleopt. micropt. Brunsv., 172 [Staphylinus[1]]: *Philonthus.*—Captured on human *excreta. Predaceous.—America septentr[t].

ebeninus Grav., 1802, Coleopt. micropt. Brunsv., 170 [Staphylinus[1]] *Philonthus.*—Larvae in exhumed bodies, fide Mégnin, 1895, 99.—Brunsuigae[t].

**hepaticus* Erichson, 1840, Gen. Sp. Staph., no. 2, 451: *Philonthus.*—Captured on human *excreta. Predaceous.—U. S. A.

**sordidus* Grav., 1802, Coleopt. micropt. Brunsv., 176 [Staphylinus]: *Philonthus.*—Captured on human *excreta. Predaceous.—Washington, D. C., Brunsuigae[t].

*species Motter, 1898a, 208: ?*Philonthus.*—Larvae.—On cadaver 5 years, 4 months in *grave.—Washington, D. C.

1217 (1202). ***Platystethus** Mannerh., 1830, Brachélytres, 46 [nv]; tsd. (1840) *morsitans.*

**americanus* Erichson, 1840, 784: *Platystethus.*—Captured on human *excreta.—U. S. A.

1218 (1202). **Quedius** Leach in Steph., 1832, Ill. Brit. Ent., 215; tsd. (1837) 1st sp. *tristis;* (1840) 14th sp. *impressus.*

**capucinus* Grav., 1806, Monogr. Coleopt. micropt., 40 [Staphylinus] [nv]: *Quedius.*—Captured on human *excreta. Predaceous.—U. S. A.

1219 (1202). **Tachinus** Grav., 1802, 134; tsd. (1810) 4th sp. *rufipes;* etd. (1840 pseudotype *silphoides.* [Not †1593 *Tachina.*]

**fumipennis* Say, 1834 (1859), Trans. Amer. Phil. Soc., 466 (581) [Tachyporus[1]]: *Tachinus.*—Captured on human *excreta.—U. S. A.

subterraneus Linn., 1758a, 422 [Staphylinus[1]]: *Tachinus* (*Tachinus*); Oxyporus[1].—Stomach.—Sweden, Europe[t].

1220 (1202). **Trichiusa** Casey, 1893, ANYAS, v., 7, 339, tod. *compacta.*

**robustula* Casey, 1893 or 1894, Ann. Acad. Sci., New York, v. 7 (for Oct., 1893), 343: *Trichiusa.*—Captured on human *excreta.—Iowa[t], U. S. A.

1221A (1197). PSELAPHIDAE Agassiz, 1842–46a, 137.—[C. 25a, 489; B. & M. 15a, 32.] See †1221B.

1221B. Batrisodes Reitter, 1881, VzbGWien, v. 31, 205, type?

**ferox* LeConte, 1850, J. Boston Soc. Nat. Hist., v. 6 (1), (for Oct., 1848–Sept., 1849), 95 [Batrisus[1]]: *Batrisodes.*—On cadavers from 16 years, 5 months, to 21 years in *grave.—Washington, D. C.; Ohio[t]; Penn.[t]

**globosus* LeConte, 1850, J. Boston Soc. Nat. Hist., v. 6(1), 100: *Batrisodes;* Batrisus[1].—On cadaver 28 years in *grave.—Ga.; Penn.[t]; Washington, D. C.

1222 (1197). HISTERIDAE Steph., 1829a, 99. [C. 25a, 490.] See †1223.

1223 (1224). **Hister** Linn., 1758a, 342, 358; tsd. (1833; 1840) 1st sp. *unicolor* L.; etd. (1915) *fimetarius* Herbst, 1792.—Mimic-beetles. [B. & M. 15a, 33.]

**abbreviatus* Fabr., 1775a, 53: *Hister.*—Captured on human *excreta. Predaceous.—U. S. A., N. America[t].

cadaverinus Hoffm., 1803, Ent. Hefte, v. 13, 34 [nv]: *Hister.*—In exposed human cadavers, of 4 to 8 months, 5th period, during ammoniacal fermentation, fide Mégnin, 1895.—Europe; Siberia; Japan.

**interruptus* Beauv., 1805, 180, fig. 8: *Hister.*—Captured on human *excreta. Predaceous.—Penn.[t], U. S. A.

1224 (1223). **Saprinus** Erichson in Klug, 1834, Jahrb. Ins., 172 [nv]; tsd. (1840) Hister *nitidulus* Fabr.; tsd. (1915) *aeneus* Fabr.—[B. & M. 15a, 33.]

**assimilis* Paykull, 1811, Monogr. Hister., 63 [Hister]: *Saprinus.*—Captured on human *excreta. Predaceous.—U. S. A.

rotundatus Kugelmann, 1792, N. Mag. Lieb. Ent., v. 1(3), 304 [Hister[1]]: *Saprinus.*—On human cadaver 18 months after death; 5th period, ammoniacal fermentation, black liquefaction 4 to 8 months, fide Mégnin, 1895, 65, fig. 16.

1225 (1223). **Xestipyge** Marseul, 1862, Ann. Soc. ent., Paris, v. 2, 6, mt. *radula.*

**conjunctus* Say, 1825 (1859), J. Acad. Nat. Sci., Phila., 38(265) [Hister[1]]: *Xestipyge;* Carcinops[1].—Captured on human *excreta. Predaceous.—U. S. A.

1226 (1193). Series *POLYFORMIA;* seu *SERICORNIA.*—[C. 25a, 467; B. & M. 15a, 32.] See †1227.

1227 (1237; 1245; 1250). Cantharoidea. See †1228.

1228 (1230; 1232; 1234). Cantharidae Steph., 1829a, 254; seu Telephoridae.—Soldier-beetles and others. [C. 25a, 492; B. & M. 15a, 40.] See †1229.

1229. Cantharis Linn., 1758a, 342, 400, applied to fireflies and allies, type *?fusca,* or *?livida,* or *?rufa;* etd. (1810; 1837; 1840; 1915) Meloe[1] *vesicatoria* [not an original species]; see †1244A *Lytta.* Seu **Telephorus** Schaeffer, 1766, Elem. Ent., tab. 123 [nv].—[C. 25a, 492.]

There has been confusion in regard to the genus *Cantharis;* in medical literature it refers to the blister beetles; but Linnaeus (1758a) used it for the fireflies and allies. Geoffroy (1762) transferred it to the medicinal beetles and since his time the species have been considerably confused. Catalogues of the *COLEOPTERA* have returned *Cantharis* to its Linnaean sense and the medicinal species are returned to †1244A *Lytta* and †1234 *Epicauta.*

species Brooke, 1908, Trop. Med., 122: *Cantharis*[1].—Acrid secretion excites inflammation or vesication.—Senegal.

1230 (1228). Drilidae. See †1231.

1231. Drilus Olivier, 1790, Ent., v. 2, 1, mt. Ptilinus *flavescens* Fabr.

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 13: *Drilus.*—Possess poisoned spines upon which barefooted natives accidentally tread. When these spines enter flesh they set up inflammation, at times so violent as to end in gangrene.—Africa.

1232 (1228). Cleridae Kirby, 1837, Faun. bor.-amer., 243.—Checkered beetles. [C. 25a, 493; B. & M. 15a, 35.] See †1233.

1233. Clerus Fabr., 1775a, Syst. Ent. 157; tsd. (1829) 4th sp. *apiarius;* etd. (1810) *alvearius* Fabr., 1798. Seu **Trichodes**[a] Herbst in Jabl., 1792, Nat. Ins. (Käfer), v. 4, 154; tsd. (1876) 2nd sp. *octopunctatus;* (1915) 1st sp. *apiarius* L.—[C. 25a, 493; B. & M. 15a, 35.] [Not Trichodes[b] Linst., 1874, nematode.]

apiarius Linn., 1758a, 388; Herbst in Jablonsky, 1792, Nat. Ins., v. 4, 156 [Attelabus[1]]: *Clerus; Trichodes.*—Germany[t]; Europe; Caucasus; N. Africa.

1234 (1228). Corynetidae so. Cleridae, fide Chapin.—[C. 25a, 493; B. & M. 15a, 35.] See †1235.

1235 (1236). **Corynetes**[c] Herbst in Jabl., 1792, Nat. Ins. (Käfer), v. 4, 148 [*Korynetes*]; tsd. (1831; 1840) 1st sp. *violaceus* L. [s. *coeruleus*]; (1915) *coeruleus.* Cf. †1236 *Necrobia.*

caeruleus de Geer, 1775, Mém. Ins., v. 5, 164 [Clerus[1]]: *Corynetes.*—On cadavers, 4th period, caseous products, fide Mégnin, 1895, 54.—Cosmopolitan.

1236 (1235). **Necrobia** Olivier, 1795, Ent. Col., v. 4, no. 76 bis, 76; tsd. (1810) 1st sp. *violaceus;* tsd. (1831; 1840) 3rd sp. *ruficollis.*—[C. 25a, 493.] Cf. †1235 *Corynetes.* Cf. *Necrobia* Latr., 1796a, 35, no sp. cited.

ruficollis Fabr., 1775a, 57 [Dermestes[1]]: *Necrobia; Corynetes* q. v.; *Korynetes.*—On cadavers, 4th period, caseous products, fide Mégnin, 1895, 54.—India orientali[t]; cosmopolitan.

**rufipes* de Geer, 1775, Mém. Ins., v. 5, 165, pl. 15, fig. 4 [Clerus[1]]: *Necrobia; Corynetes;* Dermestes[1]; Anobium[1].—Red-legged ham-beetle;

of great economic importance to packers; causes serious damage to hams, and other meats; in storeroom and pantries.—Europe; Australia; Africa; East Indies; U. S. A.; Surinam[t]; S. America.

species: *Necrobia*.—Larva.—Conjunctiva (Houlbert, 1910, Arch. Parasitol., v. 13, 551); scoleciasis seu canthariasis.

1237 (1227). MORDELLOIDEA. See †1238.

1238 (1240). MORDELLIDAE Steph., 1829a, v. 1, 248.—[C. 25a, 494; B. & M. 15a, 39.] See †1239.

1239. Mordella Linn., 1758a, 420; tsd. (1810; 1840; 1915) 1st sp. *aculeata* L.; etd. (1834) pseudotype *fasciata* Fabr.—[B. & M. 15a, 39.]

species Hope, 1840a, 262, 263: *Mordella*.—Stomach, pseudoparasite (1752).—Sweden.

1240 (1238). MELOIDAE.—Blister-beetles. [C. 25a, 495; B. & M. 15a, 40.] See †1241.

1241 (1242 to 1244). **Meloe** Linn., 1758a, 419; tsd. (1829; 1840; 1915) 1st sp. *proscarabaeus*.—[C. 25a, 497; B. & M. 15a, 40.] Administered internally as antirabic, under different forms; is alleged to have caused the death of patients. Vesicant properties equal to cantharides, but latter preferred.

americanus Herbst in Fuessly, 1784, Arch. Ins., v. 5, 146 [Mylabris] [nv]: *Meloe*.—America[t].

autumnalis Manuel, 1792, Encycl. méth., v. 7 (2), 650: *Meloe*.—Middle and southern Europe[t]; Tirol; England; France.

brevicollis Meyer, 1793, Tent. Monogr., 23 [nv]; or Hellwig in Panzer, 1793, Ins. Germ., Heft 10, table 15 [nv]: *Meloe*.—Middle Europe; Asia.

cicatricosus Leach, 1813 or 1815, Trans. Linn. Soc. London, v. 11 (1), 39: *Meloe*.—Vesicant.—France; Kent[t], England; Germany; southern Europe; Caucasus.

cyaneus[s] Fabr., 1801, Syst. Eleuth., 589: *Meloe*.—Italy[t]; France.—So. *autumnalis*.

majalis Linn., 1758a, 419: *Meloe*.—Vesicant; pseudoparasite.—Europe; America; Africa.

proscarabaeus Linn., 1758a, 419: *Meloe*[t].—"Calms most stubborn cough"; also pseudoparasite.—Europe; Turkestan; Caucasus; Silesia.

purpurascens[s] Germ., 1834, 12: *Meloe*.—Tigal sucré.—Southern Europe; Bengal.—So. *cavensis*.

rugosus Marsh, 1802, Ent. Br., 483: *Meloe*.—Vesicant.—Asia; France; Turkestan; Algeria; Caucasus.—Cf. *rugosus* Thunb., 1791, Nov. Ins. Spec., (6), 108.

species Hope, 1840a, 262, 263: *Meloe*.—Pseudoparasite; ?stomach, ?intest.

trianthemae [nv]: *Meloe*.—Indies.

tuccius Rossi, 1790, Faun. etrusca, v. 1, 238; 1792, 283; 1795, Ent. etrusca, 290: *Meloe*.—Vesicant.—France; Italy; Turkestan; Asia.

variegatus Donovan, 1793, Brit. Ins., v. 2, 81, pl. 67: *Meloe*.—Vesicant.—Europe; N. W. Asia; Siberia.

violaceus Marsh, 1802, Ent. Brit., v. 1, 482: *Meloe*.—Europe; N. Asia.

1242 (1241). **Cabalia** Muls. & Riley, 1858, Mém. Acad. Lyon, 150 [nv].

segetum Fabr., 1792, Ent. Syst., v. 1 (2), 84 [Lytta[l]]: *Cabalia*.—Vesicant.

1243 (1241). **Epicauta** Dej., 1833, Cat., 224; Redtenbacher, 1845, 133, 621.—[C. 25a, 496; B. & M. 15a, 40.] Vesicant.

adspersa Klug, 1825, N. A. Acad. Caes. Leop. Cat., v. 12 (2), 434: *Epicauta;* Lytta[l].—Brazil; Uruguay; Buenos-Aires[t], Argentina.

affinis Lucas, 1849, Expl. Alger., 398 [Meloe[l]] [nv]: *Epicauta*.—Brazil; Guiana.

atomaria Germ., 1821, Mag. Ent., v. 4, 154: *Epicauta;* Lytta[1].—Brazil[t]; Guiana; Argentina.

atrata Fabr., 1775a, 260: *Epicauta;* Lytta[1].—America.

cavernosa Reiche, 1855, 589 [nv]; Courbon, 1855, 1006: *Epicauta.*—Montevideo, Uruguay; Argentina.

**cinerea* Forster, 1771, N. Sp. Ins., 62 [Meloe[1]]: *Epicauta.*—U. S. A.; N. America[t].

courboni Guer.-Menev., 1855, VzbG Wien, 590 [nv]: *Epicauta.*—Montevideo, Uruguay; Argentina; Parana.

dubia Fabr., 1781a, 329 [Lytta[1]]: *Epicauta;* Mylabris[1]; Cantharis[1].—Siberia[t].

dimidiata [nv]: *Epicauta.*

erythrocephala Pallas, 1771, Iter, v. 1, 466 [Meloe[1]]: *Epicauta;* Lytta[1]; Cantharis[1].

flavicornis Duj., 1838 [nv]: *Epicauta.*—Seasonal vesicular dermatitis.

fucata [nv]: *Epicauta.*—Brazil; Guiana.

marginata Fabr., 1775a, 260 [Lytta]: *Epicauta.*

omentosa Maeklin, 1845 [nv]: *Epicauta;* Epicaudata [misprint?].—Seasonal vesicular dermatitis.

ruficeps Illiger, 1800, Arch. Zool., v. 1 (2), 140: *Lytta.*—Acrid secretion excites inflammation or vesication.—Chile.

sapphirina Maeklin, 1845 [nv]: *Epicauta.*—Seasonal vesicular dermatitis.

verticalis Ill.'s Mag. Ins., 1804, v. 3, 172: *Epicauta.*—Middle and southern Europe; France.

**vittata* Fabr., 1775a, 260 [Lytta]: *Epicauta;* Lytta.—America[t]; U. S. A.—Acrid secretion excites inflammation or vesication.

1244A (1241). **Lytta** Fabr., 1775a, 260, contained 5 sp. (*vesicatoria, marginata, vittata, atrata, afra*).—Seu Cantharis[d] Geoffr., 1762, v. 1, 339, as of Latr., 1810; tsd. (1810; 1837; 1840; 1915) *vesicatoria.* Cf. †1229.

officinalis of Goossens, 1886, Ann. Soc. ent. Paris, 463: Cantharis[h].—Vesicant.

species Brooke, 1908, Trop. Med., 122: Cantharis [1].—Acrid secretion excites inflammation or vesication.—Senegal.

vesicatoria Linn., 1758a, 419 [Meloe[1]]: *Lytta;* Cantharis[d t].

1244B (1241). Mylabris[d] ° Fabr., 1775a, 261 [not †1314 Geoffr., 1762]; tsd. (1810; 1915) 2nd sp. *cichorii.* A much confused generic name. Seu **Zonabris** Harold, 1879, Col., Heft XVI, 134, new name for Mylabris[d] 1775, hence type *cichorii.* Cf. †1314.

bimaculata Oliv., 1811, Encycl. méth., v. 8, 93: Mylabris [d].—Used in hydrophobia.—[Not †1314 *Bruchus bimaculatus* Oliv., 1795, q. v.]

cichorii Linn., 1758a, 419 [Meloe[1]]: Mylabris; Cantharis[1].—Acrid secretion which excites vesication.—India.

cyanescens[s] Illiger in Dej., 1821, Cat. Coleopt., 74 [Mylabris[1]]; Reith Acad., 231: Mylabris[1].—Vesicant.—Spain; France.—So. *duodecimpunctata.*

duodecimpunctata [confused species]. Cf. Cyrillo (1787); Petagna (1792); Lcht. (1796); Olivier (1811): Mylabris.—South Europe; N. Africa.

fuesslini[s] Panzer, 1796, Ins. Germ., v. 31, tab. 18: Mylabris.—Edible.—S. Europe; Asia; Turkestan; Siberia.—So. *floralis.*

geminata Fabr., 1798a, 120 "Habitat in Rossia Dom. Boeber": Mylabris.—S. Europe; Asia; Turkestan; Siberia.

indica[s] Herbst, 1784, Arch. Ins., 147, pl. 30, fig. 6: Mylabris[1].—Ostindien[t]; India.—So. *balteata.*

oleae Laporte, 1840, Hist. Nat. Ins., v. 2, 269: Mylabris[1].—Infusion used as drug.—Algeria, Morocco, N. Africa.

"*punctulata* Linn." Cf. Goossens, 1886, Ann. Soc. ent., Paris, v. 6, 463: Mylabris.—Vesicant.

punctum[s] Fabr., 1792, Ent. syst., v, 1 (2), 89: Mylabris.—Vesicant.—Tranquebariae[t].—So. *balteata* 1782.

quadripunctata Linn., 1766, 680: Mylabris[l].—Infusion made from shells used in catarrhal bronchitis.—Russia[t]; S. Europe; Turkestan; Persia.

sidae[s] Fabr., 1798a, 120: Mylabris[l].—China; Germany; India.—So. *phalerata*.

variabilis Pallas, 1782, Icones, 81, pl. E, fig. 7 [Meloe]; Olivier, 1795, Entom., v. 3, 10, pl. 2, figs. 14a–b: Mylabris[l].—Cape of Good Hope[t]; Alps; Caucasus; Italy; Greece; Turkey; Egypt; Afghanistan.

1244C (1241). **Sitaris** Latr., 1802b, 187, mt. tsd. (1831; 1840a) Necydalis *humeralis* F.; etd. (1915) *muralis* Forst. Syn. Necydalis[o h] Forst., 1781, N. Sp. Ins., 48; Latr., 1796a, 28 [not Linn., 1758]; tsd. (1802) *humeralis*. Subgenus of *Apalus* Fabr., 1775a, 127, fide Borchmann, 1917, 141.

colletis[s] Mayet, 1873, Bul. Soc. ent., Paris, CXCVIII: *Sitaris; Apalus*.—France.—So. *analis* Schaum, 1859, BZ, 51.

muralis Forster, 1771, 48: *Sitaris; Apalus;* Necydalis[h]—Europe.

1244D (1241). **Stenoria**[s] Muls., 1857, Hist. nat. Coleopt., France, 186–187, mt. *apicalis* Latr.; Muls. & Rey, 1862, Ann. Soc. imp. Lyon, v. 8, 175–176, mt. *kraatzii*, Pyrenees and France[t]. So. †1244C *Sitaris*, fide Gemminger & Harold, 1870, Cat. Coleopt., 2162, Subg. of *Apalus*, fide Borchmann, 1917, Coleopt. Cat., 141.

apicalis Latr., 1804, v. 4, 403 [Sitaris[l]]: *Stenoria; Apalus*[l].—France; S. Europe; Asia; Persia; Turkestan.

1245 (1227). Elateroidea.—See †1246.

1246. Elateridae Steph., 1829a, 121.—Click-beetles or Elators. [C. 25a, 499; B. & M. 15a, 33.]

*species Motter, 1898a, 215: Elateridae.—On cadaver 20 years, 9 months in *grave.

1247 (1248; 1249). **Agrypnus** Esch. in Thon, 1829, Ent. Archiv., v. 2, 32 [nv], tsd. (1840) *murinus* L.

murinus Linn., 1758a, 406: *Agrypnus;* Elater[l].—Accidental parasitism.—Europe[t].

1248 (1247). **Monocrepidius** Eschz. in Thon, 1829, Ent. Arch., 31 [nv]. Cf. *Monocrepidium* Tops., 1898, Spong., 17.

**bellus* Knoch in Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 168 (108) [Elater[l]]: *Monocrepidius*.—On cadaver 3 years, 2 months in *grave, Washington, D. C.—U. S. A.[t]

1249 (1247). **Tetralobus** Lep. & Serv., 1828, Encycl. méth., 594, tod. Elater[l] *flabellicornis*.

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 13: *Tetralobus*.—Poison spines enter flesh of man, severe inflammation sets up which at time is so violent as to end in gangrene.—Angola.

1250 (1227). Byrrhoidea.—See † 1251.

1251. Dermestidae "Leach, 1817" [nv]; Steph., 1829a, 95.—The Dermestids. [C. 25a, 506; B. & M. 15a, 34.] See † 1252.

1252 (1253; 1254). **Dermestes** Linn., 1758a, 342, 354; tsd. (1810; 1838; 1840; 1915) *lardarius*.—[C. 25a, 506; B. & M. 15a, 34.]

frischii Kug., 1792, N. Mag. Lieb. Ent., v. 4, 478: *Dermestes*.—On cadavers exposed freely to air, 3d period, fatty acids, fide Mégnin, 1895, 41, 42, fig. 7.

**lardarius* Linn., 1758a, 354: *Dermestes*[t].—Larder-beetle; on cadavers exposed freely to air, 3d period, fatty acids, fide Mégnin, 1895, 41; on meats; destroys specimens in natural history museums; pseudoparasite in intest.—Europe[t]; England; Greenland; cosmopolitan.

murinus Linn., 1758a, 356: *Dermestes.*—On cadavers; pseudoparasite in intest.—Europe[t]; England.

species Hope, 1840a, 260: *Dermestes.*—Larvae, pseudoparasite "in chest" of ♀.—England.

undulatus Brahm, 1790, Ins. Kal., v. 1 (1), 114: *Dermestes.*—On cadavers exposed freely to air, 3d period, caseous products, fide Mégnin, 1895, 41, 42.

vulpinus Fabr., 1781, Spec. Ins., v. 1, 64: *Dermestes.*—Proust (1894, Bull. Acad. Med. Paris, v. 31 (1), 57–66) found this on anthrax goat-skins; the insect contained anthrax bacilli in excrement, also on eggs and in larvæ.

1253 (1252). **Anthrenus** Geoffr., 1762 (1799), Hist. Ins., v. 1, 113 for *tomentosus* and l'amourette [=*museorum*]; Fabr., 1775, 61; tsd. (1840) *museorum* L.; etd. (1810) *verbasci;* etd. (1915) *scrophulariae* L.—Museum-beetle, carpet-beetle. [C. 25a, 506; B. & M. 15a, 34.]

museorum Linn., 1761a, Fauna Suec., 145 [Dermestes[l]]: *Anthrenus;* Byrrhus[l].—On mummified fetus, 7th period, extreme desiccation, after 1 year, fide Mégnin, 1895, 92, fig. 24a. Heim (1894, C. r. Soc. Biol., v. 6 (3), 59) found anthrax in excreta of larvæ taken from anthrax leather.—Dutch Guiana; Palearctic Region, N. America; Greenland; Europe.

scrophulariae Linn., 1767, Syst. Nat., 568: *Anthrenus;* Byrrhus[l].—Carpet buffalo bug; "buffalo moth," misnomer, really a beetle. Destroys carpets, museum specimens, etc.—Europe[t].

1254 (1252). **Attagenus** Latr., 1802b, 121, contained 2 sp. (*trifasciatus, macellarius*); etd. (1829; 1840; 1915) *pellio.*—[B. & M. 15a, 34.]

pellio Linn., 1758a, 355 [Dermestes[l]]: *Attagenus.*—On cadavers, 7th period, desiccation extreme after 1 year, fide Mégnin, 1895, 91; Anthrax spores in excreta, insect on anthrax leather, see Heim, 1894, C. r. Soc. Biol., v. 6 (3), 59.—Europe[t].

**piceus* Olivier, 1790, Encycl. méth., 10: *Attagenus.*—"Black carpet beetle"; a cause of felting of feather pillows; suspected as parasite of *Homo*, Michigan; museum pest, flour mills, cereal products.—Europe; Asia; U. S. A. Very abundant in Washington, D. C.

1255 (1193). Series *CLAVICORNIA* Heer, 1841, 365 (as class).—[C. 25a, 467; B. & M. 15a, 32.] See †1256.

1256 (1267). CUCUJOIDEA. See †1257.

1257 (1259; 1262; 1264). OSTOMIDAE; seu OSTOMATIDAE.—[C. 25a, 508; B. & M. 15a, 33.] See †1258.

1258. Tenebroides Piller & Mitterpacher, 1783, Iter Poseg., 87, type ? [nv]; seu **Tenebrioides**[e].—[C. 25a, 508; B. & M. 15a, 33.]

**laticollis* Horn, 1863, Proc. Acad. Nat. Sci., Phila., v. 4, (for Feb., 1862), 86 [Trogosita[l]]: *Tenebrioides.*—On cadaver 20 years, 9 months, in *grave, Washington, D. C.

**mauritanicus* Linn., 1758a, 417 [Tenebrio[l]]: *Tenebroides.*—The cadelle, bread beetle. Feeds on various kinds of foodstuffs, more particularly stored grain.—Cosmopolitan.

1259 (1257). NITIDULIDAE Leach, 1817 [nv]; Steph., 1829a, 77.—[C. 25a, 508; B. & M. 15a, 33.] See †1260.

1260 (1261). **Nitidula** Fabr., 1775a, 77; tsd. (1810; 1915) 1st sp. *bipustulata* L.; etd. (1838; 1840) pseudotype *grisea* L.—[B. & M. 15a, 33.] [Not Nitidula[h] Jerd. & Blyth, 1861, *Aves.*]

**bipustulata* Linn., 1761a, Fauna Suec., 148 [Silpha[l]]: *Nitidula.*—Urine.—N. Europe; N. Asia; N. America.

1261 (1260). **Omosita** Erichson, 1843, Zeit. f. Ent., 298, 3 sp. *depressa, colon, discoidea.*—[B. & M. 15a, 33.] [Not Omosita[h] Simon, 1864, arachn.]

**colon* Linn., 1758a, 362 [Silpha[1]]: *Omosita.*—Captured on human *excreta, fide Howard, 1900, 556.

1262 (1257). Rhizophagidae Horn, 1879.—[C. 25a, 508.] See †1263.

1263. Rhizophagus[e] Herbst, 1793, Nat. Ins., v. 5, 18, 3 sp. *bipunctatus, clavicornis, histeroides* (*Ryzophagus*); etd. (1915) *depressus.*—[C. 25a, 508.]

parallelicollis Schoenh. in Gyllenhal, 1827, 638: *Rhizophagus.*—Legal medicine. Larvae on exhumed bodies, fide Mégnin, 1895, 99.— Europe; N. America.

**scalpturatus* Mannerheim, 1852, Bull. Mosc. A. S., v. 2, 362 [nv]: *Rhizophagus.*—On cadavers from 1 year, 11 months, to 10 years, 8 months, in *grave, Washington, D. C.—Sitka[t].

1264 (1257). Cucujidae Steph., 1829a, 195.—The cucujids. [C. 25a, 509; B. & M. 15a, 34.] See †1265.

1265 (1266). **Silvanus** Latr., 1806, Gen. Crust. Ins., xiv, mt. *unidentatus;* Latr., 1807, Genera, v. 3, 20; etd. (1840; 1915) *surinamensis.*—[C. 25a, 509; B. & M. 15a, 34.] Cf. †1266. See †1266.

1266 (1265). **Oryzaephilus** Ganglb., 1899, Die Käfer Mittel Europas, v. 3, 584; contained 2 sp. (*surinamensis, mercator*).

**surinamensis* Linn., 1758a, 357 [Dermestes[1]]: *Oryzaephilus;* Silvanus[1].—Saw-toothed grain beetle.—Bed; external; also in stored grains.—Surinam[t]; Southern States, U. S. A.

1267 (1256). Tenebrionoidea.—See †1268.

1268 (1275; 1278). Tenebrionidae Leach, 1817 [nv]; Steph., 1829a, 241. Seu Blapsidae Leach [nv]; Steph., 1829a, 244.—The darkling beetles. [C. 25a, 513; B. & M. 15a, 38.] See †1269.

1269 (1270 to 1274). **Tenebrio** Linn., 1758a, 417; tsd. (1810; 1830; 1840; 1915) 1st sp. *molitor* L.—[C. 25a, 513; B. & M. 15a, 38.]

molitor Linn., 1758, 417: *Tenebrio.*—Yellow mealworm; "ver de farin." In anus; stomach; intestines; abdomen and navel; bladder; urinary system; nose. Adult or larva. Larvae swallowed by people eating corn-meal mush.—Vector of †314 *Hymenolepis diminuta.*—Cosmopolitan.

obscurus Fabr., 1792, Ent. syst., v. 1 (1), 111: *Tenebrio.*—"Darker mealworm." Larvae eat meal, flour, bread, cake, cereals. Frequently occur in mills, especially corn. On cadaver (fetus), 4 years in grave, 8th period, fide Mégnin, 1895, 94, fig. 25.—Germany[t].

species: *Tenebrio.*—Intermediate host of †462 *Gongylonema pulchrum.*

1270 (1269). **Akis** Herbst, 1799, Nat. Ins., v. 8, 124; tsd. (1810), 2d sp. *reflexa;* Syn. *Acis*[e].

spinosa Linn., 1764, Mus. Lud. Ulr., 101 [Tenebrio[1]]: *Akis;* Pimelia.—Vector of tapeworm, probably †314 *Hymenolepis diminuta.*

1271 (1269). **Blaps** Fabr., 1775a, 254; tsd. (1810; 1827; 1840; 1915) 3rd sp. *mortisaga* L.

mortisaga Linn., 1758a, 418 [Tenebrio]: *Blaps.*—Pseudoparasite. Intestine; stomach.—Siberia; Europe; Transcaucasus; Ireland.

mucronata Latr., 1804f, 278, p. 88, fig. 3: *Blaps.*—Intermediate host of †505 *Moniliformis moniliformis.*

species: *Blaps.*—Intermediate host of †462 *Gongylonema pulchrum.*

sulcata Fabr., 1775a, 254: *Blaps.*—Eaten in butter "pour engraisser." Alleged to cure disease of ears and sting of scorpion.—Egypt.

1272 (1269). **Gnathocerus**[e] Thunb., 1814, Vet. Acad. Handl., 46 [*Gnatocerus*].

**cornutus* Fabr., 1798a, 51 [Trogosita[1]], "Habitat in Tanger Dom. Schousboe Mus. Dom. Lund.": *Gnathocerus;* Echocerus.—Broad-horned flour beetle. Pest in bake houses.—Europe; California; Florida; cosmopolitan.

1273 (1269). **Scaurus** Fabr., 1775a, 253, mt. *atratus*; etd. (1810) *striatus*.

striatus Fabr., 1792, Ent. syst., v. 1 (1), 93: *Scaurus*.—Intermediate host of †314 *Hymenolepis diminuta*.—Italia meridionali[t].

1274 (1269). **Tribolium** MacLeay, 1825, Annulosa Javanica, 47, mt. *T. castaneum* (Herbst [Colydium]); tsd. (1915) *ferrugineum*.

confusum Duval, 1868, Cat. Col. Europe, 280 [nv]: *Tribolium*.—Confused flour-beetle. Infests flour, meal, prepared cereals.

**ferrugineum* Fabr., 1787a, v. 1, 212 [Tenebrio[1]]: *Tribolium*.—Rust-red flour-beetle. Infests flour, meal, cereals, etc.—Florida; Indiana; cosmopolitan.

1275 (1268). PTINIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 180.—[C. 25a, 514; B. & M. 15a, 35.] See †1276.

1276 (1276A; 1277). **Ptinus** Linn., 1767, S. N., 565; tsd. (1810; 1837; 1840; 1915) 5th sp. p. 566 *fur*.—[C. 25a, 514; B. & M. 15a, 35.] Cf. †1314 *Bruchus* 1762.

brunneus Gmelin, 1789, v. 1 (4), 1606 "Mus. Lesk., p. 6, no. 128": *Ptinus*.—On cadavers, dead over 3 years, 8th period, physical conditions débris, fide Mégn., 1895, 96, fig. 26.—Europe[t].

fur Linn., 1758a, 393 [Cerambyx[1]]: *Ptinus*; Buprestis.—"White-marked spider-beetle." Pest to books.—Europe; Asia; America.

species Heim, 1894, C. r. Soc. Biol., v. 6 (3), 60: *Ptinus*.—Heim found larvae on anthrax leather and reports anthrax spores in their excreta.

†1276A (1276). **Niptus** Boieldieu, 1856, Ann. Soc. ent. France, 290 [nv].

hololeucus Faldermann, 1835, N. Mém. Soc. imp. Moscou, v. 4, 214 [nv]: *Niptus*.—Larva in urethra.

1277 (1276). **Ptilinus** Geoffr., 1762 (1799), Hist. Ins. Paris, v. 1, 64; tsd. (1810; 1840) 1st sp. *pectinicornis*.

pectinicornis Linn., 1758a, 355 [Dermestes[1]]: *Ptilinus;* Ptinus[1].—Of economic importance. Destruction of furniture.—Europe[t].

**ruficornis* Say, 1823 (1859), Journ. Acad. Nat. Sci., Phila., v. 3, 186 (119): *Ptilinus*.—Destruction of wood floors.—New York.

1278 (1268). ANOBIIDAE Kiesw., 1877 [nv].—Death-watch beetles. [C. 25a, 514; B. & M. 15a, 34.] See †1279.

1279 (1280 to 1282). **Anobium** Fabr., 1775a, 62; tsd. (1840; 1915) 1st sp. *pertinax*; etd. (1832) *tessellatus*.—[B. & M. 15a, 34 "*Anobia*".]

**hirtum* Rossi in Ill., 1807, Mag. f. Ins., v. 6, 19: *Anobium*.—Destruction of book bindings.—Italy, Southern Europe; U. S. A.—So. *castaneum* Oliv., 1790, 7, fide Leng, 1920, 242.

1280 (1279). **Lasioderma** Steph., 1832, Illus. Brit. Ent., v. 5, 417, mt. *testaceum*.—[C. 25a, 515.]

serricorne Fabr., 1792, Ent. syst., v. 1 (1), 241 [Ptinus[1]]: *Lasioderma*.—"Cigarette beetle." Household pest. Infests various foods. Destroys cigarettes and cigars.—America[t].

1281 (1279). **Sitodrepa** Thoms., [?1857 or] 1863, Scand. Coleopt., v. 5, 166, mt. *panicea* L.—[C. 25a, 515; B. & M. 15a, 34.]

panicea Linn., 1761a, Fauna Suec., 145 [Dermestes[1]]: *Sitodrepa*.—"Drug-store beetle." Infests all kinds of drugs, leather, books, cork, foodstuffs, etc.

1282 (1279). **Xestobium** Motsch., 1845, Bul. Soc. imp. Nat., v. 18, 35, tod. *tessellatum*.—[C. 25a, 515.]

rufovillosum de Geer, 1774, v. 4, 230 [Ptinus[1]]: *Xestobium*.—"Death watch."

tessellatum Olivier, 1790, Ent., v. 2, no. 16, 6 [Anobium[1]]: *Xestobium*.—"Death-watch" beetle. Annoyance to superstitious people. Destruction of wood.

1283 (1193). Series *LAMELLICORNIA*.—[C. 25a, 468; B. & M. 15a, 31.] See †1284.

1284. Scarabaeoidea.—See †1285.

1285 (1301; 1303). Scarabaeidae MacLeay [nv]; Steph., 1829a, 104.—The Scarabaeids or Lamellicorn beetles. [C. 25a, 515; B. & M. 15a, 41.] See †1286.

1286 (1287 to 1300). **Anomala** Köppe in Samouelle, 1819, Ent. Useful Comp., 191, mt. *frischii* Fabr.

**undulata* Melsheimer, 1846, Proc. Acad. Nat. Sci., Phila., v. 2, 140; 1853, Cat. Coleopt., 60: *Anomala*.—Captured on human *excreta. Accidental.—Virginia[t].

1287 (1286). **Anoplognathus** Leach in Kirby, 1819, Trans. Linn. Soc. London, v. 12 (2), 401–403, 405, contained 2 sp. (*rugosus, inustus*); Leach in MacLeay, 1819,143, contained 3 sp. (*viridi-aeneus, dysticoides, brownii*); tsd. (1915) *viridiaeneus*.

viridiaeneus Donovan, 1805, not paged [Melolontha[1]]: *Anoplognathus*.—New Holland[t].

1288 (1286). **Aphodius** Illiger in Kug., 1798, Verz. Kaefer Preuss., 15; tsd. (1810) 23rd sp. *fimetarius;* (1824; 1840; 1915) 2d sp. Scarabaeus *fossor* L.—[C. 25a, 517; B. & M. 15a, 41.]

**femoralis* Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 215 (139): *Aphodius*.—On human excreta. Intermediate host of †462 *Gongylonema pulchrum, G. scutatum*, and of †508 *Macracanthorhynchus hirudinaceus*.—Missouri[t]; U. S. A.

*granaricus[m] [for *granarius*]: *Aphodius*.—Captured on human *excreta.

**granarius* Linn., 1767, Syst. Nat., 547 [Scarabaeus[1]]: *Aphodius; Copris*.—Europe[t]; cosmopolitan.—Intermediate host of †462 *Gongylonema scutatum*.

**inquinatus*[s] Herbst, 1783, Arch. Ins., v. 4, 7, pl. 19, fig. 5 [Scarabaeus[1]]: *Aphodius*.—In feces; intest.?—South Carolina.—So. *distinctus* Muell., 1776, 53, fide Leng, 1920, 250.

**rubeolus* Beauv., 1805, 90, fig. 4 [Scarabaeus[1]]: *Aphodius*.—Captured on human *excreta.

**stercorosus* Melsheimer, 1846, Proc. Acad. Nat. Sci., Phila., v. 2, (for Nov., 1844), 136: *Aphodius*.—On human *excreta.

**vittatus* Say, 1825 (1859), J. Acad. Nat. Sci., Phila., v. 5, 191–192 (295): *Aphodius*.—Intermediate host of †462 *Gongylonema scutatum*.

1289 (1286). **Ataenius** Harold, 1867, Coleopt., no. 2, 100 [nv].

**cognatus* LeConte, 1858, Proc. Acad. Nat. Sci., Phila., v. 9, 65 [Euparia[1]]: *Ataenius*.—Captured on human *excreta, Wilmington, N. C.; Texas[t]; Sonora[t].

1290 (1286). **Caccobius** Thoms., [1857 or] 1863, Scand. Coleopt., v. 5, 34, mt. Scarabaeus[1] *schreberi* L.

mutans [nv]: *Caccobius*.—Accidental intestinal parasitism.—Lower Bengal; Ceylon.

1291 (1286). ***Canthon** Hoffmannsegg, 1817, Zool. Mag., v. 1, 38 [nv].—Tumble-bug. [C. 25a, 517; B. & M. 15a, 41.]

**laevis* Drury, 1770, Illust. Nat. Hist., v. 1, 79, pl. 35, fig. 7 [Scarabaeus[1]]: *Canthon.*—On human *excreta.

1292 (1286). **Cetonia** Fabr., 1775a, 42; tsd. (1810; 1831; 1840; 1915) 3rd sp. *aurata.*

aurata Linn., 1758a, 43 [Scarabaeus[1]]: *Cetonia.*—Drug (epilepsy; hydrophobia).—Russia; Europe[t]; E. Siberia.—Intermediate host of †508 *Macracanthorhynchus hirudinaceus.*

1293 (1286). **Diloboderus** Reiche, 1859, Ann. Soc. ent., Paris, 14, mt. *abderus* [nv].

abderus Sturm, 1826, Cat., 66, pl. 2, fig. 17 [Scarabaeus[1]]: *Diloboderus.*—Intermediate host of †508 *Macracanthorhynchus hirudinaceus.*—Brazil[t].

1294 (1286). ***Geotrupes** Latr., 1796a, 6; tsd. (1810; 1829; 1840; 1915) *stercorarius* L.—Earth-boring dung-beetles. [C. 25a, 517; B. & M. 15a, 41.] Syn. *Geotrypes*[e]. [Not Geotrupes Redt., 1845, coleopt.]

**blackburnii* Fabr., 1781a, 20 [Scarabaeus[1]]: *Geotrupes; Geotrypes*[o].—Captured on human *excreta.—North America[t].

species Hope, 1840a, 260, 261: *Geotrupes.*—Pseudoparasite.—Sweden.

vernalis Linn., 1761a, Fauna Suec., 136 [Scarabaeus[1]]: *Geotrupes.*—Stomach (?).—Sweden[t].

1295 (1286). **Lachnosterna** Hope, 1837, 99, tod. Melolontha[1] *fervida* Fabr.—June-bug. [C. 25a, 518; B. & M. 15a, 41.] So. *Phyllophaga* Harris, 1826, or 1827, 6, fide Leng, 1920, 255.

**arcuata*[s] Smith, 1889, Proc. U. S. Nat. Mus., v. 11 (for 1888), 503, pl. 52, fig. 32 [*Lachnosterna*[s]]: *Phyllophaga.*—Reared (usually also captured) on human *excreta.—Washington[t], D. C., to Missouri.—Vector of †508 *Macracanthorhynchus hirudinaceus.*—So. *fervida* Fabr., 1781, 36, fide Leng, 1920, 256.

*species Motter, 1898a, 216: *Lachnosterna.*—On cadaver 5 years in grave, 21 years in *grave. Probably accidental.—Washington, D. C.

1296 (1286). **Melolontha** Geoffr., 1762 (1799), Hist. Ins., Paris, v. 1, 195, tat. (also 1832) *melolontha* L.; tsd. (1840; 1915) *vulgaris.*

species Hope, 1840a, 260, 261: *Melolontha.*—Stomach.—France.

vulgaris Fabr., 1775a, 32: *Melolontha.*—Intermediate host of †508 *Macracanthorhynchus hirudinaceus.*—Germany.

1297 (1286). **Onthophagus** Latr., 1807, Gen. Crust. Ins., v. 2, 83, 141; tsd. (1825) 7th sp. *nuchicornis* L. [Scarabaeus]; (1840) 3rd sp. *vacca* L. [Scarabaeus]; etd. (1810) *taurus;* etd. (1915) *camelus.*—[B. & M. 15a, 41.]

bifasciatus Fabr., 1781a, 25 [Scarabaeus[1]]: *Onthophagus.*—In intestine.—Coromandel[t]; Ceylon; India.

fasciatus[m] Mueller, 1926, CfB, v. 101, 153 for *bifasciatus* 1781: Ontophagus[m].

**hecate* Panzer, 1794, Fauna Ins. Amer. boreal., 5 [Scarabaeus[1]]: *Onthophagus.*—Captured on human *excreta. Intermediate host of †462 *Gongylonema scutatum.*

**pennsylvanicus* Harold, 1873, Coleopt., 115: *Onthophagus.*—Captured on human *excreta. Intermediate host of †462 *Gongylonema scutatum.*

species Hyg. Lab. no. 11711: *Onthophagus.*—Pseudoparasite in man.—Ceylon.

species Fletcher, 1924, Indian Med. Gaz., v. 59, June, 297: *Onthophagus.*—Intestine.—Bengal; Ceylon.

1298 (1286). **Oryctes** Illiger, 1798, Kaefer Preuss., 11, mt. *nasicornis*
nasicornis Linn., 1758a, 346 [Scarabaeus]: *Oryctes.*—Vector of †508 *Macracanthorhynchus hirudinaceus.*—Germany.

1299 (1286). **Phanaeus** MacLeay, 1819, Horae Ent., 124, 11 species, type?—[C. 25a, 517.]
splendidulus Fabr., 1781a, v. 1, 23 [Scarabaeus]: *Phanaeus;* Copris.—Intermediate host of †508 *Macracanthorhynchus hirudinaceus.*—Argentine.
**vindex* MacLeay, 1819, Horae Ent., v. 1, 133 [nv]: *Phanaeus.*—In human excreta, fide Barber, MS.—N. America.

1300 (1286). **Strategus** Hope, 1837, Coleopt. Man., v. 1, 87.
julianus Burm., 18[47?], Handb. Ent., v. 5, 133: *Strategus.*—Intermediate host of †508 *Macracanthorhynchus hirudinaceus.*

1301 (1285). TROGIDAE MacLeay [nv]; Steph., 1829a, 114.—The skin-beetles. [C. 25a, 522; B. & M. 15a, 41.] See †1302.

1302. **Trox** Fabr., 1775a, 31; tsd. (1810; 1835; 1840; 1915) 1st sp. *sabulosus.*—[C. 25a, 522; B. & M. 15a, 41.]
**aequalis* Say, 1832 (1859), New Sp. N. Am. Ins., 5 (301): *Trox.*—Captured on human *excreta.—U. S. A.[t]
**asper* LeConte, ?1854, or ?1856, Proc. Acad. Nat. Sci., Phila., v. 7(6), 215 [Omorgus[1]]: *Trox.*—Captured on human *excreta.—Ga., S. C., U. S. A.[t]

1303 (1285). LUCANIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 192; "MacLeay, 1817"; Steph., 1829a, 103.—The stag-beetles. [C. 25a, 523; B. & M. 15a, 41.] See †1304.

1304. **Lucanus** Scop., 1763, Ent. Carniol., 1; tsd. (1810; 1834; 1840; 1915) 1st sp. *cervus* L.—[C. 25a, 523; B. & M. 15a, 41.]
cervus Linn., 1758a, 353 [Scarabaeus[1]]: *Lucanus.*—Powder used by ancients as drug.—Europe[t].

1305 (1193). Series *PHYTOPHAGA.*—[C. 25a, 468; B. & M. 15a, 31.] See †1306.

1306. CERAMBYCOIDEA.—See †1307.

1307 (1311; 1313). CERAMBYCIDAE Leach, 1817 [nv]; Steph., 1829a, 196.—The long-horned beetles or cerambycids. [C. 25a, 524; B. & M. 15a, 40.] See †1308.

1308 (1309; 1310). **Ancylonotus** Dej., 1833 or ?1835 or ?1837, Cat. Col., ed. 2, 335, type?
tribulus Fabr., 1775a, 170 [Lamia[1]]: *Ancylonotus.*—Edible.—Gaboon[t]; Senegal; E. Africa; Ceylon.

1309 (1308). **Batocera** Dejean in Lap., 1840, Hist. nat. Ins., v. 2, 470; tsd. (1915) 1st sp. *rubus.*
rubus Linn., 1758a, 390 [Cerambyx[1]]: *Batocera.*—India[t]; Ceylon.

1310 (1308). **Macrodontia** Aud.-Serv., 1832, Ann. Soc. ent., Paris, 139, 2 sp. (*cervicornis, quadrispinosa*).
cervicornis Linn., 1758a, 389 [Cerambyx[1]]: *Macrodontia.*—Edible roasted; Chili soup.—Brazil.
condimentarius author?: *Macrodontia.*—Edible.—S. America.

1311 (1307). CHRYSOMELIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 211.—The leaf-beetles or chrysomelids. [C. 25a, 530; B. & M. 15a, 40.] See †1312.

1312. **Diamphidia*** Gerst., 1855, Berl. Acad. Mon. Ber. [nv]; seu **Cladocera** Hope, 1840, Coleopt. Man., v. 3, 169.
locusta author?: *Diamphidia.*—Deadly arrow poison of African bushman prepared from grubs of chrysomelid beetle.

1313 (1307). BRUCHIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 119 [B. & M. 15a, 40]; seu MYLABRIDAE[d] of some authors.—The pea-weevils. [C. 25a, 535]. See †1314.

1314. Bruchus[j]. A confused genus. [Cf. B. & M. 15a, 40.]

Bruchus Geoffr., 1762 (1799), Hist. Ins., Paris, v. 1, 163, for 2 sp. (*fur* Linn. is 1st sp. and the more common). Cf. †1276 *Ptinus*.

Bruchus Linn., 1767, S. N., 604; tsd. (1810; 1839; 1915) 1st sp. *pisi* (so. *pisorum*). In this sense, *Bruchus* is a pea-weevil, as has been generally used for the last century.

Bruchus Linn., 1767, as of Westwood, 1840a, Synop., 33, type 5th sp. *granaria* Linn. Not *granaria* Linn., 1758, of †1321 *Calendra* and †1324 *Sitophilus*.

If the Rules are enforced, *Bruchus* 1762 supplants †1276 *Ptinus* 1767.

Seu **Mylabris** Geoffr., 1762 (1799), Hist. Ins., Paris, v. 1, 266, contained 3 sp.

Mylabris Geoffr. in Fourcroy, 1785, Ent., v. 1, 112 included 3 sp. (*crucigera* [so. *pisorum*]; *fusca; sericea* [later to *Spermophagus*]). In this sense *Mylabris* is a pea-weevil as used by C. 25a, 535.

[*bimaculatus* Olivier, 1795, Ent., v. 4; fasc. 79, 18 a pea-weevil: *Bruchus*.—[Not to be confused with †1244B *Mylabris bimaculata* Olivier, 1811, 93, used in therapeutics.—]France[t]; W. & S. Europe; Mesopotamia; Syria; Alai; N. Africa.]

**obtectus* Say, 1831 (1859), 1 (259): *Bruchus; Mylabris*[r].—Bean weevil.—In stored beans.—New Orleans[t].

**pisorum* Linn., 1758a, 356 [Dermestes]: *Bruchus; Mylabris*[r].—Injures peas. Frequently swallowed with green peas.—America[t].

1315 (1193). Series *RHYNCHOPHORA* Latr. Cf. *RHYNCHOPHORI* Latr., 1807, Gen. Crust. Ins., v. 2, 233.—[C. 25a, 535; B. & M. 15a, 31.] See †1316.

1316. PLATYSTOMIDAE; seu ANTHRIBIDAE of many authors.—The fungus weevils. [C. 25a, 536; B. & M. 15a, 41.] See † 1317.

1317. Araecerus Schönh., 1826, Curculionid. dispos. meth., 40, tod. *coffeae* Fabr.

fasciculatus deGeer, 1775, Mém. Ins., v. 5, 276 [Curculio[l]]: *Araecerus*.—Coffee bean weevil.—Infests raw berries of coffee, cocoa, beans, mace, etc.—Surinam[t]; cosmopolitan.

1318 (1193). CURCULIONOIDEA.—See †1319.

1319. CURCULIONIDAE Leach [nv]; Steph., 1829a, 148.—The Curculios or typical snout-beetles. [C. 25a, 537; B. & M. 15a, 41.] See †1320.

1320 (1321 to 1325). **Curculio** Linn., 1758a, 377; tsd. (1810) 51st sp. *nucum*. Seu **Balaninus** Germar, "1817" or 1821, Mag. d. Ent., v. 4, 291; 1824, IS, v. 1, 295, cites only *pistor;* tsd. (1840; 1915) 3d sp. *nucum* L.—Nut weevils. [C. 25a, 539; B. & M. 15a, 41.]

nucum Linn., 1758a, 383 "Hab. in Nucibus coryli Avellanae": *Curculio; Balaninus*.—Chest?; urinary passages; intest.—England.

species Hope, 1840a, 262, 263: *Balaninus*.—Larvae in ♂ urinary passages.—England.

1321 (1320). **Calendra** Schellenb., 1798, Ent. helv., 62; tsd. (1810) 2d sp. *abbreviata*. **Calandra**[e]. See †1324 *Sitophilus*.

granaria Linn., 1758a, 379 [Curculio]: *Calendra; Calandra;* Rhynchophorus[l].—Granary weevil, an important pest in stored grains.

1322 (1320). **Larinus** Schüpp. in Germ., 1824, Ins. Sp. nov., v. 1, 379; 1826, Curculionidum, 219; tsd. (1840) 4th sp. *sturnus;* tsd. (1915) 9th sp. *jaceae*.—Infusions used in respiratory affections.

maculatus [cf. R. Bl., 1890a, 548]: *Larinus*.—Edible; sugar of nests. Used to calm coughs.—Persia; Italy.

nidificans Guibourt [cf. R. Bl., 1890a, 546]: *Larinus*.—Thrane, tréhala or tricola.—Syria; Arabia; Constantinople, Turkey; Asia Minor.

1323 (1320). **Rhynchophorus**[e] Herbst, 1795, Nat. Ins., v. 6, 3 [*Rynchophorus*]; tsd. (1915) 1st sp. *palmarum* L. Cf. *Rhynchophora* Latr., 1807, coleopt.

ferrugineus Olivier, 1790, Encycl. méth., HnI, v. 5, 473 [Curculio[1]]: *Rhynchophorus;* Calandra[1]; Calendra[1].—Edible.—India; Java; Malay Archipelago.

palmarum Linn., 1758a, 377 [Curculio[1]]: *Rhynchophorus;* Calandra[1].—Edible.—India[t]; Dutch Guiana.—[Geographic or specific confusion?]

species Sivasithampram, 1921 (J. Ceylon Branch BMA), J. Trop. Med., London, 22–23: *Rhynchophorus.*—Intestine.—Jaffna.

1324 (1320). **Sitophilus** Schoenh., 1838, Gen. et Sp. Curcul., v. 4 (2), 967, type?

**granaria* Linn., 1758a, 378 [Curculio[1]]: *Sitophilus; Calandra; Calendra;* Rhynchophorus[1].—Granary-weevil. Infests grains and cereals. Used successfully as substitute for Spanish blister-beetle (Cantharides). Dangerous when taken into alimentary canal.

**oryzae*[e] Johannsson [Linn., 1763, Amoen. Acad., v. 6, 395] (oryza) [Curculio[1]]: *Sitophilus; Calandra.*—Rice-weevil. Household pest. Infests rice, crackers, cakes, breadstuffs.—India; Southern States.

1325 (1320). ***Sphenophorus**[s] Schoenh., 1838, Gen. Spec. Curcul., 874 [nv].—Corn bill-bugs. [C. 25a, 540; B. & M. 15a, 41.] So. †1321 *Calendra.*

**species* Motter, 1898a, 207: *Sphenophorus.*—Larvae on cadaver 5 years in *grave, Washington, D. C.

1326 (1070). Order *STREPSIPTERA* Kirby, 1815 (possibly earlier), Trans. Linn. Soc. London, v. 11, 86; seu *RHIPIPTERA.*—The Stylopids or Twisted-wing insects. [C. 25a, 546; B. & M. 15a, 41.] Of no known medical importance.

1327 (1070). Order *MECOPTERA* Guenée; seu *PANORPATAE.*—Scorpion-flies and allies. [C. 25a, 550; B. & M. 15a, 46.] Of no known medical importance.

1328 (1070). Order *TRICHOPTERA.*—Caddice-flies. [C. 25a, 555; B. & M. 15a, 46.] [Not *Trichoptera* Meigen, 1803, Mag. f. Insektenk., v. 2, 261, 2 sp. Tipula[1] *phalaenoides, hirta.*] See †1329.

1329. PHRYGANEIDAE.—[C. 25a, 564; B. & M. 15a, 47.] Syn. PHRYGANIDAE[do] Steph., 1829a, 320. See †1330.

1330. Phryganea Linn., 1758a, 343, 547; tsd. (1810) 4th sp. *grandis.*—[C. 25a, 565; B. & M. 15a, 47.]

grandis Linn., 1758a, 548: *Phryganea.*—Accidental in stomach.—England.

1331 (1070). Ord. *LEPIDOPTERA* Linn., 1758a, 341; tpd. *Papilio.*—Moths, skippers, butterflies. [C. 25a, 571; B. & M. 15a, 48.] Syns.: *GLOSSATA*[o] Fabr., 1775a, 442, tpd. *Papilio; LEPIDIOPTERA*[eo] Schellenberg, 1798, 44, 45.

Some species have been reported as pseudoparasites of man; others may produce a severe dermatitis[20] or conjunctivitis (because of their poisonous hairs); many species are of great economic importance in industry (as the silkworm) or in agriculture, or as pests (clothes moth) in houses. The classification is complicated. Physicians can best refer all specimens to specialists for determination. *Scoleciasis* Hope refers to infection with lepidopterous larvæ and nymphs. See †1332.

species Angelinus: Genus.—Caterpillar expelled from nose, fide R. Bl., 1890a, 534.

species Church: Genus.—Caterpillar vomited, fide R. Bl., 1890a, 534.

**species* Poole, 1880, Virg. Med. M., v. 6, 985: Genus.—N. Carolina.—Passed from anus.

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[20] For a general discussion, with illustrations, see Lapie (Georges), 1923, Les chenilles venimeuses et les Accidents eruciques, Paris. 8°. 1–191. Pls. 1–4. See also Foot, 1922, J. Exper. Med., N. Y.

1332. Subo. *FRENATAE.*—The Frenate *LEPIDOPTERA.*—Moths, skippers, and butterflies. [C. 25a, 582, 596; B. & M. 15a, 49.] See †1333.

1333 (1352). The Generalized *FRENATAE.*—[C. 25a, 582, 597.] See †1334.

1334. The Nonaculeate generalized *FRENATAE.*—[C. 25a, 582.] See †1335.

1335 (1337; 1341). Cossidae Neumoegen & Dyar, 1894, J. New York Ent. Soc., v. 2, 160, with key to N. American genera.—Carpenter moths. [C. 25a, 601; B. & M. 15a, 50.] See †1336.

1336. Cossus Fabr., 1793, Ent. syst., v. 3 (1), iii; 1794, v. 3 (2), 1, tat. Bombyx[1] *cossus* s. *ligniperda*°.—Carpenter-moths; Gâte-Bois jeune.

ligniperda° Fabr., 1794, Ent. syst., v. 3 (2), 3: *Cossus.*—Caterpillar expels defensive fluid.—So. *cossus* Linn., 1758a, 504.

1337 (1335). Megalopygidae; seu Lagoidae Neumoegen & Dyar, 1904, J. New York Ent. Soc., v. 2, 109–110.—Flannel Moths. [C. 25a, 583, 606; B. & M. 15a, 50.] See †1338.

1338 (1339; 1340). ***Megalopyge** Huebner, 1822, Verz., 185, contained 2 sp. (*lanifera* and *nuda*); cf. tsd. (1892) *lanata.*—All larvae can cause urticaria.

albicollis Walker, 1855, Cat. Lepidopt. Brit. Mus., v. 6, 1479: *Megalopyge.*—Táta-rána.—Urticating, fide Foot, 1922, J. Exp. Med., 740.—Brazil.

lanata Cramer, 1780, Vitl. Kapellen, v. 3 (23), 130, 131, pl. 265, figs. F–G [Phalaena[1] (Bombyx[1])] [nv]: *Megalopyge;* Papillio.—Táta-rána (gusano pelo de Indio).—Conjunctivitis, tonsillar angina, fide Garcia, 1910; urticating, fide Foot, 1922, J. Exp. Med., New York, 740.—Surinam[t]; Brazil; Columbia.

**opercularis* Smith & Abbott, 1797, Lepidopt. Ins. Ga., v. 2, 53: *Megalopyge;* Lagoa[1]; Phalaena[1].—Flannel moth; puss-caterpillar.—Nettling effect on skin, urticating, fide Foot, 1922, J. Exp. Med., New York, 740, q. v.—N. Carolina to Texas.

radiata Schaus, 1892, Proc. Zool. Soc. London, 322: *Megalopyge.*—Táta pollo, perrito.—Urticating, fide Foot, 1922, J. Exp. Med., New York, 740..—Brazil; Columbia.

1339 (1338). **Carama** Walker, 1855, List Brit. Mus., v. 3, 843, mt. Arcturus[1] *sparshalli* Curt.

**cretata*[a] Grote, 1864, Proc. Ent. Soc. Phila., v. 3, 524: *Carama;* Lagoa.—Urticating, fide Foot, 1922, J. Exp. Med., New York, 740.—Louisiana[t], U. S. A.—So. *ovina* Sepp.

1340 (1338). ***Lagoa** Harris, (?) 1841, Rep. Ins. Mass., 265, mt. *opercularis.*

**crispata* Pack., 1864, Proc. Ent. Soc. Phila., v. 3, 335: *Lagoa.*—"Flannel moth."—Larvae poisonous; nettling effect on skin, fide Riley & Johannsen, 1915, 45. Urticating, fide Foot, 1922, J. Exp. Med., New York, 740.—Southern and Atlantic States, Mass[t].—Syn. opercularis of Harr., 1841, not Smith, 1797.

**opercularis* Smith in Abbott, 1797, Ins. Georgia, 105: *Lagoa*[t]; †1338 *Megalopyge*[1], q. v.—Urticating powers, fide Foot, 1922, J. Exp. Med., New York, 740.—"Rabbit tussock-moth."—To †1338 *Megalopyge*, fide Barns & MacD., but Foot recognizes the genera as distinct.

1341 (1335). Eucleidae; seu Cochlidiidae; seu Limacodidae.—The Slug-Caterpillar Moths. [C. 25a, 582, 608; B. & M. 15a, 50.] See †1342.

species Cast. & Chalm., 1920a, 222 (based on Wellman): ? Genus.—"Epuvi."—Urticaria.—Angola.

1342 (1343 to 1351). **Euclea** Huebner, 1822, or 1820, Verz. bek. Schmett., 149; tsd. (1892) 3rd sp. *cippus.*

paenulata Clemens, 1861 [or "1860" ?], Proc. Acad. Nat. Sci., Phila., v. 12, 159 [Empretia[1]]: *Euclea.*—Urticating powers, fide Riley, 1873, 126, and Herrick, 1914, 432.—Also as var. of *delphinii*, fide Dyar, 1902, 354.

**querciti* Herrich-Schaeffer, 1854, Samml., fig. 174: *Euclea.*—Caterpillar. Urticating, fide Riley, 1873, 126, and Herrick, 1914, 432.—Georgia[t].

1343 (1342). **Adoneta** Clemens, 1861, Proc. Acad. Nat. Sci. Phila. (for 1860), 158, mt. *voluta*.

spinuloides Herrich-Schaeffer, 1854, Samml., v. 1, fig. 187: *Adoneta*.—Urticating power, fide Riley, 1873, 126, and Herrick, 1914, 432.

1344 (1342). **Coenobasis** Felder, 1874, Reise Novara, v. 4, pl. 82, fig. 14, mt. *amoena* [nv].

amoena Felder, 1874, Reise Novara, v. 4, pl. 82, fig. 14 [nv]: *Coenobasis*.—Caterpillar venomous, causes urticaria, fide Lapie, 1923, Chen. ven., 20.—S. Africa.

1345 (1342). **Doratifera** Duncan, 1841, v. 7, 180, 183, mt. Bombyx[1] *vulnerans*.

vulnerans Lewin, 1805, Prodr. Ent., 5, pl. 4 [Bombyx[1]] [nv]: *Doratifera;* Parasa[1].—Sting moth; larva armed at each end of body with 4 tubercles bearing powerful stinging organs.—Urticaria, fide Lapie, 1923, Chen. ven., 20. Intensive stinging quality.—Australia.

1346 (1342). ***Monoleuca** Grote & Robinson, "1868" or 1869, Trans. Amer. Ent. Soc., v. 2, 187, tod. Limacodes[1] **semifascia* Walker.

**semifascia* Walker, 1855, List Brit. Mus., v. 5, 1151 [Limacodes[1]]: *Monoleuca*.—Urticating powers, fide Riley, 1873, 126, and Herrick, 1914, 432.—S. Atlantic States.

1347 (1342). **Natada** Walker, 1855, List Brit. Mus., v. 5, 1108; type (1892) 1st sp. *rufescens*.

amicta Author?: *Natada*.—Urticaria. A patient was forced to return to Europe on account of excessive susceptibility to this urticaria, fide Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 13.—Africa.

**nasoni* Grote, 1876, CE, v. 8, 112 [Sisyrosea[1]]: *Natada*.—Mildly nettling, fide Herrick, 1914, 432; urticating, fide Foot, 1922, J. Exp. Med., New York, 740.—Va.[t], Atlantic States, U. S. A.

1348 (1342). ***Packardia** Grote & Robinson, 1867, Ann. Lyc. Nat. Hist., New York, v. 8, 373 (Cyrtosia[h] Pack., 1864, Proc. Ent. Soc. Phila., v. 3, 343, renamed, 1st sp. *elegans*); type (1892) *elegans*.

**geminata* Pack., 1864, Proc. Ent. Soc. Phila., v. 3, 343 [Cyrtosia[h]]: *Packardia*.—Mildly nettling, fide Herrick, 1914, 432.—Md., Penn., U. S. A.[t]

1349 (1342). **Parasa**[21] Wall., 1863, Wien. Ent. Wochenschr., v. 7 (5), 137, mt. *aureosquamata*; etd. (1892) *lepida*.

**chloris* Herrich-Schaeffer, 1854, Samml., v. 1, fig. 176 [Neaera[1]]: *Parasa;* Euclea[1].—Urticating power, fide Riley, 1873, 126, and Herrick, 1916, 432.—Atlantic States.

hilarata Stdgr. [nv]: *Parasa; Heterogenea*.—"Yang la tzu" possesses intense irritating properties; toxic substance contained within spines, fide Mills, 1925, Amer. J. Hyg., Balt., 342.—N. China.

**indetermina* Boisduval, 1832, in Cuv. Anim. Kingdom, pl. 103, fig. 1: *Parasa;* Euclea.—Mildly nettling, fide Herrick, 1916, 432.—Atlantic States.

latistriga Walker, 1855, v. 5, 1141 [Neaera[1]]: *Parasa*.—Venomous caterpillars, fide Lapie, 1923, Chen. ven., 20.—S. Africa.

lepida Cramer, 1779, Pap. exot., v. 2, 50, pl. 130 E: *Parasa; Neaera;* Neoera[s]; Phal[1]. Noct.[1]; ?Bombyx[1].—Caterpillar venomous, fide Brooke, 1908, Trop. Med., 122, cf. Cast. & Chalm., 1920a, 222.—Bengale[t].

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[21][Syns.: *Heterogenea*[s] Knock, 1783, Beitr. Ins., v. 3, 60, mt. Phalaena[1] *Heterogenea cruciata*. Cf. *HETEROGENEA* Kirby, 1837, Faun. bor.-Amer., 89 (supergeneric). Westwood, 1840a, 91, gives a genus *Heterogenea* Kirby, syn. *Hepialus* Fabr., mt. *asellus*. Cf. *Neaera* Herrich-Schaeffer, 1854.

1350 (1342). **Phobetron** Huebner, 1827, Verz., 398, contained 2 sp. (*hiparchiana, abbotana*); etd. (1892) *pithecium*.—[C. 25a, 609, 610.]

**hyalinum*[s] Walsh, 1864, Proc. Boston Soc. Nat. Hist., v. 9, 299: *Phobetron*.—Urticating power, fide Riley, 1873, 126.—Missouri.—So. *pithecium*, fide Dyar, 1902, 356.

**pithecium* Smith & Abbott, 1797, Lepidopt. Ins. Ga., v. 2, 147, pl. 74 [Phalaena[1]]: *Phobetron*.—"Hag-moth."—Mildly stinging larvae, fide Herrick, 1914, 430; urticating power, fide Riley, 1873, 126.—Atlantic States[t], U. S. A.

1351 (1342). ***Sibine** Herrich-Schaeffer, 1855, Samml. ausser. Schmett., v. 1, 7, contained 4 sp. (*nesaea*[e], *fusca, erythrinae, lepida*); tsd. (1898) 1st sp. *nesea;* etd. (date?) *stimulea;* etd. (1892) *megasomoides. Sabine*, fide C. 25a, 609.

**stimulea* Clemens, 1861, Proc. Acad. Nat. Sci., Phila., 159: *Sibine; Sabine; Empretia*[1].—Urticaria, fide Foot, 1922, J. Exp. Med., New York, 740; venomous setae.—Saddle-back caterpillar.—Eastern and southern U. S., on fruit trees and Indian corn.

1352 (1333). The specialized *FRENATAE*.—Moths, skippers, and butterflies. [C. 25a, 582.] See †1353.

1353 (1363; 1374). The specialized *MICROFRENATAE*.—[C. 25a, 582.] See †1354.

1354 (1358; 1360). TINEIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 248; Steph., 1829b, 213.—The Tineids, including clothes moths. [C. 25a, 611; B. & M. 15a, 58.] See †1355.

1355 (1356; 1357). **Tinea** Linn., 1758a, 496, 534, 655; tsd. (1810; 1840; 1915) 254th sp. *pellionella* Linn., 1758a=(1834) 259th sp. *granella* Linn., 1758a.—[C. 25a, 612; B. & M. 15a, 58.]

cadaverina Mégnin [nv]: *Tinea*.—On human cadavers, surface and tissues, by Mégn., fide R. Bl., 1890a, 535.

**pellionella* Linn., 1758a, 536 [Phalaena[1] (*Tinea*)]: *Tinea*.—The case-bearing clothes moth, destroys clothing, furs, etc. In human cadaver during extreme desiccation after 1 yr., 7th period, fide Mégn., 1895, 90.—U. S. A. (introduced from Europe); Asia.

1356 (1355). **Trichophaga** Ragonot, 1894, Ann. Soc. ent., Paris, v. 63, 123, tod. *coprobiella* 1894.—[C. 25a, 612.]

**tapetzella* Linn., 1758a, 536 [Phalaena[1] (Tinea[1])]: *Trichophaga;* Tinea[1].—The tube-building clothes-moth, tapestry-moth.—Europe; U. S. A.—Also *tapetiella*.

1357 (1355). **Tineola** Herrich-Schaeffer, 1853–55, Syst. Bearb. Schmett. Eur., v. 5, 23; type (1914) 89th sp. *biselliella*.—[C. 25a, 612; B. & M. 15a, 58.]

**biselliella* Hummel, 1829, Essai Ent., v. 3, 13: *Tineola*.—Webbing clothes moth. Human cadavers during extreme desiccation, 1–3 years, fide Mégnin, 1895, 89.—Europe; U. S. A.

1358 (1354). GELECHIIDAE.—[C. 25a, 582, 625; B. & M. 15a, 56, 58.] See †1359.

1359. *Sitotroga Heinem., 1870, Schmett. Deutsch., 189, 287, mt. *cerealella*.—[C. 25a, 626; B. & M. 15a, 56.] Silotroga[m] Zool. Rec.; Sittroga[m].

**cerealella* Olivier, 1789 (1819), Encycl. méth., Ent., v. 4, 121 [Alucita[1]]: *Sitotroga;* Butalis; Oecophora.—"Angoumois grain moth," infests cereals (barley, corn, wheat, etc.).—Southern U. S. A.; Europe[t].

1360 (1354). TORTRICOIDEA.—[C. 25a, 582, 638.] See †1361.

1361. OLETHREUTIDAE.—The Olethreutids. [C. 25a, 582, 590, 639.] Syns.: EPIBLEMIDAE[s]; EUCOSMIDAE[s]. See †1362.

1362. Carpocapsa Treitschke, 1829, Schmett. Eur., v. 7, 231; tsd. (1831; 1840; 1915) *pomonella* (s. *pomonana*).—[C. 25a, 639; B. & M. 15a, 57.]

**pomonella* Linn., 1758a, 538 [Phalaena[1] (Tinea[1])]: *Carpocapsa;* Cydia[1]; *Grapholita.*—"The Codling Moth."—Alleged to have been passed by infant, Hyg. Lab., no. 12160; N. Y.—Swallowed; can cause diarrhoea fide R. Bl., 1890a, 535.—U. S. A.; Europe. Syns.: *pomonana* 1776; *pomana* 1793.

1363 (1353). The Pyralids and Their Allies.—See †1364.

1364. Pyralidoidea.—[C. 25a, 582, 644.] See †1365.

1365. Pyralidae Leach in Samouelle, 1819, Ent. Useful Comp., 254; seu Pyralididae[e].—[C. 25a, 582, 644; B. & M. 15a, 50.] See †1366.

1366 (1369; 1371). Pyralinae; seu Pyralidinae.—Typical Pyralids. [C. 25a, 649.] See †1367.

1367 (1368). **Pyralis** Linn., 1758a, 496, 533; tsd. (1840; 1915) 1st sp. *farinalis* L.; etd. (1810) *fagana* Fabr.; etd. (1834) *barbalis.* Syn. *Asopia* [s] Treitschke, 1828, Schmett. Eur., v. 6, 316.

farinalis Linn., 1758a, 533 [Phalaena (*Pyralis*)]: *Pyralis;* Asopia.—Meal Snout-Moth.—Secondary host of †314 *Hymenolepis diminuta.*—Cereals, flour, meal, clover hay.

1368 (1367). ***Aglossa** Latr., 1796a, 145; tsd. (1810; 1833; 1840; 1896) Crambus[1] *pinguinalis.*

cuprealis Huebner, 1826, Verz., 348 [Hypsopygia[1]]: *Aglossa.*—On human cadavers after 1 year, 7th period, extreme desiccation, fide Mégnin, 1895, 87.

[*intestinalis*[s] Desv., 1836, C. r. Acad. Sci., Paris, v. 3, 754: *Pyralis.*—Intest., ♀ 57 yrs. old.—Europe[t].—So. *pinguinalis.*]

pinguinalis Linn., 1758a, 533 [Phalaena[1] (Pyralis[1])]: *Aglossa;* Crambus[1].—Stomach, swallowed with food, fide R. Bl. 1890a, 535. Larvae found in butter, lard, or grease, and taken into the stomach. Found on human cadavers of 3 months, 3d period, fatty acids, fide Mégnin, 1895, 43, 44. Rhinal and intestinal scoleciasis. Stomach.—England; Sweden; Ravenna.

1369 (1366). Galleriinae Dyar, 1902, Bul. 52, U. S. Nat. Mus., 413.—Bee-moths. [C. 25a, 650.] See †1370.

1370. ***Galleria** Fabr., 1798a, 419; tsd. (1810; 1840) 1st sp. *cereana* 1767, so. tsd. (1836; 1915; 1917) *mellonella* 1758, s. *cerella* 1775, s. *cereana* 1767.

**mellonella* Linn., 1758a, 537 [Phalaena[1] (Tinea[1])]: *Galleria.*—In stomach, fide R. Bl., 1890a, 535.—Europe; U. S. A.—Also as *miellonella*[e].—Lives on honey.

1371 (1366). Phycitinae.—[C. 25a, 651.] See †1372.

1372 (1373). ***Ephestia** Guenée, 1845, Europ. microlep. Ind. méth., 81; type (1901) 1st sp. *elutella.*—[C. 25a, 651; B. & M. 15a, 50.]

**kühniella* Zeller, 1879, Ent. Zeit., Stettin, v. 40, 466: *Ephestia.*—Mediterranean Flour Moth; larvæ serious pest in flour mills and buildings where cereal is stored.—Germany; Canada; Calif.; N. Y.; Penn.

*species: *Ephestia.*—Alleged to have come from an infant, Hyg. Lab., no. 11704, from Austin, Tex. [=? *Plodia interpunctella*, the Indian-meal moth.]

1373 (1372). ***Plodia** Guenée, 1845, Europ. microlep. Ind. Méth., 80, mt. "*interpunctella H.* 310." Gall. mer.—[C. 25a, 651; B. & M. 15a, 50.]

**interpunctella* Huebner, 1827, Europ. Schmett., 310: *Plodia.*—Probably accidental case, not a parasite, Hyg. Lab. no. 11704.—Infests foodstuffs of various kinds, raisins, oatmeal, graham crackers, corn meal, peanuts, etc.—U. S. A.; Canada; Europe.—Cf. species †1372.

1374 (1353). The specialized *MACROFRENATAE*.—[C. 25a, 583, 655.] See †1375.

1375 (1406). *The Frenulum-conservers*.—Moths. [C. 25a, 583.] See †1376A.

1376A (1379A). SPHINGOIDEA Grav., 1843a, 168. See †1376B.

1376B. SPHINGIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 243.—[C. 25a, 583, 586, 655; B. & M. 15a, 51.] See †1377.

1377 (1378). **Acherontia** Ochsh., 1816, Schmett., v. 4, 44, mt. *atropos;* Huebner, 1816, Verz., 139; type (1827; 1840; 1915) *atropos*.

atropos Linn., 1758a, 490 [Sphinx[1]]: *Acherontia*.—Poison glands exceedingly small.

1378 (1377). **Pergesa** Walker, 1856, v. 8, 149; tsd. (1903) 1st sp. *porcellus*. Cf. *Deilephila* Laspeyres, 1809, 99 (tsd., 1903, *nerii*); Ochsenheimer, 1816, Schmett. Eur., v. 4, 42; tsd. (1824) 3d sp. *elpenor;* cf. tsd. (1840; 1915) 9th sp. *euphorbiae;* and tsd. (1915) 1st sp. *nerii*.

elpenor Linn., 1758a, 491 [Sphinx[1]]: *Deilephila*.—Urticaria, fide Lapie, 1923, Chen. ven., 29.

1379A (1376A). Noctuids and allies. See †1379B.

1379B (1385; 1396; 1401). NOTODONTIDAE Steph., 1829b, 39; seu CERURIDAE.—[C. 25a, 583, 587, 674; B. & M. 15a, 52.] See †1380.

1380 (1381 to 1384). **Notodonta** Ochsh., 1810, Schmett. Eur., v. 3, 45; tsd. (1839; 1840; 1892) 4th sp. *dromedarius* L.; (1915) 2d sp. *ziczac* L.

species: *Notodonta*.

1381 (1380). **Cerura** Schrank, 1802, Fauna Boica, v. 2, 155; tsd. (1827; 1840) 3d sp. *vinula*. Seu **Dicranura** Author? (several genera of this name).

vinula Linn., 1758a, 499 [Phalaena (Bombyx)]: *Cerura; Dicranura;* Harpyga.—Venomous caterpillar. Urticaria; affection of eyes, fide Lapie, 1923, Chen. ven., 13, 26, 43, 71, pl. 1, fig. 11.

1382 (1380). **Schizura** Doubleday, 1841, Ent., v. 1, 59, mt. *ipomeae*.

**concinna* Smith in Abbott, 1797, Lepidopt. Ins. Ga., 169, pl. 85 [Phalaena[1]]: *Schizura;* Notodonta[1].—Urticaria.—America.

1383 (1380). **Stauropus** Germar, 1812, Syst. Glossat. Prodr., 45 [nv]; type (1838; 1840; 1892) *fagi*.

fagi Linn., 1758a, 508 [Phalaena[1] (Noctua[1])]: *Stauropus*.—? Of medical importance; poison glands so small as to be of minor importance medically, fide Lapie, 1923, Chen. ven., 46.

1384 (1380). **Thaumetopoea** Huebner, ?1822, Verz., 185 (for *processionea, pityocampa*); type (1892) 1st sp. *processionea*. Seu **Cnethocampa**° Steph., 1829, Illus. Brit. Ent., v. 2, 36, 46, 2 sp. (*processionea, pityocampa*).

herculeana Rambur, 1842, Faune Ent. And., pl. 14, figs. 5–6 [nv]: *Thaumetopoea; Cnethocampa*.—Urticating.—Spain; Palestine.

pinivora Treitschke, 1834, Schmett. Eur., v. 10 (1), 194: *Thaumetopoea; Cnethocampa*.—Caterpillar, urticaria. "Processionaire pinivore."—Germany; France; Russia.

pityocampa Denis & Schiff., 1775, Schmett. Wien, 58: *Thaumetopoea; Cnethocampa;* Bombyx[1].—Intolerable urticaria, may affect eyes, fide R. Bl., 1890a, 538. Most notorious "stinging larvae." Stomatitis, affections of respiratory tract.—Europe; Asia Minor; N. Africa; Corsica.

processionea Linn., 1758a, 500 [Phalaena[1] (Bombyx[1])]: *Thaumetopoea; Cnethocampa*.—Urticaria, fide R. Bl., 1890a, 538.—"Pine processionary."

solitaris° Boisduval, 1840, Gen. et Ind. méth., 70: *Thaumetopoea; Cnethocampa*.—Urticaria due to caterpillar.

1385 (1379B). LYMANTRIIDAE; seu LIPARIDAE.—The Tussock-moths. [C. 25a, 583, 584, 588, 679; B. & M. 15a, 55.] See †1386A.

species: Genus.—LIPARIDAE.—Severe local and reflex nervous symptoms, fide Cast. & Chalm., 1920a, 222.

1386A (1386B to 1395). **Lymantria** Huebner, 1820, Verz. bek., 160; type (1892) 1st sp. *monacha* L.—The Nun-moth. Syn. *Psilura.*

monacha Linn., 1758a, 501 [Phalaena (Bombyx[1])]: *Lymantria;* Liparis; *Psilura;* Ocneria.—Nettling, fide Riley & Johannsen, 1915a, 53.—Urticaria.—"Nonne" caterpillar. Nun-moth.

1386B (1386A). **Liparis** Ochsh., 1810, Schmett. Eur., v. 3, 186; tsd. (1810) *germanus* Olivier.

auriflua [a very confused species;]? Denis & Schiff., 1775 or 1776, Schmett. Wien, 52; or ?Fabr., 1785, v. 2, 125 [Bombyx[1]]: *Liparis*[1]; Porthesia; Phalaena[1].—Cul-doré; yellow-tail moth; gold-tailed moth [cf. †1387 *chrysorrhoea*].—Urticaria, fide R. Bl., 1890a, 538. Handling imagoes was followed by dermatitis, fide Anderson, 1884, Ent., 275.

["*rubra*" [nv]: *Liparis.*—Urticaria.—Cf. ?†1392 *rubea* Fabr.]

1387 (1386A). **Arctornis** Germ., 1810, Syst. Glossat. Prodr., 18; type (1892) *l-nigrum*; (1922) *chrysorrhoea.* Seu **Euproctis**• Huebner, 1820, Verz., 159; tsd. (1892) 2d sp. *chrysorrhoea* L.—[C. 25a, 682.] Syn. *Porthesia* Steph., 1829b, Ill. Brit. Ins., v. 2, 66; tsd. (1922) 1st sp. *chrysorrhoea.*

*chrysorrhoea[h] of U. S. A. authors, see †1391 *Nygmia phaeorrhoea.*

chrysorrhoea Linn., 1758a, 502 [Phalaena[1] (Bombyx[1])]: *Arctornis; Euproctis; Porthesia;* Liparis.—Gold-tail moth.—Dermatitis on neck or other exposed parts of body.

1388 (1386A). **Dasychira** Steph., 1829b, 51; tsd. (1915) *pudibunda* L. [Ex Huebner, 1806, Tentamen, 1, mt. *pudibunda*]; seu *Dasychoia*•.—[C. 25a, 613.]

fascelina Linn., 1758a, 503 [Phalaena[1] (Bombyx[1])]: *Dasychira.*—Caterpillar, apparently poisonous gland.

pudibunda Linn., 1758a, 503 [Phalaena[1] (Bombyx[1])]: *Dasychira.*—Inoculation caused red patches, and vesicles resembling chicken pox, fide Tyzzer, 1907, J. Med. Res., v. 16, 44.

1389 (1386A). **Hemerocampa** Dyar, 1897, CE, v. 29 (1), 13, 15, tod. *leucostigma* A. S.—[C. 25a, 679–681; B. & M. 15a, 55.]

**leucostigma* Smith & Abbot, 1797, Lepidopt. Ins. Ga., v. 2, 157, pl. 79: *Hemerocampa;* Orgyia[1]; Orgya; ?Phalaena.—Mildly nettling irritation only, "no poison present." "White-Marked Tussock Moth." Poisonous cocoon and larval hairs, effect varies with individual susceptibility, fide Gilmer, 1923, J. Parasit., 80.—U. S. A.[t], Atl. States.

1390 (1386A). **Leucoma** Steph., 1829b, 52; tsd. (1840) *salicis.* Seu *Stilpnotia*• Westw. & Humphr., ?1841, Brit. Moths, v. 1, 90; tsd. (1892) *salicis.* [Not Leucoma[d] Huebner, 1806, Tentamen, 1, type *similis.*]

salicis Linn., 1758a, 502 [Phalaena[1] (Bombyx[1])]: *Leucoma;* Liparis[1].—Urticaria, fide Lapie, 1923, Chen. ven., 14, 16, 40, 41, pl. 1, fig. 9, pl. 3, figs. 7–8.—"Liparis du Saule."—Caterpillar.

1391 (1386A). **Nygmia** Huebner, 1818, Verz., 193; type (1922) *phaeorrhoea.*

[chrysorrhoea[d] of American authors, in referring to brown-tailed moth: Porthesia[1]; Liparis[1]; Euproctis[1].—So. *phaeorrhoea.*]

fasciata Walker, 1855, List, v. 3, 809 [Dulichia[1]]: *Nygmia; Euproctis.*—Irritation.

**phaeorrhoea* Donovan, 1813, Brit. Ins., v. 16, 39, pl. 555 [Phalaena[1]; Bombyx[1]]: *Nygmia.*—The brown-tailed moth of U. S. A., usually but erroneously referred to as †1387 Euproctis chrysorrhoea. Most important of the U. S. A. poisonous caterpillars. Larvae, cocoons, and adult of ♀ have nettling hairs which give rise to irritation. Urticaria, fide R. Bl., 1890a, 537. Ophthalmia nodosa. Stinging hairs may

penetrate lungs as well as eyes. Short barbed hairs contain a poison which effects rapid and marked changes in the red blood corpuscles (Tyzzer). "Brown-tail rash."—U. S. A.; Canada; Europe.

similis ? Moore, 1859, Cat. Lepidopt., v. 2, 351 [Artaxa]: *Nygmia;* Porthesia[1].—Poison hairs. "Swan-moth." Cocoons produce redness, itching, pimples, white vesicles, edema of eyelids; urticaria; cf. Tyzzer, 1907, J. Med. Res., v. 16, 44; Carter, 1903, Entomol.; South, 1885, Ent., 3.

1392 (1386A). **Ocneria** Huebner, 1822, Verz., 158 for (*rubea, detrita, pilumnia*); tsd. (1892) 1st sp. *rubea;* etd. (date?) *terebynthini.*

[*detrita* Esper, 1785, Schmett., v. 3 (22), 229: *Liparis.*—Urticaria, fide Goossens, 1881, Ann. Soc. ent., Paris, 232, and Lapie, 1923, Chen. ven., 39.]

terebynthi Freyer, 1837, N. Beitr. Schmett., v. 3, 110, pl. 272, fig. 1 [Bombyx]: *Liparis.*—Caterpillar, urticaria.

1393 (1386A). ***Olene** Huebner, 1823, Zutr. exot. Schmett., v. 2, 19, mt. *mendosa* from Java[t].

**clintonii*[s] Grote & Robinson, 1866, Proc. Ent. Soc., Phila., v. 6, 3: *Parorgya.*—?Of medical importance. Strong odor, ejects small jet of fluid, Lapie, 1923, Chen. ven., 42.—Rhode Island[t].—So. *Olene basiflava* Packard, 1864, Proc. Ent. Soc., Phila., v. 3, 332.

1394 (1386A). **Orgyia** Ochsh., 1810, Schmett. Eur., v. 3, 208; tsd. (1831; 1840; 1915) 6th sp. *antiqua* Linn., 1758; tsd. (1892) *fascellina* L. *Orgya*[e] Zett., 1840, Ip, 926. Seu *Notolophus*[o] Germ., 1812, Syst. Glossat. Prodr., 35, type (1892) *antiquus.*

dubia Tausch., 1806, Mém. Soc. imp. Nat. Mosc., v. 1, 176 [Bombyx[1]]: *Orgya.*—Urticaria.—Europe; Asia Minor; Africa.

leucostigma Smith & Abbott, 1797, Lepidopt. Ins. Ga., 157, pl. 79 [Phalaena[1]]: *Orgyia; Orgya;* ?Phalaena.—Irritation only, "no poison present."—U. S. A.[t]

1395 (1386A). ***Porthetria** Huebner, 1820, Verz., 160; tsd. (1892) 2d sp. *dispar* L.—[C. 25a, 682; B. & M. 15a, 55.]

**dispar* Linn., 1758a, 501 [Phalaena[1] (Bombyx[1])]: *Porthetria;* Laria[1]; Liparis[1].—Urticaria, fide R. Bl., 1890a, 588. "The gipsy-moth."—U. S. A.; Europe; France; N. America; China.

lapidicola Herrich-Schaeffer, 1851, Auss.-eur. Schmett., pt. 6, 52 [Leucoma[1]]: *Liparis.*—Urticaria.

1396 (1379B). NOCTUIDAE Steph., 1829b, 62.—[C. 25a, 583, 586, 588, 683; B. & M. 15a, 54.] See †1397.

1397 (1398 to 1400). **Noctua** Linn., 1758a, 496, 508; tsd. *strix* [of S. America].

species Hope, 1840a, 264–265: *Noctua*[1 j].—Larvae accidental in stomach, fide Hope, 1840a, 264.—France; England; Europe.—To ?*Agrotis.*

1398 (1397). **Acronycta**[e] Ochsh., 1816, Schmett. Eur., v. 4, 62 [*Acronicta*]; tsd. (1826; 1909) 1st sp. *leporina;* tsd. (1840; 1915) 5th sp. *psi* Linn., 1758.—[C. 25a, 689, 690; B. & M. 15a, 54.] Syn. Apatele[d] Huebn., 1806, mt. *aceris* [Linn., 1758a, 98, fide Forbes, 1926, Proc. Ent. Soc. Wash., 196]. *Apatela*[e].

alni Linn., 1758a, 381 [Phalaena (Noctua)]: *Acronycta.*—Urticating caterpillar.

species Herrick, 1914, 432, quotes Riley: *Acronycta.*—Urticating powers, annoying to man.

xylinoides[s] Guenée, 1852, Hist. nat. Ins. Lepidopt., v. 6, Noct., v. 2, 106 [Hadena]: *Acronycta; Apatela*[e]; *Hyppa.*—Urticating power. Slight inflammation of short duration.—N. America[t].—So. *longa* Guenée, 1852, Noct., v. 1, 54.

†**1399** (1397). **Barathra** Huebner, "1816" or "1822," Verz., 218, 2 sp. (*brassicae, albicolon*); tsd. (1905) *brassicae.* Seu *Mamestra* Ochsh., 1816, Schmett. Eur., v. 4, 76, 11 sp. (1 *pisi*, 9 *brassicae*, 11 *persicariae*); tsd. (1840) *persicariae;* tsd. (1905) *pisi.* Seu *Mamestra* Huebn., "1816" or "1822," Verz., 214, 3 sp. (*pisi, unanimis, leucophaea*); etd. (1915) *brassicae.*

brassicae Linn., 1758a, 516 [Phalaena[1] (Noctua[1])]: *Barathra; Mamestra; Hadena.*—"Cabbage caterpillar."—Cf. †1432 *Pieris brassicae*, a different insect. Possibly there is some confusion in literature between the two species; both might be swallowed.

1400 (1397). **Euxoa** Huebner, 1827, Verz., 209 (for *nivens, candelisequa*); etd. (1903) *decora.*

infusa Boisd., 1835, Voy. Astrolabe, Lep., 240 [Noctua[1]]: *Euxoa;* Agrotis[1]; Paragrotis.—Adult insect roasted and used as food under name "Bugong"; contains an irritating oil which, when fresh, causes vomiting, but after several days one is no longer sensible to its action, fide R. Bl., 1890a, 536.—Australia.

1401 (1379B). Arctiidae Stephens, 1829b, 50; Hampson, 1901, Cat. Lep. Phal. Brit. Mus., v. 3.—[C. 25a, 583, 588; B. & M. 15a, 54.] See †1402.

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 13; cf. also Cast. & Chalm., 1920a, 222 (quotes Wellman) ["Archidae"]: Genus.—Tiger-moth, "ochipia"=that which burns.—Eruption, pain.—Angola.

1402 (1403 to 1405). **Arctia** Schrank, 1802, Fauna Boica, v. 2 (2), 152; tsd. (1840; 1901; 1915) 1st sp. *caja* Linn.; etd. (1825) Bombyx *salicis* Linn.

**caja* Linn., 1758a, 500 [Phalaena[1] (Bombyx[1])]: *Arctia.*—"Wooly bear."—Northern U. S.; Canada; Europe.—Inoculation followed by transient irritation, fide Tyzzer, 1907, J. Med. Res., v. 16, 44; cf. Foot, 1922, J. Exp. Med., New York, v. 35, 740.—Also *caia.*

villica Linn., 1758a, 501 [Phalaena[1] (Bombyx[1])]: *Arctia.*—Inoculation followed by transient irritation, fide Tyzzer, 1907, J. Med. Res., v. 16, 44.

1403 (1402). **Diacrisia**° Huebner, 1825, Verz., 252 [*Diachrysia*]; type?

virginica Fabr., 1798a, 437 [Bombyx[1]]: *Diacrisia;* Spilosoma.—Ophthalmia nodosa, fide de Schweinitz, 1904, Univ. Penn. Med. Bul., 270; cf. Riley & Johannsen, 1915, 53.

1404 (1402). **Eilema** Huebner, 1816, or 1822, or 1827, Verz., 165; tsd. (1900) 1st sp. *caniola. Ilema*°.

caniola Huebner, 1805, Eur. Schmett., v. 2, 126 [Bombyx], fig. 220; 1816 or 1827, Verz., 165: *Eilema;* Lithosia; *Ilema*°.—"Lithosie blanchâtre."—Urticaria, fide R. Bl., 1890a, 538. Venomous caterpillar, fide Lapie, 1923, Chen. ven., 31, 47, 72, pl. 1, fig. 7, pl. 3, figs. 3–4.—Europe.—Synonymy and references confusing.

griseola Huebner, 1802, Eur. Schmett. Tab. *Bombyx*, 23 [Bombyx[1]]: *Eilema;* Lithosia.—Urticaria, exaggerated reputation said to be as bad as that of scorpion, fide Lapie, 1923, Chen. ven., 72.—Italy.—References confusing.

1405 (1402). **Halisidota** Huebner, 1827, Verz., 170 [also *Halysidota*]; tsd. (1901) 1st sp. *tesselaris.*—[C. 25a, 699; B. & M. 15a, 54.]

caryae Harris, 1841, Rep. Ins. Mass., 258 [Lophocampa[1]]: *Halisidota.*—Mildly nettling, hardly to be put with urticating species.

1406 (1375). *The Frenulum-losers.*—Specialized Macrofrenatae. See †1407.

1407 (1427). *The Frenulum-losing Moths.* See †1408.

1408 (1410). Lacosomidae Neumoegen & Dyar, 1894, J. New York Ent. Soc., v. 2, 120; seu Lacosomatidae.—[C. 25a, 583, 712; B. & M. 15a, 53.] See †1409.

1409. Cicinnus Bl. in Gay's, 1852, Hist. Chile, Zool., v. 7, 66, mt. *orthane*.—[C. 25a, 713; B. & M. 15a, 53.] Syn. *Perophora[h] Harris, 1842 [not List., 1834, mollusk], Treatise, 299, mt. *melsheimerii*. Cf. also ascidia.

**melsheimerii* Harris, 1841, Rep. Ins. Mass., 290 [Perophora[h t]]: *Cicinnus*.—Pinch so as to draw blood from a tender part, fide Riley, 1873, 125–136.—Atlantic States.

1410 (1408). SATURNIOIDEA.—[C. 25a, 583, 589, 714; B. & M. 15a, 52.]

1411 (1417; 1419; 1422). SATURNIIDAE.—[C. 25a, 583, 719; B. & M. 15a, 52.] See †1412.

1412 (1413 to 1416B). **Saturnia** Schrank, 1802, Fauna Boica, v. 2 (1), 149, 4 sp. (*pyri, spini, carpini, tau*); tsd. (1840) Phalaena[1] *pavonia minor* (s. *carpini*); syn. (1915) *pavonia* Linn., 1761 (s. *carpini*).

carpini[s] Denis & Schiff., 1776, 50 [Bombyx[1]] [nv]: *Saturnia*.—Urticaria.—So. *pavonia minor*.

1413 (1412). ***Automeris*** Huebner, [1820,] "1816," Verz., 154; type (1892) 1st sp. *janus*. Seu *Hyperchiria* Huebner, 1816, Verz., 155, contained 2 sp. (*rausica, jo*).—[C. 25a, 722; B. & M. 15a, 52.]

cinctistriga Felder, 1874, pl. 89, fig. 4 [nv]: *Automeris*.—Gusano perejil.—Urticaria, fide Foot, 1922, J. Exp. Med., New York, 740.—Colombia, S. A.

**io* Fabr., 1775a, 560 [Bombyx[1]]: *Automeris;* Saturnia[1].—Io moth, hollow spines contain poisonous substance.—Urticaria, fide Foot, 1922, J. Exp. Med., New York, 740.—Eastern U. S.; Mexico; America[t].

varia[s] Walker, 1855, List Lep. het., v. 6, 1278: *Automeris; Hyperchiria*.—Urticaria, fide Lapie, 1923, Chen. ven., 19.—So. *io*.

viridescens Walker, 1855, Cat. Lepidopt. Brit. Mus., v. 6, 1303 [nv]: *Automeris*.—Urticaria, fide Foot, 1922, J. Exp. Med., New York, 740.—Brazil, S. A.

1414 (1412). **Cricula** Walker, 1855, Cat. Lepidopt. Brit. Mus., v. 5, 1186; tsd. (1892) 1st sp. *trifenestrata*.

trifenestrata Helfer, 1837, J. Asiatic Soc. Beng., v. 6, 45 [Saturnia[1]]: *Cricula*.—Urticants.—India; Dutch Indies.

1415 (1412). ***Hemileuca*** Walker, 1855, Cat. Lepidopt. Brit. Mus., v. 6, 1317, ? type 1st sp. *maja*.—[C. 25a, 720, 721.] Type of HEMILEUCIDAE.

**maia* Drury, 1773, Illus. Exot., v. 2, pl. 24, fig. 3, index [Phaleana[1] (Bombyx[1])]: *Hemileuca*.—"Buck-moth" or "Maia moth." Urticaria, fide Foot, 1922, J. Exp. Med., N. Y., 740.—Eastern U. S. A., N. America.

oliviae Cockerell, 1883, Pap., v. 3, 138 [nv]: *Hemileuca*.—Caterpillar hairs poisonous for *Homo*, fide Gilmer, 1923, JP, 81.

1416A (1412). **Hylesia** Huebner [1822], Verz., 186; type (1892) 4th sp. *canitia*.—Many species, all urticating.

species Joannis in Lapie, 1923, Chen. ven., 69: *Hylesia*.—Urticaria.—S. America[t].

1416B (1412). **Pseudohazis** Grote & Robinson, 1867, Ann. Lyc. Nat. Hist., New York, v. 8, (13, 14, for Oct. & Dec., 1866), 377; tsd. (1892) 1st sp. *eglanterina*.—[C. 25a, 721.]

**eglanterina* Boisduval, 1852, Ann. Soc. ent., Paris, v. 10, 323: *Pseudohazis*.—Urticating power, fide Levette.—Calif.[t]

1417 (1411). CITHERONIIDAE.—Royal-Moths. [C. 25a, 583, 715; B. & M. 15a, 52.] See †1418.

1418. Anisota Huebner [1822], "1816," Verz., 192; tsd. (1892) *virginiensis* s. 1st sp. *pellucida*.—[C. 25a, 717–719; B. & M. 15a, 52.]

stigma Fabr., 1775a, 563: *Anisota*.—The spiny oak-worm. Slight tingling sensation.

1419 (1411). Bombycidae Leach in Samouelle, 1819, Ent. Useful Comp., 245.—The Silk-worms. [C. 25a, 583, 585, 727; B. & M. 15a, 53.] See †1420.

1420 (1421). **Bombyx** Linn., 1758a, 495; tsd. (1892; 1915) *mori* Linn., 1758a; etd. (1810)[j] *pavonia* Fabr.—[C. 25a, 727; B. & M. 15a, 53.]

mori Linn., 1758a, 499 [Phalaena (Bombyx)]: *Bombyx; B.* (Sericaria).—The "silk-worm." Has been used as drug (in hysteria, hypochondria, migraine); chrysalid eaten in China.—China; Europe.

species Brooke, 1908, Trop. Med., 122: *Bombyx.*—Greenish hairy caterpillar. Irritation like sting of nettle, quotes Fayer.—Ceylon.

1421 (1420). **Clisiocampa** Curtis, 1828, Brit. Ent., v. 5, pl. 229, tod. Bombyx *neustria.*

neustria Linn., 1758a, 500 [Phalaena[1] (Bombyx[1])]: *Clisiocampa;* Bombyx.—Great irritation but no vesicles.

1422 (1411). Lasiocampidae Neumoegen & Dyar, 1894, J. New York Ent. Soc., v. 2, 152–160.—[C. 25a, 583, 589, 728; B. & M. 15a, 53.] See †1423.

1423 (1424 to 1426). **Lasiocampa** Schrank, 1802, Fauna Boica, 153; tsd. (1827; 1840; 1915) 7th sp. *quercus* Linn., 1758a. Seu **Gastropacha** Ochsh., 1810, Schmett. Eur., v. 3, 239; tsd. (1824; 1840; 1915) 4th sp. *quercifolia.*

quercus Linn., 1758a, 498 [Phalaena (Bombyx)]: *Lasiocampa;* Bombyx; Gastropacha.—Urticaria. "Bombyce du Chêne." Caused pimples which became vesicular, fide Carter, 1903.

1424 (1423). **Dendrolimus** Germar, 1810, or 1811, or 1812, Syst. Glossat. Prodr., 48 [nv]; type (1892) *pini.*

pini Linn., 1758a, 498 [Phalaena[1] (Bombyx[1])]: *Dendrolimus;* Lasiocampa.—Urticaria.

1425 (1423). **Macrothylacia** Rambur, 1869, Cat. Lepidopt. And., v. 2, 358, tod. *rubi.*

rubi Linn., 1758a, 498 [Phalaena[1] (Bombyx[1])]: *Macrothylacia;* Gastropacha[1]; Lasiocampa[1].—Urticaria. Produces intense irritation, vesicles, some pustular, edema of eyelids, fide Tyzzer, 1907, J. Med. Res., v. 16, 44.

1426 (1423). **Taragama** Moore, 1859, Cat. Lep. Mus. E. Ind. House, v. 2, 427, mt. *ganesa* Lef., 1827, 211, s. *siva;* etd. (1892) *repanda.* Megasoma[h] Boisduval, 1836 renamed, 340, preoc. in Coleopt. in 1825.

igniflua Moore, 1883, Lepidopt. Ceyl., v. 2, 147, pl. 142, figs. 2–2a: *Taragama.*—Nettling hairs, fide Foot, 1922, J. Exp. Med., 740; can produce severe irritation.—Philippines; Celebes.

1427 (1407). The Butterflies. Day-flying Lepidoptera.—[C. 25a, 583.] See †1428.

1428. Papilionoidea.—[C. 25a, 583, 589, 739.] See †1429.

1429 (1431; 1434). Papilionidae Leach in Samouelle, 1819, Ent. Useful Comp., 234.—The Swallow-tails and the Parnassians. [C. 25a, 583, 739, 740.] See †1430.

Tpd. of *RHOPALOCERA*° Boisduval, 1840, 1, 1st g. *Papilio* (as distinguished from *HETEROCERA* Boisduval, 1840, 39, 1st g. *Stygia*), *MACROLEPIDOPTERA*° (as distinguished from *MICROLEPIDOPTERA*), and *DIURNA*° **Latr.**, 1809, v. 4, 186 (as distinguished from *NOCTURNA* Latr., 1809, v. 4, 189).

Almost all butterflies are likely to visit excreta of man or of animals, but probably without later practical danger to man, unless in exceptional cases they happen accidentally to contaminate food.

species Bleyer, 1909, Arch. Schiffs-u.-Tropen-Hyg., v. 13, 73–83, figs. 1–4: Genus.—Nettle organs, urticaria.—Brazil.

1430. Papilio Linn., 1758a, 343, 458; tsd. (1840) 27th sp. *machaon;* etd. (1836; 1915) *podalirius* "Linn., 1758" [cf. Scopoli, 1763, 167].—[C. 25a, 741, 742; B. & M. 15a, 60.]

**troilus* Linn., 1758a, 459: *Papilio; Papilio* (Eques).—Captured on human excreta; accidental.—U. S. A.

1431 (1429). Pieridae.—The Pierids. [C. 25a, 584, 739, 744; B. & M. 15a, 60.] See †1432.

1432 (1433). **Pieris** Schrank, 1801, Fauna Boica, 152, 162; tsd. (1810; 1915) 6th sp. Papilio[1] *brassicae* Linn., 1758a; tsd. (1831; 1840) 5th sp. *crataegi* Linn. Seu **Pontia** Fabr., 1807, Mag. f. Insektenk., 283; tsd. (1824) 3d sp. *daplicide;* etd. (1840) *brassicae.*—[C. 25a, 746, 747; B. & M. 15a, 60.] [Not Pontia[h] Edw., 1828, crust.]

brassicae Linn., 1758a, 467 [Papilio[1] (Danaus[1])]: *Pieris; Pontia;* Catophaga; Ganoris.—"Cabbage caterpillar"; "Noctuelle de choue."—Poison glands so small as to be unimportant medically; ? gastrointestinal scoleciasis. Is there confusion in medical literature with †1399 *Barathra brassicae?*

1433 (1432). **Leptalis**[s] Dalman, 1823, Analecta Ent., 40, type? *melite* L.; *Papilio astynome.* So. **Dismorphia** Huebner, 1816, Verz., 10 (for *laja, amphione*).

species R. Bl., 1890a, 543: *Leptalis.*—Emits irritating fluid.

1434 (1429). Nymphalidae Swainson; cf. Stephens, 1829b, 6; Skinner, 1898, Syn. Cat. No. Am. Rhop., 3–33.—[C. 25a, 584, 739, 750; B. & M. 15a, 60.] See †1435.

1435 (1436A). **Adolia** [nv]. Possibly a misprint for *Adolias*[s] Boisduval, 1842, Lepidopt., v. 1 [nv]; so. *Euthalia* Huebner, 1816, Verz., 41. Cf. Adela Latr., 1796a, 147.

species Brooke, 1908, J. Trop. Med., London, 122: *Adolia.*—Hairy caterpillar armed with venomous hairs.—"Komlah."

1436A (1435). **Lycaena** Fabr., 1807, Mag. f. Insektenk., 285; tsd. (1824; 1840) *phlaeas* Linn.; etd. (1915) *argus* Linn., 1758a.—[C. 25a, 753, 771; B. & M. 15a, 60.]

species Lapie, 1923, Chen. ven., 26: *Lycaena.*—Secretion attracts ants.

1436B. Philodonta [= ? nv] [There is a Bengal coleopt. *Philodonta* Weise, 1906.]

species: *Philodonta.*—Urticaria, fide Lapie, 1923, Chen. ven., 52; Denham (1888) says larvae emit a fluid from thoracic gland, acide chlorhydrique, which corrodes the skin. Also for Notodonta concinna.

1437 (1070). Ord. **DIPTERA* [22] Linn., 1758a, 341; tpd. *Musca.*—Flies, mosquitoes, gnats, midges. Insects with 2 wings. May be parasitic or may act as biological or as mechanical vectors of protozoa, worms, or bacteria. [C. 25a, 773; B. & M. 15a, 61.] See †1438.

species Arnold, 1898, Lancet, v. 1 (3892), Apr. 2, 960–961, 1 fig.: Genus.—In skin.—Rhodesia.

1438 (1507). Subo. **ORTHORRHAPHA* Brauer, 1885, Sitz. Akad. Wiss. Wien, 397.—The straight-seamed flies. [C. 25a, 794.] See †1439A.

1439A (1484). Series **NEMOCERA* Zett., 1842 [nv]; seu *NEMATOCERA* Latr., 1825 [nv]. [Not *Nematocera* Meigen, 1818, Syst. Beschr., v. 1, 209, tsd. (1840) *nigra.*]—The long-horned Orthorrhapha. [C. 25a, 795; B. & M. 15a, 61.] See †1439B.

1439B (1476A). True *NEMOCERA.*—[C. 25a, 785.] See †1440.

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[22] Syns.: *ANTLIATA*[r] Fabr., 1805, Syst. Ant., iii (as restr. by Burm., 1837a, 607); *HALTERATA; HALTERIPTERA* Schellenberg, 1798, 44; *HAUSTELLATA* Schellenberg, 1798, 44

1440 (1444; 1448; 1457; 1473; 1475). *Tipuloidea.—The crane-flies. [C. 25a, 795.] See †1441.

1441 (1442). *Tipulidae Leach in Samouelle, 1819, Ent. Useful Comp., 290.—Typical crane-flies. [C. 25a, 798; B. & M. 15a, 62.]

*species Hyg. Lab. no. 11128: Tipulidae.—Passed in feces.—Kentucky.

species Hope, 1840a, 268, 269: Genus.—Apod. larvae voided in urine.—England.

1442 (1441). *Limnobiidae.—[B. & M. 15a, 62.] See †1443.

1443. *Limnobia Meigen, 1818, Syst. Beschr., 116; type (1910) *tripunctata*. "Wiesenmuekke." Seu **Limonia*** Meigen, 1803, Mag. f. Insektenk., v. 2, 263; type (1840; 1910) 1st sp. *tripunctata*. So. **Amphinome** Meigen, 1800, Nouv. class. Mouch., 15, type (1910) *tripunctata*, fide Coquill., 1910, PUSNM, v. 37, 505.

**sciophila* Osten Sacken, 1877, West. Dipt. (Bul. Geol. & Geod. Surv., v. 3 (2)), 197: *Limnobia*.—Captured, not reared, on human *excreta.—Calif.[t]

1444 (1440). Psychodidae.—The mothlike flies. [C. 25a, 801; B. & M. 15a, 62.] See †1445.

1445 (1446; 1447). ***Psychoda** Latr., 1796a, Précis, 152, sp. not cited; tsd. (1802; 1810; 1910) *phalaenoides*.—[C. 25a, 802; B. & M. 15a, 62.]

b-punctata Curtis [nv]: *Psychoda*.—In stomach, vomited.—Japan.

*species Hyg. Lab. no. 12138: *Psychoda*.—From drinking water sample.—Louisiana.

1446 (1445). ***Pericoma** Haliday in Walk., 1856, Ins. Brit., Dipt., 256, 257; tsd. (1910) 7th sp. *trifasciata*.—[B. & M. 15a, 62.]

**canescens* Meigen, 1818, Syst. Beschr., v. 1, 106 [Psychoda[1]]: *Pericoma*; Trichoptera.—Supposed to have been passed in urine.—Seattle, Wash.

townsvillensis Taylor, 1915, Bull. Ent. Res., v. 6 (3), 267: *Pericoma*.—Bites severely; lesion may persist for 3 weeks.—Queensland[t], Australia.

1447 (1445). **Phlebotomus*** Rondani, 1840, Mem. prima Serv. Dipt. Ital., 5 [as *Flebotomus*], 12, mt. *papatasi*.—"Owl midges," moth-flies. [C. 25a, 802.] Some species suspected as vectors of cutaneous leishmaniasis, European pappataci fever, or three-day fever, and the Peruvian verruga, †88 *Leishmania furunculosa*. Bite not so irritating as that of †1448 Chironomidae. Type of Phlebotominae.

africanus [nv]: *Phlebotomus minutus*.—Biskra.—Vector of †88 *Leishmania tropica*.

argentipes Annandale, 1910 [nv]: *Phlebotomus*.—Sandfly. Bites.—India; Asia.—Vector of †91 *Herpetomonas* [†88 *Leishmania*] *donovani*, up to at least 12 days.

brumpti Larrousse, 1920, Bul. Soc. Path. exot., v. 13 (8), 659 [nv]: *Phlebotomus*.—Brazil.

duboscqi Nev.-Lem., 1906, Bul. Soc. zool. France, 65: *Phlebotomus*.—Timbuktu; Mauritania; Soudan[t]; Africa.

fallax Parrot [nv]: *Phlebotomus*.

intermedius Lutz & Neiva [nv]: *Phlebotomus*.—Brazil.—Vector of †88 *Leishmania braziliensis*.

longipalpis Lutz & Neiva [nv]: *Phlebotomus*.—Brazil.

minutus Rondani [nv]: *Phlebotomus*.—Europe; N. Africa.—Probable vector of pappataci fever, *Phlebotomus* fever.

nigerrimus Newstead [nv]: *Phlebotomus*.—Europe; N. Africa.

papatasi Scopoli, 1786, Delic. Flor. et Faun., 55 [Bibio[1]]: *Phlebotomus*; Musca[1].—Italy[t]; Europe; Asia.—Vector of three day fever, pappataci fever, sandfly fever, *Phlebotomus* fever, †88 *Leishmania tropica* (experi-

mental), fide Sergent, 1921, C. r. Acad. Sci., Paris, 1030, and 1926, AIP Paris, 411; negative, fide Monroe, 1925. Experimentally positive, 2 to 7 days, fide Adler & Theodor, 1926, Ann. Trop. Med., Liverpool, v. 20 (2).

perniciosus Newstead [nv]: *Phlebotomus.*—Vector of pappataci fever.

rostrans Summers [nv]: *Phlebotomus.*

species Bequaert, 1926, 165, 194: *Phlebotomus.*—Medically of importance as vector of disease.—Central and South America.

squamirostris Newstead, 1923, Ann. Trop. Med., Liverpool, 531: *Phlebotomus.*—Japan[t].—Medical importance not stated.

squamiventris Lutz & Neiva [nv]: *Phlebotomus.*

verrucarum Townsend, 1913, Ins. Ins. Mens., v. 1, 107, pl. 3: *Phlebotomus.*—Peru[t]; S. America.—Reported as suspected vector of Verruga and Oroya fever.

**vexator* Coquill. [nv]: *Phlebotomus.*—U. S. A.

1448 (1440). CHIRONOMIDAE.—The midges. [C. 25a, 802; B. & M. 15a, 63.] See †1449.

1449 (1450 to 1456). **Chironomus** Meigen, 1803, Ill. Mag. f. Insektenk., v. 2, 260; tsd. (1810; 1910) 1st sp. *plumosa.*—[C. 25a, 802; B.& M. 15a, 63.]

**halteralis* Coquill., 1901, Ent. News, v. 12 (1), 17: *Chironomus.*—Captured, not reared, on human *excreta.—Washington[t], D. C.

1450 (1449). **Ceratopogon** Meigen, 1803, Ill. Mag. f. Insektenk., v. 2, 261, mt. Tipula *barbicornis;* mt. (1910) *communis* so. *barbicornis;* etd. (1840) *stigma;* etd. (1915) *bipunctatus.*—Midges; sandflies (West Indies); Mosquito de Barba; Bartmuecken. [B. & M. 15a, 63.] Persistent bloodsuckers. Punkies. Type of CERATOPOGONINAE.

*species Howard, 1900, Proc. Wash. Acad. Sci., 548: *Ceratopogon.*—Bred in human *excreta.

1451 (1449). **Culicoides** Latr., 1809, Gen. Crust. Ins., v. 4, 251, mt. *punctata** so. Culex *pulicaris* L.—Sandflies or punkies. [C. 25a, 803.] See Johannsen, 1905, N. Y. S. Mus. Bul., no. 86, 101, for U. S. A. species; also 23d N. Y. Rep. no. 98, 267.

brucei Austen, 1909, Ann. Mag. Nat. Hist., 282: *Culicoides.*—Uganda[t].

dufouri Laboulbène, 1869, Ann. Soc. ent., Paris, 157–166, figs. 1–17 [Ceratopogon[1]]: *Culicoides.*—Paris[t], France; Austria.

fascipennis Staeger, 1839, Naturh. Tidssk., v. 2 (6), 594 [Ceratopogon[1]]: *Culicoides.*—Bites.

grahamii Austen, 1909, Ann. Mag. Nat. Hist., 280: *Culicoides.*—Bloodthirsty, bite painful.—Ashanti[t], Tropical Africa.

guttatus [nv]: *Culicoides.*—Brazil.

**guttipennis* Coquill., 1901, Proc. U. S. Nat. Mus., v. 23, 603: *Culicoides;* Ceratopogon[1].—"Virginia punkies." Bites severely.—Virginia; Ohio[t].

habereri Becker, 1909, Jahresb. Ver. Natk., Stuttgart, 289–294: *Culicoides.*—S. Cameroon[t], Africa.

insignis [nv]: *Culicoides.*—Brazil.

langeroni Kieffer [nv]: *Culicoides.*—Africa.

maculithorax [nv]: *Culicoides.*—Brazil.

milnei Austen, 1909, Ann. Mag. Nat. Hist., 283–284: *Culicoides.*—Bites.—Nairobi[t], Uganda, Africa.

obsoletus Meigen [nv]: *Culicoides.*—Bites; pain and itch several days.

pachymerus Lutz, 1914, Mem. Inst. Oswaldo Cruz, v. 6, 83–84, pl. 8, fig. 8, pl. 9, fig. 1: *Culicoides.*—"Punkies." Bite.—Brazil[t].

pulicaris Linn., 1758a, 603: *Culicoides;* Culex[1].—Europe[t].

pumilus Winnertz, 1852, Linn. Ent., v. 6, 46, pl. 6, fig. 43 [Ceratopogon[1]]: *Culicoides.*—Bites.—Crefeld[t].

punctata[a] Latr., 1809, Gen. Crust. Ins., v. 4, 251: *Culicoides*[t].—So. *pulicaris*.

reticulatus [nv]: *Culicoides*.—Brazil.

species Strong, etc., 1926, 165: *Culicoides*.—Attempts to bite.

**stellifer* Coquill., 1901, Proc. U. S. Nat. Mus., v. 23, 604 [Ceratopogon[1]]: *Culicoides*.—"Punkies"; "No-see-um"; sandflies. Suck blood.—D. C.[t]

varius Winnertz, 1852, Linn. Ent., v. 6, 35–37 [Ceratopogon[1]]: *Culicoides*.—Bloodthirsty.—Europe.

1452 (1449). **Haematomyidium** Goeldi, 1905, Mem. Mus. Goeldi, 137, mt. tod. *paraense*. So. ? †1451 *Culicoides*, or ? †1450 *Ceratopogon*.

paraense Goeldi, 1905, Mem. Mus. Goeldi, 137: *Haematomyidium*.—Local name "miruim."—Bite painful, followed by inflammation.—Para[t], Brazil.—So. ? †1450 *Ceratopogon phlebotomus*.

1453 (1449). **Serromyia**[23] Meigen, 1818, Syst. Beschr., v. 1, 83, mt. *femoratus*.

[*sordidella* Zetterstedt, 1840, Ins. Lappon., 820 [Ceratopogon[1]]: *Johannseniella*.—Greenland.]

1454 (1449). **Leptoconops** Skuse, 1889, Proc. Lin. Soc. N. S. Wales, v. 4, 288, mt. *stygius*. Syns.: †1455 *Mycterotypus*[a]; *Tersesthes*[a] Townsend, 1893, Psyche, 370, tod. mt. *torrens*.

bezzii Noé, 1905, Atti Acc. Lincei, v. 14 (2), 114: *Leptoconops*; †1455 *Mycterotypus*, q. v.—Italy[t].

irritans Noé, 1899, 118 [nv]: *Leptoconops*; †1455 *Mycterotypus*, q. v.; Conops.—Italy.

torrens Townsend, 1893, Psyche, 369, figs. 1–6 [*Tersesthes*[t]]: *Leptoconops*.—Socorro County[t], N. Mex.; Cuba; Mexico.

1455 (1449). **Mycterotypus**[a] Noé, 1905, Atti Acc. Lincei, v. 14 (2), 114 contained *bezzii*, *irritans*.—Serapiche. So. ? †1454 *Leptoconops*. Syn. *Centrotypus* Noé, 1905, type ? *irritans* [nv].

bezzii Noé, 1905, Atti Acc. Lincei, v. 14 (2), 114: *Mycterotypus*; *Leptoconops*, q. v.—Rome[t], Italy.

irritans Noé, 1899, 118 [nv]: *Mycterotypus*; *Centrotypus*[t]; *Leptoconops*.—Sucks blood, June, July.—S. Europe.

1456 (1449). **Oecacta**[a] Poey, 1853, Msl. Hist. nat. Cuba, 236, mt. *furens*. So. ? †1451 *Culicoides*.

furens Poey, 1853, Msl. Hist. nat. Cuba, 236–242: *Oecacta*.—"Jejen"; "Common sandfly." Enters nasal fossae, ears.—Cuba[t]; Porto Rico.

hostilissima[j][a] Pittaluga, 1911, CfB, Abt. 1, v. 59, 69–71, 1 fig.: *Oecacta*.—Spanish Guinea[t], W. Africa.—So. ? †1451 *Culicoides grahami*.

1457 (1440). CULICIDAE Latr., 1825 [nv]; Rob.-Desv., 1827a, 399.—The mosquitoes. [C. 25a, 804; B. & M. 15a, 62.] See †1458.

Vectors of malaria, filariasis, dengue, and ? leprosy[j]; serious pests, disturbing sleep and comfort; external temporary parasites; occasionally accidental intestinal pseudoparasites. Very important from standpoint of public health; also from viewpoint of economics, as affecting land values. See especially the following works:

Blanchard, 1905a, "Les Moustiques. Histoire naturelle et médicale." Contains keys, synonymy, bibliography and diagnoses to mosquitoes of world.

Theobald, 1910a, "A Monograph of the CULICIDAE of the World," v. 5. Contains keys and original references to mosquitoes of world, cross reference to Theobald's earlier volumes, 1901a, 1901b, 1903a, 1907a, etc. This author recognizes many genera as distinct which American authors suppress as synonyms.

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[1] Syns. *Prionomyia*[a] Stephens, 1829b, 237, tsd. (1840; 1910) *femoratus*; *Johannseniella*[a] Williston, 1907, J. New York Ent. Soc., v. 15 (1), 1, type (1907; 1910) *femorata*; Ceratolophus[a b] Kieffer, 1899 [not Bocourt, 1873], Bul. Soc. ent. France, 69, tod. mt. *femoratus*.

Howard, Dyar & Knab, 1912 (vols. 1 and 2), 1915a (v. 3), 1917a (v. 4), "Mosquitoes of North and Central America and West Indies." These volumes contain keys, synonymy, bibliography, diagnoses, and reprints of many of the original descriptions.

Dyar, 1922a, "The Mosquitoes of the United States" <Proc. U. S. National Museum, v. 62, art. 1, pp. 1–119. This article contains keys, diagnoses, and synonymy for genera represented in the United States and North America. As the present Key-Catalogue is intended for use primarily in the United States, and as Dyar, 1922a, is easily accessible in American libraries, we adopt Dyar, 1922a, as basis for the present Key-Catalogue.

Christophers, 1924, "Provisional List and Reference Catalogue of the ANOPHELINI"<Ind. Med. Res. Memoirs, no. 3, Dec., pp. 1–105.

Speer, 1927a, "Compendium of the Parasites of Mosquitoes (CULICIDAE)"< Hyg. Lab. Bull. 146, pp. 1–36. This bulletin is based on Stiles & Hassall's Host-Catalogue; it contains the parasites of mosquitoes, including the parasites transmissible to man. As this article is easily accessible, the data contained therein will not be reprinted in the present Key-Catalogue.

Within recent years, the CULICIDAE have been subjected to very intensive study by many authors who have recognized such varied classifications of the genera into groups, tribes, and subfamilies, that a generally acceptable arrangement of the genera into supergeneric units units is at present practically impossible. For purpose of this Key-Catalogue, all genera of CULICIDAE (in the present, restricted state) are arranged alphabetically (but with type genus at the head) with insertion of supergeneric groups under the key number of the type genera. For key characters of the genera of the United States, see especially Dyar, 1922a. See †1458.

1458 (1459 to 1472). **Culex** [24] Linn., 1758a, 344, 602; tsd. (1810) 1st sp. *pipiens*. Includes several vectors of †446 *Wuchereria bancrofti*. Type of: fam. CULICINA[d] Burm., 1837a, 608; CULICINAE Nev.-Lem., 1902g, 1331; tribe CULICINI as of Dyar, 1922a, 4, 7; CULICIDI Bigot, 1859, ASeF, 117.

Dyar, 1922a, 9, recognizes 6 subgenera for the species occurring in the United States, namely, *Climacura*, *Neoculex*, *Culex*, *Melanoconion*, *Choeroporpa*, *Mochlostyrax*.

For data regarding the following species and for the parasites they transmit to man, see Speer, 1927a, 8–15: *anxifer*, *ciliaris*, *fatigans*, *fuscocephalus*, *gelidus*, *microannulatus*, *penicillaris*, *pipiens*, *procax*, *quinquefasciatus*, *sitiens*, *skusei*, species, *territans*.

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[24] Syns.: *Aëdinus* Lutz in Bourroul, 1904, Mosq. Brasil, 3, 12, mt. *amazonensis;*
Aporoculex Theobald, 1907a, 150, 316, mt. *punctipes;*
Barraudius Edwards, 1921, Bull. Ent. Res., 332, tod. *pusillus;*
Cacoculex Dyar, 1918, Ins. Ins. Mens., v. 6, 100, tod. *habilitator;*
Carrollia Lutz, 1905, Imp. Med., 81 [nv];
Choeroporpa Dyar, 1918, Ins. Ins. Mens., v. 6, 92, 103, tod. *antps;*
Climacura Howard, Dyar & Knab, 1915a, v. 3, 452, tod. *melanurus* Coquill.;
Culiciomyia Theobald, 1907a, 227, tsd. *inornata* Theobald;
Eubonnea Dyar, 1919, Ins. Ins. Mens., v. 7, 150, mt. *tapena;*
Eumelanomyia Theobald, 1910a, 114, 240, mt. *inconspicuosa;*
Gnophodeomyia Theobald, 1905, J. Econ. Biol., 21, mt. *inornata;*
Helcoporpa Dyar, 1918, Ins. Ins. Mens., v. 6, 125, mt. *menytes;*
Heptaphlebomyia Theobald, 1903a, 336, mt. *simplex;*
Isostomyia Coquill., 1906, U. S. Dept. Agr., Bur. Ent., 16, 24, mt. *perturbans* Williston of Coquill. so. *conservator* Dyar & Knab;
Jamesia Christophers, 1906, Sci. Mem. Med. Ind. (no. 25), 10, 12, includes 2 sp. *concolor*, *tigripes;*

albolineatus Giles, 1902a, 430–431, pl. 17, fig. 10a: *Culex*.—Shahjahanpur[t], N. W. P., India.

bitaeniorhynchus Giles, 1901, J. Bombay Nat. Hist. Soc., v. 13 (4), 607: *Culex*.—Partial development of †446 *Wuchereria bancrofti*.—Travancore[t], India.

coronator Dyar & Knab, 1906, J. New York Ent. Soc., v. 14, 206, 215, fig. 38: *Culex* (*Culex*).—Observed attempting to bite indoors after dusk.—Trinidad; Mexico; Central America.

decens Theobald, 1901, Rept. Liverpool School Trop. Med., vii [nv]: *Culex*.—Gulf of Guinea.—Vector of †94 *Trypanosoma gambiense*.

duttoni Theobald, 1901, Rept. Liverpool School Trop. Med., vii [nv]: *Culex*.—Vector of †442 *Loa loa*.—Duketown.

**erraticus* Dyar & Knab, 1906, J. New York Ent. Soc., 223, 224, fig. 61: *Culex* (*Choeroporpa*); *Mochlostyrax*[s].—Baton Rouge[t], La.

**fatigans* Wiedem., 1828, Auss. zweiflug. Ins., 10, 17: *Culex* (*Culex*).—Europe; Asia; Africa; America.—†142e *Leptospira ictero-haemorrhagiae* lives 24 hours in intest. Not confirmed experimentally as vector of †212 dengue, Philippines, fide Siler, etc., 1925.

mollis Dyar & Knab, 1906, Proc. Biol. Soc. Wash., v. 19, 171: *Culex carmodyae*.—Bites.—Sangre Grande[t], Trinidad; Brazil.

species ———: *Culex*.—Larvae in intestine.

**tarsalis* Coquill., 1896, Can. Ent., 43–44: *Culex* (*Culex*).—Argus Mts.[t] and Folsom, Calif.[t]; Brit. Columbia; Miss.

1459 (1458). **Aëdes**[25] Hoffmansegg in Meigen, 1818, Syst. Beschr., v. 1, 13, mt. *cinereus*.—Type of Aedinae Neveu-Lemaire, 1902g, 1331. Includes vector of yellow fever and of dengue.

Dyar, 1922a, 43, recognizes 6 subgenera for the species occurring in the United States, namely, *Heteronycha*, *Taeniorhynchus*, *Finlaya*, *Stegomyia*, *Aëdes*, *Ecculex*.

For data regarding the following species and the parasites they transmit to man, see Speer, 1927a, 30–34: *aegypti*, *albolineatus*, *albopictus*[s], *aldrichi*, *annulirostris*, *argenteus*[s], *calopus*[s], *caspius*, *chemulpoensis*, *desmotes*, *domesticus*, *esoensis*, *fasciatus*[s], *fuscopennatus*, *galliosi*, *gracilis*[s], *nemorosus*, *notoscripta*, *perplexa*, *pseudoscutellaris*, *punctatus*, *scutellaris*, *sugens*[s], *taeniatus*[s], *taeniorhynchus*, *togoi*, *vagans*, variegatus[h], *vexans*, *vigilax*, *vittatus*[s], *zammitti*.

Lasioconops Theobald, 1903a, 235, mt. *poicilipes* Theobald;
Leucomyia Theobald, 1907a, 372, tod. *gelidus* Theobald;
Lutzia Theobald, 1903a, 155, mt. *bigotii* Bellardi;
Melanoconion Theobald, 1903a, 238, tds. (1905) 1st sp. *atratus;*
Melanoconops Theobald, 1903a, 178 [not new here];
Micraëdes Coquill., 1905, Proc. Ent. Soc., Wash., v. 7, 185, tod. *bisulcatus* Coquill.;
Microculex Theobald, 1907a, 461, mt. *argenteoumbrosus* Theobald;
Mochlostyrax Dyar & Knab, 1906, J. New York Ent. Soc., v. 14, 223, tod. *caudelli;*
Neoculex Dyar, 1905, Proc. Ent. Soc., Wash., 45, 48, tod. *territans* Walker, s. irritans[m];
Neomelanoconion Theobald, 1907a, 514, tod. *rima;*
Oculeomyia Theobald, 1907a, 515, mt. *sarawaki* Theobald;
Pectinopalpus Theobald, 1910a, Ann. Mag. Nat. Hist., v. 5, 375, 416, mt. *fuscus* Theobald;
Phalangomyia Dyar & Knab, 1914, Ins. Ins. Mens., v. 2, 58, mt. *debilis;*
Pseudoculex[b] Theobald, 1907a, 318, type *punctipes* Theobald [not †1459 *Pseudoculex* Dyar, 1905, 45, 47, tod. *aurifer*];
Pseudoheptaphlebomyia Ventrillon, 1905, Bull. Mus. Hist. nat. Paris, 427, mt. *madagascariensis* Ventrillon;
Tinolestes Coquill., 1905, Proc. Ent. Soc. Wash., v. 7, 185, tod. *latisquama* Coquill.;
Transculicia Dyar, 1917, Ins. Ins. Mens., v. 5, 184, mt. tod. *eleuthera* Dary; and
Trichopronomyia Theobald, 1905, Ann. Mus. nat. Hung., v. 3, 98, mt. *annulata* Theobald.

[25] Syns.[s]: *Acartomyia* Theobald, 1903a, 251, mt. *zammitii* Theobald;
Aedimorphus Theobald, 1903a, 290, mt. *domestica* Theobald;
Aioretomyia Leicester, 1908, Stud. Ins. Med. Res. Fed. Malay States, v. 3 (3), 185, type *varietas* Leic.;

**aborigines* Dyar, 1917, Ins. Ins. Mens., 99, 470: *Aëdes* (*Heteronycha*).—Bites.—Pacific Coast, from Washington State to Alaska.

amesii Ludlow, 1903, J. New York Ent. Soc., v. 11, 139 [nv]: *Stegomyia; S. nivea.*—Development of †446 *Wuchereria bancrofti* negative.—Philippines.

**atropalpus* Coquill., 1902, Can. Ent., v. 34 (10), 292: *Aëdes* (*Taeniorhynchus*); Culex[1].—Bites.—Va.; Md.; Pa.; N. H.; eastern U. S. A.[t]

**aurifer* Coquill., 1903, Can. Ent., v. 35 (9), 255: *Aëdes* (*Heteronycha*); *Pseudoculex*[t]; Culex[1].—Bites.—New Hampshire[t].

butleri Theobald, 1901b, 230–231: *Aëdes; Stegomyia; Verrallina*[t s].—Development of †446 *Wuchereria bancrofti* negative.—Selangor[t].

Andersonia Strickland, 1911, Ent., v. 44, 250, mt. *tasmaniensis* Strick.;
Banksinella Theobald, 1907a, 468, mt. *luteolateralis* Theobald;
Bathosomyia Theobald, 1910a, 115, 135, 267, mt. *abnormalis* Theobald;
Catageiomyia Theobald, 1903, Thomps. Yates & Johnst. Lab. Rep., v. 5 (2), i, type *senegalensis* Theobald [nv];
Chrysoconops Goeldi, 1905, Os Mosq. no Para, 114, mt. tod. *fulvus* Wiedem.;
Culicada Felt, 1904, Bull. 79, New York State Mus., 391b, tod. *canadensis* Theobald;
Culicelsa Felt, 1904, Bull. 79, New York State Mus., 391b, tod. *taeniorhynchus* Wiedem.;
Danielsia Theobald, 1904, Ent., 78, 111, mt. *albotaeniata* Leicester in Theobald;
Duttonia Newstead, 1907, Ann. Trop. Med., Liverpool, v. 1, 17, mt. *tarsalis* Newstead;
Ecculex Felt, 1904, Bull. 79, New York State Mus., 391c, tod. *sylvestris* Theobald;
Finlaya Theobald, 1903a, 281, tsd. (1905) *kochi*, (1917) *poicilia* Theobald;
Geitomyia Leicester, 1908, Stud. Ins. Med. Res. Fed. Malay States, v. 3 (3), 134, mt. *caecus* Theobald;
Gilesia Theobald, 1903a, 233, mt. *aculeata* Theobald;
Gualteria Lutz, 1904, 13; also in Bourroul, 1904 [47], 1905, Imp. Med., 65, type 1st sp. *oswaldi* Lutz
Gymnometopa Coquill., 1905, Proc. Ent. Soc. Wash., v. 7, 183, tod. *mediovittata* Coquill.;
Heteronycha Arribalzaga, 1891, Rev. Mus. La Plata, v. 1, 373; v. 2, 155, mt. *dolosa*[s] [so. *aestuans*];
Howardina Theobald, 1903a, 287, tsd. (1905) *walkeri* Theobald [not †1460 Howardina[m] 1910];
Hulecoeteomyia Theobald, 1904, Ent., 163, mt. *trilineata* Leicester in Theobald;
Kingia Theobald, 1910a, 112, 135, tsd. (1917) 1st sp. *luteocephala* Newstead;
Lepidoplatys Coquill., 1906, Sci., n. s. 23, 314, tod. mt. *squamiger* Coquill.;
Lepidotomyia Theobald, 1905, Gen. Ins. Dipt., fasc. 26, 15, 22, mt. *magna* Theobald; Theobald, 1905, Ann. Mus. nat. Hung., 80, mt. *alboscutellata;*
Leslieomyia Christophers, 1911, Paludism, no. 2, 68, mt. *taeniorhynchoides* Christophers;
Macleaya Theobald, 1903, Ent., 154, mt. *tremula* Theobald;
Mimeteculex Theobald, 1908a, 258, mt. *kingii* Theobald;
Molpemyia Theobald, 1910a, 118, 479, mt. *purpurea* Theobald;
Myzosquamus Theobald, 1910a, 114, 225, mt. *confusus* Theobald;
Neomacleaya Theobald, 1907a, 149, 228, 238, mt. *indica* Theobald;
Neopecomyia Theobald, 1910a, 115, 261, mt. *uniannulata* Theobald;
Ochlerotatus Arribalzaga, 1891, Rev. Mus. La. Plata, v. 1, 374; v. 2, 143; tpd. 2d sp. *confirmatus* Arrib.;
Pecomyia Theobald, 1905, J. Econ. Biol., v. 1 (1), 23, mt. *maculata* Theobald;
Phagomyia Theobald, 1905, Gen. Ins. Dipt., fasc. 26, 14, 15, 21, type (1917) 1st sp. *gubernatoris* Giles;
Polyleptiomyia Theobald, 1905, Gen. Ins. Dipt., 15, 21, mt. *albocephala* Theobald;
Protoculex Felt, 1904, Bull. 79, New York State Mus., 391d, tod. mt. *serratus* Theobald;
Protomacleaya Theobald, 1907a, 149, 253, tod. mt. *triseriatus* Say;
Pseudoculex Dyar, 1905, Proc. Ent. Soc. Wash., 45, 47, tod. *aurifer* Coquill. [not †1458 Pseudoculex Theobald, 1907a, 318];
Pseudograbhamia Theobald, 1905, J. Bombay Nat. Hist. Soc., v. 16, 243, 244, mt. *maculata* Theobald;
Pseudohowardina Theobald, 1907a, 149, 223, mt. tod. *trivittatus* Coquill.;
Pseudoskusea Theobald, 1907a, 148, 192, mt. *multiplex* Theobald;
Quasistegomyia Theobald, 1906, 2d Rep. Wellc. Res. Lab., 69, mt. *unilineata* Theobald;
Reedomyia Ludlow, 1905, Can. Ent., v. 37, 94, mt. *pampangensis* Ludlow;
Scutomyia Theobald, 1904, Ent., v. 37, 77, mt. *albolineata* Theobald;
Skusea Theobald, 1903a, 291, type (1905) 3d sp. *pambaensis* Theobald;
Stegomyia Theobald, 1901, J. Trop. Med., London, 283, tsd. *calopus=aegypti*, also *fasciatus* so. *aegypti*;
Stenoscutus Theobald, 1910a, 115, 263, mt. *africanus* Theobald;
Taeniorhynchus Arribalzaga, 1891, Rev. Mus. La Plata, v. 1, 374; v. 2, 147, tat. (also tsd. 1917; 1922) 1st sp. *taeniorhynchus*[1] [cf. †1459 *Culicelsa*]. Not †1465 Taeniorhynchus[d], tsd. (1905) *fasciolatus*[s], so. *Mansonia*. Not †325d *Taeniarhynchus* Weinl., 1858a, cestode;
Verrallina Theobald, 1903a, 295, tsd. (1905) *butleri* Theobald.

**campestris* Dyar & Knab, 1907, J. New York Ent. Soc., 213: *Aëdes* (*Heteronycha*).—Bites.—Canada; Utah.

canadensis Theobald, 1901b, 3–5, fig. 152, pl. 21, figs. 82–83: *Aëdes* (*Heteronycha*); *Culicada*[t s]; Culex[1].—Bites.—Ontario[t].

**cantator* Coquill., 1903, Can. Ent., v. 35 (9), 255: *Aëdes* (*Heteronycha*); Culex[1].—Annoying.—New Jersey[t].

cataphylla Dyar, 1916, Ins. Ins. Mens., 86: *Aëdes* (*Heteronycha*); Culex[1].—Bites.—Calif.[t]

cinereus Hffsg. in Meigen, 1818, Syst. Beschr., 13: *Aëdes*[t] (*Aëdes*[t]).—Bites.

**dorsalis* Meigen, 1830, Syst. Beschr., 242: *Aëdes* (*Heteronycha*); Culex[1].—Bites.

flavopictus Yamada, 1921, Annot. Zool. Jap., 52–54, fig. 2: *Aëdes*.—Active bloodsucker.—Tokyo, Japan.

**fluviatilis* Lutz in Bourroul, 1904, Mosq. Brasil, [42, 72] 8: *Aëdes* (*Taeniorhynchus*); Culex[1].—Bites.—Brazil[t], Tropical America to Texas.

**hexodontus* Dyar, 1916, Ins. Ins. Mens., 83: *Aëdes* (*Heteronycha*).—Bites.—Calif.[t]

horishensis Yamada, 1921, Annot. Zool., Jap., 58–61: *Aëdes*.—Bites.—Formosa.

**infirmatus* Dyar & Knab, 1906, J. New York Ent. Soc., 197, fig. 12: *Aëdes* (*Heteronycha*).—Bites.—La.[t]

**intrudens* Dyar, 1919, Ins. Ins. Mens., 23 (impiger[h] Felt, 1904, not Walker, renamed): *Aëdes* (*Heteronycha*).—Bites.—N. Y.[t]

**lazarensis* Felt & Young, 1904, Sci., v. 20, 312: *Aëdes* (*Heteronycha*); Culex[1].—Bites.—Elizabethtown[t], N. Y.

**nigromaculis* Ludlow, 1907, Geo. Wash. Univ. Bull., 85: *Aëdes* (*Taenior.*); Grabhamia[1].—Bites.

omurensis Yamada, 1921, Annot. Zool., Jap., 73–77, fig. 3: *Aëdes*.—Bites severely in daytime.—Asia.

**punctor* Kirby, 1837, Richardson's Fauna Bor.-Amer., 309: *Aëdes* (*Heteronycha*); Culex[1].—Bites.

richiardii Ficalbi, 1889, Bull. Soc. ent., Paris, 50: *Taeniorhynchus* [as restr. by R. Bl., 1905a, 382]; Culex[1].—Bites in summer.—Ravenna[t], Italy; France; Europe; Canada; Palestine.

seoulensis Yamada, 1921, Annot. Zool., Jap., 61–64: *Aëdes*.—Bites in daytime.—Korea[t].

**sollicitans* Walker, 1856, Ins. Saundersiana Dipt., v. 1, 427; *Aëdes* (*Taeniorhynchus*); Culex[1].—Bites.—U. S. A.[t]

**triseriatus* Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 12 (40): *Aëdes* (*Finlaya*); Culex[1].—Bites.—Penn.[t]

**trivittatus* Coquill., 1902, J. New York Ent. Soc., v. 10, 193: *Aëdes* (*Heteronycha*); *Pseudohowardina*[t]; Culex[1].—Bites.—New Jersey[t], U. S. A.

unilineata Theobald, 1906, Rep. Wellc. Res. Lab., 70–71, fig. B, b: *Quasistegomyia*[s].—Very irritating.—Bahr-El-Ghazal[t].

**ventrovittis* Dyar, 1916, Ins. Ins. Mens., 84: *Aëdes* (*Aëdes*).—Bites.—Calif.[t]

watasei Yamada, 1921, Annot. Zool., Jap., 64–67: *Aëdes*.—Bites in bush.—Kiushu.

wellmanii Theobald, 1905, Ent., v. 38, 103: *Danielsia*[s].—Filariasis.—Angola[t], Portuguese W. Africa.

1460 (1458). **Anopheles** Meigen, 1818, Syst. Beschr., v. 1, 10; tsd. (1828; 1840; 1910; 1915; 1924) *bifurcatus;* (1905; 1917; 1922) *maculipennis*.—Includes all mosquitoes which transmit malaria (†170 *Plasmodium*, †171 *Laverania*) to man; several species transmit †446 *Wuchereria bancrofti* and †447 *Dirofilaria immitis*.

Type of: Tribe ANOPHELINI Edward, 1912, Bul. Ent. Research, v. 3 (1), 2 [nv]; ANOPHELIDAE Eysell, 1905, ASTH, v. 9, 57; ANOPHELINAE Nev.-Lem., 1902g, 1330; ANOPHELINES [nv]; ANOPHELINA[d] Theobald, 1901a, 97; EPIALURGI Alcock, 1911, Ann. Mag. Nat. Hist., v. 8, 241 [nv].

Dyar, 1922a, 102 recognizes four subgenera, namely, *Anopheles*, *Nyssorhynchus*, *Proterorhynchus*, *Coelodiazesis*.

Christophers, 1924, Ind. Med. Res. Mem., no. 3, 15, recognizes five subgenera, namely, *Chagasia*,[26] *Bironella*,[27] *Anopheles*,[28] *Nyssorhynchus*,[29] *Myzomyia*.[30]

Position uncertain: *Calvertia* Ludlow, 1909, Can. Ent., v. 41 (1), 22, tod. *lineata*; *Calvertina* Ludlow, 1909, Can. Ent., v. 41 (7), 234, type *lineata*, *Calvertia* renamed. Not *Calvertius* Sharp, 1891, insect.

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[26] **Chagasia** Cruz, 1906, Brazil med., v. 20 (20), 199, mt. *fajardoi* (as *neivae* Cruz).

[27] **Bironella** Theobald, 1905, Ann. Mus. nat. Hung., v. 3, 69, mt. gracilis [a] [b] Theobald so. *bironelli* Christophers.

[28] **Anopheles** Meigen, 1818, 10, tsd. *bifurcatus*. Syns.[a]:

Arribalzagia Theobald, 1903a, v. 3, 81, mt. *maculipes* [so. *annulipalpis*];
Christya Theobald, 1903, Rep. Sleep. S. Comm. (no. 1), 34, tod. *impleza;*
Coelodiazesis Dyar & Knab, 1906, J. New York Ent. Soc., v. 14 (4), 177, mt. tod. *barberi;*
Cyclolepidopteron[a] R. Bl., 1901, C. r. Soc. Biol., 1046, type *grabhamii;*
Cycloleppteron Theobald, 1901, J. Trop. Med., London, v. 4, 234, mt. *grabhamii;*
Cyclophorus Eysell, 1912, Arch. Schiffs- Tropen- Hyg., v. 16, 13, 422, tod. *nigripes* [so. *plumbeus*][nv];
Lophomyia Theobald in Giles, 1904, J. Trop. Med., London, 366, mt. *asiatica;*
Lophoscelomyia Theobald, 1904, Ent., v. 37, 12, mt. *asiatica;*
Memnemyia Strickland, 1915, Ind. J. Med. Res., v. 3 (1), 204, tod. *brevipalpis* [nv];
Myzorhynchus R. Bl., 1902, C. r. Soc. Biol., v. 54 (23), 795, tod. *sinensis* Wiedem. [so. *hyrcanus*], Rossia[b] Theobald, renamed;
Neostethopheles James, 1910, Rec. Ind. Mus., v. 4 (5), 98, tod. *aitkenii;*
Nototricha Coquill., 1906, U. S. Bur. Ent. (Tech. Ser. no. 11), 12, 13, mt. *mediopunctatus* [so.[a] *strigimacula*];
Patagiamyia James, 1910, Rec. Ind. Mus., v. 4 (5), 98, tod. *gigas;*
Proterorhynchus Brèthes, 1912, Bol. Ins. Et. y. Pat. Veg., v. 1, 10, 14, tod. *argentinus* Brethes [so. *pseudopunctipennis*] [nv];
Rossia[b] Theobald, 1902, J. Trop. Med., London, v. 5, 181, tod. *sinensis*[a] Wiedem. [so. *hyrcanus* Pall.] [not *Rossia* Bonap., 1838, bird; not Owen, 1838, mollusk];
Stethomyia Theobald, 1902, J. Trop. Med., London, v. 5, 181, tod. *nimbus* Theobald.

[29] **Nyssorhynchus** R. Bl., 1902, C. r. Soc. Biol., v. 54 (23), 795, tod., by renaming of genus, *argyritarsis*; etd. (1903) *maculatus* Theobald; Laverania[b] Theobald, renamed [not †171 *Laverania* Grassi & Feletti, 1890, prot.]. Syns.:

Dendropaedium Dyar & Knab, 1918, Ins. Ins. Mens., v. 6, 141, 145, tsd. mt. (1923) *bellator;*
Kerteszia Theobald, 1905, Ann. Mus. nat. Hung., v. 3, 66, mt. *boliviensis;*
Laverania[b] Theobald, 1902, J. Trop. Med., London, v. 5, 183, tod. *argyritarsis* Desv.;
Manquinhosia Cruz, 1907, Brazil med., v. 21 (28), 271, tod. *lutzii* Cruz [renamed *peryassui* 1908] [nv]
Myzorhynchella Theobald, 1907a, mt. *nigra*[a] [so. *lutzii* Cruz].

[30] **Myzomyia** R. Bl., 1902, C. r. Soc. Biol., 795, tod. *rossii*[a] Giles [so. *subpictus*], Grassia[b] 1902, renamed. Syns.:

Aldrichia[b] Theobald, 1903a, 113, 353, mt. *error*[a], so. *subpictus* Grassi [not *Aldrichia* Coquill., 1894, insect];
Aldrichinella Theobald, 1910a, 3, 77, mt. *error;*
Cellia Theobald, 1902, J. Trop. Med., London, v. 5, 183, tod. *pharoensis;*
Christophersia James, 1910, Rec. Ind. Mus., v. 4 (5), 11, 103, tod. *halli*[a] James [so. *kochi* Don.];
Dactylomyia Newstead & Carter, 1910, Ann. Trop. Med., Liverpool, v. 4 (3), 377, mt. *ceylonica*[a], Ceylon[t] [so. *tessellatus*];
Feltinella Theobald, 1907a, 22, 56, mt. *pallidopalpi* [a] Theobald [so. *smithii*];
Grassia[b] Theobald, 1902, J.Trop. Med., London, v. 5, 181, tod. *rossii*, etd. (1903) *funestus* [not *Grassia* Fischer, 1885, prot.];
Howardia[b] Theobald, 1902, J. Trop. Med., London, v. 5, 181, tod. *costalis*[a] [so. *gambiae* Giles] [not] *Howardia* Dalla Torre, 1897, insect];
Howardina[m] Theobald, 1910a, 36, for Howardia[b];
Neocellia Theobald, 1907a, 23, 111, 360, tsd. *indica*[a] [so. *willmorei* James];
Neocellia Rothwell, 1907, Ent., Feb., 34–36, mt. *intermedia*[a] so. *stephensi* Liston;
Neomyzomyia Theobald, 1910a, 29, tod. *elegans*[a] James [so. *leucosphyrus* Don.];
Nyssomyzomyia James, 1910, Rec. Ind. Mus., v. 4 (5), 101, mt. *rossii*[a] Giles [so. *subpictus*], *Pseudomyzomyia* 1907 renamed;
Pseudomyzomyia Theobald, 1907a, errata, mt. *rossii* Giles;
Pyretophorus R. Bl., 1902, C. r. Soc. Biol., 795, tod., by renaming, *costalis*[a] Loew [so. *gambiae*].

For data regarding the following species and for the parasites they transmit to man, see Speer, 1927a, 15–30: *aconitus, aitkeni, albimanus, algeriensis, annulipes, apicimacula,* apicimaculata[m], *arabiensis, ardensis, argyritarsis, austeni, barberi, barbirostris, bifurcatus, boliviensis, brasiliensis, chaudoyei, christophersi, cohaesa, costalis, coustani, crucians, cruzei, culicifacies, d'thali, fajardoi, farauti,* formosaensis I, formosaensis II, *formosaensis, fragilis, fuliginosus, funestus, gilesi, grabhamii, hispaniola, hunteri, hyrcanus, indefinitus, indiensis, intermedia, intermedius, jamesii, jesoensis, jeyporiensis, karwari, kochi, leucosphyrus, lindesayi, listoni, ludlowi, lutzi,* lutzii[h], *maculatus, maculipalpis, maculipennis, maculipes, martini, mauritianus, mediopunctatus,* mimus[m], *minimus, moluccensis, multicolor, musivus, myzomyifacies, nigerrimus, nigritarsis, nimba, palestinensis, paludis, pampangensis, parva, peditaeniatus, pharoensis, pitchfordi, plumbeus, pseudomaculipes, pseudopictus, pseudopunctipennis, pulcherrimus, punctipennis, punctulata, pursati, quadrimaculatus, rhodesiensis, rossi, sergentii, sinensis, stephensi, superpictus, tarsimaculatus, tessellatus, theobaldi, tibiamaculata, turkhudi, umbrosus, vagus, vanus, vincenti, willmorei.*

**atropos* Dyar & Knab, 1906, Proc. Biol. Soc. Wash., v. 19, 160: *Anopheles* (*Anopheles*).—Bites.—Florida Keys[t].

celidopus Dyar & Shannon, 1925, J. Wash. Acad. Sci., v. 15, 41: *Anopheles.*—Bites.—Brazil[t].

kingi Christophers, 1923, Ind. J. Med. Res., 1008, pl. 81, figs. 1–6, pl. 82, figs. 7–9: *Anopheles* (*Myzomyia*).—Day biter.—Kenya Colony[t], E. Africa.

peryassui Dyar & Knab, 1908, Proc. U. S. Nat. Mus., 53 [*Manquinhosia lutzi* Peryassu (not *Myzorhynchella lutzii* Cruz) renamed]: *Anopheles.*

ziemanni Grünberg, 1902, Zool. Anz., 550–551: *Anopheles; Myzorhynchus.*—Carries malaria.—Kamerun[t], W. Africa.— So. *mauritianus,* fide Christophers, 1924, 27.

1461 (1458). **Culiseta**[31] Felt, 1904, Bull. 79, New York State Mus., 391c, mt. tod. *absobrina.*—Prefer larger animals, as cattle and horses, to man.

For data regarding the following species and their parasites, see Speer, 1927a, 35: *annulata, longeareolata*[s].

**alaskaensis* Ludlow, 1906, Can. Ent., v. 38 (10), 326–328: *Culiseta* (*Culiseta*); Theobaldia[h s].—Bites.—Alaska[t] to Yukon Valley, America; Scotland, N. Europe; Siberia.

**incidens* Thomson, 1858 ["1868"], 443: *Culiseta* (*Culiseta*); Culex[l].—Rarely bites man. Attracted by horses.—N. Rocky Mountains, Pacific coast, Alaska to Calif[t].

morsitans Theobald, 1901b, 8–11, fig. 154, pl. 20, fig. 79: Theobaldia[h s]; Culicada; Culex[l].—Bites man and animals in spring.—England[t]; France.

1462 (1458). ***Deinocerites**[32] Theobald, 1901c, J. Trop. Med., London, 233, 235, mt. *cancer.*—Type of Deinoceritinae Mitchell, 1906, Mosquito Life, 264. Species in United States not known to bite.

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[31] Syns.: *Allotheobaldia* Brolemann, 1919, Ann. Soc. ent., Paris, v. 88, 90, 91, mt. tod. *spathipalpis* Rond.; *Culicella* Felt, 1904, Bull. 79, New York State Mus., 391c, tod. *dyari;* *Pseudotheobaldia* Theobald, 1907a, 150, 271, mt. *niveitaeniata* Theobald; Theobaldia[h] Nev.-Lem., 1902, C. r. Soc. Biol., v. 54, 1331 [not *Theobaldius* Nev.], tod. *annulatus;* *Theobaldinella* R. Bl., 1905a, 390, type *annulatus* Schrank.

[32] Syns.: *Brachiomyia*[s] Theobald, 1901b, 343, mt. *magna.* *Brachiosoma*[o] Theobald, 1901c, J. Trop. Med., London, v. 4, 234, 235, sp. not cited; tsd. (1915) *cancer;* *Dinanamesus*[s] Dyar & Knab, 1909, Smithsonian Misc. Collect., v. 52, 259, mt. *spanius;* Deinokerides[m] Giles, 1902a, 472, mt. *cancer;* *Dinomimetes*[s] Knab, 1907, J. New York Ent. Soc., v. 15, 120, mt. *epitedus.*

1463 (1458). **Desvoidya** R. Bl., 1901, C. r. Soc. Biol., 1046, tsd. (1905) *obturbans;* Armigeres[h] Theobald, 1901a, 322, mt. Culex *obturbans* [not *Armiger* Hartm., 1840, mollusk] renamed. *Desvoidea*[e] Ludlow, 1904, Can. Ent., v. 36, 236. [Not *Desvoidia* Meade, 1892, †1592 "Tachiniidae[d]".]—Claimed to transmit †212 dengue fever.

For data regarding the following species and for the parasites it transmits to man, see Speer, 1927a, 34: *obturbans.*

joloensis Ludlow, 1904, Can. Ent., v. 36, 236: *Desvoidya; Desvoidea*[e] *fusca;* Armigeres[h].—Philippine Islands.—Development of †446 *Wuchereria bancrofti* negative.

1464 (1458). **Leicesteria** Theobald, 1904, Ent., 211, mt. *longipalpis.*—To *Aëdes* group, fide Edwards.

annulitarsis [nv]: *Leicesteria.*—Development of †446 *Wuchereria bancrofti* negative.

dolichocephala [nv]: *Leicesteria.*—Development of †446 *Wuchereria bancrofti* negative.

flava [nv]: *Leicesteria.*—Development of †446 *Wuchereria bancrofti* negative.

longipalpis Leicester in Theobald, 1904, Ent., 211–213: *Leicesteria.*—Kuala Lumpur[t], Fed. Malay States.

1465 (1458). **Mansonia**[33] R. Bl., 1901, C. r. Soc. Biol., 1045; tsd. (1902) *titillans;* Panoplites[h] Theobald, 1901b, 173 [not *Panoplites* Gould, 1853, bird] renamed.

Dyar, 1922a, 31, recognizes 2 subgenera, i. e., **Mansonia* and **Coquillettidia*, for species in U. S. A.

For data regarding the following species and the parasites they transmit to man, see Speer, 1927a, 34–35: annulipes[h], *nero, pseudotitillans, uniformis.*

africanus[e] Theobald, 1901b, 187–189: *Mansonia;* Panoplites[h e]; Taeniorhynchus (*Mansonioides*).—Africa.—So. *uniformis.*—Vector of †446 *Wuchereria bancrofti.*

indubitans Dyar & Shannon, 1925, J. Wash. Acad. Sci., v. 15, 41: *Mansonia.*—Bites.—Brazil.

**perturbans* Walker, 1856, Ins. Saundersiana Dipt., v. 1, 428: *Mansonia* (*Coquillettidia*[t]); Culex[1]; Taeniorhynchus[1].—Bites.—U. S. A.[t]; Africa.

**titillans* Walker, 1848, Cat. Brit. Mus. Dipt., v. 7, 5, pl. 1: *Mansonia*[t] (*Mansonia*[t]); Culex[1] [;Taeniorhynchus, tsd.]; Panoplites[h t].—Bites.—Brazil[t].

1466 (1458). **Megarhinus**[34] Rob.-Desv., 1827, Mém. Soc. Hist. nat., Paris, v. 3, 403, 412, mt. *haemorrhoidalis.*—Type of Megarhininae Nev.-Lem., 1902g, 1330; cf. Megarhinina[d] Theobald, 1901a, 97. Adults do not bite.

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[33] Syns.: *Coquillettidia*[e] Dyar, 1905, Proc. Ent. Soc. Wash., v. 7, 45, 47, tod. *perturbans* Walker;
Mansonioides[e] Theobald, 1907a, 498, mt. *septem-guttata;*
Panoplites[h o] Theobald, 1901b, 173, tsd. (1902) *titillans* [not *Panoplites* Gould, 1853, bird];
Pseudotaeniorhynchus[e] Theobald, 1911, Nov. Culic., v. 1, 19 [for Taeniorh. Arrib. of Theob.], type *fasciolatus;*
Rhynchotaenia[h e] Brèthes, 1911, Ann. Mus. nat. Buenos Aires, 470, tsd. (1915) *fasciolatus* [not *Rhynchotaenia* Dies., 1850a, cestode];
Taeniorhynchus[d] pars of Arribalzaga, 1891, Rev. Mus. La Plata, v. 1, 374; v. 2, 147, tsd. (1905) *fasciolatus,* cf. †1465 Rhynchotaenia[d]. [Not †1459 *Taeniorhynchus,* tat. (1891) *taeniorhynchus,* so. *Culicelsa.*]

[34] Syns.: *Ankylorhynchus*[e] Lutz in Bourroul, 1904, Mosq. Brasil, 3, 53, type? *neglectus;* type of Ankylorhynchae Lutz, 1904, 3;
Lynchiella[o] Lahille, 1904, Act. y Trab. 2 Cong. Med. Lat.-Amer., v. 2, 13, type *haemorrhoidalis,* new name for *Megarhinus* 1827, not *Megarhina* 1828;
Megarhina[e h] Macq., 1838, Dipt. Exot., v.1, pl. 1, 32 [not *Megarhina* St. Fargeau & Serville, 1828];
Toxorhynchites[e] Theobald, 1901a, 244, mt. *brevipalpis;*
Worcesteria[e] Banks, 1906, Philippine J. Sci., v. 1 (7), 779, tod. *grata.*

1467 (1458). **Mimomyia** Theobald, 1903a, 304, mt. (and tsd. 1905) *splendens*.—In URANOTAENIINAE, cf. Theobald, 1910a; in AEDINAE by R. Bl., 1905a.

alternans [nv]: *Mimomyia*.—Development of †446 *Wuchereria bancrofti* negative.

1468 (1458). **Orthopodomyia** Theobald, 1904, Ent., v. 37, 236, mt. *albipes* Leicester.

1469 (1458). **Psorophora** [35] Rob.-Desv., 1827a, Mém. Soc. Hist. nat., Paris, v. 3, 412, tsd. (1901) *ciliata*.—Type of PSOROPHORINAE Mitchell, 1906, Mosquito Life, 260.

Dyar, 1922a, 33, recognizes 3 subgenera, i. e., **Grabhamia*, **Psorophora*, and **Janthinosoma*, for species reported in U. S. A.

Some species are of importance in preying upon larvae of other mosquitoes.

For data regarding the following species and for the parasites (†1575 *Dermatobia*) they transmit to man, see Speer, 1927a, 35–36: *lutzi*, *posticatum*.

**ciliata* Fabr., 1794a, 401: *Psorophora*[t] (*Psorophora*[t]); Culex.—Bites.—Carolina[t].

**columbiae* Dyar & Knab, 1906, Proc. Biol. Soc., Wash., v. 19, 135: *Psorophora* (*Grabhamia*); *Janthinosoma*[a].—Bites.—U. S. A.[t]; Cuba; Bahamas; Fla.; Tex. and northward.

**cyanescens* Coquill., 1902, J. New York Ent. Soc., v. 10, 137: *Psorophora* (*Janthinosoma*); Culex.—Bites.—Texas[t]; Gulf States; Mexican coastal region to Yucatan; Colombia; Brazil.

ferox Humb., 1822, VaRE, v. 7, 120 [nv]: *Psorophora* (*Janthinosoma*).—Vicious, diurnal biter in dense woods.—Brazil; Ecuador; S. and C. America from Mexico to São Paulo.—Cf. ? *Culex ferox* 1822 and 1828.

**sayi* Dyar & Knab, 1906, J. New York Ent. Soc., 181 (Culex musicus[b] Say, 1827, not Leach, 1825, renamed); *Psorophora* (*Janthinosoma*); *Janthinosoma*.—Bites.—Fla. to Mass.; Mexico; Salvador; Nicaragua; Costa Rica.

**signipennis* Coquill., 1904, Proc. Ent. Soc., Wash., 167: *Psorophora* (*Grabhamia*); Taeniorhynchus[b].—Bites.—Mexico[t].

subtilis Sergent & Sergent, 1905, C. r. Soc. Biol., v. 58 (14), 14: *Grabhamia*.—Natives accuse it of transmitting "clou de Biskra." Day and night biter.—Biskra[t].

1470 (1458). **Sabethinus** Lutz in Bourroul, 1904, Mosq. Brasil, 48 (14), 57 (7), mt. *intermedius*.—Syn. *Sabettinus*[e] R. Bl., 1905a, 634, mt. *intermedius*. Type of SABETHINI.

intermedius Lutz in Bourroul, 1904, Mosq. Brasil, 48: *Sabethinus; Sabettinus*[e].—Brazil.

1471 (1458). **Uranotaenia** [36] Arribalzaga, 1891, Rev. Mus. La Plata, v. 1, 375, v. 2, 163; tsd. (1902) *pulcherrima*.—Type of URANOTAENIINAE, cf. Coquill., 1906, 11, 26. Cf. URANOTAENINA[d] Lahille, 1904, Notes 20. At least some species are not known to bite.

pulcherrima Arribalzaga, 1891, Rev. Mus. La Plata, v. 2, 165: *Uranotaenia*.—Observed indoors after dusk attempting to bite.—Buenos Aires[t], Argentina, to British Guiana, S. America; West Indies.

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[35] Syns.[a]: *Ceratocystia* Dyar & Knab, 1906, J. New York Ent. Soc., v. 14, 178, tod. *discolor* Coq.; *Conchyliastes* Theobald in Howard, 1901, Mosq., 155, tsd. (1910; 1917) 1st sp. *musicus*; *Feltidia* Dyar, 1905, Proc. Ent. Soc., Wash., v. 7, 45, 47, tod. *jamaicensis* Theob.; *Grabhamia* Theobald, 1903a, 243, tsd. (1904) 3d sp. *jamaicensis*, (1905) 1st sp. *dorsalis* Meigen; *Ianthinosoma*[e] R. Bl., 1905a, 231, type *discrucians* Walker; *Janthinosoma* Arribalzaga, 1891, Rev. Mus. La Plata, v. 1, 374, v. 2, 152, mt. *discrucians* Walker; *Lepidosia* Coquill., 1906, Sci., v. 23, 314, tod. *cyanescens* Coq. [not *Lepidoscia* Meyrick, 1893, insect].

[36] Syns.: *Anisochelomyia*[e] Theobald, 1905, Ent., v. 38, 52, type (1917) *nivipes* [nv]; *Pseudoficalbia*[e] Theobald, 1912, Trans. Linn. Soc. London, v. 15, 89, type (1917) *pandani* [nv]; *Pseuduranotaenia*[e] Theobald, 1905, J. Econ. Biol., v. 1, 33, type (1917) *rowlandii* [nv].

1472 (1458). **Wyeomyia**[37] Theobald, 1901, J. Trop. Med., London, 233, 234, 235; tsd. (1902) *grayii*.

**mitchellii* Theobald, 1905, Mosq. or Culic. of Jam., 37 [nv]: *Wyeomyia* (*Wyeomyia*); *Dendromyia*[s].—Bites?—Greater Antilles; Florida.

**smithii* Coquill., 1901, Can. Ent., v. 33, 260 [nv]: *Wyeomyia* (*Dendromyia*); Aëdes[l].—? Bites.—Canada to Alabama.

**vanduzeei* Dyar & Knab, 1906, Proc. Biol. Soc., Wash., v. 19, 138: *Wyeomyia* (*Dendromyia*).—Bites.—Cuba; Bahamas; Florida[l].

1473 (1440). MYCETOPHILIDAE.—Fungus-gnats. [C. 25a, 810; B. & M. 15a, 63.] See †1474.

1474. Sciara[o] Meigen, 1803, Mag. f. Insektenk., v. 2, 263, mt. *thomae*. Seu **Lycoria** Meigen, 1800, Nouv. class. Mouch., 17; tsd. (1910) Tipula[l] *thomae*.

*species Hyg. Lab. no. 12138: *Sciara*.—In cold drinking water tank.—Alexandria, La.

1475 (1440). CECIDOMYIIDAE; seu ITONIDIDAE.—Gall-gnats. [C. 25a, 813; B. & M. 15a, 63.]

Species not known as parasites of man or animals, or as carriers of disease. Several, however, are among the most dangerous enemies of agriculture.

1476A (1439B). Anomalous *NEMOCERA*.—[C. 25a, 785.] See †1476B.

1476B (1477; 1479). BIBIONIDAE.—The March-flies. [C. 25a, 820; B. & M. 15a, 62.]

*species Kisliuk, 1919 (MSS), Bd. Excr. Disp. Report, March: BIBIONIDAE (unidentified).—Reared on human *excreta, Wilmington, N. C.

*species Kisliuk, 1919 (MSS), Bd. Excr. Disp. Report, April: BIBIONIDAE (unidentified).—Reared on chemically treated human *excreta (3% caustic soda), Wilmington, N. C.

1477 (1476B). SCATOPSIDAE.—The Scatopsids. [C. 25a, 821; B. & M. 15a, 63.] See †1478.

1478. Scathopse Geoffr., 1762, Hist. Ins., Paris, v. 2, 544. Seu **Scatopse**[s] Mueller, 1764, Fauna Ins. Fridr., xxiii; tsd. (1810; 1910) *notata* s. *albipennis*. Syn. *Ceria*[o] Scop., 1763, Ent. Carniol., 351; tsd. (1910) *notata* s. *decemnodia*.—[B. & M. 15a, 63.]

**pulicaria* Loew, 1846, Linn. Ent., v. 1, 338–339, pl. 3, fig. 10: *Scatopse*[s].—Germany[t].—Reared on human *excreta, Wilmington, N. C.

1479 (1476B). SIMULIIDAE.—Black-flies, buffalo gnats, turkey gnats. [C. 25a, 821; B. & M. 15a, 62.] See †1480.

Suspected as vector of various forms of leishmaniasis and of †444 *Onchocerca caecutiens* and *volvulus*. Bite not very irritating.

For North American genera and species see Dyar & Shannon, 1927, PUSNM, v. 69 (10), 1–54, pls. 1–7.

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[37] Syns.: *Calladimyia* Dyar, 1919, Ins. Ins. Mens., v. 7, 137, tod. *pandora;*
Cleobonnea Dyar, 1919, Ins. Ins. Mens., v. 7, 135, mt. tod. *occulta;*
Decamyia Dyar, 1919, ibid., 135, tod. *onidus;*
Dendromyia Theobald, 1903a, 313, type (1915) *luteoventris*, type of DENDROMYINAE;
Dinomyia Dyar, 1919, Ins. Ins. Mens., v. 7, 117, mt. tod. *proviolans;*
Diphalangarpe Dyar, 1919, ibid., 126, tod. *abascanta;*
Dodecamyia Dyar, 1919, ibid., 138, tod. *aphobema;*
Dyarina Bonne-Wepser & Bonne, 1921, Ins. Ins. Mens., v. 9, 6, tod. *tripartita;*
Heliconiamyia Dyar, 1919, Ins. Ins. Mens., v. 7, 123, tod. *galoa;*
Hystatomyia Dyar, 1919, ibid., 140, tod. *circumcincta;*
Lemmamyia Dyar, 1919, ibid., 140, mt. tod. *methystictus;*
Miamyia Dyar, 1919, ibid., 116, tod. *symmachus;*
Pentemyia Dyar, 1919, ibid., 122, tod. *drapetes;*
Phoniomyia Theobald, 1903a, 311, tsd. (1915) *longirostris;*
Triamyia Dyar, 1919, Ins. Ins. Mens., v. 7, 120, tod. *aporonoma*.

1480 (1481 to 1483). **Simulium** Latr., 1802b, 426, mt. Rhagio[1] *columbaschensis*[s] [so. tsd. (1810; 1840; 1915; 1927) *reptans*[s] L.]; etd. (1839) Culex[1] *sericea* L. Seu **Melusina**[s] Meigen, 1800, Nouv. class. Mouches, 19; tsd. (1910) *Simulium ornatum* Meigen; (1914) *regelationis;* [not Melusina[h] Stål, 1867, hemipt.]—[C. 25a, 822; B. & M. 15a, 62.] Syn. *Atractocera*[s] Meigen, 1803, Mag. f. Insektenk., v. 2, 263, mt. *regelationis.* [See also Malloch, 1914, U. S. Bur. Ent. no. 26, 11–12.]

The toxin appears to act principally upon heart and central nervous system and its action is sometimes very acute, since death in animals may occur in 1 or 2 hours. Possibly transfers anthrax by bite.

albimana Macq. [nv]: *Simulium; Melusina*[1] (*Eusimulium*).—Brazil.—Attacks *Homo.*

amazonicum Goeldi, 1905, Mem. Mus. Goeldi, Para, v. 4, 138: *Simulium.*—"Piúm" or "borrachudo." Serious pest. Human cutaneous lesions.—Brazil.

arcticum Malloch, 1917, U. S. Bur. Ent., Tech. Ser. no. 26, 37: *Simulium.*—Exceedingly annoying to man. Severe pest to cattle in Saskatchewan.—Kaslo[t], Brit. Columbia.

auristriatum Lutz, 1910, Mem. Inst. Oswaldo Cruz, 245–246: *Simulium; Eusimulium*[1]*; Melusina*[1].—Brazil[t].—Attacks *Homo.*

buissoni Roubaud, 1906, Bul. Muséum, Paris, 521–522: *Simulium; Eusimulium*[1]*; Melusina*[1] (*Eusimulium*).—"May spread leprosy[j]."—Nukahiva[t], Marquis Islands.

cinereum Macq., 1834, 174: *Simulium; Eusimulium*[1]*; Melusina*[1] (*Prosimulium*).—Europe.

colombaczense[s] Schönbauer, 1795, Ges. Kolumb. Mücken, 24, 26, (for Rhagio *colombaschensis* Fabr., 1787a, 333, "syn. Bibio *sanguinarius* Pall."): *Simulium; Eusimulium*[1]*; Melusina*[1] (*Prosimulium*); *Simulia;* Culex[1]; Musca[1].—"Goloubatz fly." "Serious effect due to toxic substance."—Serbia; Rumania; Bulgaria; Jugo-Slavia; Hungary; Austria; Germany.

damnosum Theobald, 1903, Rep. Sleep. S. Comm., 40: *Simulium; Melusina*[1] (*Eusimulium*).—"Jinja fly"; "Kilteb." Vicious feeder, very painful bite.—Jinja[t]; Uganda; Equatorial Africa.—Experimentally transmits †444 *Onchocerca volvulus.*

decorum Walker, 1848, List Brit. Mus. Dipt., v. 1, 112: *Simulium.*—Bites.—Hudson Bay[t].

dinelli [nv]: *Simulium.*—Guatemala.—Suspected vector of †444 *Onchocerca caecutiens.*

exiguum Roubaud, 1906, Bul. Muséum, Paris, 109: *Simulium.*—Venezuela.

exiguum[h] Lutz, 1909, Mem. Inst. Oswaldo Cruz, 141: *Simulium* (*Eusimulium*[s]).—Brazil[t].

flavopubescens Lutz, 1910, Mem. Inst. Oswaldo Cruz, 248, figs. 17–18: *Simulium; Eusimulium*[s]*; Melusina*[1].—"Fouru."—Brazil[t].—Attacks *Homo.*

griseicollis Becker, 1903, Mitt. zool. Mus., Berlin, 78: *Simulium; Melusina*[1] (*Eusimulium*).—Very virulent.—Assuan[t]; Dongola; Egypt.

indicum Becker, 1884, J. Asiat. Soc. Beng., v. 53 (2), 199, pl. 14, figs. 1–10: *Simulium; Melusina* (*Eusimulium*).—Potu-fly.—Causes much irritation to tea coolies.—Assam[t], Asia.

**meridionale* Riley, 1887, Rep. U. S. Dept. Agric. (1886), 513–514, pl. 7, figs. 2–6, pl. 8, figs. 4, 6: *Simulium.*—"Turkey-gnat." Causes livestock losses in southern U. S. A[t].

minusculum Lutz, 1910, Mem. Inst. Oswaldo Cruz, 253–256, figs. 31, 32, 34: *Simulium; Eusimulium*[s]; *Melusina*[1].—Brazil[t]. Attacks *Homo*.—So. ? *amazonicum*.

moelleri [nv]: *Simulium*.—"Vector of Spirochaetes of recurrent type."

montanum Philippi, 1865, Verh. k. Gesells. Wien, 633 (r. 39): *Simulium; Eusimulium*[s]; *Melusina*[1] (*Eusimulium*).—Chacabuco[t], Brazil.—Attacks *Homo*.—So. ? *pernigrum*.

**occidentale* Townsend, 1891, Psyche, v. 6, 107: *Simulium*.—Bites man and livestock freely.—Rio Grande Valley[t], N. Mex.

ornatum Meigen [nv]: *Simulium* [; *Atractocera*[t]; *Melusina*[t]].—France.

**parnassum* Malloch, 1914, U. S. Bur. Ent. Tech. Ser., no. 26, 36: *Simulium*.—Attacks man freely.—Moultonburgh[t], N. H.

pertinax Kollar, 1832, Brasiliens vorzüglich lästige Ins., 19, fig. 14: *Simulium; Eusimulium*[s]; *Melusina*[1].—Brazil[t].—Attacks man viciously.—So. ? *venustum*.

**pictipes* Hagen, 1880, Proc. Boston Soc. Nat. Hist., (1879), v. 20, 306: *Simulium*.—Blackfly. Deaths reported from attacks by swarms of these insects.—Adirondack[t], N. Y.

quadrivittatum Loew, 1862, Berl. ent. Zeit., v. 6, 186: *Simulium; Eusimulium*[s]; *Melusina*[1] (*Eusimulium*).—Cuba[t]; Porto Rico; Central America.—Attacks *Homo*.

reptans Linn., 1758a, 603 [Culex[1]]: *Simulium*.—"Black-fly."—Europe[t].

rubrithorax Lutz, 1909, Mem. Inst. Oswaldo Cruz, 132–133: *Simulium* (*Eusimulium*[s]); *Melusina*[1] (*Eusimulium*[s]).—Serra da Bocaina.—Brazil[t]. Attacks *Homo*.

samboni [nv]: *Simulium*.—Suspected vector of †444 *Onchocerca caecutiens*.

scutistriatum Lutz, 1909, Mem. Inst. Oswaldo Cruz, 131, 132–133: *Simulium* (*Eusimulium*[s]); *Melusina*[1].—Brazil[t].—Attacks *Homo*.

simplicicolor Lutz, 1910, Mem. Inst. Oswaldo Cruz, 251, figs. 37, 43: *Simulium* (*Eusimulium*[s]); *Melusina*[1].—Brazil[t].—Attacks *Homo*.

subnigrum Lutz, 1910, Mem. Inst. Oswaldo Cruz, 239, fig. 27: *Simulium; Melusina*[1].—Not serious.—Brazil[t].

**venustum* Say, 1823 (1859), J. Acad. Nat. Sci., Phila., v. 3, 28 (51): *Simulium; Eusimulium*[s]; *Melusina*[1] (*Eusimulium*).—"Black-fly." ♀♀ bite; extensive inflammation with vesicles and papules.—Shippingsport[t], U. S. A.; Canada to Brazil.

**vittatum* Zett., 1840, Ins. Lappon. descr., 803: *Simulium; Simulia*[s].—Black-fly of North. Troublesome in northern woods before July 1st. Skin.—Greenland[t]; Iceland; Europe; U. S. A.

wellmanni Roubaud, 1906, Bul. Mus., Paris, 519–520: *Simulium; Melusina*[1] (*Eusimulium*).—Veritable scourge; during part of year drive people from whole districts.—Angola[t]; Africa.

1481 (1480). **Eusimulium** Roubaud, 1906, C. r. Acad. Sci., Paris, v. 143, 521. mt. Simulium *aureum* Fries.—Syns.: *Cnephia*[s] Enderlein, 1920, D. tier, Wochenschr., Hanover; 1921, ZA, v. 53, 44; *Nevermannia*[s] Enderlein, 1920, D. tier. Wochenschr. See also the species of "*Eusimulium*" under †1480, some of which may belong under †1481.

neavei Roubaud [nv]: *Eusimulium*.—Oriental Africa.

**pecuarum* Riley, 1887, Rep. U. S. Dept. Agric. (1886), 493, 512 [Simulium[1]]: *Eusimulium; Cnephia*[s]; Prosimulium[1].—"Buffalo-gnat." Deaths reported from swarms of these gnats attacking man. Cause great livestock losses in southern U. S. A.

1482 (1480). **Parasimulium** Malloch, 1914, U. S. Bur. Ent. Bul. 26, 12, tod. *furcatum.*

**furcatum* Malloch, 1914, U. S. Bur. Ent. Bul. 26, 24 [Simulium[1]]: *Parasimulium.*—Calif.[t]

1483 (1480). ***Prosimulium** Roubaud, 1906, C. r. Acad. Sci., Paris, v. 143, 521; tsd. (1927) Simulium *hirtipes* Fries.—[C. 25a, 824.]

**julvum* Coquill., 1902, PUSNM, v. 25, 96: *Prosimulium.*—Reported attacking man and animals. Abundant in mountainous regions, chiefly in Pacific Northwest.—Bear Paw Mt., Mont.[t]; Colo.; Brit. Col.; Alaska.

**hirtipes* Fries, 1824, Obs. Entom., 17 [Simulia[1]] [nv]: *Prosimulium;* Simulium[1].—Adirondack black-fly. Scourge in May and June.—N. E. U. S. A.; Europe.

maculatum Meigen, 1804 [nv]: *Prosimulium;* Simulium[1]; S. (*Prosimulium*); Melusina[1] (*Prosimulium*).

1484 (1439A). Series *BRACHYCERA* Zett., 1842, Dipt. Scand., v. 1, 1, ex Tabanii.—The Short-horned *ORTHORRHAPHA.* [C. 25a, 828; B. & M. 15a, 61.] See †1485.

1485 (1496). Subseries A. Anomalous *BRACHYCERA.*—[C. 25a, 829.] See †1486.

1486 (1494). Tabanidae Leach in Samouelle, 1819, Ent. Useful Comp., 293.—The Horse-flies, Gad-flies, Deer-flies, Green heads. Only the ♀ ♀ bite. [C. 25a, 829; B. & M. 15a, 64.] See †1487.

Suggested by authors as possible carriers of South American †88 leishmaniasis, of Weil's disease, and of anthrax.

1487 (1488 to 1493). **Tabanus** Linn., 1758a, 344, 601; tsd. (1810; 1825; 1840; 1910; 1915) *bovinus.*—[C. 25a, 830; B. & M. 15a, 64.]

africanus[s] Gray, 1900 [nv]: *Tabanus.*—Bites man.—So. *latipes* Macq., 1838.

autumnalis [nv].

biguttatus Wiedem., 1830, v. 2, 623: *Tabanus.*—Was once alleged to transmit sleeping sickness to man.—Cape[t], Africa.

bovinus Linn., 1758a, 601: *Tabanus.*—Alleged to have inoculated anthrax in 3 cases.—Europe[t].

bromius Linn., 1758a, 602: *Tabanus.*—Europe[t].—Huebener & Reiter transmitted †142f Treponema[1] [*Leptospira*] *icterohaemorrhagiae* mechanically.

canus Karsch, 1879, Zeit. ges. Naturw., (3) 4, 376, pl. 4, fig. 1, 377 [nv]: *Tabanus.*—Bites man.—Chinchoxo, Africa.

cinerescens MacLeay in King, 1827 [or Apr. 1826], Narr. Surv., Austr., v. 2, 467 [nv]: *Tabanus.*

ditoeniatus Macq., 1838, Mém. Soc. roy. Sci., Lille, 130: *Tabanus.*—Alleged vector of sleeping sickness.—Isle of France[t]; Africa.

fasciatus Fabr., 1775a, 788: *Tabanus.*—Bites man.—Sierra Leone[t], Africa.

gratus Loew, 1857, 334 [nv]: *Tabanus.*—Attacks man.—Cafraria.

gregarius Erichson, 1842, Arch. Natg., Berlin, v. 8 (1), 271: *Tabanus.*—Van Diemen's Land.

importunus Wiedem., 1828, Auss. zweiflug. Ins., v. 1, 127: *Tabanus.*—Occasionally attacks man.—Brazil[t], S. America.

kingsleyi Ricardo, 1908, Ann. Mag. Nat. Hist., 318: *Tabanus.*—Bites man.—Sierra Leone[t], Africa.

**lineatus* Fabr., 1781a, 455: *Tabanus.*—America[t].

**molestus* Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 31 (53): *Tabanus.*—Prairie flies. Bites man.—Missouri[t], U. S. A.

obscurissimus Ricardo, 1908, Ann. Mag. Nat. Hist., 272: *Tabanus*.—Sucks blood of man.—Sierra Leone, etc., Africa[t].

pluto Walker, 1848, List, v. 1, 153: *Tabanus*.—Bites man.—Sierra Leone[t].

quadriguttatus Ricardo, 1908, Ann. Mag. Nat. Hist., 270: *Tabanus*.—Probably bites man.—Usambara[t], Africa.

ruficrus Beauv., 1805, 55 (*ruficrus*), fig. 3 (*rufipes*): *Tabanus*.—Attacks man.—Oware[t], Africa.

secedens Walker, 1854, List, v. 5 (sup. 1) 224: *Tabanus*.—Attacks man.—Africa.

socialis Walker, 1856, Ins. saund., v. 1, 45: *Tabanus*.—Attacks man.—Cape of Good Hope[t], Africa.

species Nuttall, 1899a, 41: *Tabanus*.—A Tabanus (species?) caught on a heifer (*Bos taurus*) near a vaccine station yielded colonies of *Staphylococcus pyogenes aureus* et *albus*, *Streptococcus* sp., *Streptothrix* sp. (fide Joly, 1899).

striatus Fabr., 1794a, 371: *Tabanus*.—Capable of transmitting trypanosomiasis mechanically.—China[t].

taeniola Beauv., 1805, 56: *Tabanus*.—Attacks man. Alleged vector of sleeping sickness.—Oware[t] et Benin[t], Africa.

thoracinus Beauv., 1805, 55: *Tabanus*.—Attacks man.—Oware[t] et Benin[t], Africa.

unilineatus Loew, 1852, 658: *Tabanus*.—Alleged vector of sleeping sickness.—Mozambique.

variatus Walker, 1856, Ins. saund., v. 1, 64: *Tabanus*.—Attacks man.

wellmani [nv]: *Tabanus*.—Bites man severely.

1488 (1487). **Chrysops** Meigen, 1800, 23; 1803, 267, mt. Tabanus[l] *caecutiens*.—Deer-flies. [C. 25a, 830; B. & M. 15a, 64.]

caecutiens Linn., 1758a, 602 [Tabanus[l]]: *Chrysops*.—Bites man. Vector of †435 *Fil. conjunctivae* fide Alessandrini, see Brumpt, 1922a, 848.—Europe[t].

centurionis [nv]: *Chrysops*.—? Intermediate host of †432 *Acanthocheilonema perstans*.

costatus Fabr., 1794a, v. 4, 373 [Tabanus[l]]: *Chrysops*.—Mangrove fly.—Attacks man.—Porto Rico; Cuba.

dimidiatus Wulp, 1885, Notes Leyd. Mus., v. 7, 80–81: *Chrysops*.—Bites man.—Transmits †442 *Loa loa*.—Chimfino[t], S. W. Africa.

**discalis* Williston, 1880, Trans. Conn. Acad. Sci., 245: *Chrysops*.—Transmits *tularaemia.—Como[t], Wyo.—Also disalis[m] Z. R.

distinctipennis Austen, 1906, Wellcome Res. Lab., 53, pl. 4: *Chrysops*.—Bites man.—Soudan.

excutiens [nv]: *Chrysops*.—Transmits †435 *Fil. conjunctivae*.

longicornis Macq., 1838, Mém. Soc. r. Sci., Lille, 160: *Chrysops*.—Transmits †442 *Loa loa*.—Senegal[t], Africa.

silacea Austen, 1907, Ann. Mag. Nat. Hist., 509: *Chrysops*.—Bites man.—Transmits †442 *Loa loa*.—Congo Free State[t]; Nigeria.

species [nv]: *Chrysops*.—Transmits †442 *Loa loa*.—Africa.

wellmani Austen, 1907, Ann. Mag. Nat. Hist., v. 20 (120), 512–513: *Chrysops*.—Bites man severely.—Angola, Chiyaka district[t].

1489 (1487). **Haematopota** Meigen, 1803, Mag. f. Insektenk., v. 2, 267, mt. *pluvialis*. Seu **Chrysozona** Meigen, 1800 (1908), 23 (53); tsd. (1910) *pluvialis* fide Coquill., 1910, PUSNM, 524. (This point is not universally adopted.)

copemanii Austen, 1908, Ann. Mag. Nat. Hist., 94: *Haematopota*.—Bites man.—N. W. Rhodesia[t], tropical Africa.

denshamii Austen, 1908, Ann. Mag. Nat. Hist., 220: *Haematopota*.—Attacks man.—Uganda[t], Africa.

lacessens Austen, 1908, Ann. Mag. Nat. Hist., 421: *Haematopota*.—Bites man.—N. Nigeria[t], Africa.

nigricornis[s] Gobert, 1882, Revis. monogr. Taban., 31 [nv]: *Haematopota*.—Bites man.—France.—So. *italica*.

pallidipennis Austen, 1908, Ann. Mag. Nat. Hist., 402: *Haematopota*.—Bites man.—Nigeria, tropical Africa[t].

pertinens Austen, 1908, Ann. Mag. Nat. Hist., 423–425: *Haematopota*.—Bites man.—Nigeria, etc.; tropical Africa.

pluvialis Linn., 1758a, 602 [Tabanus[l]]: *Haematopota*.—Bites man. Experimental transmission of †142e *Leptospira icterohaemorrhagiae* from guinea pig to guinea pig reported by Reiter.—Europe[t].

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 11: *Haematopota*.—Bites man severely and greedily.—Angola.

torquens Austen, 1908, Ann. Mag. Nat. Hist., 409: *Haematopota*.—Bites man.—Insu[t], tropical Africa.

1490 (1487). **Lepiselaga** Macq., 1838, Mém. Soc. r. Sci., Lille, 157–158, mt. *lepidotus* s. *crassipes*.—Syn. Hadrus[h] Perty, 1834, Delect. Anim., 182; tsd. (1910) 1st sp. *crassipes* s. *lepidotus* [not *Hadrus* Dejean, 1833, coleopt.]. Cf. *Lepidoselaga*[e].

crassipes Fabr., 1805a, 108 [Haematopota[l]]: *Lepiselaga*.—The "mutuca."—Bites man severely.—Neotropical region from southern Mexico to southern Brazil and northern Argentina; S. America[t].—Syn. *lepidota*[e].

1491 (1487). **Pangonius** Latr., 1802b, 437; tsd. (1910) Tabanus[l] *proboscideus* Fabr. (=*tricolor* Aust.); etd. (1810) *maculata*; etd. (1915) *haustellata*.—Syn. *Pangonia*[e]. Type of PANGONINAE.

beckeri Bezzi, 1901, Boll. Soc. ent. ital., 10: *Pangonius*.—Sabarguma; Somaliland.—Syn. tricolor[h] Austen, 1900, Proc. Zool. Soc. London, 7, of Australia [not Walker, 1848, 139] renamed.

neo-caledonica Mégnin, 1878, Bul. Soc. ent., Paris, cxlv: *Pangonia*[e].—According to Mégnin, without experimental proof, transmits "bacteridie charbonneuse." Said to transmit anthrax to man.—New Caledonia[t].

zonata Walker, 1871, Ent., v. 5 (88): *Pangonius; Pangonia*[e].—Bite painful (Schwetz).

1492 (1487). **Rhinomyza** Wiedem., 1821, Dipt. exot., v. 1, 59, mt. *fusca*.

denticornis Wiedem., 1828, Ausser. europ. zweifl. Ins., v. 1, 111 [Silvius] [nv]: *Rhinomyza*.—Cutaneous myiasis.—S. Africa.

1493 (1487). **Silvius** Meigen, 1820, Syst. Beschr., v. 2, 27, mt. Tabanus[l] *vituli*.—♀ ♀ are blood suckers.

fallax Austen, 1912, Bul. Ent. Res., 113–117, fig. 1: *Silvius*.—N. Rhodesia[t].

1494 (1486). STRATIOMYIDAE.—Soldier-flies. [C. 25a, 830; B. & M. 15a, 63.] Syn. STRATIOMYDAE Leach in Samouelle, 1819, Ent. Useful Comp., 291; Steph., 1829b, 275.

*species Motter, 1898a, 204: ? Genus.—From *cadaver buried 3 yrs., 2 mos. See †1495.

1495. Stratiomys Geoffr., "1762," or 1764 (1799), Hist. Ins., Paris, v. 2, 475; tsd. (1810; 1910) *chamaeleon;* Fabr., 1775a, 759. Seu **Stratomyia**[e] Macq., 1838.—[C. 25a, 831.] Syn. *Hoplomyia*[o] Zeller, 1842, Isis, 882, type (1910) *chamaeleon* [nv].

species Hope, 1840a, 268: *Stratiomys*.—In "chest" of ♀.—Norfolk.

1496 (1485). Subseries B. The True *BRACHYCERA*.—[C. 25a, 834.] See †1497.

1497 (1499; 1501; 1504). RHAGIONIDAE Leach in Samouelle, 1819, Ent. Useful Comp., 293 (quotes Latr.); Steph., 1829b, 269. Seu LEPTIDAE[a] Westw., 1840a, 551.—The Snipe-flies. [C. 25a, 834; B. & M. 15a, 64.] See †1498.

1498. Symphoromyia Frfld., 1867, VzbGWien, v. 17, 497, tod. *melaena.*—[C. 25a, 835; B. & M. 15a, 64.]

grisea [nv]: *Symphoromyia.*—Painful bite.

hirta [nv]: *Symphoromyia.*—Bite painful.

species: *Symphoromyia.*

1499 (1497). THEREVIDAE.—The Stiletto-flies. [C. 25a, 839; B. & M. 15a, 65.] See †1500.

1500. Thereva Latr., 1796a, 167, no sp. cited; Fabr., 1798, Suppl., 560, contained 6 sp. (*subcoleoptrata, hemiptera, crassipennis, affinis, analis, obesa*); tsd. (1810; 1840; 1910) *plebeia.*—[C. 25a, 839.]

nobiliata [nv]: *Thereva.*—Intestinal myiasis, England, cf. Mumford, 1926, Parasitol., 318.

1501 (1497). DOLICHOPODIDAE.—The Long-legged flies. [C. 25a, 843; B. & M. 15a, 66.] See †1502.

1502 (1503). **Diaphorus** Meigen, 1824, Syst. Beschr., v. 4, 32; tsd. (1840; 1910) 1st sp. *flavocinctus*[a] so. *oculatus.*

**leucostomus* Loew, 1862, Berl. ent. Zeit., v. 6, 230 [Amiota[l]]: *Diaphorus.*—Bred in human *excreta.—Penn.[t]

**sodalis* Loew [nv]: *Diaphorus.*—Bred in human *excreta.

1503 (1502). **Neurigona** Rondani, 1856, Dipt. ital. Prodr., v. 1, 142, tod. Musca[l] *quadrifasciata* L.

**tenuis* Loew, 1884, Smithsonian Misc. Collect., 171, 228 [Scauropus[a]]: *Neurigona;* Neurigonia[m].—Captured, not reared, on human *excreta.—Middle States[t].

1504 (1497). EMPIDIDAE.—The Dance-flies. [C. 25a, 845; B. & M. 15a, 66.] See †1505. For key to N. American genera and species, see Coquillett, 1896, Proc. U. S. Nat. Mus., v. 18, 387–440.

1505 (1506). **Rhamphomyia** Meigen, 1822, Syst. Beschr., v. 3, 42; tsd. (1834; 1910) Empis[l] *sulcata.* Seu **Dionnaea** Meigen, 1800 (1908), Nouv. class. Mouches, 24 (54); tsd. (1910) *platyptera.* Seu **Platyptera** Meigen, 1803, Mag. f. Insektenk., v. 2, 269, tat. *platyptera.*

**manca* Coquill., 1896, Proc. U. S. Nat. Mus., v. 18, 427: *Rhamphomyia.*—Captured, not reared, on human *excreta.—N. Carolina[t].

1506 (1505). **Tachydromia** Meigen, 1803, Mag. f. Insektenk., v. 2, 269; tsd. (1903; 1910) 2d species *cimicoides* so. *connexa;* tsd. (1915) 1st sp. *curcitans;* etd. (1833; 1840) *arrogans* (name not cited in 1803). Seu **Coryneta** Meigen, 1800 (1908), Nouv. class. Mouches, 27 (56); tsd. (1910) *connexa.*

*species Howard, 1900, Proc. Wash. Acad. Sci., 548: *Tachydromia.*—Bred on human *excreta, scarce.

1507 (1438). Subo. *CYCLORRAPHA.*—The Circular-seamed flies. [C. 25a, 846; B. & M. 15a, 65.] See †1508.

1508 (1520). Series *ASCHIZA.*—[C. 25a, 847; B. & M. 15a, 66.] See †1509.

1509 (1515). PHORIDAE.—The Humped-backed flies. [C. 25a, 847; B. & M. 15a, 65.] [Not PHORIDAE Gray, 1840, mollusk.] See †1510.

species Motter, 1898a, 204, 205, 206, 214, 215: Genus.—Puparia in graves 3 years, 1 month, to 38 years, 4 months old.—Washington, D. C.

1510 (1511 to 1514). **Phora** Latr., 1796a, 169, no sp. cited; 1802b, 464, mt. *aterrima;* tsd. (1810; 1910) *aterrima;* (1833 Curtis; 1840a) *incrassata;* (1915) *thoracica.* [C. 25a, 848; B. & M. 15a, 65]. Cf. **Trineura**[o] Meigen, 1803, Mag. f. Insektenk., v. 2, 276, no sp. cited; 1804, Klass, Beschr. zweifl. Ins., 313, 314; tsd. (1906; 1910) 1st sp. *atra* s. *aterrima.*

aterrima Vill., 1789, Linn. Ent., v. 3, 548 [Musca[1]]: *Phora.*—On exposed human cadavers, after 1 yr.; also 5th period, ammoniacal fermentation, black liquefaction; larvae in exhumed bodies, fide Mégnin, 1895, 60, fig. 13.—Europe[t].

**femorata* Meigen, 1835, Syst. Beschr., v. 6, 213: *Phora.*—Captured, not reared, on human *excreta.—Europe[t].

*species Motter, 1898a, 215:? *Phora.*—On human cadaver 20 yrs., 9 mos. in *grave.—Washington, D. C.

1511 (1510). **Aphiochaeta*** Brues, 1903, Trans. Amer. Ent. Soc., 337, 358; tsd. (1906; 1910) 2d sp. in key, 10th sp. in text *nigriceps.* Seu **Megaselia** Rondani, 1856, Dipt. Ital. Prodr., v. 1, 137, mt. *crassineura* [s. *costalis*].

*ferruginea** Brunetti, 1912, Rec. Ind. Mus., 84: *Aphiochaeta.*—Larva in intestine and skin of man.—Ceylon[t]; India[t]; Asia; W. Indies; C. America.—So. *xanthina.*

rufipes Meigen, 1800, Nouv. class. Mouches, v. 1, 313 [nv]: *Aphiochaeta;* Trineura[1].—Intestinal myiasis.

vomitoria [nv]: *Aphiochaeta.*

xanthina Speiser [Speiser, 1908, Berl. Ent. Zeitschr., v. 52, 148–149]: *Aphiochaeta.*—According to Patton, cutaneous and intestinal myiasis.—Gold Coast; Kamerun[t]; Indies.

1512 (1510). **Conicera** Meigen, 1830, Syst. Beschr., v. 6, 226, mt. *atra.*

*species Motter, 1898a, 204–216: ? *Conicera.*—On human cadavers, 3 years, 1 month to 38 years, 4 months in *graves.—Washington, D. C.

1513 (1510). **Hermetia** Latr., 1805b, 338, mt. *illucens.*

**illucens* Linn., 1758a, 589 [Musca[1]]: *Hermetia.*—Reared on human *excreta, Hallsborough, N. C.

1514 (1510). **Thyreophora** Latr., 1804, N. Dict. Hist. nat. [nv]; type[i] (1810) *cynophila* or *furcata.*

anthropophaga Rob.-Desv., 1830, Mém. Acad. Sci., Paris, v. 2, 623: *Tyreophora.*—On dissecting room cadavers, Paris[t]; larvae on cadavers, 5th period, ammoniacal fermentation; black liquefaction.

furcata Fabr., 1794a, 343 [Musca[1]]: *Thyreophora; Tyreophora*°.—On human cadavers, fide Mégnin, 1895, Faune d. Cadav., 57.

1515 (1509). Syrphidae Leach in Samouelle, 1819, Ent. Useful Comp., 296.—The Syrphus-flies. [C. 25a, 850; B. & M. 15a, 66.] See †1516.

1516 (1517 to 1519). **Syrphus** Fabr., 1775a, 762; tsd. (?1810[i]) 26th sp. *conopsea;* (1839; 1910) 19th sp. *lucorum;* (1840) 35th sp. *ruficornis;* (1915) 41st sp. *ribesii.*—[C. 25a, 850.]

species Mumford, 1926, Parasitol., 381: *Syrphus.*—In intest., England.

1517 (1516). **Eristalis** Latr., 1804, Nouv. Dict. Hist. nat., 194; tsd. (1832; 1840; 1910) 3d sp. *tenax;* (1810?) *narcissi* and 1st sp. *fuciformis.* Seu **Tubifera** Meigen, 1800 (1908), Nouv. class. Mouches, 34 (62).—[C. 25a, 851.] Syn. ? *Cercosoma** Brera, 1809a, 106, mt. species.

arbustorum Linn., 1758a, 591 [Musca[1]]: *Eristalis.*—Larva occasionally in intestine of man.—Europe[t].

**dimidiatus* Wiedem., 1830, Auss. zweiflug. Ins., v. 2, 180: *Eristalis.*—Larva occasionally in intestine of man.—N. America[t], U. S. A.

species Hyg. Lab., no. 10801 from Graniteville, S. C.; no. 11056 from Louisiana: *Eristalis.*—Said to have been passed from intestine.

*species Leidy, 1874b (1904a), 365 (132): *Eristalis.*—Nose.—Phila.

species Brera, 1809a, 106: [*Eristalis;*] *Cercosoma.*—In urinary bladder.—Italy[t].—So. ?*tenax* or †1518 ?*pendulus.*

**tenax* Linn., 1758a, 591: *Eristalis;* Musca[1]; Syrphus.—Stomach and *intestine of man; conjunctivae (Reis).—Europe; Ga., U. S. A.

1518 (1516). **Helophilus**[a] Meigen, 1822, Syst. Beschr., v. 3, 368; tsd. (1832 Curtis; 1840; 1910; 1915) *pendulus*. [Not Helophilus[b] Muls., 1844, coleopt.]

pendulus Linn., 1758a, 591 [Musca[1]]: *Helophilus;* Syrphus; Eristalis[1]; *Elophilus*.—Gastric, intestinal, urinary myiasis.—Europe.

1519 (1516). **Syritta** St. Fargeau et Serv., "1825," ? or 1828, Encycl. méth., 808, mt. *pipiens*.

**pipiens* Linn., 1758a, 594 [Musca[1]]: *Syritta*.—Captured, also reared, on human *excreta.

1520 (1508). Series *SCHIZOPHORA*.—[C. 25a, 852; B. & M. 15a, 66.] See †1521.

1521 (1615). Section *MYODARIA;* seu *MYIODARIA*.—The Muscids. [C. 25a, 852; B. & M. 15a, 66.] See †1522.

1522 (1558). Subsection *ACALYPTRATAE;* seu *ACALYPTERATAE*.—The Acalyptrate Muscids. [C. 25a, 853; B. & M. 15a, 67.] See †1523.

1523 (1525; 1528; 1532; 1534; 1537; 1539; 1542; 1544; 1548; 1553; 1555). *Scatophagidae; seu Cordyluridae.—The Dung-flies. [C. 25a, 854; B. & M. 15a, 69.] See †1524.

1524. ***Scatophaga** Meigen, 1803, Mag. f. Insektenk., v. 2, 277, mt. *merdaria;* etd. (1832; 1840) *stercoraria;* etd. (1915) *scybalaria*. Seu **Scopeuma** Meigen, 1800 (1908), Nouv. class. Mouches, 36 (63) no sp. cited; tsd. (1910) *merdaria*.—[C. 25a, 854; B. & M. 15a, 69.]

**furcata* Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 98 (85) [*Pyropa*[a]]: *Scatophaga*.—Reared (usually also captured) on human *excreta.—Missouri[t].

species Kisliuk [MS]: *Scatophaga*.—Reared on human *excreta.—Wilmington, N. C.

**stercoraria* Linn., 1758a, 599 [Musca[1]]: *Scatophaga*.—Captured, not reared, on human *excreta.

1525 (1523). Helomyzidae.—[C. 25a, 854; B. & M. 15a, 68.] See †1526.

1526 (1527). **Heleomyza** Fallén, 1810, Spec. Ent., 19, mt. *serrata*. Seu **Leria** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 653; tsd. (1856; 1910) 4th sp. *fenestrarum*[a] [so. *serrata*]. *Helomyza*[a] Fallén, 1820, Heteromyz. Sveciae, 3.—[C. 25a, 855; B. & M. 15a, 68.]

**pectinata* Loew, 1872, BeZ, v. 16, 99 [*Blepharoptera*]: *Leria*.—Captured, not reared, on human *excreta.

1527 (1526). **Lentiphora** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 656, mt. *flaveola*. Seu **Tephrochlamys**[a] Loew, 1862, Zeit. Ent. Bresl., v. 13, 72; tsd. (1910) *canescens* s. *rufiventris*.

**rufiventris* Meigen, 1830, Syst. Beschr., v. 6, 58: *Tephrochlamys*.—Captured, not reared, on human *excreta.

1528 (1523). Borboridae.—[C. 25a, 855; B. & M. 15a, 70.] See †1529.

species Motter, 1898a, 204: Borboridae.—On cadaver 3 yrs., 2 mos. and 7 yrs., 4 mos. in *grave.—Washington, D. C.

1529 (1530; 1531). **Borborus** Meigen, 1803, Mag. f. Insektenk., v. 2, 276, no sp. cited; 1830, Syst. Beschr., v. 6, 198–209; tsd. (1833; 1910) 2d sp. *subsultans;* (1840; 1915) 5th sp. *equinus*. Cf. also †1531 *Cypsela*.

**equinus* Fallen, 1820, Heterom. Svec., 6 [Copromyza[1]] [nv]: *Borborus*.—Captured, not reared, on human *excreta.

**geniculatus* Macq., 1835, Hist. nat. Ins., v. 2, 571 [Cortophila]: *Borborus*.—Captured, not reared, on human *excreta.—Bordeaux[t].

1530 (1529). ***Limosina**[a] Macq., 1835, 571; tsd. (1840; 1910) 1st sp. *silvatica*. Seu ? *Leptocera* Olivier, 1813, MSAD Seine, v. 16, 16, mt. *nigra* [nv].

**albipennis* Rondani [nv]: *Limosina*.—Reared (usually also captured) on human *excreta.

crassimana Haliday, 1836, Ent. Mag., v. 3 (4), 328: *Limosina.*—Captured, not reared, on human *excreta.—Gr. Brit.[t]

fontinalis Fallen, 1826, Suppl., 16 [Copromyza[1]]: *Limosina.*—Reared (usually also captured) on human *excreta.

species Motter, 1898a, 219: ? *Limosina.*—On *cadaver 3 yrs., 2 mos. and 7 yrs., 5 mos. in *grave.

1531 (1529). **Sphaerocera** Latr., 1805b, 394, mt. *curvipes* [s. *subsultans*]. [B. & M. 15a, 70]. Seu **Cypsela** Meigen, 1800 (1908), Nouv. class. Mouches, 31 (57) no sp. cited; tsd. (1910) *subsultans.* Cf. †1529 *Borborus.*

pusilla Meigen [nv]: *Sphaerocera.*—Reared (usually also captured) on human *excreta.

subsultans Fabr., 1794a, v. 4, 304: *Sphaerocera.*—Reared, also captured, on human *excreta.—Hafniae[t].

1532 (1523). LONCHAEIDAE.—[C. 25a, 856; B. & M. 15a, 70.] See †1533.

1533. Lonchaea Fallen, 1820, Ortalides, 25; tsd. (1840; 1910) 1st sp. *choraea* Fabr., s. (1910) 2d sp. *vaginalis.*—[C. 25a, 856; B. & M. 15a, 70.] *Lonchoea*[e] 1840.

nigrimana Meigen, 1826, Syst. Beschr., v. 5, 132 [Anthomyia[1]]: *Lonchaea.*—Adults, shells of nymphs, found on human cadaver (infant) 18 mos. after death; 5th period, ammoniacal fermentation, black liquefaction, fide Mégnin, 1895, 57.

polita Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 88 (77): *Lonchaea.*—Reared (usually also captured) on human *excreta.—U. S. A.[t]

1534 (1523). ORTALIDAE [C. 25a, 856]; seu ORTALIDIDAE [B. & M. 15a, 70]. See †1535.

1535 (1536). **Euxesta** Loew, 1873, Smithsonian Misc. Collect., no. 256, 153–159; tsd. (1910) *notata.*—[B. & M. 15a, 70.]

notata Wiedem., 1830, Auss. zweiflug. Ins.,v. 2, 462: *Euxesta.*—Reared (usually also captured) on human *excreta.—Savannah[t], N. Y.[t], U. S. A.

1536 (1535). **Rivellia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 729; tsd. (1856; 1910) 1st sp. *herbarum*[s] so. *syngenesiae.*—[B. & M. 15a, 70.]

pallida Loew, 1873, Smithsonian Misc. Collect., no. 256, 95, pl. 8, fig. 8: *Rivellia.*—Captured, not reared, on human *excreta.—Washington, D. C.[t]

1537 (1523). MICROPEZIDAE.—[C. 25a, 858; B. & M. 15a, 70.] See †1538.

1538. Calobata Meigen, 1803, Mag. f. Insektenk., v. 2, 276, tat. Musca *calobata;* tsd. (1840[a]; 1910; 1915) 2d sp. *Musca petronella* Linn.; etd. (1810) *filiformis.* Seu **Trepidaria** Meigen, 1800 (1908), 35 (63); tsd. (1910) *petronella.*

antennipes Say, 1823 (1859), J. Acad. Nat. Sci., Phila., 97 (83): *Calobata.*—Captured, not reared, on human *excreta.—U. S. A.[t]

cibaria Linn., 1758a, 599 [Musca[1]]: *Calobata.*—Intestine of man.—Europe.

fasciata Fabr. [nv]: *Calobata.*—Captured, not reared, on human *excreta.

*species Kisliuk [MS]: *Calobata.*—Reared on human *excreta.—Wilmington, N. C.

1539 (1523). SEPSIDAE.—[C. 25a, 858; B. & M. 15a, 58.] See †1540.

1540 (1541). **Sepsis** Fallen, 1810, Spec. Ent., 17; tsd. (1829; 1840; 1910) 2nd sp. *cinipsea.* [C. 25a, 858; B. & M. 15a, 58.]

violacea Meigen, 1826, Syst. Beschr., v. 5, 289: *Sepsis.*—Reared (usually also captured) on human *excreta.—Europe[t].

1541 (1540). **Nemopoda** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 743; tsd. (1840; 1910) 1st sp. *putris*[s] so. *cylindrica.* [B. & M. 15a, 68.]

minuta Wiedem., 1830, Auss. zweiflug. Ins., v. 2, 468 [Sepsis[1]]: *Nemopoda.*—Reared (usually also captured) on human *excreta.—N. Y.[t]

1542 (1523). PIOPHILIDAE Macq., 1835, Hist. nat. Ins., v. 2, 531.—[C. 25a, 858; B. & M. 15a, 71.] See †1543.

1543. Piophila Fallen, 1810, Spec. Ent., 20, mt. *casei*.—[C. 25a, 858; B. & M. 15a, 71.] Type of PIOPHILINAE.

**casei* Linn., 1758a, 597 [Musca[1]]: *Piophila*.—The Cheese-maggot; Fettfliege; Skippers.—Intestine; on human cadavers, 3 to 4½ years in *grave. Causes considerable loss to packers, etc., due to infestation of meats.—Europe; U. S. A.

petasionis Duf. [nv]: *Pyophila*.—Human cadaver, 10 months after death, 4th period, caseous products.

1544 (1523). EPHYDRIDAE.—[C. 25a, 859; B. & M. 15a, 71.] See †1545.

1545 (1546; 1547). **Discocerina** Macq., 1835, Hist. nat. Ins., v. 2, 627; tsd. "(1910) 1st sp. *obscurella*" [1st sp. is *pusilla*].

**parva* Loew, 1862, Smithsonian Misc. Coll., 146: *Discocerina*.—Captured, not reared, on human *excreta.—Washington, D. C.

1546 (1545). **Hydrellia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 790; tsd. (1840; 1910) 2d sp. Notiphila[1] *flaviceps* Meigen (s. *aurifacies*).—[B. & M. 15a, 71.]

**formosa* Loew, 1861, BeG, v. 5, 355: *Hydrellia*.—Captured, not reared, on human *excreta.—Penn.[t]

1547 (1545). **Scatella** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 801; tsd. (1896; 1910) Ephydra *stagnalis* Fall. (s. *S. buccata*).

stagnalis Fallen [nv]: *Scatella*.—Reared (usually also captured) on human *excreta.

1548 (1523). CHLOROPIDAE; seu OSCINIDAE.—[C. 25a, 860; B. & M. 15a, 71.] See †1549.

1549 (1550 to 1552). **Oscinis**[s] Latr., 1805b, 383; tsd. (1910) 1st sp. Musca[1] *lineata* Fabr. Seu **Titania** Meigen, 1800 (1908), 35 (63); tsd. (1910) *Chlorops laeta*. Seu **Chlorops** Meigen, 1803, Mag. f. Insektenk., v. 2, 278, sp. not cited; tsd. (1856; 1910) 6th sp. *laeta;* (1915) 21st sp. *lineatus*.—[C. 25a, 860; B. & M. 15a, 71.]

**carbonaria* Loew, 1869, Berl. ent. Zeit., v. 13, 42: *Oscinis*.—Captured, not reared, on human *excreta.—D. C.[t]

coxendix Fitch, 1871, Rep. New York, 301: *Oscinis*.—Captured, not reared, on human *excreta.—N. Y.[t]

leprae Linn., 1758a, 598 [Musca[1]]: [*Titania;*] *Chlorops*.—Alleged vector of leprosy.

**pallipes* Loew, 1863, Berl. ent. Zeit., 37: *Oscinis*.—Captured, not reared, on human *excreta.—Cuba[t].

species ———: *Oscinis*.—Transmits Koch-Weeks bacillus.—Ceylon.

**trigamma* Loew, 1863, Berl. ent. Zeit., 42–43: *Oscinis*.—Reared (usually also captured) on human *excreta.—D. C.[t]

1550 (1549). **Elachiptera** Macq., 1835, Hist. nat. Ins., v. 2, 621, mt. tod. *brevipennis*.

**costata* Loew, 1863, Berl. ent. Zeit., v. 7, 33 [Crassiseta[1]]: *Elachiptera*.—Captured, not reared, on human *excreta.—D. C.[t]

1551 (1549). ***Hippelates** Loew, 1863, 36; tsd. (1910) 2d sp. *H. plebejus*.—[B. & M. 15a, 71.]

**flavipes* Loew, 1865, Berl. ent. Zeit., v. 9, 184: *Hippelates*.—Captured, not reared, on human *excreta.—Cuba[t].

**plebejus* Loew, 1863, Berl. ent. Zeit., 36–37: *Hippelates*.—D. C.[t]

**pusio* Loew, 1872, Berl. ent. Zeit., v. 16, 103: *Hippelates*.—Attacks man; "sore-eye"; epidemic at times.—Florida; Texas[t].

1552 (1549). **Microneurum** Becker, 1903, Mitt. zool. Mus., Berlin, v. 2 (3), 152, mt. *maculifrons*. [Not *Microneura* Sélys, 1886, neuropt.]

funicola de Meijere, 1905, Notes Leyden Mus., 160–162 [Siphonella[1]]: *Microneurum*.—Eye-fly of Ceylon and Java.—Transmits Koch-Weeks bacillus of conjunctivitis.

1553 (1523). Fam. Drosophilidae.—The Pumace-flies and their allies. [C. 25a, 860; B. & M. 15a, 71.] See †1554.

1554. **Drosophila** Fallén [1823], 3[illegible] (1823; 1840; 1910) *cellaris* Meig. [sq. (1910) 3d sp. *Musca funebris* Fabr.].—The fruit-fly; Dew-fly; Thaufliege. [C. 25a, 861; B. & M. 15a, 71.]

ampelophila Loew, 1862, Berl. ent. Zeit., v. 16, 231: *Drosophila*.—On fruits. Reared (usually also captured) on human *excreta. On *cadaver 28 years in grave.—Cuba[t]; Europe; Africa; U. S. A.

busckii Coquill. [nv]: *Drosophila*.—Captured, not reared, on human *excreta.

funebris[s] Fabr., 1787a, 345 [Musca[1]]: *Drosophila*.—On fruits. Captured, not reared, on human *excreta. Intestine of man.—Hafniae[t]; Europe; U. S. A.; Porto Rico.—Cf. *cellaris* Linn.

melanogaster Meigen, 1830, v. 6, 85: *Drosophila*.—Europe[t]; Africa; U. S. A.

species Hyg. Lab. no. 11261: *Drosophila*.—From Fredericksburg, Va.—Said to have been passed in feces.

1555 (1523). Agromyzidae.—[C. 25a, 861.] See †1556.

1556 (1557). **Cerodontha** Rondani, 1861, Dipt. ital. Prodr., v. 4, 10, tod. *denticornis*. Seu **Ceratomyza**[o] Schiner, 1862, Wien ent. M., v. 6, 434, type (by renaming) *denticornis*; Odontocera[h o] Macq., 1835, Hist. nat. Dipt., v. 2, 614; tod. *denticornis* [not *Odontocera* Serv., 1833] renamed.

dorsalis Loew, 1863, Berl. ent. Zeit., v. 7, 54 [Odontocera]: *Ceratomyza*.—Reared (usually also captured) on human *excreta.—D. C.[t]

1557 (1556). **Desmometopa** Loew, 1865, Berl. ent. Zeit., v. 9, 185; tsd. (1903; 1910) 2d sp. *m-atrum*.

latipes Meigen, 1830, Syst. Beschr., v. 6, 177 [Agromyza[1]]: *Desmometopa*.—Reared (usually also captured) on human *excreta.

1558 (1522). Subsection *CALYPTRATAE*. The Calyptrate Muscids. [C. 25a, 862.] Seu *CALYPTERATAE* [B. & M. 15a, 67]. See †1559A.

1559A (1571A). Anthomyioidea.—[C. 25a, 786.] See †1559B.

1559B. Anthomyiidae of Girschner.—The Anthomyiids. [C. 25a, 863; B. & M. 15a, 68.] See †1560.

*species Kisliuk [MS]: Genus.—Reared on human *excreta.—Wilmington, N. C.

1560 (1561 to 1570). **Anthomyia** Meigen, 1803, Mag. f. Insektenk., v. 2, 281; tsd. (1810; 1840; 1910; 1915) *pluvialis*.—Blumenfliege. Various species reported as pseudoparasites. *Anthomya*[e] 1830.

meteorica Linn., 1758a, 597 [Musca[1]]: *Anthomyia*.

pluvialis Linn., 1758a, 597 [Musca[1]]: *Anthomyia*.—Ear, attracted by wax. In skin and body cavities.—Europe[t]; Asia; Africa.

radicum [nv]: *Anthomyia*.—Intestinal myiasis.—England.

species Hyg. Lab., no. 10859: *Anthomyia*.—Richmond, Va.—Said to have come from man, in feces.

vesicularis [nv]: *Anthomyia*.—Stomach. 50 small larvae, fide Mégnin, 1895, Faun. cadav., 50.

?*vicina* Macq., 1835, Hist. nat. Ins., v. 2, 337: *Anthomyia*.—Cadavers after 6 months; 4th period, caseous products, fide Mégnin, 1895a, 52.—N. France[t].

1561 (1560). **Coenosia** Meigen, 1826, v. 5, 210; tsd. (1866; 1910) 20th sp. *geniculata.*

**pallipes* Stein, 1897, Berl. ent. Zeit., v. 42, 370: *Coenosia.*—Captured, not reared, on human *excreta.—Ont.; Ill.; N. America[t].

1562 (1560). **Fannia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, mt. *saltatrix* [=*scalaris*]. [B. & M. 15a, 68.] Seu **Homalomyia** Bouché, 1834, Naturg. Ins., 89; tsd. (1840; 1910) 1st sp. *canicularis.* [Not *Phania* Meigen, dipt.]

**brevis* Rondani, 1865, Sp. ital., pars 5, 65: *Homalomyia; Homalomya[e].*—Reared (usually also captured) on human *excreta.—Italy[t]; U. S. A.

**canicularis* Linn., 1761a, 454 [Musca[1]]: *Fannia; Homalomyia;* Anthomyia[1].—Intestinal and vesicular myiasis. Also reared (and captured) on human *excreta.—Wilmington, N. C.; England.

desjardinsii Macq., 1843, Mém. Soc. r. Sci., Lille (for 1842), 328 [Anthomyia[1]]: *Fannia; Homalomyia.*—Intestinal myiasis.—Angola; Ile de France[t].

incisurata Zett., 1840, Ins. Lappon., 679 [Anthozomyza]: *Fannia; Homalomyia;* Aricia; Anthomyia.—Larvae.—Europe; Canary Ids.; Lapponia[t].

manicata Meigen, 1826, Syst. Beschr., v. 5, 140: *Homalomyia; Fannia;* Anthomyia[1].—Intestinal myiasis.—Europe[t]; Egypt.

saltatrix[s] R.-D., 1830, Mém. Acad. Sci., Paris, 567: *Fannia[t]; Homalomyia;* Anthomyia[1].—Intestinal myiasis.—So. *scalaris.*

**scalaris* Fabr., 1794a, 332 [Musca[1]]: *Fannia; Homalomyia;* Aricia; Anthomyia.—Intestinal myiasis. Also reared (and captured) on human *excreta.—Hafniae[t]; England; U. S. A.

**species* Motter, 1898a, 204: *Homalomyia.*—On *cadaver 2 yrs., 10 mos. in grave.

1563 (1560). **Fucellia** Rob.-Desv., 1841 or 1842, Ann. Soc. ent., Paris, 269–271, mt. *arenaria* R.-D., s. (1910) *maritima.*

**fucorum* Fallén, 1819, Scatomyz. Svec., 5 [Scatomyza[1]]: *Fucellia;* Scatophaga[1].—Captured, not reared, on human *excreta.

1564 (1560). **Hydrotaea** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 509; tsd. (1839; 1840; 1910) 11th sp. Musca *meteorica.*

**dentipes* Fabr., 1805, Syst. Ant., 303 [Musca[1]]. *Hydrotaea;* Anthomyia[1]; Anthomyza[1]; Aricia[1].—Reared (usually also captured) on human *excreta.—U. S. M. H. Wilmington, N. C.—Cf. *Musca dentipes* (Fabr., 1787 [Syrphus]) Gmel., 1790, 2877.

**metatarsata* Stein, 1897, Berl. ent. Zeit., v. 42, 167: *Hydrotaea.*—Captured, not reared, on human *excreta.—Mass., Penn., U. S. A[t].

meteorica Linn., 1758a, 597 [Musca[1]]. *Hydrotaea;* Anthomyia[1]; Anthomyza[1]; Aricia[1].—Intest., eyes, nostrils.—Europe[t].

1565 (1560). **Hylemya** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 550; tsd. (1856; 1910) 1st sp. *strigosa* [as 1. *strenua* and 2. *plebeia*]. Seu **Hylemyia** Macq., 1835, Hist. nat. Ins., v. 2, 315; tsd. (1840) 13th sp. of 1835 [not cited by this name in 1830] *hilaris;* seu *Hilemyia,* 1864. [C. 25a, 863.]

juvenalis Stein, 1897, Berl. ent. Zeit., v. 42, 211: *Hylemyia.*—Captured, not reared, on human *excreta.—Penn.[t]

1566 (1560). **Limnophora** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 517; tsd. (1910) 2d sp. *palustris* Desv.; etd. (1840) *compuncta.*

**arcuata* Stein, 1897, Berl. ent. Zeit., v. 42, 201: *Limnophora.*—Reared (usually also captured) on human *excreta.—Ga.[t]

1567 (1560). **Mydaea** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 479; tsd. (1901; 1910) 5th sp. *scutellaris* s. *pagana.*

**palposa* Walker [nv]: *Mydaea.*—Captured, not reared, on human *excreta.

1568 (1560). **Ophyra** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 516; tsd. (1840; 1910) Anthomyia *leucostoma* Wiedem. (=1st sp. *nitida*+2d sp. *pubescens*). *Ophira* 1856.

cadaverina Mégnin, 1895, Faune d. Cadav., 59, fig. 12: *Ophyra.*—On human cadavers; 5th period; ammoniacal fermentation, black liquefaction.—France[t].

**leucostoma* Wiedem. [nv]: *Ophyra.*—Reared (usually also captured) on human *excreta; reared also on excreta treated with borax, hellebore, caustic soda, separately.—Wilmington, N. C.

1569 (1560). **Phorbia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 559; tsd. (1910) 1st sp. *musca* Desv. Seu **Pegomya*** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 598; tsd. (1901; 1910) 1st sp. Musca[1] *hyoscyami.*

**cinerella* Fallen, 1825, Monogr. Musc. Svec., pt. 8, 77 [Musca[1]]: *Phorbia;* Anthomyia[1]; Aricia[1].—Reared (usually also captured) on human *excreta.

**fusciceps* Zett., 1845, Dipt. Scand., 1552 [Aricia[1]]: *Phorbia.*—Reared, usually also captured, on human *excreta.—Dania[t].

1570 (1560). **Spilogaster*** Macq., 1835, Hist. nat. Ins. Dipt., v. 2, 293; tsd. (1840; 1910) 7th sp. Musca *quadrum.* So. †1567 *Mydaea* Desv., 1830, fide Coquill., 1910a, 607.

anomalus Jaennicke, 1867, 377 [nv]: *Spilogaster; Philornis.*—So. *angustifrons* Loew, 1861, 41, fide Aldrich, 1923, 304.

1571A (1559A). Muscoidea.—[C. 25a, 787.] See †1571B.

1571B (1573; 1578; 1586; 1592; 1594). Gastrophilidae.—[C. 25a, 864; B. & M. 15a, 67.] See †1572.

1572. Gasterophilus Leach, 1817, Edinb. Encycl., v. 12 (1), 162; tsd. (1826; 1840; 1893) *equi;* tsd. (1826; 1910) *intestinalis*, syn. *equi;* (1915) *haemorrhoidalis.* **Gastrophilus*** Agassiz, 1846, Nomencl., 160.—The Bot-flies of horses. [C. 25a, 865; B. & M. 15a, 67.]

**epilepsalis* French, 1900a, 263–264, 1 fig.: *Gastrophilus.*—In skin; in intestine, associated with epilepsy, patient recovered after numerous larvae were expelled.—Illinois.

**haemorrhoidalis* Linn., 1758a, 584 [Oestrus[1]]: *Gastrophilus.*—Subdermal, creeping eruption, "gastrophilosis cutis"; intestine.—Europe; N. America.—Red-tailed bot-fly.

intestinalis de Geer, 1776, Mem. Ins., v 6, 292 [Oestrus] [nv]: *Gastrophilus.*—Subcutaneous.—Russia.

**nasalis* Linn., 1758a, 584: *Gastrophilus;* Oestrus.—Intestine.

**pecorum* Fabr., 1794a, v. 4, 230 [Oestrus[1]]: *Gastrophilus.*—Chin-fly.—Stomach.—Europe; N. America.

species Pavlovsky & Stein, 1922, Bul. Soc. Path. exot., 555–558: *Gastrophilus.*—Myiasis linearis, creeping disease.—Russia[t].

xanthina Speiser [nv]: *Gastrophilus.*

1573 (1571B). Oestridae Leach in Samouelle, 1819, Ent. Useful Comp., 301.—The Bot-flies and Warble-flies. [C. 25a, 866; B. & M. 15a, 67.] See †1574.

1574 (1575 to 1577). **Oestrus** Linn., 1758a, 584; tsd. (1810; 1827; 1893; 1910; 1915) *ovis.*—The sheep-bot. [C. 25a, 867; B. & M. 15a, 67.]

livingstonei Cobbold of Dutrieux, 1885, 60 [nv]: *Oestrus.*—"Ounyamouesi."—Produced a furunculous eruption on leg.—Africa.

**ovis* Linn., 1758a, 585: *Oestrus; Cephalomyia.*—Sheep-bot.—More or less cosmopolitan in sheep; very rare in man. Ocular myiasis, conjunctivitis, lungs. Oviposits in nose, mouth, or eyes of man.—Europe; N. Africa; Honolulu.

species: *Oestrus.*—Larvae.

*species Allen, 1872, BMSJ, 306: *Oestrus*.—Conjunctivae. Subdermal, neck, head, arm.—Mass.

species Guérin [nv]: *Oestrus*.—Surface of body.—Martinique.

species Hope, 1840a, 271: *Oestrus*.—Ear, antrum, subcutaneous, scrotum.

1575 (1574). **Dermatobia** Brauer, 1860, VzbGWien, 1782, tod. *cyaniventris*.

*cyaniventris** Macq., 1843, Mém. Soc. r. Sci., Lille, 180 [Cuterebra[1]]: *Dermatobia*.—"Ura"; "torcel"; "Berne"; "verme macaca."—Subcutaneous in *Homo*. Two species of mosquitoes, †1469 *Janthinosoma lutzii* Theob., and *Janthinosoma ferox* von Humboldt, have ova attached to them. †881 *Amblyomma cajennense* suspected by Bates of carrying ova.—Tropical America; Brazil.

*guildingi** Hope, 1849 [nv]: *Oestrus*.—Trinidad; Brazil.—So. *noxialis*, fide Blanch., 1890a, 517.—Also guildingii[m].

**hominis* Modeer, 1786, Vet. Acad. Handl., v. 7, 184–185 [Oestrus[1]]; Gmel., 1788; Say, 1822: *Dermatobia*.—Ocular and cutaneous myiasis.—Hyg. Lab. no. 12093, from *Calif.—America[t]; Surinam.

humanus Guérin [nv]; Goudot, 1845, Ann. Sci. nat. Zool., 227: *Oestrus*.

noxialis Goudot, 1845, Ann. Sci. nat. Zool., v. 3, 221–230: *Dermatobia;* Cuterebra[1].—So. *cyaniventris* fide R. Blanch., 1897h, 641.—So. *hominis*, fide Ward.—"Gusano"; "Nuche"; "Ver macaque."—Tropical America; New Grenada[t].

1576 (1574). **Hypoderma** Latr., 1818, Nouv. Dict. Hist. nat., v. 23, 272, mt. *bovis* [nv].—Warble-flies. [C. 25a, 867; B. & M. 15a, 67.] Myiasis oestrosa.

**bovis* Linn., 1758a, 584 [Oestrus[1]]: *Hypoderma*.—European ox-bot fly.—Ocular myiasis; cutaneous *myiasis.—Europe; U. S. A.

**diana* Brauer, 1859, VzbGWien (for 1858), 450, 455: *Hypoderma*.— Cutaneous myiasis.—Europe[t]; U. S. A.

**lineatum* Vill., 1789, Linn. Ent., v. 3, 349 [Oestrus[1]]: *Hypoderma*.—Common ox-warble.—Skin of face; eyelid; subcutaneous tissue.—Europe[t]; U. S. A.

1577 (1574). **Rhinoestrus** Brauer, 1886, Wien. ent. Ztg., 300, tod. *purpureus*.

purpureus Brauer, 1858, VzbGWien, 452–457 [Cephalomyia[1]]: *Rhinoestrus;* Oestrus[1].—In eye.—Bisamberg[t].—Also in horses.

1578 (1571B). Calliphoridae. [C. 25a, 869; B. & M. 15a, 67–68.] Seu Calliphorinae, fide Riley & Johannsen, 1915a, 140–142, but genera placed in Muscinae on page 305. See †1579.

1579 (1580 to 1585). **Calliphora** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 433, tod. *vomitoria* L. s. *erythrocephala* Meig.

*anthropophaga** Conil, 1878, in Lesbini, Weyenbergh & Conil, 1878, Act. Acad. nac. Cien., v. 3 (2), 41: *Calliphora*.—Salto; Córdoba.—So.* *macellaria* Fabr., 1794, see †1581A *Cochliomyia*.

azurea a confused species; cf. Fallen, 1816, or 1817, 245 [Musca[1]]; Rob.-Desv., 1833 or 1834 [Melinda]; Rondani, 1862, Species, 197: *Calliphora;* Phormia[1].—Intest. myiasis.—Cf. †1585 *Protocalliphora*.

croceipalpis [nv]: *Calliphora*.—"Blow-fly."—Ear, faeces.—Johannisburg.

**erythrocephala* Meigen, 1826, Syst. Beschr., v. 5, 62 [Musca[1]]: *Calliphora*.—Intest. myiasis. Reared, also captured, on human *excreta, also in *houses and in *privy contents, Wilmington, N. C.; Guyane.

*infesta** Philippi, 1861, 513 [nv]: *Calliphora*.—Nose.—Santiago de Chile.—So. *macellaria* Fabr., 1794, see †1581A *Chrysomyia*.

limea [nv]: *Calliphora*.—Nose.

limensis [nv]: *Calliphora*.—Ulcers of nose.—Chile.

viridula Rob.-Desv., 1830, Mém. Acad. Sci., Paris, v. 2, 445 [*Chrysomyia*]: *Calliphora*[1].—Brazil[t].

**vomitoria* Linn., 1758a, 595 [Musca[l]]: *Calliphora.*—Intest. in fistula; stomach; nostrils; eyes. Human cadavers 1st 3 mos., bodies fresh, also larvae in exhumed bodies, Mégnin, 1895, 10, 31. Flies drank anthrax blood; part of them were inoculated into guinea pigs which died later of anthrax, fide Davaine, 1870.—Switzerland; Ireland; America.

1580 (1579). **Auchmeromyia** Schin. in Brauer & Bergenstamm, 1891, DAWW, v. 58, 391 (87), mt. *luteola.*

luteola Scopoli, 1763, Ent. Carniol., 349 [Musca[l]]: *Auchmeromyia;* Ochromyia[l].—Congo Floor Maggot.—Biting mouth parts, suck blood.—Africa.

1581A (1579). **Cochliomyia**[38] Townsend, 1915, J. Wash. Acad. Sci., 646, tod. Musca *macellaria* Fabr., 1775, 776. So. ? †1581B *Callitroga*, q. v. Seu *Chrysomya*[l] Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 444; tsd. (1864; 1910) 14th sp. *regalis* [=*marginalis*]. Seu *Chrysomyia* Macq., 1834, Hist. nat. Ins. Dipt., v. 1, 262; tsd. (1840; 1910) 3d sp. *polita;* etd. (1863) *marginalis.* Syn. *Compsomyia* Rondani, 1875, tsd. (1910; 1916) *Musca dux*, cf. †1579 *Calliphora.*—Old World genus.

[*anthropophaga*[s] Conil, 1878: †1579 *Calliphora.*—So.[s] *macellaria.*]

bezziana Vill. [nv]: *Chrysomyia; Cochliomyia*[t] q. v.—Skin.—Africa; India.—Also *bezziani.*

[*chloropygea* [nv]: *Chrysomyia.*]

**macellaria* Fabr., 1775a, 776 [Musca[l]]: *Chrysomyia*[l]; Lucilia[l]; *Callitroga*[l]; Compsomyia[l]; *Cochliomyia*[t].—Screw worm larvae; bicheiras, bicho de vareja.—Nostrils or mouth, may cause severe lesions, even death. Puparia found on human *cadaver 3 yrs., 5 mos. in grave, fide Motter, 1898a, 204. Captured on human *excreta.—South America; N. America; Patagonia to Canada; America[t]. Syn. *Lucilia hominivorax.*

polita Linn., 1758a, 370 [Chrysomela]: *Chrysomyia.*—Buenos Aires.

viridula Rob.-Desv., 1830, Mém. Acad. Sci., v. 2, 445 [Calliphora[l]]: *Chrysomyia; Compsomyia.*—Nose.—Central America; Brazil[t].

1581B (1579). **Callitroga** [38] Schiner [Museum labels] in Brauer, 1883, DAWien, v. 47, 74; "*Calliphora anthropophaga* Lesbini [etc.], Act. Acad. Nat. Buenos Aires, v. 3, 41–98 [etc.] =*Compsomyia* (Rond., 1875) *macellaria* F. conf. *Lucilia hominivorax* Coq. (*Lucilia* O. S., *Callitroga* Schiner, Musca olim.) E. Lynch. Arribalzaga. "Brauer & Bergenstamm, 1893, Dm-nCkAWien, 194": Schin[er] vereinigte letztere ["die verwandten Arten der *M. macellaria* Fabr."] unter dem Collectionsnamen *Callitroga* M[us.] C[ollection].—Townsend, 1916, Ins. Ins. Mens., v. 4, 6, 9, designates *Musca dux* Eschsch. as genotype; if this be considered available as type, *Callitroga* becomes objective synonym of *Compsomyia*[r], minus *Calliphora.*

[*anthropophaga*[s] Conil, 1872, C. r. Acad. Sci., Paris, 1134 [Ochromyia]: Cordylobia; Calliphora[l]. — Subcutaneous. — Senegal[t], Africa. — So. *macellaria.*]

hominivorax[s] Coquerel, 1858, Arch. gén. Méd. Paris, v. 11, 523: [*Cochliomyia; Callitroga;*] Lucilia[l].—Frontal sinus; nasal passage.—Cayenne.—So. *macellaria.*

**macellaria* Fabr., 1775a, 776 [Musca[l]]: †1581A *Cochliomyia* q. v.; [*Callitroga;*] Chrysomyia[l]; Lucilia[l].—"American screw-worm fly."—Wounds, ulcerating surfaces, fetid discharges.

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[38] The nomenclature is very confused. Probably the correct generic name is either *Callitroga*, 1883, or *Cochliomyia*, 1915, and the correct specific name *macellaria*, 1775. We follow the entomologists in accepting *Cochliomyia* until the point is definitely settled.

1582 (1579). ***Cynomya*** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 363; tsd. (1834; 1840; 1889; 1910) 1st sp. *mortuorum*. Syn. *Cynomyia*[e].

**cadaverina* Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 365: *Cynomya; Cynomyia*[e].—Large blue-bottle fly.—Captured, not reared, on human *excreta. U. S. M. H. Wilmington, N. Carolina[t].

mortuorum Linn., 1761, 452 [Musca[l]]: *Cynomyia*.—Infests sores of man.—Europe.

1583 (1579). ***Lucilia*** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 452; tsd. (1833–34; 1840; 1889[j]; 1910) *caesar;* tsd. (1893) *regina*.

argyricephala[s] Macq., 1846, Dipt. exot. Suppl., 198: *Lucilia*.—Myiasis, in sores.—Cape of Good Hope[t], Africa. Syn. *L. serenissima*.

**caesar* Linn., 1758a, 595 [Musca [l]]: *Lucilia;* L. (Calliphora[l]).—Greenbottle fly; green carrion fly.—Larvae in stom., intest., ulcers, skin. *Bred in human feces. Human cadaver 2d period, decomposition commenced 1st 3 mos., fide Mégnin, 1895a, 11, 34; cadaver 2 yrs., 10 mos. in *grave; *4 yrs., 1 mo. (no coffin, only burial case); cadaver examined after 2 weeks in tin-lined case, larvae recovered from hair, face, clothing.—Transmission[j] of anthrax has been challenged.—Europe; N. America; Amazon.

**nobilis* Meigen, 1826, v. 5, 56: *Lucilia;* Musca[l].—Ear.—Hamburg[t]; Europe; U. S. A.

regina Meigen, 1826, v. 5, 16: *Lucilia; Phormia*, q. v.; Musca[l].—Larvae in intest.—Europe[t].

**sericata* Meigen, 1826, v. 5, 53 [Musca[l]]: *Lucilia*.—Ocular myiasis, conjunctivitis, cutaneous myiasis.—Austria[t]; Europe; U. S. A.; India.

1584 (1579). **Pollenia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 412, tod. *rudis;* etd. (1893) *vespillo*.—Cluster flies.

rudis Fabr., 1794a, 314 [Musca[l]]: *Pollenia*.—Larvae in stomach, intestine.—Germany.

1585 (1579). **Protocalliphora** Hough, 1899, Ent. News, v. 10, 66, mt. Musca[l] *azurea* Fallen.

**azurea* Fallen, 1816 or 1817, K. Vet. Ac. Handl., 245 [Musca[l]] [nv]: *Protocalliphora;* Calliphora[l]; Phormia[l].—Bloodsuckers. Also in birds' nests.—Westergoethland[t].—Cf. †1579.

1586 (1571B). *Sarcophagidae.—[C. 25a, 870; B. & M. 15a, 68.]

For key to genera, see Aldrich, 1916, *Sarcophaga* and allies in North America, 19–20. Lafayette, Ind. See †1587.

*species Kisliuk [MS]: Genus.—Reared on human excreta, Wilmington, N. C.

1587 (1588 to 1591). ***Sarcophaga*** Meigen, 1826, 14; tsd. (1840; 1889[j]; 1893; 1910; 1915) *carnaria*. Type of Sarcophaginae. [Not Sarcophaga[h] Owen, 1839, mammal.] Syn.? *Stephanostoma*[s] Lenz, 1794, Neue allg. deutsch. Bibl., v. 10 (2), Intelligenzbl., 256 [nv]; in Joerdens, 1802a, 30; tat. Ascaris [1] *stephanostoma*.

arvensis Rob.-Desv., 1863, Hist. nat. Dipt., v. 2, 454: *Sarcophaga*.—Human cadavers exposed freely to air, 2d period, decomposition commenced, 1st 3 mos., fide Mégnin, 1895, 38.—France[t].

**assidua* Walker, 1856, Ins. Saund., v. 1, 328: *Sarcophaga*.—Intest. Reared, usually also captured, on human *excreta.—Arkansas, U. S. A.[t]

carnaria Linn., 1758a, 596 [Musca[l]]: *Sarcophaga*.—Intest., ocular myiasis.—Human cadavers freely exposed to air, 2d period, decomposition commenced, 1st 3 mos., fide Mégnin, 1895, 10, 37.—Europe; America.

carnarta[j], misprint ? for *carnaria: Sarcophaga;* Musca[1].—In rhinal myiasis.—India; Assam.

chrysostoma Wiedem., 1830, v. 2, 356: *Sarcophaga.*—West Indies; British Guiana.

fusicauda [nv]: *Sarcophaga.*—Intest.

haematodes Meigen, 1826, v. 5, 29: *Sarcophaga.*—Intest. (larvae only).—Europe[t].

haemorrhoidalis Fallen, 1816 or 1817, 236 [Musca[1]] [nv]: *Sarcophaga.*—Intest. (larvae); tubercular osteomyelitis.—Europe.

**lambens* Wiedem., 1830, v. 2, 365: *Sarcophaga.*—Cutaneous myiasis.—Captured, not reared, on human *excreta.—Brazil[t]; U. S. A.

laticrus Rob.-Desv., 1830, Mém. Acad. Sci., Paris, v. 2, 357 [Myophora[1]]: *Sarcophaga.*—Human cadavers exposed freely to air, 2d period decomposition commenced 1st 3 mos., fide Mégnin, 1895, 38.—St. Sauveur[t].

muris[m] Mouchet, 1917, Bul. Soc. Path. exot., v. 10, 472–474 [for ? *murus*]: *Sarcophaga.*—Cutaneous myiasis.

murus Rondani [nv]: *Sarcophaga.*—Myiasis.

**pallinervis* Thomson, 1858. 535: *Sarcophaga.*—Pseudoparasite intest., 3 cases, Hyg. Lab. no. 11252, Greenville, Texas.—Honolulu[t]; Calif.

plinthopyga Wiedem., 1830, v. 2, 360: *Sarcophaga.*—Ulcers. Captured, not reared, on human *faeces.—Dominican Republic; St. Thomas[t].

pyophila Neiva & Gomes de Faria, 1913, Mem. Inst. Oswaldo Cruz, 17: *Sarcophaga.*—Myiase cavitaire.—Brazil[t].

ruficornis Austen, 1910 [nv]: *Sarcophaga.*—Cutaneous myiasis.—India.

**sarraceniae* (also sarraceinae) Riley, 1874, Trans. Acad. Sci., St. Louis, 238: *Sarcophaga.*—Intestine. Reared, usually also captured, on human *excreta.—U. S. A.[t] [From *Sarracenia*, t. h.]

*species Hyg. Lab. nos. 11045, 11208, 11210, 11213, 11833, 12144, 27648: *Sarcophaga.*—Bloody diarrhea.—Ga., Md., Vt., Ky., Fla.

species Ticho, 1923, Brit. Journ. Ophth., v. 7, 178: *Sarcophaga.*—Conjunctivitis.—Kaiser's case.

species Patton, 1922, Ind. J. Med. Res., 60–62: *Sarcophaga.*—Subcutaneous.—India.

species Keilin, 1924, Parasitol., v. 16 (3), 318–320, figs. 1–2: *Sarcophaga.*—Intest. myiasis.—Nairobi, Br. E. Africa.

[*stephanostoma*[s] Joerdens, 1802a, 29–30, pl. 7, figs. 5–8 [Ascaris [1]]: [*Stephanostoma*[t]].—Larva in intest. of *Homo*, t. h., Jena.—So. *Sarcophaga carnaria*, fide R. Bl., 1890a, 509.]

**trivialis* Van der Wulp, 1896, Biologia Centr.-Amer., v. 2, 277: *Sarcophaga.*—Reared, also usually captured, on human *excreta.—Mexico[t].

vivipara de Geer, 1776, Mém. Ins., v. 6, 63–71 [major, minor, Musca[1]]: *Sarcophaga.*—On human cadavers, 2d period, decomposition commenced, 1st 3 mos., fide Mégnin, 1895, 10.

1588 (1587). **Agria** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 376; tsd. (1916) 1st sp. *punctata*[s] [so. *affinis*]; (1910; 1916) *affinis* ["1 sp. (as 6)", not cited by this name in 1830]; (1893) *hungarica* and (1889; 1893) *bella.*

affinis Fallen, 1816 or 1817, K. Vet. Abh., 237 [Musca[1]], 230: *Agria;* Sarcophaga[1].—Larva.—Europe; N. America.—Cf. *Musca affinis* (Fabr., 1794 [Syrphus]) Lam., 1816, v. 2, 363.—A confused specific name in literature.

1589 (1587). **Helicobia** Coquill., 1895, Proc. Acad. Nat. Sci., Phila., v. 25, 317, tod. Sarcophaga[1] *helicis* Townsend, 1892.

**quadrisetosa* Coquill. [nv]: *Helicobia.*—Reared, usually also captured, on human *excreta.

1590 (1587). **Sarcophila** Rondani, 1856, 86, mt. *latifrons*. Syn. †1591 *Wohlfahrtia*, fide Coquill., 1910a, 602. [Not *Sarcophilus* Cuv., 1837 mammal.]

beckeri Villeneuve in Becker, 1908, Mitth. zool. Mus. Berl., v. 4, 122, fig. 36 [Sarcophaga]: *Sarcophila*.—Canary Ids.; France.—Larva pseudoparasite in *Homo*.—Cited also as bekeri[m] and berkeri.[m]

latifrons Fallén, 1820 [nv]: *Sarcophila*.—Ulcers; nose; abscess of ear.

meigeni Schiner, 1862, 567 [nv]: *Sarcophila*.—Germany, Austria, Hungary, France.

ruralis Fallen, 1820, Monogr. Musc., 39 [Musca[1]]: *Sarcophila*.—Ulcers.—Germany, Austria, Hungary, France.

1591 (1587). **Wohlfahrtia** Brauer & Bergenstamm, 1889, Denks. Acad. Wissensch. Wien, v. 56, 123 (55), mt. *magnifica*. So. †1590 *Sarcophila*, fide Coquillett, 1910a, 620.

magnifica Schiner, 1862, 567 [nv]: *Wohlfahrtia;* Sarcophaga[1].—Larvae in wounds; mucous membrane, tissues of ear, nose, gums, eyes.—Europe; Africa.

*species Hyg. Lab. no. 12151: *Wohlfahrtia*.—Specimen taken from papule-like swelling upon neck of child.—N. Mex.

**vigil* Walker, 1849, List, v. 4, 831 [Sarcophaga[1]]: *Wohlfahrtia*.—Skin; conjunctivae. Hyg. Lab. no. 11839.—Nova Scotia[t]; U. S. A.

wohlfahrti Portschinsky, 1875, Horae Ser., 128–131 [Sarcophila[1]]: *Wohlfahrtia;* Sarcophaga[1].—In abscess; conjunctivitis.—Mohilew[t], Russia. So. ? *magnifica*.

1592 (1571B). TACHINIDAE of Girschner.—[C. 25a, 871; B. & M. 15a, 68.] TACHINIIDAE.[d] See †1593.

1593. Tachina Meigen, 1803, Mag. f. Insektenk., v. 2, 280; tsd. (1889[j]; 1893; 1894; 1910; 1915) 1st sp. *grossa* Linn., 1758a; etd. (1840) *consobrinus*. Seu **Larvaevora** Meigen, 1800, Nouv. class. Mouches, 38; tsd. (1910) *grossa*. [Not †1219 *Tachinus*.]

larvarum Linn., 1758a, 596 [Musca[1]]: *Tachina*.—Accidental in stomach. Conjunctival sac. Lives on caterpillar.—Italy.

1594 (1571B). MUSCIDAE Leach, 1819, Ent. Useful Comp., 299. For keys to the genera and subfamilies, see Riley & Johannsen, 1915a, Handbook of Medical Entomology, 303–315. See †1595.

Flies have been incriminated (in some cases experimentally, in others hypothetically) with acting as carriers of various diseases, bacteria, fungi, protozoa, and worms, for instance: Anthrax, cholera, Egyptian ophthalmia, erysipelas, framboesia, glanders, hospital gangrene, leprosy, plague, *Staphylococcus pyogenes aureus*, tuberculosis, typhoid, *Favus*, *Lypocodium*, *Oidium lactis* (from cream); Bouton de Biskra, †492 *Enterobius*, †325b *Taenia solium*, and †370 *Trichuris trichiura*.

species Hope, 1840a, 266–269: Genus.—Reported as parasites in brain, frontal sinus, gums, maxillary antrum, mouth, nose, os cubiforme, stomach.

1595 (1596 to 1614). **Musca** Linn., 1758a, 334, 589; tsd. (Opinion 82, Internat. Comm.; 1834; 1840; 1893; 1910; 1915) 54th sp. *domestica*; tsd. (1835) *caesar*.—House, filth, or typhoid fly. Type of MUSCINAE. Syns.: *Conosoma*[s] Lenz in Joerdens, 1802a, 30, tat. Ascaris [1] *conosoma; Conostoma* Lenz, 1794, Neue allg. deutsch. Bibl., v. 10 (2), 256 [nv] or Rud., 1801a, 58, tat. Ascaris[1] *conostoma*.

[*conosoma* Joerdens, 1802a, 30–31, pl. 7, figs. 9–12 [Ascaris[1]]: [*Conosoma*[t]].—Larva in intest. of *Homo*, Jena.—So. *Musca domestica*, fide R. Bl., 1889d, 708.]

[*conostoma* Rud., 1808a, 166 for *conosoma* [Ascaris]: [*Conostoma*[t]].]

*corvina** Fabr., 1781a, 440: *Musca;* †1600 *Eumusca*[t].—Larvae in intestine.—Europe; Africa; ? N. America.—So. *domestica*, fide Patton, 1923, 327.

**domestica* Linn., 1758a, 596: *Musca.*—Larva in urethra, intest., skin, especially in sores; on cadavers. Reared, also captured, on human *excreta; common in *privies. Alleged to carry various infections, as of anthrax, dysentery, cholera, plague, leprosy, trachoma, typhoid, yaws, tuberculosis, etc.; †37 *Endamoeba coli; E. histolytica;* †88 *Leishmania tropica;* mechanical carrier of cysts of †139 *Giardia lamblia;* †281 *Schistosoma mansoni;* †325 *Taenia saginata;* †370 *Trichuris trichiura;* †387 *Ancylostoma duodenale;* †390 *Necator americanus.*—Cosmopolitan; Europe[t].

nigra Forskal, 1775, Descript. Anim., xxiv: *Musca.*—Intest., stomach.—Sweden.

putrida Fabr., 1775a, 775: *Musca.*—America[t].

species: *Musca.*—Stomach, "urinary tract."—England; Ireland.

1596 (1595). **Bdellolarynx** Austen, 1909, Ann. Mag. Nat. Hist., 290, mt. *sanguinolentus.*

sanguinolentus Austen, 1909, Ann. Mag. Nat. Hist., 291–292: *Bdellolarynx.*—Bloodsucker.—Calcutta[t], India; Ceylon.

1597 (1595). **Bengalia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 425; tsd. (date?) 2d sp. *labiata;* tsd.[j] (1889) *depressa.*

depressa Walker, 1858, Trans. Ent. Soc., London, v. 4 (6), Jan., 211: *Bengalia.*—Larva du Natal.—S. Africa; Port Natal[t].

1598 (1595). **Chloroprocta** Van der Wulp, 1896, Biol. Centr.-Amer., Dipt., v. 2, 296, mt. *semiviridis.*

semiviridis Van der Wulp, 1896, Biol. Centr.-Amer., Dipt., v. 2, 296: *Chloroprocta.*

1599 (1595). **Cordylobia** Gruenberg, 1903, Sitzungsb. naturf. Freund. Berl., 410, mt. tod. *anthropophaga* Bl.

anthropophaga E. Bl., 1872, C. r. Acad. Sci., Paris, 1134 [Ochromyia[l]]: *Cordylobia;* Ochromya.—Eyelid, skin, severe ulcers.—Gold Coast, Africa.—"Ver du Cayor." "Tumbu-fly."

keniae Kolb, 1897 [nv]: *Cordylobia;* Dermatobia[l].—Skin.—British E. Africa.

rodhaini Gedoelst, 1905, Arch. Parasit., 538, figs. 1–4: *Cordylobia;* †1612B *Stasisia*[t], q. v.—Belgian Congo[t].

1600 (1595). **Eumusca*** Townsend, 1911, Proc. Ent. Soc., Wash., 168, 170, tod. *corvina* of Russia.—So. †1595 *Musca*, q. v.

*corvina** Fabr., 1781a, 440: *Eumusca;* Musca[l].—Larva in intest.—Germany[t]; Europe.—So. †1595 *domestica*, fide Patton, 1923, 327.

1601 (1595). **Glossina** Wiedem., 1830, 253, mt. *longipalpis* [;not Phill., 1848, brach.; Guén., 1854, lepidopt.]; cf. (1889) *morsitans.*—Tsetse flies. [C. 25a, 873.] Transmits trypanosomatic diseases, such as sleeping sickness, and under suspicion (1874) as transmitter of anthrax. Syn. *Nemorhina* Rob.-Desv., 1830, Mém. Acad. Sci., Paris, v. 2, 390, mt. *palpalis.*

brevipalpis Newstead, 1910, Ann. Trop. Med., Liverpool, 372: *Glossina.*—Probably transmits sleeping sickness, †94 *Trypanosoma congolense, gambiense,* and *rhodesiense.*—N. Nyasa[t], Africa.

caliginea Austen, 1911, Bull. Ent. Res., 294: *Glossina.*—Bites man.—S. Nigeria.

fusca Walker, 1849, 682: *Glossina;* Stomoxys[l].—Transmits sleeping sickness, †94 *Trypanosoma gambiense.*—Africa.

longipalpis Wiedem., 1830, v. 2, 254: *Glossina*[t].—Experimentally transmits †444 *Onchocerca volvulus*.—Sierra Leone[t].

longipennis Corti, 1895, Ann. Mus. Genova, v. 15 (2), 138: *Glossina*.—Transmits †94 *Tryp. gambiense*.—Africa[t].

morsitans Westw., 1850, Proc. Zool. Soc., London, 261–267, fig. 1: *Glossina*.—Bites.—Vector of †94 *Trypanosoma gambiense* and *rhodesiense*.—Africa. [Not available as type of this genus, cf. 1889.]

nigrofusca[s] Newstead, 1910, Ann. Trop. Med., Liverpool, 370: *Glossina*.—Bites man.—Africa[t].—So.? *fusca*.

pallidipes Austen, 1903, Monogr., 87, pl. 4: *Glossina*.—Transmits †94 *Tryp. congolense, gambiense* (experimental).—Kilimanjaro[t], Africa.

palpalis Rob.-Desv., 1830, Mém. Acad. Sci., Paris, v. 2, 390: *Glossina; Nemorhina*[t].—Vector of †94 *Tryp. castellanii, gambiense, rhodesiense;* †142f *Treponema macfiei*, fide Lavier, 1921a, 119, 126.—Congo[t].

swynnertoni Austen, 1923, Bull. Ent. Res., v. 13, 311–315, figs. 1–2: *Glossina*.—Carries †94 *Tryp. gambiense* (in nature).—Tanganyika[t], E. Africa.

tabaniformis Westw., 1850, Proc. Zool. Soc., London, 268, fig. 3: *Glossina*.—Bites man.—Tropical W. Africa[t].

tachinoides Westw., 1850, Proc. Zool. Soc., London, 267–268, fig. 2: *Glossina*.—Transmits †94 *Tryp. congolense, gambiense*, and *nigeriense;* †142f *Treponema macfiei*, fide Lavier, 1921a, 119, 126.—S. Nigeria trop. occid. Africa[t].

wellmanii Austen, 1908, Ann. Mag. Nat. Hist., v. 1 (3), 325, 390: *Glossina; G. palpalis*.—Transmits trypanosome of sleeping sickness.—Angola[t], Portuguese W. Africa.

1602 (1595). **Haematobia**[39] Robin in St. Fargeau & Serv., 1828, Encycl. méth., 499; tsd. (1840) 2d sp. *irritans*.—The Horn-fly.

**irritans* Linn., 1758a, 604 [Conops[1]]: *Haematobia; Lyperosia*.—The Horn-fly.—Accused of transmitting anthrax.—Cf. *serrata* R.-D.

punctigera Austen, 1909, Ann. Mag. Nat. Hist., 285: *Haematobia; Lyperosia*.—Sucks blood.—Uganda; Nile Province[t].

1603 (1595). **Lyperosiops** Townsend, 1912, Proc. Ent. Soc., Wash., 47, tod. *Stomoxys stimulans*.

stimulans Meigen, 1824, Syst. Beschr., v. 4, 161 [Stomoxys[1]]: *Lyperosiops;* Haematobia[1]; Lyperosia[1].—Bites man.—Europe[t].

1604 (1595). ***Morellia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 405; tsd. (1910) Musca[1] *hortorum* Fall. (syn. 1st *agilis*+2d *horticola*).

**micans* Macq., 1843, Mém. Soc. r. Sci., Lille (for 1842), 275: *Morellia*.—Reared, usually also captured, on human *excreta.—Java[t]; Sumatra[t]. [Geographic or specific confusion?]

1605 (1595). **Muscina** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 406; tsd. (1910) 2d sp. *stabulans*.

**caesia* Meigen, 1826, Syst. Beschr., v. 5, 76 [Musca[1]]: *Muscina*.—Captured, not reared, on human *excreta.—Austria[t]. Cf. *Musca caesia* Rossi, 1790, Faun. Etrusc., v. 2, 310.

**stabulans* Fallen, 1816, Act. Holm., 252 or 262 [nv]: *Muscina* (*Cyrtoneura*); Musca[1].—Larva in intest. Hyg. Lab. no. 10874, N. Y. Reared, also captured, on human *excreta. On cadavers, 1st period, 1 to 3 months.—U. S. M. H., Wilmington, N. C.; U. S. A.; Europe; Korea.

**tripunctata* Van der Wulp, 1896, Biol. Centr.-Amer., v. 2: *Muscina*.—Captured, not reared, on human *excreta.—Mexico[t]; U. S. A.

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[39] Syns.: *Lyperosia*[o] Rondani, 1856, Gen. ital., 93, tod. *irritans; Priophora*[s] Desvoidy, 1863, Hist. nat. Dipt. Par., v. 2, 611, tod. *serrata*. [Not *Haematobium* Reich., 1828, polygastr.; not †170 Haematobium[h] Danilewsky, 1890c, 753 [=†170 *Plasmodium*], protozoon.] Cf. *Haematobia* of R.-D.; tsd. (1889[j]; 1893) *stimulans*.

1606 (1595). ***Myospila*** Rondani, 1856, Gen. ital., 91, tod. *meditabunda*. *Myiospila*[e], type (1889) metidabunda[m].

**meditabunda* Fabr., 1781a, 444 [Musca[l]]: *Myospila*.—Reared, usually also captured, on human *excreta.—Hafniae[t], Italy, Europe[t]; U. S. A.

1607 (1595). **Ochromyia** Macq., 1835, Hist. nat. Ins., v. 2, 348, tod. *jejuna;* etd. (1889[j]) *fuscipennis*. Quoted also as so. †1595 *Bengalia*, and so. †1580 *Auchmeromyia*.

anthropophaga E. Bl., 1872, C. r. Acad. Sci., 1134: *Ochromyia*.—New name for La mouche du Cayor.—See †1599 *Cordylobia*[t].

1608 (1595). **Philaematomyia** Austen, 1909, Ann. Mag. Nat. Hist., 295, mt. *insignis*.

insignis Austen, 1909, 295–298, figs. 1–3: *Philaematomyia*.—Sucks blood.—Africa; India[t]; Ceylon.

1609 (1595). ***Phormia*** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 465; tsd. (1849; 1910) 2d sp. *regina*. Cf. †1583.

**regina* Meigen, 1826, Syst. Beschr., v. 5, 58 [Musca[l]]: *Phormia;* Lucilia[l].—Found feeding upon human *excreta, U. S. M. H., Wilmington, N. C.; Europe[t].

**terraenovae* Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 467: *Phormia*.—Captured, not reared, on human *excreta.—Terra Nova[t].

1610 (1595). ***Pseudopyrellia*** Girschner, 1893, Berl. ent. Zeit., v. 38, 306, tod. Lucilia[l] *cornicina* Fall.

**cornicina* Fabr., 1781a, 438 [Musca[l]]: *Pseudopyrellia*.—Captured, not reared, on human *excreta.—Italy[t].

1611 (1595). **Pycnosoma** Brauer & Bergenstamm, 1894, DAWWien, v. 61 (87), 623, tod. *marginalis*[s] Wied.=*regalis* Desv. So. †1581A *Chrysomya* Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 444, fide some authors; a distinct genus, fide others.

dux Eschz., 1822, Entomogr., v. 1 (1), 114 [Musca[l]]: *Pycnosoma;* †1581A *Chrysomya;* †1581B *Callitroga*, tsd.—Rhinal and intest. myiasis.—India; Congo.

flaviceps Walker [nv]: *Pycnosoma*.—Rhinal myiasis.—India; Africa.

putorium Wiedem., 1830 [nv]: *Pycnosoma* (†1581A *Chrysomyia*).—Nose, intest.—Indies; Congo, Africa; India.

species ———: *Pycnosoma*.—"Peenash."—Rhinal, buccal and ocular myiasis.—Indian screw-worm.—Rajputana, India.

1612A (1595). **Pyrellia** Rob.-Desv., 1830, Mém. Acad. Sci., Paris, 462; tsd. (1845; 1893; 1910) Musca *cadaverina* Linn. (=2d sp. *vivida*+3d sp. *usta*+4th sp. *cuprea*).

**ochricornis* Wiedem., 1830, Auss. zweiflug. Ins., v. 2, 408 [Musca[l]]: *Pyrellia*.—Captured, not reared, on human *excreta.—Brazil[t].

1612B (1595). **Stasisia** Surcouf, 1914, Rev. Zool. afr., v. 3, 475, tod. mt. *rodhaini* Ged.

rodhaini Gedoelst, 1910, Arch. d. Parasitol., 538, figs. 1–4 [†1599 *Cordylobia*[l]]: *Stasisia*.—Subcutaneous.—Larve de Lund.

1613 (1595). **Stomoxys** Geoffr., 1762, Hist. nat. Ins. Paris, v. 2, 538, mt. *calcitrans;* Fabr., 1775a, 797.—Stable-fly.—Cf. *Stomoxis*[e] Desv., 1830. Type of STOMOXINAE and STOMOXYDINAE.

calcitrans Linn., 1758a, 604 [Conops[l]]: *Stomoxys;* Musca[l].—Stable-fly.—Adult bites man; a vicious blood sucker; larvae in foot; Hygienic Laboratory no. 10858 (vomited, La.); no. 12156 (alleged to have been passed from bladder, Miss.). Captured on human *excreta; reared on human excreta U. S. P. H. S. Hospital, Wilmington, N. C. Incriminated as possible transmitter of poliomyelitis, glanders, and anthrax. Transmits

mechanically †94 *Trypanosoma gambiense;* †142 *Borrelia recurrentis,* fide Schuberg. Capable of experimental transfer of anthrax to animals. Experimentally able to transmit †142 *Leptospira ictero-haemorrhagica.* Carrier of eggs of †1575 *Dermatobia cyaniventris.* Negative for †444 *Onchocerca volvulus.* Can transmit tularaemia.

1614 (1595). **Stygeromyia** Austen, 1907, Ann. Mag. Nat. Hist., 445, mt. *maculosa* from Arabia.

sanguinaria Austen, 1909, Ann. Mag. Nat. Hist., 286–288: *Stygeromyia.*—Sucks blood.—Belgian Congo, Congo Free State.[t]

1615 (1521). Section *PUPIPARA* Nitzsch, 1818, Mag. Ent., v. 3, 284 (orig. as fam.).—[C. 25a, 873; B. & M. 15a, 66.] See †1616.

1616. HIPPOBOSCIDAE Leach, 1817 [nv].—Louse-flies. See †1617.

1617 (1618 to 1620). **Hippobosca** Linn., 1758a, 607; tsd. (1810; 1832; 1840; 1910; 1915) *equina.*—Type of HIPPOBOSCINAE.—Horse tick.

camelina Savigny in Leach, 1818a, 556: *Hippobosca.*—Egypt[t], Africa.

canina of Rondani, 1878, Ann. Mus. Civ. Genova, v. 12, 164: *Hippobosca.*—Gachet thinks it transmits Oriental boil.—Africa; Persia.—So. *capensis* 1816, fide Seguy, 1924a, 295.

equina Linn., 1758a, 607: *Hippobosca*[t]; *Nirmomyia.*—Horse tick. External; temporary on man.

maculata Leach, 1817, 8, pl. 2, figs. 11–13: *Hippobosca.*—Africa; India.

1618 (1617). **Lipoptena** Nitzsch, 1818a, 310, mt. *cervina* so. *cervi.*

cervi Linn., 1758a, 611: [*Lipoptena*;] Hippobosca[l]; Pediculus[l].—Frequently attacks man.—Europe.

[*pallida* "Meigen, 1830 of Beneden": *Ornithobia;* †1620 *Ornithomyia,* q. v.—External.—So. ? *cervi.*]

1619 (1617). **Melophagus** Latr., 1802b, 466, mt. *ovinus.*—Sheep tick.

**ovinus* Linn., 1758a, 607: *Melophagus*[v]; Hippobosca[l] (*Melophila*[t]).—Occasionally attacks man.

1620 (1617). **Ornithomyia** Latr., 1802b, 466, mt. *avicularia.* On birds.

avicularia Linn., 1758a, 607 [Hippobosca[l]]: *Ornithomyia.*—External.

[*pallida*[s] Meigen, 1830 of Beneden: Ornithobia[l]; †1618 *Lipoptena,* q. v.—External.—Louvain.—So. ? *avicularia.*]

pallida Say, 1823 (1859), Journ. Acad. Nat. Sci. Phila., 102 [not Olf., 1811]: *Ornithomyia.*—Renamed *achineuria* Speiser, 1905, Zeitschr. Hym. Dipt., v. 5, 348.

1621 (1070). Ord. *SIPHONAPTERA*[40] Latr., 1825a [nv]; 1829a, 349; tpd. *Pulex.*—Fleas.—[C. 25a, 877; B. & M. 15a, 72.] See †1622.

For check list of genera and species of world, see Dalla Torre, 1924a, Ber. Naturw. Med. Ver. Innsbruck, v. 39, 1–29. For key to genera of world, see Fox, 1925a, Ins. Dis. Man, 120–130.

1622 (1625A). Subo. *FRACTICIPITA* Oudemans, 1908, Tijdschr. Ent., 92. See †1623.

1623. HYSTRICHOPSYLLIDAE Baker, 1905, Proc. U. S. Nat. Mus., 136; seu LEPTOPSYLLIDAE[s].—[C. 25a, 881.] See †1624.

1624. Leptopsylla[41] Jordan & Rothsch., 1911, Nov. Zool. Tring, v. 18, 85, tod. *musculi* Dugès.

musculi[s] Dugès, 1832b, 160–161, fig. 3 [Pulex[l]]: *Leptopsylla;* Ctenopsylla.—On *Homo; Rattus decumanus, R. rattus, Mus musculus*[t].—So. *segnis* Schönh., 1816, fide Dalla Torre, 1924a, 2.

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[40] Syns.: *APHANIPTERA*[o] Kirby & Spence, 1826, v. 4, 382, tpd. *Pulex;* *SUCTORIA*[o] Retzius, 1783, vi; Latr., 1805b [; not †183a *SUCTORIA*[b], 1858 protozoa], tpd. *Pulex; ROPHOTEIRA* Schellenberg, 1798, Helvet. Ent., v. 1, 44; *RHOPHOTEIRA*[o].

[41] Syns.: Ctenopsyllus[h] [o] Kol., 1862, not 1856, renamed; (Ctenopsylla[s]) Wagner, 1893, HSEr, v. 27, 347, subg. of *Typhlopsylla;* (Ctenopsyllus[o]) Kol., 1863, 39, subg. of *Ctenophthalmus* K., for *quadridentatus* syn. *musculi* (tsd. 1911), and *bidentatus* [illegible] pe by renaming (1911) *musculi*

1625A (1622). Subo. *INTEGRICIPITA* Oudemans, 1908, Tijdschr. Ent., 92.—[C. 25a, 881.] See †1625B.

1625B (1626; 1630; 1632; 1634; 1637). NEOPSYLLIDAE Oudemans, 1909, E B, v. 2 (47) 323. See †1625C.

1625C. Neopsylla Wagner, 1903, Horae Soc. ent. Rossicae, 135, 137, 138; tsd. (1925) *bidentatiformis*.

setosa Wagner, 1898, Horae Soc. ent. Ross., v. 31 (1896–7), 591–2 [Typhlopsylla]: *Neopsylla*.—On *Spermophilus*, t. h.—S. E. Russia.—Transmits plague; bites man.

1626 (1625B). DOLICHOPSYLLIDAE Oudemans, 1909 [nv]. See †1627.

1627 (1628; 1629). **Ceratophyllus**[42] Curtis, 1829, Guide, 201; tsd. (1832) 9th sp. *hirundinis*.

**acutus* Baker, 1904, Invert. Pacifica, v. 1, 40: *Ceratophyllus*.—Bites.—Also on *Otospermophilus beecheyi*, t. h.—Can transmit tularaemia.—Stanford Univ.[t], Calif.

avium Taschb., 1880a, 17, *gallinae* 1835+*columbae* 1873+*hirundinis* 1831, etc., renamed: Pulex[1].—Of birds; can bite man severely.—So. *gallinae*, fide Dalla Torre, 1924a, 13.

fasciatus Bosc, 1801a, 156 [Pulex[1]], t. h. *Myoxus nitela: Ceratophyllus*.—Syns.[s]: *dentatus* Baker, 1904; *furoris* Dale, 1878; ? *octodecimdentatus* Kol., 1863; *oculatus* Baker, 1904; fide Dalla Torre, 1924a, 13.

gallinae Schrank, 1803, Fauna Boica, v. 3 (1), 195 [Pulex[1]]: *Ceratophyllus*.—Of chickens[t].—Syns.[s]: *avium*, q. v.; *cinereae* Dale, 1878; *merube* Dale, 1878; *monedulae* Dale, 1878; *oenas* Dale, 1878; *rufus* Grav., 1827; *spini* Dale, 1878; *turdi* Dale, 1878; fide Dalla Torre, 1924a, 13.

hirundinis [Curtis, 1829, Guide, 201, nomen nudum;] Samouelle in Curtis, 1832, Brit. Ent., v. 9, 417, figs. A, D [Pulex[1]]: *Ceratophyllus*.—On *Homo*, birds, *Hirundo* t. h.—†142d *Borrelia duttoni*, of tick fever, can develop.

**niger* Fox, 1908, Ent. News, v. 19, 434–435: *Ceratophyllus*.—On *Homo* and *Rattus decumanus*.—Fruitvale[t], Calif.

silantiewi Wagner, 1898, Horae Soc. ent. Rossicae, v. 31, 574–575: *Ceratophyllus*.—Carries plague.—S. E. Russia[t].—Bites man.—T. h. *Arctomys bobac*.—Also *silantieivi*[s] 1904.

tesquorum Wagner, 1898, Horae Soc. ent. Rossicae, v. 31, 564–565: *Ceratophyllus*.—Carries plague.—Also on rats and spermophiles.—Russia[t].

1628 (1627). **Hoplopsyllus** Baker, 1905, Proc. U. S. Nat. Mus., 128, 130, 144, tod. Pulex[1] *anomalus* Baker, 1903.—[C. 25a, 882.]

**anomalus* Baker, 1904, Proc. U. S. Nat. Mus., 318, pl. 10, figs. 1–6 [Pulex[1]]: *Hoplopsyllus*.—Bites man; also on large gray-brown spermophile[t] and *Rattus*.—Carries bubonic plague.—Colorado[t], Carolina.

1629 (1627). **Stivalius** Rothschild, 1922, Ectoparasites, 249, tod. *ahalae*.

ahalae Rothschild, 1904, NZ, v. 11 (3), 631–632, figs. 51, 55, 60: *Stivalius; Pygiopsylla*[1]; Ceratophyllus[1].—On *Homo*, rats, and "the small jungle squirrel[t]."—*Bacillus pestae* develops; Java.—China; Japan.

robinsoni Rothschild, 1905, Nov. Zool., Tring, 483: *Stivalius; Pygiopsylla;* Ceratophyllus[1].—On *Homo; Sciurus nigrovittatus*[t].—E. Malay States[t], Sumatra, Java.

1630 (1625B). TUNGIDAE[43] Fox, 1925a, Ins. Dis. Man, 130–132. Burrowing fleas. See †1631.

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[42] Syns.: *Ctenonotus*[s]; *Monopsylla*[s]; *Ceratopsyllus*[s] Curtis, 1838, v. 15, errata [states that *Ceratophyllus*, was misprint;] 1839, v. 16, index 2, 14.

[43] Syns.: SARCOPSYLLIDAE[s] Taschb., 1880a, 43; RHYNCHOPRIONIDAE[d] Baker, 1905, Proc. U. S. Nat. Mus. 124; HECTOPSYLLIDAE[s] Baker, 1904, Proc. U. S. Nat. Mus., 375.

1631. Tunga[44] Jarocki, 1838, 50–52, mt. *penetrans*.

penetrans Linn., 1758a, 614: *Tunga; Dermatophilus*[o]; *Sarcopsylla*[o]; Rhynchoprion[d]; *Sarcopsyllus*[o o]; Pulex[l].—Wound may be followed by tetanus, ulceration, gangrene, and loss of attacked members, sometimes death.—Tropics; America; Asia; Africa.

1632 (1625B). Echidnophagidae Oudemans, 1909, Tijdschr. Ent., v. 2 (47), 326. See †1633.

1633. Echidnophaga[45] Olliff., 1886, Proc. Linn. Soc. N. S. Wales, 172, mt. *ambulans*.—[C. 25a, 883; B. & M. 15a, 72.]

gallinacea Westw., 1875a, 246: *Echidnophaga; Xestopsylla*[s]; *Argopsylla*[s]; Sarcopsylla[l]; Sarcopsyllus[l]; Pulex[l].—On children.—Ceylon.—Also on fowls.

1634 (1625B). Pulicidae Steph., 1829b, 328.—[C. 25a, 882; B. & M. 15a, 73.] Syn. Xenopsyllidae[s] Glinkiewicz, 1907, SAWW, 383. See †1635.

1635 (1636). **Pulex** Linn., 1758a, 614; tsd. (1810; 1826; 1915) *irritans*. Type of Pulicinae Tiraboschi, 1904, Arch. Parasit., 242.

bahiensis[s] Cunha, 1914, Mem. Inst. Oswaldo Cruz, v. 6 (2), 134–136: *Pulex*.—Bahia[t].—On *Homo*[t].—So. *irritans*, fide Dalla Torre, 1924a, 24.

dugesii[s] Baker, 1899, Ent. News, 37: *Pulex irritans*.—On *Spermophilus macrourus*, t. h.; ? *Homo*.—Mexico[t].—So. *irritans*, fide Dalla Torre, 1924a, 24.

hominis[o] Dugès, 1832b, 163 (*irritans* renamed): *Pulex*.

**irritans* Linn., 1758a, 614: *Pulex*[t].—External.—Bite irritating.—Europe[t]; U. S. A.—Vector of: *Bacillus pestis;* [*B. leprae*, negative results, Leboruf, 1911]; [*Pneumococcus*[j] reported by Silva, 1915]; [la suette miliaire[j], suspected, Chantemesse]; [†88 *Leishmania infantum*[j] suggested (Basile, 1911) but experiments negative (Gabbi, 1911, etc.)]; [†212 *Rickettsia*, negative, Sikora, 1919]; [†308 *Dipylidium caninum*]; [†314 *Hymenolepis diminuta*]; [†314 *H. nana*, negative]; [†453 *Acanthocheilonema perstans*, negative experiments (Low, 1903)]. Syns.: *bovis*[s] Leach, 1837; *simulans*[s] Baker, 1895.

1635A (1636). **Rhopalopsyllus** Baker, 1905, Proc. U. S. Nat. Mus., v. 29 (1417), Oct. 3, 128, 129, tod. *lutzii*. Syns.: *Rothschildella*[s] Enderlein, 1912, Zool. Anz., v. 40 (2–3), Aug. 20, 72, tod. *cryptoctenes; Rothschildiella*[s] Dalla Torre, 1924a, 22.

acodontis Jordan & Rothschild, 1923, Ectoparasites, v. 1 (5), Nov., 338, fig. 351: *Rhopalopsyllus*.—T. h. *Akodon;* also on *Homo*.—Argentine.

1636 (1635). **Xenopsylla** Glinkiewicz, 1907, Sitzungsb. Akad. Wissensch. Wien., v. 116 (3), 385, mt. *pachyuromyides*[s] [so.[s] *cheopis*]. Syns.: *Loemopsylla*[s] Jordan & Rothschild, 1908, P, 15, tod. *cheopis;* Lemnopsyllus[m].

astia Rothschild, 1911, Nov. Zool., Tring, v. 18 (1), 117–118, fig. 1: *Xenopsylla*.—Rangoon, Burma, India.—Also on rats[t].—Cf. *nesiotes* 1908, *nubicus* of 1911.

cheopis Rothschild, 1903, Ent. Mag., London, v. 39, 85–86, figs. 3, 9, 12, 19: *Xenopsylla; Loemopsylla;* Pulex[l]; Lemnopsylla[m].—Also on rats and other rodents.—Almost cosmopolitan, especially in warm countries; Schendi[t].—Vector of *Bacillus pestis*, †314 *Hymenolepis diminuta*. Syns.[s]: *murina*[s] Tiraboschi, 1904; *pachyuromyides*[s] Glink., 1907; pallidus[s d] Tidsw., 1902; *philippinensis*[s] Herzog, 1905; *tripolitanus* Fulm, 1909.

pallida Taschb., 1880a, 65–66, pl. I, fig. 9: *Xenopsylla;* Pulex[l].—Egypt[t].—T. h. *Herpes ichneumon*.

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[44] Syns.: *Sarcopsylla*[o] Westw., 1840b, 202, mt. *penetrans; Dermatophilus*[o] Guérin, 1844, Sept., 14, mt. *penetrans;* Rhynchoprion[d] Oken, 1815a, 402 [not †861 Herm., 1804, 62, acarine], tsd. *penetrans; Sarcopsyllus*[o o] Kol., 1857, Wien. ent. Monatschr., 65, mt. *penetrans*.

[45] Syns.: *Argopsylla*[s] Enderlein, 1901, 263, tod. *gallinacea; Xestopsylla*[s] Baker, 1904, Proc. U. S. Nat. Mus., 374, tod. *gallinacea*.

1637 (1625B). ARCHAEOPSYLLIDAE Oudemans, 1909, E. B.—See †1638.

1638 (1639). **Archaeopsylla** Dampf, 1908 or 1909, Koenigsb. Schr. physik. Ges. v. 49, 18 [nv]; type (1925) *erinacei.*

erinacei Leach in Curtis, 1832, Brit. Ent., v. 9, 417 [nomen nudum here] [Ceratophyllus]: *Archaeopsylla;* Pulex[1]; Spilopsyllus.—Attacks man.—*Erinaceus*, t. h.—Europe.

1639 (1638). **Ctenocephalus** Kol., 1859, 65; type *canis.*—[C. 25a, 882; B. & M. 15a, 73.] [Not Ctenocephalus[h] Linst., 1904, nematode.]

canis Curtis, 1826, Brit. Ent., v. 3, figs. A–E, 8: *Ctenocephalus;* Pulex[1].—External.—Vector of: [†88 *Leishmania donovani*[j], *L. infantum*[j];] †308 *Dipylidium caninum;* †314 *Hymenolepis diminuta* [;†447 *Dirofilaria immitis*, reported by error].—Almost cosmopolitan, Gr. Britain[t].—Common on dogs, t. h.

enneodus[s] Kol., 1859, Fauna d. Altv., 66: *Ctenocephalus.*—So. *canis.*

felis Bouché, 1885, N. A. Ac. Caes. Leop. Car., v. 17, 505 [Pulex[1]] [nv]: *Ctenocephalus.*—Vector of: [†88 *Leishmania donovani*[j], experiments negative, evidence contradictory;] †308 *Dipylidium caninum;* [†447 *Dirofilaria immitis*, reported by error].

novemdentatus[s] Kol., 1859, Fauna d. Altv., 45: *Ctenocephalus.*—So. *canis.*

serraticeps[o] Gerv., 1844b, 371, pl. 48, fig. 8 (*felis* renamed): *Ctenocephalus;* Pulex[1].—So.[s] ? *canis.*—On Raton laveur[t] [=*Procyon lotor*]; also on cats.

1640 (1070). Order *HYMENOPTERA*[46] Linn., 1758a, 341.—Ants, bees, wasps, etc. [C. 25a, 884; B. & M. 15a, 19.] See †1641.

Ants may bite or may become pests in kitchens of houses, hospitals, etc. Bees and wasps may produce considerable discomfort and local swelling by their stings; occasional fatal cases due to stings or to eating honey made from certain flowers.

1641. Subo. *CLISTOGASTRA;* seu *APOCRITA.*—[C. 25a, 890, 891, 905; B. & M. 15a, 19.] See †1642.

1642 (1651; 1657A; 1658; 1694; 1699). ICHNEUMONOIDEA.—Ichneumon-flies. [C. 25a, 890, 915; B. & M. 15a, 20.] See †1643.

1643 (1646; 1648). ICHNEUMONIDAE Leach; Steph., 1829a, 343.—[C. 25a, 890, 906, 913, 917; B. & M. 15a, 21, 22.] See †1644.

species Ashmead, 1896: Genus.—Thinks ichneumon ophionid flies carried bacteria to patient and caused blood poisoning.

1644 (1645). **Ophion** Fabr., 1798a, 210, 235; tsd. (1836; 1840; 1915) **1st sp.** *luteus.*—[C. 25a, 918; B. & M. 15a, 21.]

species Brooke, 1908, Trop. Med., 122: *Ophion.*—Female ovipositor used as a weapon.

1645 (1644). **Paripla** [nv].—Possibly a misprint for *Pimpla?*

species Brooke, 1908, Trop. Med., 122: *Paripla.*—Female ovipositor used as a weapon.

1646 (1643). BRACONIDAE Steph., 1829a, 352. Braconiids.—[C. 25a, 890, 906, 913, 916; B. & M. 15a, 21, 22.] See †1647.

1647. Bracon Jurine, 1801, Litt. Z. Intell. Blatt, 163; Fabr., 1804, Syst. Piezat., 102, 40 species; tsd. (1810[j]; 1825; 1840) 7th sp. *desertor;* (1915) 34th sp. *urinator.*

species Fischer, 1879, D. med. Wochenschr., 555: *Bracon.*—Scabies-like exanthema over nearly entire body. Alleged to have come out of skin.

1648 (1643). *ALYSIIDAE.—[B. & M. 15a, 21.] See †1649.

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[46] Syns.: *DICTYOPTERA*• Schellenberg, 1798, 44; *PHLEBOPTERA*• Schellenberg, 1798, 44.

1649 (1650). ***Alysia*** Latr., 1805a, 177, mt. *A. stercoraria* (s. and tsd. (1810; 1826; 1840; 1915) Ichneumon *manducator* Panz.).—[B. & M. 15a, 21.]

******rudibunda* Say, 1828 (1859), 77 (380): *Alysia.*—Captured on human *excreta.—Indiana[t].

1650 (1649). **Aphaereta** Foerster, 1862, VnV, v. 19, 264, tod. *Alysia cephalotes* Hal.—[B. & M. 15a, 21.]

******muscae* Ashmead, 1888, Proc. U. S. Nat. Mus., v. 11, 646: *Aphaereta.*—Captured on human *excreta. Bred from pupae of *Ophyra leucostoma, Hydrotea dentipes, Muscina stabulans,* fide Kisliuk, 1919, MSS, BED Report April.—U. S. A.,[t] Va., Mo.

1651 (1642). CYNIPOIDEA.—Cynipids. [C. 25a, 890, 922; B. & M. 15a, 22.] See †1652.

1652. CYNIPIDAE Westw., 1833, Mag. Nat. Hist., v. 6 (36), Nov., 491. Syn. DIPLOLEPIDAE[s] Leach.—[C. 25a, 890, 908, 913; B. & M. 15a, 22.] See †1653.

1653 (1654 to 1656B). **Diplolepis** Geoffr., 1762, Hist. nat., v. 2, 308; tsd. (1880; 1917) 2d sp. *rosae*; etd. (1810) *quercus-folii.* Seu **Rhodites**[o] Hartig, 1840, Zeitschr. Ent., v. 2, 186, 194; tsd. (1869; 1917) 1st sp. *rosae.*—[C. 25a, 926, 927.]

rosae Linn., 1758a, 553 [Cynips]: *Diplolepis*[t]; *Rhodites*[o] [t].—"The mossy rose-gall."—Has been used as a therapeutic astringent agent in diarrheas and dysenteries.

1654 (1653). **Hexaplasta** Foerster, 1869, VzbGWien, v. 19, 345, 359, tod. *Hexaplasta hexatoma*=Cothonaspis *hexatoma* Hartig.

*species Howard, 1900, Proc. Wash. Acad. Sci., 557: *Hexaplasta.*—Captured on human *excreta. [Perhaps as parasite of some insect.]

1655 (1653). ***Kleidotoma*** Westw., 1833, Mag. Nat. Hist., v. 6 (36), Nov., 494, mt. *psiloides.*

******bakeri* Ashmead [nv]: *Kleidotoma.*—Captured on human *excreta.

1656A (1653). ***Psilidora*** Foerster, 1869, VzbGWien, v. 19, 343, 354, tod. Cothonaspis[l] *boyenii.*

******erythropa* Ashmead [nv]: *Psilidora.*—Captured on human *excreta.

1656B (1653). ***Xyalosema*** Dalla Torre & Kiefer [nv]. Syn. Solenaspis[h] Ashmead, 1887, Amer. Ent. Soc., v. 14, 155, mt. *hyalinipennis,* not Osten-Sacken, 1881.

[******hyalinipennis* Ashmead, 1887, Amer. Ent. Soc., v. 14, 155: Solenaspis[d h].—Captured on human *excreta.]

1657A (1642). CHALCIDOIDEA.—[C. 25a, 890.] See †1657B.

1657B. ENCYRTIDAE Walker, 1837, Ent. Mag., v. 4, 439.—[B. & M. 15a, 22.] See †1657C.

1657C. Encyrtus Latr., 1809, Gen. Crust. Ins., v. 4, 31, mt. *infidus.*

*species Howard, 1900, Proc. Wash. Acad. Sci., v. 2, 556: *Encyrtus.*—Captured on human *excreta.

1658 (1642). VESPOIDEA.—Vespoid-wasps. [C. 25a, 890, 933.] See †1659.

1659 (1661; 1663; 1687; 1689). MUTILLIDAE.—The Velvet-ants. [C. 25a, 891, 907, 911, 913, 914, 936; B. & M. 15a, 27.] See †1660.

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 14: Genus.—Velvet ant reported as disseminator of anthrax by Williamson.—Cyprus.

1660. Mutilla Linn., 1758a, 343; tsd. (1810) 4th sp. *europaea.* Seu **Sphaerophthalma** Blake, 1871, Trans. Amer. Ent. Soc., v. 3, 226, 232.

******occidentalis* Linn., 1758a, 582: *Mutilla; Sphaerophthalma.*—Common on beach sands of Lake Erie, causing bathers much distress.—Central States, America[t].

1661 (1659). Scoliidae Westw., 1840a, 209.—Scoliids. [C. 25a, 891, 911, 937; B. & M. 15a, 26.] See †1662.

1662. Scolia Fabr., 1775a, 355; tsd. (1810; 1915) 3d sp. *flavifrons*; (1915) 8th sp. 4-*punctata*.—[C. 25a, 937; B. & M. 15a, 26.]

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 14: *Scolia*.—Very large wasps.

1663 (1659). Formicidae "Leach"; Steph., 1829a, 356.—Ants. [C. 25a, 891, 909, 910, 915, 937; B. & M. 15a, 25.] See †1664.

Female ants sting. Some ants used as food by primitive peoples, some fermented as drink, some used as drugs.

For keys to the genera and subgenera of ants (with genotypes and bibliography), see Wheeler, 1922, Bul. Amer. Mus. Nat. Hist., v. 45, 630–710, etc.; for key to North American genera, see Wheeler, 1910, Ants, Columbia Univ. Biol. Series, v. 9, 557–560.

1664 (1669; 1677; 1680). *Ponerinae Lepelletier [nv]. The Ponerine ants. [C. 25a, 941, 942.] Seu Poneridae. See †1665.

1665 (1666 to 1668). ***Ponera** Latr., 1805a, or "1804," v. 13, 257, mt. Formica *contracta* 1802; etd. (1810) *crassinoda* 1802; etd. (1922) *coarctata* 1802.—[B. & M. 15a, 25.]

**pennsylvanica* Buckley, 1866, Proc. Ent. Soc., Phila., v. 6, 171: *Ponera*.—On human *excreta; live under stones.—Phila.[t]

1666 (1665). **Dinoponera** Roger, 1861, Berl. ent. Zeit., v. 5, 37, mt. *grandis* Guérin.

gigantea Perty, 1833, Del Anim. arctic. Brazil, 135, pl. 27, fig. 3 [Ponera[l]]: *Dinoponera*.—E. Roquette Pinto has incriminated this ant as causing severe poisoning and even fever by its sting. Not very pugnacious, fide Bequaert, 1926, 256.—Brazil[t].—Cf. *grandis*.

1667 (1665). **Paltothyreus** Mayr, 1862, VzbGWien, v. 12 (2), 714, 735–736, mt. *tarsatus*.

tarsatus Fabr., 1798a, 280 [Formica[l]]; *Paltothyreus*.—Large stinging ants.—Angola; Gorée Island[t], Africa[t].

1668 (1665). **Paraponera** Smith, 1857, Cat. Brit. Mus., pt. 5, 100, mt. *P. clavata* Fabr.

clavata Fabr., 1775a, 394: *Paraponera;* Formica.—True "tucandeira" ant of Amazon basin. Pain, oedema, and other symptoms are due to a poison injected into the wound made by a powerful sting or modified ovipositor with which ♀ ♀ and workers are provided, fide Bequaert, 1926, 250.—S. America; India[t].

1669 (1664). *Myrmicinae Lepelletier. The Myrmicine Ants. [C. 25a, 941, 942, 943.] Seu Myrmicidae Mayr, 1855, VzbGWien, 299.

1670 (1671 to 1676). ***Myrmica** Latr., 1804, Hist. nat., v. 13, 258; tsd. (1810; 1879; 1911) 2d sp. *rubra*.—[C. 25a, 944; B. & M. 15a, 25.]

laevinodis Nylander, 1846 or 1847, Acta Soc. Sc. Fennic., v. 2 (2), 927: *Myrmica*.—Less painful than *rubida*.—N. Europe[t].

lobicornis Nylander, 1852, Acta Soc. Sc. Fennic., v. 3, 31: *Myrmica*.—Rarely bites.—N. Europe[t].

rubida Latr., 1802, Hist. nat. Fourmis, 267, pl. 10, fig. 65 [Formica[l]]: *Myrmica*.—Painful bite.—Lyon[t].

ruginodis Nylander, 1846 or 1847, Acta Soc. Sc. Fennic., v. 2 (2), 929 (syn. *vagans* Fabr.): *Myrmica*.—Pain less than *M. rubida;* usually disappears after a few minutes.—N. Europe[t].

scabrinodis Nylander, 1846 or 1847, Acta Soc. Sc. Fennic., v. 2 (2), 930 (syn. *caespitum* Zett.): *Myrmica*.—Rarely bites.

1671 (1670). ***Aphaenogaster** Mayr, 1853, VzbGWien, v. 3, 102, 107, tod. *sardous.*

*species Motter, 1898a, 210: *Aphenogaster*[e].—Cadaver 7 years, 4 mos. in *grave, Washington, D. C.

1672 (1670). ***Crematogaster**[e] Lund, 1831, Ann. Sci. nat., v. 23, 132, sp. not cited, Brazil [*Cremastogaster*]; tsd. (1903; 1911; 1922) *scutellaris;* tsd. (1915) *sordidula.*—[C. 25a, 943, 944; B. & M. 15a, 25.]

**lineolata* Say, 1836 (1859) Boston J. Nat. Hist., v. 1, 290 [Myrmica[1]]: *Crematogaster.*—Cadaver 5 years, 4 mos. in *grave, fide Motter, 1898a, 208.—U. S. A.[t]

1673 (1670). ***Monomorium** Mayr, 1855, VzbGWien, 292, mt. *minutum* Mayr.—[C. 25a, 943.]

latinode Mayr, 1872, Ann. Mus. civ. Genova, v. 2, 152: *Monomorium.*—"Common red ants."—Possible cholera carriers; cholera vibrio lives at least 8 hours in these ants.

**minimum* Buckley, 1867, Proc. Ent. Soc., Phila., v. 6, 378 [Myrmica[1]]: *Monomorium.*—"Small black ant."—Household pest, not strictly a house ant, yet often invades dwellings.

**minutum* Mayr, 1855, VzbGWien, 453: *Monomorium.*—Cadaver 4 yrs., 1 mo. in *grave.—Lombardie; Venetien; Kirchenstaat; Europe[t]; Washington, D. C.

**pharaonis* Linn., 1758a, 580 [Formica[1]]: *Monomorium.*—"Tiny red ant."—Household pest in temperate regions; infests sugar, sirups, etc.; destroys bedbugs and white grubs in soil; common on shipboard.—Cosmopolitan; Egypt[t].

species Chalm. & Marsh. in Cast. & Chalm., 1920, Man. Trop. Med., 1995: *Monomorium.*—Acute œdema of eyelids in Khartoum possibly due to ants.

vastator[s] Smith, 1858, Cat. Hymenopt. Brit. Mus., v. 6, 123 [Myrmica[1]]: *Monomorium.*—Hankin, 1897, killed rats and mice by inoculating them with excreta of ants which had devoured dead plague rats; the ants did not die of plague nor did they retain the infection for any length of time, fide Nuttall, 1898a, 17.—India[t].—So. *destructor* Jerd.

1674 (1670). ***Pheidole** Westw., 1841, Ann. Mag. Nat. Hist., v. 6, 87, mt. Atta[1] *providens;* etd. (1915) pseudotype *megacephala.*—[C. 25a, 943.]

megacephala Fabr., 1793, Ent. Syst., v. 2, 361 [Formica[1]]: *Pheidole.*—Carnivorous, destroying great numbers of roaches, larvae of flies and other indoor pests. Especially valuable in controlling the housefly.—Isle de France[t].

1675 (1670). ***Solenopsis** Westw., 1841, Ann. Mag. Nat. Hist., v. 6, 86, mt. *mandibularis.*—[C. 25a, 943.]

geminata Fabr., 1804, Syst. Pieza.t, 423 [Atta[1]]: *Solenopsis.*—"Fire ants," "Formigas de fogo." Common house ant.—Aggressive, severe sting.—S. America[t].

**molesta* Say, 1836 (1859), Boston J. Nat. Hist., v. 1 (3), 293 (737) [Myrmica[1]]: *Solenopsis; Monomorium.*—"Little fiery ant," "little yellow ant."—Invades kitchens and pantries.

1676 (1670). ***Tetramorium** Mayr, 1855, VzbGWien, 423-425; tsd. (1879; 1903; 1915) 2d sp. *caespitum.*

**caespitum* Linn., 1758a, 581 [Formica]: *Tetramorium;* Tetramorum[e m]; Teleomorium; Myrmica[1].—"The pavement ant." Household pest. Builds nest beneath pavement or flagging stones, fide Herrick, 1916, Ins. Inj. Household, 174. Bites with fury, but rarely causes trouble

except on very thin skin and children, fide R. Bl., 1890a, 589. Captured on human excreta.—Europe[t]; introduced, cities along Atlantic seaboard, U. S. A.

1677 (1664). Subf. *Dolichoderinae Forel.—[C. 25a, 941, 945.] See †1678.

1678 (1679). ***Iridomyrmex** Mayr, 1862, VzbGWien, v. 12 (2), 653, 702, contained 2 sp. *purpurea*, tsd. (1922) *nitida;* etd. (1903) *detecta*.—[C. 25a, 945.]

**humilis* Mayr, 1868, Ann. Soc. Nat. Modena, v. 3, 164 [Hypoclinea[l]]: *Iridomyrmex*.—"The Argentine ant." Infants reported to have been killed by ants crawling into mouth and nasal passages. "No equal in U. S. A." Household pest.—Brazil; Argentine; U. S. A., Louisiana, Mississippi, California, Texas.

1679 (1678). **Oecophylla** Smith, 1860 or "1861", J. Proc. Linn. Soc. Zool., London, v. 5, 101, mt. *smaragdina;* etd. (1903) *virescens*. Aecophylla[m].

smaragdina Fabr., 1775a, 828 [Formica[l]]: *Oecophylla;* Aecophylla[m].—Red ant builds nests in trees by cementing leaves together. Bite vicious, irritation may last for several days. Ants made into a paste which is eaten (India, Burma, Borneo, Siam, N. Queensland), also made into a drink with lemon and water (N. Queensland), fide Wheeler, 1922, 329.

1680 (1664). Formicinae Lepelletier.—The typical ants. [C. 25a, 941, 946.] See †1681.

Nymphs of some ants are collected as food for pheasants, and persons collecting them develop lesions on hands, neck and chest.

1681 (1682 to 1686). ***Formica** Linn., 1758a, 343, 579; tsd. (1839; 1903; 1915) 2d sp. *rufa* Linn.; (1840) 3d sp. *fusca* Linn.; (1810[j]) 1st sp. *herculanea* [cf. †1682].—[C. 25a, 946; B. & M. 15a, 25.]

cinerea Mayr, 1853, VzbGWien, v. 3, 281: *Formica*.—May cause painful bite into which poison is injected.—Suecia, Europe[t]; Asia; America.

exsecta Nylander, 1846, Acta Soc. Sc. Fennic., v. 2 (2), 909, pl. 18, fig. 20: *Formica*.—May cause painful bite into which poison is injected.—N. Europe[t].

pratensis de Geer in Retzius, 1783, Gen. Sp. Ins. Geer, 75: *Formica*.—Can inject a poison some distance, occasionally reported as reaching the eye.

rufa Linn., 1758a, 580: *Formica*[t].—Can inject a poison some distance, occasionally reported as reaching the eye.

rufibarbis Fabr., 1793, Ent. Syst., 355: *Formica*.—May cause painful bite into which poison is injected.—Gallia[t].

sanguinea Latr., 1798, J. Santé Bordeaux, v. 3, 141 [nv]; *Formica*.—"The blood-red slave-maker."—May cause painful bite into which poison is injected.

truncicola Nylander, 1846, Acta Soc. Sc. Fennic., v. 2 (2), 907: *Formica*.—Can inject a poison some distance, occasionally reported as reaching the eye.—Fennia[t].

1682 (1681). ***Camponotus** Mayr, 1861, Eur. Formiciden, 25, 35; tsd. (1903; 1915) *ligniperda*; tsd. (1922) *herculeana*.—[C. 25a, 946; B. & M. 15a, 25.]

melleus Say, 1836 (1859), Boston J. Nat. Hist., v. 1, 286 (731) [Formica[l]]: *Camponotus*.—On cadaver, 19 yrs., 2 mos. in *grave, fide Motter, 1898a, 220, Washington, D. C.; Louisiana[t].—So. *castaneus* Latr.

pennsylvanicus de Geer, 1773, v. 3, 363, pl. 31, fig. 9 [Formica[l]]: *Camponotus*.—Large carpenter ant. Household pest. Captured on human excreta, fide Howard, 1900, PWAS, 556. Eaten by Canadian lumberjacks, fide Wheeler, 1922, 329.

species Brooke, 1908, Trop. Med., 122: *Camponotus*.—Red and black insect 1¼ in. long.—Powerful bite.

1683 (1681). ***Lasius**[j] Fabr., 1804, Syst. Piezat., 415 [not Jurine[j] in Panzer, 1801; not Motsch., 1845, coleopt.]; tsd. (1903; 1915) 1st sp. *niger* L.—[C. 25a, 947; B. & M. 15a, 25.]

**americanus* Emery [nv]: *Lasius; L. niger*.—On human cadaver, 29 yrs., 1 mo. in *grave, Washington, D. C., fide Motter, 1898a, 216.

**flavus* de Geer, 1774, Mem. Ins., v. 4, 70 [Thelephorus[l]]: *Lasius*.—On human cadaver 16 yrs., 5 mos. in *grave, Washington, D. C., fide Motter, 1898a, 214.

**neoniger* Emery [nv]: *Lasius; L. niger*.—Captured on human *excreta.

1684 (1681). ***Myrmecocystus** Wesmael, 1838, Bul. Acad. r. Bruxelles, v. 5, 770, mt. *M. mexicanus* (*operarius*).—[C. 25a, 947–948.]

**melliger* Wesmael, 1838; or Llave, 1832, Reg. trim. o. coll. M. H. L. [nv]: *Myrmecocystus*.—Honey ants.—Used as a food by primitive peoples. Also as a drug in fever; honey applied to wounds, also to eyes in case of cataract; fermented to obtain alcoholic drink, fide R. Bl., 1890a, 591.—New Mexico; Colorado.

1685 (1681). ***Pogonomyrmex** Mayr, 1868, Ann. Soc. Nat. Modena, 169–170; tsd. (1911) *badia*.

**californicus* Buckley, 1867, Proc. Ent. Soc., Phila., v. 6, 336 [Myrmica]: *Pogonomyrmex*.—Stings man and animals; alleged to kill swine.—Calif.[t]

**molefaciens* Buckley, 1861, Proc. Acad. Nat. Sci., Phila., v. 12, 445 [Myrmica (Atta)]: *Pogonomyrmex barbatus*.—"Agricultural ant." Pugnacious, stings quite severely. Builds mound nest in fields of alfalfa, corn, or cotton; allows no vegetation to grow over a considerable area around nest, fide Herrick, 1916, Ins. Inj. Household, 173.—Calif., Tex.[t]

**occidentalis* Cresson, 1865, Proc. Ent. Soc., Phila., v. 4, 426 [Myrmica]: *Pogonomyrmex*.—"Mound-building prairie ant." Large mound nests in fields of alfalfa or grain. Inflict painful wound with their stings, fide Herrick, 1916, Ins. Inj. Household, 173.—Colo.,[t] Western plains, U. S. A.

1686 (1681). Teleomorium[m] Howard, 1900, Proc. Wash. Acad. Sci., v. 2, 566.—This is doubtless a misprint for †1676 *Tetramorium*, type *caespitum*, q. v.

caespitum Linn.: *Teleomorium*.—Captured on human *excreta.

1687 (1659). Pompilidae; seu Psammocharidae.—[B. & M. 15a, 26.] See †1688.

1688. Salius Fabr., 1804, Syst. Piezat., 124, contained 3 sp. *bicolor*, *unicolor*, *6-punctatus*.

species Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 14: *Salius*.—Huge wasps. Poisonous stings.—Africa.

1689 (1659). Vespidae "Leach" in Steph., 1829a, 368.—The Typical Wasps or Diploptera. [C. 25a, 891, 910, 948; B. & M. 15a, 26.] See †1690.

1690 (1691 to 1693). **Vespa** Linn., 1758a, 572; tsd. (1810) 1st sp. *crabro;* (1839; 1840; 1915) 2d sp. *vulgaris*.—[C. 25a, 958–960; B. & M. 15a, 26.] Type of Vespinae, hornets and yellow-jackets.

**crabro* Linn., 1758a, 572: *Vespa*.—"The giant hornet."—Europe[t].

**germanica* Fabr., 1793, Ent. Syst., v. 2, 256: *Vespa*.—"Common yellow-jacket." Sting, fide Herrick, 1916, Ins. Inj. Household, 325, fig. 111. Sting painful, fide Cast. & Chalm., 1913, Trop. Med., 194.—Killiae[t]; Europe; America.

**maculata* Johansson in Linn., 1763, Amoen. Acad., 412; Scopoli, 1763, Ent. Carniol., 312: *Vespa*.—"Bald-faced hornet." "White-faced hornet." Sting well developed, fide Hermes, 1915, M V Ent., 359; Herrick, 1916, IIH, 325, fig. 112.—Penn.[t], U. S. A.; Canada.

orientalis Linn., 1771, Mant., v. 2, 540: *Vespa*.—"The hornet." Sting painful, fide Cast. & Chalm., 1913a, 194.

vulgaris Linn., 1758a, 572: *Vespa*.—"The wasp." Sting may be serious especially when in pharynx; fatal cases not unknown, fide Latr., 1895a, 865.—Europe[t].

1691 (1690). **Nectarina** Schuck in Swainson, 1840, Hist. Nat. Arr. Ins., 183, mt. Brachygastra *analis* Perty, new name for Brachygastra[h], not *Brachygaster* Leach, 1815, Edinb. Encycl., v. 9, 142, mt. *minuta*, hymenopt.

lecheguana Latr., 1824, Mém. Mus. Hist. nat. Paris, v. 11, 313–318 [Polistes[l]]: *Nectarina; Nectarinia*[e].—Sting severe, fide Latr., 1895a, 865. The poison sting is barbed and frequently remains in the wound. If the stings are numerous death may result; death may also result from oedema of the upper respiratory passages following a sting in the pharynx; if the poison is introduced directly into the circulation death may result in half an hour. Severe illness with delirium has been reported as a result of taking honey when insects had fed on *Paullinia australis*.—Brazil; Paraguay.

1692 (1690). **Polistes** Latr., 1802b, 363; tsd. (1810) 1st sp. *gallica;* etd. (1915) *biglumis* 1758.

pallipes Lepelletier, 1836, Hist. nat. Ins., v. 1, 530 [nv]: *Polistes*.—Well-developed sting.

species Herrick, 1916, IIH, 327: *Polistes*.—Rarely sting.

1693 (1690). **Polybia** Lepelletier de Saint-Farbeau, 1836, Hist. nat. Ins., v. 1, 533, contained 2 sp. *liliacea, fasciata.*

flavitarsis Sauss. et al., 1853, Etude fam. Vesp., v. 2, 199 [nv]: *Polybia*.—Well developed sting.—To *Megacanthopus*, fide Meade-Waldo, 1911.

1694 (1642). Superf. Sphecoidea.—Sphecoid-wasps and Bees. [C. 25a, 891, 960.] See †1695.

1695. Sphecidae Leach in Samouelle, 1819, Ent. Useful Comp., 275.—The typical Sphecoid Wasps. [C. 25a, 891, 911, 962; B. & M. 15a, 28.] Seu Bembicidae "Leach"; Stephens, 1829a, 364. See †1696.

1696 (1697; 1698). **Sphex** Linn., 1758a, 343, 569; tsd. (date ?) 2d sp. *sabulosa;* (1915) 13th sp. *indicus*; etd. (1810; 1840) *flavipennis*. [C. 25a, 967.] Seu **Ammophila** Kirby, 1798, Trans. Linn. Soc., London, v. 4, 195; tsd. (1836) 1st sp. *vulgaris;* (1840) *sabulosa* so. *vulgaris;* (1915) 3d sp. *hirsuta* s. *arenaria*. Cf. *Chlorion*. [C. 25a, 967.] Type of Sphecinae, Dalla Torre, 1897, Cat. Hymenopt., v. 8, 378, thread-waisted wasps.

species Strong, etc., 1926, 162: *Sphex* (*Ammophila*).—Stung one of passengers without provocation.

1697¼(1696). **Pelopaeus** Latr., 1805a, v. 13, 294, contained 2 sp. *spirifex, lunata*. Seu **Sceliphron** Klug, 1801, Gesellsch. naturf. Fr. Berl., v. 3, 555–556, contained 5 sp., including *spirifex, madraspatanum, lunatum, cyaneum, fuscum*.—[C. 25a, 966; B. & M. 15a, 28.]

**coementarius* Drury, 1770, pl. 44, fig. 6, in index [Sphex[l]]: *Pelopaeus*.—"Muddaubers."—Well-developed sting, fide Hermes, 1915, Ent., 359.—N. Y.[t]

1698 (1696). **Sphecius** Dahlbom, 1845, Hymenopt. Eur. bor., v. 1, 154, mt. *speciosus* Drury.—[C. 25a, 970; B. & M. 15a, 28.]

**speciosus* "Say"; cf. Drury, 1773, Illust. Nat. Hist., 71, pl. 38, fig. 1 [Sphex[l]; cf. Stizus]: *Sphecius*.—"Cicada-killer."—Very formidable.

1699 (1642). Apoidea.—The Bees. [C. 25a, 972.] See †1700.

1700 (1703; 1705). Andrenidae Leach in Samouelle, 1819, Ent. Useful Comp., 280.—The Andrenids. [C. 25a, 891, 912, 978; B. & M. 15a, 29.] See †1701.

1701 (1702). **Halictus** Latr., 1805a, 364; tsd. (1840) 2d sp. *6-cinctus;* etd. (1915) *tumulorum.*—[C. 25a, 978; B. & M. 15a, 29.]

**disparilus* Cresson, 1872, Trans. Amer. Ent. Soc., v. 4, 253: *Halictus.*—Captured on human *excreta. Accidental.—Texas[t].

1702 (1701). ***Xylocopa** Latr., 1802b, 379; tsd. (1810; 1840; 1915) 1st sp. Apis[1] *violacea.*—[C. 25a, 981; B. & M. 15a, 30.] Type of Xylocopidae. [Not *Xylocopus* Cab., 1863, bird.]

rufa [nv]: *Xylocopa;* Xylocapa[m].—Large pugnacious bees.—Angola.—Fide Wellman, 1910, Amer. Soc. Trop. Med., v. 5 (21), 13.

violacea Linn., 1758a, 578 [Apis[1]]: *Xylocopa.*—The wood bee. Severe sting, fide R. Bl., 1890a, 599.

1703 (1700). Bombidae.—The Bumblebees. [C. 25a, 891, 984; B. & M. 15a, 29.] Syn. Bremidae. See †1704.

1704. Bombus Latr., 1802b, 385, mt. Apis *terrestris* Linn.; etd. (1840) *muscorum.*—"Bumblebees." [C. 25a, 985–987; B. & M. 15a, 29.] Syn. *Bremus*[j] Jurine, 1801, Litt. Zeitg. Intell.-Blatt., 164; Panzer.

fervidus Fabr., 1798, Suppl., 274 [Apis[1]]: *Bombus.*—Bumblebee.—N. America[t].

hortorum Linn., 1761, Fauna Suec., v. 2, 424 [Apis[1]]: *Bombus.*—Bumblebee.—"Bite" [i. e., sting] very painful.

lapidarius Linn., 1758a, 579 [Apis[1]]: *Bombus.*—Sting painful.

muscorum Linn., 1758a, 579 [Apis[1]]: *Bombus.*—"Bite" [i. e., sting] very painful.

**pennsylvanicus*[o] de Geer, 1773, v. 3, 575, pl. 28, fig. 12 [Apis[1]]: *Bombus.*—"Bite" [i. e., sting] very painful. Captured on human *excreta.

terrestris Linn., 1758a, 578 [Apis[1]]: *Bombus.*—Illness reported, with one death, after eating honey when the insects had fed on *Aconitum napellus* and *Aconitum lycoctonum*, fide R. Bl., 1890a, 609.

1705 (1700). Apidae "Leach" in Stephens, 1829a, 370.—The Honey-bees. [C. 25a, 891, 912, 988; B. & M. 15a, 29.]

1706. Apis Linn., 1758a, 343, 575; tsd. (1839; 1840; 1915) 17th sp. *mellifica* [so. *mellifera*].—The honeybee. [C. 25a, 988; B. & M. 15a, 29.]

mellifera Linn., 1758a, 576: *Apis.*—Honey Bee.—Old World[t]; Egypt.

**mellifica*[s] Linn., 1761, Fs, 421; 1767, Syst. Nat., 955: *Apis.*—Honey from the honey-bee can result in intoxication when the bees have fed on certain poisonous plants (*Azalea pontica; Rhododendrum ponticum*). Sting very painful; used as a therapeutic agent in rheumatism. Captured on human *excreta.—Europe[t].—So. *mellifera.*

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[*Italics*, available, valid, or *sub judice* names, regardless of rank. Roman type, dead names, regardless of rank]

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Strepsiptera	†1326
Stygeromyia	†1614
Stygia	†1429
Suctoria	†1621
Symphoromyia	†1498
Synaptera[a]	†1050
Synistata[r]	†1050
Syritta	†1519
Syphidae	†1515
Syrphus	†1516
Tabanidae	†1486

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Tabanus	†1487
Tachina	†1593
Tachinidae	†1592
Tachiniidae[d]	†1592
Tachinus	†1219
Tachydromia	†1506
Taeniorhynchus[a]	†1459
Taeniorhynchus[d][a]	†1465
Taragama	†1426
Teleomorium[m]	†1676, †1686
Telephoridae	†1228
Telephorus[a]	†1229
Templetonia	†1067
Tenebrio	†1269
Tenebrioides[e]	†1258
Tenebrionidae	†1268
Tenebrionoidea	†1267
Tenebroides	†1258
Tephrochlamys[a]	†1527
Termes	†1088
Termitidae	†1087
Termophila[d]	†1055
Terrestria	†1124
Tersesthes[a]	†1454
Tetralobus	†1249
Tetramorium	†1676
Tetramorum[m]	†1676
Thaumetopoea	†1384
Thelephorus[l]	†1683
Theobaldia[b]	†1461
Theobaldinella[a]	†1461
Thereva	†1500
Therevidae	†1499
Thermobia	†1055
Thermophila[b]	†1055
Thrips	†1102
Thripsites	†1102
Thyreophora	†1514
Thysanoptera	†1102
Thysanura[r]	†1051, †1052
Tibicina	†1165B
Tinea	†1355
Tineidae	†1354
Tineola	†1357
Tinolestes[a]	†1458
Tipulidae	†1441
Tipuloidea	†1440
Titania	†1549
Tortricoidea	†1360
Toxorhynchites[a]	†1466
Transculicia[a]	†1458
Trepidaria	†1538
Triamyia[a]	†1472
Triatoma	†1153
Tribolium	†1274
Trichiusa	†1220
Trichodectes	†1100
Trichodectidae	†1099
Trichodes[a]	†1233
Trichophaga	†1356
Trichopronomyia[a]	†1458
Trichoptera	†1328
Trigonotylus	†1126
Trineura[o]	†1510
Triphleps	†1131
Troctes	†1096

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Trogidae	†1301
Trogosita[1]	†1272
Trox	†1302
Tubifera	†1517
Tunga	†1631
Tungidae	†1630
Tyreophora[c]	†1514
Uranotaenia	†1471
Uranotaeniinae	†1467, †1471
Uranotaenina[d]	†1471
Verrallina[e]	†1459
Vescia	†1154
Vespa	†1690
Vespidae	†1689
Vespinae	†1690
Vespoidea	†1658
Wohlfahrtia	†1591
Worcesteria[g]	†1466
Wyeomyia	†1472
Xenopsylla	†1636
Xenopsyllidae[g]	†1634
Xestipyge	†1225
Xestobium	†1282
Xestopsylla[g]	†1633
Xyalosema	†1656B
Xylocapa[m]	†1702
Xylocopa	†1702
Xylocopus	†1702
Xylocopidae	†1702
Zonabris[g]	†1244B
Zoraptera	†1085