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HYMENOPTERA OF
AMERICA NORTH OF MEXICO
SYNOPTIC CATALOG
(Agriculture Monograph No. 2)

SECOND SUPPLEMENT

Prepared by the staff and collaborators of the Hymenoptera Unit,
Insect Identification and Parasite Introduction Research Branch,
Entomology Research Division, Agricultural Research Service,
under the direction of

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Hymenoptera of America North of Mexico—Synoptic Catalog

(Agriculture Monograph No. 2)

SECOND SUPPLEMENT

INTRODUCTION

The "Hymenoptera of America North of Mexico—Synoptic Catalog" was published on July 11, 1951. It contained references to the literature published through 1949, and to a few papers that appeared during 1950. The First Supplement to this catalog was published on October 8, 1958. It covered the literature that appeared from 1950-1951 through 1956. The Second Supplement, which is presented herewith, includes the literature published from 1957 through 1963, and in some sections, most of the papers that appeared during 1964.

In general, this Second Supplement to the "Hymenoptera of America North of Mexico—Synoptic Catalog" preserves the form of the First Supplement. New supergeneric, generic, subgeneric, and trivial names are starred. Abbreviations and symbols agree with those used in the Catalog and First Supplement.

Additions to distribution, hosts, or prey, or corrections to entries in the Catalog or First Supplement are made following the citation to the generic, subgeneric, or trivial name as it appears in the Catalog or First Supplement. Additional references to papers on biology, distribution, or taxonomy are made in the same way. In the center headings the first page reference is to the Catalog, followed by a reference to the First Supplement, if the latter is necessary.

Generic transfers are shown as follows:

Genus **CEPHALCIA** Panzer, pp. 9-10, Sup. 1, p. 8

apicalis (Westwood). Transf. to *Acantholyda* subg. *Acantholyda* A. Costa.

ACANTHOLYDA subgenus **ACANTHOLYDA** A. Costa
(= *Acantholyda* A. Costa of Catalog, in part, pp. 7-9)

apicalis (Westwood). Transf. from *Cephalcia* Panzer, p. 9 (*teste* Middlekauff, 1958, *loc. cit. supra*, p. 77).

When a species is transferred to a genus or subgenus different from the one in which it appears in the Catalog or First Supplement, all synonyms and other information under it are also transferred, unless indicated otherwise.

New synonymy is shown:

modesta MacGillivray. Syn. of *pini* Rohwer.

pini Rohwer.

Acantholyda modesta MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 85).

New status is shown as:

johnsoni johnsoni Viereck, changed status. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 46).

Generic or subgeneric transfer and a change in status may be combined:

SPHAEROPHALMA subgenus PHOTOPSIS Blake
(= *Photopsis* Blake of Catalog, in part, pp. 753-756)

amphion (Fox). Transf. to *Sphaerophalma* subg. *Photopsioides* Schuster.

*SPHAEROPHALMA subgenus PHOTOPSIODES Schuster

amphion amphion (Fox), changed status. Transf. from *Photopsis* Blake, p. 753 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).

In the Aculeata, subgeneric assignment may be indicated by a citation to the subgeneric name in parentheses following the species entry:

robustior Cockerell (*Eumelissodes*)

In many entries here, the compiler of a particular section has not agreed with the taxonomic placement or nomenclature used in a publication by some other worker. This divergence of opinion is expressed by citing the publication under the placement or usage here considered to be preferable, followed by an indication of the different placement or nomenclature in parentheses. For example:

Genus EUPELMELLA Masi, p. 512

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 492 (*Macroneura*).

In this Second Supplement the citations to the authorities for some changes, additions, or deletions have been shortened in order to save space. The references for new genera, subgenera, species, subspecies, and varieties are cited in full throughout, but frequently cited works may be referred to only by author, year, and page following the first reference. For instance, in the Ichneumonidae, Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): i-iv + 1-676 is, after its first citation, referred to as Townes and Townes, 1960, followed by particular page references. This has been done when this work is the authority for generic transfers, deletions, changes in status, or synonymy. References to discussions of biology, distribution, or taxonomy from this work are cited in the same way.

Elsewhere in this supplement frequently cited works may be cited as *loc. cit. supra*, where such usage will save space without producing ambiguity of reference. For instance, in the Symphyta, Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 51-174 is cited completely under the Family PAMPHILIIDAE. Subsequently it is referred to as Middlekauff, 1958, *loc. cit. supra*, with the page reference, where it is the source for generic transfers, changes in status, deletions, synonymy, or discussions of biology, distribu-

tion, or taxonomy.

In this supplement, some changes, deletions, or additions are made on the authority of the individual who prepared a particular section. These entries include no citation to the literature or to personal communications from some other worker. For instance, in the Symphyta, Genus *SIREX* Linnaeus, p. 83 of the catalog, the information that *areolatus* (Cresson) is "Adventive in Eastern States, emerging from lumber" is *teste* B. D. Burks, although this last phrase does not appear in the text.

Order HYMENOPTERA

Taxonomy: Richards, 1956. Hymenoptera, Introduction and Keys to Families. Handbooks Ident. Brit. Ins., Roy. Ent. Soc., London 6, pt. 1, 94 pp., 197 text figs., 11 pls.—Berland, 1958. Atlas des Hyménoptères de France. I, Tenthredines, Parasites, Porte-aiguillon (Bethyloides, pars), 155 pp., 14 pls. II, Porte-aiguillon (Bethyloides (fin), Scolioïdes, Formicoïdes, Pompiloïdes, Vespoïdes, Sphecoïdes, Apoïdes), 184 pp., 14 pls. Editions N. Boubée & Cie.—Kerrich, 1960. Soc. Brit. Ent. Trans. 14: 1-18 (review systematics of Parasitica).

Biology: Fulmek, 1957. Naturhist. Mus. Wien Ann. 61: 110-227 (aphid parasites and predators).—Michener, 1961. Roy. Ent. Soc., London Symp. 1: 43-56 (aspects of social polymorphism).—Krombein, 1962. Ent. Soc. Wash. Proc. 64: 11-19 (parasitism of several wasps and bees by acarid mites).—Flanders, 1962. Canad. Ent. 94: 1133-1147 (host-parasite interactions).—Evans, 1963. Wasp Farm, 178 pp., 25 figs. (popular account of the biology of some wasps).

Morphology: Short, 1959. Roy. Ent. Soc., London Trans. 111: 175-203, 11 figs. (abdominal musculature).—Daly, 1963. Ent. Soc. Amer. Ann. 56: 295-306 (thoracic musculature).

Evolution: Lanham, 1951. Ent. Soc. Amer. Ann. (wing venation of *Clistogastra*).—Brandley, 1958 (1956). Tenth Internatl. Congr. Ent. Proc. 1: 265-269.—Evans, 1958 (1956). Tenth Internatl. Congr. Ent. Proc. 2: 449-457 (social life in wasps).—Evans, 1962. Evolution 16: 468-483 (prey-carrying in wasps).

Suborder SYMPHYTA

Superfamily MEGALODONTOIDEA

Family XYELIDAE

Genus *XYELA* Dalman, pp. 5-6

**Xyelatana* Benson, 1938. Roy. Ent. Soc., London, Proc., Ser. B, 7: 35. (Syn. by Burdick, 1961, *loc. cit. infra*, p. 322.)

Type: *Xyela tougula* Dalman. Orig. desig.

Revision: Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 285-353.

alberta (Curran). Mont., Wyo. Host: *Pinus contorta*.

alni Rohwer. Syn. of *minor* Norton.

**alpigena* (Strobl). Que., Ont., N. Y., Md., Ill., Colo.; Europe. Host: *Pinus strobus*.

Pinicola alpigena Strobl, 1895. Wien. Ent. Zeit. 14: 277. ♀, ♂.

Xyela brunneiceps Rohwer, 1913 (syn. by Benson, 1962. Brit. Mus. (Nat. Hist.) Bul. Ent. 12: 385).

- **Xyela middlekauffi* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 343. ♀.
(Syn. by Benson, 1962, *loc. cit. supra*, p. 385.)
- bakeri* Konow. Eastern, Que. south to Fla. and E. Tex.; Ont., Mich.; Western, Alta, south to N. Mex., B. C. south to Calif. Hosts: *Pinus palustris*, *P. ponderosa*, *P. sabiniana*, *P. virginiana*.
Xyela salicis Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 325).
Xyela intrabilis MacGillivray, 1923 (syn. by Burdick, 1961, *loc. cit. supra*, p. 325).
- brunneiceps* Rohwer. Syn. of *alpigena* (Strobl).
- californica* Rohwer.
Taxonomy: Burdick 1961, *loc. cit. supra*, p. 340.
- **cheloma* Burdick. Idaho, Nev., B. C., Wash., Oreg., Calif. Host: Prob. *Pinus ponderosa*.
Xyela cheloma Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 336. ♀, ♂.
- **concava* Burdick. Nev., Calif. Host: *Pinus monophylla*.
Xyela concava Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 342. ♀, ♂.
- **deserti* Burdick. Calif. Host: *Pinus monophylla*.
Xyela deserti Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 347. ♀, ♂.
- dissimilis* Rohwer. Syn. of *minor* Norton.
- errans* Rohwer. Syn. of *minor* Norton.
- intrabilis* MacGillivray. Syn. of *bakeri* Konow.
- **linsleyi* Burdick. Idaho, Wash., Calif. Host: ? *Pinus ponderosa*.
Xyela linsleyi Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 344. ♀, ♂.
- **lunata* Burdick. Calif. Hosts: *Pinus sabiniana*, prob. *P. coulteri*.
Xyela lunata Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 334. ♀, ♂.
- luteopicta* Cockerell. Syn. of *minor* Norton.
- **middlekauffi* Burdick. Syn. of *alpigena* (Strobl).
- minor* Norton. Eastern, Que. and Ont. south to E. Tex., Western, Alta. south to N. Mex., B. C. south to Calif. Hosts: *Pinus coulteri*, *P. muricata*, *P. ponderosa*, *P. sabiniana*, *P. virginiana*.
Xyela luteopicta Cockerell, 1902 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
Xyela alni Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
Xyela dissimilis Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
Xyela errans Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
Xyela nevadensis Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
Xyela winnemanae Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 299.
- nevadensis* Rohwer. Syn. of *minor* Norton.
- **obscura* (Strobl). Newfoundland and Ont. south to Fla. and E. Tex.; N.W.T. south to Alta., and Mont.; B. C. south to Calif.; Holarctic.
Hosts: *Pinus palustris*, *P. banksiana*, *P. ponderosa*, *P. virginiana*.
Pinicola julii var. *obscura* Strobl, 1895. Wien. Ent. Zeit. 14: 277. ♀.
Xyela pini Rohwer, 1913 (syn. by Benson, 1962, *loc. cit. supra*, p. 385).
- pini* Rohwer. Syn. of *obscura* (Strobl).
Xyela slossonae Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 327).
Xyela similis Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 327).
- **priceae* Burdick. Calif. Host: *Pinus coulteri*.
Xyela priceae Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 339. ♀, ♂.
- **radiatae* Burdick. Calif. Host: Prob. *Pinus radiata*.
Xyela radiatae Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 337. ♀, ♂.

salicis Rohwer. Syn. of *bakeri* Konow.

**serrata* Burdick. Calif. Host: *Pinus muricata*.

Xyela serrata Burdick, 1961. Calif. Univ. Pubs. Ent. 17: 341. ♀.

similis Rohwer. Syn. of *obscura* (Strobl).

slossouae Rohwer. Syn. of *obscura* (Strobl).

**styrax* Burdick. Md., Va., Ga. Host: *Pinus virginiana*.

Xyela styrax Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 345. ♀, ♂.

winnemanae Rohwer. Syn. of *minor* Norton.

Genus **PLERONEURA** Konow, p. 6

Taxonomy: Burdick, 1959. Kansas Ent. Soc. Jour. 32: 121 (*Pleuro-neura* (1)).

Genus **XYELECIA** Ross, p. 7

nearctica Ross. Wash.

Taxonomy: Smith, 1964. Pan-Pacific Ent. 40: 54-56. ♂.

Genus **MEGAXYELA** Ashmead, p. 7

langstoni Ross. S. C., Ga., Fla.

Family PAMPHILIIDAE

Taxonomy, Morphology, Phylogeny: Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 51-73.

Genus **ACANTHOLYDA** A. Costa, pp. 7-9, Sup. 1, p. 8

Delete *Itycorsia* Konow from syn.

Revision: Middlekauff, 1958, *loc. cit. supra*, pp. 73-132.

ACANTHOLYDA subgenus **ACANTHOLYDA** A. Costa

(= *Acantholyda* A. Costa of Catalog, in part, pp. 7-9)

abdominalis Norton. Syn. of *tesselata* (Klug). Transf. *montivaga* Cresson to syn. of *verticalis* (Cresson).

apicalis (Westwood). N. C., Fla., Miss. Host: *Pinus taeda*. Transf. from *Cephalcia* Panzer, p. 9 (*teste* Middlekauff, 1958, *loc. cit. supra*, p. 77).

atripes (Cresson). N. J., Pa., Ga.

erythrocephala (Linnaeus). Ont. Hosts: *Pinus* spp.

marginiventris (Cresson). Mass., N. J., Va., N. C.

modesta MacGillivray. Syn. of *pini* Rohwer.

pini Rohwer. Que., Ont., N. Y., Pa., Md., Va., N. C., Ga., Mich. Host: *Pinus resinosa*.

Acantholyda modesta MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 85).

poepigii (Brischke and Zaddach). Pa.

**runcinata* Middlekauff. Tex., Colo., N. M., Ariz.

Acantholyda (Acantholyda) runcinata Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 89. ♀, ♂.

tesselata (Klug). Que., Conn., Ont., N. Y., N. J., Md., Va., N. C., Mich., Wis., Minn. Hosts: *Pinus banksiana*, *P. resinosa*. Transf. *rufiventris* Cresson to syn. of *verticalis* (Cresson).

Lyda abdominalis Norton 1862 (syn. by Cresson, 1880. Amer. Ent. Soc. Trans. 8: 64).

ACANTHOLYDA subgenus ITCORSIA Konow

(=*Acantholyda* A. Costa of Catalog, in part, pp. 7-9)

- *aequorea** Middlekauff. Calif.
Acantholyda (Itcorsia) aequorea Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 93. ♀, ♂.
- albomarginata** (Cresson). Mich., Mont., Alaska, B. C., Wash., Oreg., Calif. Hosts: Prob. *Pinus muricata*, *P. ponderosa*.
Itcorsia marginiventris Kincaid, 1900 (not Cresson). Misident.
Itcorsia kincaidi Rohwer, 1910 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 95).
- angulata** (MacGillivray). N. B., Que., Maine, Mass., Ont., Pa., Mich., Minn. Hosts: *Pinus austriaca*, *P. rigida*, *P. densiflora*, *P. banksiana*, *P. strobus*.
- atrata** (Cresson). Idaho, B. C., Wash., Oreg., Calif. Hosts: *Tsuga heterophylla*, *Abies concolor*.
Itcorsia balata MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 98).
- *aurigera** Middlekauff. Calif.
Acantholyda (Itcorsia) aurigera Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 100. ♀.
- balanata** MacGillivray. Alaska, B. C., Calif. Hosts: *Pseudotsuga menziesii*, *Picea sitchensis*, *Picea* sp., *Abies* sp., *Tsuga* sp.
- balata** MacGillivray. Syn. of *atrata* (Cresson).
- ballista** MacGillivray. Syn. of *terminalis* (Cresson).
- bicolorata** (Norton). Maine. Delete *nigripes* Cresson from syn.
- brunnicans** (Norton). Mont., Wyo., Nev., B. C., Oreg., Calif. Hosts: Prob. *Pinus contorta*, *P. sabiniana*, *P. ponderosa*, *P. radiata*. Delete *olympia* MacGillivray from syn.
Lyda discolor Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 103).
Lyda morrisoni Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 103).
Lyda nevadensis Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 103).
- brunniceps** (Cresson). N. B., Que., Mass., Ont., Minn.
- bucephala** (Cresson). Mont., B. C., Wash., Oreg., Calif. Hosts: *Pseudotsuga menziesii*, prob. *Abies concolor*.
Lyda olympia MacGillivray, 1893 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 107).
- *burkei** Middlekauff. Calif. Host: *Pinus radiata*.
Acantholyda (Itcorsia) burkei Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 108. ♀, ♂.
- chicoutimiensis** (Huard). Que., Ont. Hosts: *Picea mariana*, ? *Pinus banksiana*.
Nomenclature: Comeau, 1957. Nat. Canad. 84: 29.
- circumcincta** (Klug). N. B., Que., Pa. Hosts: *Pinus banksiana*, prob. other sp. of *Pinus*.
- *crocina** Middlekauff. Idaho, Calif. Hosts: Possibly *Pinus muricata*, *P. sabiniana*.
Acantholyda (Itcorsia) crocina Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 113. ♀, ♂.
- *depressa** Middlekauff. Ariz.
Acantholyda (Itcorsia) depressa Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 115. ♂.
- discolor** Cresson. Syn. of *brunnicans* (Norton).

- kincaidi* Rohwer. Syn. of *albomarginata* (Cresson).
luteomaculata (Cresson). N. B., Que., Maine, Vt., Mass., Ont., Pa., Ohio, Mich., Wis., Minn. Hosts: *Pinus strobus*, prob. *P. sylvestris*, *P. banksiana*.
luteopicta Rohwer. Syn. of *verticalis* (Cresson).
maculiventris (Norton). Labrador, Que. and Maine south to N. C., west to B. C. and Calif. Hosts: *Abies balsamea*, *Picea glauca*, possibly *Picea mariana*, *Pinus strobus*. Delete *chicoutimiensis* (Huard) from syn.
montivaga Cresson. Syn. of *verticalis* (Cresson).
morrisoni Cresson. Syn. of *brunnicans* (Norton). Delete *nevadensis* Cresson from syn.
nevadensis Cresson. Syn. of *brunnicans* (Norton).
nigripes (Cresson). Nev., Oreg., Calif.
nigrita (Cresson). Calif.
ochrocera (Norton). Que., Ont., Mich., Wis.
olympia MacGillivray. Syn. of *bucephala* (Cresson).
ruficeps (Harrington). Que., Mass., Ont., N. Y., Mich., Minn., B. C. Hosts: Prob. *Pinus resinosa*, *P. contorta*, *P. banksiana*.
rufiventris Cresson. Syn. of *verticalis* (Cresson).
terminalis (Cresson). Colo., Wash., Oreg., Calif.
Itycorsia ballista MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 125).
**thalictra* Middlekauff. Tex., N. Mex. Host: ? *Pinus edulis*.
Acantholyda (Itycorsia) thalictra Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 126. ♀.
verticalis (Cresson). Minn., Nebr., Mont., Wyo., Colo., Alta., Nev., B. C., Wash., Oreg., Calif. Hosts: *Pinus radiata*, prob. *P. contorta*, *P. ponderosa*, *P. monticola*.
Lyda similis Cresson, 1880 (questionably syn. in Catalog, p. 9).
Lyda montivaga Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 127).
Lyda rufiventris Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 127).
Itycorsia luteopicta Rohwer, 1910 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 127).
zappei (Rohwer). Que., N. H., Mass., Ont., N. J., Md., Mich. Hosts: *Pinus austriaca*, *P. strobus*, *P. rigida*.

Unplaced Species of *Acantholyda*

variegata Norton. Delete *bucephala* Cresson from syn.

Genus CEPHALCIA Panzer, pp. 9-10, Sup. 1, p. 8

Revision: Middlekauff, 1958, *loc. cit. supra*, pp. 132-149.

apicalis (Westwood). Transf. to *Acantholyda* subg. *Acantholyda* A. Costa.

**californica* Middlekauff. Mont., ? Wyo., Calif. Hosts: prob. *Pinus murrayana*, *P. ponderosa*.

Cephalcia californica Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 135. ♀.

canadensis (Norton). Transf. to Unplaced species of Pamphiliidae.

criddlei (MacGillivray). Syn. of *fascipennis* (Cresson).

dissipator (MacGillivray). Syn. of *fascipennis* (Cresson).

distincta MacGillivray. Syn. of *provancheri* (Huard).

- fascipennis** (Cresson). N. B., N. S., Que., Maine, Ont., Man. Hosts: *Picea pungens*, ? *P. glauca*, *Pinus rigida*.
Cephaleia criddlei MacGillivray, 1912 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 137).
Cephaleia dissipator MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 137).
- frontalis** (Westwood). Ont., N. Y., N. J., Pa., N. C., Ga., Mich.
Caenolyda onekama MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 137).
- fulviceps** (Rohwer). Que., N. H., Conn., Ont., Ark. Hosts: *Pinus banksiana*, *P. resinosa*.
- hopkinsi** (Rohwer). Host: Prob. *Pinus ponderosa*.
- jenseni** MacGillivray. Syn. of **semidea** (Cresson).
- marginata** Middlekauff. Conn., W. Va. Hosts: *Pinus resinosa*, *Picea* sp.
- mathematica** (Kirby). Syn. of **nigropectus** (Cresson).
- ***nigra** Middlekauff. N. B., N. S., Maine, Mich.
Cephaleia nigra Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 143. ♀.
- nigropectus** (Cresson). Newfoundland south to N. C., west to Alaska and Calif. Hosts: *Picea glauca*, prob. other spruces.
Pamphilius mathematicus Kirby, 1882 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 144).
Caphaleia punctata Rohwer, 1908 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 144).
- nortoni** Rohwer. Syn. of **semidea** (Cresson).
- onekama** (MacGillivray). Syn. of **frontalis** (Westwood).
- ochreipes** (Cresson). Transf. to **Pamphilius** Latreille.
- provancheri** (Huard). N. H., N. Y., Ont. Trans. from **Pamphilius**, p. 11 (*teste* Middlekauff, 1958, *loc. cit. supra*, p. 146).
Cephaleia distincta MacGillivray, 1912 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 146).
- punctata** (Rohwer). Syn. of **nigropectus** (Cresson).
- ***rossi** Middlekauff. Newfoundland, N. B., Que., Mass., Ont., Mich. Host: *Abies balsamea*.
Cephaleia rossi Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 147. ♀.
- semidea** (Cresson). N. B., Que., Conn., Ont., N. Y., Mich. Host: ? *Picea* sp.
Caenolyda nortoni Rohwer, 1910 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 148).
Cephaleia jenseni MacGillivray, 1912 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 148).

Genus **NEUROTOMA** Konow, p. 10, Sup. 1, p. 8

Revision: Middlekauff, 1958, *loc. cit. supra*, pp. 149-158.

crataegi Middlekauff. N. Y., Mich.

fasciata (Norton). N. H., south to Fla., west to Mich., Ill., and Mo. Host: *Prunus pennsylvanica*.

inconspicua (Norton). Mass., N. Y., and Pa., west to B. C., Mont., Kans., Ark. Hosts: *Prunus* spp.

***willi** Middlekauff. Pa.

Neurotoma willi Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 158. ♂.

Genus **PAMPHILIUS** Latreille, pp. 10-12

*?***Pseudocephaleia*** Zirngiebl, 1937. Embrik Strand 60. Geburtst. Festschr. (Riga) 3: 339. (Syn. questionably *teste* Benson, 1945. Roy. Ent. Soc., London Proc., ser. B, 14: 31.)

Type: ***Pseudocephaleia brachycerus*** Zirngiebl. Orig. desig.

**Pamphilius* subg. *Onycholyda* Takeuchi, 1938. *Tenthredo* 2: 218. (Syn. *teste* Benson, 1945, *loc. cit. supra*, p. 31.)

Type: *Pamphilius sulphureipes* Kirby. Orig. desig.

Revision: Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 1-80.

amplectus (Fabricius). N. J. south to Fla. west to Ill. and Tex.; delete Colo. from dist. Host: *Rubus* sp. Delete *cavifrons* Cresson from syn. and transf. to syn. of *multisignatus* (Norton).

Lyda plagiata Klug (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 14).

burquei (Provancher). Ont., Va.

cinctus Harrington. Que., N. Y., Mich., Wis.

dentatus MacGillivray. Syn. of *luteicornis* (Norton).

excavatus (Norton). Que. south to Va. west to Mich., Minn., Ohio; B. C. Host: *Cornus stolonifera*.

fletcheri MacGillivray. Syn. of *luteicornis* (Norton).

fortuitus MacGillivray. Syn. of **sitkensis* (Kincaid).

fulvifrons Rohwer. Syn. of **sitkensis* (Kincaid).

greeni Rohwer. Syn. of *ocreatus* (Say).

harringtonii (Provancher). Syn. of *luteicornis* (Norton).

**infuscatus* Middlekauff. Maine, Alta., B. C. Host: *Populus tremuloides*.

Pamphilius infuscatus Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 24.
♀, ♂.

luteicornis (Norton). N. B. and N. S. south to Fla. west to Man. and Ill., Alta. Hosts: *Rubus* spp.

Lyda harringtonii Provancher, 1886 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 25).

Pamphilius ocellatus Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 25).

Pamphilius rubi Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 25).

Pamphilius dentatus MacGillivray, 1912 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 26).

Pamphilius fletcheri MacGillivray, 1912 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 26).

Biology: Fletcher, 1900. Rpt. Ent. Bot. Dom. Expt. Farm Ottawa, Sess. Paper 8 a: 180-181 (*multisignata*).—Walden, 1913. Conn. Agr. Expt. Sta. Ann. Rpt. 36: 236-240 (*dentatus*).

multisignatus (Norton). Ont. west to B. C. south to Kans., and N. Mex. Delete *melliventris* Cresson from syn. and transf. to syn. of *pacificus* (Norton).

Lyda cavifrons Cresson, 1865 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 30).

**Bactroceros pugnax* Rohwer, 1908. N. Y. Ent. Soc. Jour. 16: 103. ♀. Preocc. (Syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 30.)

Anoplolyda saeva Rohwer, 1910, n. name for *pugnax* Rohwer.

nigritibialis Rohwer. Que. south to N. C. west to Alta. and Colo.

Pamphilius transversus MacGillivray, 1912 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 33).

ocellatus Rohwer. Syn. of *luteicornis* (Norton).

ochreipes (Cresson). Transf. from *Cephalcia* Panzer *teste* Middlekauff, 1964, *loc. cit. supra*, p. 38. Maine and Ont. south to N. C. west to Alaska and B. C. Host: Adults taken on *Cornus* and *Corylus*.

Lyda perplexa Cresson, 1880 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 38).

ocreatus (Say). Maine south to N. C. west to Man. and Ill. Host: *Corylus rostrata*.

- Pamphilius greenei* Rohwer, 1913 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 35).
- pacificus* (Norton). B. C. south to Calif. east to Colo. Host: *Rosa californica*.
Lyda melliventris Cresson, 1880 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 40).
Biology: Middlekauff, 1964, *loc. cit. supra*, pp. 41-42.
- palachei* (Ashmead).
Taxonomy: Middlekauff, 1964, *loc. cit. supra*, p. 43.
- pallimaculus* (Norton). Que. and Maine south to Ga. west to B. C. and Colo.
Host: Collected on rose.
- persicum* MacGillivray. Que. south to Fla. west to Minn., Nebr., and Tex.
Pamphilius unalatus MacGillivray, 1920 (syn. *teste* Middlekauff, *loc. cit. supra*, p. 46).
Biology and Taxonomy: Middlekauff, 1964, *loc. cit. supra*, pp. 47-49.
- **phyllisae* Middlekauff. Que. south to N. C. west to Mich. and Wis. Host: Collected on *Cornus*.
Pamphilius phyllisae Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 46. ♀, ♂.
- plagiatus* (Klug). Syn. of *amplectus* (Fabricius).
- provancheri* (Huard). Transf. to *Cephalcia* Panzer.
Nomenclature: Comeau, 1957. Nat. Canad. 84: 29.
- pullatus* (Cresson). Newfoundland south to Va. west to Ill. and Mo. Host: *Viburnum dentatum*.
Taxonomy: Middlekauff, 1964, *loc. cit. supra*, p. 52 (♂).
- quebecensis* (Provancher). Que. and Ont. south to N. C. west to Mich.
Taxonomy: Middlekauff, 1964, *loc. cit. supra*, pp. 53-54 (♂).
- rileyi* (Cresson). Conn. south to W. Va. west to Mich., Iowa, Mo. Delete Ga. from dist. Host: Ovipositing on *Amelanchier*.
Pamphilius subcavifrons Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 55).
- rubi* Rohwer. Syn. of *luteicornis* (Norton).
- rufocinctus* (Cresson). Syn. of *rufofasciatus* (Norton).
- rufofasciatus* (Norton). Newfoundland, P. E. I., Que., and Maine south to Ga., west to Alta. and Colo.
Lyda rufocincta Cresson, 1880 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 56).
- saevus* (Rohwer). N. name for **pugnax* Rohwer, syn. of *multisignatus* (Norton).
- scriptus* (Say.) Transf. to Unplaced Species of Pamphiliidae.
- semicinctus* (Norton). Que. and Maine south to N. C. west to Ind. and Tenn. Hosts: *Amelanchier canadensis*, *Amelanchier* sp., ? *Pyrus malus*, *Prunus virginiana*.
Taxonomy: Middlekauff, 1964, *loc. cit. supra*, p. 59 (♂).
- **sitkensis* (Kincaid). Alaska south to Calif., Idaho, Nev. Hosts: *Rubus* spp.
Bactrocera sitkensis Kincaid, 1900. Wash. Acad. Sci. Proc. 2: 344. ♀.
Pamphilius fulvifrons Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 61).
Pamphilius fortuitus MacGillivray, 1923 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 61).
Biology: Middlekauff, 1964, *loc. cit. supra*, pp. 62-64.
- subcavifrons* Rohwer. Syn. of *rileyi* (Cresson).
- transversus* MacGillivray. Syn. of *nigritibialis* Rohwer.
- unalatus* MacGillivray. Syn. of *persicum* MacGillivray.

- ***uniunguis** Middlekauff. N. C., Minn., Man.
Pamphilius uniunguis Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38:
 65. ♀.
- ***vernalis** Middlekauff. Nebr., Man.
Pamphilius vernalis Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38:
 66. ♀.

Unplaced Species of Pamphiliidae

Insert at end of Family Pamphiliidae, p. 12.

- Lyda canadensis* Norton. Transf. from *Cephalcia* Panzer, p. 9 (*vide*
 Middlekauff, 1964, *loc. cit. supra*, p. 68).
- Tarpa scripta* Say. Transf. from *Pamphilius* Latreille, p. 12 (*vide* Middle-
 kauff, 1964, *loc. cit. supra*, p. 68).

Superfamily TENTHREDINOIDEA

Family ARGIDAE

Taxonomy: Benson, 1963 (1962). Ann. Mag. Nat. Hist., ser. 13, 5: 633-
 635.

Genus ARGE Schrank, pp. 13-14

pectoralis (Leach).

Biology: Schwarz, 1909. Ent. Soc. Wash. Proc. 11: 106-108.

Genus NEOPTILIA Ashmead, p. 15

malvacearum (Cockerell). Tex., Ariz. Host: *Althaea rosea*.

*Genus SCHIZOCERELLA Forsius

(= *Sofus* Malaise of Catalog, p. 16)

Schizocerella Forsius, 1927. Not. Ent. 7: 19.

Type: *Schizocerella axillaris* Forsius. Orig. desig.

Taxonomy: Benson, 1963, *loc. cit. supra*, p. 631.

pilicornis (Holmgren). Introd. into Australia from Amer.

**Schizocerella scapularis* Forsius, 1927. Not. Ent. 7: 19 (syn. by
 Benson, 1963, *loc. cit. supra*, p. 631).

Family CIMBICIDAE

(= *Clavellariidae*), Townes, 1962. U. S. Natl. Mus. Bul. 216, p. 67.

Family DIPRIONIDAE

Genus ZADIPRION Rohwer, p. 19

rohweri (Middleton). Nev.

Genus NEODIPRION Rohwer, pp. 19-21, Sup. 1, p. 9

abbottii (Leach). Host: *Pinus elliotii* var. *densa*.

edwardsii (Norton). Host: *Pinus radiata*.

Lophyrus edwardsii Norton, change date to 1869.

excitans Rohwer. Southeastern, west to Ill. and Tex.

Biology: Hetrick, 1959. Fla. Ent. 42: 159-162.—Fatzinger, 1964. Jour.
 Econ. Ent. 57: 412.

fulviceps (Cresson).

Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 303.

hypomelas (Rohwer). Colo.

lecontei (Fitch).

Biology: Benjamin, 1955. U. S. Dept. Agr. Tech. Bul. 1118, 57 pp.

***merkei** Ross. Fla. Host: *Pinus elliotti* var. *densa*.

Neodiprion merkei Ross, 1961. Ent. Soc. Amer. Ann. 54: 452. ♀, ♂.

nanulus nanulus Schedl. Hosts: *Pinus echinata*, *P. rigida*.

Biology: McCormick and Andresen, 1961. Amer. Mus. Novit. 2032, 6 pp.

nigroscutum Middleton. Mich.**pratti banksianae** Rohwer.

Biology: Ghent, 1958. Canad. Jour. Zool. 36: 175-183.—Moens and Atwood, 1963. Canad. Ent. 95: 779-782.

pratti pratti (Dyar). N. J. south to N. C. west to Ind. and Ky. Hosts: *Pinus echinata*, *P. rigida*, *P. virginiana*.

Biology: Morris, Schroeder, and Bobb, 1963. Pine Sawfly in Va., Va. Div. For., 42 pp.—Bobb, 1963. Jour. Econ. Ent. 56: 618-621.

sertifer (Geoffroy).

Biology: Griffiths, 1959. Canad. Ent. 91: 500-511.—Wallace and Sullivan, 1963. Canad. Ent. 95: 1051-1066.

Physiology: Marek, 1963. Českol. Spolec. Zool. Vest. 27: 115-124.

swainci Middleton. Mich., Minn.

Biology: Ghent and Wallace, 1958. Forest Sci. 4: 264-272.—Franklin, 1959. Ent. News 70: 62.

taedae linearis Ross. La. Host: *Pinus echinata*.

Biology: Coyne, 1959. U. S. Dept. Agr. For. Pest Leaflet 34, 4 pp.

***warreni** Ross. Ark. Host: *Pinus echinata*.

Neodiprion warreni Ross, 1961. Ent. Soc. Amer. Ann. 54: 451. ♀, ♂.

DIPRION subgenus DIPRION Schrank, p. 21

similis (Hartig).

Biology: Casida, Coppel, and Watanabe, 1963. Jour. Econ. Ent. 56: 18-24.

DIPRION subgenus GILPINIA Benson, p. 21

hercyniae (Hartig).

Biology: Martineau, 1963. Canad. Ent. 95: 317.

Family TENTHREDINIDAE

Subfamily SELANDRIINAE

Taxonomy: Malaise, 1963. Ent. Tidskr. 84: 159-215 (genera of world).

Genus HEMITAXONUS Ashmead, p. 22

dubitatus (Norton).

Biology: Krombein, 1960. Ent. News 71: 30.

ANEUGMENUS subgenus ANEUGMENUS Hartig, p. 23

***padi** (Linnaeus). Oreg., widespread in Canada; Europe, Asia Minor, Transcaucasus. Hosts: Ferns.

Tenthredo padi Linnaeus, 1761. Fauna Suec., ed. 2, p. 390. [♀.]

Tenthredo stramineipes Klug (syn. by Malaise and Benson, 1934, Arkiv för Zool. 26 A(20):6).

Selandria urbis Ross (syn. by Benson, 1962. Brit. Mus. (Nat. Hist.) Bul. Ent. 12: 387).

stramineipes (Klug). Syn. of **padi** (Linnaeus).**urbis** Ross. Syn. of **padi** (Linnaeus).

*Tribe HEPTAMELINI

Place in Selandriinae, after genus *Aneugmenus* Hartig, p. 24.

***Genus HEPTAMELUS Haliday**

Heptamelus Haliday, 1855. Nat. Hist. Rev. 2 (Proc.): 60.

Type: *Melicerta ochroleuca* Stephens. By monotypy.

**ochroleucus* (Stephens). B. C.; N. Eurasia. Hosts: Ferns.

Melicerta ochroleuca Stephens, 1835. Illust. Brit. Ent. Mand., v. 7, p. 95.

Distribution: Benson, 1962, *loc. cit. supra*, p. 387.

Genus SELANDRIA Leach, p. 24

**flavens* (Klug). Northeast. and Northcent. N. Amer.; Holarctic. Host: *Carex* sp.

Tenthredo (Allantus) flavens Klug, 1814. Mag. Ges. Naturf. Fr. Berlin 8: 48. ♀, ♂.

Selandriidea vauduzeei Rohwer, 1911 (syn. by Benson, 1962, *loc. cit. supra*, p. 387).

vauduzeei (Rohwer). Syn. of *flavens* (Klug).

**wuestneii* Konow. Man.; Europe. Host: *Carex* sp.

Selandria wüstneii Konow, 1885. Wein. Ent. Zeit. 4: 122. ♀, ♂

Distribution: Benson, 1962, *loc. cit. supra*, p. 387.

DOLERUS subgenus DOLERUS Panzer, pp. 24-27

**asper* Zaddach. Conn., Mass., Mich., S. Dak.; Europe, Siberia. Hosts: Grasses and sedges.

Dolerus asper Zaddach, 1859. Prog. Fried. Coll. Königsb., p. 21. ♂.

Dolerus tectus MacGillivray, 1914 (syn. by Benson, 1962, *loc. cit. supra*, p. 389).

tectus MacGillivray. Syn. of *asper* Zaddach.

Genus CALIROA O. Costa, pp. 28-29

amygdalina Rohwer. Md., Va., Tenn., Mo.

lineata MacGillivray. Pa., Md., Va., N. C.

Genus HETERARTHURUS Stephens, pp. 29-30

nemoratus (Fallén).

Taxonomy: Lindquist, 1959. Canad. Ent. 91: 625-627 (larva).

Genus MESSA Leach, p. 30

alaskana (Kincaid). Syn. of *wuestneii* (Konow).

**wuestneii* (Konow). N. W. T., Alaska; Circumpolar. Host: Leafminer on *Salix* sp.

Fenusa wüstneii Konow, 1894. Wien. Ent. Ztg. 13: 91. ♀, ♂.

Fenusa alaskana Kincaid, 1900 (syn. by Benson, 1959. Roy. Ent. Soc., London, Proc. (B) 28: 90).

Taxonomy: Benson, 1959, *loc. cit. supra*, pp. 90-91.

Genus PROFENUSA MacGillivray, pp. 30-31

alumna (MacGillivray). Syn. of *thomsoni* (Konow).

**platani* Burks. Calif. Host: *Platanus racemosa*.

Profenusa platanae (!) Burks, 1957. Ent. News 68: 207. ♀, ♂.

**thomsoni* (Konow). Ont., Wis.; Holarctic. Host: Leafminer on *Betula* sp.

Fenusa thomsoni Konow, 1886. Wien. Ent. Ztg. 5: 270. ♀.

Messa alumna MacGillivray, 1923 (syn. by Benson, 1959, *loc. cit. supra*, p. 91).

Taxonomy: Lindquist, 1959. Canad. Ent. 91: 625-627 (larva, *alumna*).— Benson, 1959, *loc. cit. supra*, p. 91.

Genus FENUSA Leach, p. 31

pusilla (Lepelletier). Wis., Wash., Oreg., Calif.

Taxonomy: Lindquist, 1959, *loc. cit. supra*, pp. 625-627 (larva).

Genus NEFUSA Ross, p. 31

anita (MacGillivray). Host: *Viola* sp.

Genus HOPLOCAMPA Hartig, pp. 33-34

**brevis* (Klug). Ont., Conn., R. I., N. Y.; introd. from Europe. Host: Pear. *Tenthredo (Allantus) brevis* Klug, 1814. Gesell. Naturf. Freunde Berlin Mag. 8: 53. ♀.

testudinea (Klug). N. J.

Genus CRATEROCERCUS Rohwer, p. 35

albidovariatus (Norton). Ark.

Genus NEOPAREOPHORA MacGillivray, p. 36

litura (Klug).

Taxonomy: Nielson, 1958. Canad. Ent. 90: 229-234.

Genus PRISTIPHORA Latreille, pp. 37-39

Taxonomy and Distribution: Benson, 1962. Brit. Mus. (Nat. Hist). Bul. Ent. 12: 394-396 (Holarctic spp.).

**abbreviata* (Hartig). Oreg., Wash., Calif.; Europe. Host: Pear [California pear-slug].

Nematus abbreviatus Hartig, 1837. Fam. Blatt. und Holzwespen, p. 205. ♀.

Gymnonychus californicus Marlatt, 1896 (syn. by Benson, 1962, *loc. cit. supra*, p. 394).

**aphanta* Wong and Ross. N. Y.

Pristiphora aphanta Wong and Ross, 1960. Canad. Ent. 92: 196. ♀.

**aquilegiae* (Vollenhoven). Ont.; Europe. Hosts: *Aquilegia* spp.

Nematus aquilegiae Vollenhoven, 1866. Tidskr. v. Ent. 11: 202. ♀.

Taxonomy: Lindqvist, 1962. Not. Ent. 42: 105.

bivittata (Norton).

Taxonomy: Nielson, 1958. Canad. Ent. 90: 229-234.

**borea* (Konow). Labrador, Que., Man., N.W.T.; Circumpolar.

Lygaonema boreus Konow, 1904. Ztg. syst. Hym. Dipt. 4: 253. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 395.

**cadma* Wong and Ross. Sask.

Pristiphora cadma Wong and Ross, 1960. Canad. Ent. 92: 198. ♀.

californica (Marlatt). Syn. of *abbreviata* (Hartig).

**carolinensis* Marlatt. N. C.

Pristiphora carolinensis Marlatt, 1896. U. S. Dept. Agr. Div. Ent. Tech. Ser. 3:120. ♂.

**coactula* (Ruthe). Man., Colo, Alaska; Circumpolar. Host: *Vaccinium*.

Nematus coactulus Ruthe, 1859. Stett. Ent. Ztg. 20: 307. ♀.

Nematus winnipeg Norton, 1867 (syn. by Benson, 1962, *loc. cit. supra*, p. 395).

**elaphita* Wong and Ross. Sask.

Pristiphora elaphita Wong and Ross, 1960. Canad. Ent. 92: 194. ♀.

erichsonii (Hartig).

Biology: Graham, 1956. For. Sci. 2: 132-160.—Buckner, 1959, Canad. Ent. 91: 535.—Drooz, 1960. U. S. Dept. Agr. Tech. Bul. 1212, 52 pp.—Ives, 1960. Canad. Ent. 92: 668-674.—Turnock, 1960. Canad. Ent. 92: 500-516.—Nairn, *et al.*, 1961. Ent. Soc. Manitoba Proc. 17: 31.—Ives, 1963. Canad. Ent. 95: 887-892.—Pschorn-Walcher, 1963. Ztschr. Angew. Ent. 51: 208.

Morphology: Wong, 1963. Canad. Ent. 95: 897-921.

**hucksena* Wong and Ross. B. C.

Pristiphora hucksena Wong and Ross, 1960. Canad. Ent. 92: 194. ♀.

idiota (Norton).

Taxonomy: Nielson, 1958, *loc. cit. supra*, pp. 229-234.

***lativentris** (Thomson). Man., N.W.T.; Circumpolar.

Nematus lativentris Thomson, 1871. Hyn. Scand., v. 1, p. 99. ♀, ♂.
Distribution: Benson, 1962, *loc. cit. supra*, p. 395.

***leechi** Wong and Ross. Mont., B. C., Wash. Host: *Larix occidentalis*.

Pristiphora leechi Wong and Ross, 1960. Canad. Ent. 92: 193. ♀, ♂.

***leucostoma** (Lindqvist). Man., N.W.T.; Lapland. Host: *Salix* sp.

Lygaonematus (Lygaephora) leucostoma Lindqvist, 1952. Not. Ent.
32: 108. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 394.

pallipes Lepeletier. Valid name for **rufipes** of Catalog; refs. and syn. under **rufipes** Lepeletier.

Nomenclature: Benson, 1962, *loc. cit. supra*, p. 394.

***paloma** Wong and Ross. Ill.

Pristiphora paloma Wong and Ross, 1960. Canad. Ent. 92: 196. ♀.

***parbeta** Wong and Ross. Man.

Pristiphora parbeta Wong and Ross, 1960. Canad. Ent. 92: 198. ♂.

***pseudocoactula** (Lindqvist). Man.; prob. Circumpolar.

Lygaonematus (Lygaonematus) pseudocoactulus Lindqvist, 1952. Not.
Ent. 32: 115. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 395.

***reuteri** (Lindqvist). Man.; prob. Circumpolar. Host: *Salix* sp.

Lygaonematus arcticola Enslin, 1916. Deut. Ent. Ztschr. Beih., p.
514. ♀, ♂. Preocc.

Lygaonematus (Lygaephora) reuteri Lindqvist, 1960. Not. Ent. 40:
33. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 395.

rufipes Lepeletier, of Catalog. Valid name, **pallipes** Lepeletier.***serrula** Wong and Ross. Calif.

Pristiphora serrula Wong and Ross, 1960. Canad. Ent. 92: 196. ♀.

***staudingeri** (Ruthe). Man.; Circumpolar. Host: *Salix* sp.

Nematus staudingeri Ruthe, 1859. Stett. Ent. Ztg. 20: 306. ♀, ♂.
Distribution: Benson, 1962, *loc. cit. supra*, p. 394.

***valvangula** Wong and Ross. ? N. Y.

Pristiphora valvangula Wong and Ross, 1960. Canad. Ent. 92: 194. ♂.

***venatta** Wong and Ross. Idaho.

Pristiphora venatta Wong and Ross, 1960. Canad. Ent. 196. ♀.

winnipeg (Norton). Syn. of **coactula** (Ruthe).Genus **PACHYNEMATUS** Konow, pp. 39-41

Taxonomy and Distribution: Benson, 1962. Brit. Mus. (Nat. Hist.)
Bul. Ent. 12: 405-406 (Holarctic spp.).—Benson, 1963. Roy. Ent.
Soc. London Proc., B. 32: 162-164 (*rumicis* group).

clibrichellus (Cameron). Host: *Carex*.***clitellatus** (Lepeletier). Labrador, Que.; Europe. Host: Grasses.

Nematus clitellatus Lepeletier, 1823. Monog. Tenthred., p. 62. ♀.

corticosis MacGillivray. Syn. of **vagus** (Fabricius).**diaphanus** (Eversman). Syn. of **kirbyi** (Dahlbom).***excisus** (Thomson). Greenland; Arctic Europe.

Nematus excisus Thomson, 1862. Svenska Vetensk. Akad. Ofvers. Förh.
19: 628. ♀.

extensicornis (Norton). Northern U. S., Canada; Holarctic.

**Pachynematus foveolatus* Konow, 1903. Zeit. Hym. Dipt. 3: 379. (Syn.
by Benson, 1962, *loc. cit. supra*, p. 406).

- ***freyi** Lindqvist. N. W. T., Yukon; Circumpolar.
Pachynematus freyi Lindqvist, 1949. Not. Ent. 28: 81. ♀.
- ***kirbyi** (Dahlbom). Holarctic. Host: *Carex*.
Nematus kirbyi Dahlbom, 1835, Clavis Hym. Syst., p. 40. ♂.
Nematus diaphanus Eversman, 1847 (syn. by Benson, 1958. Roy. Ent. Soc. Lond., Handb. Ident. Brit. Ins. 6: 237).
- moerens** (Foerster). Host: Gramineae.
- ***nevadensis** Marlatt. Nev.
Pachynematus nevadensis Marlatt, 1896. U. S. Dept. Agr. Div. Ent. Tech. Ser. 3: 110. ♂.
- ***obductus** (Hartig). Northern U. S., Canada; Holarctic.
Nematus obductus Hartig, 1837. Fam. Blatt. und Holzwespen, p. 201. ♀, ♂.
Nematus palliventris Cresson, 1880 (syn. by Benson, 1962, *loc. cit. supra*, p. 405).
- palliventris** (Cresson). Syn. of **obductus** (Hartig).
- ***parvilabris** (Thomson). N. W. T.; prob. Circumpolar.
Nematus parvilabris Thomson, 1862. Svenska Vetensk. Akad. Ofvers. Förh. 19: 638. ♀, ♂.
Taxonomy: Benson, 1962, *loc. cit. supra*, p. 405.
- ***rumicis** (Linnaeus). Man., Alaska; Circumboreal. Host: *Rumex*.
Tenthredo rumicis Linnaeus 1758. Syst. Nat., ed. 10, v. 1, p. 559.
- smithae** Ross. N. H.; prob. Circumboreal.
- ***vagus** (Fabricius). Transcontinental in Northern U. S. and Canada; Holarctic. Hosts: *Carex*, *Salix*.
Tenthredo vaga Fabricius, 1781. Spec. Ins., v. 1, p. 415.
Pachynematus corticosus MacGillivray, 1901 (syn. by Benson, 1962, *loc. cit. supra*, p. 405).
- Genus CROESUS Leach, p. 42
- Taxonomy: Benson, 1963. Ent. Tidskr. 84: 25.
- varus** (Villaret). Host: *Alnus*.
- NEMATUS subgenus PTERONIDEA Rohwer, pp. 42-46
- ***borealis** Marlatt. Greenland.
Nematus borealis Marlatt in Fox, 1892. Acad. Nat. Sci. Phila. Proc. 44: 133. ♂.
- ***crassus** (Fallén). N. W. T.; Eurasia. Hosts: *Betula*, *Populus*, *Salix*, *Rumex*.
Tenthredo crassa Fallén, 1808. Svenska Vetensk. Akad. Handl. 29: 106.
Distribution: Benson, 1962, *loc. cit. supra*, p. 404.
- fulvicrus** Provancher
Nematus salicis Ashmead, change to *Messa salicis*.
**Nematus salicicola* Dalla Torre, 1894. Cat. Hym., v. 1, p. 252. N. name for *salicis* Ashm.
- ***jugicola** Thomson. Man.; N. Europe. Host: *Salix* sp.
Nematus jugicola Thomson, 1871. Hym. Scand., v. 1, p. 146. ♀.
- mendicus** Walsh. Syn. of **oligospilus** Foerster.
- ***oligospilus** Foerster. Transcont. in N. Amer.; Holarctic. Host: *Salix* sp.
Nematus oligospilus Foerster, 1854. Naturh. Ver. Preuss. Rheinl. Verh. 11: 284. ♀.
Nematus mendicus Walsh, 1866 (syn. by Benson, 1962, *loc. cit. supra*, p. 405).
- ***reticulatus** Holmgren. Labrador, N. H., Man., N. W. T., Alaska; Circumpolar. Host: *Vaccinium*.
Nematus reticulatus Holmgren, 1883. Ent. Tidskr. 4: 143. ♀.
Pontania glinka Kincaid, 1900 (syn. by Benson, 1962, *loc. cit. supra*, p. 404).

Pontania popofiana Kincaid, 1900 (syn. by Benson, 1962, *loc. cit. supra*, p. 404).

salicisoratoratus Dyar. Wis.

ventralis Say.

Transf. *Nematus latus* Cresson to Unplaced Nematinae, p. 54.
Morphology: Judd, 1954. Ent. Soc. Ont. Ann. Rpt. 85: 32-39.

**villosus* Thomson. N. W. T.; N. Europe.

Nematus villosus Thomson, 1862. Svenska Vetensk. Akad. Ofvers. Förh. 19: 629. ♀.

Distribution: Benson, 1962, *loc. cit. supra*, p. 404.

Genus PONTANIA O. Costa

(= *Nematus* subgenus *Pontania* O. Costa of Catalog, pp. 46-48)

Taxonomy: Benson, 1960a. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 367-384.—Benson, 1960b. Ent. Mo. Mag. 96: 60.—Benson, 1962, *loc. cit. supra*, pp. 403-404 (Holarctic spp.).

acuminata (Marlatt). Transf. to *Phyllocolpa* Benson.

agamus (Rohwer). Transf. to *Phyllocolpa* Benson.

amentivorus (Rohwer). Transf. to *Amauronematus* Konow.

arctica (MacGillivray). Alaska, Yukon, N. W. T., Man.; Lapland, Switzerland. Host: Leaf galls on *Salix reticulata*. Transf. from *Euura* (*teste* Benson, 1960a, *loc. cit. supra*, p. 377).

Euura abortiva MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 377).

Pontania delicatula MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 377).

Pontania deminuta MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 377).

**arctophilae* Benson. Man. Host: Ovip. on *Salix arctophila*.

Pontania arctophilae Benson, 1960. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 373. ♀.

**beckettiae* Benson. Man. Hosts: Galls on *Salix planifolia*, *S. discolor*, *S. glauca*, *S. reticulata*.

Pontania beckettiae Benson, 1960. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 378. ♀.

bozemani (Cooley). Transf. to *Phyllocolpa* Benson.

bruneri Marlatt. Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

californica Marlatt. Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

**crassipes* (Thomson). Alaska, Yukon, N. W. T., Man.; N. Europe, Switzerland. Hosts: Galls on *Salix herbacea*, *S. polaris*, *S. arctica*, *S. retusa*, *S. arbuscula*, *S. myrsinites*, *S. lapponum*.

Nematus crassipes Thomson, 1871. Hym. Scand. 1: 162. ♀.

Pontania ora Kincaid, 1920 (syn. by Benson, 1960a, *loc. cit. supra*, p. 379).

Pontania atrata MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 379).

Pontania lorata MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 379).

cressoni (Marlatt). Transf. to *Phyllocolpa* Benson.

delicatulus (MacGillivray). Syn. of *arctica* (MacGillivray).

deminutus (MacGillivray). Syn. of *arctica* (MacGillivray).

destrictus (MacGillivray). Syn. of *Phyllocolpa excavata* (Marlatt).

***dolichura** (Thomson). Man.; N. Europe, Austria, Switzerland. Host: Galls on *Salix planifolia*; many other spp. of *Salix* recorded in Palearctic lit.

Nematus dolichurus Thomson, 1871. Hym. Scand. 1: 164. ♀, ♂.
Distribution: Benson, 1962, *loc. cit. supra*, p. 404.

glinka (Kincaid). Syn. of *Nematus* subg. *Pteronidea reticulatus* Holmgren.

hoppingi (Ross). Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

hospes (Walsh). Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

hyalinus (Norton). Syn. of *proxima* (Lepeletier).

leavitti (Rohwer). Transf. to *Phyllocolpa* Benson.

leucostoma (Rohwer). Transf. to *Phyllocolpa* Benson.

marianus (Ross). Transf. to *Phyllocolpa* Benson.

marlatti (Ross). Transf. to *Phyllocolpa* Benson.

megacephalus (Rohwer). Syn. of *Phyllocolpa excavata* (Marlatt).

melanosoma (Rohwer). Transf. to *Phyllocolpa* Benson.

mellinus Cresson. Transf. to *Phyllocolpa* Benson.

***myrtilifoliae** Benson. Man. Host: on *Salix myrtilifolia*.

Pontania myrtilifoliae Benson, 1960. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 372. ♀.

nevadensis Cresson. Transf. to *Phyllocolpa* Benson.

pallicornis (Norton). Transf. to *Phyllocolpa* Benson.

parvus Cresson. Transf. to *Phyllocolpa* Benson.

pectoralis (Marlatt). Transf. to *Phyllocolpa* Benson.

pepii (Ross). Transf. to *Phyllocolpa* Benson.

popofianus (Kincaid). Syn. of *Nematus* subg. *Pteronidea reticulatus* Holmgren.

popuellus (Ross). Transf. to *Phyllocolpa* Benson.

populi (Marlatt). Transf. to *Phyllocolpa* Benson.

***proxima** (Lepeletier). Northeastern; Europe. Host: *Salix fragilis*.

Nematus proximus Lepeletier, 1823. Monog. Tenthred., p. 67. ♀.

Messa hyalina Norton, 1864 (syn. by Benson, 1960a *loc. cit. supra*, p. 382).

quadrifasciatus (MacGillivray). Syn. of *Amauronematus fallax* (Lepeletier).

resinicola Marlatt. Transf. from *Euura* (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

robustus (Marlatt). Transf. to *Phyllocolpa* Benson.

salicispisum (Thomas). Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

terminalis (Marlatt). Transf. to *Phyllocolpa* Benson.

tundra (Kincaid). Transf. to *Phyllocolpa* Benson.

*Genus PHYLLOCOLPA Benson

Phyllocolpa Benson, 1960b. Ent. Mo. Mag. 96: 60.

Type: *Nematus leucapsis* Tischbein. Orig. desig. (Equals Sect. A of *Pontania* in Benson, 1960a. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 380-381.)

Place in Nematini after *Nematus* subg. *Pontania* O. Costa, p. 48.

- *acutiserra** Lindqvist. Man.; Holarctic.
Pontania acutiserra Lindqvist, 1949 (1948). Not. Ent. 28: 66. ♀, ♂.
 Taxonomy: Benson, 1960b, *loc. cit. supra*, p. 60.
 Distribution: Benson, 1962, *loc. cit. supra*, p. 403.
- acuminata** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- agama** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- borealis** (Marlatt). N. Y. Transf. from *Euura* Newman (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- bozemani** (Cooley). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- *coriacea** (Benson). Alta.; Holarctic.
Nematus (Pontania) coriaceus Benson, 1953. Ent. Mo. Mag. 89: 150.
 ♀, ♂.
 Taxonomy: Benson, 1960b, *loc. cit. supra*, p. 60.
- cressoni** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- excavata** Marlatt. Colo., Calif., Alaska; Holarctic.
Pontania megacephala Rohwer, 1908 (syn. by Benson, 1960a, *loc. cit. supra*, p. 380).
Pontania dstricta MacGillivray, 1923 (syn. by Benson, 1960a, *loc. cit. supra*, p. 380).
 Taxonomy: Benson, 1960b, *loc. cit. supra*, p. 60.
- leavitti** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- leucostoma** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- mariana** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- marlatti** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- melanosoma** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- mellina** (Cresson). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- nevadensis** (Cresson). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- pallicornis** (Norton). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- parva** (Cresson). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- pectoralis** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- peninsularis** Kincaid. Transf. from *Amauronematus* Konow (*teste* Benson, 1960a, *loc. cit. supra*, p. 382; Benson 1960b, *loc. cit. supra*, p. 60).
- pepii** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- popuella** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- populi** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
- robusta** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

- terminalis** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).
tundra (Kincaid). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

Genus EUURA Newman, pp. 48-51

- Taxonomy and Distribution: Benson, 1962, *loc. cit. supra*, pp. 402-403.
abortiva MacGillivray. Syn. of *Pontania arctica* (MacGillivray).
arctica MacGillivray. Transf. to *Pontania* O. Costa.
***atra** (Jurine). Que., Ont., Alta.; Europe. Hosts: Feeding in stems of *Salix* spp.
Pteronus ater Jurine, 1807. Nouv. Méth. Class. Hym., pl. 6, fig. 6b. ♀.
Euura nigra Provancher (syn. by Benson, 1962, *loc. cit. supra*, p. 403).
borealis (Marlatt). Transf. to *Phyllocolpa* Benson.
bruneri (Marlatt). Transf. to *Pontania* O. Costa.
californica (Marlatt). Transf. to *Pontania* O. Costa.
hoppingi Ross. Transf. to *Pontania* O. Costa.
hospes (Walsh). Transf. to *Pontania* O. Costa.
insularis Kincaid. Syn. of *mucronata* (Hartig).
***lanatae** Malaise. Man., Alta.; Lapland. Hosts: Feed inside buds of *Salix calcicola* and *S. sp.*
Euura lanatae Malaise, 1920. Ent. Tidskr. 40; 105. ♀, ♂.
 Biology: Benson, 1962, *loc. cit. supra*, p. 403.
***mucronata** (Hartig). Man., Alaska; Circumboreal. Hosts: *Salix* spp., feeding inside buds.
Nematus (Cryptocampus) mucronatus Hartig, 1837. Fam. der Blatt. und Holzwespe., p. 223. ♀, ♂.
Euura insularis Kincaid (syn. by Benson, 1962, *loc. cit. supra*, p. 402).
nigra Provancher. Syn. of *atra* (Jurine).
ora Kincaid. Syn. of *Pontania crassipes* (Thomson).
resinicola (Marlatt). Transf. to *Pontania* O. Costa.
salicispisum (Thomas). Transf. to *Pontania* O. Costa.

Genus AMAURONEMATUS Konow, pp. 51-53

- Taxonomy and Distribution: Benson, 1962, *loc. cit. supra*, pp. 396-402 (Holarctic spp.).
***abnormis** (Holmgren). N. W. T., Alaska; Circumpolar.
Nematus abnormis Holmgren, 1883. Ent. Tidskr. 4: 148. ♀.
Amauronematus aulatus MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 401).
amentivorus (Rohwer). Trans. from *Nematus* subg. *Pontania* O. Costa, (*teste* Benson, 1960, *loc. cit. supra*, p. 381).
***amentorum** (Foerster). Greenland; Circumboreal. Host: Catkins of *Salix* spp.
Nematus amentorum Foerster, 1854. Naturh. Ver. Preuss. Rheinl. Verh. 11: 337. ♀.
Nematus suavis Ruthe, 1859 (syn. by Benson, 1962, *loc. cit. supra*, p. 396).
***arctica** (Dalla Torre). N. W. T., Alaska; Arctic Europe and Siberia.
Nematus arcticus Thomson, 1871. Hym. Scand., v. 1, p. 134. ♀. Preocc.
Nematus arctica Dalla Torre, 1894. Cat. Hym., v. 1, p. 207. N. name.
Amauronematus arctica Enslin, 1915. Deut. Ent. Ztschr. Beih., p. 389. N. name.
 Taxonomy: Benson, 1962, *loc. cit. supra*, p. 398.
atrata (MacGillivray). Syn. of *Pontania crassipes* (Thomson).

- aulatus* MacGillivray. Syn. of *abnormis* (Holmgren).
- cogitatus* MacGillivray. Syn. of *stordalensis* (Strand).
- **fallax* (Lepeletier). Nova Scotia, Ont., Man., Alta., N. W. T., Yukon, Alaska; Circumboreal. Host: *Salix* sp.
Nematus fallax Lepeletier, 1823. Monog. Tenthred., p. 64. ♀, ♂.
Pontania quadrijasciata MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 399).
- **groenlandicus* Malaise. Greenland, N. W. T., Alaska; Circumboreal. Host: Prob. *Salix* sp.
Amauronematus groenlandicus Malaise, 1933. Skr. om Svalb. og Ischavet 53: 3. ♀.
- **hebes* Konow. N. W. T.; prob. Circumpolar.
Amauronematus hebes Konow, 1907. Akad. Nauk. Fiz.—Mat. Otd. Zap. 18(3): 17. ♀.
- **helleni* Lindqvist. Que., Man., N. W. T.; Scandinavia.
Amauronematus helleni Lindqvist, 1941. Not. Ent. 21: 65. ♀, ♂.
- **histrion* (Lepeletier). Northeastern, west to Colo.; Circumboreal. Host: *Salix* sp.
Nematus histrion Lepeletier, 1823. Monog. Tenthred., p. 63. ♀.
Nematus luteotergum Norton, 1861 (syn. by Benson, 1962, *loc. cit. supra*, p. 400).
- **hulteni* Malaise. Man., N. W. T., Yukon; Siberia.
Amauronematus variabilis var. *hulteni* Malaise, 1931. Arkiv för Zool. 23 A(8): 43. ♀, ♂.
- islandica* (Kincaid). Alaska. Erroneously placed as a syn. of *peninsularis* Kincaid in Catalog (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).
- **itelmena* (Malaise). Man.; Siberia. Host: *Salix alexensis*.
Pontopristia itelmena Malaise, 1931. Arkiv för Zool. 23 A(8): 54. ♀.
- **leptocephalus* (Thomson). Man.; Arctic Eurasia.
Nematus leptocephalus Thomson, 1862. Svenska Vetensk. Akad. Förhandl. Öfvers. 19: 632. ♀.
- **leucolaenus* (Zaddach). Ont., Man., Sask., Alta., N. W. T., Yukon, Alaska.
Nematus leucolaenus Zaddach, 1882. Phys. Okon. Ges. Königsb. Schr. 23: 196. ♀.
Pontania unga Kincaid 1900 (syn. by Benson, 1962, *loc. cit. supra*, p. 402).
- **longicauda* (Hellén). Man., B. C.; Lapland.
Nematus (Amauronematus) longicauda Hellén, 1948. Not. Ent. 27: 113. ♀.
- lorata* (MacGillivray). Syn. of *Pontania crassipes* (Thomson).
- luteotergum* (Norton). Syn. of *histrion* (Lepeletier).
- **microphyes* (Foerster). Ont.; Europe. Host: *Salix* sp.
Nematus microphyes Foerster, 1854. Naturh. Ver. Preuss. Rheinl. Verh. 11: 344. ♀.
- neglectus* (Kirby). Ont., Ill., Man., N. W. T., Colo., Yukon, B. C.; Lapland, Siberia. Host: *Salix* sp. Transf. from Unplaced Nematinae, p. 54 (*teste* Benson 1962, *loc. cit. supra*, p. 400).
- **nitidipleuris* Malaise. Greenland, Man.; Circumpolar.
Amauronematus nitidipleuris Malaise, 1931. Arkiv för Zool. 23 A(8): 45. ♀.
- orbitalis* Marlatt. Syn. of *viduatus* (Zetterstedt).
- peninsularis* (Kincaid). Transf. to *Phyllocolpa* Benson. Delete *islandica* Kincaid from syn.
- **polaris* (Holmgren). N. W. T., Alta. Alaska; Circumboreal. Host: *Salix* sp.
Nematus polaris Holmgren, 1883. Ent. Tidskr. 4: 143. ♀.

- ***pravus** Konow. Alaska; N. Eurasia. Host: *Salix* sp.
Amauronematus pravus Konow, 1896. Termes. Fuzetek 18: 176. ♀.
- ***sagmarius** Konow. Ont., Man., Alta., N. W. T., Alaska; Circumboreal. Host: *Salix* sp.
Amauronematus sagmarius Konow, 1896. Termes. Fuzetek 18: 177. ♀, ♂.
- ***semilacteus** (Zaddach). B. C.; N. and Cent. Europe. Host: *Salix* sp.
Nematus semilacteus Zaddach, 1883. Phys. Okon. Ges. Königsb. Schr. 24: 148. ♀.
- ***stordalensis** (Strand). N. W. T., Alaska.
Nematus stordalensis Strand, 1905. Second Norw. Arctic Exped. "Fram" Rpt., no. 3, p. 7. ♀, ♂.
 **Nematus marginifer* Strand, 1905, *loc. cit. supra*, p. 8. ♂. (Syn. by Benson, 1962, *loc. cit. supra*, p. 400.)
Amauronematus cogitatus MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 400).
Amauronematus varianus MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 400).
- suavis** (Ruthe). Syn. of **amentorum** (Foerster).
- ***tillbergi** Malaise. N. W. T., Alaska; Arctic Europe and Siberia. Host: *Salix* sp.
Amauronematus tillbergi Malaise, 1920. Ent. Tidskr. 40: 125. ♀.
- unga** (Kincaid). Syn. of **leucolaenus** (Zaddach).
- ***variator** (Ruthe). Man., N. W. T., Yukon; Circumboreal. Host: *Salix* sp.
Nematus variator Ruthe, 1859. Stett. Ent. Ztg. 20: 308. ♀.
- varianus** MacGillivray. Syn. of **stordalensis** (Strand).
- ***viduatus** (Zetterstedt). Ont., Sask., Oreg.; Europe.
Tenthredo viduata Zetterstedt, 1838. Ins. Lap., v. 1, p. 351. ♀.
Amauronematus orbitalis Marlatt, 1896 (syn. by Benson, 1962, *loc. cit. supra*, p. 402).

Unplaced Nematinae, pp. 54-55

- ***Nematus desmodioides** Walsh, 1866. Ent. Soc. Philad. Proc. 6: 257. ♀, ♂.
 [Has been considered the same as *N. inquilinus* Walsh, 1866; the latter is also unplaced.]
- ***Nematus latus** Cresson, 1880. Amer. Ent. Soc. Trans. 8: 4. ♀.
 Nomenclature: Catalog, p. 43, under **ventralis** Say.
- Nematus neglectus** Kirby. Transf. to **Amauronematus** Konow.
- Pontania salicum** Cockerell in Aldrich, 1905. Smiths. Misc. Coll., v. 46, p. 163. *Nom. nud.*

EMPRIA subgenus EMPRIA Lepeletier, pp. 55-56

- ***candidata** (Fallén). N. Que. and N. W. T. west to Alta. and Yukon; Circumpolar. Host: *Betula* sp.
Tenthredo candidata Fallén, 1807. Svenska Vetensk. Akad. Handl. 28: 105.
 Distribution: Benson, 1962, *loc. cit. supra*, p. 390.

Genus ALLANTUS Panzer, pp. 58-59

basalis (Klug). Host: Rose.

Genus ARDIS Konow, p. 66

- sulcata** (Cameron). Delete from Catalog; a misidentification (*teste* D. R. Smith, 1965. Pan-Pacific Ent. 41: 9).
- ***brunniventris** (Hartig). Holarctic; Ont. south to N. C. west to B. C. and Calif.
Monophadnus brunniventris Hartig, 1837. Fam. Blattw. und Holzw., p. 274. ♀.
 Biology: Middlekauff, 1958. Pan-Pacific Ent. 43: 202 (**sulcata** Cameron).

Genus LAGIUM Konow, p. 69

atroviolaceum (Norton). Wis., Kans.

tardum (Norton). Kans.

Genus TENTHREDO Linnaeus, pp. 71-78

**colon* Klug. Labrador, Que., Ont.; Holarctic. Hosts: Polyphagus.

Tenthredo (Allantus) colon Klug, 1814. Mag. Gesell. Naturf. Freunde Berlin 8: 182. ♀, ♂.

Tenthredo nigricollis Kirby, 1882 (syn. by Benson, 1962, *loc. cit. supra*, p. 392).

Tenthredo jocosa Provancher, 1882 (syn. by Benson, 1962, *loc. cit. supra*, p. 392).

Tenthredo livida of Catalog, not Linnaeus, p. 75 (syn. by Benson, 1962, *loc. cit. supra*, p. 392).

**alaskana* (Enslin). Syn. of *devia* (Konow).

**devia* (Konow). Alaska; Holarctic.

Allantus devius Konow, 1900. Ent. Nachr. 26: 124. ♀.

Allantus heraclei Kincaid, 1900 (syn. by Benson, 1959. Roy. Ent. Soc. Lond. Proc. (B) 28: 98). Preocc.

**Allantus alaskanus* Enslin, 1910. Rev. Russe d'Ent. 10: 371 (syn. by Benson, 1959, *loc. cit. supra*, p. 98). N. name for *heraclei* Kincaid.

jocosa Provancher. Syn. of *colon* Klug.

livida of Catalog, not Linnaeus. Syn. of *colon* Klug.

nigricollis Kirby. Syn. of *colon* Klug.

Unrecognized Species of *Tenthredo* Linnaeus, p. 78

heraclei Kincaid. Syn. of *devia* (Konow).

Genus MACROPHYA Dahlbom, pp. 79-82

bifasciata (Say), corrected spelling of *bifasciatus* of Catalog.

Superfamily SIRICOIDEA

Family SIRICIDAE

Genus SIREX Linnaeus, p. 83

Biology: Flanders, 1962. Canad. Ent. 94: 1133-1147.

areolatus (Cresson). Adventive in Eastern States, emerging from lumber.

behrensii (Cresson).

Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 301.

californicus (Ashmead).

Taxonomy: Benson, 1963. Ent. Mo. Mag. 98: 252 (subsp. of *juvencus* Linnaeus).

edwardsii Brullé. Ark.

juvencus (Linnaeus).

Taxonomy: Benson, 1963, *loc. cit. supra*, p. 252 (subsp.).

longicauda Middlekauff. Colo., Idaho, Utah, Oreg.; adventive in Eastern States, emerging from lumber.

Taxonomy: Middlekauff, 1962. Pan-Pac. Ent. 38: 31-32. ♂.

varipes Walker. Adventive in Eastern States, and Britain, emerging from lumber.

Taxonomy: Benson, 1963, *loc. cit. supra*, p. 252 (hybrid of *juvencus juvencus* Linnaeus x *juvencus californicus* Ashmead).

Genus UROCERUS Geoffroy, p. 84

californicus Norton. Adventive in Eastern States, emerging from lumber.

cressoni Norton. Minn.

Genus XERIS A. Costa, p. 84, Sup. 1, p. 17

morrisoni morrisoni (Cresson). Ariz.

spectrum townesi Maa. Idaho, Ariz.

Genus TREMEX Jurine, pp. 84-85

Nomen Nudum in Tremex Jurine

**Tremex hospes* Cockerell, 1889. Colo. Biol. Assn. Rpt. 10: [3]. *Nom. nud.*

Family ORUSSIDAE

Catalog: Guiglia, 1957. Mus. Civ. Stor. Nat. Genova Ann. 69: 48-59 (supplement).

Superfamily CEPHOIDEA

Family CEPHIDAE

Genus JANUS Stephens, p. 88

bimaculatus (Norton). Wis., Minn.

integer (Norton). Wash.

Suborder APOCRITA

Superfamily ICHNEUMONOIDEA

Family BRACONIDAE

Taxonomy: Hellen, 1958. Soc. Fauna Flora Fennica, Fauna Fennica 4: 3-37.—Beardsley, 1961. Haw. Ent. Soc. Proc. 17: 333-366.—Baltazar, 1962. Pacific Insects 4 (4): 750-771.—Marsh, 1963. Ent. Soc. Amer. Ann. 56: 522-527.

Morphology: Riegel, 1948. Ent. Soc. Amer. Ann. 41: 439-449 (wings).—Iwata, 1959. Kontyu 27: 231-238.—Oeser, 1961. Berlin Zool. Mus. Mitt. 37: 70-71.

Larval taxonomy and anatomy: Short, 1952. Roy. Ent. Soc. London Trans. 103: 67-84.

Subfamily APHIDIINAE

This group has been given family rank by some authors, including Quilis, 1931 (Eos 7: 25, 27), Stelfox, 1941 (Roy. Irish Acad. Proc. 46 (B): 126-127), Stary, 1960 (Acta Soc. Ent. Česosl. 57: 238-252) and Mackauer, 1961 (Beitr. z. Ent. 11: 792-803).

Taxonomy: Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 53-96 + 12 pls.—Stary, 1960. Acta Soc. Ent. Česosl. 57: 238-252.—Mackauer, 1961. Beitr. z. Ent. 11: 96-154, 792-803.

Biology: Mackauer, 1961. Ztschr. f. Parasitenk. 20: 576-591.—Stary, 1962. Acta Soc. Ent. Česosl. 59: 42-58.

Genus EPHEDRUS Haliday, p. 91

Embryology: Ivanova-Kasas, 1956. Ent. Obozr. 35: 245-261.

Taxonomy: Stelfox, 1941. Roy. Irish Acad. Proc. 46: 125-142.—Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 64-85.

californicus Baker. B. C.

Ephedrus nevadensis Baker. Remove to syn. under *persicae* Froggatt.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 923.

- incompletus** (Provancher). N. B. Host: *Macrosiphum agrimoniella* (Ckll.).
- nevadensis** Baker. Remove from syn. under **californicus** Baker and place as syn. of **persicae** Froggatt, *teste* Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 343-354; also Mackauer, 1963. Canad. Ent. 95: 924.
- nitidus** Gahan. Syn. of **persicae** Froggatt, *teste* Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 343-354.
- ***persicae** Froggatt. Distribution world-wide. Hosts: *Myzus persicae* (Sulz.), *M. cerasi* (F.), *M. momonis* Mats., *M. mumecola* Mats., *M. ligustri* (Mosley), *Brachycaudus persicicola* (Boisd.), *B. cardui* (L.), *B. amygdalinus* (Schout.), *B. klugkisti* (Börn.), *B. helichrysi* (Kalt.), *B. lychnidis* (L.), *Brevicoryne brassicae* (L.), *Dysaphis plantaginea* (Pass.), *D. crataegi* (Kalt.), *D. devecta* (Wlkr.), *Macrosiphum euphorbiae* (Thos.), *Allocotaphis quaestionis* (Börn.), *Toxoptera aurantii* (Fonsc.), *Aphis fabae* Scop., *A. idaei* v. d. Goot, *A. rubrorum* (Börn.), *A. craccivora* Koch, *A. medicaginis* Koch, *A. umbrella* (Börn.), *Longiunguis pyramis* (Pass.), *Phorodon humuli* (Schrank), *Rhopalosiphum padi* (L.), *R. maidis* Fitch, *Roeckea marchali* (Börn.)
- Ephedrus persicae** Froggatt, 1904. Agr. Gaz. 15: 611-612. ♀.
- Ephedrus nevadensis** Baker, 1909. (Syn. by Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 352.)
- Ephedrus nitidus** Gahan, 1917. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- ***Ephedrus vidali** Quilis, 1931. Eos 7: 72. ♀. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- ***Ephedrus pulchellus** Stelfox, 1941. Roy. Irish Acad. (B) 46: 133. ♀. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- ***Ephedrus interstitialis** Watanabe, 1941. Insecta Matsumurana 15: 139. ♀. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- ***Ephedrus impressus** Granger, 1949. Inst. Sci. Madagascar Mem. (A) 2: 412. ♀, ♂. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- ***Ephedrus (E.) holmani** Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3(34): 63, 68-79. ♀, ♂. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- Taxonomy: Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 343-354.

Genus PRAON Haliday, pp. 91-92

Taxonomy: Mackauer, 1959. Beitr. z. Ent. 9: 810-865 (revision of European species).—Mackauer, 1961. Beitr. z. Ent. 11: 794.

abjectum (Haliday). Change from **abjectus**.

aguti C. F. Smith. N. B.; Calif. Hosts: *Macrosiphum frigidicola* (G. and P.), *Myzus persicae* (Sulz.).

Biology: Sekhar, 1957. Ent. Soc. Amer. Ann. 50: 370-375.—Sekhar, 1959. Current Sci. 28: 333-335.—Sekhar, 1960. Canad. Jour. Zool. 38: 593-603.

alaskense Ashmead. Change from **alaskensis**.

americanum (Ashmead). Change from **americanus**.

nanus Baker.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 925-926.

occidentale Baker. Change from **occidentalis**.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 926-927.

Biology: Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

palitans Muesebeck. Ariz., Calif., Colo., Kans., Nebr., Nev., N. Mex., Utah. Hosts: *Therioaphis maculata* (Buckt.), *T. riehmii* (Börner).

Praon exoletum palitans Muesebeck. Mackauer, 1959. Beitr. z. Ent. 9: 832, 870.

Propagation: Finney, Putler and Dawson, 1960. Jour. Econ. Ent. 53: 657.

- Colonization and establishment: Van den Bosch, *et. al.*, 1959. Jour. Econ. Ent. 52: 136-141.—Barnes, 1960. Jour. Econ. Ent. 53: 1094-1096.
- Biology: Van den Bosch, *et. al.*, 1959. Jour. Econ. Ent. 52: 142-154.—Schlinger and Hall, 1959. Jour. Econ. Ent. 52: 154-157.—Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 144-159.
- Taxonomy: Mackauer, 1959. Beitr. z. Ent. 9: 829-833, 870.
- pequodorum** Viereck. Remove from syn. under **simulans** (Provancher). Replaces **simulans** of Catalog and authors, not Provancher (*teste* M. J. P. Mackauer, *in litt.*). U. S. and south. Canada. Hosts: *Acerthosiphon pisum* (Harris); *Macrosiphum euphorbiae* (Thomas).
- simulans** (Provancher). Ont.; Md. Host: *Dactynotus rudbeckiae* (Fitch). Not **simulans** (Provancher) of authors and Catalog, which is really **pequodorum** Viereck (*teste* Mackauer, *in litt.*). Remove **pequodorum** Viereck from syn. and treat as valid sp.
- unicum** C. F. Smith. Change from **unicus**. Calif. Hosts: *Aphis rumicis* L., *Macrosiphum ambrosiae* (Thomas), *M. rosae* (L.), *Myzus persicae* (Sulz.), *Phorodon menthae* (Buckt.).
- Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 411.—Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.
- virginiense** Ashmead. Change from **virginiensis**.

Genus MONOCTONUS Haliday, p. 92

***crepidis** (Haliday). Que., N. B.

Aphidius crepidis Haliday, 1834. Ent. Mag. 2: 94. ♀, ♂.

***Monoctonus paludum** Marshall, 1896. *In* André, Spec. Hym. Eur. Alg. 5: 548. ♀.

Taxonomy: Stary, 1959. Acta Soc. Ent. Čechosl. 56: 246-247.

Biology: Griffiths, 1960. Bul. Ent. Res. 51: 303-319.—Griffiths, 1961. Bul. Ent. Res. 52: 147-161.

***Genus EUAPHIDIUS** Mackauer

Aphidius subg. **Euaphidius** Mackauer, 1961. Beitr. z. Ent. 11: 110.

Type: *Aphidius pterocommae* Ashmead. Orig. desig.

Euaphidius Mackauer, changed status. Mackauer, 1961, Beitr. z. Ent. 11: 801.

Insert in Aphidiinae following **Monoctonus** Haliday, p. 92.

pterocommae (Ashmead). N. B., Mich., Iowa, Utah. Hosts: *Pterocomma bicolor* (Oestl.), *Clavigerus populifoliae* (Fitch). Transf. from

Aphidius Nees, p. 94, *teste* Mackauer, 1961. Beitr. z. Ent. 11: 110.

Aphidius gregarius Marshall, 1896. *In* André, Spec. Hym. Eur. Alg. 5: 569. Syn. by Mackauer, 1961, *loc. cit. supra*, p. 110.

Aphidius pterocommae Marshall, 1896. *In* André, Spec. Hym. Eur. Alg. 5: 578. Syn. by Mackauer, 1961, *loc. cit. supra*, p. 110.

Genus XENOSTIGMUS C. F. Smith

(= *Aphidius* subgenus **Xenostigmus** C. F. Smith, p. 92)

Raised to generic rank (*teste* Stary, 1960. Acta Soc. Ent. Čechosl. 57: 238, 247, 251).

Taxonomy: Mackauer, 1961. Beitr. z. Ent. 11: 801.

bifasciatus (Ashmead). Calif.

Taxonomy: Stary, 1960, *loc. cit. supra*, p. 251.

APHIDIUS subgenus PROTAPHIDIUS Ashmead, pp. 92-93

Protaphidius Ashmead (= *Coelonotus* Foerster, praec.) is not known to occur in North America, *teste* Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 90. All species in Catalog are transf. to **Pausesia** Quilis.

*Genus PAUESIA Quilis

Pauesia Quilis, 1931. Eos 7: 67.

Type: *Pauesia albuferensis* Quilis. Orig. desig.

Place in Aphidiinae after *Xenostigmus* C. F. Smith, p. 92.

Aphidius subg. *Protaphidius* of Catalog and authors. (Syn. by Stary, through *Paraphidius* Stary, 1961. Acta Ent. Mus. Natl. Pragae 34: 22). All species listed in Catalog under *Aphidius* subg. *Protaphidius*, pp. 92-93, are to be transf. to *Pauesia* and all are to be cited as n. combs., except *californicus* (Ashmead) which was transf. to *Pauesia* by Stary, 1961; all adjectival names are to have feminine endings and all author names are to be in parentheses.

Aphidius subg. *Paraphidius* Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 91.

Type: *Aphidius californicus* Ashmead. Monob. and orig. desig.

Paraphidius Stary, 1960. Acta Faun. Ent. Mus. Natl. Pragae 6: 5. (Changed status).

Taxonomy: Stary, 1960. Acta Faun. Ent. Mus. Natl. Pragae 6: 5-44 (revision of European species).

californica (Ashmead). Va.; Ont.

**ponderosae* (Muesebeck). B. C.; Calif. Host: *Cinara* sp.

Aphidius (*Protaphidius*) *ponderosae* Muesebeck, 1958. Ent. News 69: 141. ♀, ♂.

Genus APHIDIUS Nees, pp. 92-96

**Incubus* Schrank, 1802. Fauna Boica, v. 2, p. 173.

Type: *Ichneumon aphidum* Linnaeus. By monotypy.

Incubus Schrank suppressed, and *Aphidius* Nees placed on Official List of Generic Names with *Aphidius avenae* Haliday as type, Opinion 284, Internatl. Comm. Zool. Nomencl., October, 1954.

The groups treated in the Catalog as subgenera of *Aphidius* are now considered valid genera, *teste* Stary, 1960. Acta Faun. Ent. Mus. Natl. Pragae 6: 6.—Stary, 1960. Acta Soc. Ent. Cechosl. 57: 238.

Embryology: Ivanova-Kasas, 1956. Ent. Obozr. 35: 245-261.

**alius* Muesebeck. Calif. Host: *Macrosiphum rosae* (L.).

Aphidius (*Aphidius*) *alius* Muesebeck, 1958. Ent. News 69: 142.

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 405.—Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

coloratus Baker.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 928-930.

confusus Ashmead. Hosts: *Macrosiphum rudbeckiae* (Fitch), *M. rosae* (L.).

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 405.—Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

delicatus Baker.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 928.

ferruginosus Baker, changed status.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 930-931.

**matricariae* Haliday. Holarctic. Hosts: *Aphis fabae* Scop., *A. gossypii* Glov., *A. helianthi* Monell, *A. nasturtii* Kalt., *A. rumicis* L., *A. umbrella* (Börner), *Anuraphis crataegifoliae* (Fitch), *Aulacorthum solani* (Kalt.), *Brachycaudus amygdalinus* (Schout.), *B. cardui* (L.), *B. helichrysi* (Kalt.), *B. lychnidis* (L.), *Calaphis* sp., *Capitophorus* sp., *Dactynotus rudbeckiae* (Fitch), *Galiobium langei* Börner, *Liosomaphis berberidis* (Kalt.), *Macrosiphoniella abrotani* (Wlkr.), *Macrosiphum rosae* (L.), *Metopolophium dirhodum* (Wlkr.), *Myzus ajugae* Schout., *M. certus* (Wlkr.), *M. ornatus* Laing, *Nasonovia ribis-nigri* (Mosl.), *Neomyzus circumflexus* (Buckt.), *Ovatus* sp., *Phorodon humuli* (Schrank),

Rhopalosiphum padi (L.), *Sappaphis mali* (Ferr.), *S. plantaginea* (Pass.), *Schizaphis graminum* (Rond.).

**Aphidius cirsi* Haliday, 1834. Ent. Mag. 2: 101. ♀. Preocc. (Syn. by Schlinger and Mackauer, 1963. Ent. Soc. Amer. Ann. 56: 648.)

Aphidius matricariae Haliday, 1834. Ent. Mag. 2: 103. ♀, ♂.

**Aphidius arundinis* Haliday, 1834. Ent. Mag. 2: 104. ♀. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

Aphidius phorodontis Ashmead, 1889 (1888). U. S. Natl. Mus. Proc. 11: 658, 662. ♀, ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

**Aphidius polygona* Marshall, 1896. In André, Spec. Hym. Eur. Alg., v. 5, p. 602. ♀. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

**Aphidius lychnidis* Marshall, 1896. In André, Spec. Hym. Eur. Alg., v. 5, p. 607. ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

**Aphidius valentinus* Quilis, 1931. Eos 7: 46. ♀. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

**Aphidius affinis* Quilis, 1931. Eos. 7: 48. ♀, ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

**Aphidius renominatus* Hincks, 1943. Ent. Monthly Mag. 79: 44. N. name for *A. cirsi* Haliday, preocc. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

Aphidius nigritleus C. F. Smith, 1944. Aphidinae of No. Amer., pp. 51, 61. ♀, ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, pp. 648-649.)

Taxonomy, biology, distribution, hosts: Schlinger and Mackauer, 1963. Ent. Soc. Amer. Ann. 56: 648-653.

nigrripes Ashmead. N. B., N. C., Kans., Minn., Calif. Hosts: *Macrosiphum arvenae* (F.), *Aphis nasturtii* Kalt., *Dactynotus ambrosiae* (Thomas).

Biology: Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

nigritleus C. F. Smith. Syn. of *matricariae* Haliday.

ohioensis C. F. Smith. N. B. Host: *Dactynotus rudbeckiae* (Fitch).

pisivorus C. F. Smith. Syn. of **pulcher** Baker.

phorodontis Ashmead. Syn. of *matricariae* Haliday.

polygonaphis (Fitch). N. B.

pulcher Baker. North Amer.

Aphidius pisivorus C. F. Smith. (Syn. by Mackauer, 1963, Canad. Ent. 95: 931-932.)

Taxonomy: Mackauer, 1963, loc. cit. supra, pp. 931-932.

ribis Haliday. B. C.

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 407.

rosae Haliday. Delete from Catalog. I have seen no authentically identified specimens of this species from No. America. The records given under **rosae** in the Catalog apparently apply to **nigrripes** Ashmead.

***salicis** Haliday. Europe; N. B., Ont., Calif. Host: *Cavariella aegopodii* (Scop.)

Aphidius salicis Haliday, 1834. Ent. Mag. 2: 102. ♀, ♂.

***smithi** Sharma and Subba Rao. India; Calif., Wash., Idaho, Colo., Kans., Wis., Hawaii. Host: *Acyrtosiphon pisum* (Harris).

Aphidius (Aphidius) smithi Sharma and Subba Rao, 1959 (1958). Indian Jour. Ent. 20: 183. ♀, ♂.

Biology: Hagen and Schlinger, 1960. Calif. Agr. 14: 5.—Wiackowski, 1962. Polskie Pismo Ent. 32: 253-310.

Genus **LYSAPHIDUS** C. F. Smith

(= *Aphidius* subgenus *Lysaphidus* C. F. Smith, p. 95)

Raised to generic rank (*teste* Stary, 1960. Acta Soc. Ent. Āechosl. 57:

238, 248, 250). Author names of the contained species are placed in parentheses.

Taxonomy: Narayanan, *et al.*, 1962. Beitr. z. Ent. 12: 676-677.

adelocarinus (C. F. Smith). N. B., Calif. Hosts: *Aphis helianthi* Monell, *Capitophorus shepherdiae* G. and B.

rosaphidis (C. F. Smith). N. B.

Genus **LYSIPHLEBUS** Foerster

(= *Aphidius* subgenus *Lysiphlebus* Foerster, pp. 95-96)

Raised to generic rank (*teste* Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 230-236.—Stary, 1960. Acta Soc. Ent. Česosl. 57: 238, 248, 250). Place in parentheses author names of **knowltoni** and **utahensis** and remove parentheses from author of **flavidus**.

Taxonomy: Mackauer, 1960, *loc. cit. supra*, pp. 230-236.—Mackauer, 1960. Beitr. z. Ent. 10: 582-623.—Stary, 1961. Polskie Pismo Ent. 31: 97-103.

chrysoaphidis C. F. Smith. Syn. of **testaceipes** (Cresson).

***distinctus** Mackauer. Nev. Host: *Microsiphum acophorum* S. & K.

Lysiphlebus (*Lysiphlebus*) **distinctus** Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 236. ♀, ♂.

fuscicornis (Ashmead). Transf. from **Diaeretus** Foerster, p. 97, *teste* Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 240.

salicaphis (Fitch). Transf. from **Diaeretus** Foerster, p. 97, *teste* Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 243.

testaceipes (Cresson). South. Canada, all Continental U. S.; Mexico, West Indies, Central and S. America, Hawaii. Hosts: *Aphis fabae* Scop., *A. pseudohederae* Theob., *A. spiraeicola* Patch, *Rhopalosiphum maidis* (Fitch).

Aphidius (*Lysiphlebus*) **chrysoaphidis** C. F. Smith, 1944. Aphidiinae of No. Amer., pp. 77, 78. ♀, ♂. Syn. by Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 245.

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 407-409.

TRIOXYS subgenus **TRIOXYS** Haliday, pp. 96-97

utilis Muesebeck. Ariz., Calif., Nev., N. Mex., Utah; Mexico, Iraq, Iran, Israel, Turkey. Hosts: *Therioaphis maculata* (Buckt.), *T. riehmii* (Börner).

Propagation: Finney, Putler, and Dawson, 1960. Jour. Econ. Ent. 53: 658.

Distribution and importance: Van den Bosch, 1957. Jour. Econ. Ent. 50: 353-356.

Colonization and establishment: Van den Bosch, *et al.*, 1959. Jour. Econ. Ent. 52: 136-141.—Barnes, 1960. Jour. Econ. Ent. 53: 1094-1096.

Biology: Van den Bosch, *et al.*, 1957. Jour. Econ. Ent. 52: 142-154.—Schlinger and Hall, 1959. Jour. Econ. Ent. 52: 154-157.—Schlinger and Hall, 1961. Ent. Soc. Amer. Ann. 54: 34-45.—Hall, Schlinger and Van den Bosch, 1962. Ent. Soc. Amer. Ann. 55: 566-568.

Taxonomy: Mackauer, 1959. Beitr. z. Ent. 9: 168, 872.—Hall, Schlinger and Van den Bosch, 1962. Ent. Soc. Amer. Ann. 55: 566-588.

TRIOXYS subgenus **ACANTHOCAUDUS** C. F. Smith, p. 97

***schlingeri** Muesebeck. B. C. (near Lytton). Host: *Macrosiphum ambrosiae* (Thomas).

Trioxys (*Acanthocaudus*) **schlingeri** Muesebeck, 1958. Ent. News 69: 144. ♀, ♂.

Genus **DIAERETUS** Foerster, p. 97

Delete from Catalog. No North American species known. Transf. **rapae** (M'Intosh) to **Diaeretiella** Stary, with **chenopodiaphidis** (Ashmead) as syn.

under *rapae*; transf. *fuscicornis* (Ashmead) and *salicaphis* (Fitch) to *Lysiphlebus* Foerster.

*Genus **DIAERETIELLA** Stary

Diaeretus of authors, not Foerster.

Diaeretiella Stary, 1960. Acta Soc. Ent. Českosl. 57: 242, 248.

Type: *Aphidius rapae* M'Intosh. Orig. desig.

Insert in Aphidiinae after *Lysiphlebus* Foerster, p. 96.

Taxonomy: Stary, 1961. Acta Ent. Mus. Natl. Pragae 34: 383-397.—
Mackauer, 1961. Beitr. z. Ent. 11: 801.

rapae (M'Intosh). Distribution virtually world-wide. Hosts: *Cuernavaca noxius* (Mordv.), *Aphis acanthi* Schrank, *A. rumicis* L., *A. nasturtii* Kalt., *Calaphis betulaeaccolens* (Fitch), *Euceraphis betulae* (Koch), *Hayhurstia atriplicis* (L.), *Hyadaphis foeniculi* (Pass.), *Macrosiphum euphorbiae* (Thos.), *Rhopalosiphum maidis* (Fitch), *Myzaphis beibienkoi* Narzyk., *Schizaphis scirpi* (Kittle).

Lipolexis chenopodiaphidis Ashmead. (Syn. by Stary, 1961. Acta Ent. Mus. Natl. Pragae 34: 385.)

**Diaeretus nipponensis* Viereck, 1911. U. S. Natl. Mus. Proc. 40: 182. ♂, ♀. (Syn. by Stary, 1961, loc. cit. supra, p. 385).

**Diaeretus napus* Quilis, 1931. Eos 7: 71. ♀. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

**Aphidius affinis* Quilis, 1931. Eos 7: 48. ♀, ♂. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

**Diaeretus plesiorapae* Blanchard, 1940. Rev. Chil. Hist. Nat. 44: 45. ♀, ♂. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

**Diaeretus aphidum* Mukerji and Chatterjee, 1950. Roy. Ent. Soc., London Proc. (B) 19: 4. ♀, ♂. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

*Genus **BOREGALBA** Mackauer

Boregalba Mackauer, 1962. Canad. Ent. 94: 1107.

Type: *Boregalba gladifer* Mackauer. By monotypy and orig. desig.

Insert in Aphidiinae after *Diaeretus* Foerster, p. 97.

**gladifer* Mackauer. Que. (Great Whale River).

Boregalba gladifer Mackauer, 1962. Canad. Ent. 94: 1108. ♀.

Subfamily **EUPHORINAE**

Tribe **METEORINI**

Genus **METEORUS** Haliday, pp. 98-101

acronyctae Muesebeck. Host: *Halisodota ingens* Hy. Edw.

angustipennis Muesebeck. W. Va.

argyrotaeniae Johansen. Wis.

autographae Muesebeck. Host: *Autoplusia egena* (Gn.).

bakeri Cook and Davis. Wis. Host: *Dasychira plagiata* (Wlkr.).

campestris Viereck. Maine.

**clinophthalmicus* Shenefelt. Wis. (Nekoosa).

Meteorus clinophthalmicus Shenefelt, 1961. Ent. Soc. Wash. Proc. 63: 276. ♀, ♂.

dimidiatus (Cresson). Hosts: *Epizeuxis* sp., *Platynota stultana* Wlsm.

fumipennis Muesebeck. Ariz.

hypophlaei Cushman. Idaho.

indagator (Riley). Host: *Dioryctria auranticella* (Grote).

- laphygmae** Viereck. N. Mex.; Costa Rica, Columbia, Venezuela. Host: *Prodenia eridania* (Cram.).
- levis** Muesebeck. Calif.
- maximus** Muesebeck. S. C., Ga.
- niveitarsis** (Cresson). Maine, Mass., Wis., Oreg., Alaska. Host: *Eulype hastata* (L.).
- ***pinifolii** Mason. Calif., B. C., Alta. Host: *Recurvaria milleri* Busck.
Meteorus pinifolii Mason, 1960. Canad. Ent. 92: 143. ♀, ♂.
- politus** (Provancher). Mich., Minn.
- proximus** (Cress.). Minn.
- tauricornis** (Provancher). Md., Fla.
- tersus** Muesebeck. Host: *Amorbia essigana* Busck.
Biology: Fleschner, Ricker, and Johnson, 1957. Calif. Avocado Soc. Ybk. 41: 115.
- tibialis** Muesebeck. Ont. Host: *Hyperplatys aspersa* (Say).
- trachynotus** Viereck. N. S., Maine, Tenn., Mich., Wis., Minn., Iowa, Colo. Distribution apparently includes all U. S. Hosts: *Dioryctria reniculella* (Grote), *Choristoneura pinus* Freem., *Archips rosanus* (L.), *Epismus argutanus* (Clem.).
Biology: McGugan, 1955. Canad. Ent. 87: 178-187.
- versicolor** (Wesmael).
Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 114.—
Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 60.

*Tribe EUPHORINI

Biology: Muesebeck, 1963. Ent. Soc. Wash. Proc. 65: 306 (host relations).

Genus ARIDELUS Marshall, p. 98

- melanderi** (Brues). N. Y., Tenn.
- nigrithorax** Muesebeck. S. C.

Genus PERILITUS Nees, p. 101

Taxonomy and host relations: Smith, 1953. Ohio Jour. Sci. 53 (3): 173-178.

- coccinellae** (Schrank). Hosts: *Coccinella novemnotata* Hbst., *C. septempunctata* L., *C. quinquepunctata* L., *Adonia variegata* (Goeze), *Halysia quattuordecimguttata* Balduf, *Coleomegilla maculata lengi* Timb.
Biology: Stich, 1929. Ztschr. f. wiss. Insektenbiol. 24: 91-95.—Ibrahim, 1955. Soc. Ent. d'Egypte Bul. 39: 414-416.—Hudon, 1959. Canad. Ent. 91:63-64.—Walker, 1961. Ent. Monthly Mag. 97: 240-244.

*Genus ROPALOPHORUS Haliday

Ropalophorus Haliday, 1840. In Westwood, Introd. Mod. Classif. Ins. 2, Synopsis p. 61.Type: *Microctonus clavicornis* Wesmael. By monotypy and orig. desig.Insert in Euphorinae following *Perilitus* Nees, p. 101.

- ***wisconsinensis** Shenefelt. Wis. (Nekoosa).
Ropalophorus wisconsinensis Shenefelt, 1960. Ent. Soc. Amer. Ann. 53: 543. ♀.

*Genus STREBLOCERA Westwood

Streblocera Westwood, 1833. Phil. Mag. and Jour. Sci. (3) 3: 342.Type: *Streblocera fulviceps* Westwood. By monotypy.

- ***Eutanycerus** Foerster, 1862. Naturh. Ver. Rheinlande Verh. 19: 251.
Type: *Eutanycerus halidayanus* Foerster. By monotypy.

**Lecythodella* Enderlein, 1912. Arch. f. Naturgesch. 78A (2): 41.

Type: *Lecythodella garleppi* Enderlein. By monotypy.

Place in Euphorinae after *Perilitus* Nees, p. 101.

Taxonomy: Muesebeck, 1936. U. S. Dept. Agr. Misc. Pub. 241, pp. 13-14.
—De Saeger, 1942. Rev. de Zool. et de Bot. Africaines 35: 376-385.—Watanabe, 1942. Insecta Matsumurana 16: 1-12.—De Saeger, 1946. Exploration du Parc National Albert, fas. 50, pp. 144-178.—Granger, 1949. Inst. Sci. Madagascar, Mem., Ser. A., Biol. Anim., v. 2, pp. 318-320.—Walley, 1963. Canad. Ent. 95: 999-1001.

**pulvillicornis* Walley. Que. (Gatineau Park).

Sireblocera pulvillicornis Walley, 1963. Canad. Ent. 95: 999. ♀.

Genus MICROCTONUS Wesmael, p. 102

Taxonomy and host relations: Smith, 1953. Ohio Jour. Sci. 53 (3): 173-178.

aethiops (Nees). N. J., Fla., Ariz. Hosts: *Hypera meles* (F.), *H. nigrirostris* (F.), *H. postica* (Gyll.), *Sitona crinita* Hbst., *S. hispidula* (F.), *S. humeralis* Steph., *S. spp.*

Biology: Loan and Holdaway, 1961. Canad. Ent. 92: 1057-1079.—Coles and Putler, 1963. Jour. Econ. Ent. 56: 609-610.

carabivorus Muesebeck. Md., Tenn., Mich., Iowa, Idaho.

**invictus* Muesebeck. Calif., Ariz. Host: *Trigonoscuta* sp.

Microctonus invictus Muesebeck, 1961. Brooklyn Ent. Soc. Bull. 56: 59. ♀, ♂.

**pachylobii* Muesebeck. La., Fla. Host: *Pachylobius picivorus* (Germar).

Microctonus pachylobii Muesebeck, 1961. Brooklyn Ent. Soc. Bull. 56: 58. ♀, ♂.

**sitonae* Mason. Ont. Host: *Sitona scissifrons* Say.

Microctonus sitonae Mason, 1960. Canad. Ent. 92: 436. ♀, ♂.

Biology: Loan, 1963. Ent. Soc. Amer. Ann. 56: 605-611.

vittatae Muesebeck. Apparently distributed over most of U. S. and south. Canada; also in Hawaii, Japan and Korea. Hosts: *Phyllotreta striolata discedens* Weise, *P. s. lineolata* Chitt., *P. bipustulata* (F.).

Taxonomy: Watanabe, 1955. Mushi 29 (8): 51-55.

Biology: Nagasawa, 1943. Mushi 15: 103-107.—Nagasawa, 1943. Shokubutsu oyobi Dobutsu 11: 460-466 (In Japanese).—Nagasawa, 1947. Seibutsu 2: 48-52.—Nagasawa, 1948. Bul. Takarazuka Insectarium 58, 18 pp. (In Japanese).—Smith and Peterson, 1950. Jour. Econ. Ent. 43: 581-585.—Smith, 1952. Univ. Calif. Pub. Ent. 9: 315-344.—Smith, 1953. Ohio Jour. Sci. 53 (3): 173-178.

Genus WESMAELIA Foerster, p. 102

pendula Foerster. Calif., Alaska. Host: *Nabis* sp.

Biology: Muesebeck, 1963. Ent. Soc. Wash. Proc. 65: 306.

Genus MYIOCEPHALUS Marshall, p. 102

boops (Wesmael). Maine, Mich., Minn., Tex., N. Mex., Calif. Distribution apparently includes all U. S.

Genus SYNTRETUS Foerster, pp. 102-103

Biology: Cole, 1959. Ent. Monthly Mag. 95: 18-21. First record of host association. Hosts are adults of Ichneumonidae.

Genus EUPHORIELLA Ashmead, p. 103

sommermanae Muesebeck.

Biology: Sommerman, 1956. Ent. Soc. Wash. Proc. 58 (3): 149-152

Genus EUPHORIANA Gahan, p. 103

uniformis Gahan. Iowa, Utah, Calif. Host: *Lygus elisus* Van Duzee.

*Genus LEIOPHRON Nees

(= *Euphorus* Nees, pp. 103-104)

Leiophron Nees, 1818. Nova Acta Acad. Leop. Carol. 9: 103. No species.

Leiophron Nees, Haliday, 1833. Ent. Mag. 1: 263. Three species.

Type: *Leiophron apicalis* (Curtis) Haliday. Desig. by Vier-
eck, 1914.

Replaces *Euphorus* Nees, which falls as a syn. of **Leiophron** (*teste*
Muesebeck, 1958. U.S. Natl. Mus. Proc. 107: 410-412).

pallipes (Curtis). Sask. Hosts: *Adelphocoris lineolatus* (Goeze), *Chlamy-
datus* sp., *Lygus lineolaris* (Beauv.), *Plagiognathus medicagus*
Arrand.

tuberculatus (Muesebeck). N. H.

Subfamily COSMOPHORINAE

Placement of this group in the cyclostomine section of the Braconidae
seems not to be tenable. The clypeus, while impressed, is not circularly emar-
ginate as in cyclostomines, and in habits and larval structure the species
resemble the Euphorinae. For the present the group is treated here as a
distinct subfamily, but it is removed from the cyclostomine section of the
family and placed after the Euphorinae. It may eventually need to be rein-
corporated in that subfamily.

Taxonomy: Hedqvist, 1955. Ent. Tidskr. 76: 92-98.—Watanabe, 1960.
Insecta Matsumurana 23: 55.

Biology: Hedqvist, 1955, *loc. cit. supra*, p. 92.

Genus COSMOPHORUS Ratzeburg, Sup. 1, p. 36

pityophthori Rohwer. Colo., Idaho, Wash. Host: *Pityophthorus nitidulus*
(Mann.).

Subfamily MACROCENTRINAE

Genus MACROCENTRUS Curtis, pp. 104-107

Taxonomy: Eady and Clark, 1964. Ent. Gaz. 15: 97-127 (revision of the
European spp.).

aegeriae Rohwer. Syn. of **marginator** (Nees).

affinis Muesebeck. Minn., Idaho.

ancyliivorus Rohwer. Host: *Sparganothis sulfurana* (F.).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 15-24.—Put-
nam, 1963. Canad. Ent. 95: 1022-1023.

atratus Muesebeck. N. C., Fla., Iowa.

cerasivoranae Vereck. Hosts: *Archips argyrospilus* (Wlkr.), *A. infumatanus*
(Zell.).

clypeatus Muesebeck. N. H.

crambi (Ashmead). N. Y., Md., La., Ark.

euniculus Walley. Mont.

delicatus Cresson. Host: *Tetralopha scortealis* (Led.).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 19, 24-25.

exartemae Walley. Host: *Exartema valdanum* McD.

gifuensis Ashmead. Delete; not known to occur in No. Amer. Records in
Catalog apply to **grandii** Goidanich.

***grandii** Goidanich. Europe, Japan; No. Amer. Replaces *gifuensis* Ashmead of Catalog (*teste* Eady and Clark, 1964. Ent. Gaz. 15: 121-122).

Macrocentrus grandii Goidanich, 1937. Ist. Ent. Univ. Bologna Bol. 9: 196. ♀.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 113 (as *gifuensis* Ashmead).

impressus Muesebeck. Fla.

incompletus Muesebeck. N. Mex., Ariz.

instabilis Muesebeck.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 26.

iridescens French. Host: *Harpiteryx xylostella* (L.).

***marginator** (Nees). All U. S. except southern tier of States; also N. S. to B. C. in Canada; Europe. Hosts: As given under *aegeriae* in Catalog and 1st Sup.; also, in Europe, *Aegeria culiciformis* Esp., *A. formicaeformis* Esp., *A. flaviventris* Staud., *A. speciformis* Schiff., *A. espiniformis* (L.), *Epinotia sordidana* Hübn., *E. caprana* (F.) and *Lathronympha strigana* (F.).

Bracon marginator Nees, 1812 (1811). Gesell. Naturf. Freunde Berlin Mag. 5: 14. ♀.

Macrocentrus aegeriae Rohwer. (Syn. by Eady and Clark, 1964. Ent. Gaz. 15: 113.)

nigradorsis Viereck. Utah, Oreg., Calif. Hosts: *Choristoneura conflictana* (Wlkr.), *Sciaphila duplex* Wlsm., *Sparganothis* sp.

reticulatus Muesebeck. N. C., Fla.

texanus Muesebeck. Kans., Ariz.; Mexico.

utilis Muesebeck. Fla.

Subfamily HELCONINAE

Genus HELCONIDEA Viereck, p. 108

ligator (Say). Host: *Agrius anxius* Gory.

Genus HELCON Nees, p. 108

***Edyia** Cameron, 1905. Ann. Mag. Nat. Hist. (7), 16: 159. (Syn. by Baltazar, 1961. Philippine Jour. Sci. 90 (3): 392.)

Type: *Edyia annulicornis* Cameron. By monotypy.

Genus METEORIDEA Ashmead, p. 109

***Benama** Nixon, 1941. Bul. Ent. Res. 32: 98. (Syn. by Shenefelt and Muesebeck, 1957. Ent. Soc. Wash. Proc. 59: 130.)

Type: *Benama hutsoni* Nixon. By monotypy and orig. desig.

Taxonomy: Shenefelt and Muesebeck, 1957. Ent. Soc. Wash. Proc. 59: 129-134.

***compressiventris** Shenefelt and Muesebeck. Wis. (Douglas Co.).

Meteoridea compressiventris Shenefelt and Muesebeck, 1957. Ent. Soc. Wash. Proc. 59: 131. ♀.

Subfamily BLACINAE

Tribe BLACINI

Genus BLACUS Nees, p. 110

Miocolus Foerster, 1862. (Syn. by Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88.)

In line with current literature *Canychorus* Haliday and *Goniocormus* Foerster are kept as synonyms of *Blacus* Nees, but it seems likely that when a critical study of the group is made both will be recognized as distinct genera.

Biology: Arnaud, 1952. Ent. News 63: 149-150.

*Genus PYGOSTOLUS Haliday

Pygostolus Haliday, 1833. Ent. Mag. 1: 263.

Type: *Cryptus stricticus* Fabricius. By monotypy.

Insert in Blacinae after *Syrhrhizus* Foerster, p. 110.

**falcatus* (Nees). Man. Host: *Sitona cylindricollis* Fahr.; in Europe, *Sitona lineatus* (L.), *S. humeralis* Steph., *S. hispidulus* (F.).

Leiophron falcatus Nees, 1834. Hym. Ichn. Aff. Monogr., v. 1, p. 44. ♀

Biology: Loan and Holdaway, 1961. Bul. Ent. Res. 62: 473-488.—Loan, 1961. Jour. Econ. Ent. 54: 1026-1031.—Loan, 1963. Ent. Soc. Amer. Ann. 56: 605-606.

Genus ORGILUS Haliday, p. 111

dioryctriae Rohwer. Host: *Dioryctria auranticella* (Grote).

gelechia (Ashmead). N. S., P. E. I., Que., Ont. Hosts: *Lithocolletis* sp., *Gracilaria* sp. on *Cornus canadensis*.

obscurator (Nees). Que., Ont., Mass., R. I., N. Y., N. J., W. Va., Mich. Hosts (in Europe): *Semasia hypericana* (Hbn.), *Exoteleia dodecella* (L.).

Biology: Watson and Arthur, 1959. Canad. Ent. 91: 481.—Miller, 1960. Jour. Econ. Ent. 53: 318.—Juillet, 1960. Canad. Ent. 92: 342-346.—Leius, 1960. Canad. Ent. 92: 371-375.—Juillet, 1960. Canad. Ent. 92: 701-704.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 62.

Genus EUBADIZON Nees, pp. 111-112

**definitum* Muesebeck. Oreg., Calif. Hosts: *Conophthorus ponderosae* Hopk., *Ernobius* sp.

Eubadizon definitum Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 53. ♀, ♂.

**electum* Muesebeck. Oreg., Calif.; B. C. Host: *Phymatodes* sp.

Eubadizon electum Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 54. ♀, ♂.

**ernobii* Muesebeck. Calif., Oreg. Host: *Ernobius* sp.

Eubadizon ernobii Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 51. ♀, ♂.

**extensor* (Linnaeus). Europe, U. S., South. Canada, Japan. Hosts: *Choristoneura muriana* (Hbn.), *Depressaria heracleana* (L.), *Epinotia nigricana* (H.-S.), *E. pusillana* Peyer., *Spilonota lariciana* Hein., *Zeiraphera griseana* (Hbn.), *Z. rufimatrana* (H.-S.).

Ichneumon extensor Linnaeus, 1758. Syst. Nat., 10th Ed., p. 564.

Eubadizon pleurale Cresson, 1872. N. syn. (based on comparison of type with material from Europe and Japan by C. F. W. Muesebeck).

Biology: Capek, 1956. Biologia 11: 602.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 27-29.

gracile Provancher. N. H., Mass., Wis., Minn., Oreg. Hosts: *Acleris variana* (Fern.), *Eucordylea ducharmeii* Freem., *Evagora starki* (Freem.), *Recurvaria apicitripunctella* (Clem.).

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. No. 767, p. 57.—Stark, 1961. Canad. Jour. Zool. 39: 895.

**salicicola* Muesebeck. Calif. Host: *Dorytomus* sp. on willow.

Eubadizon salicicola Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 55. ♀, ♂.

Genus STANTONIA Ashmead, p. 112

carpocapsae Muesebeck. Tex.

Genus MICROTYPUS Ratzeburg, p. 113

dioryctriae Rohwer. Host: *Dioryctria auranticella* (Grote).

Tribe TRIASPIDINI

Genus UROSIGALPHUS Ashmead, pp. 113-114

barberi Crawford. Conn., N. Y., Ala., Fla.**forbesi** Martin. Miss. Host: *Curculio* sp. on *Quercus falcata*.**robustus** Ashmead. Ark.

Genus ALIOLUS Say, Sup. 1, pp. 22-24

collaris (Brues). Ark. Host: *Conotrachelus nenuphar* (Hbst.).**crabilli** Martin. Ark.**curculionis** (Fitch). Ont. Host: *Listronotus oregonensis* (Lec.), *Tyloderma foveolatum* Say.

Biology: Armstrong, 1958. Canad. Ent. 90: 16-17.

marginatus Martin. Tenn., Mich.**rufus** (Riley). Ont. Hosts: *Conotrachelus nenuphar* (Hbst.), *Tyloderma foveolatum* Say.**trilobatus** (Say). Md., Va., Mich.

TRIASPIS subgenus TRIASPIS Haliday, Sup. 1, p. 24

kurtogaster Martin. Wis. Host: *Conotrachelus nenuphar* (Hbst.).***xanthochila** Martin. Ont. (Belleville).*Triaspis (T.) xanthochila* Martin, 1958. Canad. Ent. 90: 191. ♀.

Subfamily AGATHIDINAE

Genus CREMNOPS Foerster, pp. 115-116

Revision: Marsh, 1961. Ent. Soc. Amer. Ann. 54: 851-861.

ashmeadi (Morrison). Md., Ind., Alta.**californicus** (Morrison). N. Mex., Ariz., Colo., Wyo., Utah, Nev., Oreg., Wash.**comstocki** (Morrison). Kans., Nebr., Idaho.**crassifemur** (Muesebeck). Calif.**haematodes** (Brullé). Fla., Ariz., Calif.**melanoptera** Ashmead. Idaho, Nev., Wash.**montrealensis** (Morrison). Sask., N. C., Ala., S. Dak., Kans., Tex.**nigrosternum** (Morrison). N. Y., N. J., Md., D. C., S. C., Mich, Ark., Kans., Colo., N. Mex., Utah, Ariz., Calif.***shenefelti** Marsh. Nev., Calif.*Cremnops shenefelti* Marsh, 1961. Ent. Soc. Amer. Ann. 54: 857. ♂, ♀.**virginiensis** (Morrison). Maine, Kans., Colo., Tex., Ariz., Wash.**washingtonensis** (Shenefelt). Nebr., Utah, Nev., Idaho, Oreg., Calif.

Genus EARINUS Wesmael, p. 116

zeirapherae Walley. Oreg. Hosts: *Zeiraphera griseana* (Hbn.), *Rhyacionia adana* Heinr.

Genus AGATHIRISIA Westwood, pp. 116-117

cressoni Muesebeck and Walkley. Colo.**testacea** Muesebeck. Calif.; Mexico.

Genus CRASSOMICRODUS Ashmead, p. 117

apicipennis Muesebeck. Mo., Iowa, Wyo., Calif.

divisus (Cresson). Fla., Ariz.

fulvescens (Cresson). Calif.; Mexico.

medius (Cresson). Tex., Ariz.

***muesebecki** Marsh. Calif.

Crassomicrodus muesebecki Marsh, 1960. Pan-Pacific Ent. 36: 153. ♀, ♂.

nigrithorax Muesebeck. Calif.; Mexico.

palleus (Cresson). Fla.

Genus **AGATHIS** Latreille, pp. 117-121

abdominalis (Muesebeck). Mich., Ariz.

acrobasidis (Cushman). Va. Hosts: *Laspeyresia ingens* Heinr., *Rhyacionia frustrana* (Comst.), *Choristoneura fumiferana* (Clem.).

agilis (Cresson). Maine, Vt. Hosts: *Archips cerasivoranus* (Fitch), *Spilonota ocellana* (D. and S.).

annulipes (Cresson). Wyo., Utah, Idaho, Ariz., Calif. Hosts: *Paralobesia viteana* (Clem.), *Enarmonia interstinctana* (Clem.).

atripes Cresson. Ariz.

bakeri (Muesebeck). Mich., Minn.

binominata Muesebeck. Que. Hosts: *Petrova comstockiana* (Fern.), *Phalonia rutilana* (Hbn.), *Recurvaria coniferella* Kft.

brevicornis (Muesebeck). Idaho.

buttricki (Viereck). Fla.

calcarata (Cresson). Minn. Hosts: *Exartema permandanum* Clem., *E. sericoranum* Wlsm., *Sparganothis sulfurana* (F.).

coleophorae (Roh.). Idaho. Host: *Coleophora laricella* (Hbn.).

difficilis (Muesebeck). N. C., Ark.

diversa (Muesebeck). Mich.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 72-73.—
Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 30-31.

festiva Muesebeck.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 31-34.

gibbosa (Say). Host: *Mompha eloisella* Clem.

laticincta (Cresson). Wis., Oreg. Hosts: *Acleris variana* (Fern.), *Archips cerasivoranus* (Fitch).

nigripes Cresson. N. Mex., Calif.

pumila (Ratzeburg). N. S., P. E. I., N. B., Mich., Wis.

Biology: Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 47.

reticulata (Muesebeck). Mo.

rufofemorata (Muesebeck). Nebr.

simillima (Cresson). Host: *Papaipema nebris* (Gn.).

spiracularis (Muesebeck). Fla., Calif. Hosts: *Cogia outis* (Skin.), *Erynnis gesta* H.-S., *E. zarucco* Luc., *Systasea pulverulenta* (Feld.).

stigmatra (Cresson). La.

Subfamily **MICROGASTERINAE**

Genus **DIRRHOPE** Foerster, p. 122

americana Muesebeck. Mich., Tex.

*Genus MUESEBECKIA Mason

Muesebeckia Mason, 1957. *Canad. Ent.* 89: 355.

Type: *Muesebeckia eximius* Mason. By monotypy and orig. desig.

Insert in Microgasterinae following *Paroligoneurus* Muesebeck, p. 122.

**eximius* Mason. *Ont., Que., N. C.*

Muesebeckia eximius Mason, 1957. *Canad. Ent.* 98: 355. ♀, ♂.

Genus APANTELES Foerster, pp. 123-135

alaskensis (Ashmead). Calif.

alticola (Ashmead). N. H., Idaho, Calif.

argynnidis Riley. Tex. Host: *Erynnis funeralis* (Scud. and Burg.).

autographae Muesebeck. Que., Va. Hosts: *Autoplusia egena* (Gn.), *Pseudalletia unipuncta* (Haw.), *Rachiplusia ou* (Gn.).

banksi Viereck. N. Y., Mich.

bedelliae Viereck. Hawaii.

bushnelli Muesebeck. Fla. Hosts: *Dioryctria abietella* (D. and S.), *D. clarioralis* (Wlkr.).

cacoeciae Riley. Hosts: *Archips cerasivoranus* (Fitch), *Exartema valdanum* McD.

californicus Muesebeck. Host: *Eucosma bobana* Kearf.

Biology: Telford, 1961. *Jour. Econ. Ent.* 54: 347-355.—Stark, 1961. *Canad. Jour. Zool.* 39: 894.

canarsiae Ashmead. Ont. Hosts: *Acrobasis betulella* Hulst, *Argyrotaenia velutinana* (Wlkr.), *Dioryctria reniculella* (Grote).

carpatus (Say). Hosts: *Tinca despecta* Meyr., *Oecia maculata* Wlsm.

**Urogaster solitarius* Ashmead, 1901. *Ent. Soc. London Trans.*, 1900, p. 287. ♀. Preocc. Syn. by Muesebeck, 1958. U. S. Natl. Mus. Proc. 107: 431.

**Apanteles piceoventris* Muesebeck, 1921. U. S. Natl. Mus. Proc. 58: 515. N. name for *solitarius* (Ashmead). Syn. by Muesebeck, 1958, *loc. cit. supra*, p. 431.

Biology: Key and Common, 1959. *Austral. Jour. Zool.* 7: 64.

cinctiformis Viereck. Ind., Wis.

cingiliae Muesebeck. Hosts: *Enypia venata* (Grote), *E. griseata* Grossb.

clavatus (Provancher). Wis., Ark. Host: *Etiella zinckenella* (Treit.).

cockerelli Muesebeck. Mich., Mo., Nebr., Calif.

conanchetorum Viereck. N. Y., D. C., W. Va., Mich., Wis., Ark. Host: *Loxostege mancalis* (Led.).

congregatus (Say).

Biology: Lawson, 1959. *Ent. Soc. Amer. Ann.* 52: 743-744.

consimilis Viereck. Pa., Ohio, Mich.

cyaniridis Riley. Ill. Hosts: *Philotes battatoides bernardino* B. and McD., *Incisalia henrici* (G. and R.).

edwardsii Riley. Minn., Iowa.

electrae Viereck. Tex. Host: *Automeris io* (F.).

empretiae Viereck. Mass. Host: *Lithacodes fasciola* (H.-S.).

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 60.

ensiger (Say). Ala., Colo.

**enypiae* Mason. B. C. Hosts: *Enypia griseata* Grossb., *E. venata* (Grote).

Apanteles enypiae Mason, 1959. *Canad. Ent.* 91: 47. ♀, ♂.

epiblemae Muesebeck. Fla., Calif.

epinotiae Viereck. Hosts: *Carpocapsa pomonella* (L.), *Keiferia lycopersicella* (Busck), *Platynota stultana* Wlsm., *Stegasta basqueella* (Chamb.), *Suleima helianthana* (Riley).

Biology: Satterthwaite, 1948. Jour. Econ. Ent. 41: 730.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 34-35.

etiellae Viereck. Colo., Ariz., Calif.

feltiae Viereck. Mich., Utah, Ariz., Calif.

flaviconchae Riley. Utah, Wash.

Biology and taxonomy: Muesebeck, 1947. Pan-Pacific Ent. 23: 21-22.

forbesi Viereck. Ariz.

fumiferanae Viereck. Hosts: *Dioryctria reniculella* (Grote), *Thymelicus lincola* (Ochs.).

Biology: McGugan, 1955. Canad. Ent. 87: 178-187.—Miller, 1959. Canad. Ent. 91: 457-477.—McGugan and Blais, 1959. Canad. Ent. 91: 774.—Lewis, 1960. Canad. Ent. 92: 881-891.

***galleriae** Wilkinson. France, Argentina, Mauritius; N. C., S. C., Ga. Host: *Galleria mellonella* (L.).

Apanteles galleriae Wilkinson, 1932. Stylops 1: 139. ♀, ♂.

gillettei Baker. Ariz.

glomeratus (Linnaeus). New Zealand.

Distribution: Todd, 1962. New Zealand Jour. Sci. 5: 1-7.

Biology: Matsuzawa, 1955. Kagawa-Ken Agr. Co. Tech. Bul. 7, p. 60.—Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 77.—Blunck and Wilbert, 1959. Internat. Congr. Crop Prot. Proc. 4, v. 1, p. 1017.—Moiseeva, 1960. Leningrad. Vsesoiuzn. Inst. Rast. Trudy, 14: 51.

griffini Viereck. Okla., S. Dak.

harrisinae Muesebeck. Calif. Host: *Harrisina americana* (Guer.).

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 60.—Clausen, 1961. Hilgardia 31: 613-638.

harti Viereck. Mich.

hesperidivorus Viereck. Fla., Ariz. Host: *Hylephila phyleus* (Drury).

hyphantriae Riley. Europe.

Biology: Tadič, 1958 (1956). Tenth Intern. Congr. Ent. Proc. 4: 859-861.

koebelei Riley. Host: *Euphydryas chalcedona* (D. and H.).

lacteicolor Viereck.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 78.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 48.

***laricellae** Mason N. B., Ont., Wis. Hosts: *Argyresthia laricella* Kft., *Coleophora laricella* (Hbn.).

Apanteles laricellae Mason, 1959. Canad. Ent. 91: 45. ♀, ♂.

laspeyresiae Viereck. Hosts: *Laspeyresia miscitata* Heinr., *Hedulia injectiva* Heinr.

longicornis (Provancher).

Biology: Wood and Neilson, 1960. Canad. Ent. 92: 760.

marginiventris (Cresson). Calif., Hawaii. Hosts: *Ethmia colonella* Wlsm., *Heliothis virescens* (F.), *Hymenia recurvalis* (F.), *Scotorythra caryopsis* Meyr., *Spodoptera exempta* (Wlkr.), *S. mauritia acronyctoides* (Gn.).

medicaginis Muesebeck.

Biology: Allen, 1958. Hilgardia 27: 515-541.—Allen and Smith, 1958. Hilgardia 28: 1-42.—Stern and Bowen, 1963. Ent. Soc. Amer. Ann. 56: 358-372.

- megathymi** Riley. N. C. Host: *Megathymus ursus* Poling.
- melanoseclus** (Ratzeburg).
Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 79.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 48.
- miantonomoi** Viereck. Mich.
- militaris** (Walsh). N. B., N. Mex., Ariz. Apparently distributed over all U. S. and south. Canada; also in Mexico and Hawaii. Hosts: *Chorizagrotis auxiliarius* (Grote), *Laphygma exigua* (Hbn.).
- neomexicanus** Muesebeck. Mich., Idaho.
- nephotericis** (Packard). N. Y., Ind., Iowa, Calif. Host: *Vitula edmandsii serratilineella* Rag.
- niger** Muesebeck. Va., Mich., Minn.
- nitens** Muesebeck. Colo., Wyo., Calif. Host: *Pseudaletia unipuncta* (Haw.).
- ornigis** Weed. Que. Hosts: *Bucculatrix ainssiella* Murf., *Lithocolletis robin-iella* Clem., *Tischeria malifoliella* Clem.
- paleacritae** Riley. Hosts: *Enypia venata* (Grote), *E. packardata* Tayl.
- papaipemae** Muesebeck. Ohio. Host: *Arzama obliqua* Wlkr.
- paralechia** Muesebeck. N. H., Pa., Ohio, Tenn., Wis., Calif. Host: *Argyresthia* sp.
Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 61.
- paranthrenidis** Muesebeck. Pa., Fla., Miss.; Mexico. Host: *Paranthrene doli* Neum., *Prionoxystus* sp. in red oak.
- petrovae** Walley. S. C., Wis., Minn., Calif. Hosts: *Barbara colfaxiana* Kearf., *Rhyacionia frustrana* (Comst.).
- plathypenae** Muesebeck. N. Y., Ind., Idaho, Wash. Hosts: *Anagrapha falcifera* (Kirby), *Autographa precationis* (Gn.), *Rachiplusia ou* (Gn.).
- plesius** Viereck. Wis.
- polychrosidis** Viereck. Fla., Kans., Wis., Minn. Hosts: *Gracilaria superbi-frontella* Clem., *Archips rosanus* (L.), *Argyrotaenia citrana* (Fern.).
- pseudoglossae** Muesebeck. Mich., Minn.
- pyralidis** Muesebeck. D. C., N. C., Ohio, Ark.
- ***salalicus** Mason. Oreg. Host: *Lithocolletis gaultheriella* Wlsm.
Apanteles salalicus Mason, 1959. Canad. Ent. 91: 42. ♀.
- ***salicifoliellae** Mason. Ont. Host: *Lithocolletis salicifoliella* Chamb.
Apanteles salicifoliellae Mason, 1959. Canad. Ent. 91: 43. ♀, ♂.
- schaffneri** Muesebeck. N. J., Tex. Hosts: *Euclea delphinii* Bdv., *Parasa* sp.
Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 62.
- scitulus** Riley. Ky., Ill.
- scutellaris** Muesebeck. Ariz.; Bulgaria.
Taxonomy: Beardley, 1961. Hawaii. Ent. Soc. Proc. 17: 341, 346.
- solitarius** (Ratzeburg).
Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 79-80.—Dowden, 1962. U. S. Dept. Agr. Agr. Handb. 226, p. 49.
- ***starki** Mason. Alta, B. C., Utah, Idaho. Hosts: *Evagora starki* (Freem.), *Recurvaria milleri* Busck.
Apanteles starki Mason, 1960. Canad. Ent. 92: 140. ♀, ♂.
- theciae** Riley. Colo. Host: *Plebejus icarioides* (Bdv.).
Biology: Downey, 1962. Ent. Soc. Amer. Ann. 55: 367-373.
- tischeriae** Viereck. Wis., Mo. Hosts: *Parornix geminatella* (Pack.), *Argyrotaenia velutinana* (Wlkr.).

yakutatensis Ashmead. Idaho, Calif.

**zizaniae* Muesebeck. D. C., Del. Host: *Diatraea* sp. in wild rice.
Apanteles zizaniae Muesebeck, 1957. Ent. News 68: 22. ♀, ♂.

Genus MICROGASTER Latreille, pp. 135-137

auripes Provancher. Mich., Nebr., N. B. Hosts: *Farontia diffusa* (Wlkr.),
Pseudaletia unipuncta (Haw.).

brittoni Viereck. Mich.

calliptera Say. Iowa, Nebr.

canadensis Muesebeck, N. S. Hosts: *Archips argyrospilus* (Wlkr.), *Stilpnotia salicis* (L.).

comptanae Viereck. Va., Iowa.

congregatifformis Viereck. Mich.

ecdytolophae Muesebeck. Nebr. Hosts: *Carpocapsa pomonella* (L.), *Walshia amorphella* Clem.

Biology: Brandhorst, 1962. Ent. Soc. Amer. Ann. 55: 477.—Allen, 1962.
U. S. Dept. Agr. Tech. Bul. 1265, p. 36.

epagoges Gahan. Hosts: *Acleris chalybeana* (Fern.), *Anacamptis rhoifrutella* (Clem.), *Sparganothis acerivorana* MacKay.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 62.

facetosa Weed. Host: *Argyrotaenia velutinana* (Wlkr.).

gelechia Riley. Host: *Gnorimoschema gallaeasterella* (Kell.).

Biology: Judd, 1962. Amer. Micros. Soc. Trans. 81: 204.

harnedi Muesebeck. Mich.

iridescens Cresson. Host: *Sylcpta gordialis* (Gn.).

leechi Walley. Mass., Md., Mich., Oreg.

pantographae Muesebeck. Iowa.

peronea Walley. D. C., Wash. Hosts: *Archips argyrospilus* (Wlkr.), *Peronea logiana* (L.), *Sparganothis pettitana* (Rob.).

phthorimaeae Muesebeck. Hosts: *Udea rubigalis* (Gn.), *Platynota stultana* (Wlsm.).

schizurae Muesebeck. Mich., Ark.

**scotica* Marshall. Europe; Mich.

Microgaster scotica Marshall, 1885. Ent. Soc. London Trans. 1885, p. 251.
♂.

**tiro* Reinhard. Europe; Newfoundland, P. E. I. Host: *Cnephasia virgureana* Treit.

Microgaster tiro Reinhard, 1880. Deut. Ent. Ztschr. 24: 356, 357. ♀, ♂.

zonaria Say. Pa., Fla., Iowa, Wis.

Genus MICROPLITIS Foerster, pp. 137-139

alaskensis Ashmead. Ariz. Hosts: *Rachiplusia ou* (Gn.), *Trichoplusia ni* (Hbn.), *Pseudaletia unipuncta* (Haw.).

autographae Muesebeck. Ariz.

crenulatus (Provancher). Mich.

croceipes (Cresson). Ariz.

feltiae Muesebeck. Calif.

gortynae Riley. Pa.

kewleyi Muesebeck. Calif. Host: *Agrotis ipsilon* (Hufn.).

longicauda Muesebeck. Nev., Calif.

- montanus** Muesebeck. Nev.
perplexus Muesebeck. Mich.
plutellae Muesebeck. Ont., N. Dak.
 Biology: Harcourt, 1960. Canad. Ent. 92: 420-421.
scutellatus Muesebeck. Idaho.
stigmaticus Muesebeck. Calif.
striatus Muesebeck. Mich.
varicolor Viereck. N. B. Host: *Synggrapha epigaea* (Grote).
 Biology: Wood and Neilson, 1960. Canad. Ent. 92: 761.

Subfamily CARDIOCHILINAE

Genus **CARDIOCHILES** Nees, pp. 139-141

- apicalis** (Cresson). D. C., S. C., Fla., Ariz.
insculptus Mao. Fla.
levis Mao. Calif.
magnus Mao. Iowa.
minutus (Cresson). Md.
pullus Mao. Iowa, Calif.
rubicundus Mao. Ariz.
rubidus Mao. Idaho.
tibiator (Say). Fla., Mo.
truncus Mao. Wyo.
viator (Say). N. Y., Mich., Wyo., N. Mex.

Subfamily ICHNEUTINAE

Genus **ICHNEUTIDEA** Ashmead, pp. 141-142

- proteroptoides** Viereck. Miss.

Subfamily CHELONINAE

Genus **PHANEROTOMA** Wesmael, pp. 142-143

- ***Sulydus** Du Buysson, 1897. Soc. Ent. de France Ann. 66: 354. Syn. by Fischer, 1963. Beitr. z. Ent. 13: 195.
 Type: *Sulydus marshalli* Du Buysson. By monotypy.
erythrocephala Rohwer. Ga., Wis., Mont., Calif. Hosts: *Laspeyresia piperana* (Kearf.), *Helulia injectiva* Heinr.
fasciata Provancher. Hosts: *Laspeyresia ingens* Heinr., *L. anaranjada* Miller.
 Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 40-41.
laspeyresiae Rohwer. Mich. Hosts: *Laspeyresia piperana* (Kearf.), *L. miscitata* Heinr., *Helulia injectiva* Heinr.
longicauda Walley. N. Y., Va., Tenn., Wis., S. Dak., Tex.
 ***planifrons** (Nees). Europe, North Africa, West and Central Asia, Siberia, Korea, Japan; Calif. Hosts: *Etiella zinckenella* (Treit.), *Grapholitha molesta* (Busck), *G. glycinivorella* Mats., *Laspeyresia strobilifera* (L.), *Margaronia pyloalis* (Wlkr.), *Phycita diaphana* (Stgr.).
Sigalphus planifrons Nees, 1816 (1813). Gesell. Naturf. Freunde Berlin Mag. 7: 259.

Taxonomy: Watanabe, 1940. *Insecta Matsumurana* 14: 88-89.

Biology: Parker, 1951. U. S. Dept. Agr. Tech. Bul. 1036, pp. 12-16.—
Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 121.

recurvariae Cush. Wis.

thapsina Walley. Ariz., Calif.

tibialis (Haldeman). Ont., Maine, Del., Ala., Ill., Mich., Wis., Minn. Host: *Acrobasis betulella* Hulst.

Genus ASCOGASTER Wesmael, p. 143

flaviceps Ashmead. N. Y.

quadridentata Wesmael. Wis., Colo., Calif. Hosts: *Laspeyresia nigricana* (Steph.), *Spilonota ocellana* (D. and S.).

Biology: Boyce, 1936. *Canad. Ent.* 68: 241-246.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 37-40.

CHELONUS subgenus CHELONUS Panzer, pp. 143-144

annulipes Wesmael. Del., N. Y. Host: *Diatraea grandiosella* Dyar (in lab.).

Biology: Bradley and Arbutnot, 1938. *Ent. Soc. Amer. Ann.* 31: 259-269.—Harris, 1950. *Iowa Yearbook of Agr. for 1949*, pp. 143-159.—Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 91.

aughei (La Munyan). Delete "Locality not given." Nebr. (North Platte).

**inanius* (Linnaeus). Europe; Calif. Host: *Etiella zinckenella* (Treit.).

Cynips inanius Linnaeus, 1767. *Syst. Nat.*, 12th Ed., p. 919.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 91-92.

**muesebecki* McComb. Calif., Alaska, Ariz., Colo., Nev., N. Mex., Oreg., S. D., Utah, Wash.

Chelonus (Chelonus) muesebecki McComb, 1962. *Ent. Soc. Wash. Proc.* 64: 19. ♀, ♂.

nebraskensis (La Munyan). Delete "Locality not given." Nebr. (North Platte).

**phaloniae* Mason. Man. Host: *Phalonia hospes* (Wlsm.).

Chelonus phaloniae Mason, 1959. *Canad. Ent.* 91: 49. ♀, ♂.

CHELONUS subgenus MICROCHELONUS Szepliget, pp. 145-146

egregicolor Viereck. N. H., Mass.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 64.

phthorimaeae Gahan. Idaho; Mexico, Bermuda. Host: *Gnorimoschema gudmanella* (Wlsm.).

Subfamily DACNUSINAE

Taxonomy: Nixon, 1943. *Ent. Monthly Mag.* 79: 23-34, 159-168; 1944.

Idem 80: 88-108, 140-151, 193-200, 249-255; 1945. *Idem* 81: 189-204, 217-220; 1946. *Idem* 82: 279-300; 1948. *Idem* 84: 207-224, 1949. *Idem* 85: 289-298; 1954. *Idem* 90: 257-290.—Riegel, 1947. *The American Species of Dacnusinginae*, Urbana, Illinois, 8 pp.—Docavo, 1955. *Graellsia* 13: 1-34.—Griffiths, 1964. *Beitr. z. Ent.* 14: 823-914 (Dacnusingini).

Biology: Griffiths, 1956. *Ent. Monthly Mag.* 92: 25-30.—Griffiths, 1962. *Ent. Record and Jour. Variation* 74: 183-184.—Griffiths, 1964. *Beitr. z. Ent.* 14: 823-914.

Genus CHOREBUS Haliday, p. 146

Liposcia Foerster, 1862. *Transf. from syn. here to syn. under Pachysema* Foerster.

aquaticus Muesebeck. Minn.

*Genus PACHYSEMA Foerster

Pachysema Foerster, 1862. Naturh. Ver. Rheinlande Verh. 19: 274.

Type: *Dacnusa macropila* Haliday. By monotypy and orig. desig.

Liposcia Foerster, 1862. Transf. from syn. under *Chorebus* Haliday, p. 146.

Place in Dacnusiinae after *Chorebus* Haliday.

As yet no North Amer. species have been recorded.

Taxonomy: Nixon, 1964. Ent. Monthly Mag. 90: 257-274.

Subfamily ALYSIINAE

Taxonomy and Biology: Griffiths, 1962. Ent. Rec. and Jour. Variation 74: 184.—Griffiths, 1964. Beitr. z. Ent. 14: 823-914.

Genus APHAERETA Foerster, p. 148

Taxonomy: McComb, 1960. Ent. News 71: 175-178.

auripes (Provancher). Syn. of *pallipes* (Say).

delosa Viereck. Syn. of *pallipes* (Say).

**excavata* McComb. Ga. (Somerville). Host: *Sarcophaga* sp.

Aphaereta excavata McComb, 1960. Ent. News 71: 176. ♀, ♂.

**masoni* McComb. Ont. (Stratford). Host: *Cordilura* sp.

Aphaereta masoni McComb, 1960. Ent. News 71: 177. ♀, ♂.

pallipes (Say). Ont.; Hawaii. Hosts: *Musca autumnalis* DeG., *M. domestica* L.

Trichesia auripes Provancher (syn. by McComb, 1958. Ent. Soc. Wash. Proc. 60: 223).

Aphaereta delosa Viereck (syn. by McComb, 1958, loc. cit. supra, p. 223).

Aphaereta subtricarinata Viereck (syn. by McComb, 1958, loc. cit. supra, p. 223).

Aphaereta pegomyiae Brues (syn. by McComb, 1958, loc. cit. supra, p. 223).

Aphaereta sarcophagae Gahan (syn. by McComb, 1958, loc. cit. supra, p. 223).

Taxonomy: McComb, 1958. Ent. Soc. Wash. Proc. 60: 223-224.—McComb, 1960. Ent. News 71: 175-178.

Biology: Salkeld, 1959. Canad. Ent. 91: 93-97.

pegomyiae Brues. Syn. of *pallipes* (Say).

sarcophagae Gahan. Syn. of *pallipes* (Say).

subtricarinata Viereck. Syn. of *pallipes* (Say).

Genus IDIASTA Foerster, p. 150

Taxonomy: Königsmann, 1960. Beitr. z. Ent. 10: 624-654.

Genus MESOCRINA Foerster, p. 150

Taxonomy: Königsmann, 1959. Beitr. z. Ent. 9: 609-619.

Genus PHAENOCARPA Foerster, p. 152

picinervis (Haliday). Md. Kans., Idaho.

Subfamily OPIINAE

Taxonomy: Fischer, 1959. Acta Ent. Mus. Natl. Pragae 33: 241-263.—Fischer, 1963. Beitr. z. Ent. 13: 194-222, 662-747.—Fischer, 1964. Polskie Pismo Ent. 34: 197-530.

Genus ADEMON Haliday, p. 152

**Giardinata* Destefani Perez, 1902. Zool. Jahrb. Syst. 15: 631. N. syn. (teste C. F. W. Muesebeck, from literature).

Type: *Giardinaia urinator* Destefani Perez. By monotypy.

Biology: Destefani Perez, *loc. cit. supra*, pp. 625-634.—Rimsky-Korsakov, 1933. Handb. biol. Arbeitsmethoden, Abt. 9, Teil 7, p. 255.

niger (Ashmead). Wis., Minn.

Genus GNAPTODON Haliday, p. 153

nepticulae (Rohwer). N. Y., Md.

Genus OPIUS Wesmael, pp. 153-157

***Tolbia** Cameron, 1907. Linn. Soc. London Trans. (2) 12: 84. Syn. by Baltazar, 1961. Philippine Jour. Sci. 90(3): 392.

Type: *Tolbia scaevolae* Cameron. By monotypy.

***Hexaulax** Cameron, 1910. Soc. Ent. 25: 25. Syn. by Fischer, 1964. Polskie Pismo Ent. 34: 209.

Type: *Hexaulax ruficeps* Cameron. By monotypy.

***Eristernaulax** Viereck, 1913. U. S. Natl. Mus. Proc. 46: 362. Syn. by Fischer, 1963. Polskie Pismo Ent. 33: 272.

Type: *Eristernaulax leucotaenia* Viereck. By monotypy and orig. desig.

Taxonomy. Fischer, 1957. Deut. Ent. Ztschr., N. F. 4: 332-358.—Fischer, 1958. Mus. Civ. Stor. Nat. Genova Ann. 70: 33-70, 245-304.—Fischer, 1958. Hist. Nat. Mus. Nat. Hungarici 50: 241-260.—Fischer, 1958. Naturh. Mus. Wien. Ann. 62: 210-219.—Fischer, 1958. Acta Ent. Mus. Natl. Pragae 32: 295-316.—Fischer, 1958. Beitr. z. Ent. 8: 189-212.—Fischer, 1959. Münchner Ent. Gesell. Mitt. 49: 1-35.—Fischer, 1959. Mus. Civ. Stor. Nat. Genova Ann. 71: 145-161.—Fischer, 1959. Opuscula Ent. 24: 55-78.—Fischer, 1959. Polskie Pismo Ent. 29: 519-542.—Fischer, 1959. Hist. Nat. Mus. Nat. Hungarici 51: 419-423.—Fischer, 1960. Ann. Zool. 19: 33-112.—Fischer, 1962. Naturh. Mus. Wien Ann. 65: 117-131.—Fischer, 1963. Acta Ent. Mus. Natl. Pragae 35: 197-242.—Fischer, 1963. Polskie Pismo Ent. 33: 253-409.

aberrans Viereck. Ont., S. C., Wis.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 464-466.

***aciurae** Fischer. Fla. Host: *Myoleja limata* (Coq.).

Opius aciurae Fisher, 1964. Polskie Pismo Ent. 34: 272. ♀, ♂.

***adductus** Fischer. Calif. Host: *Agromyza* sp.

Opius adductus Fischer, 1964. Polskie Pismo Ent. 34: 413. ♀, ♂.

***alachuanus** Fischer. Fla. (Gainesville).

Opiusalachuanus Fischer, 1964. Polskie Pismo Ent. 34: 379. ♀.

***alconanus** Fischer. Mich. (Alcona Co.).

Opiusalconanus Fischer, 1964. Polskie Pismo Ent. 34: 416. ♀.

alloeus Muesebeck. Pa., Mich., Wis.

***amensis** Fischer. N. Y., Kans., Iowa.

Opiusamensis Fischer, 1964. Polskie Pismo Ent. 34: 309. ♀, ♂.

amplus (Ashmead). Newfoundland, Que., Alta., B. C. Host: *Agromyza albirtarsis* Meig.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 351-352.

***angustistriatus** Fischer. S. C., N. Y.

Opiusangustistriatus Fischer, 1964. Polskie Pismo Ent. 34: 353. ♀.

***apertus** Fischer. Mich. (Midland Co.).

Opiusapertus Fischer, 1964. Polskie Pismo Ent. 34: 417. ♂.

apicalis Gahan. N. Y., Md., Conn., Wis., Kans., Calif. Host: *Liriomyza* sp.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 372-373.

***aquaticus** Muesebeck, n. name. Replaces *hydrelliae* Muesebeck, preocc.

- ***aureliae** Fischer. Europe; Colo., Wash.
Opius aureliae Fischer, 1957. Deut. Ent. Ztschr., N. F., 4: 343. ♀.
 Taxonomy and distribution: Fischer, 1964. Polskie Pismo Ent. 34: 355-356.
- baldufi** Muesebeck. Mich., Host: Replace *Rhagoletis alternata* (Fall.) with *R. basiola* (O. S.).
 Biology: Balduf, 1959. Ill. Biol. Monogr. 26: 32-40.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 357-358.
- ***basicastaneus** Fischer. S. C. (Pickens Co.).
Opius basicastaneus Fischer, 1964. Polskie Pismo Ent. 34: 501. ♂.
- ***berberidis** Fischer. Wash., N. Y. Hosts: *Rhagoletis berberis* Curran, *R. tabellaria* (Fitch).
Opius berberidis Fischer, 1964. Polskie Pismo Ent. 34: 358. ♀, ♂.
- ***bidentis** Fischer. Fla. (Lake Placid).
Opius bidentis Fischer, 1964. Polskie Pismo Ent. 34: 360. ♀, ♂.
- ***blantoni** Fischer. Alaska, Wash., Oreg.
Opius blantoni Fischer, 1964. Polskie Pismo Ent. 34: 338. ♀.
- brunneiventris** Cresson.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 274-276.
- ***brunnescens** Fischer. N. Y.
Opius brunnescens Fischer, 1964. Polskie Pismo Ent. 34: 340. ♀, ♂.
- canaliculatus** Gahan. Ill., Minn., Man.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 277-279.
- ***carinus** Fischer. N. C. (Pink Beds).
Opius carinus Fischer, 1964. Polskie Pismo Ent. 34: 253. ♂.
- ***castaneigaster** Fischer. N. Y., N. C., S. C., Ohio, Tenn., Wis.
Opius castaneigaster Fischer, 1964. Polskie Pismo Ent. 34: 419. ♀, ♂.
- ***chapmani** Fischer. Mass. (So. Hadley).
Opius chapmani Fischer, 1964. Polskie Pismo Ent. 34: 311. ♂.
- cincticornis** Gahan. N. Y., N. J., N. C., Mich., Newfoundland, Que., Sask.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 226-228.
- cinctus** Provancher. Mich., Utah, N. S., Ont., Yukon.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 255-258.
- ***cinereifactus** Fischer. N. Y.
Opius cinereifactus Fischer, 1964. Polskie Pismo Ent. 34: 503. ♀, ♂.
- ***clellanvillensis** Fischer. S. C. (McClellanville).
Opius clellanvillensis Fischer, 1964. Polskie Pismo Ent. 34: 454. ♀.
- ***clevelandensis** Fischer. N. Y., S. C.
Opius clevelandensis Fischer, 1964. Polskie Pismo Ent. 34: 421. ♀, ♂.
- ***coleogaster** Fischer. Fla.
Opius coleogaster Fischer, 1964. Polskie Pismo Ent. 34: 399. ♀, ♂.
- ***columbiacus** Fischer. N. Y., N. C., S. C., Ariz.
Opius columbiacus Fischer, 1964. Polskie Pismo Ent. 34: 466. ♀, ♂.
- ***comatus** Wesmael. Europe; N. Y., Md., S. C.
Opius comatus Wesmael, 1835. Nouv. Mém. Acad. Sci. Bruxelles 9: 145.
 ♀, ♂.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 229-230.
- ***confundens** Fischer. Tex., La., Fla., S. C.
Opius confundens Fischer, 1964. Polskie Pismo Ent. 34: 381. ♀, ♂.
- ***convergtalis** Fischer. N. C. (Pink Beds).
Opius convergtalis Fischer, 1964. Polskie Pismo Ent. 34: 468. ♀.
- coriaceus** Gahan. D. C., Del., N. C., S. C., Ga.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 383-385.

- ***crabtreeanus** Fischer. N. C., N. Y.
Opius crabtreeanus Fischer, 1964. Polskie Pismo Ent. 34: 470. ♀.
- ***crandalli** Fischer. Ariz. (Mt. Lemon).
Opius crandalli Fischer, 1964. Polskie Pismo Ent. 34: 312. ♀.
- ***curtiarticulatus** Fischer. Sask., Mass., N. Y.
Opius curtiarticulatus Fischer, 1964. Polskie Pismo Ent. 34: 315. ♀.
- ***dimensus** Fischer. N. Y. (Ithaca).
Opius dimensus Fischer, 1964. Polskie Pismo Ent. 34: 362. ♀.
- dimidiatus** (Ashmead). Host: *Liriomyza munda* Frick.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 448-450.
- downesi** Gahan. Mich.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 364-365.
- ***dreisbachi** Fischer. Mich., N. Y.
Opius dreisbachi Fischer, 1964. Polskie Pismo Ent. 34: 385. ♀, ♂.
- ***euwattacooanus** Fischer. Md., S. C., Mich.
Opius euwattacooanus Fischer, 1964. Polskie Pismo Ent. 34: 505. ♀, ♂.
- ***extiratus** Fischer. Mass., N. Y., Md.
Opius extiratus Fischer, 1964. Polskie Pismo Ent. 34: 473. ♂.
- ***farmingdalensis** Fischer. N. Y. (Farmingdale).
Opius farmingdalensis Fischer, 1964. Polskie Pismo Ent. 34: 507. ♀.
- ***farmingdalicus** Fischer. N. Y. (Farmingdale).
Opius farmingdalicus Fischer, 1964. Polskie Pismo Ent. 34: 475. ♂.
- ferrugineus** Gahan. N. J.
- flaviceps** Gahan. Que., R. I., N. Y., N. J., N. C.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 423-425.
- foersteri** Gahan. Md., Va., Colo.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 365-367.
- ***foutsii** Fischer. Md. (Cabin John).
Opius foutsii Fischer, 1964. Polskie Pismo Ent. 34: 401. ♀.
- ***frequens** Fischer. Me., N. Y., Mich., Minn., Oreg., Wash., Que., Ont. Man.
 Host: *Rhagoletis fausta* (O. S.).
Opius frequens Fischer, 1964. Polskie Pismo Ent. 34: 279. ♀, ♂.
- fulvicollis** Thomson.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 237-239.
- gahani** Muesebeck. Pa., Wis., Minn.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 281-283.
- ***gahanoides** Fischer. Ill., Mich.
Opius gahanoides Fischer, 1964. Polskie Pismo Ent. 34: 283. ♀.
- ***gainesvillensis** Fischer. Fla., N. C., Md.
Opius gainesvillensis Fischer, 1964. Polskie Pismo Ent. 34: 402. ♀, ♂.
- ***glasgowi** Fischer. N. Y., S. Dak. Host: *Rhagoletis cingulata* (Loew).
Opius glasgowi Fischer, 1964. Polskie Pismo Ent. 34: 286. ♂.
- ***globiformis** Fischer. Md., N. Y., Mich., Wis., Ont.
Opius globiformis Fischer, 1964. Polskie Pismo Ent. 34: 497. ♀, ♂.
- ***globigaster** Fischer. N. Y., Pa., Va., N. C.
Opius globigaster Fischer, 1964. Polskie Pismo Ent. 34: 387. ♀, ♂.
- gracillariae** Gahan.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 425-426.
- ***grafi** Fischer. Md., Va., N. C., S. C.
Opius grafi Fischer, 1964. Polskie Pismo Ent. 34: 389. ♀, ♂.
- ***gravicornis** Fischer. Que. (Wakefield).
Opius gravicornis Fischer, 1964. Polskie Pismo Ent. 34: 230. ♂.

- ***hancockanus** Fischer. N. Y. (Hancock).
Opius hancockanus Fischer, 1964. Polskie Pismo Ent. 34: 426. ♀.
- ***hardmanni** Fischer. Calif., Oreg., Wash.
Opius hardmanni Fischer, 1964. Polskie Pismo Ent. 34: 211. ♀, ♂.
- ***hartleyi** Fischer. Alaska.
Opius hartleyi Fischer, 1964. Polskie Pismo Ent. 34: 258. ♀.
- ***hoffmanni** Fischer. Mich., Ga.
Opius hoffmanni Fischer, 1964. Polskie Pismo Ent. 34: 391. ♀, ♂.
- ***hollisterensis** Fischer. Idaho (Hollister).
Opius hollisterensis Fischer, 1964. Polskie Pismo Ent. 34: 328. ♂.
- hydrelliae** Muesebeck. Preocc. Replaced by **aquaticus** Muesebeck.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 393-395.
- ***igneus** Fischer. Fla., S. C.; Cuba.
Opius igneus Fischer, 1964. Polskie Pismo Ent. 34: 477. ♀, ♂.
- ***ignifer** Fischer. N. Y. (Oneonta).
Opius ignifer Fischer, 1964. Polskie Pismo Ent. 34: 232. ♀.
- ***intermissus** Fischer. S. C.
Opius intermissus Fischer, 1964. Polskie Pismo Ent. 34: 428. ♀, ♂.
- ***irregularis** Wesmael. Europe; Wash., Oreg., N. C., N. Y.
Opius irregularis Wesmael, 1835. Nouv. Mém. Acad. Sci. Bruxelles 9: 132. ♀, ♂.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 336-338.
- ***isolatae** Fischer. Calif., Wash. Host: *Agromyza isolata* Mall.
Opius isolatae Fischer, 1964. Polskie Pismo Ent. 34: 478. ♂, ♀.
- ***ithacensis** Fischer. N. Y. (Ithaca).
Opius ithacensis Fischer, 1964. Polskie Pismo Ent. 34: 239. ♀.
- ***jacobi** Fischer. B. C., Que., Alaska, Wash., Oreg., Calif.
Opius jacobi Fischer, 1964. Polskie Pismo Ent. 34: 329. ♀, ♂.
- ***juglandis** Muesebeck. Ariz. Host: *Rhagoletis juglandis* (Cress.).
Opius juglandis Muesebeck, 1961. Brooklyn Ent. Soc. Bul. 56: 57. ♀, ♂.
- ***juniperi** Fischer. Ariz., Man.
Opius juniperi Fischer, 1964. Polskie Pismo Ent. 34: 288. ♀, ♂.
- ***karesuandensis** Fischer. Sweden; Alaska, Yukon.
Opius karesuandensis Fischer, 1964. Polskie Pismo Ent. 34: 241. ♂, ♀.
- ***kinleyensis** Fischer. Alaska (Mt. McKinley).
Opius kinleyensis Fischer, 1964. Polskie Pismo Ent. 34: 317. ♂, ♀.
- ***krombeini** Fischer. Va. (Arlington).
Opius krombeini Fischer, 1964. Polskie Pismo Ent. 34: 367. ♀.
- kukakensis** (Ashmead). Oreg.
- ***latitemporalis** Fischer. N. Y. (Ithaca).
Opius latitemporalis Fischer, 1964. Polskie Pismo Ent. 34: 509. ♂.
- lectoides** Gahan. N. S., Ont.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 289-291.
- lectus** Gahan. N. B., Ont. Mich., Calif. Host: *Rhagoletis fausta* (O. S.).
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 291-293.
- ***leevingensis** Fischer. Calif. (Leevining).
Opius leevingensis Fischer, 1964. Polskie Pismo Ent. 34: 369. ♂.
- lemnaphilae** Muesebeck.
 Biology: Scotland, 1939. Ent. Soc. Amer. Ann. 32: 716-717.—Scotland, 1940. N. Y. Ent. Soc. Jour. 48: 323-325.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 430-431.

- ***lemonensis** Fischer. Ariz.; Mexico.
Opius lemonensis Fischer, 1964. Polskie Pismo Ent. 34: 319. ♀, ♂.
- ***liriomyzae** Fischer. Calif. (Santa Cruz). Host: *Liriomyza subpusilla* (Frost).
Opius liriomyzae Fischer, 1964. Polskie Pismo Ent. 34: 260. ♂.
- ***macrocerus** Thomson. Europe; Mich.
Opius macrocerus Thomson, 1895. Opusc. Ent. fasc. 20, p. 2186. ♀, ♂.
 **Opius hians* Stelfox, 1949. Ent. Monthly Mag. 85: 306. ♀, ♂.
 Taxonomy and distribution: Fischer, 1964. Polskie Pismo Ent. 34: 321-323.
- ***malivorellae** Fischer. Iowa, S. Dak., W. Va., Mass. Host: *Colcophora malivorella* Riley.
Opius malivorellae Fischer, 1964. Polskie Pismo Ent. 34: 213. ♀, ♂.
- mandibularis** Gahan. R. I., Md., Ga., Ariz. Host: *Phytobia maculosa* (Mall.).
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 215-217.
- ***masoni** Fischer. Ont., Md., N. Y., S. C.
Opius masoni Fischer, 1964. Polskie Pismo Ent. 34: 480. ♀, ♂.
- melleus** Gahan. N. J., Ohio. Host: *Rhagoletis suavis* (Loew).
- ***middlekauffi** Fischer. Calif. (Berkeley). Host: *Pegomya hyoscyami* (Panz.).
Opius middlekauffi Fischer, 1964. Polskie Pismo Ent. 34: 244. ♀, ♂.
- montanus** (Ashmead).
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 511-513.
- ***myakkensis** Fischer. Fla. (Myakka State Park).
Opius myakkensis Fischer, 1964. Polskie Pismo Ent. 34: 404. ♂.
- ***nigritellae** Fischer. Calif. (Berkeley). Host: Near *Phytomyza nigritella* (Zett.).
Opius nigritellae Fischer, 1964. Polskie Pismo Ent. 34: 342. ♀.
- ***nitidulator** (Nees). Europe; Calif., Wyo., Colo., Ont., Alta., Sask., B. C.
 Host: *Pegomya hyoscyami* (Panz.).
Bracon nitidulator Nees, 1834. Hym. Ichn. Aff. Monog. v. 1, p. 56. ♂.
 **Opius vittatus* Ruschka, 1915. Ztschr. f. Angew. Ent. 2: 395. ♀, ♂.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 246-248.
- ***northcarolinensis** Fischer. N. Y., Md., N. C., S. C., Mich.
Opius northcarolinensis Fischer, 1964. Polskie Pismo Ent. 34: 513. ♀, ♂.
- ***notaulicus** Fischer. Que., Mass., R. I.
Opius notaulicus Fischer, 1964. Polskie Pismo Ent. 34: 217. ♀, ♂.
- ***nudiscutum** Fischer. Calif., Tenn., Sask. Hosts: *Liriomyza subpusilla* (Frost), *Agromyza* sp.
Opius nudiscutum Fischer, 1964. Polskie Pismo Ent. 34: 373. ♀, ♂.
- ***ordinarius** Fischer. Calif., Oreg., Wash. Hosts: *Agromyza* sp., *Liriomyza* sp.
Opius ordinarius Fischer, 1964. Polskie Pismo Ent. 34: 450. ♀, ♂.
- ***ornatigaster** Fischer. Calif. (Laurel). Host: *Agromyza* sp.
Opius ornatigaster Fischer, 1964. Polskie Pismo Ent. 34: 515. ♀.
- ***ornatus** Fischer. N. Y., N. J., Md., Va., N. C., S. C.
Opius ornatus Fischer, 1964. Polskie Pismo Ent. 34: 262. ♀, ♂.
- oscinidis** (Ashmead). Md., Va., Mich.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 234-236.
- otiosus** Gahan.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 499-500.
- ***pallidipalpis** Fischer. N. C., S. C.
Opius pallidipalpis Fischer, 1964. Polskie Pismo Ent. 34: 482. ♀, ♂.

- ***paradisiacus** Fischer. Fla. (Paradise Key).
Opius paradisiacus Fischer, 1964. Polskie Pismo Ent. 34: 456. ♀.
- ***paralleliformis** Fischer. N. Y. (Ithaca).
Opius paralleliformis Fischer, 1964. Polskie Pismo Ent. 34: 452. ♂.
- ***paratakomanus** Fischer. Md. (Takoma Park).
Opius paratakomanus Fischer, 1964. Polskie Pismo Ent. 34: 484. ♀.
- ***parawattacooanus** Fischer. S. C. (Wattacoo).
Opius parawattacooanus Fischer, 1964. Polskie Pismo Ent. 34: 517. ♀.
- ***parkeranus** Fischer. Ariz. (Parker Creek).
Opius parkeranus Fischer, 1964. Polskie Pismo Ent. 34: 458. ♀.
- ***parkercreekensis** Fischer. Ariz., Calif., S. C.
Opius parkercreekensis Fischer, 1964. Polskie Pismo Ent. 34: 486. ♀.
- ***parvifossa** Fischer. N. Y., Mich., Tenn., Wis., Kans., N. B., Que., Ont.
Opius parvifossa Fischer, 1964. Polskie Pismo Ent. 34: 294. ♂, ♀.
- ***pauper** Fischer. Wash., Oreg., Calif.
Opius pauper Fischer, 1964. Polskie Pismo Ent. 34: 519. ♀, ♂.
- pegomyiae** Gahan. Syn. of **spinaeiae** Thomson.
- ***perminutus** Fischer. Calif. (Santa Cruz).
Opius perminutus Fischer, 1964. Polskie Pismo Ent. 34: 332. ♀, ♂.
- ***perpygmaeus** Fischer. Md., S. C.
Opius perpygmaeus Fischer, 1964. Polskie Pismo Ent. 34: 521. ♀, ♂.
- ***pilosinotum** Fischer. N. Y. (Ithaca).
Opius pilosinotum Fischer, 1964. Polskie Pismo Ent. 34: 522. ♀.
- ***pilosus** Fischer. Calif. (Yosemite).
Opius pilosus Fischer, 1964. Polskie Pismo Ent. 34: 333. ♀.
- ***pinkbedsanus** Fischer. N. C., N. Y.
Opius pinkbedsanus Fischer, 1964. Polskie Pismo Ent. 34: 488. ♀, ♂.
- ***pisgahensis** Fischer. N. Y., N. C.
Opius pisgahensis Fischer, 1964. Polskie Pismo Ent. 34: 323. ♂.
- ***polyzonius** Wesmael. Europe; N. Y., Md., Wis., Ont., Sask., B. C. Hosts:
Agromyza beatica Grif., *A. hendeli* Grif., *A. phragmitidis* Hend.
Opius polyzonius Wesmael, 1835. Nouv. Mém. Acad. Sci. Bruxelles 9:
 136. ♀, ♂.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 248-250.
- ***porteri** Fischer. Fla. (Dade Co.).
Opius porteri Fischer, 1964. Polskie Pismo Ent. 34: 431. ♀.
- ***prolongatus** Fischer. S. C. (Greenville).
Opius prolongatus Fischer, 1964. Polskie Pismo Ent. 34: 459. ♀.
- provancheri** Dalla Torre. Pa., Kans., Iowa, Colo.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 296-298.
- ***pseudocolumbiacus** Fischer. N. C. (Mt. Pisgah).
Opius pseudocolumbiacus Fischer, 1964. Polskie Pismo Ent. 34: 489. ♂.
- ***punctipes** Fischer. Fla. (Gainesville).
Opius punctipes Fischer, 1964. Polskie Pismo Ent. 34: 405. ♀.
- ***pusilloides** Fischer. N. Y., Md., N. C., S. C., Kans.
Opius pusilloides Fischer, 1964. Polskie Pismo Ent. 34: 433. ♀, ♂.
- ***rainierensis** Fischer. Wash. (Mt. Rainier).
Opius rainierensis Fischer, 1964. Polskie Pismo Ent. 34: 244. ♀.
- ***relativus** Fischer. S. C.
Opius relativus Fischer, 1964. Polskie Pismo Ent. 34: 435. ♀, ♂.
- ***restrictus** Fischer. S. C., Md.
Opius restrictus Fischer, 1964. Polskie Pismo Ent. 34: 407. ♀, ♂.

- ***resupinus** Fischer. Calif. (San Bernardino Co.).
Opius resupinus Fischer, 1964. Polskie Pismo Ent. 34: 409. ♀.
- richmondi** Gahan.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 298-300.
- ***robsonensis** Fischer. B. C., Wash.
Opius robsonensis Fischer, 1964. Polskie Pismo Ent. 34: 300. ♀, ♂.
- rosicola** Muesebeck. Sask. Host: Replace *Rhagoletis alternata* (Fall.) with
R. basiola (O. S.).
 Biology: Balduf, 1959. Ill. Biol. Monogr. 26: 32-40.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 303-305.
- ***rudiformis** Fischer. Europe; Ont.
Opius rudiformis Fischer, 1958. Beitr. z. Ent. 8: 201. ♀.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 395-396.
- ***ruficolor** Fischer. Fla.
Opius ruficolor Fischer, 1964. Polskie Pismo Ent. 34: 492. ♀.
- ***rufipleurum** Fischer. N. Y., S. C.
Opius rufipleurum Fischer, 1964. Polskie Pismo Ent. 34: 264. ♀, ♂.
- rufocinctus** Gahan. Md., N. C., S. C., Kans.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 376-378.
- ***sabroskyi** Fischer. Va. (Fairfax Co.).
Opius sabroskyi Fischer, 1964. Polskie Pismo Ent. 34: 396. ♀, ♂.
- ***salmonensis** Fischer. B. C. (Shuswap Lake).
Opius salmonensis Fischer, 1964. Polskie Pismo Ent. 34: 438. ♀.
- sanguineus** (Ashmead). Ariz.
 Biology: Cazier, 1962. Pan-Pacific Ent. 38: 184-186.
- ***severini** Fischer. N. Y., Mich., S. Dak., Iowa, Colo., Utah, Alta., Que.
Opius severini Fischer, 1964. Polskie Pismo Ent. 34: 223. ♀, ♂.
- ***shuleri** Fischer. S. C. (McClellanville).
Opius shuleri Fischer, 1964. Polskie Pismo Ent. 34: 524. ♂.
- ***sierraanchaensis** Fischer. Ariz. (Sierra Ancha).
Opius sierraanchaensis Fischer, 1964. Polskie Pismo Ent. 34: 346. ♂.
- ***similaris** Fischer. N. Y.
Opius similaris Fischer, 1964. Polskie Pismo Ent. 34: 267. ♀, ♂.
- ***smithi** Fischer. D. C., Va., S. C.
Opius smithi Fischer, 1964. Polskie Pismo Ent. 34: 410. ♀, ♂.
- ***southcarolinensis** Fischer. S. C. (Greenville).
Opius southcarolinensis Fischer, 1964. Polskie Pismo Ent. 34: 526. ♂.
- spinaciae** Thomson.
Opius pegomyiae Gahan. Syn. according to Max Fischer (*in litt.*).
- ***stenopectus** Fischer. S. C. (McClellanville).
Opius stenopectus Fischer, 1964. Polskie Pismo Ent. 34: 461. ♂.
- striativentris** Gahan. Mich., Kans.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 440-442.
- succineus** Gahan. Pa., Md., D. C., Ont., Sask., Alta.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 269-271.
- ***suffixus** Fischer. N. Y., Mich., Wis.
Opius suffixus Fischer, 1964. Polskie Pismo Ent. 34: 493. ♂.
- suturalis** Gahan. Tex. Host: *Liriomyza pictella* (Thoms.).
- ***tabellariae** Fischer. N. Y. (Geneva). Host: *Rhagoletis tabellaria* (Fitch).
Opius tabellariae Fischer, 1964. Polskie Pismo Ent. 34: 305. ♀, ♂.
- ***tablerockensis** Fischer. S. C.
Opius tablerockensis Fischer, 1964. Polskie Pismo Ent. 34: 250. ♀, ♂.

- ***tangens** Fischer. Fla. (Gainesville).
Opius tangens Fischer, 1964. Polskie Pismo Ent. 34: 442. ♀.
- ***testaceifactus** Fischer. Fla., S. C.
Opius testaceifactus Fischer, 1964. Polskie Pismo Ent. 34: 220. ♀, ♂.
- tibialis** (Ashmead). Mass., N. Y., N. J., N. C., S. C., Calif.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 495-497.
- ***troyensis** Fischer. N. Y. (Troy).
Opius troyensis Fischer, 1964. Polskie Pismo Ent. 34: 325. ♀.
- utahensis** Gahan. Mass., Va., Fla., Minn., Que.
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 222-223.
- ***vockerothi** Fischer. Que., B. C., Wash.
Opius vockerothi Fischer, 1964. Polskie Pismo Ent. 34: 348. ♀, ♂.
- ***walleyi** Fischer. Fla. (Chattahoochee).
Opius walleyi Fischer, 1964. Polskie Pismo Ent. 34: 444. ♂.
- ***weemsi** Fischer. N. C. (Mt. Pisgah).
Opius weemsi Fischer, 1964. Polskie Pismo Ent. 34: 446. ♀, ♂.
- ***westerlyanus** Fischer. R. I. (Westerly).
Opius westerlyanus Fischer, 1964. Polskie Pismo Ent. 34: 528. ♀.

Subfamily BRACONINAE

Taxonomy: Telenga, 1936. Faune URSS, v. 5, No. 2 (1) (keys to genera), pp. 24-27 (Russian), 307-309 (German).—Tobias, 1957. Zool. Zhur. 36: 1338-1354.

Genus VIPIO Latreille, pp. 157-158

- helfragei** (Cresson). Ga., Ind., Mo. Host: *Sphenophthorus cariosus* (Oliv.).
- monilemae** Gahan. Calif.
- sanguineus** (Provancher). Transf. to *Iphiaulax* Latreille, p. 159.

Genus IPHIAULAX Foerster, pp. 158-159

- erythrus** (Viereck). Tex., N. Mex.
- manteri** Nettleton. Ga. Host: *Oiketicus abbottii* Grote.
- perepicus** Viereck. Tex., N. Mex.
- sanguineus** (Provancher), n. comb. Transf. from *Vipio*, 158 (*teste* C. F. W. Muesebeck, after examination of type). Ariz.

Genus ATANYCOLIMORPHA Viereck, p. 159

- dissitus** (Cresson). Oreg.

Genus CYANOPTERUS Haliday, p. 159

- laevis** (Provancher). Pa., Minn.

Genus COELOIDES Wesmael, pp. 160-161

- brunneri** Viereck.
Coeloides scolyti Cushman (syn. by Muesebeck, in Ryan, 1962. Ent. Soc. Amer. Ann. 55: 403.)
 Biology: Ryan, 1962. Ent. Soc. Amer. Ann. 55: 403-409.—Ryan and Rudinsky, 1962. Canad. Ent. 94: 748-763.
 Embryology: Ryan, 1963. Ent. Soc. Amer. Ann. 56: 639-648.
- dendroctoni** Cushman.
 Biology: Reid, 1963, Canad. Ent. 95: 233-235.
- pissoDIS** (Ashmead). N. S., N. B., Ont. Hosts: *Ips calligraphus* (Germ.), *I. grandicollis* (Eichh.), *Pissodes approximatus* Hopk.
- scolyti** Cushman. Syn. of **brunneri** Viereck.

Genus *ATANYCOLUS* Foerster, pp. 161-163

hicoloriae Shenefelt. Mich.

rugosiventris (Ashmead). Fla.

Genus *BRACON* Fabricius, pp. 163-169

**acrobasis* Muesebeck. Fla., N. J. Hosts: *Acrobasis caryae* Grote, *A. caryivorella* Rag., *A. comptoniella* Hulst.

Bracon acrobasis Muesebeck, 1963. Ent. News 74: 158. ♀, ♂.

**agathymi* Muesebeck. Ariz., Texas. Hosts: *Agathymus neumogini* (Edw.), *A. aryxna* (Dyar), *A. mc Alpinei* (Freem.).

Bracon agathymi Muesebeck, 1963. Ent. News 74: 157. ♀, ♂.

americanus (Ashmead). Colo., Ariz.

analcidus Ashmead. Host: *Sphenophthorus parvulus* Gyll.

**bruchivorus* Muesebeck. Calif. Hosts: "Bruchids," *Acanthoscelidcs* sp.

Bracon bruchivorus Muesebeck, 1963. Ent. News 74: 162. ♀, ♂.

caulicola (Gahan). Host: *Suleima helianthana* (Riley).

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 283-284.

cephi (Gahan).

Biology: Nelson and Farstad, 1953. Canad. Ent. 85: 103-107.—Holmes, et al., 1963. Canad. Ent. 95: 113-126.

cushmani (Muesebeck). Host: *Rhyacionia frustrana* (Comst.).

erucarum (Cushman). Okla., Wyo., Mont.

furtivus Fyles.

Biology: Miller, 1963. Ohio Jour. Sci. 63: 73.

gastroideae Ashmead. S. Dak.

gelechia Ashmead. Hosts: *Anacamptis fragariella* Busck, *Anthophila pariana* (Clerck), *Argyrotaenia citrana* (Fern.), *Dichomeris marginella*. (F.), *Diorjctria disculsa* Heinr., *D. reniculella* (Grote), *Keiferia glochinella* (Zell.), *Pterophorus periscelidactylus* Fitch, *Pyrausta signatalis* (Wlkr.), *Thymelicus lineola* (Grote).

Biology: Poos, 1928. Ent. Soc. Wash. Proc. 30: 149.—Gupta, 1951. Nature 168: 793.—Narayanan and Rao, 1955. Beitr. z. Ent. 5: 36-60.—Wester, 1956. Ent. Soc. Wash. Proc. 58: 284.

Anatomy: Narayanan and Rao, 1955. Beitr. z. Ent. 5: 286-293 (♀ reproductive system).

gemmaecola (Cushman). N. J., Ohio, Ark., Tex.

hebetor Say. Host: *Laetilia coccidivora* (Comst.).

Taxonomy: Lal, 1946. Indian Jour. Ent. 8: 85-88.—Puttarudriah and Channa Basavanna, 1956. Bul. Ent. Res. 47: 183-191.

Biology: Kanungo, 1955. Current Sci. 24: 59.—Grosch, La Chance and Sullivan, 1955. Ent. Soc. Amer. Ann. 48: 415-416.—Grosch, 1959. Ent. Soc. Amer. Ann. 52: 94-98.—Clark, 1963. Ent. Soc. Amer. Ann. 56: 616-619.

**gossypii* Muesebeck. S. C., La., Ga., Miss., Tex., Fla., Ark. Host: ? *Anthonomus grandis* Boh.

Bracon gossypii Muesebeck, 1963. Ent. News 74: 161. ♀, ♂.

hobomok (Viereck). Mich., Iowa.

hyslopi (Viereck). Host: *Platytilia williamsii* Grin.

**jani* Muesebeck. Minn. (Cloquet). Host: *Janus abbreviatus* (Say).

Bracon jani Muesebeck, 1963. Ent. News 74: 164. ♀, ♂.

juncicola Ashmead. B. C.

lissogaster Muesebeck.

Biology: Somsen and Luginbill, 1956. U. S. Dept. Agr. Tech. Bul. 1153, 7 pp.

mellitor Say. Ont. Hosts: *Coeliodes inaequalis* (Say), *Conotrachelus nenuphar* (Hbst.), *Cylas formicarius elegantulus* (Sum.), *Ostrinia nubilalis* (Hbn.), *Rhyacionia adana* Heinr., *R. frustrana* (Comst.), *Rhynchites bicolor* (F.), *Smicraulax tuberculatus* Pierce, *Sparganothis sulfurana* (F.), *Tachypterellus quadrigibbus* (Say), *Tyloclerma foveolatum* (Say).

nevadensis Ashmead. Ariz.

oenotherae (Muesebeck). Minn., Nebr.

papaipemae (Gahan). Mich., Minn.

***piger** Wesmael. Europe; Calif. Host: *Etiella zinckenella* (Treit.).

Bracon piger Wesmael, 1838. Brussels Acad. Sci. Mém. 11: 48. ♀.

Biology: Parker, 1951. U. S. Dept. Agr. Tech. Bul. 1036, pp. 8-11.—

Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 87.

pini (Muesebeck) N. S., N. B., Va., Colo., Calif. Host: *Pissodes terminalis* Hopping.

platynotae (Cushman). Host: *Platynota stultana* (Wlsm.).

politiventris (Cushman). Hosts: *Archips rosanus* (L.), *Dioryctria reniculella* (Grote).

punctatus (Muesebeck). Md., Mich. Host: *Faustinus cubae* (Boh.).

quinnipiacorum (Viereck). S. Dak.

***radicis** Shenefelt. Wis. Host: *Hylobius radicis* Buch.

Bracon radicis Shenefelt, 1960. Canad. Ent. 92: 872. ♀, ♂.

rhyacioniae (Muesebeck). Colo. Host: *Laspeyresia youngana* (Kearf.).

***rosaceani** (Muesebeck). Oreg. (Gresham). Host: *Archips rosaceanus* (Harris).

Bracon rosaceani Muesebeck, 1963. Ent. News 74: 160. ♀, ♂.

rudbeckiae (Muesebeck). Ark.

sanninoideae (Gahan). Wis. Host: *Alcathoe caudata* (Harr.).

sesiae (Muesebeck). Colo.

tenuiceps (Muesebeck). Ohio, Mich., Idaho.

thurberiphagae (Muesebeck).

Biology: Bennett, 1960. Bul. Ent. Res. 50: 747-749.

tychii (Muesebeck). Idaho.

xanthonotus Ashmead. Hosts: *Malacosoma disstria* Hbn., *M. pluviale recensio* Dyar, *Sabulodes caberatae* Gn.

Subfamily SPATHIINAE

Taxonomy: Nixon, 1943. Roy. Ent. Soc., London Trans. 93: 173-456.

Genus SPATHIUS Nees, pp. 169-170

brachyurus Ashmead. Mass.

brunneri Viereck. Utah, Idaho, Oreg., Calif. Host: *Pseudohylesinus nebulosus* (Lec.).

californicus Ashmead. Idaho.

canadensis Ashmead. Pa., Ohio, Ky.

Morphology: Snodgrass, 1941. Smithsn. Misc. Collect. 99: 35-36 (♂ genitalia).

Biology: Kaston, 1937. Conn. Agr. Expt. Sta. Bul. 396, pp. 351-353.—
Kaston, 1939. Conn. Agr. Expt. Sta. Bul. 420, pp. 33-35.

pallidus Ashmead. Tex.

simillimus Ashmead. Miss., Wis.

Subfamily ROGADINAE

Genus ROGAS Nees, pp. 170-172

abdominalis (Cresson). D. C.

fumipennis (Cresson). N. H., N. Y., Wis.

granulatus DeGant. Mich.

graphicus Cresson. S. Dak., Wyo.

hyphantriae Gahan.

Biology: Bogavac, 1955. Plant Prot. (Belgrade), No. 32, pp. 17-30.—
Tadić, 1959. Internatl. Congr. Crop Prot. Proc. 4, v. 1, p. 874.

***indicus** Cameron. Alaska (Sitka), not "Sitka on the Ganges" as given with orig. descr. (*teste* Mather, 1957. Zool. Soc. Calcutta Proc., Mookerjee Mem. vol., p. 350).

Rhogas indicus Cameron, 1910. Wien. Ent. Ztg. 29: 3. ♂.

laphygmae Viereck. Fla.; Cuba, Nicaragua.

mandibularis Cresson. Ill., Kans.

molestus Cresson. Wyo.

perplexus Gahan. Host: *Trichoplusia ni* (Hbn.).

Genus PELECYSTOMA Wesmael, p. 172

discoideum (Cresson). N. Y., Pa., Md.

Genus PETALODES Wesmael, p. 172

palmatum Walley. Wis., Minn., Calif.

ufei Walley. Nev.

Genus YELICONES Cameron, p. 173

***Pectenopius** Fischer, 1961. Naturhist. Mus. Wien. Ann. 64:156. N. syn., *teste* C. F. W. Muesebeck, from literature.

Type: **Pectenopius paradoxus** Fischer. By monotypy and orig. desig.

Genus BUCCULATRIPLEX Viereck, p. 173

bucculatricis (Ashmead). Ill. Host: *Bucculatrix ainssiella* Murt.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 65.

Genus ONCOPHANES Foerster, p. 173

americanus (Weed). Wash. Host: *Endothenia hebesana* (Wlkr.).

Biology: Zeller and Schuh, 1944. Oreg. Agr. Exp. Sta. Bul. 418, p. 48.—
Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 66.—Bennett,
1961. Tenn. Acad. Sci. Jour. 36: 353.

betulae Muesebeck. Wis.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 66.

Genus PHANOMERIS Foerster, pp. 174-175

metalli Muesebeck. Maine, Mich., Wis. Host: *Cameraria bethunella* Chamb.

phyllotomae Muesebeck.

Biology: Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 63.

Genus XENARCHA Foerster, Sup. 1, p. 35

hopkinsi (Ashmead). Ark.

*Subfamily HORMIINAE

Insert before Tribe Pambolini, p. 175.

Taxonomy: Hedqvist, 1963. Ent. Tidskr. 84: 30-61 (key to genera of the World).

Tribe *Pambolini* and Tribe *Hormiini*, p. 175

Delete both headings and combine component groups under Subfamily Hormiinae.

Genus *HORMIUS* Nees, pp. 175-176

dispar (Brues). Md., Ill., Mo., Tex.

**Hormius micropterus* Hedqvist, 1963. Ent. Tidskr. 84: 50-51. ♀. N. syn. (teste C. F. W. Muesebeck, from literature).

*Genus *MONITORIELLA* Hedqvist

Monitoriella Hedqvist, 1963. Ent. Tidskr. 84: 44.

Type: *Monitoriella elongata* Hedqvist. Orig. desig.

Insert in Hormiinae after *Pambolus* Haliday, p. 175.

**elongata* Hedqvist. Tex.; Mexico. From galls on *Philodendron*.

Monitoriella elongata Hedqvist, 1963. Ent. Tidskr. 84: 46. ♀, ♂.

*Genus *CANTHAROCTONUS* Viereck

Cantharoctonus Viereck, 1912. U. S. Natl. Mus. Proc. 42: 617.

Type: *Cantharoctonus stramineus* Viereck. By monotypy and orig. desig.

Insert in Hormiinae after *Parahormius* Nixon, p. 176.

**brunneus* Hedqvist. Fla. (Sebring).

Cantharoctonus brunneus Hedqvist, 1963. Ent. Tidskr. 84: 38. ♀.

Subfamily DORYCTINAE

Taxonomy: Nixon, 1943. Bul. Ent. Res. 34: 257-267.—Granger, 1949. Inst. Sci. Madagascar Mem., Ser. A. Biol. Anim. 2: 94-145.—Parrott, 1955. Roy. Soc. N. Zealand Trans. 82: 1157-1163.—Tobias, 1961. Zool. Zhur. 40: 529-535.

Genus *DORYCTES* Haliday, pp. 176-177

apacheus Viereck. Mo.

atripes (Provancher). Pa., D. C., Wis.

fartus (Provancher). N. Y., Minn.

incertus Ashmead. Mass.

pacificus (Provancher). Host: *Paratima conicola* Fisher.

rufiventris (Brullé). Ont. Host: *Xylotrechus colonus* (F.).

Genus *DORYCTINUS* Roman, P. 178

secundus Muesebeck and Walkley. Ariz.

Genus *POLYSTENOIDES* Muesebeck, P. 178

lignicola Muesebeck. Md.

Genus *GLYPTOCOLASTES* Ashmead, p. 178

bruchivorus Crawford. Ariz.; Peru, Canal Zone. Host: *Dendrobiella quadri-spinosa* (Lec.).

Genus *RUSSELLELLA* Muesebeck and Walkley, p. 178

prosopidis (Muesebeck). Ariz.

Genus **HETEROSPILUS** Haliday, pp. 178-180

koebelei (Ashmead). Hosts: *Prodoxus aenescens* Riley, *P. marginatus* Riley, *Tegeticula maculata* (Riley).

melleus (Ashmead). Delete "W. Va. (Morgantown.)" Fla., Md. Hosts: *Gnoringoscheme gallaeasterella* Kell., *Mompha sexnotella* Chamb.

prosopidis Viereck. Okla., Ariz., Calif.; Mexico.

Genus **PIOSCELUS** Muesebeck and Walkley, p. 180

wichitus (Viereck). Md.

Genus **ALLORHOGAS** Gahan, p. 180

bruesi (Muesebeck and Walkley). Transf. from *Miocolus* Foerster, p. 182 (*teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Genus **DENDROSOTER** Wesmael, p. 181

scaber Muesebeck. Oreg. Host: *Cylindrocopturus longulus* (Lec.).

scolytivorus (Viereck and Rohwer). Idaho, Ariz. Host: *Ips oregonis* (Eichh.).

sulcatus Muesebeck. Host: *Ips grandicollis* (Eichh.).

Genus **ODONTOBRACON** Cameron, pp. 181-182

grandis Ashmead. Tex., Calif.

Genus *Miocolus* Foerster, p. 182

Transf. to Blacinae and place as syn. of *Blacus* Nees, p. 110; transf. *bruesi* Muesebeck and Walkley to *Allorhogas* Gahan, p. 180, and place both *minimus* (Cresson) and *utilis* (Cresson) as synonyms of *Monolexis fuscicornis* Foerster, p. 182 (*teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Genus **MONOLEXIS** Foerster, p. 182

fuscicornis Foerster.

Anisopelma minimus Cresson (syn. *teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Anisopelma utilis Cresson (syn. *teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Genus **ACRISIS** Foerster, p. 182

americana (Ashmead). Pa., Mich.

Family **ICHNEUMONIDAE**

This second supplement of the Hymenoptera Catalog brings many changes, some of them complex, in the nomenclature of the Ichneumonidae. These changes have resulted from revisionary work in several subfamilies, and from a treatise of the type-species of the Foerster genera which were established originally without included species. In several instances, where the conclusions of two competent systematists differed and no specimens of the species involved were available, or no definitive characters given, the course followed was the one involving the least change.

The pagination for species in "Hymenoptera of Beulah, New Mexico," by H. L. Viereck, 1903 (February), Amer. Ent. Soc. Trans. 29: 43 (bottom)-100, differs in the separate (published March 20). In the latter, the article begins at the top of page 43 and ends on page 99. The description of a given species usually occurs one page earlier in the separate. The pagination of species listed in the Catalog is that of the separate except in the Second Supplement, where a few were changed before the reason was discovered.

The following revisions, when they occur in the text, are cited by author and date only because of frequency of occurrence, except that the complete reference is given for all new species and subspecies.

Revisions: Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: I-IX, 1-318 (Metopiinae).—Townes and Townes (*et al.*) 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): I-VII, 1-673 (Ephialtinae, Xoridinae, Acaenitinae).—Townes, Townes, and Gupta, 1961. A Reclassification of the Indo-Australian Ichneumonidae [Amer. Ent. Inst. Mem. 1] pp. I-IV, 1-552 (supergen. & gen. keys; syn.).—Heinrich, 1961 (1960)-1962. Canad. Ent. Sup. 15 [vol. 92], pt. I, pp. 1-87; Sup. 18 [vol. 92], pt. II, pp. 89-205; Sup. 21 [vol. 93], pt. III, pp. 207-368; Sup. 23, pt. IV, pp. 370-505; Sup. 26, pt. V, pp. 507-671; Sup. 27, pt. VI, pp. 675-802; Sup. 29, pt. VII, pp. 803-886 (Ichneumoninae).—Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): I-IV, 1-602 ((Mesostenini)=Cryptini).—Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 1-305 (Hemigasterini).—Dasch, 1964, Amer. Ent. Inst. Mem. 3: 1-304 (Diplazoninae).—Peck, 1964. Canad. Ent. Mem. 35, pt. VIII of Heinrich Synopsis Nearc. Ichneumoninae, pp. 891-925.—Townes, Momoi, and Townes, 1965. A catalogue and Reclassification of the Eastern Palearctic Ichneumonidae. Amer. Ent. Inst. Mem. 5: 1-661. [This publication appeared after the ms. for this supplement was completed: it is cited only when obligatory.]

Keys: Constantineanu, 1959. Fauna Republicii Populare Romine, Ins., v. 9, fasc. 4, pp. [107]-109.—Perkins, 1959. Roy. Ent. Soc., London Handbook 7 (Pt. 2 (ai)): 1-18 (keys to subfamilies).—Short, 1959. U. S. Natl. Mus. Proc. 110 (3419): 391-511 (keys to larvae).—Constantineanu, 1961. Beit. z. Ent. 11 (7/8): 685-732 (keys to subfamilies).

Taxonomy and/or Nomenclature: Perkins, 1962. Brit. Mus. (Nat. Hist.) Bul., Ent. 11 (8): [385]-483 (types of Foerster genera).

Subfamily PIMPLINAE

Revision: Townes and Townes (*et al.*) 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 3-676 (as Ephialtinae, Xoridinae, Acaenitinae).

Tribe EPHIALTINI

(= *Pimplini* of Catalog)

*Genus EXERISTES Foerster

Exeristes Foerster, 1868. Naturh. Ver. Rheinlande Verh., v. 25, p. 164.

Type: (*Pimpla roborator* Gravenhorst) = *roborator* (Fabricius). Incl. by Schmiedeknecht, 1888.

Place before *Scambus* Hartig, p. 185.

comstockii (Cresson). S. C. Hosts: *Dioryctria clarioralis* (Wlkr.), *Laspeyresia caryana* (Fitch). Transf. from *Calliephialtes* Ashmead (*teste* Townes and Townes, 1960, p. 11).

Biology: Arthur, 1963. Canad. Ent. 95: 1079-1085 (life history, imm. stages).

Genus SCAMBUS Hartig, pp. 185-187, Sup. 1, pp. 36-37

Ateleopadnus Cameron. Place as valid subg. of *Scambus*.

Pseudopoenenia Kiss. Place as syn. of subg. *Ateleopadnus*.

Endromopoda Hellén. Place as valid subg. of *Scambus*.

Revision: Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 14-79.

SCAMBUS subgenus ENDROMOPODA Hellén

Remove from syn. of *Scambus* Hartig (*teste* Walley 1960. In Townes and Townes *Op. cit. supra*, pp. 17, 18).

detritus (Holmgren). Host: *Cephus cinctus* Nort.

Taxonomy and/or Biology: Salt 1931. Brit. Ent. Res. 22 (4): 519-526 figs.—Holmes 1953. Canad. Ent. 85: 339.

***productus** Walley. Alaska, Yukon, N. W. T., N. S., south to Calif. (Mts.), Colo., and R. I.

Scambus (*Endromopoda*) **productus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 19, 23. ♀, ♂.

***rubescens** Walley. Ont. to N. Y. west to Sask., Wyo., and Kansas.

Scambus (*Endromopoda*) **rubescens** Walley 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 18, 19. ♂, ♀.

SCAMBUS subgenus ATELEOPHADNUS Cameron

Pseudopoesmia Kiss. (Syn. by Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 17, 18, 27.)

***deceptor** Walley. Que. to B. C., south to R. I., N. Y., Mich., Colo., Wash.

Scambus (*Ateleophadnus*) **deceptor** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) 28, 35. ♂, ♀.

***granulosus** Walley. N. W. T. to N. S. south to Calif., N. Mex., S. C. Host: *Mompha eloisella* (Clem.).

Scambus (*Ateleophadnus*) **granulosus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 28, 31. ♂, ♀.

pterophori (Ashmead). Alaska, Yukon.

SCAMBUS subgenus SCAMBUS Hartig

alboricta (Cresson). Transf. To *Acropimpla* Townes.

aplopappi (Ashmead). Idaho. Hosts: *Stomopteryx nigrella* (Chamb.), *Periploca ceanothiella* (Cosens).

atrocoxalis (Ashmead). Yukon, N. W. T., Newfoundland, Alta.; Sweden. Male unknown (*teste* Walley, 1960. In Townes and Townes, p. 53).

bicoloripes (Ashmead). Syn. of **brevicornis** (Gravenhorst).

***brevicornis** (Gravenhorst). Alaska, Yukon to Newfoundland, south to Calif., Utah, Colo., Mich., N. Y., N. J. Hosts: *Anthophila pariana* (Clerck); *Choristoneura rosaceana* (Harris); *Laspeyresia nigricana* (Steph.); *Laspeyresia* sp.; *Polychrosis viteana* (Clem.) *Spiilonota ocellana* (D. & S).

Epiurus bicoloripes Ashmead. (Syn. by Walley, 1960. In Townes and Townes, p. 55.).

***canadensis** Walley. Alaska, Yukon, N. W. T., B. C. to N. B. and N. S., south to Oreg. and Maine, Colo. Hosts: *Choristoneura conflictana* (Wlkr.); *Glypta fumiferanae* (Vier.).

Scambus (*Scambus*) **canadensis** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 38, 39, 58. ♂, ♀.

***decorus** Walley. N. S. to B. C., south to N. H. and Wash., Alaska. Hosts: *Amorbia humerosa* (Clem.); *Choristoneura fumiferana* (Clem.); *Coleophora pruniella* Clem.; *C. salmani* Heinr. *Chrysochoris stippella* var. *naeviferella* (Dup.); *Gracillaria* sp.; *Paraclemensia acerifoliella* (Clem.); *Phalonia rutilana* (Hbn.); *Spiilonota ocellana* (D. & S.).

Scambus (*Scambus*) **decorus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 40, 75. ♂, ♀.

***dioryctriae** Walley. Alta., Sask. Host: *Dioryctria reniculella* (Grote).

Scambus (*Scambus*) **dioryctriae** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 38, 40, 61. ♂, ♀.

ephialtoides Cushman. B. C., Oreg. Host: "anthomyid larva."

Taxonomy: Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2), pp. 42-43, 46 (under *occidentalis*).

euurae (Ashmead). A subsp. of **vesicarius** (Ratzeburg).

- hispa** (Harris). Alaska, Yukon, N. W. T. Hosts: *Acrobasis betulella* Hlst.; *A. comptoniella* Hlst.; *A. rubrifasciella* Pack.; *Anacamptis innocuella* (Zell.); *Anisota rubicunda* (F.); *Archips rosanus* (L.); *Choristoneura pinus* (Free.); *Dioryctria reniculella* (Grt.); *Episimus argutanus* (Clem.); *Exartema connectum* (McD.); *Hedra variegana* (Hbn.); *Laspeyresia molesta* Busck; *Lexis bicolor* (Grt.); *Malacosoma disstria* (Hbn.); *Metallus rohweri* MacG.; *Psilocorsts* sp.; *Spilonota ocellana* (D. & S.); *Tischeria* sp.; *Arthrochlamys bebbiana* Brown; *Xenochalepus dorsalis* Thnbg.
- Pimpla (Epiurus) nigrifrons** Viereck. Remove from syn., a valid species.
- Epiurus innominatus** Viereck. Place as syn. of **transgressus** (Holmgren).
- Biology: Arthur, 1963. *Canad. Ent.* 95 (10): 1085-1086 (life history, imm. stages).
- ***imparis** Walley. B. C., Alta., Wash., Calif., Utah, Colo. Hosts: *Recurvaria milleri* Busck; *Zelleria hainbachi* Busck.
- Scambus (Scambus) imparis** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 38, 51. ♂, ♀.
- lithocolletidis** (Ashmead). "It seems to belong in the nominate subgenus." (Walley, 1960. *In* Townes and Townes, p. 15.)
- ***longicorpus longicorpus** Walley. Alaska, Alta., Sask, Ont., Que., N. H. Hosts: *Dioryctria reniculella* (Grote); *?Laspeyresia youngana* (Kft.), *?Hylemyia anthracina* (Czerny).
- Scambus (Scambus) longicorpus longicorpus** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 38, 43, 44. ♂, ♀.
- ***longicorpus occidentalis** Walley. B. C., Wash., Calif., Mont., Colo.
- Scambus (Scambus) longicorpus occidentalis** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 43, 46. ♂, ♀.
- nigrifrons** (Viereck). N. B., P. E. I., N. S., Mass., Mich. Host: *Hemerocampa leucostigma* (A. & S.); "*Orgyia*" sp.; tussock moth.
- Removed from syn. of **hispa** Harris. A valid species (*teste* Walley, 1960. *In* Townes and Townes, pp. 37, 40, 74).
- ***nucum** (Ratzeburg). Alaska, N. W. T., Que., N. S., N. H., B. C. Host: *Spilonota ocellana* (D. & S.).
- Piupla nucum** Ratzeburg, 1844. *Ichn. d. Forstins.* v. 1, p. 115. ♀.
- ***portentus** Walley. B. C., Wash., Colo. Host: *?Laspeyresia* sp. on *Picea engelmanni*.
- Scambus (Scambus) portentus** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 38, 40. ♂, ♀.
- ***subtilis** Walley. Oreg., Calif., Nev.
- Scambus (Scambus) subtilis** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 39, 47. ♀.
- tecumseh** Viereck. N. S. to Alaska south to N. C. and Calif. Hosts: *Acleris* sp. on *Cornus*; *Archips argyrosipilus* (Wlkr.); *Choristoneura conflictana* (Wlkr.); *C. fumiferana* (Clem.); *Croesia albicomana* Clem.; *Endothenia hebesana* (Hbn.); *Exotelia dodecella* (L.); *Lymnaccia phragmitella* (Staint.); *Malacosoma plusiale* (Dyar); *Phalonia rutilana* (Hbn.); *Recurvaria* sp.; *Rhyacionia buoliana* (Schiff.); *Sparganothis sulphureana* Clem.; *Spilonota ocellana* (D. & S.); *Trichotaphe levisella* (Fyles).
- Biology: Arthur, 1963. *Canad. Ent.* 95 (10): 1085-1086 (life history, imm. stages).
- ***tenebrosus** Walley. Wash., Ariz., Colo.
- Scambus (Scambus) tenebrosus** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 38, 39, 60. ♂, ♀.
- transgressus** (Holmgren). B. C., Wash., Oreg. Hosts: *Acleris variana* (Clem.); *Anthophila pariana* (Clem.), *Archips rosanus* (L.), *Choristoneura fumiferana* (Clem.), *Grapholitha packardi* (Zell.); nematine stem gall on *Salix*.
- Epiurus innominatus** Viereck. Removed from syn. of **hispa** (Harris) (*teste* Walley, 1960. *In* Townes and Townes, p. 65).

vesicarius euurae (Ashmead). Changed status. Alaska to Calif., Ariz., Colo., east to N. W. T., Ont. Que., Minn. Hosts: *Pontania* sp., *P. californica* Marl., *P. ?desmodiodes* Walsh; *P. pacifica* Marl., *Euura* sp., *Nematus* sp.

Scambus euurae (Ashmead). Reduced to subsp. rank (*teste* Walley, 1960. *In* Townes and Townes, p. 50).

***vesicarius vesicarius** (Ratzeburg). Alaska.

Pimpla vesicaria Ratzeburg, 1844. *Ichn. d. Forstins.*, v. 1, p. 115. ♂, ♀.

*SCAMBUS subgenus ERYTHROSCAMBUS Walley

Scambus subg. **Lissoscambus** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 17, 25.

Type: **Scambus (Lissoscambus) arizonensis** Walley. Orig. desig. and by monotypy.

***arizonensis** Walley. Colo., Ariz., Mexico.

Scambus (Lissoscambus) arizonensis Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 25. ♂, ♀.

*SCAMBUS subkerus ERYTHROSCAMBUS Walley

Scambus subg. **Erythroscambus** Walley, 1960. *In* Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 17, 77.

Type: **Pimpla hirticauda** Provancher. Orig. desig.

hirticauda (Provancher). B. C., Calif., Ariz. Hosts: *Gracillaria* sp. on *Quercus garryana*; *Mulacosoma pluviale* (Dyar.).

Genus ALOPHOSTERNUM Cushman, p. 187

foliicola Cushman. W. Va., Calif. Hosts: *Xenochalepus dorsalis* (Thnbg.), *Paraclemensia acerifoliella* (Fitch), "*Cameraria aceriella*?" (in Maine).

Genus CALLIEPHIALTES Ashmead, pp. 187-188, Sup. 1, p. 37

comstockii (Cresson). Transf. to **Exeristes** Foerster.

ferrugineus Cushman. Hosts: *Hypsipyla grandella* (Zell.) and *Pectinophora gossypiella* (Saund.) in Puerto Rico.

grapholithae (Cresson). Ont. Hosts: *Acrobasis caryae* (Grt.); *A. hebescella* Hulst; *A. rubrifasciella* Pack.; *Conotrachelus nenuphar* (Herbst); *Stigmatophora ceanothiella* Cos.; *Thyridopteryx ephemeraeformis* (Haw.); *Phylloxera* gall; ?*Carmenta texana*; moth on *Fagus* nuts; shucks of *Carya* nuts.

notandus (Cresson). Transit. Zone. Host: *Epiblema desertana* Zell.

nubilipennis (Viereck). Transf. to **Dolichomitus** as subsp. of **terebrans** Ratz.

nucicola Cushman. Transf. to **Apistephialtes** Seyrig.

petulca (Cresson). Transf. to **Apistephialtes** Seyrig.

stultor (Davis). Transf. to **Apistephialtes** Seyrig as syn. of **variatiipes** (Provancher).

thurberiae Cushman. Host: Gall of *Disholcaspis* sp. on *Quercus oblongifolia*.

variatiipes (Provancher). Transf. to **Apistephialtes** Seyrig.

*Genus APISTEPHIALTES Seyrig

***Apistes** Seyrig, 1927. *Eos* 3(2): 221. Preocc.

Type: (**Apistes perversus** Seyrig) = **ascaniae** (Rudow). By monotypy.

***Apistephialtes** Seyrig, 1928. *Eos* 4 (3-4): 380. New name.

Place after **Calliephialtes** Ashmead, p. 188 of Catalog; Sup. 1, p. 37.

- ***arcticus** (Roman). Alaska, N. W. T.; Siberia.
Ephialtes arcticus Roman, 1914. Acad. Imp. Sci. St. Petersburg Mem. ser. 8, cl. Phys. Math. 29 (7): 6. ♀.
- ***coracinus** Townes. N. Y., N. J., Md., N. C., Tex.
Apistephialtes coracinus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 88, 89, 99. ♂, ♀.
- ***dentatus** Townes. B. C. and Alta. to Calif., Colo. Hosts: *Enoclerus spegeus* (F.), *Thanasimus nigriventris* (LeC.).
Apistephialtes dentatus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 88, 97. ♂, ♀.
- ***masoni** Townes. Alaska, Yukon, N. W. T., Alta., Man., Ont.
Apistephialtes masoni Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 89, 93. ♀.
- nucicola** (Cushman). B. C., Wash., Ariz., N. Mex., Colo. Hosts: *Andricus* galls; "*Cynips maculipennis*"; *Disholcaspis eldoradensis* (Beut.); cynipid gall on oak; nuts of *Corylus*; *Pontania* gall on *salix*; *Gnorimoschema bacharisella* Busck; *Periploca ceanothiella* (Cossens); *Protoceras arizonae* Kft.
Calliephialtes nucicola Cushman (transf. by Townes and Townes, 1960, pp. 88, 89, 95).
- petulcus** (Cresson). Tex., Mex.
Calliephialtes petulca (Cresson) (transf. by Townes and Townes, 1960, pp. 88, 89, 97).
- tenuiventris** (Holmgren). Hosts: *Melanophila consputa* Lec., *Xiphydria* sp.; sawfly in bark.
Pimpla tenuiventris (Holmgren) (transf. by Townes and Townes, 1960, pp. 88, 89).
Ephialtes pusio Walsh (transf. and syn. by Townes and Townes, 1960, p. 89).
- variatiipes** (Provancher). Ont. to N. J. west to Minn. Host: *Canarsia ulmiarrosorella* (Clem.).
Calliephialtes variatiipes (Provancher) (transf. by Townes and Townes, 1960, pp. 88, 89, 91).
Calliephialtes stultor (Davis) (transf. and syn. by Townes and Townes, 1960, p. 92).

Genus EPHIALTES Gravenhorst, Sup. 1, p. 37

(= *Pimpla* of Catalog, pp. 188-189)

- Closterocerus* Hartig. Transf. to syn. of *Dolichomitus* Smith.
Dolichomitus Smith. Valid genus.
Diclos'erocherus Viereck. Transf. to syn. of *Dolichomitus* Smith.
Exeristeroidea Viereck. Place as syn. of *Dolichomitus* Smith.
- brevis** Morley. Alta. to Que. Hosts: *Mcgachile inermis* Prov., *M. nivalis* Friese, *M.* sp.
- cephalotes** (Holmgren). Transf. to *Dolichomitus* Smith.
- ***decumbens** (Townes), n. comb. B. C., Calif., Colo., Iowa.
Pimpla decumbens Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 102. ♂, ♀.
- dolichosoma** Viereck. Transf. to *Dolichomitus* Smith.
- gigas** Walsh. Transf. to *Dolichomitus* Smith as syn. of *messor perlongus* (Cresson).
- imperator** (Kriechbaumer). Transf. to *Dolichomitus* Smith.
- irritator** (Fabricius). Transf. to *Dolichomitus* Smith.
- maecer** Cresson. Host: "*N. brevicornis*" in *Pinus ponderosa*.
 Taxonomy (identity of species): Townes and Townes, 1960, pp. 104-105 (under *Pimpla*).
- perlongus** (Cresson). Transf. to *Dolichomitus* Smith as subsp. of *messor* (Gravenhorst).
- ptelas** (Say). Transf. to *Dolichomitus* Smith.

pusio Walsh. Transf. to *Apistephialtes* Seyrig as syn. of *tenuiventris* (Holmgren).

pygmaeus (Walsh). Transf. to *Dolichomitus* Smith.

**spatulata* (Townes) n. comb. Maine and N. S. to N. C., west to B. C. and Calif. Hosts: *Ancistrocerus lineativentris* Cameron; *Rygchium* sp.

Pimpla spatulata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 102, 106. ♂, ♀.

tenuiventris Holmgren. Transf. to *Apistephialtes* Seyrig.

*Genus ANASTELGIS Townes

Anastelgis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 10, 109.

Type: *Anastelgis terminalis* Townes. Orig. desig.

Place after *Ephialtes* Gravenhorst, Sup. 1, p. 37 (= *Pimpla* of Catalog, p. 189).

**terminalis* Townes. Wash., Calif.

Anastelgis terminalis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 109, 110. ♂, ♀.

Genus DOLICHOMITUS Smith

Closterocerus Hartig. (Preocc.) Transf. from syn. of (*Pimpla* of Catalog) = *Ephialtes* Grav., p. 188.

Dolichomitus Smith. Transf. from syn. of (*Pimpla* of Catalog) = *Ephialtes* Grav., p. 188. Valid genus.

Disclasterocerus Viereck. Transf. from syn. of (*Pimpla* of Catalog) = *Ephialtes* Grav., p. 188.

Exeristoidea Viereck. Transf. from syn. of (*Pimpla* of Catalog) = *Ephialtes* Grav., p. 188.

Place in *Ephialtini* on p. 189 after *Anastelgis* Townes (*teste* Townes and Townes, 1960, p. 111).

**aciculatus* (Hellén). Yukon, B. C., Que., Europe. Host (in Europe): *Tetropium gabricli* Weise in *Larix europea*.

Ephialtes aciculatus Hellén, 1915. Acta Soc. Fauna et Flora Fennica 40: 23, 25. ♀.

**buccatus* Townes. B. C., Oreg., Colo.

Dolichomitus buccatus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 115, 141. ♀.

**californicus* Townes. B. C. to Calif., Idaho, Ariz., Utah, Colo., N. Mex. Hosts: *Oeme costata* Lec., ?*Semanotus nicolas* (White).

Dolichomitus californicus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 113, 116, 146. ♂, ♀.

cephalotes (Holmgren). Que., Sask.

Pimpla cephalotes (Holmgren) (transf. by Townes and Townes, 1960, pp. 115, 127).

**cuspidatus* Townes. Calif. Host: *Monochamus maculosus* Hald.

Dolichomitus cuspidatus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 113, 114, 120. ♂, ♀.

dolichosoma (Viereck). Ga., Miss., Kans., Colo.

Pimpla dolichosoma (Viereck) (transf. by Townes and Townes, 1960, pp. 113, 114, 116).

**flexilis* Townes. Yukon, N. W. T., Man.

Dolichomitus flexilis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 115, 142. ♀.

**foxleei* Townes. B. C., Wash., Oreg., Calif., Alta., Idaho, Mont., Colo., Ont., Que., N. S. Maine. Host: *Acanthocinus* sp.

- Dolichomitus foxleei* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 116, 145. ♀.
- imperator** (Kriechbaumer). Transcont. in Hudsonian, Canad. and Transit. Zones. Hosts: *Monochamus* sp.; ? borers in conifers.
- Pimpla imperator* (Kriechbaumer) (transf. by Townes and Townes, 1960, pp. 114, 154).
- irritator** (Fabricius). Hosts: *Anoploclera proxima* (Say), *Megacyllene caryae* (Gahan), *Elaphidionoides incertus* (Newm.), *E. parallelus* (Newm.), *E. villosus* (F.), *Elaphidion* sp. in *Quercus*, *Graphisurus* sp., *Melandrya striata* Say, *Obrium rufulum* Gahan, *Pachyta lamed* (L.), *Pissodes approximatus* Hopk., *Stenocorus lineatus* (Oliv.), *Ramosia tipuliformis* (Clerck), *Saperda discoidea* (F.), *Synchroa punctata* Newm., *Xylotrechus annosus* (Say).
- Pimpla irritator* (Fabricius) (transf. by Townes and Townes, 1960, pp. 113, 114, 137).
- messor perlongus** (Cresson), changed status. Hosts: *Saperda calcarata* Say, *S. concolor* Lec., *S. moesta* Lec. *Dolichomitus messor messor* (Grav.) is European.
- Pimpla perlongus* (Cresson) (transf. and reduced to subsp. by Townes and Townes, 1960, pp. 132, 134).
- Pimpla gigas* (Walsh) (syn. by Townes and Townes, 1960, p. 134).
- ***messor sparsus** Townes. Yukon to Calif., east to Wyo., Colo., N. Mex. Hosts: *Buprestis confluenta* Say, *Saperda moesta* LeC., *S. m. tulari* F. & J., *S. sp.*, *Xylocrius agassizi* (LeC.).
- Dolichomitus messor sparsus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 132, 133. ♂, ♀.
- ***populneus** (Ratzeburg). Ont., Sask., Colo., Wash.; Europe. Hosts: wood borer in *Populus* sp.; *Saperda populnea* (L.) in Germany.
- Ephialtes populneus* Ratzeburg, 1848. Die Ichn. d. Forstins., v. 2, p. 100. ♂, ♀.
- ptelas** (Say). Europe.
- Pimpla ptelas* (Say) (transf. by Townes and Townes, 1960, p. 150).
- pygmaeus** (Walsh). N. H. to N. C. west to B. C. and Calif. Host: ?*Plectrura spinicauda* Mann.
- Pimpla pygmaeus* (Walsh) (transf. by Townes and Townes, 1960, pp. 113, 115, 149).
- ***sericeus** (Hartig). Transcont. in Canad. Zone; Europe. Hosts: buprestid borer in *Picea*, ?*Tetropium cinnamopterum* Kby.
- Closterocerus sericeus* Hartig, 1847. Ber. Naturw. Ver. Harzes f. Jahre 1846/7, col. 18. ♂.
- ***taeniatus** Townes. Calif., Ariz. Hosts: *Chrysobothris edwardsii* Horn.
- Dolichomitus taeniatus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 113, 114, 118. ♂, ♀.
- terebrans nubilipennis** (Viereck), changed status. Hosts: *Pissodes dubius* Rand., *P. engelmanni* Hopk., *P. fasciatus* LeC., *P. fraseri* Hopk., *P. rotundatus* LeC., *Pissodes* spp., *Scolytus* sp. Typical *terebrans* (Ratz.) occurs in Europe.
- Calliephialtes nubilipennis* (Viereck) (transf. and reduced to subsp. by Townes and Townes, 1960, p. 122).
- ***tuberculatus tuberculatus** (Fourcroy). Alaska, B. C. to Que. and N. B., south to N. Y. and Oreg. Europe. Hosts: *Hylobius pinicola* (Coup.); *Monochamus* sp., *M. scutellatus* (Say). Another subsp. occurs in Japan.
- Ichneumon tuberculatus* Fourcroy, 1785. Ent. Parisiensis, p. 385. ♀.
- ***vitticus** Townes. Que. and Ont. south to Pa., west to Man., Wis., Kans.
- Dolichomitus vitticus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 114, 116. ♂, ♀.

*Genus ACROPIMPLA Townes

**Selenaspis* Roman, 1910. Ent. Tidskr. 31 (2-3): 191. Preocc.

Type: *Hemipimpla alboscuteellaris* Szépligeti. Orig. desig.

Acropimpla Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 9, 159.

Type: *Hemipimpla alboscuteellaris* Szépligeti. By autotypy.

Townes designated *Charitopimpla leucostoma* Cameron as type-species of *Acropimpla* but said "the unavailable name *Selenaspis* applies to the same zoological group as *Acropimpla*." Art. 67 (i), Internat. Code of Zool. Nomenclature, p. 65 says ". . . Type-fixation for either applies also to the other, despite any statement to the contrary."

Place on p. 189 before *Iseropus* Foerster.

alboricta (Cresson).

Scambus alboricta (Cresson) (transf. by Townes and Townes, 1960, pp. 161, 162).

**pronexus* Townes. N. B., Que., Ont., N. H., N. Y., Wyo., B. C., N. M. Hosts: *Glypta fumiferanae* (Vier.), *Choristoneura fumiferana* (Clem.) prob. secondary.

Acropimpla pronexus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 161. ♂, ♀.

Genus ISEROPUS Foerster, pp. 189-190, Sup. 1, p. 37

**Cnemopimpla* Cameron, 1903. Ent. 36: 159 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 19).

Type: *Cnemopimpla pilosa* Cameron. By monotypy.

californiensis Cushman. Wash., Colo. Hosts: *Malacosoma* sp., *M. fragile* (Stretch).

coelebs (Walsh). Hosts: *Dasychira plagiata* (Wlkr.); *Hemerocampa* sp., *Malacosoma disstria* Hbn., *Metallus rohweri* MacG., *Olene* sp.

stercorator orgyiae (Ashmead), changed status. Transcont. in Canad. and Transit. Zones. Hosts: *Choristoneura rosaceana* (Harr.), *Ctenucha virginica* (Charp.), *Halisdota* sp., *Hemerocampa* sp., *H. leucostigma* (J. E. Sm.), *H. vetusta* (Bdvl.), *Malacosoma* sp., *M. disstria* Hbn., *Simyra henrici* (Grt.), "pine tussock".

Iseropus orgyiae (Ashmead) (reduced to subsp. rank by Townes and Townes, 1960, p. 168).

Iseropus stercorator brunneifrons [sic.] (Viereck) (syn. by Townes and Townes, 1960, p. 168). Change to original spelling: *brunneifrons*.

Genus TROMATOBIA Foerster, p. 190

In type citation delete "Desig. by Viereck, 1914" and add: Desig. by Ashmead, 1900.

**Austropimpla* Brèthes, 1913. Anal. Mus. Nac. Hist. Nat. Buenos Aires 24: 40.

Type: *Austropimpla huebrichi* Brèthes. Orig. desig.

Syn. by DeSantis, 1956. La Plata Univ. Nac. Inst. Mus. Notas (Zool.) 18 (165): 305.

lateralis (Cresson). Syn. of *notator* (Fabricius).

**notator* (Fabricius). Fla., N. C.

Pimpla notator Fabricius, 1804. Systema piezatorum, p. 115. ♀.

Tromatobia lateralis (Cresson) (syn. by Townes and Townes, 1960, p. 186).

**Ephialtes cressoni* Dewitz, 1881. Berliner Ent. Ztschr. 25: 205. ♀. (Syn. by Townes and Townes, 1960, p. 186.)

**ovivora ovivora* (Bohemian). Transcont. in Huds., Canad., Transit. and U. Austral. Zones. Hosts: *Araneus diadema* L., *A. solitaria* (Emrtn.), *Argiope avara* Thor., *A. argentata* (F.), *Cyrtophora californiensis* Keys.

Pimpla ovivora Boheman, 1821. Svenska Vetensk.-Akad. Handl. (ser. 3) 9: 336. ♂, ♀.

Tromatobia ovivora scriptifrons (Cresson) (syn. by Townes and Townes, 1960, p. 179).

**Pimpla (Iseropus) viduiformis* Viereck, 1912. U. S. Natl. Mus. Proc. 43 (1942): 591. ♂. (See Catalog, p. 190, in discussion of *ovivora scriptifrons* (Cresson).)

Biology: Nielsen, 1923. Ent. Medd. 14: 194-195.

ovivora rufopectus (Cresson), changed status. Ont., Mich., Kans., Tex. Hosts: Egg sacs of: *Argiope trifasciata* (Forskål), "*Epeira*" sp.

Tromatobia rufopectus (Cresson) (reduced to subsp. rank to Townes and Townes, 1960, p. 183).

ovivora scriptifrons (Cresson). Syn. of *ovivora ovivora* (Boheman).

rufopectus (Cresson). A subsp. of *ovivora* (Boheman).

variabilis (Holmgren).

**Polysphinctus forsiusi* Hellén, 1915. Acta Soc. Fauna Flora Fennica 40: 45. ♂, ♀. (Syn., *teste* Townes and Townes, 1960, p. 176.)

zonata (Davis).

Taxonomy: Townes and Townes, 1960, pp. 175, 185.

Genus ZAGLYPTUS Foerster, p. 191

**arizonicus* Townes. Ariz. (Parker Creek, Sierra Ancha).

Zaglyptus arizonicus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 189, 192. ♀.

**pictilis* Townes. Fla., Ala., Ga., ?Cuba.

Zaglyptus pictilis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 189, 194. ♂, ♀.

varipes incompletus (Cresson). Transcont. in Huds. Zone.

Genus CLISTOPYGA Gravenhorst, p. 192

**Hymenomacropyga* Uchida, 1941. Ins. Matsumurana 15 (3): 116.

Type: *Hymenomacropyga latifrontalis* Uchida. Orig. design. and by monotypy.

Transf. from tribe *Polysphinctini*, p. 192 (*teste* Townes and Townes, 1960, p. 195).

Biology: Nielsen, 1929, Ent. Meddel. 16: 366-368.

**alutaria* Townes. Ont., Del., N. C., Fla., Wis.

Clistopyga alutaria Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 196, 200. ♂, ♀.

atrata Cushman. Host: ?*Calopus angustus* LeC. in *Pinus murrayana* (in gallery of).

canadensis Provancher. Canad. Zone, Atlantic to Rocky Mts. Hosts: ?*Leptochilus rufinodis* (Cress.); ?*Malacosoma disstria* Hbn.; ?lep. bud-worm on *Picea*.

maculifrons Cushman. Mass., N. Y., N. C., Ohio, Mich., Wis., Minn.

manni Cushman. B. C., Calif., N. Mex. Hosts: *Agelenopsis* sp.: ?salticid spider.

nigrifrons Cushman. B. C. Host: spider nest.

pulchripicta Ashmead. Syn. of *recurva* (Say).

recurva (Say).

Clistopyga pulchripicta Ashmead (syn. by Townes and Townes, 1960, p. 204).

Genus Pseudorhyssa Merrill, p. 191

Transf. to *Theroniini*, p. 202.

Genus *Delomerista* Foerster, p. 191Transf. to **Theroniini**, p. 202.Genus **PERITHOUS** Holmgren, p. 191

divinator (Rossi). Que., Conn., Pa., Mich., Wis. Hosts: Pemphredonini in stem of *Rosa*, *Pemphredon lethifer* Shuckard.

Biology: Thomas, 1964. Mich. Acad. Sci. Arts Letters, Papers 49: 199-201.

mediator neomexicanus (Viereck), changed status. Va., Oreg., Calif. Host: *Pemphredon errans* Roh. *P. mediator mediator* (Fab.) is European.

Perithous pleuralis Cresson of Catalog, in part. **P. neomexicana** removed from syn. and made subsp. (*teste* Townes and Townes, 1960, p. 213); change p. 87 to p. 88 in cit. of *neomexicana*.

mediator pleuralis (Cresson), changed status. Alaska, Sask. and east of Rocky Mts. Host: *Pemphredon harbecki* Roh. (?)

Perithous pleuralis Cresson (reduced to subsp. rank by Townes and Townes, 1960, p. 211). N. B., *neomexicana* Viereck removed from syn. and placed as subsp. of **mediator**.

Biology: Krombein, 1960. Ent. News 71: 31.

pleuralis (Cresson). A subsp. of **mediator** (Fabricius); (*neomexicana* Viereck removed from syn. and made subsp. of **mediator** (Fabricius)).

Tribe POLYSPHINCTINI

Biology: Nielsen, Ent. Meddel. v. 14, pp. 137-205 (1923); v. 16, pp. 152-155 (1928); pp. 366-368 (1929); v. 19, pp. 192-215 (1935); v. 20, pp. 25-28 (1937).

Taxonomy: Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 216-279 (keys to genera and species incl.).

Genus *Clistopyga* Gravenhorst, p. 192Transf. to **Ephialtini** and place after **Zaglyptus** Foerster, p. 191.Genus **ACRODACTYLA** Haliday, p. 192

Colpomeria Holmgren. Change type desig to: (*Colpomeria laevigata* Holmgren) = *quadrisculpta* Gravenhorst, (*teste* Townes and Townes, 1960, p. 230).

***degener** (Haliday). Transcont. in Huds., Canad., and Transit. Zones; Europe.

Cryptus (Acrodactyla) degener Haliday, 1838. Ann. Nat. Hist. 2(8): 117. ♂, ♀.

Symphylus hadrodactylus Foerster, 1871. Naturh. Ver. Rheinlande Verh. 28: 106. ♂, ♀.

Taxonomy: Townes and Townes, 1960, pp. 231, 233.

***jubata** Townes. Yukon, Wash., Colo.

Acrodactyla jubata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 231. ♀.

***ocellata** Townes. Que. to N. C., Mich. Host: *Linyphia phrygiana* C.L.K.

Acrodactyla ocellata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 231, 232. ♂, ♀.

***quadrisculpta** (Gravenhorst). Transcont. in Huds., Canad. and Transit. Zones; Eurasia. Host: *Tetragnatha laboriosa* Hentz.

Ichneumon quadrisculptus Gravenhorst, 1820. Mem. Accad. Sci. Torino 24: 378. ♂.

Colpomeria laevigata Holmgren, 1859. Ofvers. Svenska Vetensk. Akad. Forh. 16: 127.

Colpomeria kincaidii (Ashmead) (syn. by Townes and Townes, 1960, p. 235).

Genus *Colpomeria* Holmgren, p. 192

A syn. of *Aerodactyla* Haliday, p. 192.

kincaidii (Ashmead). Syn. of *Aerodactyla quadrisculpta* (Gravenhorst), p. 192.

*Genus *ERUGA* Townes

Eruga Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 220, 238.

Type: *Eruga lineata* Townes. Orig. desig.

Place in Polysphinctini after *Aerodactyla* Haliday, p. 192.

**atrata* Townes. Oreg., Ariz., Mex.

Eruga atrata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): p. 238. ♂, ♀.

**lineata* Townes. Que., Maine, N. Y., N. C., Minn., B. C., Wash., Oreg., Calif., Ariz.

Eruga lineata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 238, 239. ♂, ♀.

**rufa* Townes. Md., S. C.

Eruga rufa Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 238, 240. ♂, ♀.

Genus *Laufeia* Tosquinet, p. 192

Syn. of *Dreisbachia* Townes.

*Genus *DREISBACHIA* Townes

Laufeia Tosquinet, 1903. (Preocc. by Simon, 1889.)

Dreisbachia Townes, 1962. Ent. Soc. Wash. Proc. 64 (1): 38. N. name.

**navajo* (Townes). Ariz.; Honduras. Host: ?*Pisaurina* sp.

Laufeia navajo Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 221, 223, ♂, ♀. (Transf. by Townes, 1962, *loc. cit. supra*, p. 38.)

slossonae (Davis). Transcont. in Canad. Zone. (Transf. by Townes, 1962, *loc. cit. supra*, p. 38.)

Genus *SCHIZOPYGA* Gravenhorst, pp. 192-193

frigida Cresson. Europe.

**Schizopyga atra* Kriechbaumer, 1887. Ent. Nachr. 14: 87. ♂, ♀. (Syn. by Townes and Townes, 1960, p. 225.)

pulchra Walley. Ont. to N. C. west to B. C.

*Genus *PIOGASTER* Perkins

Piogaster Perkins, 1958. Entomologist 91: 263.

Type: **Piogaster rugosa* Perkins. Orig. desig.

Place in Polysphinctini before *Polysphincta* Gravenhorst, p. 193.

**maculata* Townes. Calif. (Crane Flat, Yosemite Park).

Piogaster maculata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 241. ♀.

Genus *POLYSPHINCTA* Gravenhorst, p. 193, Sup. 1, p. 37

albipes Cresson.

Taxonomy: Hubbard, 1885. Ins. Affecting the Orange, p. 153.

burgessii Cresson.

Taxonomy: Townes and Townes, 1960, pp. 246, 247.

***eboripes** Townes. N. Y. to S. C., Kans.

Polysphincta eboripes Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 246, 254. ♂, ♀.

koebelei Howard. Calif., Wash. Host: *Epeira foliata* (Four.) or *E. undata* (Oliv.).**limata** Cresson. Transcont. in Transit. Zone. Remove **bruneti** Provancher, a valid subsp., and **elongata** Cushman as its syn., from syn. of **limata** Cresson, and place as subsp. of **tuberosa** (Gravenhorst).**pallipes** Holmgren. Delete from Catalog; in s. str. Palearc. subsp. (*teste* Townes and Townes, 1960, p. 259).

Polysphincta (Zatypota) strigis Howard. Transf. to ***Sinarachna** Townes as valid subsp. of **pallipes** (Holmgren).

tuberosa bruneti Provancher, changed status. Transcont. in Huds. and Canad. Zones. *P. tuberosa tuberosa* (Gravenhorst) occurs in Europe.

Polysphincta limata Cresson of Catalog in part. Remove **bruneti** with its syn. **elongata** Cushman, and place as subsp. of **tuberosa** (Gravenhorst) (*teste* Townes and Townes, 1960, p. 251).

***Genus SINARACHNA** Townes

Sinarachna Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 219, 258.

Type: *Polysphincta pallipes* Holmgren. Orig. desig.

Place in **Polysphinctini**, p. 193, after **Polysphincta** Gravenhorst.

***anomala** (Holmgren). N. S. to Fla., west to Alaska and Calif.; Mexico, Europe, Palestine. Hosts: *Dictyna sublata* (Hentz).

Polysphincta anomala Holmgren, 1860. Svenska Vetensk.-Akad. Handl. (N. F.) v. 3 (Pt. 10): 34. ♀.

Polysphincta dictynae Howard (transf. with its syn. **minuta** (Davis) from **Zatypota** Foerster, p. 194, by Townes and Townes, 1960, p. 261).

pallipes strigis (Howard), changed status. Transcont. in Transit., Canad., and Huds. Zones. *S. pallipes pallipes* (Holmgren) occurs in Europe. Host: *Epeira foliata* (Four.).

Polysphincta pallipes Holmgren (transf. to **Sinarachna** Townes, and **strigis** made a subsp. of **pallipes**, *teste* Townes and Townes, 1960, p. 260).

Genus Hymenoepimecis Viereck, p. 193

Remove from Catalog. No nearctic species.

wiltii (Cresson). Transf. to ***Acrotaphus** Townes.***Genus ACROTAPHUS** Townes

Acrotaphus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 219, 256.

Type: *Epimecis wiltii* Cresson. Orig. desig.

Place in **Polysphinctini** on page 193 before **Oxyrrhexis** Foerster.

wiltii (Cresson). L. Austral. Zone. Transf. from **Hymenoepimecis** Viereck (*teste* Townes and Townes, 1960, pp. 256, 267).**Genus OXYRRHEXIS** Foerster, p. 193

In type citation after "Included" add: and designated.

carbonator texana (Cresson).

Taxonomy: Cushman, 1920. U. S. Natl. Mus. Proc. 58: 22.—Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 242, 243-45. (cocoon descr.).

Genus ZATYPOTA Foerster, p. 194

**Lycorinopsis* Haupt, 1954. Deut. Ent. Ztschr. (N.F.) 1 (H. 1/11): 110.
(Syn. by Townes and Townes, 1960, p. 262.)

Type: *Lycorinopsis rhombifer* Haupt. Orig. desig.

alborhombarta (Davis). Ariz., Mex.

**arizonicus* Townes. Ariz. (Santa Rita Mts.).

Zatypota arizonicus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 271. ♂.

bohemani (Holmgren). B. C.

**cingulata* Townes. Ont., N. B., N. S. south to S. C., Mich., Wis., Colo.

Zatypota cingulata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 270. ♂.

**crassipes* Townes. S. C. (Greenville).

Zatypota crassipes Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 265, 278. ♀.

dictynae (Howard). Transf. to **Sinarachua* Townes as syn. of *anomala* (Holmgren).

**exilis* Townes. N. H., Que.

Zatypota exilis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 269. ♀.

**favosa* Townes. Calif. (Fish Camp).

Zatypota favosa Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 269. ♀.

**luteipes* Townes. Ont., Maine, Mass., N. C.

Zatypota luteipes Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 265, 277. ♂, ♀.

nigriceps (Walsh).

?*Polysphincta nigrita* Walsh. Questionable syn. (*teste* Townes and Townes, 1960, p. 273, 274).

parva (Cresson). Que., Conn., N. C., Mich., Wis.

**patellata* Townes. B. C. to Calif.

Zatypota patellata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 268. ♂, ♀.

percontatoria (Müller). Huds. Zone.

**Polysphincta gracilis* Holmgren, 1860. Svenska Vetensk.-Akad. Handl. (N.F.) 3 (Pt. 10): 32. ♂, ♀. (Syn. by Townes and Townes, 1960, p. 275.)

**Polysphincta scutellaris* Holmgren, 1860, *Op. cit. supra*: 33. ♂. (Syn. by Townes and Townes, 1960, p. 275.)

**walleyi* Townes. Que., Ont., Maine, Mass., Mich.

Zatypota walleyi Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 272. ♂, ♀.

Tribe PIMPLINI

(= *Ephialtini* of Catalog)

Genus PIMPLA Fabricius, Sup. 1, p. 38

(= *Coccygomimus* Saussure of Catalog, pp. 194-196)

**Habropimpla* Cameron, 1900. Manchester Lit. Phil. Soc. Mem. Proc. 44. Pt. 5(15): 96.

Type: *Habropimpla bilineata* Cameron. By monotypy.

**Phytodiaetoides* Morley, 1913. Fauna Brit. India Hym. v. 3, pp. 216, 221.

Type: (*Phytodiaetoides megaera* Morley) = *flavipalpis* (Cameron). Orig. desig. and by monotypy.

- Liotheronia* Enderlein, 1919. Transf. from syn. of *Theronia* Holmgren, Cat. p. 202 (*teste* Townes and Townes, 1960, p. 311).
- **Dihyboplax* Enderlein, 1919. Gesell. Naturf. Freunde Sitzber, p. 148.
Type: *Dihyboplax flavipennis* Enderlein. By orig. desig.
- **Neogabunia* Brèthes, 1927. Ent. Mitt., 16(4) : 322.
Type: *Neogabunia paulistana* Brèthes. By monotypy.
- **Pimpla* subg. *Oxypimpla* Noskiewicz and Chudoba, 1951. Polskie Pismo Ent. 21 (1-4) : 42.
Type: *Pimpla turionellae* Linnaeus. By monotypy.
Generic syn. *teste* Townes and Townes, 1960, p. 311.
- aequalis* Provancher. Host: *Polychrosis vitiana* (Clem.).
- aethiops* Curtis. Remove from Catalog. Spm. listed from Greenland misdet.
- **annulipes* Brullé. N. S. to Fla. west to Ont. and Tex. Hosts: *Acrobasis caryae* (Horn), *Carpocapsa pomonella* (L.), *Grapholitha molesta* (Busck), *Gretchena bolliana* (Sling.), *Laspeyresia nigricana* (Steph.), *Rhyacionia buoliana* (Schiff.), *Salebria tenebrosella* (Hulst.), *Synanthedon pictipes* (G. & R.), *Thamnosphracia pyri* (Harr.).
- Pimpla annulipes* Brullé, 1946. In Lepeletier, Hist. Nat. Ins. Hym., v.4, p. 102. ♀.
- Coccygomimus inflatus* (Townes) (syn. by Townes and Townes, 1960, p. 346).
- aquilonia* *aquilonia* Cresson. changed status. Newfoundland to Tenn. and N. C. west to Wis., Minn., Alta., Alaska. Hosts: *Coleophora salmani* Heinr., *Lambdina fiscellaria* (Guen.), *Psilocorsis faginella* Chamb.
- Itoplectis exareolatus* Ashmead. Remove from syn. and place as valid subsp. (*teste* Townes and Townes, 1960, p. 324).
- Pimpla yakutatensis* Ashmead. Remove and place as syn. of subsp. *exareolatus* (Ashmead).
- aquilonia* *exareolata* (Ashmead). Alaska, B. C. to Sask., south to Calif., N. Mex. (Mts.), and Colo.
- Pimpla yakutatensis* Ashmead. Transf. from syn. of *aquilonia* Cresson (*teste* Townes and Townes, 1960, p. 324).
- **dimidiata* (Townes), n. comb. Tex. (Hempstead).
- Coccygomimus dimidiatus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 313, 350. ♂.
- ellopiae* Harrington. N. Mex., Mex. Host: *Eucaterpa variaria* Grote.
- **hesperus* (Townes) n. comb. Alaska, Oreg., Calif., Ariz., Nev., N. Mex., Utah, Colo., Neb., S. Dak. Host: *Rhyacionia frustrana bushnellii* (Busck), *Anarsia lineatella* Zell., *Udea rubigalis* (Guen.).
- Coccygomimus hesperus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 314, 315, 338. ♂, ♀.
- longigenalis* (Cushman). A subsp. of *sodalis* Ruthe.
- maura* Cresson. Hosts: *Hemerocampa leucostigma* (J. E. Sm.), *Orgyia* sp.
- nuda* Townes. Ont., Que., N. S. to Va. west to Mich. and Minn.
- pedalis* Cresson. Alaska, N.W.T., N. Mex., Mex. Hosts: *Acronicta americana* (Harr.), *A. sp.*, *Ctenucha virginica* (Charp.), *Dasychira plagiata* (Wlkr.), *Epargyreus clarus* (Cram.), *Halisidota caryae* (Harr.), *Lambdina fiscellaria somnaria* (Hulst), *Leucania lineata* Guen., *Orgyia antiqua badia* Hy. Edw., *Sciaphyla duplex* (Wlsh.), *Xylotrechus* sp.
- Biology: Finlayson, 1960. Canad. Ent. 92 (12) : 925.
- puncipes* Cresson. Tex., Mexico, South America, and Hawaii.
- **Pimpla feralis* Cresson, 1873. Acad. Nat. Sci. Phila. Proc. 25 : 399. ♂.

sanguinipes erythropus Viereck. B. C. to Calif., Idaho, Utah, Ariz., N. Mex., Mexico. Hosts: *Carpocapsa pomonella* (L.), *Diaerisia virginica* (F.), *Hemerocampa vetusta* (Bdvl.), *Hemileuca* sp., *Malacosoma* sp., *M. fragile* (Stretch), *Prochoerodes forficaria catenulata* Grote, *Tholeria reversalis* (Guen.), *Zophodia convolutella* (Hbn.).

Coccygomimus sanguinipes (Cresson) of Catalog, in part. ***P. erythropus*** Viereck removed from syn. and made subsp. of ***sanguinipes*** Cresson (*teste* Townes and Townes, 1960, p. 336).

sanguinipes sanguinipes Cresson, changed status. Tex., Mexico. Host: *Alabama argillacea* (Hbn.).

Pimpla (Pimpla) erythropus Viereck. Removed from syn. and made subsp. of ***sanguinipes***.

sodalis longigenalis (Cushman), changed status. Calif., Colo.

Coccygomimus longigenalis (Cushman). Reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 328, 330).

sodalis sodalis Ruthe. Changed status. Alaska, Yukon, N.W.T., Man., Que., Iceland, Greenland, Europe.

Coccygomimus sodalis (Ruthe) reduced to subsp. rank (*teste* Townes and Townes, 1960, p. 328).

***stricklandi** (Townes), n. comb. Alta., Sask., Ont., Que., Mich.

Coccygomimus stricklandi Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 314, 315, 340. ♂, ♀.

tenuicornis Cresson. Alta., B. C. Host: *Semiothisa* sp.

***varians** (Townes) n. comb. Rocky Mts. to Pacific Ocean in Canad. and Transit. Zones. Host: *Carpocapsa pomonella* (L.).

Coccygomimus varians Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 314, 333. ?♂, ♀.

Genus APECHTHIS Foerster, Sup. 1, p. 38

(= *Ephialtes* of Catalog, p. 196)

Apechthis Thomson. Add: "Emend." after bibliographic citation in Catalog. Delete type citation.

****Taiwatheronia*** Sonan, 1936. Nat. Hist. Soc. Formosa, Trans. 26: 256. N. syn.

Type: (*Taiwatheronia mahasenae* Sonan) = *taiwana* Uchida. By orig. desig. and monotypy.

****Parapechthis*** Blanchard, 1936. Anal. Soc. Cient. Argentina 122: 404. N. syn.

Type: *Parapechthis bazani* Blanchard. By orig. desig. and monotypy.

Taxonomy: Townes, 1957, Proc. Ent. Soc. Wash. 59 (3): 118-119; Townes and Townes, 1960, p. 302 (*Ephialtes* Schrank).

annulicornis (Cresson). Que., Ont., Alta., Nebr., Wis. Hosts: *Choristoneura fumiferana* (Clem.), *C. rosaceana* (Harr.).

componotus (Davis). Idaho, Calif. Host: *Hemerocampa pseudotsugata* McD.

ontario (Cresson). Ariz., Calif.

pacificus Cushman. B. C., Oreg.

picticornis (Cresson). Hosts: *Choristoneura conflictana* Wlkr., *C. rosaceana* (Harr.), *Sciophila* sp.; geometrid; noctuid.

****Apechthis ornatus*** Walley, 1929. Canad. Ent. 61 (8): 190. ♂. (Syn. by Townes, 1940. Ent. Soc. Amer. Ann. 33 (2): 313; Townes and Townes, 1960, p. 303.)

Genus ITOPLECTIS Foerster, pp. 196-198, Sup. 1, p. 38

Change type citation to: *Ichneumon scanicus* Villers. Desig. by Viereck, 1914 (*teste* Perkins, 1962, p. 433).

**Exeristesoides* Uchida, 1928. Jour. Fac. Agr. Hokkaido Imp. Univ. 25 (Pt. 1): 37, 51. (Syn. by Townes, 1957. Ent. Soc. Wash. Proc. 59: 107.)

Type: (*Pimpla spectabilis* Matsumura) = *alternans spectabilis* (Matsumura). Orig. desig. and by monotypy.

behrensii (Cresson). "Western Calif. from Marin Co. southwards".

clavicornis (Thomson). Delete from Catalog, not in Nearctic region. Species considered this, is ?*fustiger* Townes (*teste* Townes and Townes, 1960, p. 299).

conquisitor (Say). B. C. Hosts: *Anisota rubicunda* F., *Choristoneura conflic-tana* Wlkr., *Dasychira plagiata* Wlkr.; *Dioryctria reniculella* (Grt.), *Epermenia cicutae* Kft., *Exyra semicrocea* (Gn.), *Hyaloscotes pithopoera* (Dyar), *Nematocampa limbata*, (Haw.), *Oncideres cingulata* (Say), *Simyra henrici* (Grt.), *Sparganothis flavibasana* Fern., S. sp. on *Lonicera*, *Tortrix allenina* Fern., *T. cockerellana* Kft., *T. pallorana* Rbnsn., *Urbanus proteus* (L.), *Hypera postica* (Gyll.).

Biology: Leius, 1961. Canad. Ent. 93 (9): 771-780.—Arthur, 1963. Canad. Ent. 95 (10): 1086-1090 (also imm. stages).

curticauda brevacus Townes, changed status. Canad. Zone, Atlantic Ocean to Mont. Removed from syn. of *curticauda* (Kriechbaumer) and placed as valid subsp. (*teste* Townes and Townes, 1960, p. 301).

curticauda curticauda (Kriechbaumer), changed status. Delete from Catalog, p. 198. This subsp. is European. Remove *brevacus* Townes from syn. as a valid subsp.

evetriae Viereck. Transcont. in Canad. Zone. Hosts: *Barbara mappana* Free., B. sp., *Choristoneura fumiferana* (Clem.).

**fustiger* Townes. Transcont. in Transit. Zone. Host: "Neuroptera".

Itopectis fustiger Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 282, 298. ♂, ♀.

quadricingulatus (Provancher). Hosts: *Croesia albicomana* (Clem.); *Dioryctria reniculella* (Grt.), *Eucercata castella* Wlsm., *Galleria mellonella* F., *Malacosoma* sp., *M. distria* Hbn., *Nepytia phantasmaria* (Stkr.), *Platyptilia* sp., *Taniva albolineana* (Kft.).

**vesca* Townes. Alaska to Calif., Ariz., N. Mex., Colo., Maine, P.E.I. N. B., N. S. Hosts: *Acleris variana* (Fern.), *Colephora laricella* (Hbn.), *Recurvaria milleri* Busck.

Itopectis vesca Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 282, 297. ♂, ♀.

viduata (Gravenhorst). B. C., Alta., N.W.T., Sask., Wyo. Hosts: *Ancyliis comptana* (Frol.), *Malacosoma distria* Hbn.

Tribe NEOXORIDINI

(= *Poemeniini* of Catalog)

Genus *Diacritus* Foerster, p. 198

Remove from (*Poemeniini* of Catalog) = *Neoxoridini*, Sup. 1, p. 38, and place provisionally in *Microcleptinae* (= *Plectiscinae* of auctt.), on p. 342.

Genus *POEMENIA* Holmgren, Cat. p. 199, Sup. 1, p. 39

Revision: Habeck and Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 376-387.

albipes (Cresson). Alta.

americana americana (Cresson), changed status. N. S., Ont., N. H. Host: *Passalococcus mandibularis* (Cress.).

Poemenia americana (Cresson). Reduced to subsp. rank (*teste* Habeck and Townes, 1960. *In* Townes and Townes, p. 384).

**americana nebulosa* Habeck and Townes. B. C. to Calif. east to Colo.; Ont. Hosts: *Laspeyresia toreuta* (Grt.), *Paratimia conicola* Fahr.

Poemenia americana nebulosa Habeck and Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216: 382 (key), 383. ♂, ♀.

**pacifica* Habeck and Townes. Wash. to Calif. Host: Galls of *Disholcaspis truckeensis* (Ashm.).

Poemenia pacifica Habeck and Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (key), 385. ♂, ♀.

thoracica (Cresson). B. C. to Calif. east to Sask. and Wyo.

Poemenia vancouveriensis Provancher (syn. by Habeck and Townes, 1960. *In* Townes and Townes, p. 377).

vancouveriensis (Provancher). Syn. of *thoracica* (Cresson).

*Genus NEOXORIDES Clément, p. 199

borealis (Cresson). Hosts: *Melanophila drummondi* (Kby.), *Laspeyresia toreuta* (Grt.).

caryae (Harrington). Ont., Que.

**pilulus* Townes. Yukon to Oreg., east to N.W.T., Que., N. B., Colo., also N. Y., N. C., N. J. Host: buprestid.

Neoxorides pilulus Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216: 390. ♀, ♂.

vittifrons (Cresson). Transf. to **Podoschistus* Townes.

*Genus PODOSCHISTUS Townes

Podoschistus Townes, 1957. Ent. Soc. Wash. Proc. 59(1): 16 (key), 18.

Type: *Xorides vittifrons* Cresson. Orig. desig.

Place on p. 199 of Catalog after *Neoxorides* Clément.

**vittifrons schlingeri* Townes. Utah (Mantua).

Podoschistus vittifrons schlingeri Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 388. ♀.

vittifrons vittifrons (Cresson), changed status. Maine to Ga., west to Ont. and Tex. Host: buprestid.

Neoxorides vittifrons (Cresson). Transf. from *Neoxorides* and reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 388, 389).

Tribe RHYSSINI

Genus RHYSSA Gravenhorst, p. 200, Sup. 1, p. 39

alaskensis Ashmead. Wyo., Huds., Canad., and Transit. Zones.

Rhyssa skinneri Viereck. Change bibliographic reference page from 86 to 87.

crevieri (Provancher). N. S., N. B. Que., Ont., Maine, N. H., N. Y., N. J., N. C. (Mts.), Mich., Minn. Host: *Urocerus albicornis* (F.).

Rhyssa lineolata (Kirby) of Catalog, in part. Remove *crevieri* from syn. (*teste* Townes and Townes, 1960, p. 403).

hoferi Rohwer. Ariz., N. Mex.

**howdenorum* Townes. Va., N. C., Nebr.

Rhyssa howdenorum Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 396, 398. ♂, ♀.

lineolata (Kirby). Upper Austral. Zone. (Townes, 1960, p. 406 says "but there are no definite host records.")

Rhyssa lineolata (Kirby). Remove *crevieri* (Provancher), a valid sp., from syn. (*teste* Townes and Townes, 1960, p. 403).

persuasoria (Linnaeus). Host: *Sirex areolatus* (Cress.).

***ponderosae** Townes. Calif.

Rhyssa ponderosae Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 397, 401. ♂, ♀.

Genus **RHYSELLA** Rohwer, p. 200

humida (Say). Wis., Minn., Iowa.

nitida (Cresson). Canad., Transit., Upper Austral. Zones. Que., Ont., Minn., Tenn., S. C., also B. C.

*Genus **EPIRHYSSA** Gresson

Epirhyssa Cresson, 1865. Ent. Soc. Phila. Proc. 4: 39.

Type: *Epirhyssa speciosa* Cresson. Desig. by Viereck, 1914.

**Rhyssonota* Kriechbaumer, 1890. Naturh. Hofmus. Wien. Ann. 5(3): 489. Syn. by Townes and Townes, 1960, p. 413.

Type: *Rhyssonota tristis* Kriechbaumer. By monotypy.

Place before *Megarhyssa* Ashmead, p. 200.

**diétrichi* Townes. Ariz. (Mt. Lemmon).

Epirhyssa diétrichi Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 414. ♂, ♀.

Genus **MEGARHYSSA** Ashmead, pp. 200-202

Biology: Heatwole, Davis, Wenner, 1964. Amer. Midl. Nat. 71 (2): 374-381.

atrata atrata (Fabricius), changed status. Conn., Ont. south to Fla. and Tex.

Megarhyssa atrata (Fabricius). Reduced to subsp. rank (*teste* Porter, 1957. Ent. News 68: 206).

**atrata lineata* Porter. N. S. to Ont. and south to Penna. Host: *Tremex columba* (L.).

Megarhyssa atrata lineata Porter, 1957. Ent. News 68: 206. ♀.

**greenei floridana* Townes. Fla.

Megarhyssa greenei floridana Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 421, 424. ♀.

greenei greenei Viereck. Canad. to Upper Austral. Zone in east. No. America.

Megarhyssa greenei Viereck. Reduced to subsp. rank (*teste* Townes and Townes, 1960, p. 422).

icterosticta Michener. A subsp. of *macrurus* (Linnaeus).

macrurus icterosticta Michener, changed status. Ariz.

Megarhyssa icterosticta Michener. Reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 430, 435).

macrurus lunator (Fabricius). Canad., Transit. and Upper Austral. zones east of 100° W. Host: *Tremex columba* (L.).

Megarhyssa macrurus macrurus (Linnaeus) of Catalog, in part. Place *lunator*, and its syn. *histrío*, as valid subsp. of *macrurus* (*teste* Townes and Townes, 1960, p. 430).

macrurus macrurus (Linnaeus). Place *lunator*, and its syn. *histrío*, as valid subsp. of *macrurus*.

**Ichneumon Georgicus* Megerle, 1802. Appendix ad catalogum insectorum, quae mense Novembris 1802 Vienne Austriae auctionis lege vendita fuere, p. 16 (Syn. *teste* Townes and Townes, 1960, p. 434).

Megarhyssa macrurus phaeoptila Michener (syn. by Townes and Townes, 1960, p. 434).

macrurus phaeoptila Michener. A syn. of *M. macrurus macrurus* (Linnaeus).

nortoni nortoni (Cresson). Ont., Mich., Vt.

nortoni quebecensis (Provancher). P.E.I., Tenn.

Tribe THERONIINI

Genus PSEUDORHYSSA Merrill, p. 191

Change type desig. to read as follows: Type: *Pseudorhyssa sternata* Merrill = *ruficoxis* (Kriechbaumer). Orig. desig.

Transf. from Tribe Ephialtini, p. 191 (*teste* Townes and Townes, 1960, p. 373). Place after heading Tribe Theroniini.

**ruficoxis* (Kriechbaumer). Host: Siricidae in conifers; ? also Coleoptera. "*Rhyssa approximator* (Fabricius)" of authors, not of Fabricius.

Rhyssa approximator var. *ruficoxis* Kriechbaumer 1887. Ent. Nachr. 13: 250. ♀.

Pseudorhyssa sternata Merrill (syn. by Townes and Townes, 1960, p. 373).

sternata Merrill. Syn. of *ruficoxis* (Kriechbaumer).

Genus THERONIA Holmgren, pp. 202-203

**Poecilopimpla* Cameron, 1903. Straits Branch Roy. Asiatic. Soc. Jour. 39: 140. Syn. by Townes and Townes, 1960, p. 351.

Type: *Poecilopimpla lucida* Cameron. By monotypy.

Liotheronia Enderlein, 1919. Transf. to syn. of *Pimpla* Fabricius.

atalantae (Poda). Delete from Catalog. Place *fulvescens* (Cresson), and its syns. *rufescens* Taylor, *fulvescens* var. *mellipennis* Viereck and *atalantae* var. *americana* Krieger, as a subsp. of *atalantae*.

atalantae fulvescens Cresson, changed status. *T. atalantae atalantae* (Poda) occurs in Europe. Host: *Dasychira plagiata* (Wlkr.).

Theronia atalantae (Poda) of Catalog. Remove *atalantae* (Poda) from syn., and place *fulvescens* as valid subsp. of *atalantae* (*teste* Townes and Townes, 1960, p. 354).

bicineta (Cresson). Delete from Catalog; occurs only in Cuba (*teste* Townes and Townes, 1960, p. 362).

**bicineta floridana* Townes. Fla., Ga. Host: *Tromatobia rufopectus* (Cress.). Another subsp., *bicineta bicincta* (Cresson), occurs in Cuba.

Theronia bicincta floridana Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216: 361, 362. ♂, ♀.

hilaris (Say). Host: *Heterocampa guttivitta* (Wlkr.).

septemtrionalis (Krieger). Fla., Ohio, Okla.

Genus DELOMERISTA Foerster, p. 191

Change desig. of type species to: Incl. and desig. by Schmiedeknecht, 1888.

Place in tribe Theroniini, p. 203.

**borealis* Walkley. Alaska, Yukon, N.W.T., Que., Colo.

Delomerista borealis Walkley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 365, 370. ♀.

**gelida* Walkley. Alaska, N.W.T., B. C. to Que., N. Y., Pa., Colo., Ariz., Calif.

Delomerista gelida Walkley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 365, 366. ♀.

**japonica diprionis* Cushman, n. status. Alaska and B. C. to Calif. (Mts.) east to N. W. T., N. S. and N.Y., N C. (Mts.). *D. japonica japonica* occurs in Japan. Hosts: *Diprion frutetorum* (F.), *Neodiprion* spp. Taxonomy: Walkley, 1960, in Townes and Townes, pp. 367-368 (as syn. of *japonica*).

Biology: Finlayson, 1960. Canad. Ent. 92(1): 25-26 (as *diprionis*).

**lepteces* Walkley. Alaska, Que., Colo.

Delomerista lepteces Walkley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 365, 368. ♀.

- novita** (Cresson). Hosts: *Macremphytus* sp.; sawfly larva in elder stem; ? *Mononychus vulpeculus* (F.); *Acrobasis rubrifasciella* Pack.; ? *Exartema olivaceanum* Riley; ? *Eublemma minima* (Guen.).
- ***pfankuchi** (Brauns). ? W. Va., Europe.
[*Pimpla*] (*Delomerista*) *Pfankuchi* Brauns, 1905. Ztschr. f. Hym. Dipt. 5: 131. ♀.
- texana** (Cresson). Alaska, N.W.T., Que., Maine, N. H.; Europe.
**Pimpla laevifrons* (!) Thomson, 1877. Opuscula Ent. 8: 750. ♂, ♀.

Tribe LABENINI

Genus LABENA Cresson, pp. 203-204, Sup. 1, p. 39

- **Microtritus* Kriechbaumer, 1889. Ent. Nachr. 15: 307.
Type: *Microtritus apicalis* Kriechbaumer. By monotypy.
- **Neonotus* Parrott, 1955 (1954). Linn. Soc. N. S. Wales, Proc. 79 (5-6): 230.
Type: *Neonotus chadwickii* Parrot. By orig. desig. and monotypy.
(Syn. by Townes and Townes, 1960, p. 531.)
- ***grallator balteata** Townes. Tex. (nr. Presidio). Host: Tunnels in *Lycium berlandieri*.
Labena grallator balteata Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 536. ♀, ♂.
- grallator grallator** (Say). Changed status. Ont. and Conn. to Fla., west to Kans., Tex., also Colo. Hosts: *Chrysobothris tranquebarica* Gmel., *Chion* sp., *Saperda puncticollis* Say, *Thrincopyge alacris* Lec.
Labena grallator (Say). (Reduced to subsp. rank by Townes and Townes, 1960, pp. 532-533.)
- ***grallator lutea** Townes. Calif. (Needles).
Labena grallator lutea Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 536. ♂.
- ***grallator ochreatea** Townes. Ariz.
Labena grallator ochreatea Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 535. ♂, ♀.
- ***grallator xutha** Townes. N. Mex., Colo.
Labena grallator xutha Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 535. ♂, ♀.
- tinctipennis** Rohwer. B. C. to Calif., Ariz.

Genus GROTEA Cresson, p. 204

Taxonomy: Townes and Townes, 1960, p. 537 (Tribe Labiini).

anguina Cresson. Colo., Ariz.**californica** Cresson. B. C., Wash., Idaho, Nev., Ariz.

Tribe XORIDINI

Genus XORIDES Latreille, pp. 204-206, Sup. 1, p. 39

- Gonophonus** Foerster. Remove from syn. A valid subg. of *Xorides* (teste Townes and Townes, 1960, p. 494). Palearc. Oriental.
- Moerophora** Foerster. Remove from syn. A valid subg. of *Xorides* (teste Townes and Townes, 1960, p. 495). Palearc.
- Perissocerus** Smith. Trans. to syn. of subg. *Periceros* Schulz *infra*.
- Cyanoxorides** Cameron. Remove from syn. A valid subg. of *Xorides* (teste Townes and Townes, 1960, p. 494). Oriental.
- Spiloxorides** Cameron. Remove from syn. of *Xorides*. A syn. of subg. *Cyanoxorides* Cameron, *supra*.
- Macrosterotrichus** Kokujev. Remove from syn. of *Xorides*. A syn. of subg. *Moerophora* Foerster, *supra*.

- Caenostoma* Cameron. Remove from syn. of *Xorides*. A syn. of subg. *Gonophonus* Foerster, *supra*.
- Periceros* Schulz. Remove from syn. A valid subg. of *Xorides* (*teste* Townes and Townes, 1960, p. 501). Neotrop.
- Ahyborhyssa* Enderlein. Remove from syn. of *Xorides*. Syn. of subg. **Epixorides* Smith (*teste* Townes and Townes, 1960, p. 494). Oriental.
- Laraudenia* Seyrig. Remove from syn. of *Xorides*. Syn. of subg. **Gonio-prymnus* Cameron (*teste* Townes and Townes, 1960, p. 496). Ethio-p.

*XORIDES subgenus EXOMUS Townes

Xorides subg. *Exomus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 491, 496.

Type: *Anomalon humeralis* Say. Orig. desig.

Place on p. 204 as first subgenus under *Xorides* Latreille.

**humeralis chiricensis* Townes. Ariz. (Chiricahua Mts.).

Xorides (Exomus) humeralis chiricensis Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 501. ♀.

**humeralis excomptus* Townes. Calif.

Xorides (Exomus) humeralis excomptus Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 500. ♂, ♀.

humeralis humeralis (Say). Canad. Zone. Hosts: *Dicerca obscura* (F.), *Neoclytus* sp. in *llcx*.

?*Xylonomus australis* Cresson. Syn. questioned by Townes and Townes, 1960, pp. 498, 499.

**humeralis mexicanus* Townes. Tex., Mexico.

Xorides (Exomus) humeralis mexicanus Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497. ♀.

humeralis piceatus Rohwer.

**humeralis sierrae* Townes. Calif.

Xorides (Exomus) humeralis sierrae Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 500. ♂, ♀.

XORIDES subgenus XORIDES Latreille

**Amphixylonomus* Benoit, 1952. Ann. Ent. Soc. Belg. Bul. 88: 136. Syn. by Townes and Townes, 1960, p. 502.

Type: *Xylonomus (Amphixylonomus) kouduensis* Benoit. Orig. desig.

albopictus (Cresson).

**atrox* Townes. B. C. (Robson).

Xorides (Xorides) atrox Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 492, 520. ♀.

**boharti* Townes. Calif.

Xorides (Xorides) boharti Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 508. ♂, ♀.

calidus (Provancher). Misspelled *callidus* in catalog.

californicus (Cresson). Ariz., Colo. Host: *Paranthrene robiniae perlucida* (Busck).

cincticornis cincticornis (Cresson). Changed status. Alta., Mont. (Reduced to subsp. rank by Townes and Townes, 1960, p. 528).

**cincticornis rufus* Townes. Calif., Oreg.

Xorides (Xorides) cincticornis rufus Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 528, 530. ♂, ♀.

eastoni (Rohwer). Wis., B. C.

frigidus (Cresson). Transcont. in Canad. Zone.

- harringtoni** (Rohwer). Host: *Dicerca divaricata* (Say).
- insularis** (Cresson). Alaska, Alta., Ariz., Que. Host: Scolytid in *Pseudotsuga taxifolia*.
- maudae** (Davis). Wash.
- ***medius** Townes. Idaho, Calif.
Xorides (Xorides) medius Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 511. ♂, ♀.
- neoclyti** (Rohwer). N. Mex., Colo.
- ***peniculus** Townes. N. Y., Pa., N. J., S. C., Tex.
Xorides (Xorides) peniculus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 494, 506. ♂, ♀.
- ***pictus** Townes. Calif.
Xorides (Xorides) pictus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 505. ♀.
- ***planus** Townes. Ariz., Colo.
Xorides (Xorides) planus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 511. ♂, ♀.
- rileyi** (Ashmead). Ga., Fla. Host: *Phymatodes testaceus* (L.).
Xorides ruficoxis (Rohwer) (syn. by Townes and Townes, 1960, p. 508).
- ***rudis** Townes. Calif. (Lone Pine).
Xorides (Xorides) rudis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 510. ♀.
- ruficoxis** (Rohwer). Syn. of **rileyi** (Ashmead).
- ***semirufus** Townes. Fla. (Archer).
Xorides (Xorides) semirufus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 494, 506. ♀.
- stigmaferus floridanus** (Ashmead). Ill.
- stigmaferus stigmaferus** (Say). Transcont. in Canad., Transit., and Upper Austral Zones. Host: ? *Dryobius sexfasciatus* (Say). (Reduced to subsp. rank by Townes and Townes, 1960, p. 526.)
- ***Xylononius tartarus** Morley, 1913. Fauna Brit. India . . . Hym., v. 3, pp. 77, 78. ♀. (Syn. by Townes and Townes, 1960, p. 526.)
- Genus ODONTOCOLON Cushman, p. 206**
- abdominale abdominale** (Cresson), changed status. Idaho, Mont., Wyo., Utah, Colo., Ariz. Reduced to subsp. rank by Townes and Townes, 1960, p. 463.
- ***abdominale fergusonii** Townes. Alta., B. C., Wash.
Odontocolon abdominale fergusonii Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 463, 464. ♂, ♀.
- aethiops** (Cresson). B. C., Mont.
- alaskensis** (Rohwer). Alaska. A valid species (*teste* Townes and Townes, 1960, pp. 450, 453, 460).
- albotibiale** (Bradley). N. S., Ont., Minn., Iowa, S. C., Fla. Remove question-marks before cit. of *striatus* Cushman and *aciculatus* Cushman.
- atripes** (Rohwer). P. E. I., Ont., Alta., Ala.
- bicolor** (Cresson). Ala., S. C., Va., Md.
- brevicaudus** (Cushman). Wash., Idaho.
- canadense** (Provancher). N. S., Ont., Mich., Minn.
- ***cilipes** Townes. Ariz. (Chiricahua Mts.).
Odontocolon cilipes Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 452, 454. ♀.

**curtum* Townes. Calif.

Odontocolon curtum Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 450, 453, 470. ♂, ♀.

**depressum* Townes. Colo. (Rocky Mt. N. P.).

Odontocolon depressum Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 453, 459. ♀.

dichrous (Rohwer).

Taxonomy: Townes and Townes, 1960, pp. 450, 451, 453, 454, 475-478. ♀, ♂.

**dreisbachi* Townes. Mich. (Isle Royale).

Odontocolon dreisbachi Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 450, 453, 480. ♀.

**formicoides* Townes. Ariz. (Humphreys Peak).

Odontocolon formicoides Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 452, 458. ♂.

**ochropus* Townes. Atlantic to Rocky Mts. in Transit. and U. Austral Zones, also B. C., Idaho.

Odontocolon ochropus Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 451, 454, 482. ♂, ♀.

**parvum* Townes. B. C. to Oreg., Idaho, Wyo., Colo.

Odontocolon parvum Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 450, 452, 454, 472. ♂, ♀.

polymorphum Cushman. B. C., Oreg.

**pullum* Townes. B. C., Calif.

Odontocolon pullum Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 452, 456. ♀, ♂.

punctatum (Cushman). B. C., Wash., Oreg., Calif. Wyo. Host: "*Tremex*" in *Abies*.

punctulatum (Thomson). Delete from Catalog; European species.

Odontomerus alaskensis Rohwer. Remove from syn., valid species.

**sierrae* Townes. Calif.

Odontocolon sierrae Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 451, 454, 471. ♂, ♀.

strangaliae (Rohwer). N. B., Ont., Mich., Wis., Minn., N. C., Tenn., Ala. Hosts: "*Leptura*" larvae, *Strangalina luteicornis* (Fab.).

vicinum (Cresson). Upper Austral Zone. Hosts: Buprestid in *Betula nigra*, *Dicerca divaricata* (Say).

*Genus ISCHNOCEROS Gravenhorst

Ischnoceros Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 949.

Type: *Ichneumon rusticus* Fourcroy. Desig. by Viereck, 1914.

Place before genus *Aplomerus* Provancher, p. 207.

**clivulus* Townes. Calif.

Ischnoceros clivulus Townes, 1957. Ent. Soc. Wash. Proc. 59: 21. ♀.

Genus APLOMERUS Provancher, p. 207

**arugosus* Townes and G. Townes. Wyo. (Shoshone Canyon).

Aplomerus arugosus Townes and G. Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 441, 446. ♀.

buprestivorus Rohwer. Calif., Ariz.

**robustus* Townes and G. Townes. B. C. to Calif. Host: Buprestid.

Aplomerus robustus Townes and G. Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 440, 441, 443. ♂, ♀.

tibialis (Provancher). Oreg.

Tribe ACAENITINI

Taxonomy: Townes and Townes, 1960, pp. 4, 544 (Subfamily status).

Genus COLEOCENTRUS Gravenhorst, pp. 207–208, Sup. 1, p. 39

flavipes (Provancher). N. S., N. B., Ont., Tenn. (Canad. Zone).

harringtoni Cushman. N. B., Que., N. H., Mass., Pa., Minn.

***manni coloradensis** Townes. Colo. (nr. Estes Park).

Coleocentrus manni coloradensis Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 555, 556. ♂.

manni manni Cushman. Changed status. B. C., Wash., Oreg., Calif. Reduced to subsp. rank by Townes and Townes, 1960, p. 555.

occidentalis occidentalis Cresson, changed status. Mont. (Delete Calif. from dist.) Reduced to subsp. rank by Townes and Townes, 1960, p. 548.

occidentalis pulchripennis Cushman, changed status. Calif. Reduced to subsp. of *occidentalis*, *teste* Townes and Townes, 1960, p. 549.

pettiti Cresson. N. S. to Ont. and Minn. south to Pa., also Colo.

Coleocentrus Quebecensis Provancher. Remove from syn. A valid sp.

quebecensis Provancher. Atlantic Ocean to Rocky Mts. in Canad. Zone. A valid species (*teste* Townes and Townes, 1960, pp. 547, 550).

rufocoxatus Pratt. N. B., P.E.I., N. Y., Pa., N.W.T.

rufus Provancher. P. E. I., N. S., N. B., Ont., Iowa, N. Dak., Ga.

Genus MESOCLISTUS Foerster, p. 208

***cushmani** Townes. Alaska (Mt. McKinley N. P.).

Mesoclistus cushmani Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 560. ♂, ♀.

Genus AROTES Gravenhorst, pp. 208–209, Sup. 1, p. 39

***Retanisia** Cameron, 1886. Biol. Centr.-Amer. Hym., v. 1, p. 299. Syn. by Townes and Townes, 1960, p. 561.

Type: *Retanisia fascialis* Cameron. By monotypy.

amoenus Cresson. Host: *Melandrya striata* Say.

formosus Cresson. Transf. to *Spilopteron* Townes.

maurus Rohwer. B. C. to Minn.

melleus (Say). Md., D. C., N. C., Mich.

occipitalis Cresson. Transf. to *Spilopteron* Townes.

rupinsulensis (Cresson). Transf. to *Yezoceryx* Uchida.

ricinus Cresson. Transf. to *Spilopteron* Townes.

***Genus SPILOPTERON** Townes

Spilopteron Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 546, 568.

Type: *Spilopteron fraulemonti* Townes. Orig. desig.

Place in *Acaenitini* after *Arotes* Gravenhorst, p. 209.

***formosum australe** Townes. Md., D. C., N. C., Ga.

Spilopteron formosum australe Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 571, 573. ♂, ♀.

formosum formosum (Cresson), changed status. Que. to Man. south to N. J., Md., W. Va., Ohio and Minn. Transf. from *Arotes* Gravenhorst, and reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 571, 572).

- ***franclemonti** Townes. N. B., Que. to Man. south to N. Y., Ohio, Minn.
Spilopteron franclemonti Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 569. ♂, ♀.
- occipitale** (Cresson). Ga. Transf. from *Arotes* Gravenhorst, p. 209. (*teste* Townes and Townes, 1960, pp. 569, 576).
- ***vicinum melanderi** Townes. Mich. to B. C., also N. S., Oreg.
Spilopteron vicinum melanderi Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 573, 575. ♂, ♀.
- vicinum vicinum** (Cresson), changed status, P. E. I., N. B., Que. to Man., south to W. Va., Minn., also N. W. T., Colo., Idaho. Host: *Anoploclera nigrella* (Say). Transf. from *Arotes* Gravenhorst, p. 209 and reduced to subsp. rank (*teste* Townes, 1960, in Townes and Townes, p. 573).

*Genus YEZOCERYX Uchida

Yezoceryx Uchida, 1928. Hokkaido Imp. Univ. Faculty Agr. Jour. 25: 36.

Type: *Yezoceryx scutellaris* Uchida. By orig. desig.

Place in *Acaenitini*, p. 209 before subfamily *Tryphoninae*.

rupinsulensis (Cresson). Transf. from *Arotes* Gravenhorst (*teste* Townes and Townes, 1960, p. 578).

Subfamily LYCORININAE

(=Tribe *Lycorini*, p. 309)

Tribe *Lycorinini* transf. in Sup. 1, p. 39, from p. 309 to p. 209, following tribe *Acaenitini*.

Genus TOXOPHOROIDES Cresson, p. 309

This group needs revision.

albomarginatus albomarginatus (Cresson). Colo. Host: *Anarsia lineatella* Zeller.

***apicalis** (Cresson). N. C., Fla., Mo.; Mexico.

Lycorina? **apicalis** Cresson, 1874 (1873). Acad. Nat. Sci. Philadelphia Proc. 1873: 407. ♂.

Toxophoroides xanthozonatus (Ashmead). N. syn.

glaucomatus Cushman. Ohio.

scitulus (Cresson). Host: *Gelechia albisparcella* (Chamb.), *Ancylis comptana fragariae* (W. & R.).

xanthozonatus (Ashmead). Syn. of **apicalis** (Cresson).

Subfamily COLLYRIINAE

This subfam. transf. in Sup. 1, p. 56, from p. 341 to p. 209, following *Pimplinae*.

Genus COLLYRIA Schiedte, p. 341

calcitrator (Gravenhorst). Md., Pa.

Subfamily STILBOPINAE

(= *Stilbopini* of Catalog)

Place on p. 209, before *Tryphoninae*. An undescribed species representing a new genus apparently belongs here.

Genus **STILBOPS** Foerster, p. 209

Stilbops Foerster. After 1900, in type citation, delete period and add: (as *veluta* Gravenhorst).

Aphanoroptrum Foerster. Remove from syn. with its emendations; distinct genus (*teste* Perkins, 1962, p. 405).

Genus **APHANOROPTRUM** Foerster

Aphanoroptrum Foerster. Change type desig. to:

Type: (*Lissonota ruficornis* Gravenhorst) = *abdominale* (Gravenhorst). Included by Thomson, 1877.

Remove from syn. of *Stilbops* Foerster. Place in subfamily **Stilbopinae**, after *Stilbops* Foerster, p. 209.

Subfamily **ADELOGNATHINAE**Genus **CNEMISCHYS** Foerster, p. 210

Cnemischus Thomson. Add 'Emend.' after bibliogr. ref. Delete type citation.

Genus **PAMMICRA** Foerster, p. 210

Pammicrus Thomson. Delete type citation. Add: Emend.

Subfamily **PHRUDINAE**

(= *Phrudini* of Catalog)

Elevated from tribal rank (*teste* Perkins, 1959, Roy. Ent. Soc. London, Handbooks: 7 (Pt. 2(ai)): 8).

Genus **PHRUDUS** Foerster, p. 210

(= *Phrudus* subgenus *Phrudus* Foerster, p. 210)

Elevated to generic rank (*teste* Perkins, 1962, p. 445).

Replace "Desig. by Viereck, 1914" of type citation, with: Included by Dalla Torre, 1901.

exarealatus Cushman. Transf. from subg. *Mengersenia* Schmiedeknecht, p. 210.

*Genus **ASTRENIS** Foerster

(= ? *Phrudus* subgenus *Mengersenia* Schmiedeknecht, p. 210)

Astrenis Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 148.

Type: *Hambergiella sinuata* Roman. Included and desig. by Perkins, 1962.

?*Orona* Cameron. N. syn.

?*Mengersenia* Schmiedeknecht. N. syn. Perkins considers this a valid genus. Type-species unknown to me.

Hambergiella Roman (syn. *teste* Perkins, 1962, p. 408).

?*petiolaris* (Cameron), n. comb.

Subfamily **TRYPHONINAE**Tribe **IDIOGRAMMATINI**Genus **IDIOGRAMMA** Foerster, p. 218, Sup. 1, p. 40

**titana* Burdick. Calif. (Santa Clara Co.). Host: ?*Xyela* n. sp.

Idiogramma titana Burdick, 1958. Pan-Pacific Ent. 34 (3): 159. ♂, ♀.

Tribe PHYTODIETINI

Genus PHYTODIETUS Gravenhorst, p. 211

**Euctenopus* Ashmead, 1900 (Oct.). U. S. Natl. Mus. Proc. 23: 50 (syn. *teste* Townes, Townes and Gupta, 1961, p. 90).

Type: *Euctenopus zealandicus* Ashmead. Orig. desig.

Euctenopus Ashmead, 1900 (Nov.). Place type-species name in parentheses and add: = *zealandicus* Ashmead.

**Weisia* Schmiedeknecht, 1907. Opusc. Ent. 3 (16): 1257 (syn. *teste* Townes, Townes and Gupta, 1961, p. 91).

Type: *Weisia elegans* Schmiedeknecht. By monotypy.

**Neuchorus* Uchida, 1931. Ins. Matsumurana 5 (3): 143 (syn. *teste* Townes, 1957, Ent. Soc. Wash. Proc. 59 (3): 113).

Type: *Neuchorus longicauda* Uchida. By monotypy and orig. desig.

This genus needs revision.

ulgaris Cresson. Host: *Dioryctria veniculella* (Grt.).

NETELIA subgenus PARABATES Foerster, p. 212

Parabates Foerster. Considered valid genus by Perkins, 1962, p. 443.

Parabatus Thomson. Emend.

NETELIA subgenus *BESSOBATES Townes, Townes and Gupta

(= *Netelia* subgenus *Parabatus* auct., p. 216)

Parabatus Thomson. Delete type citation and transf. to syn. of *Parabates* Foerster, p. 212, as emend.

**Bessobates* Townes, Townes and Gupta, 1961. Cat. and Classif. Indo-Austral. Ichn., pp. 93, 430.

Type: *Parabatus deceptor* Morley. Desig. by Townes, Townes, and Gupta, 1961.

Species listed under *Parabatus* Thomson, p. 216 all belong here.

NETELIA subgenus NETELIA Gray, pp. 213-216

**Scammatonotum* Enderlein, 1914. Beitr. Kennt. Land-Sussw. Deut.-Sudwestafriacas. Hym. IV, Ichn. p. 231 (syn. *teste* Townes, Townes and Gupta, 1961, p. 95).

Type: *Scammatonotum herero* Enderlein. By monotypy and orig. desig.

**Amebachia* Uchida, 1928. Fac. Agr. Hokkaido Imp. Univ. Jour. 21: 186, 198 (syn. *teste* Townes, Townes, and Gupta, p. 95).

Type: *Amebachia baibarana* Uchida. Orig. desig.

chloris (Olivier).

Netelia (*Netelia*) *geminatus* (Say). (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111.)

geminatus (Say). A syn. of *chloris* (Olivier).

sayi (Cush.). Host: *Pseudaletia unipuncta* (Haw.).

Biology: Guppy, 1961. Canad. Ent. 93 (7): 569.

Tribe THYMARIDINI

Genus THYMARIS Foerster, p. 217

Thymaris Foerster. In type citation, delete "= [*Hemiteles*] *contaminatus* Gravenhorst" and substitute: = [*Mesoleptus*] *tener* (Gravenhorst).

Thymarus Thomson. Delete type citation. Add: Emend.

Tribe TRYPHONINI

Genus CTENOCHIRA Foerster, pp. 221-222

Ctenacmus Thomson. Add "Emend." after bibliogr. ref. Delete type citation.

Trichocalymmus Thomson. Delete type citation and transf. to syn. of *Erromenus* subg. *Erromenus* Holmgren, p. 222, as emendation of *Trichocalymma* Foerster.

**Pauroctenus* Cameron, 1909. Bombay Nat. Hist. Soc. Jour. 19: 726 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 105).

Type: *Pauroctonus pallipes* Cameron. By monotypy.

ERROMENUS subgenus ERROMENUS Holmgren, pp. 222-224

Trichocalymmus Thomson. Emend. Transf. from syn. of *Ctenochira* Foerster, p. 221 (*teste* Perkins, 1962, p. 390).

Genus MONOBLASTUS Hartig, pp. 224-225

Otoblastus Foerster. Perkins (1962, p. 441) considers this a valid genus.

Coeloconus Foerster. Change date in type citation to 1911. Perkins (1962, p. 414) considers this a valid genus.

Neleges Foerster. Perkins (1962, p. 438) considers this a valid genus.

Genus DYSPETES Foerster

(= *Dyspetus* Thomson, p. 225)

Dyspetes Foerster, 1868. Transf. from syn. of *Horogenes* Foerster, p. 377. Replace type citation with:

Type: *Dyspetus praerogator* (Gravenhorst) = *arrogator* Heinrich, 1949. Incl. by Thomson, 1883.

Dyspetus Thomson, 1883. Emend.

TRYPHON subgenus TRYPHON Fallén, pp. 225-226

Psilosage Foerster. Perkins (1962, p. 448) considers this a valid genus.

Tribe EXENTERINI

(= *Cteniscini* of Catalog)

Taxonomy: Mason, 1962. Canad. Ent. 94 (12): 1273-1296 (generic limits).

Genus ACROTOMUS Holmgren, p. 228

Taxonomy: Mason, 1962, p. 1285.

**succinctus* (Gravenhorst). Ont.

Tryphon succinctus Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 166. ♂, ♀.

Distribution: W. R. M. Mason, *in litt.*

Genus EXENTERUS Hartig, pp. 228-230

Biology: Finlayson, 1960. Canad. Ent. 92 (1, 12): 26-30, 925-929 (larval descr. several spp.).—Finlayson, 1963. Canad. Ent. 95 (5): 475-507 (hosts, larval keys, bibliography).

amictorius (Panzer). N. H., Ohio, Wis. Hosts: *Diprion hercyniae* (Htg.), *D. similis* (Htg.), *Ncodiprion nanulus nanulus* Schedl, *N. sertifer* (Geoff.).

canadensis Provancher. Hosts: *Neodiprion abbotii* (Leach), *N. abietis* complex, *N. excitans* (Roh.), *N. nanulus nanulus* Schedl, *N. pratti pratti* (Dyar).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 26; 1963. Canad. Ent. 95 (5): 486, 488.

claripennis Thomson. Remove from catalog; misidentification (see *Exenterus confusus* Kerrich); not in Nearctic region.

**confusus* Kerrich. N. B., Que.; Europe. Hosts: *Diprion hercyniae* (Htg.), *Neodiprion nanulus nanulus* Schedl.

Exenterus confusus Kerrich, 1952. Brit. Mus. (Nat. Hist.) Ent. Bul. 2 (6): 361, 366. ♂, ♀. Misdet. as *E. claripennis* Thomson in catalog).

tsugae Cushman. Host: *Neodiprion* sp. nr. *seutellatus* Roh.

walleyi Cushman. Host: *Neodiprion sertifer* (Geoff.).

Genus **SMICROPLECTRUS** Thomson, p. 230, Sup. 1, p. 43

Excavarus Davis. Remove from syn. A valid genus.

annulipes (Cresson). Transf. to *Excavarus* Davis.

etrocaulus etrocaulus Mason. Transf. to *Excavarus* Davis.

etrocaulus eurus Mason. Transf. to *Excavarus* Davis.

velox Walley. Transf. to *Excavarus* Davis.

Genus **EXCAVARUS** Davis

A valid genus (*teste* Mason, 1962, p. 1293); not a syn. of *Smicroplectrus* Thomson. Place after *Smicroplectrus*, p. 230.

annulipes (Cresson). Transf. from *Smicroplectrus* Thomson, p. 230 (*teste* Mason, 1962, p. 1293).

etrocaulus etrocaulus (Mason). Transf. from *Smicroplectrus* Thomson, Sup. 1, p. 43 (*teste* Mason, 1962, 1293).

etrocaulus eurus (Mason). Transf. from *Smicroplectrus* Thomson, Sup. 1, p. 43 (*teste* Mason, 1962, p. 1293).

velox (Walley). Transf. from *Smicroplectrus* Thomson, p. 230 and Sup. 1, p. 43 (*teste* Mason, 1962, p. 1293).

Genus **EXYSTON** Schiodte, pp. 230-231

Anecephysis Foerster. Remove from syn. A valid subg.
Revision: Mason, 1959. Canad. Jour. Zool. 37: 1067-1115.

cinctulus (Gravenhorst). Delete from Catalog (misdet.), not in Nearctic fauna; is Palearctic (*teste* Mason, 1959, p. 1110).

Cteniscus clavatus Cresson. Remove from syn. A valid sp. in subg. *Exyston* Schiodte.

Cteniscus abdominalis Cresson. Syn. of *clavatus* (Cresson).

Mesoleptus maculosus Provancher. Syn. of *clavatus* (Cresson).

Exyston abdominalis Ashmead. Syn. of *clavatus* (Cresson).

Rhimphalea erythrogaster Viereck. Syn. of *clavatus* (Cresson).

contractus Davis. Not assignable to subg. or species (*teste* Mason, 1959, p. 1112).

excelsus (Cresson). Placed in subg. *Exyston* Schiodte.

Exyston marginatum Provancher. A valid sp. in subg. *Anecephysis* Foerster.

flavens Davis. Placed in subg. *Exyston* Schiodte.

humeralis Davis. Placed in subg. *Exyston* Schiodte.

nigreo Davis. Placed in subg. *Anecephysis* Foerster with its syn. as syn. of *marginatus* Provancher.

nigroscutum Davis. Not assignable to subg. or species (*teste* Mason, 1959, p. 1112).

speciosus Davis. Placed in subg. *Anecephysis* Foerster.

variatus Provancher. Placed in subg. *Anecephysis* Foerster. Misdet. in Cat. (*teste* Mason, 1959, p. 1082).

- Exyston nigroscutum* Davis. Remove from syn. Not assignable to subg. (*teste* Mason, 1959, p. 1112).
- Exyston boreotis* Davis. Remove from syn. A valid sp. in subg. *Anecphysis* Foerster (*teste* Mason, 1959, p. 1082).
- venustus* (Cresson). Placed in subg. *Exyston* Schiodte.
- Exyston politus* Davis. Remove from syn. A valid species in subg. *Exyston* Schiodte.

EXYSTON subgenus ANECPHYSIS Foerster

Place on p. 230 before *Exyston* (*Exyston*) Schiodte (*teste* Mason, 1959, p. 1067). Subgeneric placement of all species *teste* Mason, 1959, pp. 1071-1097.

- **ater* Mason. B. C., Wash., Oreg.
Exyston (Anecphysis) ater Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1095. ♂, ♀.
- **austelli* Mason. Mass. to N.C.
Exyston (Anecphysis) austelli Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1078. ♂, ♀.
- boreotis* Davis. Mich. to Cont. Divide in Transit. and *Canad. Zones*.
- **californicus* Mason. Alaska, Oreg., Calif., Colo., Wyo., Mont., Idaho, Alta.
Exyston (Anecphysis) californicus Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1093. ♀, ♂.
- **hadros* Mason. Alta., Sask., Colo., Minn., Mich.
Exyston (Anecphysis) hadros Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1080. ♂, ♀.
- **lophotos* Mason. N. W. T., Sask., Alta., B. C., Wash., Calif.
Exyston (Anecphysis) lophotos Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1091. ♂, ♀.
- marginatus* Provancher. Transcont. in Transit., *Canad.*, and *Huds. Zones*. A valid species (*teste* Mason, 1959, pp. 1071-1073).
Anecphysis curvineura Davis (syn. *teste* Mason, 1959, p. 1071).
Exyston nigreo Davis (syn. *teste* Mason, 1959, p. 1071).
- **reniformis* Mason. Colo., Alta., B. C., Oreg., Calif.
Exyston (Anecphysis) reniformis Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1089. ♂, ♀.
- speciosus* Davis. Alta., Idaho, Mont., Wyo.
- **spinulosus* Mason. Alaska, Yukon, N. W. T., Wash., Sask., Wyo., N. Dak., S. Dak., Minn., Iowa, Kans. (Misdet. as *contractus* in Catalog, *teste* Mason, 1959, p. 1086).
Exyston (Anecphysis) spinulosus Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1086. ♂, ♀.
- **tectus* Mason. N. B., P.E.I. to N. C. and Tenn., west to Colo., B. C., Wash., Oreg., also Calif., Ariz. Hosts: *Pristiphora bivittata* (Nort.), *P. idiota* (Nort.), *P. sycophanta* Walsh.
Exyston (Anecphysis) tectus Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1073. ♂, ♀.
- variatus* Provancher. Atlantic to Cont. Divide; B. C. *Canad. Zone* to U. Austr. *Zone*.

EXYSTON subgenus EXYSTON Schiodte, pp. 230-231

Subgeneric placement of all species, *teste* Mason, 1959, pp. 1097-1110.

- **chamaeleon* Mason. Yukon, B. C., Wash., Oreg., Calif., Ariz., N. Mex., Utah, Colo., Alta., Sask., S. Dak., Ont.
Exyston (Exyston) chamaeleon Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1099. ♀, ♂.

clavatus (Cresson). Atlantic to Cont. Divide in Canad., Transit., U. Austr. Zones, B. C., Wash., Calif. Valid sp. *teste* Mason, 1959, pp. 1068, 1110).

Cteniscus abdominalis Cresson.

Mesoleptus maculosus Provancher.

Exyston abdominalis Ashmead.

Rhimphalea erythrogaster Viereck.

excelsus (Cresson). Colo.

flavens Davis. N. J.

humeralis Davis. Kans.

**illinois* Mason. Que., Ont., Mich., Ill., Iowa.

Exyston (Exyston) illinois Mason, 1959. Canad. Jour. Zool. 37: 1069, 1103. ♀, ♂.

politus Davis. Calif., Wyo., Mont. A valid sp. (*teste* Mason, 1959, pp. 1069, 1109).

venustus (Cresson). B. C., Wash., Utah, Colo., S. Dak., Sask.

Subfamily CRYPTINAE

Tribe BRACHYCYRTINI

Genus BRACHYCYRTUS Kriechbaumer, p. 203, Sup. 1, pp. 39, 43

**Xanthocharops* Morley, 1912. Linn. Soc. London, Trans. 15: 173 (syn. *teste* Townes and Townes, 1960, p. 542).

Type: *Xanthocharops primus* Morley. By monotypy.

pretiosus Cushman. Host: *Chrysopa lateralis* (Guér.).

Tribe HEMITELINI

Genus BATHYTHRIX Foerster, pp. 231-232

Chaeretymma Foerster, 1868. Delete type desig. and transf. genus to syn. of *Cubocephalus* Ratzeburg, p. 253.

**Stenoschema* Foerster, 1868. Naturh. Ver. Rheinlande. Verh. 25: 220. Nom. Nud. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 119.)

**Agenora* Cameron, 1909. Bombay Nat. Hist. Soc. Jour. 19: 722 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 119).

Type: (*Agenora hirticeps* Cameron) = *claviger* Taschenberg. By monotypy.

Genus MASTRUS Foerster, pp. 233-234

**Perosis* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 169 (syn. *teste* Perkins, 1962, p. 443).

Type: *Echthrus armatus* Gravenhorst. Desig. by Viereck, 1914.

**Daictes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 176 (syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 104).

Type: *Phygadeuon (Daictes) fukaii* Viereck. First incl. sp.

argeae (Viereck).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 30 (larval).

*Genus DICHROGASTER Doumerc

(= *Otacus* Foerster, pp. 234-235)

Dichrogaster Doumerc, 1855. Soc. Ent. France Ann. (Ser. 3) 3, Bul. 3: LXXXVIII-LXXXIX.

Type: *Microgaster perlae* Doumerc. By monotypy.

Otacus'es Foerster (syn. *teste* Townes, Townes and Gupta, 1961, p. 121).

**Microtorus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174 (syn. *teste* Townes, Townes and Gupta, 1961, p. 121).

Type: *Microtorus kichijoi* Uchida (= *Hemiteles (Rhadiurgus) chrysopae* Uchida, preocc.). Desig. by Townes, 1957.

**Xenobrachys* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 179 (syn. *teste* Perkins, 1962. Brit. Mus. (nat. Hist.) Ent. Bul. 11 (8): 462;—Townes, Townes and Gupta, 1961, p. 121 [without type-species].

Type: *Hemiteles longicaudatus* Thomson. Desig. by Perkins, 1962.

bicolor (Cushman), n. comb.

crassus chrysopae (Ashmead), n. comb. Hosts: *Chrysopa* sp., *C. bimaculata* McCl., *C. cubana* Hager, *C. rufilabris* Burm., *C. sanchezi* Navas.

crassus patruelis (Cushman), n. comb.

Genus ETHELURGUS Foerster, p. 235

**Nuneches* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 186.

Type: *Phygadeuon sodalis* Taschenberg. Incl. and desig. by Perkins, 1962.

belfragi (Ashmead). Not congeneric with type-species *syrphicola* Ashm. Revisionary work needed for placement.

Genus ISDROMAS Foerster, p. 236

Isdromas Foerster. In type citation change "Ashmead, 1900" to Ashmead in Smith, 1900.

lycaenae (Howard). Host: *Apanteles congregatus* (Say); delete *Homadaula albizziae* Clarke.

Genus ALEGINA Foerster, pp. 236–237

apantelis (Cushman). Host: *Ocnerostoma strobivorum* Free.

**laricellae* Mason. N. B., P.E.I., Ont. Host: *Argyresthia laricella* Kft.

Alegina laricellae Mason, 1961. Canad. Ent. 93 (1): 4. ♂, ♀.

maesticolor (Roman). Transf. from *Haplaspis* Townes, p. 238 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 104).

Genus CHIROTICA Foerster

Chirotica Foerster. Transf. from syn. of *Gelis* Thunberg, p. 239.

Type: (*Hemiteles insignis* Gravenhorst) = *trifasciator* (Thunberg). Included by Schimiedeknecht, 1897.

**Spinolia* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 173. Preocc. (Syn. *teste* Perkins, 1962, p. 452.)

Type: *Hemiteles maculipennis* Gravenhorst. Incl. by Schimiedeknecht, 1897.

Diaglypta Foerster. Transf. from syn. of *Phobetres* Foerster, p. 237 (syn. *teste* Perkins, 1962, p. 417).

**Deuterospinolia* Dalla Torre, 1902. Cat. Hym., v. 3 (pt. 2), p. 678. N. name.

Place after *Diaglyptidea* Viereck, p. 237.

conspicua (Cresson), n. comb. Transf. from *Phobetres* Foerster, p. 238.

sheppardi (Walley), n. comb. Transf. from *Phobetres* Foerster, p. 238.

Genus Phobetres Foerster, pp. 237–238

Allocota Foerster. Transf. to syn. of *Hymenosyneches* Viereck.

Syneches Foerster. Transf. to syn. of *Hymenosyneches* Viereck.

Diaglypta Foerster. Transf. to syn. of **Chirotica* Foerster.

Phobetres Foerster, 1868. Delete type citation and transf. to Euryproctini, p. 338, as valid name for *Ipoctoninus* Hincks.

Hymenosyneches Viereck. Remove from syn. A valid genus.

confederatae (Ashmead). Transf. to **Hymenosyneches** Viereck.

conspicuus (Cresson). Transf. to ***Chirotica** Foerster.

sheppardi (Walley). Transf. to ***Chirotica** Foerster.

thyridopteryx (Riley). Transf. to **Hymenosyneches** Viereck.

Genus HYMENOSYNECHES Viereck

Allocota Foerster, preocc. Transf. from syn. of **Phobetres** Foerster, p. 237. N. syn.

Syneches Foerster, preocc. Transf. from syn. of **Phobetres** Foerster, p. 237.

Hymenosyneches Viereck. Transf. from syn. of **Phobetres** Foerster, p. 238. A valid genus.

confederatae (Ashmead), n. comb. Transf. from **Phobetres** Foerster, p. 238.

thyridopteryx (Riley). Transf. from **Phobetres** Foerster, p. 238.

***Genus LYSIBIA** Foerster

(= **Haplaspis** Townes, p. 238)

Lysibia Foerster 1868. Naturh. Ver. Rheinlande Verh. 25: 175.

Type: (*Tryphon fulvipes* Gravenhorst) = *nana* Gravenhorst. Design. by Townes, Momoi, and Townes, 1965. An earlier desig. by Perkins, 1962, p. 436, of *Tryphon nanus* Gravenhorst is invalid because that species was not one of the three (one through generic synonymy) included by Townes, Townes, and Gupta, 1961, p. 123, who made no type designation at that time.

**Pemon* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174 (syn. *teste* Perkins, 1962, p. 443; also Townes, Townes, and Gupta 1961, but without type desig.)

Type: *Pemon proximum* Perkins. Included and desig. by Perkins, 1962.

Haplaspis Townes (syn. *teste* Townes, Townes, and Gupta, 1961, p. 123).

maesticolor (Roman). Transf. to **Alegina** Foerster, p. 236.

mandibularis (Provancher), n. comb.

***Genus CHARITOPES** Foerster

Charitopes Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 181.

Type: *Hemiteles (Charitopes) chrysopae* Brischke. First incl. sp.

Place on p. 238 before **Gelis** Thunberg.

gastricus (Holmgren). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63(2): 106).

plecticinus (Roman). Transf. from **Alphabetic List of Unplaced Species**, p. 409 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63(2): 111).

Genus GELIS Thunberg, pp. 238-243

**Thaumatotypus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 172 (syn. *teste* Perkins, 1962, p. 457).

Type: *Thaumatotypus femoralis* Brischke. Incl. by Brischke, 1881.

Chirotica Foerster. Delete type desig. and remove from syn. A valid genus.

**Rhadiurgus* Foerster, 1868. Naturh. Ver. Rheinlande 25: 177 (syn. *teste* Perkins, 1962, p. 449).

Type: (*Hemiteles bicolorinus* Gravenhorst) = *Gelis cinctus* (Linnaeus). Incl. by Uchida, 1933.

Ilapinastes Foerster. In type citation add "in Davidson" between Ashmead and comma.

**Urithreptis* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 180 (syn. *teste* Perkins, 1962, p. 462; Townes, Momoi, and Townes, 1965, p. 133).

Type: Not yet selected (Foerster spm., a *Gelis* ♂, not now recognized to species).

**Thaumatogelis* Kupka in Schmiedeknecht, 1933. Opusc. Ichn. Sup., fasc. 17: 7-8 (syn. *teste* Perkins, 1962, pp. 392, 457).

Type: *Pezomachus aquisgranensis* Foerster. Desig. by Townes, Momoi, and Townes, 1965.

**Cryptogelis* Hellén, 1944. Notulae Ent. 24: 2.

Type: *Pezomachus aquisgranensis* Foerster. Desig. by Townes, Momoi, and Townes, 1965.

**Holcogelis* Aubert, 1957. Münchner Ent. Ges. Mitt. 57: 226.

Type: *Pezomachus corruptor* Foerster. Orig. Desig.

A revision will probably show this genus to be comprised of several segregates.

obscurus (Cresson). Ont. Host: *Ocnerostoma* sp.

tenellus (Say). Host: *Coleophora larieella* Hbn.

urbanus (Brues). Que.

Biology: Finlayson, 1960. Canad. Ent. 92(12): 930 (larval).

Genus GNYPETOMORPHA Foerster, p. 245

**Daetora* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 175 (syn. *teste* Perkins, 1962, p. 416).

Type: *Hemiteles solutus* Thomson. Desig. by Perkins, 1962.

**Opisthostenus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 175 (syn. *teste* Townes, 1957. Proc. Ent. Soc. Wash. 59 (3): 114).

Type: *Hemiteles (Opisthostenus) etorofuensis* Uchida. Incl. by Uchida, 1936.

*Genus XENOLYTUS Foerster

(= *Sternocryptus* Roman, p. 245)

Xenolytus Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174.

Type: **Xenolytus rufipes* Cameron) = *Xenolytus bitinctus* (Gmelin). Included by Cameron, 1906 (Feb.).

Sternocryptus Roman (syn. *teste* Perkins, 1962, p. 462).

bitinctus (Gmelin).

**Xenolytus rufipes* Cameron, 1906 (Feb.). So. African Mus. Ann. 5: 154. ♀.

limatus (Cresson), n. comb.

occidentalis (Harrington), n. comb.

subspinosus (Provancher), n. comb.

ENDASYS subgenus ENDASYS Foerster, pp. 245-246

**Scinacopus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185 (syn. *teste* Habermehl, 1912. Deut. Ent. Ztschr. 1912: 175; Perkins, 1962, p. 451).

Type: (*Phygadeuon cnemargus* Gravenhorst = [*Endasys*] *parviventris cnemargus* (Gravenhorst). Included by Brischke, 1891.

subclavatus (Say). Hosts: *Neodiprion excitans* Roh., *N. lecontei* (Fitch), *N. nanulus nanulus* Schedl., *N. pratti pratti* (Dyar), *N. sertifer* (Geoff.), *N. swainei* Midd., *N. virginiana* Roh., *Zadiprion grandis* (Roh.). Parasite: *Euceros frigidus* Cress.

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 25, 32.—Tripp, 1961. Canad. Ent. 93 (1): 53.—Finlayson, 1963. Canad. Ent. 95 (5): 476-485, 491.—Bobb, 1963. Jour. Econ. Ent. 56 (5): 619, 620.

*Genus **THEROSCOPIUS** Foerster

Theroscopus Foerster, 1850. Arch. f. Naturgesch. 16 (1): 92.

Type: (*Pezomachus pedestris* Gravenhorst) = *Theroscopus pedestris* (Fabricius). Desig. by Viereck, 1914.

Place in Hemitelini in Catalog, p. 247, before *Eriplanus* Foerster. An undescribed species occurs in the midwest.

Genus **ERIPLANUS** Foerster, p. 247

Chamerpes Foerster. Perkins (1962, pp. 392, 413) considers this a syn. of *Theroscopus* Foerster.

Phyrtus Foerster. Perkins (1962, pp. 392, 445) considers this a syn. of *Theroscopus* Foerster.

**Thysiotorus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 181. Perkins (1962, pp. 392, 458) considers this a syn. of *Theroscopus* Foerster.

Type: (*Hemiteles (Physiotorus)* [sic] *brevipennis* Brischke) = *hemipterus* (Fabricius) (*teste* Perkins, 1962, p. 458). Desig. by Viereck, 1914.

I am not at all sure that the above genera, listed by Perkins as synonyms of *Theroscopus* Foerster, belong here. They are left here until a much needed revision of the Hemitelini places them elsewhere.

Genus **PHYGADEUON** Gravenhorst, pp. 247-250, Sup. 1, p. 45

**Stibeutes* Foerster, 1850. Arch. f. Naturgesch. 16 (1): 76 (syn. *teste* Thomson, 1884. Opusc. Ent. f. 10, p. 948; Perkins, 1962, p. 453).

Type: *Stibeutes gravenhorstii* Foerster. Desig. by Ashmead, 1900.

**Apterophygus* Foerster, 1868. Naturh. Rheinlande Verh. 25: 172 (syn. *teste* Perkins, 1962, p. 406).

Type: *Apterophygus* (Fst.) ? *paradoxus* Bridgman. Incl. by Schmiedeknecht, 1897.

**Gunopaches* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174 (syn. *teste* Perkins, 1962, p. 426).

Type: *Gunopaches crassus* Perkins. Incl. and desig. by Perkins, 1962.

**Pantolispa* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 178 (syn. *teste* Perkins, 1962, p. 442).

Type: *Gunopaches crassus* Perkins. Incl. and desig. by Perkins, 1962.

**Bathymetis* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 182 (syn. *teste* Perkins, 1962, p. 410).

Type: *Phygadeuon (Bathymetis) cylindricus* Brischke. Desig. by Viereck, 1914.

Homelys Foerster. Remove "Included by Roman, 1909" from type citation and replace with: Incl. and desig. by Viereck, 1914. (See Perkins, 1962, p. 428.)

**Ernoctona* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 183 (syn. *teste* Perkins, 1962, p. 423).

Type: *Phygadeuon rugulosus* Gravenhorst. Incl. and desig. by Perkins, 1962.

Plesignathus Foerster. Delete type citation and transf. genus to syn. of *Polytribax* Foerster, p. 257.

Zaphleges Foerster. Misspelled in Index, p. 1284, as *Zathleges*.

*? *Odontoneura* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185. Syn. (*see* Perkins, 1962, p. 440).

Type: *Phygadeuon annulicornis* Thomson. Desig. by Perkins, 1962.

victoriensis Townes. Calif. Host: *Fannia canicularis* (L.).

Centeterus canadensis Harrington. Add 1894 to bibliographic citation and change vol. no. to 26.

Genus *ISELIX* Foerster, p. 250

Perkins, 1962, p. 432, considers this a syn. of *Phygadeuon* Gravenhorst.

*Genus *CREMNODES* Foerster

(= *Caenomeris* Foerster, p. 250)

Cremnodes Foerster, 1850. Arch. f. Naturgesch. 16 (1): 72.

Type: *Ichneumon atricapillus* Gravenhorst. Orig. desig.

Caenomeris Foerster (syn. *teste* Perkins, 1962, p. 411).

**Stygera* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 176 (syn. *teste* Perkins, 1962, p. 397, 454).

Type: *Stygera rufipes* Perkins. Incl. and desig. by Perkins, 1962.

**Cremnias* Roman, 1939. Ent. Tidskr. 60 (3-4): 186. N. name, unnecessarily proposed.

Genus *STILPNIUS* Gravenhorst, pp. 250-251

anthomyidipera Viereck. Calif. Host: *Fannia canicularis* (L.)

Genus *MESOLEPTUS* Gravenhorst, p. 251

**Exolytus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 182. Preocc.

Type: *Ichneumon laevigatus* Gravenhorst. Incl. and desig. by Foerster, 1871.

Genus *ATRACTODES* Gravenhorst, pp. 251-253, Sup. 1, p. 45

Asyncrita Foerster. Perkins 1962, p. 408, considers this a valid genus.

Tribe HEMIGASTERINI

(= *Aptesini* of Catalog)

Revision: Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, 305 pp., figs.

*Genus *JAVRA* Cameron

**Cnemocryptus* Cameron, 1903. Mem. and Proc. Manchester Lit. Phil. Soc. 47 (14): 38.

Type: (*Cnemocryptus validicornis* Cameron) = *parviceps* Cameron. By monotypy.

**Javra* Cameron, 1903. Mem. and Proc. Manchester Lit. Phil. Soc. 47 (14): 47.

Type: *Javra parviceps* Cameron. Desig. by Viereck, 1914.

**Monocryptus* Hellén, 1956. Notulae Ent. 36: 135. New syn.

Type: *Cratocryptus opacus* Thomson. By monotypy.

Place as first genus in Hemigasterini.

**glaesaria* Townes. R. I., N. Y., Ont.

Javra glaesaria Townes, 1962. Amer. Ent. Inst. Mem. 2: 12, 13. ♀.

**rugata* Townes. Ohio, Va.

Javra rugata Townes, 1962. Amer. Ent. Inst. Mem. 2: 12. ♀.

*Genus *PARMORTHA* Townes

Parmortha Townes 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 8, 14.

Type: (*Parmortha pleuralis atripes* Townes) = *pleuralis albo-maculata* (Ashm.) n. comb., n. syn. (*teste* Momoi who examined types).

Place after *Javra* Cameron in tribe Hemigasterini.

circumcineta circumcineta (Provancher). Canad. and Upper Austral Zones. Transf. from *Cubocephalus* Ratzeburg (*teste* Townes, in Townes and Gupta, 1962, p. 24).

- circumcincta flavipes** (Harrington). Colo., Alta., Yukon. Transf. from *Cubocephalus* Ratzeburg, p. 254 (*teste* Townes, in Townes and Gupta, 1962, p. 23).
- ***parvula** (Gravenhorst). Alaska, B. C. to N. S. south to Oreg. and N. J.; Europe. Hosts: *Ametastegia glabrata* (Fallén); sawfly in *Ribes*.
Cryptus parvulus Gravenhorst, 1829. Ichn. Europaea 2: 459 "♂", ♀ ("♂" = *Apsilops cincticornis* F.).
 **Cryptus erythropus* Gravenhorst, 1829. Ichn. Europaea 2: 469. ♂.
Cubocephalus erythropus velox (Cresson). (syn. by Townes, in Townes and Gupta, 1962, p. 16).
- ***pleuralis alpina** Townes. N. H. (Mt. Washington). *P. pleuralis pleuralis* Thomson occurs in Europe.
Parmortha pleuralis alpina Townes, 1962. in Townes and Gupta, Amer. Ent. Inst. Mem. 2: 19, 22. ♀.
- ***pleuralis arctica** Townes. Alaska, N. W. T., Que.
Parmortha pleuralis arctica Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 19. ♂, ♀.
- pleuralis signata** (Provancher), changed status. Alaska, B. C., Wash., Idaho, N. C. Host: *Ametastegia glabrata* (Fallén). Transf. from *Cubocephalus* Ratzeburg, p. 255 and reduced to subsp. rank (*teste* Townes, in Townes and Gupta, 1962, p. 20).

Genus CRATOCRYPTUS Thomson

Cratocryptus Thomson. Removed from synonymy of *Cubocephalus* Ratzeburg, p. 253. Valid genus (*teste* Townes in Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 9, 25).

Place after **Parmortha* Townes.

- ***petilus** Townes. Transcont. in Canad. Zone. Host: *Cephaleia* sp.
Cratocryptus petilus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 26. ♂, ♀.

Genus CUBOCEPHALUS Ratzeburg, pp. 253-255

Chaeretymma Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 187. Transf. from syn. of *Bathythrix* Foerster, p. 231. Change type desig. to:

Type: *Cryptus anatorius* Gravenhorst. Included (first sp.) and desig. by Schmiedeknecht, 1890 (p. 117).

Cratocryptus Thomson, 1873. Remove from syn. Valid genus.

**Planocryptus* Heinrich, 1949. Münchner Ent. Gesell. Mitt. 35-39: 56.

Type: **Planocryptus mirabilis* Heinrich. By monotypy and orig. desig. (Syn. *teste* Townes and Gupta, 1962, p. 92).

Taxonomy: Perkins, 1962. Brit. Mus. (Nat. Hist.) Ent. Bul. 11 (8): 413 (*Chaeretymma*).

alacris alacris (Cresson), changed status. Ont., Mass., N. Y., Pa., N. J., S. C., Ind., Mich., Iowa, Kans. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, p. 93).

alacris canadensis (Provancher), changed status. Transcont. in Canad. Zone. Host: *Hemitaxonus dubitatus* (Nort.). Reduced to subsp. rank (*teste* Townes and Gupta, 1962, p. 89).

alacris erythropygus (Provancher), changed status. Atlantic to Wis., in Canad. and Transit. Zones. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, p. 92).

alacris minutus (Cushman), changed status. B. C. to Calif. Hosts: *Ametastegia glabrata* (Fallén). Removed from syn. of *canadensis* Provancher and placed as subsp. of *alacris* (*teste* Townes and Gupta, 1962, p. 91).

annectus Townes. Alaska, Yukon, B. C., Alta., Man., Que., N. S., south to Calif., N. Mex., Mich., N. H.

- Phaeogenes nigricornis* Provancher (syn. *teste* Townes and Gupta, 1962, p. 117).
- Cubocephalus atricornis* Townes (syn. *teste* Townes and Gupta, 1962, p. 117).
- annulatus* (Cresson). Alta., Conn., Maine, Minn., N. C., Ont., Vt. Host: ?*Agrilus rubicola* Abeille.
- Cryptus latus* Provancher. Transf. to *Ischnus* Gravenhorst, p. 270, as valid species.
- Mesostenus nitidus* Provancher. Remove from syn.; a valid species.
- Cryptus ruficoxus* Provancher. Retain as syn. (*teste* Townes and Gupta, 1962, p. 82).
- Mesostenus ruficoxus* Provancher. Questionable syn. of *Giraudia plana* Provancher, p. 257.
- Cryptus occidentalis* Provancher. Place as syn. of *Cubocephalus nitidus* Provancher.
- Phygadeuon inhabilis* Provancher. Remove from syn.; a valid species.
- Phygadeuon nitidulus* Provancher. Syn. of *nitidus* (Provancher).
- Mesostenus provancheri* Dalla Torre. Questionable syn. of *Giraudia plana* Provancher, p. 257.
- **aquilonius* Townes and Gupta. Alaska, Yukon, N. W. T., Labrador, B. C., Man., Colo.
- Cubocephalus aquilonius* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 37, 53. ♂, ♀.
- **ardens* Townes. Alaska, Colo., Wis., Mich., Ont., N. H.
- Cubocephalus ardens* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 41, 109. ♂, ♀.
- ashmeadii* (Harrington). Rocky Mts. to Pacific in Canad. and Transit. Zones. Removed from syn. of *canadensis* Provancher, p. 254 (*teste* Townes and Gupta, 1962, p. 96).
- atricornis* Townes. Syn. of *annectus* Townes.
- **atriclunus* Townes and Gupta. B. C., Man., Ont., Que., Maine, Vt., Mass., Conn., N. Y., Pa., N. J., Mich., Minn.
- Cubocephalus atriclunus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 31, 37, 56. ♂, ♀.
- baldaufi* (Dalla Torre). Maine, Mass., Ind., Minn.
- **brevicornis* Taschenberg. Alaska, Yukon, Colo., Mich., Que.; Europe.
- Phygadeuon brevicornis* Taschenberg, 1865. Ztschr. Gesam. Naturw. Halle 25: 48. ♀.
- Taxonomy: Townes and Gupta, 1962, pp. 32, 38, 69.
- **caligneus* Townes. N. C. (Mt. Mitchell).
- Cubocephalus caligneus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 40, 109. ♀.
- **callicerus* Townes. N. S., Que., Ont., Mich., Ohio, N. Y. in Alleghanian Fauna.
- Cubocephalus callicerus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 33, 41, 115. ♂, ♀.
- canadensis* (Provancher). A subsp. of *alacris* (Cresson).
- Chaeretymma ashmeadii* Harrington. Remove from syn.; a valid species.
- Chaeretymma minuta* Cushman. Remove from syn.; a valid subsp. of *alacris* (Cresson).
- **carnosus* Townes. Que. and N. H. to Mich.
- Cubocephalus carnosus* Townes, 1962. In Townes and Gupta. Amer. Ent. Inst. Mem. 2: 35, 41, 114. ♂, ♀.
- cineticornis* (Cresson). Mich., Pa., N. Y., Ont., Que.
- circumcinctus circumcinctus* (Provancher). Transf. to *Parmortha* Townes.
- circumcinctus flavipes* (Harrington). Transf. to *Parmortha* Townes.

- ***contractus** Townes and Gupta. Transcont. in Huds. and Transit. Zones.
Cubocephalus contractus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 35, 46. ♂, ♀.
- ***denticulatus denticulatus** Townes. Mich., Que., Maine, Vt., N. Y.
Cubocephalus denticulatus denticulatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 30, 36, 43. ♂, ♀.
- ***denticulatus obscuripes** Townes. Alaska (Curry).
Cubocephalus denticulatus obscuripes Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 42. ♀.
- ***dreisbachi** Townes. Atlantic to Rocky Mts.; Alta. in Canad. and Transit. Zones.
Cubocephalus dreisbachi Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 33, 39, 94. ♂, ♀.
- erythropus velox** (Cresson). Transf. to **Parmortha** Townes, as syn. of **parvula** (Gravenhorst).
- erythropygus** (Provancher). A subsp. of **alacris** (Cresson).
- ***euryops** Townes. Minn., Mich., Ont., Vt.
Cubocephalus euryops Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 31, 37, 64. ♂, ♀.
- eximius** (Cresson). Syn. of **semirufus** (Brullé).
- ***flavipes** Townes. Mich., N. Y.
Cubocephalus flavipes Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 32, 38, 72. ♂, ♀.
- ***hebes** Townes. Sask., Mont.
Cubocephalus hebes Townes, 1962. In Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 32, 38, 66. ♂, ♀.
- ***hirtipes hirtipes** Townes. Alta., Idaho, Wash., Calif., N. Mex., Colo., Wyo., Mont. (In mts.).
Cubocephalus hirtipes hirtipes Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 40, 121, 122. ♂, ♀.
- ***hirtipes trachodes** Townes. N. H. (Mt. Washington).
Cubocephalus hirtipes trachodes Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 122. ♂, ♀.
- ignotus** (Provancher). Syn. of **nitidus nitidus** (Provancher).
- impressus** (Provancher). Que. to Minn. south to Ohio and Ga.; Colo. In Alleghanian and Carolinian faunas.
- ***incisus atriventris** Townes and Gupta. Ariz. (Greer).
Cubocephalus incisus atriventris Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 44. ♀.
- ***incisus incisus** Townes and Gupta. Mich., N. Y.
Cubocephalus incisus incisus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 29, 36, 44, 45. ♂, ♀.
- incognitus** (Provancher). Ont., Vt., Mass., Wyo.
- inhabilis inhabilis** Provancher, changed status. Atlantic ocean to Rocky Mts.; Alta. Removed from syn. of **annulatus** (Cresson) and reduced to subsp. rank (*teste* Townes in Townes and Gupta, 1962, p. 85).
- ***inhabilis umbonater** Townes. Rocky Mts. to Pacific Ocean; Sask.
Cubocephalus inhabilis unbonater Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 85, 87. ♂, ♀.
- laticeps** (Cresson). N. B., N. S., Mass., N. Y., N. J., S. C., Mich., Minn., S. Dak., Calif.

- ***lissopleuris** Townes and Gupta. Maine, N. Y., Pa., N. C.
Cubocephalus lissopleuris Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 59. ♂.
- maurus** (Cresson). Calif., B. C., Alta., N. W. T., Mich., Ont., Que.
- ***marius** Townes and Gupta. Maine, N. H., N. Y., S. C., Mich., Wis.
Cubocephalus marius Townes and Gupta, 1962. Mem. Amer. Ent. Inst. 2: 31, 37, 54. ♂, ♀.
- ***micans** Townes. Que. and P. E. I. to R. I. west. to Minn.
Cubocephalus micans Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 40, 112. ♂, ♀.
- ***molaris cervinus** Townes and Gupta. Calif., Oreg.
Cubocephalus molaris cervinus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 50, 51. ♂, ♀.
- ***molaris leechi** Townes and Gupta. B. C. (Steelhead).
Cubocephalus molaris leechi Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 50. ♂.
- ***molaris molaris** Townes and Gupta. Yukon, B. C., Wyo., Colo., N. Mex., Minn., N. Y., Ont., Que.
Cubocephalus molaris molaris Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 29, 36, 50. ♂, ♀.
- ***nigriventris** (Thomson). B. C., Wash., Oreg., Colo., Mich., N. B., Que., Maine, N. H., N. Y., N. C., Vt.; Europe.
Stenocryptus nigriventris Thomson, 1874. Opusc. ent., fasc. 6, p. 604. ♂, ♀.
- nitidus nitidus** (Provancher), changed status. Alta. to N. S. south to Mich., Pa., and R. I. Reduced to subsp. rank (*teste* Townes, in Townes and Gupta, 1962, pp. 79, 80).
Cryptus occidentalis Provancher, 1875. Transf. from syn. of *annulatus* (Cresson).
Cubocephalus ignotus (Provancher) 1886.
Phygadeuon nitidulus Provancher. Transf. from syn. of *annulatus* (Cresson). (All syn. *teste* Townes in Townes and Gupta, 1962, p. 80).
- ***nitidus totus** Townes. Alaska, B. C., Wash., Oreg., Calif., Wyo.
Cubocephalus nitidus totus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 79. ♂, ♀.
- pallidus pallidus** (Cresson), changed status. Mich. and Kans. to Ont. and S. C. in Carolinian fauna. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 100, 102).
Mesoleptus vultus Cresson. (Syn. *teste* Townes, in Townes and Gupta, 1962, p. 102.)
- pallidus spissicornis** (Provancher), changed status. B. C., Wis. to Que. south to Mich. and N. C. in Alleghanian fauna. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 100, 101).
- ***personatus** Townes. Wash., Oreg., Calif.
Cubocephalus personatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 35, 41, 105. ♂, ♀.
- ***pictus** Townes. Mich., S. C.
Cubocephalus pictus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 41, 111. ♂, ♀.
- ***prolixus phaeolepis** Townes and Gupta. Calif., Oreg., Wash., B. C.
Cubocephalus prolixus phaeolepis Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 48. ♂, ♀.
- ***prolixus prolixus** Townes and Gupta. Man., S. Dak., Mich., Minn., Que., Maine, Vt., N. H., N. Y.
Cubocephalus prolixus prolixus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 35, 48, 49. ♂, ♀.

- rectus** (Provancher). Que. to N. Y. west to Minn.
- ***rufibasis** Townes and Gupta. Mich.
Cubocephalus rufibasis Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 36, 63. ♀.
- schmuckii** (Dalla Torre). Que., Maine, Mass., Vt., Md., N. C., S. C., Ga., Wis., Minn.
Cryptus longicaudus Provancher. Misspelled *longicaudis* in Catalog, p. 255.
- ***scorteus** Townes. Que., Yukon.
Cubocephalus scorteus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 31, 38, 70. ♂, ♀.
- ***semifulvus** Townes. Wash., Alaska.
Cubocephalus semifulvus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 32, 38, 71. ♂, ♀.
- semirufus** (Brullé). Maine to N. C., west to Mich. Transf. from Alphabetic List of Unplaced Species, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 105).
Cubocephalus eximius (Cresson). (Syn. *teste* Townes and Gupta, 1962, p. 59).
- signatus** (Provancher). Transf. to *Parmortha* Townes as subsp. of *pleuralis* (Thomson).
- spissicornis** (Provancher). Subsp. of *pallidus* (Cresson).
- ***sternolophus** Townes. Alaska, Calif., N. Mex., Mich., Ohio, Penna., N. Y.
Cubocephalus sternolophus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 32, 38, 74. ♂, ♀.
- ***subpolitus** Townes. N. Y., Conn., Que., Minn. in Alleghanian Fauna.
Cubocephalus subpolitus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 35, 40, 120. ♂, ♀.
- ***tincticoxis** Townes. B. C., Oreg., Calif., Colo.
Cubocephalus tincticoxis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 31, 55. ♂.
- vultus** (Cresson). Syn. of *pallidus pallidus* (Cresson).
- *Genus **PLEOLOPHUS** Townes
- Pleolophus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 7, 9, 10, 223.
 Type: "*Phygadeuon basizonus* Gravenhorst, as interpreted in this publication." Orig. desig.
 Place after *Cubocephalus* Ratzeburg, p. 255.
- ***annulosus** Townes. Maine, N. Y., Mich.
Pleolophus annulosus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 226. ♂.
- ***astriectus** Townes. Maine, N. H., Conn., Mass., N. Y., Mich., Alaska.
Pleolophus astriectus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 226, 242. ♂, ♀.
- basizonus** (Gravenhorst). N. B., Ont., Mich. Host: *Neodiprion nanulus* Schedl. Transf. from *Aptesis* Foerster (*teste* Townes, 1962. In Townes and Gupta, p. 235). Misspelled *basizonia* in Catalog.
 Biology: Finlayson, 1960. Canad. Ent. 92 (1): 33.—Griffiths, 1961. Canad. Ent. 93 (11): 1005-1010.
- ***borrori** Townes. Maine (Lincoln Co.).
Pleolophus borrori Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 228. ♀.
- ***clypealis** Townes. Alaska (Nome).
Pleolophus clypealis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 242. ♂.

- ***contractus** Townes. B. C., Wash., Oreg., Calif. Hosts: *Pristiphora erichsonii* (Htg.), ?*Lambdina fuscicollaria lugubrosa* (Hlst.).
Pleolophus contractus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 237. ♂, ♀.
- ***coriaceus** Townes. Sask., Alta.
Pleolophus coriaceus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 229. ♂.
- ***furvus** Townes. Colo. (Rocky Mt. N. P.).
Pleolophus furvus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 228. ♂.
- ***grossus** Townes, N. Y., N. J., Pa., Md., D. C., N. C., Mich., Kans., N. Dak., B. C., Wash. Oreg.
Pleolophus grossus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 226, 229. ♂, ♀.
- indistinctus** (Provancher). Sask., Man., Ont., Iowa, N. C. Hosts: *Neodiprion abbotii* (Leach), *N. pratti banksianae* Rohw., *N. nanulus* Schedl, *N. sertifer* (Geof.), *N. swainei* Midd., *N. virginianus* Rohw., *N. sp.*, *Pristiphora geniculata* (Htg.). Transf. from *Aptesis* Foerster, p. 255 (teste Townes, 1962. In Townes and Gupta, p. 238).
 Biology: Finlayson, 1960. Canad. Ent. 92 (1): 32.
- ***nigribasis** Townes. Colo., N. Mex.
Pleolophus nigribasis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 237. ♂.
- ***pilatus** Townes. Labrador, Mich., Minn.
Pleolophus pilatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 225, 227. ♂, ♀.
- rubrocinctus rubrocinctus** (Provancher). Ont., N. H., Mass., Ohio. Transf. from *Aptesis* Foerster (teste Townes 1962. In Townes and Gupta, p. 231, 232).
- ***rubrocinctus rufifemur** Townes. Alaska, B. C., Alta., Wash., Oreg., Calif., Idaho, Mont., Wyo.
Pleolophus rubrocinctus rufifemur Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 231, 233. ♂, ♀.
Aptesis rubrocincta n. subsp. Transf. from *Aptesis* Foerster, p. 255.

***Genus RHYTURA** Townes

Rhytura Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 9, 10, 244.

Type: *Rhytura pendens* Townes. Orig. desig. and by monotypy.

Place before *Aptesis* Foerster, p. 255.

***pendens** Townes. Que. and Ont. south to Ga., west to Minn.

Rhytura pendens Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 244. ♂, ♀.

Genus APTESIS Foerster, p. 255

***Oxytaenia** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 182. Syn. by Townes, 1962. In Townes and Gupta, p. 246.

Type: (*Oxytaenia rufolineata* Cameron) = *barda* (Cresson).
 Included by Cameron, 1904.

***albifrons** Townes. N. Y. (Rome).

Aptesis albifrons Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 248, 267. ♂.

***alpestris** Townes. B. C. to Calif., Idaho, Colo., Ariz.

Aptesis alpestris Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 250, 255. ♂, ♀.

- **anulus* Townes.
Aptesis anulus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 248, 272. ♂.
- arridens* (Gravenhorst). Transf. to *Opidnus* Foerster, p. 256.
- **atrox* Townes. Ohio (West Unity).
Aptesis atrox Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 269. ♂.
- **barda carolina* Townes. Que. to N. C. west to Mich., Iowa, Kans. *A. barda barda* Cresson occurs in Mexico.
Aptesis barda carolina Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 270, 271. ♂, ♀.
- basizonia* [sic!] (Gravenhorst). Transf. to **Pleolophus* Townes.
- **breviaria* Townes. N. Y., Ohio, Mich., Minn.
Aptesis breviaria Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 253. ♂, ♀.
- **catulus* Townes. N. Y. to N. C., Kans.
Aptesis catulus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 263. ♂, ♀.
- **fastigata* Townes. Alta., Oreg., Calif., Wyo.
Aptesis fastigata Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 267. ♂, ♀.
- **fuscitibia* Townes. Maine, Mass., R. I., N. Y., N. C., Mich.
Aptesis fuscitibia Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 251, 262. ♂, ♀.
- **gracilis* Townes. Alta., Mich.
Aptesis gracilis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 251. ♂.
- **incompta* Townes. S. C. (Cleveland)
Aptesis incompta Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 251, 265. ♂, ♀.
- **inculta* Townes. Que. to N. C. west to Mich.
Aptesis inculta Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 257. ♂, ♀.
- indistincta* (Provancher). Transf. to **Pleolophus* Townes.
- iridescens* (Cresson). Transf. to *Schenkia* Foerster, p. 257.
- **lissopleuris* Townes. N. C. (Mt. Pisgah).
Aptesis lissopleuris Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 251, 257. ♀.
- rubrocincta rubrocincta* (Provancher). Transf. to **Pleolophus* Townes.
- **scabra* Townes. Md. (Glen Echo).
Aptesis scabra Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 251, 266. ♀.
- **segnis femorata* Townes. Alta., Sask., Calif., Colo., Wyo.
Aptesis segnis femorata Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 260. ♂, ♀.
- segnis segnis* (Provancher), changed status. Que. and Mich. to S. C. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 260, 261).
Aptesis tenthredinarum (Rohwer). (*Syn. teste* Townes, 1962. In Townes and Gupta, 1962, p. 261.)
- **subguttata* (Gravenhorst). Que., Europe. Host: *Diprion hercyniae* (Htg.).
Cryptus subguttatus Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 610. ♂.
 Biology: Finlayson, 1960. Canad. Ent. 92 (12): 931, 932 (larva).
 Taxonomy: Townes in Townes and Gupta, 1962. Amer. Ent. Inst. Mem. pp. 247, 248.

tenthredinarum (Rohwer). Syn. of *segnis segnis* (Provancher).

**verrucata* Townes. Maine, N. H., N. Y., Ohio, Mich.

Aptesis verrucata Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 252. ♂, ♀.

**yosemite* Townes. Calif., Wyo.

Aptesis yosemite Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 250, 254. ♂.

Genus MEGAPLECTES Foerster, pp. 255-256

monticola blakei (Cresson). Yukon, N. W. T., and B. C. to Labrador and N. S. south to Oreg. and Pa., and Mts. of N. C.

**monticola dentatus* Uchida. Alaska, Yukon (Dawson); Japan.

Megaplectes monticola var. *dentata* Uchida, 1930. Hokkaido Imp. Univ. Faculty Agr. Jour, 25: 304. ♂, ♀.

Genus OPIDNUS Foerster, p. 256

**Opidnus* Viereck, 1914. U. S. Natl. Mus. Bul. 83: 105. Misspelling.

Syn. of *Oresbius* Marshall, 1867, *teste* Townes, Momoi, and Townes, 1965, p. 157.

albicoxus albicoxus (Provancher), changed status. Host: *Pristiphora erichsonii* (Htg.). Reduced to subsp. rank (*teste* Townes, 1962. In Townes and Gupta, p. 141).

albicoxus schoberi Dalla Torre, changed status. Reduced to subsp. rank (*teste* Townes, 1962. In Townes and Gupta, p. 141).

**Cryptus koebelei* Rohwer, 1917. Proc., U. S. Natl. Mus. 53: 158. N. name for *fulviginus* Ashm. *nec* Smith; unnecessarily proposed. (*Teste* Townes, 1962. In Townes and Gupta, p. 141).

**alexanderi* Townes. Que., Vt., Alta.

Opidnus alexanderi Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 131, 145. ♂, ♀.

**aniptus* Townes. Alaska, Calif., Colo.

Opidnus aniptus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 131, 151. ♂, ♀.

arridens (Gravenhorst). N. H., Mass., N. Y., Ont., Mich. Transf. from *Aptesis* Foerster, p. 255 (*teste* Townes, 1962. In Townes and Gupta, p. 131).

**ciliatus* Townes. Que. (Payne Bay).

Opidnus ciliatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 164. ♀.

**cognatus* Townes. B. C., Alta., Wash., Oreg., Calif., Colo., N.S., Que., N. H., N. Y.

Opidnus cognatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 131, 148. ♂, ♀.

dorsator (Ashmead). Alaska (Nome).

**fulvibasis* Townes. Minn. to Que. south to N. C.

Opidnus fulvibasis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 130, 144. ♂, ♀.

**lindrothi* Townes. Alaska (Umiat).

Opidnus lindrothi Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 130, 158. ♀.

**major* Townes. N. H., Que.

Opidnus major Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 155. ♂.

**mucronatus* Townes. Maine, Mass., N. Y., Mich.

Opidnus mucronatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 131, 150. ♂, ♀.

- nigriceps* (Provancher). Syn. of *tegularis* (Provancher).
- nivarius* (Brues). Alaska (Point Barrow).
Taxonomy: Townes, 1962. In Townes and Gupta, pp. 128, 130, 158 (first descr. ♂).
- orbitalis* (Provancher). Syn. of *tegularis* (Provancher).
- **orbitus* Townes. N. H., Yukon.
Opidnus orbitus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 130, 157. ♂, ♀.
- **oresbius* Townes. Wash., B. C.
Opidnus oresbius Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 136. ♂.
- **parallelus* Townes. N. H., N. Y., Que., Man., Colo.
Opidnus parallelus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 130, 165. ♂, ♀.
- **quadriceps* Townes. Alaska, N. W. T.
Opidnus quadriceps Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 129, 168. ♂, ♀.
- **rufinotum* Townes. Alaska.
Opidnus rufinotum Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 161. ♂.
- schoberi* (Dalla Torre). Subsp. of *albicoxus* (Provancher).
- **sublaevis miltomerus* Townes. Wash. (Mt. Rainier).
Opidnus sublaevis miltomerus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 133, 134, 135. ♂.
- **sublaevis sublaevis* Townes. Colo., Wyo.
Opidnus sublaevis sublaevis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 126, 129, 133, 134. ♂, ♀.
- **taeniatus* Townes. N. H., Que., N. W. T., Yukon.
Opidnus taeniatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 130, 154. ♂, ♀.
- tegularis* (Provancher). Minn. to N. S. and Pa.; Wyo., Colo. Host: *Pristiphora erichsonii* (Htg.).
Ischnus placidus Provancher. Transf. from syn. *Schenkia graminicola graminicola* (Gravenhorst).
Phygadeuon orbitalis Provancher.
Phygadeuon nigriceps Provancher.
(All syn. teste, Townes and Gupta, 1962, p. 146.)
- **teres* Townes. Alaska, Yukon.
Opidnus teres Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 129, 167. ♂, ♀.
- **tibialis* Townes. Alaska, Yukon, N. W. T., Que.
Opidnus tibialis Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 130, 163. ♂, ♀.
- trifasciatus* (Ashmead). Yukon, N. W. T., Que.
- **tsugae infulatus* Townes. N. C., Labrador.
Opidnus tsugae infulatus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 137, 140. ♂, ♀.
- **tsugae interior* Townes. Ariz., Colo., Wyo., Idaho, Alta.
Opidnus tsugae interior Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 137, 139. ♂, ♀.
- **tsugae ruficoxa* Townes. Calif. Host: Cocoon on *Abies concolor*.
Opidnus tsugae ruficoxa Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 137, 138. ♂, ♀.
- tsugae tsugae* (Cushman), changed status. Host: *Neodiprion* sp. Reduced to subsp. rank (teste Townes, 1962. In Townes and Gupta, p. 137).

- ***tumulus** Townes. N. W. T., Yukon, Alaska.
Opidnus tumulus Townes, 1962. *In* Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 160. ♂.
- ***vockerothi** Townes. Que. (Great Whale River).
Opidnus vockerothi Townes, 1962. *In* Townes and Gupta, Amer. Ent. Inst. Mem. 2: 166. ♂, ♀.
- ***vultuosus** Townes. Transcont. in Canadian zone.
Opidnus vultuosus Townes, 1962. *In* Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 130, 152. ♂, ♀.

Genus SCHENKIA Foerster, pp. 256-257

- ***amphileuca** Townes and Gupta. N. Y., Mich., Minn.
Schenkia amphileuca Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 200, 201. ♂, ♀.
- brevicauda brevicauda** (Ashmead). Syn. of **iridescens iridescens** (Cresson).
- graminicola graminicola** (Gravenhorst). Yukon; Europe.
 **Cryptus brevicornis* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 511. ♂.
 **Cryptus humilis* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 604. ♂.
Ischnus placidus Provancher. Transf. to syn. of *Opidnus tegularis* (Provancher), p. 256.
Phygadeuon rectus Provancher. Valid subspecies of **graminicola**.
Phaeogenes tuberculifer Provancher, 1882. Syn. of **graminicola recta** (Provancher).
Cryptus pubescens Provancher, 1886. Syn. of **graminicola recta** (Provancher).
Cryptus hechfellneri Dalla Torre, 1902. Syn. of **graminicola recta** (Provancher).
- ***graminicola hesperus** Townes and Gupta. B. C., Wash., Oreg.
Schenkia graminicola hesperus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 204, 207. ♂, ♀.
- graminicola recta** (Provancher). changed status. B. C. to Labrador and Que.; south to Minn., Mich., N. Y.
Phaeogenes tuberculifer Provancher (syn. *teste* Townes and Gupta, 1962, p. 205).
Cryptus pubescens Provancher (syn. *teste* Townes and Gupta, 1962, p. 205).
Cryptus hechfellneri Dalla Torre (syn. *teste* Townes and Gupta, 1962, p. 205).
- iridescens iridescens** (Cresson), changed status. Ont. and N. S. to Ga. west to Mich. and Tenn. Transf. from *Aptesis* Foerster, p. 255 and reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 210, 214).
Cryptus brevicauda Ashmead (syn. by Townes and Gupta, 1962, p. 214).
- ***iridescens melanops** Townes and Gupta. B. C., Wash., Oreg., ?Idaho.
Schenkia iridescens melanops Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 211, 216. ♂, ♀.
- ***iridescens oreas** Townes and Gupta. Alaska to Labrador south to Oreg., Colo., and Mich.
Schenkia iridescens oreas Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 211, 212. ♂, ♀.
- ***iridescens pumila** Townes and Gupta. Alaska to Wash., east to Que. and N. H., also Colo.
Schenkia iridescens pumila Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 211. ♂, ♀.
- ***leucopus** Townes and Gupta. Mich., Ohio, N. Y., N. J., S. C.
Schenkia leucopus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 200, 201, 217. ♂, ♀.

- ***lonchura** Townes and Gupta. Yukon.
Schenkia lonchura Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 201, 217. ♀.
- ***parallela evittata** Townes and Gupta. Wash.
Schenkia parallela evittata Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 208, 209. .
- ***parallela parallela** Townes and Gupta. Ont. to S. C., Sask.
Schenkia parallela parallela Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 200, 207, 208. ♂, ♀.

Genus GIRAUDIA Foerster, p. 257

- ferruginea** (Cushman). Ont. to Md. and D. C. west to Mich. in Carolinian Fauna. Host: *Tomostethus multicinctus* Roh. Valid species. Removed from syn. of **plana** (Provancher (*teste* Townes and Gupta, 1962, p. 186).
- ***fulva fulva** Townes and Gupta. Wash., Oreg., Calif.
Giraudia fulva fulva Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, pp. 184, 185, 189. ♂, ♀.
- ***fulva nigrithorax** Townes and Gupta. B. C., Alta., Idaho, Oreg., Utah, Colo., N. Mex.
Giraudia fulva nigrithorax Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 189, 190. ♂, ♀.
- ***leucopsis** Townes and Gupta. Calif.
Giraudia leucopsis Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 196. ♂.
- ***minor** Townes and Gupta. N. C., S. C.
Giraudia minor Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 196. ♂, ♀.
- plana** (Provancher). Ont., Maine, Pa., N. C., S. C., Ga., Ohio, Mich., Minn., Iowa. Delete host record.
Aptesis ferruginea Cushman, 1935. Delete from syn., a valid species.
 ?*Mesostenus ruficoxus* Provancher. Transf. from syn. of **Cubocephalus annulatus** (Cresson) (*teste* Townes and Gupta, 1962, p. 192).
 ?*Mesostenus provancheri* Dalla Torre. Transf. from syn. of **C. annulatus** (Cresson) (*teste* Townes and Gupta, 1962, p. 192).
- ***punctifera** Townes and Gupta. Ont. and Que. to Ga., west to Mich. and Wis.
Giraudia punctifera Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 194. ♂, ♀.
- rufa** (Provancher). Que. to N. C. west to Ont., Minn. in Alleghanian Fauna.
- ***semiflava** Townes and Gupta. Que., Maine, N. Y., Mich., N. Mex.
Giraudia semiflava Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 191. ♂, ♀.
- ***subaequalis** Townes and Gupta. N. Y., N. C., S. C., Ga.
Giraudia subaequalis Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 197. ♂, ♀.

Genus POLYTRIBAX Foerster, p. 257

- Plesignathus** Foerster, 1868. Transf. from syn. of **Phygadeuon** Gravenhorst, p. 248 (*teste* Perkins, 1962, p. 446). Change type citation to:
 Type: *Phygadeuon fulvescens* Cresson. Included by Ashmead, in Smith, 1900 (June).
- ***Neleophron** Foerster, 1868. Naturh. Ver. Rhinelande Verh. 25: 184. No species. (Syn. *teste* Perkins, 1962, p. 438.)
 Type: *Cryptus arrogans* Gravenhorst. Included and desig. by Perkins, 1962.

**Epiphobus* Foerster, 1868. Naturh. Ver. Rheinlande 25: 183. No species. (Syn. *teste* Townes and Gupta, 1962, p. 170.)

Type: *Cryptus rufipes* Gravenhorst. Included and desig. by Townes, 1962.

Steriphocryptus Cameron, 1903. Transf. from syn. of *Trachysphyrus* Haliday, p. 259. (Syn. *teste* Townes, Townes and Gupta, 1961, p. 137.)

**Chasmocryptus* Uchida, 1936. Ins. Mats. 11: 16. (Syn. *teste* Townes, 1957, Ent. Soc. Wash. Proc. 59: 103.)

Type: (*Plectocryptus hokkaidensis* Uchida) = *penetrator* (Smith). Orig. desig.

contiguus (Cresson). N. S., Ont., N. C., Ala., Minn., N. Dak., Nebr., Kans.

crotchii crotchii (Cresson), changed status. Transcont. in Canad. and north. Transit. Zones. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 176, 177).

**crotchii fumipennis* Townes and Gupta. B. C., Calif., Ariz., Colo., N. Mex. (in Canadian Zone).

Polytribax crotchii fumipennis Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, pp. 176, 179. ♂.

**crotchii hesperus* Townes and Gupta. Calif., Oreg., B. C.

Polytribax crotchii hesperus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, pp. 176, 180. ♂.

fulvescens (Cresson). Wash., Oreg.

pallescens (Viereck). S. C., Ga.; Mexico. Host: ? *Diacrisia virginica* (F.).

Genus RHEMBOBIUS Foerster, pp. 257-258

**Ulothymus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 131; Perkins, 1962, p. 462.)

Type: *Ichneumon perscrutator* Thunberg. Included and designated by Perkins, 1962.

abdominalis abdominalis (Provancher). Alta. Host: ? *Xylota*.

**abdominalis montanus* Townes and Gupta. Alaska, Alta., Sask., Idaho, ?Mont., S. Dak., Colo.

Rhembobius abdominalis montanus Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 275. ♂, ♀.

abdominalis pacificus (Harrington). Alaska, B. C., Oreg., Idaho.

**parvus* Townes. Sask., Man., Mich.

Rhembobius parvus Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 273. ♂, ♀.

Genus DEMOPHELES Foerster, p. 258

Change type citation to:

Type: (*Phygadeuon caliginosus* Gravenhorst ♀, not ♂) = *corruptor* (Taschenberg).

Townes places this genus in the *Hemitelini* (= *Gelini* Townes).

corruptor maturus (Provancher), changed status. Maine and Que. to Ga., west to Ont., Mich. ? Alta. Upper Austral. to Canad. Zones. Reduced to subsp. rank (*teste* Townes, 1963. Ent. Soc. Wash. Proc. 65 (1): 48).

**corruptor rufatus* Townes. Wash., Colo., N. Mex.

Demopheles corruptor rufatus Townes, 1963. Ent. Soc. Wash. Proc. 65 (1): 48, 49. ♀.

Tribe SPHECOPHAGINI

Taxonomy: Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 16, 20, 522-523 (Sphecophagini).

Genus SPHECOPHAGA Westwood, p. 258

vesparum burra (Cresson), changed status. Transcont. in Canad. and Transit. Zones. *S. vesparum vesparum* occurs in Europe. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 525, 526).

Tribe CRYPTINI

(= Mesostenini of Catalog)

Revision: Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): I-VII, 1-602 (Mesostenini)

*Subtribe BARYCERATINA

Place as first subtribe of Cryptini, p. 258.

*Genus WHYMPERIA Cameron

Whymperia Cameron, 1903. Entomologist 36: 122.

Type: *Whymperia carinifrons* Cameron. By monotypy.

**Protocryptus* Schmiedeknecht, 1904. Opusc. Ichn., Band 2 (fasc. 6), p. 414. Syn (*teste* Townes and Townes, 1962, p. 22).

Type: *Protocryptus grandis* Schmiedeknecht. Desig. by Viereck, 1914.

**Zamansa* Viereck, 1912. U. S. Natl. Mus. Proc. 42: 647. Syn. with *Protocryptus* by Townes, 1946, Bol. Ent. Venezolana 5 (2): 33.

Type: *Cryptus aztecus* Cresson. By monotypy and orig. desig.

Place as first genus in subtribe Baryceratina, p. 258.

**tricolor* Townes. Ariz.

Whymperia tricolor Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 22. ♀.

Genus Christolia Brullé, pp. 258-259

Syn. of *Baryceros* Gravenhorst, *infra*.

Lamprocryptidea Viereck. Delete from Catalog. A valid Neotrop. genus (*teste* Townes and Townes, 1962, p. 12).

Haplomus Szépligeti. Syn. of *Lamprocryptidea* Viereck (*teste* Townes and Townes, 1962, p. 12).

Aplomiana Strand. Syn. of *Lamprocryptidea* Viereck.

*Genus BARYCEROS Gravenhorst

(= *Christolia* Brullé, pp. 258-259)

Baryceros Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 777.

Type: *Baryceros guttatus* Gravenhorst. By monotypy.

Christolia Brullé. (Syn., *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (3): 167.)

**Neochristolia* Blanchard, 1936. Rev. Argentina de Ent. 1 (2): 40. (Syn. by Townes, *loc. cit. supra*, p. 167.)

Type: *Neochristolia euclides* Blanchard. By monotypy and orig. desig.

armatus (Provancher). Syn. of *audax saundersi* (Cresson).

audax audax (Cresson), changed status. Mass., Conn., N. Y., Mich., Wis. south to S. C., Ala., Kans. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 27, 28).

**Mesostenus exaptus* Cresson, 1878. Canad. Ent. 10: 208. ♀. (Syn. by Cushman, 1929. U. S. Natl. Mus. Proc. 74 (Art. 16): 25.)

audax saundersi (Cresson), changed status. Que., Ont., south to R. I., N. Y., Ohio, Mich. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 27, 29).

Christolia armata (Provancher) (syn. *teste* Townes, and Townes, 1962, p. 29).

candidus (Cresson).

Christolia dumetorum Townes (syn. *teste* Townes and Townes, 1962, p. 25).

dumetorum (Townes). Syn. of *candidus* (Cresson).

fortis (Cresson). Pa., Ohio, Mich., W. Va., Ga.

**halli* Townes. Ariz.

Baryceros halli Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 24, 30. ♂.

saundersi (Cresson). Subsp. of *audax* (Cresson).

texanus (Ashmead). Va., N. C., Ind., Ky., Ark., Okla.; Mexico.

*Subtribe CRYPTINA

(= *Mesostenina* Townes)

Place as second subtribe of *Cryptini*, p. 259

Genus CRYPTUS Fabricius, Sup. 1, p. 46

(= *Trachysphyrus* of Catalog, pp. 259-263)

Meringopus Foerster. Delete type citation and replace with: *Cryptus recreator* Fabricius. Included by Tschek, 1870 (*teste* Townes, Townes, and Gupta, 1961, p. 163).

Itamoplex Foerster. Change "Desig. by Viereck, 1914" to: Included by Ashmead in Smith, 1900.

**Cosmiocryptus* Cameron, 1902. Amer. Ent. Soc. Trans. 28: 371.

Type: *Cosmiocryptus violaceipennis* Cameron. By monotypy.

Steriphocryptus Cameron, 1903. Transf. to syn. of *Polytribax* in (*Aptesini*) = *Hemigasterini*, p. 257.

**Buathra* Cameron, 1903. Ent. Soc. London, Trans. 1903: 233.

Type: *Buathra rufiventris* Cameron. By monotypy.

**Plesiocryptus* Cameron, 1903. Ztschr. Syst. Hym. Dipt. 3: 299.

Type: *Plesiocryptus carinifrons* Cameron. By monotypy.

**Bathycrisis* Cameron, 1905. Spolia Zeylanica 3: 96.

Type: *Bathycrisis striaticollis* Cameron. By monotypy.

**Mesocryptus* Szépligeti, 1916. Mus. Nat. Hungarici Ann. 14: 251. Preocc.

Type: *Mesocryptus pulcherrimus* Szépligeti. By monotypy.

**Pseudomesocryptus* Strand, 1917. Ent. Ztschr. 10: 137. N. name for *Mesocryptus*.

**Nippocryptus* Uchida, 1936. Ins. Matsumurana 11: 3.

Type: (*Hemiteles suzukii* Matsumura) = *vittatorius* (Jurine). By monotypy.

**Neocryptopteryx* Blanchard, 1947. Zool. Mus. Hist. Natl. Montevideo Comun. 2 (Pt. 42): 1.

Type: *Neocryptopteryx orientalis* Blanchard. By orig. desig.

Taxonomy: Townes, Townes and Gupta, 1961, pp. 163-164 (Generic syn.).

albitarsis albitarsis (Cresson). Hosts: *Heliothis zea* (Boddie); *Macronoctua onusta* Grt.

Mesostenus tarsatus Provancher. Transf. to *Mesostenus* Gravenhorst, p. 265, as questioned syn. of *temporalis* Townes.

**albitarsis argentifrons* Cameron. Newfoundland to B. C. south to R. I., N. Y., Tex., and Calif.; Mexico, Costa Rica.

**Cryptus bicolor* Smith, 1879. Descr. of N. sp. of Hym. in the Coll. Brit. Mus., p. 231. Preocc.

**Cryptus monticola* Cameron, 1885. Biol. Cent.-Amer., Ins. Hym., v. 1, p. 203. Preocc.

Cryptus argentifrons Cameron, 1885. Biol. Cent.-Amer., Ins. Hym. 1: 204.

**Cryptus eggeri* Dalla Torre, 1902. Cat. Hym., v. 3 (Pt. 2) p. 569. N. name for *bicolor* Smith.

Trachysphyrus albitarsis coloradensis (Ashmead).

Trachysphyrus inornatus (Pratt).

(All syn. *teste* Townes and Townes, 1962, pp. 248-249).

albitarsis coloradensis (Ashmead). Syn. of *albitarsis argentifrons* Cameron.

albitarsis mutatus Pratt, changed status.

Cryptus mutatus Pratt. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 244, 251).

Cryptus curticaudus Pratt (syn. *teste* Townes and Townes, 1962, p. 251).

albitarsis rufovinctus Pratt, changed status. B. C. Host: *Trichoplusia* sp.

Cryptus rufovinctus Pratt. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 244, 253).

altonii Dalla Torre. A subsp. of *laborator* (Thunberg).

arcticus Schiødte. N. W. T., Calif. (Arctic and Arctic-Alpine).

aridus aridus Pratt, changed status. B. C., Oreg., Calif., Colo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 183, 229).

aridus ocellaris Pratt, changed status. Oreg., Calif. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 229, 230).

associatus Pratt. Syn. of *persimilis* Cresson.

asymmetricus asymmetricus Pratt, changed status. B. C. and Sask. south to Mts. of Calif. and Ariz. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 206).

asymmetricus mirabilis Pratt, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 206, 207).

bilobatus Pratt. A subsp. of *symmetricus* Pratt.

calescens robustus Cresson, changed status. Alaska, Yukon, B. C. to Man. south to Calif. and N. Mex. in Canad. and Huds. Zones. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 201). *C. calescens calescens* Gravenhorst is European.

crassipes Pratt. Transf. to *Reptatrix* Townes, *infra*.

crassisculptus Pratt. A subsp. of *rugosiscutum* Pratt.

crassulus Pratt. Mich.

curticaudus Pratt. Syn. of *albitarsis mutatus* Pratt.

dirus Cresson. B. C. and Idaho south to Calif. and Ariz.

Cryptus nitschei Dalla Torre. Remove from syn.; valid subsp. of *relativus* Cresson.

dorsicarinatus Pratt. Alaska, Alta., Mont., Colo.

eleucopus Walkley. Syn. of *relativus nitschei* Dalla Torre.

Cryptus eleucopus Walkley. Sup. 1, p. 46.

**fasciatus* (Townes), n. comb. Ariz.

Trachysphyrus fasciatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 180, 183. ♂, ♀.

flagellatus Pratt. A subsp. of *rugosiscutum* Pratt.

genatus Pratt. Ariz., Utah.

inornatus Pratt. Syn. of *albitarsis argentifrons* Cameron.

iroquois Viereck. A subsp. of *moschator* (Fabricius).

**krombeini* (Townes), n. comb. W. Va. (Lost River State Park, Hardy Co.).

Trachysphyrus krombeini Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 185, 243. ♀.

laborator altonii Dalla Torre, changed status. Host: *Melanolophia imitata* (Wlkr.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 209, 210).

laborator fabricii Schiødte.

Taxonomy: Townes and Townes, 1962, pp. 214-215.

laborator perplexus Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 209, 213).**latigenalis** Pratt. Alta., Mont., Ont. Host: *Loxostege sticticalis* (L.).

Biology: Ulyett, 1949. Canad. Ent. 81: 285-299; 82: 1-11 (as *inornatus*).

Taxonomy: Townes and Townes, 1962, pp. 184, 242-243.

leucopus Ashmead. Syn. of **relativus nitschei** Dalla Torre.***lochmaius** (Townes), n. comb. Ariz.

Trachysphyrus lochmaius Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 183, 216. ♂, ♀.

luctuosus luctuosus Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 183, 221; also ♂ descr.). Other subsp. of *luctuosus* Cress. occur in Europe and Japan.***mentigus mentigus** (Townes), n. comb. Ariz.

Trachysphyrus mentigus mentigus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3); 184, 234. ♂, ♀.

***mentigus rhodomerus** (Townes), n. comb. Alaska, Yukon, Wash. to Calif., Ariz., Utah, Colo., N. Mex.

Trachysphyrus mentigus rhodomerus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 234, 235. ♂, ♀.

***mentigus rufator** (Townes), n. comb. Calif. (Blue Lake, Lassen Co.).

Trachysphyrus mentigus rufator Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 234, 235. ♀.

mimicus Pratt. A subsp. of **tejonensis** Cresson.**minimus** Pratt. Sask., N. Mex., Nev.**mirabilis** Pratt. A subsp. of **asymmetricus** Pratt.**moschator iroquois** (Viereck), changed status. N. J., Ohio, Mich. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 223, 224). *C. moschator moschator* (Fabricius) is European.***murorum** Tschek. Man., Calif.; Europe.

Cryptus murorum Tschek, 1872. Zool.-Bot. Gesell. Wien. Verhandl. 22: 234. ♂, ♀.

mutatus Pratt. A subsp. of **albitarsis** (Cresson).**ocellaris** Pratt. A subsp. of **aridus** Pratt.**pacificus** Cresson. B. C. to Calif. in Cand., Transit., U. Austral Zones.

Cryptus punicus Cresson. Remove from syn. A valid subsp. of **relativus** Cresson.

Cryptus californicus Ashmead. Syn. of **relativus punicus** Cresson.

perplexus Cresson. A subsp. of **laborator** (Thunberg).**persimilis** Cresson.

Cryptus associatus Pratt (syn. *teste* Townes and Townes, 1962, p. 237).

recurvatus Pratt. Calif., Tex.**relativus nitschei** Dalla Torre, changed status. B. C., Wash., Calif., Alta., Mont., Nev., Utah, Ariz., Colo., N. Mex. Host: *Aegeria tibialis* (Harr.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 193, 195).

Cryptus violaceipennis Ashmead, preocc.

Cryptus nitschei Dalla Torre, n. name. Removed from syn. of **dirus** Cresson.

Cryptus leucopus Ashmead (syn. *teste* Townes and Townes, 1962, p. 195).

Cryptus eleucopus Walkley (syn. *teste* Townes and Townes, 1962, p. 195).

- relativus punicus** Cresson, changed status. B. C. to Calif., Nev. Removed from syn. of **pacifus** Cresson and reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 193, 197).
- Cryptus californicus** Ashmead (syn. *teste* Townes and Townes, 1962, p. 197).
- relativus relativus** Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 193).
- robustus** Cresson. A subsp. of **calescens** Gravenhorst.
- rufopedibus** Pratt. Syn. of **tejonensis tejonensis** Cresson.
- rufovinctus** Pratt. A subsp. of **albitarsis** (Cresson).
- ***rugifrons** (Townes), n. comb. Ariz., Calif.
Trachysphyrus rugifrons Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 184, 255. ♂, ♀.
- rugosiscutum crassisculptus** Pratt, changed status. Tex. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 226, 227).
- rugosiscutum flagellatus** Pratt, changed status. Mexico. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 226, 227).
- rugosiscutum rugosiscutum** Pratt, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 226, 228).
- rugulosus** Pratt. Syn. of **tejonensis mimicus** Pratt.
- ruralis** Pratt. B. C., Sask., Man., Idaho.
- ***scapulatus** (Townes), n. comb. Calif.
Trachysphyrus scapulatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 184, 241. ♂, ♀.
- strigosus** Pratt. Oreg.
- symmetricus bilobatus** Pratt, changed status. Calif. in Canad. and Huds. Zones. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 204, 205).
- symmetricus symmetricus** Pratt, changed status. Mont., Colo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 204).
- tejonensis mimicus** Pratt, changed status. Alaska to Oreg. and Ariz., Alta., Utah, Colo., N. Mex. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 190).
- Cryptus temporalis** Pratt. (Syn. *teste* Townes and Townes, 1962, p. 190.)
Cryptus rugulosus Pratt. (Syn. *teste* Townes and Townes, 1962, p. 190.)
- tejonensis tejonensis** Cresson, changed status. Calif., Ariz., Wash. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 190, 191).
- Cryptus vancouverensis** Harrington. Remove from syn. A valid species.
Cryptus rufopedibus Pratt. (Syn. *teste* Townes and Townes, 1962, p. 191.)
- temporalis** Pratt. Syn. of **tejonensis mimicus** Pratt.
- vancouverensis** Harrington. B. C. to Calif. Host: *Malacosoma* sp. A valid sp. (*teste* Townes and Townes, 1962, pp. 181, 187).

*Genus LANUGO Townes

Lanugo Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 35, 259, 536.

Type: **Cryptus retentor** Brullé. Orig. desig. (p. 536).

Place on page 263 of Catalog after **Cryptus** Fabricius.

***bicincta** Townes. Kans. (Osborne).

Lanugo bicincta Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 270. ♀.

- ***brunnipennis** Townes. B. C. to Calif.
Lanugo brunnipennis Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 261, 275. ♂, ♀.
- cestus** (Say). Tenn. Transf. from *Compsocryptus* Ashmead, p. 263 (*teste* Townes and Townes, 1962, pp. 261, 262).
- ***deserti** Townes. Calif., Ariz., Utah. Host: "Parasite of sawfly on *Pinus*."
Lanugo deserti Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 262, 268. ♂, ♀.
- ***excincta** Townes. Kans., Colo., Utah, Ariz., N. Mex.
Lanugo excincta Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 272. ♂, ♀.
- ***ferrugata** Townes. Tex.
Lanugo ferrugata Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 262, 263. ♂, ♀.
- ***flavipennis** Townes. Ariz.
Lanugo flavipennis Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 261, 271. ♂, ♀.
- ***longurius** Townes. Ariz. (Sabino Canyon, Santa Catalina Mts.).
Lanugo longurius Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 262, 269. ♀.
- ***picta** Townes. Ariz., Tex.; Mexico.
Lanugo picta Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 261, 266. ♂, ♀.
- ***polita** Townes. Ariz.
Lanugo polita Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 271. ♀.
- retentor** (Brullé). Transf. from *Compsocryptus* Ashmead, p. 264 (*teste* Townes and Townes, 1962, pp. 260, 261, 264).
- ***schlingeri** Townes. Calif. (nr. Quincy).
Lanugo schlingeri Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 262. ♀.
- sororia** (Cresson). Calif., Ariz.; Mexico. Transf. from *Compsocryptus* Ashmead, p. 264 (*teste* Townes and Townes, 1962, pp. 261, 273).

*Genus REPTATRIX Townes

Reptatrix Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 35, 276.

Type: *Cryptus crassipes* Pratt. Orig. desig. and by monotypy.

Place in Cryptini on page 263 before *Compsocryptus* Ashmead.

crassipes (Pratt). Wash. to Calif., Idaho, Utah, Wyo. Transf. from *Cryptus* Fabricius, p. 261 (*teste* Townes and Townes, 1962, p. 277).

Genus COMPSOCRYPTUS Ashmead, pp. 263-264

- ***apicalis** Townes. B. C., Oreg., Calif., Idaho, Nev., Utah, Colo., N. Mex.
Compsocryptus apicalis Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 282, 291. ♂, ♀.
- ***aridus** Townes. Idaho, Wyo., Colo., south to Calif. and N. Mex.
Compsocryptus aridus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 281, 282, 289. ♂, ♀.
- buccatus** (Cresson). Mexico.
- calipterus brevicornis** Cameron. Calif. Removed from syn. of *calipterus calipterus* (Say). A valid subsp. (*teste* Townes and Townes, 1962, pp. 286, 287, 288).

- calipterus calipterus** (Say). Okla., Tex. to Calif.; Mexico.
 ***Cryptus fulvus** Taschenberg, 1876. Ztschr. Gesam. Naturw. 48 (or N.F. 14): 66. ♂. (Syn. *teste* Townes and Townes, 1962, p. 287.)
- ***Ichneumon munerous** Cameron, 1885. Biol. Cent.-Amer. Ins., Hym. v. 1, p. 159. ♂. (Syn. *teste* Townes and Townes, 1962, p. 287.)
- Campsocryptus** (!) **brevicornis** Cameron, 1903. Remove from syn. A valid subsp. of **calipterus** (Say).
- cestus** (Say). Transf. to **Lanugo** Townes.
- crotchii** (Cresson). Calif.
- fasciipennis** (Brullé). Fla.
 Taxonomy: Townes and Townes, 1962, pp. 279, 281, 282-283 (lectotype desig.).
- fletcheri** (Provancher). B. C., Oreg., Calif., Idaho, Utah.
- ***pallens** Townes. Oreg., Calif., Idaho, Utah.
Compsocryptus pallens Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 281, 282, 293. ♂, ♀.
- purpuripennis** (Cresson). B. C.
- resolutus resolutus** (Cresson), changed status. Calif. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 303, 305).
- ***resolutus subfasciatus** Townes. Alta., south to Colo., west to Wash. and Calif.
Compsocryptus resolutus subfasciatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 303. ♂, ♀.
- retentor** (Brullé). Transf. to **Lanugo** Townes.
- sororius** (Cresson). Transf. to **Lanugo** Townes.
- ***texensis** Townes. Kans., Okla., Tex.
Compsocryptus texensis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 281, 283. ♂, ♀.
- ***tricinctus** Townes. Calif., ?Ga.
Compsocryptus tricinctus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 281, 295. ♂, ♀.
- turbatus** (Cresson). Oreg., Idaho, Utah.
- ***unicolor** Townes. Calif.
Compsocryptus unicolor Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 282, 297. ♂, ♀.
- Genus PYCNOCRYPTUS Thomson, p. 264**
- ***alexanderi** Townes. Vt. (Lake Willoughby).
Pycnocryptus alexanderi Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 126, 128. ♂.
- director** (Thunberg). Colo.
- ***freemani** Townes. N. B., Alta., Alaska.
Pycnocryptus freemani Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 126, 127. ♀.
- ***platyaspis** Townes. Que., Man., Wyo.
Pycnocryptus platyaspis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 126, 127. ♀.
- Genus MESOSTENUS Gravenhorst, pp. 264-265**
- ***Unlima** Cameron, 1902. Ann. Mag. Nat. Hist., (Ser. 7) 9: 208. (Syn. *teste* Uchida, 1930, Hokkaido Imp. Univ. Fac. Agr. Jour. 25 (Pt. 4): 317).
 Type: **Unlima penetralis** Cameron. By monotypy.
- albinotatus promptus** Cresson, changed status. *M. albinotatus albinotatus* Gravenhorst is European. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 438, 439).

angustus Townes. Carolinian fauna.

**clitellatus* Townes. N. S., Que., to Va., west to Minn., Kans., and Tex., also Utah, B. C. Host: *Pyrausta futilalis* (Led.).

Mesostenus clitellatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 436, 437, 447. ♂, ♀.

eisenii Ashmead. D. C., N. C., S. C., Ohio, Tex.; Mexico.

gracilis Cresson. N. S., Que., Ont., B. C., Wash.; Baja California.

**liogaster* Townes. N. W. T., Sask., B. C., Oreg., Idaho, Wyo., Calif.; Mexico.

Mesostenus liogaster Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 435, 437, 440. ♂, ♀.

longicaudis Cresson. Transcont. in U. Austr. and L. Austr. Zones; Mexico.

reliquus Cresson. Transf. to *Chamula* Townes.

**sicarius* Townes. N. C., Tex., Mont., Colo., Alta., Ariz., Calif.; Mexico.

Mesostenus sicarius Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 436, 437, 448. ♂, ♀.

**temporalis* Townes. Que., Maine, Ont., N. Y., Mich., Iowa, S. Dak.

?*Mesostenus tarsatus* Provancher, 1879. Transf. from syn. of *Cryptus albitarsis albitarsis* (Cresson) (*teste* Towne and Townes, 1962, p. 441).

Mesostenus temporalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 435, 436, 441. ♂, ♀.

thoracicus Cresson. Transcont. Hosts: *Acrobasis betulella* Hulst; *Macrobots theseusalis* (Wlkr.), *Mineola* sp.

Genus POLYCYRTUS Spinola, p. 265

**Cryptanuridimorpha* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 369.

Type: *Cryptanuridimorpha elegans* Viereck. Orig. desig.

**Cryptopterigimorpha* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 371.

Type: *Cryptopterigimorpha tubulifera* Viereck. Orig. desig.

**Polycyrtimorpha* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 383.

Type: *Polycyrtimorpha amoena* Viereck. Orig. desig.

Taxonomy: Townes and Townes, 1962, pp. 14, 459.

neglectus Cushman. Ohio.

Polycyrtus subgenus *Polycyrtus* Spinola, p. 265, Sup. 1, p. 46

Delete from catalog and Supplement 1.

Genus CRYPTANURA Brullé, p. 265

banchiformis (Megerle). N. Y. to Fla., west to Mich. and Tex. Transf. from Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, p. 427).

Mesostenus spinarius Brullé (syn. by Townes and Townes, 1962, p. 427).

Biology: Townes and Townes, 1962, pp. 428-429.

**compacta* (Cresson). Tex.; Mexico, Honduras.

Mesostenus (Mesostenus) compactus Cresson, 1873. [Phila.] Acad. Nat. Sci. Proc. 1873: 153. ♀.

**Cryptanura planiscutellata* Cushman, 1945. U. S. Natl. Mus. Proc. 96: 143, 152, 175. ♀. (Syn. *teste* Townes, 1946, Bol. Ent. Venezolana 5 (2): 35.)

septentrionalis Cushman. N. Y., Pa., D. C., Va., N. C., S. C., Tenn., La.

spinaria Brullé. Syn. of *banchiformis* (Megerle).

*Genus CHAMULA Townes

Chamula Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 36, 430.

Type: *Mesostenus (Polycyrtus) reliquus* Cresson. Orig. desig.

Place in Cryptini after *Cryptanura* Brullé, p. 265.

**reliqua* (Cresson). Transf. from *Mesostenus* Gravenhorst (*teste* Townes and Townes, 1962, p. 431).

*Genus CAMERA Townes

Camera Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 36, 432.

Type: *Mesostenus euryaspis* Cameron. Orig. desig.

Place in Cryptini on page 265 before *Hidryta* Foerster.

**euryaspis* (Cameron). Tex.

Mesostenus euryaspis Cameron, 1885. Biol. Cent.-Amer., Ins., Hym. v. 1, p. 226. ♀.

Genus HIDRYTA Foerster, pp. 265-266

Hidryta Foerster. Change type citation to (*Brachycryptus erythrocerus* Thomson) = *frater* (Cresson).

Brachycryptus Thomson. Change type citation to (*Brachycryptus erythrocerus* Thomson) = *frater* (Cresson).

**Euthycryptus* Jussel, 1907. Festschr. zum 50 jähr. Bestande zugleich 44. Jahresh. über das Jahr 1906, Vorarlberger Landesmuseum Bregenz, p. 71 (syn. *teste* Townes and Townes, 1962, p. 318).

Type: *Euthycryptus scrobiculifer* Jussel. By monotypy.

frater (Cresson). Transcont. in Canad. and Transit. Zones; Eurasia.

**Brachycryptus erythrocerus* Thomson, 1873. Opusc. Ent. fasc. 5, p. 488. ♀. (Syn. *teste* Townes and Townes, 1962, p. 318, 319.)

nigricoxus (Provancher). N. S., Ont., N. J., Pa., N. C., Mich., Minn.

Genus TRYCHOSIS Foerster, p. 266

Trychosis Foerster. Change type citation to: (*Cryptus titillator* Gravenhorst) = *Trychosis ambigua* (Tschek). Desig. by Schmiedeknecht, 1890 (*teste* Townes and Townes, 1962, p. 333; Perkins, 1962, pp. 460-461).

albicaligata (Walsh). Conn., N. Y., Md., D. C., Va., Ind., Kans., Tex.

albisoletus (Walsh). Transf. to *Idiolispa* Foerster.

albitarsis albitarsis (Cresson), changed status. Newfoundland, Que., Ont., Maine, N. H., Vt., Mass., N. Y., Md., Va., Mich., Kans. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 359).

**albitarsis peratra* Townes. B. C. to Calif., Idaho.

Trychosis albitarsis peratra Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 358, 359. ♂, ♀.

**anagnus* Townes. Transcont. in Transit. and Canad. Zones.

Trychosis anagnus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 337, 376. ♂, ♀.

**apicalis* Townes. R. I., N. Y., Pa., Md., Va., Fla., Tenn., Ohio, Mich., Ill., Minn.

Trychosis apicalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 347. ♂, ♀.

**atorrubens* Townes. Colo., Ariz., Nev., Calif.

Trychosis atorrubens Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 337, 369. ♂, ♀.

**coxalis* Townes. R. I. and N. Y. to S. C., west to Mich., Ala.

Trychosis coxalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 337, 346. ♂, ♀.

**cyperia* Townes. Transcont. in Canad. and Huds. Zones.

Trychosis cyperia Townes, 1952. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 336, 373. ♂, ♀.

**depilis* Townes. B. C. to Calif., Idaho, Wyo., Utah.

Trychosis depilis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 368. ♂, ♀.

exulans (Cresson). Ont., Mass. to N. C., La., west to Mich., Kans., Tex.

- **fuscata* Townes. Labrador, Que., Maine.
Trychosis fuscata Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 337, 356. ♂, ♀.
- fusiformis* (Provancher). Syn. of *montivaga montivaga* (Provancher).
- **kathrynae* Townes. Que. to Sask., south to N. J., W. Va., Mich., Wis., Minn.
Trychosis kathrynae Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 337, 363. ♂, ♀.
- **latidens* Townes. Que. and N. Y. to Yukon, B. C., Wash., Oreg.; also Colo.
Trychosis latidens Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 355. ♂, ♀.
- **montivaga austrina* Townes. N. Mex. (Tajique).
Trychosis montivaga austrina Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 341. ♂, ♀.
- montivaga montivaga* (Provancher). changed status. Transcont. in north U. S. and south. Canad. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 335, 338, 339).
Trychosis fusiformis (Provancher) (syn. by Townes and Townes, 1962, p. 339).
- **nigripes* Townes. Tex.
Trychosis nigripes Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 345. ♂, ♀.
- **reflexa* Townes. B. C. to Calif., Idaho, Nev., Mont., Utah, S. Dak.
Trychosis reflexa Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 337, 371. ♂, ♀.
- **semirubra arizonica* Townes. Ariz. (nr. Alpine).
Trychosis semirubra arizonica Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 351, 354. ♂, ♀.
- **semirubra pulla* Townes. Wyo., Colo., Alta., Idaho, B. C., Wash., Calif.
 Host: egg sac drassid spider.
Trychosis semirubra pulla Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 351, 352. ♂, ♀.
- semirubra semirubra* Townes, changed status. Atlantic Ocean to Rocky Mts. in Transit. and Canad. Zones, Tex. Host: drassid spider egg cases. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 351, 353).
- **similis badiarmus* Townes. N. S. to Ont. south to Va., Ohio, Minn., also Tex.
Trychosis similis badiarmus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 342, 343. ♂, ♀.
- similis similis* (Cresson), changed status. N. H. to S. C. west to Wis., also Kans., Tex. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 342, 344).
- subgracilis* (Cresson). Transit. zone.
- **sulcata* Townes. Conn., N. Y. to N. C., west to Ont., Mo., Kans.
Trychosis sulcata Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 337, 349. ♂, ♀.

Genus *IDIOLISPA* Foerster, p. 266

- **Paracryptus* Szépligeti, 1916. Mus. Nat. Hungarici, Ann. 14: 251. (Syn. *teste* Townes, Townes and Gupta, 1961, p. 166.)

Type: *Paracryptus hungaricus* Szépligeti. By monotypy.

- **aestivalis* Townes. Maine and Que. to Ga., west to Wis., Iowa, Kans., also Tex.

Idiolispa aestivalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 323, 331. ♂, ♀.

- albisoleata* (Walsh). Transcont. in Canad. and Transit. Zones. Transf. from *Trychosis* Foerster, p. 266 (*teste* Townes and Townes, 1962, p. 323).

analis analis (Gravenhorst), changed status. Transcont. in Canad. Zone; Europe. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 326).

***analis ignea** Townes. So. Sask. to B. C., south to Calif., Ariz., N. Mex.
Idiolispa analis ignea Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 326, 329. ♂, ♀.

analis limata (Cresson), changed status. Transcont. in Transit. and U. Austr. Zones. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 326, 328).

limata (Cresson). A subsp. of **analis** (Gravenhorst).

*Genus **HEMISPFRAGIA** Seyrig

***Micromavia** Seyrig, 1952. Acad. Sci. Malgache, Mem. 19: 203, 204.
(Syn. *teste* Townes and Townes, 1962, p. 378.)

Type: *Micromavia carinata* Seyrig. Orig. desig.

Hemisphragia Seyrig, 1952. Acad. Sci. Malgache Mem. 19: 204, 207.

Type: *Hemisphragia triangulifera* Seyrig. Orig. desig.

Place in Cryptini on page 266 after *Idiolispa* Foerster.

***debilis** Townes. Md., Va., Tenn., Ohio, Kans., La.

Hemisphragia debilis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 378. ♂, ♀.

Genus **APSILOPS** Foerster, p. 267

***Heterotypus** Foerster, 1868. Naturh. Ver. Rheinlande 25: 183. Syn.
(*teste* Townes, Townes, and Gupta, 1961, p. 142).

Type: *Ichneumon cinctorius* Fabricius. Desig. by Townes, Townes, and Gupta, 1961.

bicolor (Cushman). Transcont. in Canad. Zone.

Genus **GAMBRUS** Foerster, pp. 267-268

Aritranis Foerster. Remove from syn. and place as valid genus on p. 268 with *Hoplocryptus* Thomson as syn.

affabilis (Provancher). Transf. to **Aritranis**, p. 269.

apicatus (Provancher). N. S., Ont., Vt., Ohio, Mich. Hosts: ?*Euura* gall; gall on *Salix*.

bituminosus (Cushman). Calif.

canadensis burkei (Viereck), changed status. Calif. Hosts: *Malacosoma californicum* (Pack.); *Hemeroampa vetusta* (Bdvl.); *H. oslari* (Barnes). Removed from syn. of **exareolatus** (Viereck) (*teste* Townes and Townes, 1962, pp. 80, 84).

canadensis canadensis (Provancher), changed status. Atlantic Ocean to Rocky Mts. in Canad. and Transit. Zones; Alta., B. C., Wash., Oreg. Hosts: *Malacosoma* sp.; *M. disstria* Hbn., *M. americanum* (F.); *Carpocapsa pomonella* (L.); tenthredinid. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 80).

?**Cryptus belangeri** Provancher. Transf. to **Aritranis** Foerster as syn. of **notata notata** (Provancher).

canadensis exareolatus (Viereck), changed status. Minn., Sask., Mont., Wyo., Colo., N. Mex., Alta., Idaho, also Wash. Hosts: *Malacosoma* sp., *M. fragile* (Stretch). Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 83).

exareolatus (Viereck). A subsp. of **canadensis** (Provancher). In bibliog. ref. change p. 80 to 81.

Cryptus (Gambus) burkei Viereck. Remove from syn. Valid subsp. of **canadensis** (Provancher).

extrematis (Cresson). Host: *Hyalophora euryalus kasloensis* (Ckll.).

- nunciatus** (Say). N. W. T., Mich., Minn. Hosts: *Callosamia* sp., *C. angulifera* (Wlkr.), ?*Samia cynthia* (Dru.), ?*Antheraea polyphemus* (Cramer).
- tunicula rubra** (Fyles).
Taxonomy: Townes and Townes, 1962, pp. 71, 75. (Lectotype desig.)
- ultimus** (Cresson). *Exyra semicrocca* (Gn.), *Hypera brunneipennis* (Boh.), *Hyalscotes pithopoera* (Dyar), *Loxostege sticticalis* (L.), *Symyra henrici* (Grt.), *Trichoplusia ni* (Hbn.), *Udea rubigalis* (Gn.).
- ***yukonensis** Townes. Alaska, Yukon, N.W.T.
Gambrus yukonensis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 71, 79. ♂, ♀.

Genus ARITRANIS Foerster

(=*Hoplocryptus* Thomson of Catalog, pp. 268-269)

- Aritranis* Foerster. Removed from syn. of *Gambrus* Foerster. A valid genus (*teste* Townes and Townes, 1962, pp. 70, 98).
- Hoplocryptus* Thomson. Emend type citation to read (*Hoplocryptus binotatus* Thomson) = **fugitiva* (Gravenhorst).
- affabilis** (Provancher). N. C., Ind., Mich., Ont., Minn., Kans. Hosts: *Phlyctaenia tertialis* (Guen.), *Oberea tripunctata* (Swed.), *Oberea* sp. Transf. from *Gambrus* Foerster (*teste* Townes and Townes, 1962, p. 100).
- albicollaris albicollaris** (Cresson), changed status. Que., Vt., N. Y., Va., N. C., Mich., Man., Ill., Kans., Tex., Mont. Host: *Phlyctaenia tertialis* (Guen.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 100, 112).
- ***albicollaris clypeata** Townes. Calif., Wash.
Aritranis albicollaris clypeata Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 112, 114. ♂, ♀.
- ***barberi** Townes. Md. (Plummers Is.).
Aritranis barberi Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 111. ♂.
- ***byrsina** Townes. Que., Ont., south to Ga. and La., west to Wis., Iowa, Mo., Kans. Hosts: *Achatodes zaeae* (Harr.), *Oberea* sp., *Papaipema* sp.
Aritranis byrsina Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 102. ♂, ♀.
- gracilis** (Provancher). Alleghanian.
- imitator imitator** (Provancher), changed status. N. B., Que., Ont. south to R. I., N. Y., Ohio, west to Minn., also Alta. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 99, 121, 123).
- ***imitator monticola** Townes. Alta., B. C., Idaho, Wash., Oreg.
Aritranis imitator monticola Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 121, 124. ♂, ♀.
- ***imitator nigriventris** Townes. Que., N. Y., Sask., Wyo., Colo., N. W. T., Yukon, B. C., Oreg.
Aritranis imitator nigriventris Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 121. ♂, ♀.
- ***imitator ruficauda** Townes. Calif. Host: *Hoplitis hypocrita* (Ckll.).
Arcitransi imitator monticola Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 121, 125. ♂, ♀.
- ***linnae linnae** Townes. Que. to Alta., also N. Y., Mich., Minn.
Aritranis linnae linnae Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 105. ♂, ♀.
- ***linnae pacifica** Townes. Calif.
Aritranis linnae pacifica Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 105, 106. ♂, ♀.

- notata newcomeri** (Cushman), changed status. Mont. to B. C. south to Oreg., also N. J. Host: *Ametastegia glabrata* (Fall.), *Allantus cinctus* (L.). Removed from syn. of *notata* (Provancher) (*teste* Townes and Townes, 1962, pp. 117, 119).
- notata notata** (Provancher), changed status. Atlantic to Rocky Mts. in Canad., Transit. zones. Hosts: "*Odynerus*" nest in *Rhus* stem, *Ancistrocerus bireminaculatus* (Sauss.).
- Cryptus belangeri*** Provancher. Transf. from syn. of ***Gambrus canadensis canadensis*** (Provancher), p. 268 (*teste* Townes and Townes, 1962, pp. 80, 116).
- Caenocryptus newcomeri*** Cushman. Remove from syn.; valid subsp. of ***notata*** (Provancher).
- ***notata sierrae** Townes. Calif. Hosts: *Ancistrocerus spilogaster* Cam.; *Leptochilus tetradymia* Park.; *Megachile gentilis* Cress.
- Aritranis notata sierrae*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 116, 120. ♂, ♀.
- ***nubecula** Townes. R. I., Fla., Mich., Tex.
- Aritranis nubecula*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 109. ♂, ♀.
- Genus AGROTHEREUTES Foerster, pp. 269-270, Sup. 1, p. 46
- ***Dayro** Cameron, 1902. Ann. and Mag. Nat. Hist. (Ser. 7) 9: 209. Syn. (*teste* Townes and Townes, 1962, pp. 12, 42. An earlier reference to this synonymy not found).
- Type: ***Dayro pilosus*** Cameron. By monotypy.
- abbreviator iridescens** (Cresson), changed status. A. ***abbreviator abbreviator*** is European. Minn., Wis., Ont. Host: *Diprion frutetorum* (F.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 51, 52, 57).
- abbreviator rufopectus** Cushman, changed status. B. C., Alta. to Calif. east to Wyo., Colo., N. Mex. Hosts: *Neodiprion tsugae* Midd., *Pristiphora erichsonii* (Htg.), *Laspeyresia nigricana* (Steph.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 51, 55).
- abbreviator similis** (Provancher), changed status. N. S., Ont., Mich., Wis., Minn., Man., Sask., Alta., N. W. T., Yukon, Alaska. Host: *Neodiprion lecontei* (Fitch), *N. abietis* (Harr.), *N. sertifer* (Geoff.), *Pristiphora erichsonii* (Htg.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 51, 52, 53).
- Biology: Finlayson, 1960, Canad. Ent. 92 (12): 932-933 (larval).
- ***alutarius** Townes. Alaska, Yukon, N. W. T.
- Agrothereutes alutarius*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 44, 45, 47. ♂, ♀.
- cinibicivorus** (Cushman). Canad. Zone.
- ***grandis** Townes. Conn. south to S. C.
- Agrothereutes grandis*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 44, 45, 46. ♂, ♀.
- iridescens** (Cresson). A subsp. of **abbreviator** (Fabricius).
- lophyri lophyri** (Norton), changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 60, 62).
- ***lophyri obscurus** Townes. Newfoundland, N. B. Host: *Neodiprion abietis* (Harr.).
- Agrothereutes lophyri obscurus*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 60, 61. ♂, ♀.
- ***lophyri ontariensis** Townes. N. B., Maine, Que., Ont., N. H., N. J., Mich., Wis., Minn., Man., B. C. Hosts: *Neodiprion abietis* (Harr.); *N. lecontei* (Fitch); *N. nanulus nanulus* Schedl; *N. nigroscutum* Midd.; *N. pratti banksianae* Rohw.; *N. sp.*, *Diprion similis* (Htg.); "Spruce sawfly."

- Agrothereutes lophyri ontariensis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 60. ♂, ♀.
- **mandator americanus* Townes. Transcont. in Transit. and Canad. Zones. Hosts: *Cimex americana* Leach, *Trichiosoma triangulum* Kby., *T. sp.*
- Agrothereutes mandator americanus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 67, 68. ♂, ♀.
- **montanus* Townes. Colo. (Rocky Mt. Natl. Pk.).
Agrothereutes montanus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 45, 48. ♀.
- neodiprionis* (Cushman). Canad. Zone.
- **pallipennis* Townes. Calif. (East Sonora Pass).
Agrothereutes pallipennis Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 43, 45, 49. ♂, ♀.
- rufopectus* Cushman. A subsp. of *abbreviator* (Fabricius).
- similaris* (Provancher). A subsp. of *abbreviator* (Fabricius).

Genus JOPPIDIUM Cresson, p. 270

- **Isocryptus* Brèthes, 1927. Ent. Mitt. 16: 308. (Syn. *teste* Townes and Townes, 1962, p. 306.)
Type: (*Isocryptus azureus* Brèthes) = *moerens* (Perty). By monotypy.
- **arizonicum* Townes. Ariz.
Joppidium arizonicum Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 307, 312. ♂.
- **brochum brochum* Townes. Okla., Tex.; Mexico.
Joppidium brochum brochum Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 307, 308, 309. ♂, ♀.
- **brochum fattigi* Townes. Ky., N. C., Ga.
Joppidium brochum fattigi Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 308, 309. ♂, ♀.
- **densum* Townes. Ariz.; Mexico.
Joppidium densum Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 307, 312. ♂, ♀.
- **discolor* Townes. Ariz.
Joppidium discolor Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 308, 314. ♂.
- **dubiosum* Cresson. Va., S. C., Ga., Ala.; Mexico.
Joppidium dubiosum Cresson, 1873. [Phila.] Acad. Nat. Sci. Proc. 1873: 138. ♂, ♀.
- **Opisosextus* (!) *ruficeps* Szépligeti, 1916. Mus. Natl. Hungarici, Ann. 14: 240. ♂. Preocc. (Syn. *teste* Townes and Townes, 1962, p. 317.)
- **fuscipenne* (Brullé). Ariz. (Huachuca Mts.); Mexico.
Cryptus fuscipennis Brullé; 1846. *In* Lepeletier, Hist. Nat. Ins. Hym. v. 4, p. 189. ♀.
- **Joppidium donabilis* Cresson, 1873. [Phila.] Acad. Nat. Sci. Proc. 1873: 139. ♂, ♀. (Syn. *teste* Townes and Townes, 1962, p. 310.)
- **Joppidium yucatanense* Cameron, 1885. Biol. Cent.-Amer. Ins., Hym., v. 1, p. 211. ♀. (Syn. *teste* Townes and Townes, 1962, p. 310.)

Genus ISCHNUS Gravenhorst, pp. 270-271

- **Aglacryptus* Cameron, 1903. Manchester [England] Lit. and Philos. Soc., Mem. and Proc. 47 (Pt. 14): 31. (Syn. *teste* Townes, Townes and Gupta, 1961, pp. 133, 135.)
*Type: *Aglacryptus curvimaculatus* Cameron. Desig. by Viereck, 1914.

- cinctipes** (Walsh). Que., Ont., to Fla., west to Minn. and Tex. Hosts: *An-cylis comptana* (Froel.), *A. divisana* Wlkr., *Polychrosis viteana* (Clem.). Transf. from Alphanumeric List of Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, pp. 133, 137).
- Ischnus fraterculus fraterculus*** (Provancher) Sup. 1, p. 46 (as **3-annu-latus fraterculus** (Provancher) in Catalog, p. 270. (*Syn. teste* Townes and Townes, 1962, p. 137).
- *inquisitorius assimilis** (Uchida), changed status. Alaska; Siberia, Japan. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 144, 145, 146).
- Habrocryptus assimilis*** Uchida, 1930. Hokkaido Imp. Univ., Fac. of Agr. Jour. 25: 313. ♀.
- inquisitorius atriceps** (Cresson). Colo., S. Dak. Hosts: *Choristoneura fumi-ferana* (Clem.); orange tortrix on *Rhododendron* sp.
- inquisitorius atricollaris** (Walsh). B. C. Hosts: *Choristoneura rosaceana* (Harr.), *Malacosoma disstria* Hbn.
- Cryptus amblytelarius*** Provancher. Transf. to syn. of **rhomboidalis** (Walsh).
- Spilocryptus neomexicana*** Viereck. In bibliog. ref. change p. 80 to p. 81.
- *inquisitorius pectoralis** Townes. Alaska, Yukon, N. W. T., B. C. to Colo., N. Mex. east to Ont., Mich. Host: *Choristoneura conflictana* (Wlkr.).
- Ischnus inquisitorius pectoralis*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 144, 146. ♂, ♀.
- *laevifrons** Townes. Ariz. (Transit., Canad. Zones).
- Ischnus laevifrons*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 156. ♂, ♀.
- latus latus** (Provancher), changed status. N. S., Maine, N. H., west to Alta. in Canad. Zone. Transf. from syn. of **Cubocephalus annulatus** Cresson, p. 253 and reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 135).
- Ischnus triannulatus triannulatus*** (Provancher). Preocc. (*Syn. teste* Townes and Townes, 1962, p. 135.)
- Cryptus triannulatus*** Provancher (syn. *teste* Townes and Townes, 1962, p. 135).
- Ischnus fraterculus tricircularis*** Walkley (syn. *teste* Townes and Townes, 1962, p. 135).
- latus pinguis** (Provancher), changed status. Que., Ont. to N. C. west to Wis. and Kans. in Alleghanian fauna. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 135, 136).
- *laurae** Townes. S. C., Fla.
- Ischnus laurae*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 140. ♂, ♀.
- *lautus** Townes. B. C., Calif. Host: *Grapholitha molesta* (Busck).
- Ischnus lautus*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 163. ♂, ♀.
- *minor** Townes. Transcont. in Transit. and Canad. Zones. Hosts: *Acleris variana* (Fern.), *Choristoneura fumiferana* (Clem.), *Polychrosis viteana* (Clem.).
- Ischnus minor*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 159. ♂, ♀.
- *politus** Townes. Colo.
- Ischnus politus*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 162. ♀.
- rhomboidalis** (Walsh). Transf. from Alphanumeric List of Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, p. 157).
- Cryptus amblytelarius*** Provancher. Transf. from syn. of **inquisitorius atricollaris** (Walsh) (*teste* Townes and Townes, 1962, p. 157).

**sparsus* Townes. Que. to N. C. west to Minn.

Ischnus sparsus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 132, 141. ♂, ♀.

**velutinus* Townes. Ariz. (Transit. Zone).

Ischnus velutinus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 155. ♂, ♀.

Genus PSEUDISCHNUS Walkley, Sup. 1, p. 47

Taxonomy: Townes and Townes, 1962, pp. 165-167.

**oregonensis coxalis* (Townes) n. comb. S. Dak. (Deadwood).

Habrocryptoidea oregonensis coxalis Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 167. ♀.

oregonensis oregonensis (Cushman), changed status. B. C., Wash., Calif., Wyo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 167).

*Genus HABROCRYPTOIDES Uchida

Habrocryptoidea Uchida, 1952. *Insecta Matsumurana* 18: 19.

Type: *Habrocryptus shikokuensis* Uchida. Orig. desig.

Place after *Pseudischnus* [p. 271], Sup. 1, p. 47.

**erasus* Townes. Alta. (Lethbridge).

Habrocryptoidea erasus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 175. ♀.

**inflexus* Townes. Calif. (Alpine Co.).

Habrocryptoidea inflexus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (3): 166, 177. ♀.

**lumbarius* Townes. Calif. (Lancaster).

Habrocryptoidea lumbarius Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 174. ♀.

**nitens* Townes. Calif. (Kern Co.).

Habrocryptoidea nitens Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 176. ♀.

**pictus* Townes. Ariz.

Habrocryptoidea pictus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 173. ♂.

rufifrons (Walsh). N. Y. to Fla., west to Mich. and Tex. Transf. from Alphabetic List of Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, pp. 166, 169).

**virgeus ardalus* Townes. Ariz., Colo.

Habrocryptoidea virgeus ardalus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 171, 172. ♂, ♀.

**virgeus virgeus* Townes. Mass. to S. C., Mich., Wis. Hosts: *Harrisina americana* (G.-M.); *Carpocapsa pomonella* (L.).

Habrocryptoidea virgeus virgeus Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 170, 171. ♂, ♀.

Genus CHROMOCRYPTUS Ashmead, p. 271

planosae planosae (Fitch), changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 257).

**planosae vandykei* Townes. Calif. ("Havilah", Fresno Co.).

Chromocryptus planosae vandykei Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 257, 258. ♀.

Genus LISTROGNATHUS Tschek, p. 271

*LISTROGNATHUS subgenus FENESTULA Townes

Listrognathus subg. *Fenestula* Townes, 1962. *In* Townes and Townes,

U. S. Natl. Mus. Bul. 216 (Pt. 3): 408.

Type: *Mesostenus paludatus* Cresson. Orig. desig. and by monotypy.

**paludatus californicus* Townes. Calif.

Listrognathus (Fenestula) paludata californica Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 409, 410. ♂, ♀.

**paludatus ocellaris* Townes. Ariz. (Chiricahua Mts.).

Listrognathus (Fenestula) paludata ocellaris Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 409, 411. ♀.

paludatus paludatus (Cresson), changed status. Transcont. in Transit. and Canad. Zones, Alaska, Tex. Hosts: *Cerura cinerea* Wlkr., *C. sp.* Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 409).

LISTROGNATHUS subgenus LISTROGNATHUS Tschek

**acheloma* Townes. Md., Fla.

Listrognathus (Listrognathus) acheloma Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 413, 425. ♀.

albomaculatus albomaculatus (Cresson), changed status. Ont., Ga., Mich., Kans., La., Tex. Host: *Gretchena bolliana* (Sling.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 420, 421).

albomaculatus var. *multimaculatus* Cushman. A valid sp.

albomaculatus var. *nubilipennis* (Cresson). A valid species.

albomaculatus sagax (Provancher), changed status.

Listrognathus albomaculatus var. *sagax* (Provancher). Changed to subsp. rank (*teste* Townes and Townes, 1962, p. 420).

**bicolor* Townes. Ariz. (Oak Creek Canyon).

Listrognathus (Listrognathus) bicolor Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414. ♀.

**femoratus* Townes. P. E. I., Que., Ont., Mich., Va., W. Va

Listrognathus (Listrognathus) femorata Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414, 415. ♂, ♀.

**glomeratus* Townes. Pa. to Fla., W. Va., Ala., Tex.

Listrognathus (Listrognathus) glomerata Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414, 424. ♂, ♀.

multimaculatus Cushman, changed status.

Listrognathus albomaculatus var. *multimaculatus* Cushman. Elevated to sp. rank (*teste* Townes and Townes, 1962, pp. 414, 422).

**nigrescens* Townes. Alta., Utah, Wyo., N. Mex.

Listrognathus (Listrognathus) nigrescens Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414, 416. ♂, ♀.

nubilipennis (Cresson), changed status.

Listrognathus albomaculatus var. *nubilipennis* (Cresson). Elevated to sp. rank (*teste* Townes and Townes, 1962, pp. 414, 416).

paludatus (Cresson). Transf. to subg. *Fenestula* Townes.

rufitibialis Cushman. Ind., Okla.

**rufus* Townes. N. Y., Kans.

Listrognathus (Listrognathus) rufa Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 413, 419. ♂.

victoriensis (Harrington).

Taxonomy: Townes and Townes, 1962, pp. 417-419.

Genus DIAPETIMORPHA Viereck, pp. 271-272

acadia Cushman. D. C., Va., N. C., Tenn., Ala.

alabama Cushman.

Biology and Taxonomy: Townes and Townes, 1962, pp. 381, 383-384.

**brunnea* Townes. Ga., Fla.

Diapetimorpha brunnea Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 381, 382. ♂, ♀.

confederata Cushman. A subsp. of *macula* (Cameron).

introita (Cresson). N. C., S. C., Fla., Miss.

macula confederata Cushman, changed status. Va. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 385). *D. macula macula* (Cameron) is Mexican.

**macula ustulata* Townes. Fla.

Diapetimorpha macula ustulata Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 385, 386. ♀.

**picta* Townes. Ga., Fla.

Diapetimorpha picta Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 381, 387. ♂, ♀.

rufigaster Cushman. N. C., Tenn., Wis.

**rugosa* Townes. N. J. to S. C. west to Wis., Iowa, Kans., Ark., La. and Tex.

Diapetimorpha rugosa Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 381, 382, 392. ♂, ♀.

Genus MALLOCHIA Viereck, p. 272

agenioides Viereck. Mich.

**frontalis* Townes. N. J., Md., N. C., Kans., Tex.

Mallochia frontalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (3): 93, 94, 97. ♂, ♀.

**laevis* Townes. Ga., Fla.

Mallochia laevis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 94, 97. ♂, ♀.

strigosa (Cresson). ?Ariz.

Taxonomy: Townes and Townes, 1962, pp. 94, 95.

*Genus PACHYSOMOIDES Strand

(= *Polistiphaga* Cushman of Catalog, p. 272)

**Pachysoma* Szépligeti, 1916. Mus. Natl. Hungarici Ann. 14: 263, 290. Preocc.

Type: (*Pachysoma albopictum* Szépligeti) = *stupidus* (Cresson). By monotypy.

Pachysomoides Strand, 1917. Ent. Ztschr. 10 (24): 137. N. name.

Polistiphaga Cushman. Syn. (*teste* Townes and Townes, 1962, p. 393). Change type citation to read: (*Mesostenus arvalis* Cresson) = *fulvus* (Cresson).

fulvus (Cresson). Cuba.

stupidus (Cresson). Tenn.

**Pachysoma albopictum* Szépligeti, 1916. Mus. Natl. Hungarici Ann. 14: 290. ♀. Syn. (*teste* Townes and Townes, 1962, p. 399).

Genus Nasutocryptus Pratt, p. 272

Syn. of *Lymeon* Foerster.

nasutus Pratt. Transf. to *Lymeon* Foerster, *infra*.

Genus LYMEON Foerster, pp. 272-273

**Christolimorpha* Viereck, 1913. U. S. Natl. Mus. Proc. 44: 564. (Syn. *teste* Townes and Townes, 1962, p. 393.)

Type: *Christolimorpha plesius* Viereck. Orig. desig.

**Zamastrus* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 385. (Syn. *teste* Townes and Townes, 1962, p. 393.)

Type: *Zamastrus photopsis* Viereck. Orig. desig.

**Neogoryphus* Roman, 1936. Ent. Tidskr. 57: 3. (Syn. *teste* Townes and

Townes, 1962, p. 393.)

*Type: *Ichneumon ariolator* Linnaeus.

Nasutocryptus Pratt (syn. *teste* Townes and Townes, *Op. cit. supra*).

cinctiventris (Cushman). D. C.

**leiponeuron* Townes. Fla.

Lymeon leiponeuron Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 393, 397. ♂, ♀.

nasutum (Pratt). Transf. from *Nasutocryptus* Pratt (*teste* Townes and Townes, 1962, pp. 393, 398).

orbum (Say). Host: *Pheroecca walsinghami* (Busck).

Genus ACERASTES Cushman, p. 273

pertinax Cresson. Cuba, Puerto Rico.

Biology: Townes and Townes, 1962, pp. 404-405.

Genus POLYCYRTIDEA Viereck, p. 273

flavopicta (Ashmead). Remove from Catalog, p. 273, and Sup. 1, p. 47, not in Nearctic region. Remove *limitis* Cushman from syn. (*teste* Townes and Townes, 1962, pp. 406-407).

limitis Cushman. Tex.; Mexico, Costa Rica. Removed from syn. of *flavopicta* (Ashmead). A valid species (*teste* Townes and Townes, p. 406).

*Subtribe NEMATOPODIINA

Taxonomy: Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 15, 20, 461.

Insert as third Subtribe of *Cryptini*.

Genus ACRORICNUS Ratzeburg, pp. 275-276, Sup. 1, pp. 47-48

Xenodocon Foerster. Misspelled *Xenocodon* (!) in Catalog, pp. 275, 1283.

Type species, *Xenodocon ruficornis* Foerster, is considered syn. of *stylator* (Thunberg) by Perkins, 1962, p. 462.

stylator edwardsii (Cresson). Host: *Sceliphron caementarium* (Dru.).

stylator excelsus (Cresson). Wyo., S. Dak.

stylator juncus (Cresson). Host: *Eumenes* nest.

Genus MESSATOPORUS Cushman, p. 276, Sup. 1, p. 48

compressicornis Cushman. Ohio, Tenn. Hosts: *Ancistrocerus tuberculocephalus sutterianus* (Sauss.); *Trypoxylon collinum rubrocinctum* Pack.

discoidalis (Cresson). Miss.

Mesostenus ferrumequinum Walsh and Riley. Preocc.

Mesostenus jocosus Provancher, 1874. Nat. Canad. 6 (10): 300. ♀.

Taxonomy: Townes and Townes, 1962, pp. 462-463, 465-467.

ferrumequinum (Walsh and Riley). Preocc.

Mesostenus discoidalis Cresson. Removed from syn. as valid name for above.

rufiventris Cushman. Transcont. Hosts: *Auplopus* nest; ?*Phanagenia bombycina* nest; *Trypoxylon* (*Trypoxylon*) sp.

*Subtribe ECHTHRINA

Taxonomy: Townes and Townes, 1962, U. S. Natl. Mus. Bul. 216 (Pt. 3): 15, 20, 476.

Place as fourth subtribe of *Cryptini*.

Genus ECHTHRUS Gravenhorst, p. 273

**Karaechthrus* Uchida, 1929. Ins. Matsumurana 3 (4): 176. (Syn. *teste* Townes and Townes, 1962, p. 486.)

Type: *Karaechthrus tuberculatus* Uchida. Orig. desig. and by monotypy.

**Bioleter* Meyer, 1930. Acad. Sci. USSR. Mus. Zool. Ann. 31: 169. (Syn. *teste* Townes and Townes, 1962, p. 486.)

Type: (*Bioleter eos* Meyer) = *tuberculatus* (Uchida). Orig. desig.

abdominalis abdominalis Cresson, changed status. Atlantic Ocean to Minn. in Canada. Zone. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 488, 489, 490).

**abdominalis dimidiatus* Townes. Calif.

Echthrus abdominalis dimidatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 488, 489, 491. ♂, ♀.

**abdominalis infuscus* Townes. Wyo., Utah, Ariz., N. Mex.

Echthrus abdominalis infuscus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 488, 492. ♂, ♀.

abdominalis vancouverensis (Bradley), changed status. Alta. and B. C. to Wyo. and Calif. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 488, 489).

adillae adillae Davis, changed status. B. C., Wash., Oreg. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 497, 498).

**adillae brunneus* Townes. N. Y., Va.

Echthrus adillae brunneus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 497, 501. ♀.

**adillae nigriventris* Townes. Labrador, Man., Mont., Colo., Alta., B. C., Alaska. Host: *Paranthrene robiniae* f. *perlucida* (Busck).

Echthrus adillae nigriventris Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 497. ♂, ♀.

**adillae rubidus* Townes. Oreg., Calif., Nev.

Echthrus adillae rubidus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 496, 499. ♂, ♀.

**adillae semiruber* Townes. Wash., Oreg.

Echthrus adillae semiruber Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 498. ♂, ♀.

**adillae tibialis* Townes. Maine, Que., Ont.

Echthrus adillae tibialis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 497, 500. ♂, ♀.

**niger emaculatus* Townes. Maine, Que., Ont., Mich., Wis.

Echthrus niger emaculatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 493, 494. ♂, ♀.

niger niger Cresson, changed status. Que., Ont., south to Va., Mich. Host: *Saperda candida* F. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 494, 495).

niger rufopedibus Harrington, changed status. Que. to B. C., Minn. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 493, 494).

rufopedibus Harrington. A subsp. of *niger* Cresson.

vancouverensis (Bradley). A subsp. of *abdominalis* Cresson.

Genus XYLOPHRURUS Foerster, pp. 273-274

Xylophrurus Foerster. Change type citation to (*Echthrus lancifer* (Gravenhorst)) = *dispar* (Thunberg). Included by Schmiedeknecht, 1888.

Nyxeophilus Foerster. Change type citation to: *Cryptus bimaculatus* Gravenhorst [as Thomson]. (Perkins, 1962, p. 439, considers this a valid genus.)

Macrocryptus Thomson. Change type citation to (*Echthrus lancifer* Gravenhorst) = *dispar* (Thunberg). By monotypy.

**Nyxeophilus* Thomson, 1885. Soc. Ent. France Ann. V (6): 18.

Type: *Cryptus bimaculatus* Gravenhorst. Orig. desig.

agrili (Viereck). Mich.

atoruber Townes. Syn. of *sitkensis* (Ashmead).

bicolor bicolor (Cushman), changed status. B. C., Idaho. Host: *Saperda moesta* LeC. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 482).

**bicolor maurus* Townes. Que. to Man. in Canad. Zone.

Xylophrurus bicolor maurus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 482, 483. ♂, ♀.

fasciatus fasciatus (Ashmead). Que., N. Y., Mich.

**fasciatus hesperus* Townes. Colo., Ariz., Calif.

Xylophrurus fasciatus hesperus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 480, 481. ♂, ♀.

luctuosus Provancher. A subsp. of *nubilipennis* Cresson.

**nubilipennis abdominalis* Townes. Sask., Utah, B. C.

Xylophrurus nubilipennis abdominalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 483, 484. ♂, ♀.

nubilipennis luctuosus (Provancher), changed status. Que. and Ont. south to Fla. Host: *Agritus champlaini* Frost; borer in *Populus*; *Oberea praelonga* Casey, *Saperda candida* F. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 483).

nubilipennis nubilipennis (Cresson), changed status. Colo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 483, 484).

sitkensis (Ashmead). Alaska, B. C., Wash., Oreg., Calif.

Xylophrurus atoruber Townes (syn. *teste* Townes and Townes, 1962, p. 479).

Genus AGONOCRYPTUS Cushman, p. 274

discoidaloides (Viereck). Host: *Psyrassa unicolor* (Rand.).

Genus CRYPTOHELCOSTIZUS Cushman, pp. 274-275

alamedensis (Ashmead). B. C., Utah, Tex. Host: Borer in *Agave* stem.

**caudatus* Townes. Calif. (Lake Tahoe).

Cryptohelcostizus caudatus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 511. ♀.

dichrous Viereck. Mo.

**fumipennis* Townes. Ariz. (Sabino Canyon).

Cryptohelcostizus fumipennis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 507. ♀.

**genalis* Townes. Calif. (Capella, Mendocino Co.).

Cryptohelcostizus genalis Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 504, 507. ♀.

**leiomerus* Townes. Calif. (Tanbark Flat, Los Angeles Co.).

Cryptohelcostizus leiomerus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 506. ♀.

**maculosus* Townes. Calif.

Cryptohelcostizus maculosus Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 512. ♀.

**nigricans* Townes. Ariz. (Sierra Ancha).

Cryptohelcostizus nigricans Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 508. ♂, ♀.

Genus *HELCASTIZUS* Foerster, p. 275, Sup. 1, p. 47*Brachycentrus* Taschenberg.*Helcastizus* Foerster.*Cyrtocryptus* Marshall.*Mesocryptus* Thomson.*Heterocryptus* Woldstedt.Change type citation of each of above to (*Cryptus brachycentrus* Gravenhorst) = *albator* (Thunberg).*Asternaulax* Viereck. Change type citation to (*Asternaulax fiskei* Viereck) = *albator canadensis* (Provancher).*albator canadensis* (Provancher), changed status. Tenn., Mich. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 518, 521). *H. albator albator* (Thunberg) is European.*albator ruficutum* Cushman, changed status. B. C., Oreg., Ariz. Host: borings of *Plectura spinicauda* Mannh. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 518, 520).*albator yukonensis* (Ashmead), changed status. Alaska, N. W. T. south to Oreg. and Idaho. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 519).*annulicornis* (Walsh). Md., Mich., Okla. Host: ? *Elaphidionoides parallelus* (Newn.).*Helcastizus bicarinatus* Cushman (syn. *teste* Townes and Townes, 1962, p. 515).*bicarinatus* Cushman. Syn. of *annulicornis* (Walsh).*canadensis* (Provancher). A subsp. of *albator* (Thunberg).*ruficutum* Cushman. A subsp. of *albator* (Thunberg).**subrectus* Townes. Ariz. (nr. Alpine).*Helcastizus subrectus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 514, 517. ♀.**tibialis* Townes. Ont., N. Y., Mich., Wis.*Helcastizus tibialis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 514, 516. ♂, ♀.**oxyura* Townes. Ont., Mich.*Helcastizus oxyura* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 514, 517. ♀.*yukonensis* (Ashmead). A subsp. of *albator* (Thunberg).

Subfamily ICHNEUMONINAE

Tribe PHAEOGENINI

Genus *PHAEOGENES* Wesmael, pp. 276-278*Phaegenes* Wesmael. After bibliog. ref. add: Proposed as subg. of "*Ichneumon* Grav."**Tycherus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 192 (syn. *teste* Perkins, 1962, p. 461).Type: *Phaegenes (Proscus) elongatus* Thomson. Desig. by Perkins, 1962.**Proscus* Holmgren, 1889. Ichn. Suecica 3: 420 (syn. *teste* Perkins, 1962, p. 461).Type: *Phaegenes cephalotes* Wesmael. Desig. by Ashmead, 1900.**laricellae* Mason. N. B., Ont. Host: *Argyresthia laricella* Kft.*Phaegenes laricellae* Mason, 1961. Canad. Ent. 93 (1): 3. ♂, ♀.*parrus* (Provancher). Transf. to **Aethecerus* Wesmael.*pyriformis* (Provancher). Transf. to **Jethsura* Cameron.

testaceicornis (Cameron). Transf. from *Dicaelotus* Wesmael, p. 280 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) : 104).

vincibilis (Cresson). Transf. to **Takanona* Uchida.

walshiae walshiae Ashmead. Ohio. Host: *Hendecaneura shawiana* (Kft.).

*Genus **TAKANONA** Uchida

Takanona Uchida, 1926. Hokkaido Imp. Univ. Coll. Agr. Jour. 18: 158, 163.

Type: *Takanona ishiyamana* Uchida. Orig. desig.
Syn. of *Oronotus* Wesmael, 1844, *teste* Townes, Momoi, and Townes, 1965, p. 420.

Place after *Phaeogenes* Wesmael on p. 278.

vincibilis (Cresson). Transf. from *Phaeogenes* Wesmael (*teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3) : 119).

*Genus **JETHSURA** Cameron

Jethsura Cameron, 1902. Amer. Ent. Soc. Trans. 28: 373.

Type: (*Jethsura ferruginea* Cameron) = *pyriformis* (Provancher). By monotypy.

Place on p. 278, after *Phaeogenes* Wesmael and **Takanona* Uchida.

pyriformis (Provancher). Transf. from *Phaeogenes* Wesmael, p. 277 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) : 109).

**Jethsura ferruginea* Cameron, 1902. Amer. Ent. Soc. Trans. 28: 374. ♀.
(Syn. *teste* Townes, *loc. cit. supra*.)

*Genus **AETHECERUS** Wesmael

Aethecerus Wesmael, 1844. Acad. Sci. Bruxelles Nouv. Mém. 18: 166, 203. Proposed as subg. of "*Ichneumon* Grav."

Type: *Aethecerus dispar* Wesmael. Desig. by Ashmead, 1900.

Place before *Diadromus* Wesmael on p. 278.

parvus (Provancher). Transf. from *Phaeogenes* Wesmael (*teste* Mason, 1960. Canad. Ent. 92 (2) : 145).

**pinifolii* Mason. Calif., Alta. Hosts: *Recurvaria milleri* Busck, *R. starki* Freem.

Aethecerus pinifolii Mason, 1960. Canad. Ent. 92 (2) : 145. ♀, ♂.

*Genus **THYRAEELLA** Holmgren

Thyraeella Holmgren, 1889. Ichn. Suecica, v. III, p. 402.

Type: *Ichneumon (Ischnus) collaris* Gravenhorst. By monotypy.

Place before *Diadromus* Wesmael, on p. 278.

erythrostomus (Cameron). Transf. from *Diadromus* Wesmael, p. 278 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) : 113).

Genus **DIADROMUS** Wesmael, p. 278

erythrostomus (Cameron). Transf. to **Thyraeella* Holmgren.

Genus **DICAELOTUS** Wesmael, pp. 279-280

Leptodemas Foerster. Considered syn. of *Deloglyptus* Foerster by Perkins (first reviser), 1962, p. 435 (also *in litt.*).

**Deloglyptus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 193. (A valid genus according to Perkins, 1962, p. 416.)

Type: *Deloglyptus punctiventris* Thomson. Incl. by Thomson, 1891.

Deloglyptus and *Leptodemas* are left in synonymy here because a revision of the species is not within the scope of this catalog.

gelechia (Ashmead). Ohio.

missouriensis (Ashmead). Ill., Va.

testaceicornis (Cameron). Transf. to *Phaeogenes* Wesmael, p. 277.

Tribe PLATYLABINI

(= *Pristiceratini* of Catalog)

Taxonomy: Heinrich, 1962, Pt. VI, pp. 697-704.

Genus APAELETICUS Wesmael, p. 280

americanus Cushman.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 792-793 (δ descr.).

**brunnescens* Heinrich. Maine.

Apaeticus brunescens Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 793. δ , φ .

Genus CYCLOLABUS Heinrich, p. 280

**albicinctus* Heinrich. N. S. (Parrsboro). Host: *Acasis viridata* Pack.

Cyclolabus albicinctus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 756, 757, 771. δ , φ .

**arizonae* Heinrich. Ariz.

Cyclolabus arizonae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 765. δ , φ .

**carolinensis* Heinrich. S. C. (nr. Tigerville).

Cyclolabus carolinensis Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 764. φ .

**dubiosus* Perkins. (Misdet. as *C. pactor* (Wesmael) in Catalog, p. 280). Alta., B. C., Wash., Oreg., Colo., ?N. S., ?Newfoundland; Europe. Hosts: *Eupithecia annulata* Hlst., *E. filmata* Pears, ?*E. luteata* Pack., ?*E. palpata* Pack.

Cyclolabus dubiosus Perkins, 1953. Brit. Mus. (Nat. Hist.) Bul., Ent. 3 (4): 156. δ , φ .

**gibsonatae* Heinrich. Ont., B. C. Host: *Eupithecia chagnoni* Swett.

Cyclolabus gibsonatae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 764. φ .

gracilicornis gracilicornis (Provancher), changed status. Labrador, Que., Maine, N. H., N. Y., N. C. Transf. from *Ectopius* Wesmael, p. 281 and reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 216).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 757, 758, 763 (δ descr.).

gracilicornis subdentatus (Ashmead), changed status. Alaska to Calif., Colo. Host: *Eupithecia edna* Hlst. Transf. from *Ectopius* Wesmael, p. 282 and reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 216. δ , φ).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 757, 763-764 (δ descr.).

impressus impressus (Provancher), changed status. Delete Wash. from distr., add: Maine, Ont. Transf. from *Ectopius* Wesmael, p. 281 (*teste* Heinrich, 1959, Canad. Ent. 91 (12): 807). Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. VI, pp. 757, 758, 759).

Ichneumon erythropygus Provancher. Change sex sign to: " φ " = δ . (*Teste* Heinrich, 1959, Canad. Ent. 91 (12): 807.)

**impressus infuscatus* Heinrich. Alta., B. C., Wash.

Cyclolabus impressus infuscatus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 758, 760. δ , φ .

**lobatus lobatus* Heinrich. Maine, Que., N. Y.

Cyclolabus lobatus lobatus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 758, 761. δ , φ .

- ***lobatus occidentalis** Heinrich. Alta.
Cyclolabus lobatus occidentalis Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 756, 758, 761. ♂, ♀.
- pactor** (Wesmael). Remove from Catalog, p. 280; is European.
- ***signatus** (Provancher). Maine, N. H. Transf. from *Platylabus* Wesmael, p. 281 (*teste* Heinrich, 1959. Canad. Ent. 91 (12): 807).
- Genus PLATYLABUS Wesmael, pp. 280-281**
- ?**Stenolabus** Heinrich. Valid segregate; see **Asthenolabus* Heinrich, n. name.
- ***abbreviatus** Heinrich. B. C. (Robson).
Platylabus abbreviatus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 753. ♀.
- ***alaskae** Heinrich. Alaska.
Platylabus alaskae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 721. ♀.
- ***albidorsus** Heinrich. Maine, Que., Ont.
Platylabus albidorsus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 740. ♀.
- ***arizonae** Heinrich. Ariz., Calif.
Platylabus arizonae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 703, 715. ♂, ♀.
- ***berndi** Heinrich. Maine, Ont. Hosts: Geometridae.
Platylabus berndi Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 731. ♂, ♀.
- californicus** Cresson. Syn. of **rufipes consors** Cresson.
- canadensis** Cresson. Transf. to *Asthenolabus* Heinrich.
- clarus** (Cresson). Maine, Que., Ont., N. Y., Pa., N. C. Host: *Abbotana clemataria* A. & S.
Platylabus metallicus Bradley. Remove from syn. A valid sp.
- ***columbiae** Heinrich. B. C., Calif.
Platylabus columbiae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 716. ♀.
- consors** Cresson. A subsp. of **rufipes** Provancher.
- ***divisatae** Heinrich. Newfoundland, Que., B. C. Host: *Caripeta divisata* Wlk.
Platylabus divisatae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 702, 709. ♂, ♀.
- ***duplificans** Heinrich. Colo.
Platylabus duplificans Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 726. ♂, ♀.
- ***erythrocoxa** Heinrich. N. S., Maine, N. W. T., B. C., Calif.
Platylabus erythrocoxa Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 719. ♂, ♀.
- ***foxleei** Heinrich. B. C., Alaska.
Platylabus foxleei Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 723. ♂, ♀.
- gracilicornis** (Viereck). Calif. Change bibliog. ref. p. 78 to 79.
 Taxonomy: Heinrich, 1962, Pt. VI, pp. 702, 745-746.
- ***hyperetis** Heinrich. Maine, B. C. Host: *Hyperetis amicaria*. H.-S.
Platylabus hyperetis Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 702, 707. ♂, ♀.
- ***imitans** Heinrich. Maine, Que., B. C., Wash., Calif. Host: *Eupithecia* sp.
Platylabus imitans Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 725. ♂, ♀.

incabus Davis. B. C., Calif., Ariz.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 700, 703, 717-719 (♂ descr.).

lineolatus (Provancher). Maine, Que., Ont., Mich., B. C. Host: *Hydriomena renunciata columbiata* Taylor.

Phygadeuon rufipes Provancher. Remove from syn. A valid species.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 701, 704, 734-736 (♂ descr.).

***lissosculptus** Heinrich. Calif. (Leevining).

Platylabus lissosculptus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 704, 742. ♂.

***luteatae** Heinrich. Que., Ont., Man., B. C., Oreg. Hosts: *Eupithecia* sp., *E. luteata* Pack.

Platylabus luteatae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 703, 715. ♂, ♀.

***melanocoxa** Heinrich. B. C., Wash., Calif., Colo. Host: *Eupithecia annulata* Hlst.

Platylabus melanocoxa Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 727. ♂, ♀. (*P. pedatorius* Fabricius in Catalog, misdet.)

metallicus Bradley. Maine, Que., N. H., Ont., Mich., Wash., B. C. A valid sp. (teste Heinrich, 1959. Ent. News 70 (8): 215).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 710-711.

***micheneri** Heinrich. Calif. (Inyo Mts.).

Platylabus micheneri Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 746. ♀.

***monotonops** Heinrich. N. Y. (Long Is.).

Platylabus monotonops Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 744. ♀.

***monotonus** Heinrich. N. H., N. Y., Ariz., Alta., B. C., Alaska. Hosts: *Itame antaria* Swett., *I. quadrilincaria* Pack., *Oporinia autumnata* Gn.

Platylabus monotonus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 704, 741. ♂, ♀.

montanus Cresson. Mass., Mich.; delete Wash.

Platylabus rafer (Cresson). Preocc. Change sex sign to: "♀" = ♂.

Platylabus perkinsi Walkley. (N. name for *vafer* (Cresson) Sup. 1, p. 48.) Syn. teste Heinrich, 1959, Ent. News 70 (8): 215.

***opaculus americanus** Heinrich. Transcont. in Transit. Zone.

Platylabus opaculus americanus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 704, 730. ♂, .

ornatus (Provancher). N. B., Maine, N. C., Ont., Sask., Alta., B. C. Hosts: *Semiothisa granitata* Gn.; *S. oweni* Swett.

pedatorius (Fabricius). Delete from Catalog; not in Nearctic fauna (teste Heinrich, 1962, Pt. VI, p. 727).

perkinsi Walkley. Syn. of **Platylabus montanus** Cresson.

***permodestus** Heinrich. B. C., Wash., Calif., Colo.

Platylabus permodestus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 720. ♂, ♀.

***polymelas** Heinrich. Colo., Ariz., B. C.

Platylabus polymelus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 704, 754. ♂.

***pseudhistro** Heinrich. Maine (Dallas).

Platylabus pseudhistro Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 703, 733. ♂.

***rainieri** Heinrich. Wash., B. C.

Platylabus rainieri Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 702, 722, ♂, ♀.

rubricapensis Provancher. Que., Ont., S. Dak., Idaho.

***rubristernatus** Heinrich. N. Y., N. C., Ohio, Ill.

Platylabus rubristernatus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 713. ♀.

rufipes consors Cresson, changed status. Ariz., Calif., B. C., Alta., Alaska.
Hosts: *Hydriomena* sp., *H. renunciata* Wlk. Reduced to subsp. rank (*teste* Heinrich, 1959. Ent. News 70 (8): 215).

Platylabus californicus Cresson (syn. *teste* Heinrich, 1959, *op. cit.* p. 216).

rufipes rufipes (Provancher), changed status. Que., Maine. A valid species; reduced to subsp. rank (*teste* Heinrich, 1959. Ent. News 70 (8): 216).

scutellatus (Provancher). Transf. to ***Asthenolabus** Heinrich.

Eurylabus agilis Cresson. Transf. to ***Asthenolabus** Heinrich as valid sp.

***semiopacus** Heinrich. Colo. (Phantom Valley).

Platylabus semiopacus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 704, 730. ♂, ♀.

***serratae** Heinrich. N. B., Maine. Host: *Euchlaena serrata* Drury.

Platylabus serratae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 704, 738. ♂, ♀.

***sexmaculatae** Heinrich. Maine, Alta. Host: *Semiothisa sexmaculata* Pack.

Platylabus sexmaculatae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 749. ♀.

signatus (Provancher). Transf. to **Cyclolabus** Heinrich.

***subrubricus** Heinrich. Man., Sask., Alta. Host: *Eupithecia ravocostiliata* Pack.

Platylabus subrubricus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 703, 714. ♂, ♀.

***tenuiformis** Heinrich. Ariz. (Sierra Ancha, Parker Creek).

Platylabus tenuiformis Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 704, 743. ♂, ♀.

tibialis Ashmead. N. Mex.

Taxonomy: Heinrich, 1962, Pt. VI. pp. 700, 723 (relationships discussed).

vafer (Cresson). Syn. of **montanus** Cresson.

***vaferops** Heinrich. B. C., Wash., Calif.

Platylabus vaferops Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 704, 751. ♂, ♀.

***Genus TROPICOLABUS** Heinrich

Tropicolabus Heinrich, 1959. Ent. News 70 (8): 216.

Type: *Platylabus foxi* Davis. By monotypy and orig. desig.

Place in **Platylabini** after **Platylabus** Wesmael, p. 281.

foxi (Davis). N. J. Transf. from **Thaumatoteles** Hopper and from syn. of **T. ornatus** (Cresson) p. 281 (*teste* Heinrich, 1959. Ent. News 70 (8): 216).

***Genus ASTHENOLABUS** Heinrich

Steuolabus Heinrich, 1935. Preocc. Transf. from syn. of **Platylabus** Wesmael (*teste* Heinrich, 1951. Bonn. Zool. Beitr. 2 (3/4): 240).

Asthenolabus Heinrich, 1951. Bonn. Zool. Beitr. 2 (3/4): 240. N. name.

Place on p. 281 of Catalog, after ***Tropicolabus** Heinrich.

agilis (Cresson). N. S., P. E. I., Maine, Que., Mass., N. Y., N. W. T., S. Dak., Colo., Wyo., Oreg. Transf. from syn. of *Platylabus scutellatus* (Provancher) p. 281. A valid sp. (*teste* Heinrich, 1959. Ent. News 70 (8): 215).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 773, 774-776.

canadensis (Cresson). N. C.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 773, 776. ♂, ♀ (♂ descr.).

scutellatus (Provancher). Que., Ont., N. Y. Transf. from **Platylabus** Wesmael, p. 281 (*teste* Heinrich, 1959. *Canad. Ent.* 91 (12): 807).

Taxonomy: Heinrich, 1962. Pt. VI, pp. 773-774 (♀ descr.).

Genus PRISTICEROS Gravenhorst, p. 281

***Neopristicerops** Heinrich, 1961 (1960). Pt. I, *Canad. Ent. Sup.* 15 [vol. 92]: 13. (Syn. *teste* Heinrich, 1962, Pt. VI, pp. 783-784.)

Type: *Ichneumon lascivus* Cresson. By monotypy and orig. desig.

bakeri (Davis). Transf. to **Pristicerops** Heinrich.

lascivus (Cresson). Maine, Que., Ont., Wash.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 783, 784, 785-786 (♂ descr.; affinities).

***Genus PRISTICEROPS** Heinrich

Pristicerops Heinrich, 1962. Pt. VI. *Canad. Ent. Sup.* 27: 786.

Type: *Platylabus bakeri* Davis. By orig. desig.

Place on p. 281 of Catalog after genus **Pristicerops** Gravenhorst.

bakeri bakeri (Davis), changed status. Maine, Que., N. H., Mich., Alta. Host: *Deilinia* sp. Reduced to subsp. rank and transf. from **Pristicerops** Gravenhorst (*teste* Heinrich, 1962, Pt. VI, pp. 786, 787, 789).

***bakeri townesi** Heinrich. Wash. (Westport).

Pristicerops bakeri townesi Heinrich, 1962. Pt. VI. *Canad. Ent. Sup.* 27: 789. ♂, ♀.

Genus Thaumatoteles Hopper, p. 281

Thaumatoteles Hopper. Syn. of **Ambloplisus** Heinrich.

ornatus (Cresson). Transf. to **Ambloplisus** Heinrich.

Platylabus foxi Davis. Transf. to **Tropicolabus** Heinrich as valid sp.

***Genus AMBLOPLISUS** Heinrich

Ambloplisus Heinrich, 1930. *Berlin Zool. Mus. Mitt.* 15 (3/4): 551.

Type: *Ambloplisus primus* Heinrich. By monotypy.

Thaumatoteles Hopper. (Syn. *teste* Heinrich, 1959. *Ent. News* 70 (8): 216.)

ornatus (Cresson). N. C., Idaho. Transf. from **Thaumatoteles** Hopper (*teste* Heinrich, 1959. *Ent. News* 70 (8): 216). Remove **foxi** Davis from syn., and transf. to **Tropicolabus** Heinrich as valid sp.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 790-791 (♂ descr.).

Genus HYPOMECUS Wesmael, p. 281

quadriannulatus (Gravenhorst). B. C.

Genus Ectopius Wesmael, pp. 281-282

Delete from Catalog; no Nearctic spp.

gracilicornis (Provancher). Transf. to **Cyclolabus** Heinrich, p. 280.

impressus (Provancher). Transf. to **Cyclolabus** Heinrich, p. 280.

subdentatus (Ashmead). Transf. to **Cyclolabus** Heinrich as subsp. of **gracilicornis** (Provancher).

thoracicus (Cresson). Transf. to **Linyceus** Cameron as subsp. of **exhortator** (Fabricius).

*Genus *LINYCUS* Cameron

Linycus Cameron, 1903. Entomologist 36: 234.

*Type: *Linycus rufipes* Cameron. By monotypy.

Place on p. 281 of Catalog, in place of genus *Ectopius* Wesmael (no Nearctic spp.).

**exhortator montanus* Heinrich. Colo. (Phantom Valley). *L. exhortator exhortator* (Fabricius) is European.

Linycus exhortator montanus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 781. ♂.

exhortator thoracicus (Cresson), changed status. Maine, Ont., Mich., Ind., Mo. Change ♂ sex sign after bibliog. ref. to: "♂" = ♀. Transf. from *Ectopius* Wesmael (*teste* Heinrich, 1962, Pt. VI, pp. 778, 780). Reduced to subsp. rank (*teste* Heinrich, 1956. Canad. Ent. 88 (11): 651).

**nigriceps alaskae* Heinrich. Alaska.

Linycus nigriceps alaskae Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 782. ♂, ♀.

nigriceps arizonensis Heinrich. Arizona (nr. Alpine).

Linycus nigriceps arizonicus Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 782. ♂.

**nigriceps niger* Heinrich. Alaska (Palmer).

Linycus nigriceps niger Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 783. ♂.

**nigriceps nigriceps* Heinrich. B. C., Wash., Oreg.

Linycus nigriceps nigriceps Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 781, 782. ♂, ♀.

Tribe LISTRODROMINI

Taxonomy: Heinrich, 1962, Pt. VI, pp. 687-688.

Genus *ANISOBAS* Wesmael, p. 282

Lycanophilos Heinrich. Delete from syn.; valid genus not in Nearctic fauna.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 690-692 (key to spp.).

bicolor Cushman. ?B. C.

coloradensis (Cresson). S. Dak.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 691, 692, 693-694 (♂ descr.).

luzernensis (Bradley). Maine, Que., N. Y., Pa., Ont.

Anisobas nearcticus Cushman (syn. *teste* Heinrich, 1962. Pt. VI, 691, 692, 695).

texensis (Ashmead). Tex., Conn., ?Man. Hosts: ?*Incisalia nippon* Hbn., *Strymon* sp.

Platylabus luzernensis Bradley. Remove from syn. Valid sp. (*teste* Heinrich, 1962, Pt. VI, p. 695).

Anisobas nearcticus Cushman. Transf. to syn. of *luzernensis*.

Genus *NEOTYPUS* Foerster, p. 282

nobilitator (Gravenhorst). Alta. Host: *Everes comyntas* (Gdt.).

Tribe ISCHNOJOPPINI

Delete from Catalog (*teste* Heinrich, 1962, Pt. V, p. 661, in text under *Trogomorpha* Ashmead, which is placed in Ichneumonini).

Tribe ACANTHOJOPPINI

Genus NARTHECURA Townes, p. 284

Transf. from Ichneumonini, p. 284 (*teste* Heinrich, 1962, Pt. VI, p. 681).
Place after tribal heading *Acanthojoppini*, p. 283.

**invadens* Heinrich. Ariz., N. Mex.

Narthecurea invadens Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 682.
♂, ♀.

Genus LOBAEGIS Townes, p. 284

Transf. from Ichneumonini, p. 284 (*teste* Heinrich, 1962, Pt. VI, p. 683).
Place before *Pseudoplatylabus* Smits van Burgst, p. 283.

**septentrionalis* Heinrich. N. Y., W. Va., S. C.

Lobaegis septentrionalis Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27:
684. ♂, ♀.

Genus PSEUDOPLATYLABUS Smits van Burgst, p. 283

**townesi* Heinrich. R. I., N. Y., Md.

Pseudoplatylabus townesi Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27:
686. ♂, ♀.

**violentus* (Gravenhorst). Mich.; Europe. Host: "Noctuid".

Ichneumon violentus Gravenhorst, 1829. Ichn. Europaea, v. 1, p. 613.

**Hoplismenus infaustus* Wesmael, 1844. Acad. Sci. Bruxelles, Nouv.
Mem. 18: 110.

**Pseudoplatylabus caudatus* Smits van Burgst, 1920. Ent. Ber. V (116):
282. ♀.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 685-686.

Tribe EURYLABINI

Delete from Catalog; no Nearctic representatives. Transf. *Probolus*
Wesmael to Ichneumonini, p. 283 (*teste* Heinrich, 1962, Pt. V, p. 518).

Tribe ICHNEUMONINI

(= *Amblytelini* of Catalog)

Genus TROGOMORPHA Ashmead, p. 282

arrogans (Cresson).

Taxonomy: Heinrich, 1962, Pt. V, pp. 662-663.

Genus PROBOLUS Wesmael, p. 283

detritus (Brullé). Transf. from syn. of *Ctenichneumon syphax* (Cresson), p.
296; valid species (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63
(2): 107).

Probolus illaetabilis (Cresson) (syn. *teste* Townes, 1961, *loc. cit. supra*).

expunctus (Cresson). Maine, Man., B. C., ?Alaska.

Probolus indistinctus (Provancher) (syn. *teste* Heinrich, 1962, Pt. V, p.
520).

illaetabilis (Cresson). Syn. of *detritus* (Brullé).

indistinctus (Provancher). Syn. of *expunctus* (Cresson).

*Genus PLATYLABOPS Heinrich

Platylabops Heinrich, 1950. Mitt. Samml. Schmarotzerb. 27: 4, 5.

Type: *Platylabops hinzi* Heinrich. By monotypy.

Place in Ichneumonini before *Hoplismenus* Gravenhorst, p. 283.

**apricus nearcticus* Heinrich. Maine, N. Y. *P. apricus apricus* (Graven-
horst) is European.

Platylabops apricus nearcticus Heinrich, 1962. Pt. V. Canad. Ent. Sup.
26: 641, 648. ♂, ♀.

- **eupitheciarum* Heinrich. B. C., Alta.
Platylabops eupitheciarum Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 642, 648. ♂.
- **fraterculus* Heinrich. Maine, Vt., N. Y.
Platylabops fraterculus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 641, 642, 644. ♂, ♀.
- **holerythrus* Heinrich. B. C. Host: *Eupithecia transeanadada* Mack.
Platylabops holerythrus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 641, 645. ♀.
- leucopsis* (Ashmead). Transf. from *Aoplus* Tischbein, p. 290 (*teste* Heinrich, 1962, Pt. V, pp. 641, 645).
 Taxonomy: Heinrich, 1962, Pt. V, pp. 641, 645-646 (♀ descr.).
- **pecki novaescotiae* Heinrich. N. S.
Platylabops pecki novaescotiae Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 641, 643. ♀.
- **pecki pecki* Heinrich. Sask.
Platylabops pecki pecki Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 641, 642. ♂, ♀.

Genus HOPLISMENUS Gravenhorst, pp. 283-284

- **Peritaenius* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 190.
 (Syn. *teste* Heinrich, 1949. München. Ent. Gesell. Mitt. 35-39: 52.)
 Type: *Peritaenius bavaricus* Clément = *Hoplismenus istrianus* (Clément). Incl. and desig. by Clément, 1927.
- **Zanthojoppa* Cameron, 1901. Ann. and Mag. Nat. Hist. (7) 7: 378.
 (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 356.)
 Type: *Zanthojoppa trilineata* Cameron. By monotypy.
- **Xanthojoppa* Cameron, 1903. Ann. and Mag. Nat. Hist. (7) 11: 182.
 Emend.
- **Taeniaspis* Clément, 1927. Konowia 6 (1): 67, 71. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 356.)
 Type: *Taeniaspis flavitarsis* Clément. By monotypy.
- morulus morulus* (Say). Canad. Zone: N. W. T.
- morulus pacificus* Cresson. Mont.
- **polyleucos* Heinrich. Ont.
Hoplismenus polyleucos Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 652, 659. ♂.
- praeruptus* Swift. ?Ont.
- propitius* (Cresson). Transf. to *Ichneumon* Linnaeus, p. 300.
- **rutilus borealis* Heinrich. N. W. T., Man., Sask.
Hoplismenus rutilus borealis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 651, 652, 657. ♂, ♀.
- rutilus rutilus* (Cresson). P. E. I., Maine, Que., Ont.
Hoplismenus scutellatus (Provancher) (syn. *teste* Heinrich, 1962, Pt. V, p. 656).
- rutilus tenuis* Swift. Syn. of *rutilus transversus* Davis.
- rutilus transversus* Davis, changed status. Oreg., Idaho, Wyo., Colo. Removed from syn. of *scutellatus* (Provancher) and reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, p. 656).
Hoplismenus rutilus tenuis Swift (syn. *teste* Heinrich, 1962, Pt. V, p. 656).
- scutellatus* (Provancher). Syn. of *rutilus rutilus* (Cresson), p. 284.
Hoplismenus transversus Davis. A valid subsp. of *rutilus* Cresson.
- teres* Swift. Transf. to *Hemihoplis* Heinrich, *infra*.

***Genus HEMIHOPLIS** Heinrich

Hemihoplis Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 15.

Type: *Hoplismenus teres* Swift. By monotypy and orig. desig.

Place on p. 284 after *Hoplismenus* Gravenhorst.

teres (Swift). Transf. from *Hoplismenus* Gravenhorst, p. 384 (*teste* Heinrich, 1961 (1960), Pt. I, p. 15; 1962, Pt. V, pp. 660, 661).

***Genus HYBOPHORELLUS** Schulz

Hybophorus Tischbein, 1875. Stettin. Ent. Zeit. 36: 281. Preocc.

Type: *Ichneumon aulicus* Gravenhorst. By monotypy.

Hybophorellus Schulz, 1911 (1909). Zool. Ann. 4 (1-2); 38. N. name.

Place in *Ichneumonini* on p. 284 after *Hoplismenus* Gravenhorst.

baffinensis Heinrich. Baffin Is.

Hybophorellus baffinensis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 562, 565. ♂.

injucundus nearcticus Heinrich. N. W. T. H. *injucundus* /*injucundus*/ (Wesmael) is European.

Hybophorellus injucundus nearcticus Heinrich, 1956. Canad. Ent. 88 (2): 649, 650. ♂, ♀.

townesi Heinrich. Sask.

Hybophorellus townesi Heinrich, 1956. Canad. Ent. 88 (2): 649. ♂, ♀.

Genus LOBAEGIS Townes, p. 284

Transf. to *Acanthojoppini*, p. 283.

Genus NARTHECURA Townes, p. 284

Transf. to *Acanthojoppini*, p. 283.

Genus PLAGIOTRYPES Ashmead, p. 284

concinus (Say). N. Y.

***Genus RUBICUNDIELLA** Heinrich

Rubicundiella Heinrich, 1961 (1960). Pt. 1. Canad. Ent. Sup. 15 [vol. 92]: 15.

Type: *Ichneumon mucronatus* Provancher. By monotypy and orig. desig.

Place in *Ichneumonini* on p. 284 before *Melanichneumon* Thomson.

annulicornis (Ashmead). Ga. Transf. from *Melanichneumon* Thomson, p. 285 (*teste* Heinrich, 1962, Pt. V, pp. 568, 569).

blanchardi (Davis). Maine, Que., N. H., Mass. Transf. from syn. of *Melanichneumon rubicundus* (Cresson), p. 286 (*teste* Heinrich, 1962, Pt. V, pp. 567, 568, 571).

Taxonomy: Heinrich, 1962, Pt. V, p. 571 (♂ descr.).

deuteromelas Heinrich. Maine, Yukon.

Rubicundiella deuteromelas Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 568, 573. ♂.

mucronata (Provancher). Que., Md., Kans.

Ichneumon mucronatus Provancher (erroneously syn. under *Melanichneumon rubicundus* (Cresson), p. 286). Change sex symbol to: "♀" = ♂.

perturbatrix Heinrich. Atlantic to 100° W. in Transit., U. and L. Austr. Zones, Calif.; Hawaii.

Melanichneumon rubicundus (Cresson). Preocc.

Melanichneumon mucronatus Auctt., not Provancher.

Rubicundiella perturbatrix Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 568, 577. N. name.

- ***simplicior** Heinrich. Sask., B. C. Hosts: *Fishia discors* Grt.; *Ramosia bioniformis* (Bdvl.), ?*Heliothis ononis* (Denis and Schiff.).
Rubicundiella simplicior Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 567, 568, 575. ♂, ♀.

Genus **MELANICHNEUMON** Thomson, pp. 284–287, Sup. 1, p. 49

- Bystra** Cameron. Remove from Catalog. A valid, extralimital genus (*teste* Heinrich, 1937, Ann. and Mag. Nat. Hist. (Ser. 10) 20: 261; Townes, Townes and Gupta, 1961, pp. 357, 464).
- Gurfya** Cameron. Syn. of subg. **Barichneumon** Thomson (*teste* Heinrich, 1937, Ann. and Mag. Nat. Hist. (Ser. 10) 20: 265; Townes, Townes and Gupta, 1961, p. 363).
- Harsaces** Cameron. Syn. of subg. **Barichneumon** Thomson (*teste* Heinrich, 1937, Ann. and Mag. Nat. Hist. (Ser. 10) 20: 265; Townes, Townes and Gupta, 1961, p. 363).
- Lissosculpta** Heinrich (proposed as subg. of **Melanichneumon** Thomson). Raised to generic rank; extralimital (*teste* Heinrich, 1938. Mem. l'Acad. Malgache, f. 25: 23, 103; Townes, Townes, and Gupta, 1961, pp. 378, 466).
- Intermedichneumon** Heinrich (proposed as subg. of **Melanichneumon** Thomson). Raised to generic rank; extralimital (*teste* Heinrich, 1959. Ent. News 70 (8): 211).
- Menkokia** Heinrich (proposed as subg. of **Melanichneumon** Thomson). Removed from Catalog. Syn. of **Bystra** Cameron (*teste* Townes, Townes, and Gupta, 1961, p. 357).
- absconditus** (Provancher). Placed in subg. **Melanichneumon** Thomson.
- albomarginatus** (Cresson). Placed in subg. **Vulgichneumon** Heinrich.
- annulicornis** (Ashmead). Transf. to **Rubicundiella** Heinrich, *supra*.
- blandii** (Cresson). Placed in subg. **Vulgichneumon** Heinrich.
- brevicinctor** (Say). Placed in subg. **Vulgichneumon** Heinrich.
- cordatus** (Cresson). A subsp. of **subcyaneus** Cresson, in subg. **Vulgichneumon** Heinrich.
- disparilis** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- gestuosus** (Cresson). Transf. to **Ichneumon** Linnaeus, p. 298.
Craticheumon pluto Viereck. Change page no. in bibliog, ref. to p. 79.
 Syn. of **Melanichneumon nigripes** (Provancher), p. 286.
- Amblyteles ohioensis** DeGant. Syn. of **nigripes** (Provancher).
- heiligbrodtii** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- helvipes** Cresson. Placed as syn. of **anator** (Fabricius) in subg. **Barichneumon** Thomson.
- honestus** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- leviculus** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- libens** (Cresson). Placed in subg. **Barichneumon** Thomson.
- limbifrons** (Cresson). Not subgenerically assigned.
- mimicus** (Cresson). Placed in subg. **Vulgichneumon** Heinrich.
- mucronatus** (Provancher), misdet. (Sup. 1, p. 49). Transf. to **Rubicundiella** Heinrich as syn. of **perturbatrix** Heinrich, n. name for **rubicundus** Cresson.
- nigripes** (Provancher). Placed in subg. **Melanichneumon** Thomson.
- ornatipes** (Cresson). Syn. of **Melanichneumon** (**Rictichneumon**) **virginicus** (Cresson) p. 287.
- residuus** (Say). Placed in subg. **Rictichneumon** Heinrich.

rubicundus (Cresson). See Sup. 1, p. 49.

Ichneumon mucronatus (Provancher). A valid sp. Transf. to *Rubicundiella* Heinrich.

Ichneumon blanchardi Davis. A valid sp. Transf. to *Rubicundiella* Heinrich.

saevus (Cresson). Placed in subg. *Vulgichneumon* Heinrich.

saundersii (Cresson). Transf. to *Stenobarichneumon* Heinrich.

solitus (Cresson). Syn. of *subcyaneus cordatus* Cresson (subg. *Vulgichneumon* Heinrich).

soror (Cresson). Placed in subg. *Barichneumon* Thomson.

subcyaneus (Cresson). Placed in subg. *Vulgichneumon* Heinrich.

texanus (Cresson). Placed provisionally in subg. *Melanichneumon* Thomson.

terminalis (Cresson). Placed provisionally in subg. *Vulgichneumon* Heinrich.

Ichneumon finitimus Cresson. Syn. of subsp. *terminalis* (Cresson).

Mesostenus apicalis Provancher. Placed in subg. *Vulgichneumon* Heinrich as subsp. of *terminalis* (Cresson).

Phygadeuon brevicaudus Provancher. Syn. of subsp. *apicalis* Provancher.

virginicus (Cresson). Placed in subg. *Rictichneumon* Heinrich.

vultus (Cresson). Not subgenerically assigned.

zebratus (Cresson). Placed in subg. *Vulgichneumon* Heinrich.

MELANICHNEUMON subgenus **MELANICHNEUMON** Thompson

absconditus (Provancher). Maine, N. H., Alta., Wash., ? N. C.

Taxonomy: Heinrich, 1962, Pt. V, pp. 584, 602-604 (♀ descr.).

belfragei (Cresson). Transf. from *Pseudamblyteles* Ashmead, p. 292 (*teste* Heinrich, 1959. Ent. News 70 (8): 212).

disparilis (Cresson). Que.

Taxonomy: Heinrich, 1962, Pt. V, p. 587 (♂ descr.).

**dreisbachi* Heinrich. Maine, Mich.

Melanichneumon (Melanichneumon) dreisbachi Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 585. ♂, ♀.

**flavicarina* Heinrich. Maine, Que., Ont., Man. Host: *Protobarmia porcelaria* Gn.

Melanichneumon (Melanichneumon) flavicarina Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 585, 594. ♂, ♀.

**foxleei* Heinrich. B. C. (Robson).

Melanichneumon (Melanichneumon) foxleei Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 586. ♂.

heilighbrodtii (Cresson). Md., N. C., S. C.

Taxonomy: Heinrich, 1962, Pt. V. pp. 585, 592-594 (♀ descr.).

honestus (Cresson). Md., N. C., S. C.

Taxonomy: Heinrich, 1962, Pt. V. pp. 585, 592-594 (♀ descr.).

**indecoratus* Heinrich. P. E. I., Maine, Que., Ont., ? N. Y.

Melanichneumon (Melanichneumon) indecoratus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 589. ♂, ♀.

**leviculops* Heinrich. Maine, Que., Ont.

Melanichneumon (Melanichneumon) leviculops Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 600. ♀.

leviculus (Cresson). Que., Ont.

Taxonomy: Heinrich, 1962, Pt. V, pp. 584, 599-600 (♀ descr.).

**lissorufus* Heinrich. Labrador, Que., Maine, Ont., N. Y., Mich.

Melanichneumon (Melanichneumon) lissorufus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 591. ♂, ♀.

nigripes (Provancher).

Cratichneumon pluto Viereck (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 212).

Amblyteles ohioensis DeGant (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 212).

**peramoenus* Heinrich. Que., Ont., Md.

Melanichneumon (?subgenus) *peramoenus* Heinrich, 1962. Pt. V. Canad. Ent. Sup 26: 631. ♂.

?*texanus* (Cresson). Maine, Mich.

Taxonomy: Heinrich, 1962, Pt. V, pp. 632-633 (♀ needed for subg. assignment).

**townesi* Heinrich. N. Y., R. I.

Melanichneumon (Melanichneumon) townesi Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 585, 596. ♂, ♀.

*MELANICHNEUMON subgenus VULGICHEUMON Heinrich

Melanichneumon (Vulgichneumon) Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 17.

Type: *Ichneumon brevicinctor* Say. By monotypy and orig. desig.

Place on page 287 of Catalog as second subg. of *Melanichneumon* Thomson. Species placements *teste* Heinrich, 1962, Pt. V, pp. 605-619.

albomarginatus (Cresson). Maine, N. J.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 611 (♀ descr.).

blandii (Cresson). Ont.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 612-614 (♀ descr.).

brevicinctor (Say). Host: *Papaipema nebris* (Gn.).

mimicus (Cresson). Newfoundland.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 614-616 (♀ descr.).

saevus (Cresson). Maine.

subcyaneus cordatus (Cresson), changed status. Colo., Wash., B. C., ?N. Mex. Reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 212).

Ichneumon solitus Cresson (syn. *teste* Heinrich, *loc. cit. supra*).

subcyaneus neutralis (Cresson), changed status. Reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 212). Transf. from (*Pterocormus* Foerster, Catalog pp. 299-300.) = *Ichneumon* Linnaeus, Sup. I, p. 52 (*teste* Heinrich, *loc. cit. supra*).

subcyaneus subcyaneus (Cresson), changed status. Eastern No. Amer. Host: *Hyphantria cunea* (Drury). Reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 212).

?*terminalis apicalis* (Provancher), changed status. Maine, Que., No. Ont. Removed from syn. and reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 605, 619).

Phygadeuon brevicaudus Provancher (syn. *teste* Heinrich, *loc. cit. supra*, p. 619).

*?*terminalis carolinensis* Heinrich. N. C.

Melanichneumon (Vulgichneumon) terminalis carolinensis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 606, 619. ♀.

?*terminalis terminalis* (Cresson), changed status. So. Ont., Del., Md., Ill., Iowa, Mo. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 606, 619).

Taxonomy: Heinrich, 1962, Pt. V. pp. 605-606, 617-619 (generic placement).

zebratus (Cresson). Transit. Zone in Mich., B. C.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 616-617 (♂ descr.).

MELANICHNEUMON subgenus BARICHNEUMON Thompson, Sup. 1, p. 49

Place on p. 287 of Catalog as third subg. of *Melanichneumon* Thomson.

anator (Fabricius).

Ichneumon helvipes Cresson (syn. *teste* Heinrich, 1959. Ent. News 70 (8) : 211; 1962 (Pt. V) : 621.

***excelsior** Heinrich. Maine, Que., Ont.

Melanichneumon (Barichneumon) excelsior Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 620, 627. ♀.

libens (Cresson). Maine, N. C.

Taxonomy: Heinrich, 1962, Pt. V., pp. 620, 626-627 (♀ descr.).

***sorex** Heinrich. Maine, Que., Ont., Va.

Melanichneumon (Barichneumon) sorex Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 620, 624. ♂, ♀.

soror bimacularis (Dalla Torre), changed status. Maine, Que., Ont. Removed from syn. and reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 620, 624).

soror soror (Cresson), changed status. Del. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 620, 623).

Ichneumon bimacularis Dalla Torre. A valid subsp. of **soror** (*teste* Heinrich, 1962, Pt. V, p. 624).

***MELANICHNEUMON** subgenus **RICTICHNEUMON** Heinrich

Melanichneumon (Rictichneumon) Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 17.

Type: *Ichneumon residuus* Say. By monotypy and orig. desig.

Place on p. 287 of Catalog as fourth subgenus of **Melanichneumon** Thomson.

residuus (Say).

Taxonomy: Heinrich, 1962, Pt. V, pp. 628-629.

virginicus (Cresson). W. Va.

Ichneumon ornatipes Cresson. Syn. (*teste* Heinrich, 1959, Ent. News 70 (8) : 212).

Taxonomy: Heinrich, 1962, Pt. V, pp. 630-631.

***Genus STENOBARICHNEUMON** Heinrich

Stenobarichneumon Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 16.

Type: *Ichneumon citator* Thunberg. By monotypy and orig. desig.

Place on p. 287 immediately following **Melanichneumon** Thomson.

***agitator** Heinrich. Maine, Que., Ont.

Stenobarichneumon agitator Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 639. ♀, ♂.

***duplicans** Heinrich. Maine.

Stenobarichneumon duplicans Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 638. ♂, ♀.

***pergracilis** Heinrich. Maine, Que., Ont.

Stenobarichneumon pergracilis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 635. ♂, ♀.

***pygmaeops** Heinrich.

Stenobarichneumon pygmaeops Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 637. ♂, ♀.

saundersii (Cresson). Maine, Que. Transf. from **Melanichneumon** Thomson, p. 286 (*teste* Heinrich, 1962, Pt. V, pp. 634, 636).

Genus CRATICHNEUMON Thomson, pp. 287-290

Revision: Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 98-173.

alternans (Provancher).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 102, 153.

***acronictae** Heinrich. Que., Maine, N. Y., N. C.

Cratichneumon acronictae Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 104, 125. ♂, ♀.

***anisotae** Heinrich. Ont., Que., Maine, Conn., Mich. Host: *Anisota rubicunda* (F.).

Cratichneumon anisotae Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 105, 119. ♂, ♀.

annulatifus annulatifus (Provancher), changed status. Ont., Que., Maine, Mass., N. Y., Mich. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 145, 146).

***annulatifus facetops** Heinrich. Mo. (Hannibal).

Cratichneumon annulatifus facetops Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 107, 147. ♂.

annulatifus quintilis (Viereck), changed status. Conn. to N. C. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 146).

annulatus (Provancher). Maine.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 101, 106, 140 (♀ descr.).

arizonensis (Viereck).

Taxonomy: Heinrich, 1961 (1960), Pt. II, p. 116 (under *takomae*).

ashmeadi (Schulz). N. H., Que., Colo.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 99, 104, 118 (♀ descr.).

astutus (Holmgren). Transf. from *Alphabetic List of Unplaced Species*, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) 106).

***boreoalpinus** Heinrich. Newfoundland, N. H.

Cratichneumon boreoalpinus Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 168. ♀.

***boreovagans** Heinrich. Maine, Que.

Cratichneumon boreovagans Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 870. ♀.

brevipennis (Cresson). Maine, Ont., R. I., Fla. Host: *Protoleucania albilinea* (Hbn.). Transf. from *Ichneumon* (= *Pterocormus* in Cat., p. 297). Sup. 1, p. 51 (*teste* Heinrich, 1959, Ent. News 70 (8): 214).

Ischnus volens Cresson (syn. *teste* Heinrich, *loc. cit. supra*).

Ichneumon brevipennis var. **obsoletus** Riley (syn. *teste* Heinrich, Pt. II, p. 170).

citrinops kincaidi (Ashmead), changed status. Reduced to subsp. rank (*teste* Heinrich, 1959. Ent. News 70 (8): 213). *C. citrinops citrinops* is European.

confusus Ashmead. Transf. to ***Aculichneumon** subg. **Crypteffigies** Heinrich. **duplicatus** (Say).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 100, 106, 149 (♀ descr.).

ericaceus Townes. Syn. of **flavipectus** Provancher.

erythromelas (MacLachlan). Transf. to **Homotherus** Foerster.

***erythroscuta** Heinrich. Mass. (Southbridge).

Cratichneumon erythroscuta Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 142. ♀.

facetus (Cresson). Mich.

Taxonomy: Heinrich, 1961 (1960). Pt. II, pp. 103, 106, 159-160 (♀ descr.).

***ferrugops** Heinrich. Que., Ont., Mich.

Cratichneumon ferrugops Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 124. ♀.

- flavipectus** (Provancher). Ont., Que. to N. C. Deleted from syn. of *scitulus* (Cresson); a valid sp. (*teste* Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 162).
- Ichneumon pygmaeus* Davis. Preocc.
- Cratichneumon ericaeus** Townes, n. name (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 162).
- ***howdeni** Heinrich. N. C. (Southern Pines).
- Cratichneumon howdeni* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 172. ♀.
- ***insulae** Heinrich. R. I., N. J.
- Cratichneumon insulae* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 151. ♀.
- kincaidi** (Ashmead). A subsp. of *citrinops* Wesmael.
- nigritarius acerbus** (Cresson). Que., Labrador, Huds. Zone. Host: *Semiothisa sexmaculata* Pack. *C. nigritarius nigritarius* (Gravenhorst) is Eurasian.
- ***paraparatus** Heinrich. N. Y., N. J., Md., N. C., S. C.
- Cratichneumon paraparatus* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 869. ♀.
- paratus paratus** (Say), changed status. Atlantic Ocean to 100° W in Transit. Zone. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 100, 105, 136).
- Ichneumon pusillus* Cresson. Remove from syn. A valid subsp. of **paratus**.
- paratus pusillus** (Cresson), changed status. Del., Va. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 101, 105, 137. ♂, ♀).
- ***paratus pseudovinnulus** Heinrich. N. C., Fla.
- Cratichneumon paratus pseudovinnulus* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 105, 137. ♂, ♀.
- ?**pectoralis** (Say). Generic placement doubtful (*teste* Heinrich, 1961 (1960), Pt. II, p. 172).
- ***pertenuis** Heinrich. N. Y. (Ithaca).
- Cratichneumon pertenuis* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 169. ♀.
- ***picipes** Heinrich. Maine, Que.
- Cratichneumon picipes* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 106, 130. ♂, ♀.
- pilosulus** (Provancher).
- Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 99, 104, 110 (♂ descr.).
- popofensis** Ashmead. A syn. of *yakutatensis* Ashmead.
- promptus** (Cresson).
- Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 100, 104, 114-115.
- proximus** (Cresson).
- Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 99, 104: 112-114.
- ***pseudanisotae** Heinrich. N. Y., N. J., Md.
- Cratichneumon pseudanisotae* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 133. ♀.
- pteridis** Townes. Ont., Man. Hosts: *Protoboarmia porcelaria* Gn., *Semiothisa* sp.
- Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 102, 107, 160-162 (♂ descr.).
- ***puncticoxa** Heinrich. Que., Maine, Mass., N. Y.
- Cratichneumon puncticoxa* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 106, 133. ♂, ♀.

quintilis (Viereck). A subsp. of *annulatipes* (Provancher).

Ichneumon nanus Cresson. Preocc.

Amblyteles nanodes Cushman. N. name. Syn. of *C. scitulus* (Cresson).

**remanens* Heinrich. Maine, Ont., N. Y., Md., N. C.

Cratichneumon remanens Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 107, 139, 157. ♂.

**ritus* Heinrich. Maine, Ont., N. C., Ind., Mich., Iowa.

Cratichneumon ritus Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 105, 143. ♂, ♀.

**rubricoides* Heinrich. Que., N. Y., N. C., Mich.

Cratichneumon rubricoides Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 103, 106, 165. ♂, ♀.

**rubricops* Heinrich. Que., Maine, Ont., N. Y.

Cratichneumon rubricops Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 103, 107, 167. ♂, ♀.

rubricus (Provancher). P. E. I., Maine, Mich.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 164-165 (♂ descr.).

scitulus (Cresson).

Ichneumon nanus Cresson (syn. *teste* Heinrich, 1961 (1960), Pt. II., p. 154).

?*Cryptus flavipectus* Provancher. Remove from syn.; a valid sp.

Amblyteles nanodes Cushman (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 154).

signatipes (Cresson). Syn. of *w-album w-album* (Cresson) p. 289.

Ichneumon lobatus Provancher. Remove from syn.; a valid subsp. of *w-album* (Cresson).

suadus (Cresson). Maine, Ont.

**subfilatus* Heinrich. Que. to N. C. west to Mich.

Cratichneumon subfilatus Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 106, 131. ♂, ♀.

sublatus (Cresson). Maine, N. H., Que., Ont. Host: *Heterocampa biundata* (Wlkr.).

**takomae* Heinrich. Md. (Takoma Park).

Cratichneumon takomae Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 104, 116. ♂.

**tyloidifer* Heinrich. Maine, Ont., N. Y., Pa., Md., N. C., Mich.

Cratichneumon tyloidifer Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 104, 115. ♂.

unifasciatorius unifasciatorius (Say), changed status. Eastern North Amer. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, p. 109).

Ichneumon vancouveriensis Provancher. A valid subsp. of *unifasciatorius* (Say).

unifasciatorius vancouveriensis (Provancher). B. C. Host: Arctiidae, ?*Hali-sidota argentata* (Pack.). Removed from syn. and reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, p. 109).

**vaccinii* Heinrich. Ont., Que.

Cratichneumon vaccinii Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 105, 141. ♂.

variegatus (Provancher). Atlantic to 100° W in Transit. and U. Austr. Zones. Hosts: *Anisota rubicunda* (F.); *A. sp.* on beech; *Heterocampa guttivitta* (Wlkr.). A valid species (*teste* Heinrich, 1959, Ent. News 70 (8): 214).

- vescus** (Provancher). B. C. Host: *Protobarmia porcelaria* Gn.
Taxonomy: Heinrich, 1961 (1960), Pt. 11, pp. 102, 105, 152-153 (♀ descr.).
- vinnulus** (Cresson). Que., Ont., Maine to N. C. and Ky.
**Cratichneumon gracilior* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 105, 147. ? ♂, ♀. (Syn. (♀ only) *teste* Heinrich, 1962, Pt. VII, p. 868.)
- ***vockerothi** Heinrich. N. H. (Mt. Washington).
Cratichneumon vockerothi Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 158. ♀.
- rolens** (Cresson). Syn. of *C. brevipennis* (Cresson).
- w-album lobatus** (Provancher), changed status. Que., Ont., New England, Mich. Transf. from syn. of *signatipes* Cresson and reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 101, 106, 129).
- w-album w-album** (Cresson), changed status. U. Austr. Zone north to Southern N. England and Mich. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 101, 106, 129).
Cratichneumon signatipes (Cresson) (syn. *teste* Heinrich, 1961 (1960), Pt. II, pp. 127, 129).
- Ischnus variegatus* Provancher. Remove from syn.; a valid sp.
Ichneumon oryxicornis Viereck (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 129).
Amblyteles duplicatiformis Viereck (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 129).
- yakutatensis** Ashmead.
Cratichneumon popofensis Ashmead. Syn. (*teste* Heinrich, 1959, Ent. News 70 (8): 214).

*Genus **HOMOTHERUS** Foerster

- Homotherus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185.
Type: *Ichneumon locutor* Thunberg. Incl. and desig. by Heinrich, 1961 (1960).
- Place in Catalog after *Cratichneumon* Thomson, p. 290.
- erythromelas** (MacLachlan). Transf. from *Cratichneumon* Thomson, p. 288 (*teste* Heinrich, 1962, Pt. VII, p. 871).
- ***porcelariae** Heinrich. Labrador, N. B., Maine, Ont., Man. Hosts: *Protobarmia porcelaria* Gn., *Eufidonia notatoria* Wlkr., *Semiothisa* sp.
Homotherus porcelariae Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 105, 177. ♂, ♀.
- ***semiaoplus** Heinrich. Maine, Que., W. Va.
Homotherus semiaoplus Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 103, 106, 173. ♂, ♀.
- ***townesi** Heinrich. Maine, Que., Ont., N. Y., N. C., Mich.
Homotherus townesi Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 106, 175. ♂, ♀.

*Genus **ACULICHNEUMON** Heinrich

ACULICHNEUMON subgenus **ACULICHNEUMON** Heinrich

Cratichneumon subg. *Aculichneumon* Heinrich, 1938. Acad. Malgache Mem. f. 25, p. 98.

Type: *Cratichneumon (Aculichneumon) longicauda* Heinrich.
By monotypy and orig. desig.

This subgenus is not represented in the Nearctic Region.

***ACULICHNEUMON** subgenus **CRYPTEFFIGIES** Heinrich

Aculichneumon subg. *Crypteffigies* Heinrich, 1961 (1960). Pt. II. Canad.

Ent. Sup. 15 [vol. 92]: 17.

Type: *Ichneumon* (!) [*Cratichneumon*] *confusus* Ashmead.
By monotypy and orig. desig.

Place in Catalog on p. 290 after *Homotherus* Foerster.

confusus confusus (Ashmead), changed status. Alaska. Transf. from *Cratichneumon* Thomson and reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. I, p. 17 (as *Ichneumon confusus*); Pt. II, p. 179).

**confusus megalurus* Heinrich. Ont.

Aculichneumon (*Crypteffigies*) *confusus megalurus* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 180. ♀.

*Genus *EUPALAMUS* Wesmael

Eupalamus Wesmael, 1844. Acad. Sci. Bruxelles Nouv. Mem. 18: 13, 14.

Type: *Eupalamus oscillator* Wesmael. Desig. by Ashmead, 1900.

Place in *Ichneumonini*, p. 290, after *Cratichneumon*.

**andersoni* Heinrich. B. C. (Stuarts Lake).

Eupalamus andersoni Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 385.
♀.

**melacneme* Heinrich. Que., Ont.

Eupalamus melacneme Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 386. ♂, ♀.

*Genus *PATROCLOIDES* Heinrich

Patrocloides Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 16.

Type: *Amblyteles perluctuosus* Provancher. By monotypy and orig. desig.

Place in Catalog on p. 290 before *Aoplus* Tischbein.

montanus montanus (Cresson). Also no. Transit. Zone. Host: *Syngrapha* sp. Transf. from *Patroclus* Cresson, p. 291 (*teste* Heinrich, 1962, Pt. V, p. 517).

**montanus occidentalis* Heinrich. Pacific to Cont. Divide in Canad. and Transit. Zones.

Patrocloides montanus occidentalis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 517. ♀.

Patroclus montanus n. subsp. (of Catalog, p. 291).

perluctuosus (Provancher). B. C. Hosts: *Syngrapha epigaea* (Grt.), *S. selecta* (Wlk.). Transf. from *Patroclus* Cresson, p. 291 (*teste* Heinrich, 1962, Pt. V, pp. 514, 516).

walleyi (Heinrich). Que. Transf. from *Patroclus* Cresson, Sup. 1, p. 50 (*teste* Heinrich, 1962, Pt. V, p. 513, 515).

Genus *AOPLUS* Tischbein, pp. 290-291, Sup. 1, p. 49

cestus (Cresson). Host: *Melanolophia imitata* Wlk.

Aoplus opacitas (Davis) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 211).

confirmatus (Cresson).

Taxonomy: Heinrich, 1962, Pt. V, pp. 535, 536, 537-539 (♂ descr.).

leucopsis (Ashmead). Transf. to *Platylabops* Heinrich (*teste* Heinrich, 1962, Pt. V, pp. 641, 645).

**limbatae* Heinrich. B. C. Host: *Nematocampa limbata* Haw.

Aoplus limbatae Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 536, 542.
♀, ♂.

**melanisticus* Heinrich. Ont., Yukon, Canad. Zone.

Aoplus melanisticus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 547. ♀.

- **moilietti* Heinrich. Alta. Host: *Enypia moilietti* Blkmre.
Aoplus moilietti Heinrich, 1962. Pt. V. Canad. Ent. Sup. 62: 536, 544. ♀.
- **monotonus* Heinrich. B. C., Wash., Oreg., Colo., Alta.
Aoplus monotonus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 536, 537, 548. ♂, ♀.
- **ochropis coloradensis* Heinrich. Colo., ?Que.
Aoplus ochropis coloradensis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 534, 536, 556. ♂, ♀.
- ochropis ochropis* (Gmelin), changed status. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 534, 536, 556).
- **permutabilis leucorbis* Heinrich. Md., Mo.
Aoplus permutabilis leucorbis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 542. ♀.
- **permutabilis permutabilis* Heinrich. Maine, Que., Mass., Ont., Ind.
Aoplus permutabilis permutabilis Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 536, 541. ♂, ♀.
- **pseudovelo*x Heinrich. Maine, Que., N. H., Ont., N. Y., Pa., Mich. Alta.
*Aoplus pseudovelo*x Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 537, 556. ♂, ♀.
- **rarior* Heinrich. Que., Ont.
Aoplus rarior Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 546. ♀.
- ruficeps sitkensis* (Ashmead). Not subsp. of *vagans* Provancher (*teste* Heinrich, 1959 (Oct.). Ent. News 70 (8); 211. *A. ruficeps ruficeps* is European.
?Ichneumon simulator Ashmead.
 Taxonomy: Heinrich, 1962, Pt. V, pp. 535, 536, 554.
- ruficeps vagans* (Provancher). Maine, cooler parts of Transit. Zone. Host: *Macaria* sp. As here, not as *vagans vagans* Provancher (*teste* Heinrich, 1959 (Oct.). Ent. News 70 (8): 211).
 Taxonomy: Heinrich, 1959 (Dec.), Canad. Ent. 91 (12): 807; 1962, Pt. V, pp. 535, 536, 553-554 (♀ descr.).
- **thujarum* Heinrich. Que., Ont.
Aoplus thujarum Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 536, 543. ♀.
- **torpidus* (Wesmael). Maine, Que., Ont., Alta.; Europe.
Ichneumon torpidus Wesmael, 1857. Acad. Roy des Sci. Lettres, Beaux-arts Belgique Bul. (2) 2: 385. ♀.
- vagans sitkensis* (Ashmead). Subsp. of *ruficeps* (Gravenhorst).
vagans vagans (Provancher). Subsp. of *ruficeps* (Gravenhorst).
- velox occidentalis* (Harrington), changed status. B. C. Host: *Lambdina fiscellaria lugubrosa* (Hlst.). Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, p. 551).
- velox velox* (Cresson), changed status. Host: *Ellopiia athasaria* (Guen.). Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, p. 551).
Ichneumon occidentalis Harrington. Removed from syn. Valid subsp. of *velox*.

Genus *STENICHNEUMON* Thomson, Sup. 1, pp. 49-50

(Syn. of *Aoplus* Tischbein in Catalog, p. 290.)

Change type citation to read:

Type: (*Ichneumon pictorius* Gravenhorst) = *militarius* (Thunberg).

**Myermo* Cameron, 1901. Ann. Mag. Nat. Hist. (Ser. 7) 7: 523. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)

Type: (*Myermo rufipes* Cameron) = *appropinquans* (Cameron). By monotypy.

**Chiaglas* Cameron, 1902. Ann. and Mag. Nat. Hist. (Ser. 7) 9: 152. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)

Type: *Chiaglas nigripes* Cameron. By monotypy.

**Bolbomyschus* Tosquinet, 1903. Soc. Ent. Belg. Mém. 10: 342. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)

Type: (*Bolbomyschus albipictus* Tosquinet) = *nigripes* (Cameron). By monotypy.

**Stenichneumonoides* Uchida, 1930. Insecta Matsumurana 9: 95. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)

Type: *Ichneumon posticalis* Matsumura. Orig. desig.

Taxonomy and Biology: Heinrich, 1962 (Pt. V): 522-524.

culpator cincticornis (Cresson). Transcont. in Canad. Zone. *S. culpator culpator* (Schrank) is Eurasian.

**Ichneumon mathewi* Cameron, 1907. Entomologist 40: 277. ♂. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 109.)

**militarius leucopus* Heinrich. Transcont. in Canad. Zone, N. B., Maine, Que. in North Transit. Zone. Host: *Plusia* sp. *S. militarius militarius* (Thunberg) is European.

Stenichneumon militarius leucopus Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 523, 524, 525. ♂, ♀.

pallidipennis (Viereck), changed status. Sask., N. W. T., B. C. Elevated to specific rank (*teste* Heinrich, 1962, Pt. V, pp. 523, 524, 531).

salvus bioculatus (Cresson). N. B., P. E. I., Que., Man., Alta., B. C. Taxonomy: Heinrich, 1962, Pt. V, pp. 528, 531 (subsp. status doubtful).

salvus pallidipennis (Viereck). A valid sp., not a subsp.

salvus salvus (Cresson).

Taxonomy: Heinrich, 1962, Pt. V, pp. 528-530 (specific status).

Genus *Patroclus* Cresson, p. 291

Remove from Catalog. Type-species is Neotropical. Species listed under this genus are transferred to **Patrocloides* Heinrich.

montanus n. subsp. Transf. to *Patrocloides* Heinrich as *montanus occidentalis* Heinrich (*teste* Heinrich, 1962, Pt. V, p. 517).

montanus montanus (Cresson). Transf. to *Patrocloides* Heinrich.

perluctuosus (Provancher). Transf. to *Patrocloides* Heinrich.

walleyi (Heinrich). Transf. to *Patrocloides* Heinrich.

Genus *ANISOPYGUS* Kriechbaumer, p. 291

**americanus* Heinrich. Newfoundland, N. S., Maine, Mass., Ont., Wis., B. C. Host: *Ichthyura apicalis* Wlkr.

Anisopygus americanus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 379. ♂, ♀.

**pseudonymus nearcticus* Heinrich. Colo., Alta., B. C. Host: Notodontid pupa. *A. pseudonymus pseudonymus* (Wesmael) is European.

Anisopygus pseudonymus nearcticus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 378. ♂, ♀.

Genus *EXEPHANES* Wesmael, 291

**californicus* Heinrich. Calif., Ariz., Utah, Colo.

Exephanes californicus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 476, 480. ♂, ♀.

subfulvus (Cresson). Sask., ?Que.

**terminalis immaculatus* Heinrich. Colo., ? N. W. T.

Exephanes terminalis immaculatus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 476, 479. ♂, ♀.

terminalis terminalis (Provancher), changed status. Transit. Zone, Maine, Que., Ont. Reduced to subsp. rank (*teste* Heinrich, 1961. Pt. IV, p. 479).

Spilichneumon pomilius Provancher (syn. *teste* Heinrich, 1959, *Canad. Ent.* 91 (12): 806).

Genus **ECTOPIMORPHA** Viereck, pp. 291-292

**boops* Heinrich. Calif. (Crescent City).

Ectopimorpha boops Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 494. ♂.

**californica* Heinrich. Calif.

Ectopimorpha californica Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 490. ♂, ♀.

**hiulcops* Heinrich. B. C., Sask.

Ectopimorpha hiulcops Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 486. ♀.

indemnis (Cresson). Sask.

**limerodops* Heinrich. Calif. (Crane Flat).

Ectopimorpha limerodops Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 483, 487. ♀.

luperinae Cushman.

Taxonomy: Heinrich, 1961, *Pt. IV*, pp. 488-490 (disting. characters).

**utahensis* Heinrich. Utah (10 mi. north of Orderville).

Ectopimorpha utahensis Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 493. ♂.

*Genus **PSEUDOAMBLYTELES** Heinrich

Pseudoamblyteles Heinrich, 1926. *Deut. Ent. Ztschr.* 1926 (3): 255.

Type: *Amblyteles homocerus* Wesmael. By monotypy.

**Ctenamblyteles* Heinrich, 1928. *Deut. Ent. Ztschr.* 1928 (2): 141. N. name.

Place immediately after *Ectopimorpha* Viereck in Catalog, p. 292.

**homocerus* (Wesmael). Transcont. in Huds., *Canad. Zones*; Europe (Eurasia); Algeria; Tunisia.

Amblyteles homocerus Wesmael, 1854. *Acad. Roy. des Sci. Lettres, Beaux-arts Belgique. Bul. Annexe*: 121 ♂, ♀.

Genus **CHASMIAS** Ashmead, p. 292

Taxonomy: Heinrich, 1961, *Pt. IV*, pp. 373-375.

saucius (Cresson). Transf. to *Ichneumon* Linnaeus.

scelustus (Cresson). Host: *Papaipema cataphracta* (Grote).

Taxonomy: Heinrich, 1961, *Pt. IV*, pp. 374-375 (♂ descr.).

torvinus (Cresson). Syn. of *saucius* Cresson (transf. to *Ichneumon*, p. 301).

*Genus **NEAMBLYMORPHA** Heinrich

Neamblymorpha Heinrich, 1960. *Pt. I. Canad. Ent. Sup.* 15 [vol. 92]: 19.

Type: *Ichneumon milvus* Cresson. By monotypy and orig. desig.

Place on page 292 of Catalog after *Chasmias* Ashmead and before *Eutanyacra* Cameron.

milva (Cresson). Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1961, *Pt. IV*, pp. 376-377; ♂ descr.).

Genus **EUTANYACRA** Cameron, *Sup. 1*, p. 50

chillcotti Heinrich. N. W. T., Baffin Is., Que.

consignata (Cresson). Ont. Transf. from *Amblyteles* Wesmael, p. 294 (*teste* Heinrich, 1961, *Pt. IV*, pp. 424, 425, 430; ♀ descr.).

- ***hiemans** Heinrich. Maine, Que., Ont., Pa.
Eutanyacra hiemans Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 436. ♀.
- ***improvisa columbiana** Heinrich. B. C.
Eutanyacra improvisa columbiana Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 428. ♂, ♀.
- improvisa improvisa** (Cresson), changed status. Maine, Ont., Sask. Hosts: ? *Anomogyna perguivitata* Morr. ("ex-*A. pergui*"); *Ceramica picta* Harr. Reduced to subsp. rank (*teste* Heinrich, 1961, Pt. IV, pp. 424, 428).
- ***miraculosa** Heinrich. Maine (Dryden).
Eutanyacra miraculosa Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 434. ♀.
- munifica** (Cresson). N. S., N. B., N. H., Sask. Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1959, Ent. News 70 (8): 210). Taxonomy: Heinrich, 1961, Pt. IV, pp. 423, 424, 425, 426 444-446 (♀ tentative descr.).
- perannulata** (Hopper). Transf. from *Amblyteles* Wesmael, p. 295 (*teste* Heinrich, 1959, Ent. News 70 (8): 210). Taxonomy: Heinrich, 1961, Pt. IV, pp. 424, 425, 429-430 (♂ descr.).
- ***pycnopus** Heinrich. Ont., D. C., Ohio, Iowa, Ark.
Eutanyacra pycnopus Heinrich 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 425, 435. ♂, ♀.
- saguenayensis** (Provancher). Maine, Mich. Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1961, Pt. IV, pp. 425, 426, 446-448; ♀ descr.).
- ***solitaria** Heinrich. Que., Ont., N. Y.
Eutanyacra solitaria Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 425, 442. ♂, ♀.
- suturalis** (Say). Labrador, N. S., Que., Ont., Man., Sask., N. W. T., B. C. Host: *Actebia fennica* Tausch. Transf. from *Pseudamblyteles* Ashmead, p. 294 (*teste* Heinrich, 1959, Ent. News 70 (8): 210). *Pseudamblyteles grotei* (Cresson) (syn. *teste* Heinrich, *loc. cit. supra*).
- ***trivittata** Heinrich. Que.
Eutanyacra trivittata Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 426, 448. ♂, ♀.
- ***valdenigra** Heinrich. Que. (Payne Bay).
Eutanyacra valdenigra Heinrich, 1958. Canad. Ent. 90 (12): 740. ♂.
- ***validiceps** Heinrich. Maine, Que., Ont.
Eutanyacra validiceps Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 425, 426, 443. ♂, ♀.
- ***vilissima rubricosa** Heinrich. Md., W. Va.
Eutanyacra vilissima rubricosa Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 425, 441. ♂, ♀.
- ***vilissima vilissmia** Heinrich. Maine, Que., Ont., Mass., N. Y., Mich.
Eutanyacra vilissima vilissmia Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 426, 440. ♂, ♀.
- Genus PSEUDAMBLYTELES** Ashmead, pp. 292-294
- Taxonomy: Heinrich, 1961, Pt. IV, pp. 397-401.
- ***amoenipes** Heinrich. Maine, Que.
Pseudamblyteles amoenipes Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 400, 413. ♀.
- animosus** var. **rubellus** (Cresson). A valid species.
- belfragei** (Cresson). Transf. to *Melanichneumon* Thomson, *s. str.*

bizonatus (Cresson). Colo.

Taxonomy: Heinrich, 1961, Pt. IV, pp. 400, 401, 406 (possible subsp.).

***carbo** Heinrich. Maine, Que., Ont.

Pseudamblyteles carbo Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 401, 419. ♂, ♀.

citrinus (Provancher). Transf. to *Spilichneumon* Thomson.

***distinctipes** Heinrich. Maine, Que., Ont., N. Y., Md., Ohio, N. C.

Pseudamblyteles distinctipes Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 400, 409. ♀.

***effigialis** Heinrich. N. B., Maine, Que., Ont.

Pseudamblyteles effigialis Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 400, 401, 407. ♂ ♀.

flebilis (Cresson). Maine, N. H., Que., Ont.

Taxonomy: Heinrich, 1961, Pt. IV, pp. 400, 401, 411 (? ♂ descr.).

grotei (Cresson). Transf. to *Eutanyaera* Cameron as syn. of *E. suturalis* (Say).

***interdistinctus** Heinrich. Maine, N. H., Que., Ont.

Pseudamblyteles interdistinctus Heinrich, 1961. Pt. II. Canad. Ent. Sup. 23: 400, 410. ♀.

koebelei (Swezey). Transf. to *Spilichneumon* Thomson as syn. of *superbus* (Provancher).

lewisii (Cresson). Transf. to *Ichneumon* Linnaeus.

micramoenus Heinrich. Maine.

Pseudamblyteles micramoenus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 400, 420. ♀.

milvus (Cresson). Transf. to **Neamblymorpha* Heinrich.

mormonus (Cresson). Transf. with its syn. to **Thyrateles* Perkins.

munificus (Cresson). Transf. to *Eutanyaera* Cameron.

***nigrotergops** Heinrich. Que., Ont.

Pseudamblyteles nigrotergops Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 417. ♀.

ormenus (Cresson). Transf. from *Amblyteles* Wesmæl, p. 295 (*teste* Heinrich, 1961, Pt. IV, pp. 399, 401, 414).

***populorum** Heinrich. Sask., Alta. Host: *Brachylomia populi* Strecker.

Pseudamblyteles populorum Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 401, 418. ♂, ♀.

provancheri (Cushman). Maine, Ont. Transf. from *Amblyteles* Wesmæl, p. 295 (*teste* Heinrich, 1961, Pt. IV, pp. 400, 401, 404-406; ♂ descr.).

robustus (Cresson).

Taxonomy: Heinrich 1961, Pt. IV, pp. 400, 401 (♂ descr.).

rubellus (Cresson). Raised to specific rank (*teste* Heinrich, 1959, Ent. News 70 (8): 211).

saguenayensis (Provancher). Transf. to *Eutanyaera* Cameron.

suturalis (Say). Transf. to *Eutanyaera* Cameron.

***walleyi** Heinrich. Ont. (Smoky Falls).

Pseudamblyteles walleyi Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 416. ♀.

***zebraticolor** Heinrich. Que., Ont.

Pseudamblyteles zebraticolor Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 882. ♂.

Genus *LIMERODOPS* Heinrich, Sup. 1, p. 50

Change type citation to read: Type: (*Amblyteles elongatus* Brischke)

= "*subsericans* var. *elongatus*" (Brischke) (*teste* Heinrich, 1961, Pt. IV, pp. 380-382).

belangeri (Cresson), changed status. Raised to sp. rank (*teste* Heinrich, 1961, Pt. IV, p. 382).

**mariannae* Heinrich. N. S., Maine, Mass., Ont., Transit. Zone.

Limerodops mariannae Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 383.
♂, ♀.

Genus **AMBLYTELES** Wesmael, pp. 294-295

Delete from Catalog; contains no Nearctic species (*teste* Heinrich, 1961, Pt. IV, p. 398).

aleatorius (Cresson). Transf. to **Spilichneumon** Thomson, p. 295, as syn. of *subrufus* (Cresson).

belangeri Cresson. Transf. in Sup. 1 to **Limerodops** Heinrich.

bronteus (Cresson). Transf. to **Spilichneumon** Thomson, p. 295.

consignatus (Cresson). Transf. to **Eutanyaera** Cameron.

crudosus (Cresson). Transf. tentatively to **Spilichneumon** Thomson, p. 295.

fraternus Cresson. Transf. to **Spilichneumon** Thomson, p. 295, as syn. of *nubivagus* (Cresson).

improvisus (Cresson). Transf. to **Eutanyaera** Cameron.

inconstans (Cresson). Transf. to **Spilichneumon** Thomson, p. 295, as syn. of *subrufus* (Cresson).

justus (Cresson). Transf. to **Spilichneumon** Thomson, p. 295.

kodiakensis (Ashmead). Transf. to **Spilichneumon** Thomson, p. 295.

nubivagus (Cresson). Transf. to **Spilichneumon** Thomson, p. 295.

ormenus (Cresson). Transf. to **Pseudamblyteles** Ashmead, p. 293.

perannulatus Hopper. Transf. to **Eutanyaera** Cameron.

provancheri Cushman. Transf. to **Pseudamblyteles** Ashmead, p. 293.

rufizonatus (Cresson). Transf. to **Ctenichneumon** Thomson as syn. of *syphax* (Cresson).

Amblyteles balteatus Hopper. Transf. to **Ichneumon** Linnaeus as syn. of *volesus* Cresson.

subrufus (Cresson). Transf. to **Spilichneumon**, Thomson, p. 295.

superbus Provancher. Transf. to **Spilichneumon** Thomson, p. 295.

torontosus Davis. Transf. to **Thyrteles** Perkins as syn. of *procax* (Cresson).

Genus **SPILICHNEUMON** Thomson, p. 295

borealis (Provancher). Que., Ont. A valid species (*teste* Heinrich, 1961 (1960), Pt. II, p. 185).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 185-186 (♂ descr.).

bronteus (Cresson). Que., Ont., B. C. Transf. from **Amblyteles** Wesmael, p. 294 (*teste* Heinrich, 1961 (1960) Pt. II, pp. 182, 183, 186).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 187-188 (♀ descr.).

citrinus (Provancher). Transf. from **Pseudamblyteles** Ashmead, p. 292 (*teste* Heinrich, 1961 (1960), Pt. II, pp. 183, 189).

?*crudosus* (Cresson). Transf. from **Amblyteles**, p. 294 (no spms. seen; descr. not definitive).

justus (Cresson). Transf. from **Amblyteles**, p. 294 (*teste* Heinrich, 1959, Ent. News 70 (8): 209).

kodiakensis (Ashmead), n. comb. Transf. from **Amblyteles**, p. 294 (*teste* exam. of ♂ type spm.).

- nubivagus** (Cresson). Labrador. Transf. from *Amblyteles* Wesmael, p. 294 (teste Heinrich, 1959, Ent. News 70: 209).
Amblyteles fraternus Cresson (syn. teste Heinrich, loc. cit. supra).
- ***physcoteloides** Heinrich. Que., Maine, Mass.
Spilichneumon physcoteloides Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 183, 191. ♂ ♀.
- pomilius** (Provancher). Transf. to *Exephanes* Wesmael as syn. of *terminalis terminalis* (Provancher), p. 291.
Amblyteles borealis Provancher. Remove from syn.; a valid species.
- subrufus** (Cresson). Transcont. in Transit., U. Austr. zones, Newfoundland, N. W. T. Host: *Crymodes devastator* Brace. Transf. from *Amblyteles* Wesmael, p. 295 (teste Heinrich, 1959, Ent. News 70 (8): 209).
Amblyteles aleatorius (Cresson) (syn. teste Heinrich, loc. cit. supra).
Amblyteles inconstans (Cresson) (syn. teste Heinrich, loc. cit. supra).
- ?**superbus** (Provancher). N. S. to B. C., N. W. T., Colo., Tex., Hawaii. Hosts: *Euxoa flavicollis* Sm., *E. messoria* Harr., *E. ochrogaster* Gn., *E. scandens* Riley, *Feltia ducens* Wlkr., *Chorizagrotis auxiliaris* Grt. Transf. from *Amblyteles* Wesmael, p. 295 (teste Heinrich, 1959, Ent. News 70 (8): 209).
Pseudamblyteles koebeli (Swezey) (syn. teste Heinrich, loc. cit. supra). Taxonomy: Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 192-194.
- taos** (Cresson). Que., Maine, Mass.
- ***valdetypicus** Heinrich. Man. (Riding Mt. Natl. Pk.).
Spilichneumon valdetypicus Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 186. ♀.

*Genus **OBTUSODONTA** Heinrich

- Obtusodonta* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 872.
 Type: *Spilichneumon obscuricolor* Heinrich. Orig. desig.
 Place in Catalog on p. 295 after *Spilichneumon* Thomson.
- ***foxleei** Heinrich. B. C.
Obtusodonta foxleei Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 873, 874. ♀.
- ***manitobae** Heinrich. Man., Alta.
Obtusodonta manitobae Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 873, 874. ♀.
- ***montana** Heinrich. Que., Maine.
Obtusodonta montana Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 873, 875. ♂, ♀.
- ***obscuricolor** (Heinrich). Que., Maine, Conn., N. Y., Ont., Sask.
 (?) *Spilichneumon obscuricolor* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 183, 195. ?♂, ♀.

Genus **CTENICHNEUMON** Thomson, pp. 295-296

- ***caeruleops** Heinrich. Sask., B. C.
Ctenichneumon caeruleops Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 461. ♂, ♀.
- ***columbianus** Heinrich. B. C., Yukon, Alaska.
Ctenichneumon columbianus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 457. ♂, ♀.
- electus* (Cresson). Questionable syn. of *syphax* (Cresson).
- excultus* (Cresson).
 Taxonomy: Heinrich, 1961, Pt. IV, pp. 452, 453, 454-457.

- ***gracilior** Heinrich. Maine, Que.
Ctenichneumon gracilior Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 470. ♂, ♀.
- ***heteropus** Heinrich. B. C.
Ctenichneumon heteropus Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 454. ♂, ♀.
- ***holomelas** Heinrich. Man. (Cedar Lake).
Ctenichneumon holomelas Heinrich, 1961. Pt. VI. Canad. Ent. Sup. 23: 451, 460. ♀.
- ***minor** Heinrich. N. S., N. B., Maine, Que., Ont., Conn., N. Y., W. Va., Man., Sask.
Ctenichneumon minor Heinrich 1961. Pt. IV. Canad. Ent. Sup. 23: 451, 453, 458. ♂, ♀.
- ***punctiscuta** Heinrich. Man., B. C.
Ctenichneumon punctiscuta Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 463. ♀.
- ***rufibasis** Heinrich. Maine, Que.
Ctenichneumon rufibasis Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 469. ♀.
- ruidosensis** (Cockerell).
 Taxonomy: Heinrich, 1961, Pt. IV, pp. 453, 474-475.
- semiaeruleus** (Cresson). Man., Alta.
 Taxonomy: Heinrich, 1961, Pt. IV, pp. 452, 453, 461 (♂ descr.).
- syphax** (Cresson). Atlantic to 100° W in U. Austr., Transit., Canad. Zones, Alta.
 ?*Ichneumon detritus* Brullé. Transf. to *Probolus* Wesmael, p. 283, as valid sp.
 ?*Ctenichneumon electus* (Cresson) (syn. *teste* Heinrich, 1961, Pt. IV, p. 471).
Ichneumon marianapolitanensis Provancher (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 210).
 ?*Ichneumon nitidus* Provancher (syn. *teste* Heinrich, 1961, Pt. IV, p. 471).
Amblyteles rufizonatus (Cresson) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 210).
- ***townesi** Heinrich. Maine, N. Y., Mich.
Ctenichneumon townesi Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453. ♂, ♀.
- ultus** (Cresson).
 Taxonomy: Heinrich, 1961, Pt. IV, pp. 452, 453, 464-467 (♀ descr.).
- *Genus **PROTOPELMUS** Heinrich
- Protopelmus* Heinrich, 1959. Ent. Soc. Wash. Proc. 61 (5): 200.
 Type: *Trogus atrocoeruleus* Cresson. By monotypy and orig. desig.
 Place on p. 296, before *Tricholabus* Thomson.
- atrocoeruleus** (Cresson). Fla., Tex. Host: *Ecpantheria deflorata* (F.); *E. muzina* Oberth. Transf. from *Trogus* in Alphabetic List of Unplaced Species, p. 409 (*teste* Heinrich, 1959, Ent. Soc. Wash. Proc. 61 (5): 200).
 Taxonomy: Heinrich, 1962, Pt. V, pp. 511-512.
- Genus **TRICHO LABUS** Thomson, p. 296, Sup. 1, p. 51
- Otohimea** Uchida, 1926. Hokkaido Imp. Univ. Coll. Agr. Jour. 18: 146.
 Type: (*Otohimea nigra* uchida) = *incanescens* (Smith).
 Orig. desig.
- adventicus** (Hopper). Ala., Fla.
 Taxonomy: Heinrich, 1961, Pt. IV, pp. 389, 393-395 (♂ descr.).

citatus (Provancher).

Ichneumon merus Cresson. Remove from syn. and place as syn. of *nortonii* (Cresson).

Tricholabus tricolor (Davis) (syn. *teste* Heinrich, 1961, Pt. IV, p. 391).

**foxleei* Heinrich. B. C., Calif.

Tricholabus foxleei Heinrich, 1961. Pt. IV. *Canad. Ent. Sup.* 23: 389, 396. ♂, ♀.

**mitchelli* Heinrich. Mass., N. Y. to Ga., Ark.

Tricholabus mitchelli Heinrich, 1961. Pt. IV. *Canad. Ent. Sup.* 23: 389, 395. ♂, ♀.

nortonii (Cresson).

Ichneumon merus Cresson (syn. *teste* Heinrich, 1961, Pt. IV, pp. 389, 390).

pax (Dalla Torre).

Taxonomy: Heinrich, 1961, Pt. IV, pp. 389, 397.

tricolor (Davis). Syn. of *citatus* (Provancher).

*Genus **THYRATELES** Perkins

Thyrateles Perkins, 1953. *Brit. Mus. (Nat. Hist.) Bul. Ent.* 3 (4): 149.

Type: *Amblyteles camelinus* Wesmael. By monotypy and orig. desig.

Taxonomy: Heinrich, 1961. Pt. III, pp. 348-349.

Place on page 296 of Catalog after *Tricholabus* Thomson.

**amoenapex* Heinrich. N. W. T. (Norman Wells).

Thyrateles amoenapex Heinrich, 1961. Pt. III. *Canad. Ent. Sup.* 21 [vol. 93]: 348, 357. ♀.

**caliginops* Heinrich. Maine, Que., Ont., Conn., N. Y., W. Va., Minn. Host: *Vanessa atalanta* (L.).

Thyrateles caliginops Heinrich, 1961. Pt. III. *Canad. Ent. Sup.* 21 [vol. 93]: 212, 215, 226, 348, 351. ♂, ♀.

**camelinops* Heinrich. Alta., B. C. Host: *Nymphalis milberti* Godt; *Polygonia* sp.

Thyrateles camelinops Heinrich, 1961. Pt. III. *Canad. Ent. Sup.* 21 [vol. 93]: 212, 215, 348, 349. ♂, ♀.

instabilis (Cresson). Hosts: *Colias philodice* Latr.; place ? before *Oeneis melissa* (F.). Transf. from (*Pterocormus* Foerster of Catalog, p. 299) = *Ichneumon* Linnaeus, Sup. 1, p. 51 (*teste* Heinrich, 1961, Pt. III, pp. 284 (text, 348, 352)).

lugubrorator (Gravenhorst). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (*teste* Heinrich, 1961, Pt. III, p. 354).

Pterocormus rufiventris (Brullé) (syn. *teste* Townes, 1961 (June). *Ent. Soc. Proc.* 63: 108).

Pterocormus rufiventris var. *incertus* (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, p. 354).

mormonus (Cresson). Ont. Host: *Polygonia* sp. Transf. (with its syn.) from *Pseudamblyteles* Ashmead, p. 203 (*teste* Heinrich, 1959. *Ent. News* 70 (8): 210).

procax (Cresson). Host: *Vanessa antiopa* (L.). Transf. from (*Pterocormus* Foerster of Catalog, p. 300) = *Ichneumon* Linnaeus (*teste* Heinrich, 1959, *Ent. News* 70 (8): 210).

Amblyteles torontosus Davis (syn. *teste* Heinrich, *loc. cit. supra*).

Genus **ICHNEUMON** Linnaeus, Sup. 1, pp. 51-52

(= *Pterocormus* Foerster of Catalog, pp. 296-301)

Brachypterus Gravenhorst. Delete "Desig. by Westwood, 1839" and add: By monotypy.

- Pterocormus*** Foerster. N. name for ***Brachypterus*** Gravenhorst. Delete "Orig. desig." and add: By substitution of ***Pterocormus*** for ***Brachypterus***.
Taxonomy: Heinrich, 1961, Pt. III, pp. 211-321; 1962, Pt. VII, pp. 877-881.
- ambulatorius** Fabricius. Newfoundland, Que. in Canad. Zone; B. C. Hosts: *Faronta diffusa* Wlkr.; *Hydroecia inmanis* Gn.
Taxonomy: Heinrich, 1961, Pt. III, pp. 218, 228, 229, 242-244 (var. *mulator* Cresson).
- ***annulatorius** Fabricius. Newfoundland.
Pterocormus funestus (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, pp. 232, 246, 248).
Taxonomy: Heinrich, 1961, Pt. III, pp. 223, 230, 233, 246-248.
- ***anonymus** Heinrich. Maine, Que., Ont., Mass., N. Y., Pa., W. Va. Md.
Ichneumon anonyms Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol: 93]: 221, 222, 224, 255. ♂, ♀.
- approximans** Provancher.
Taxonomy: Heinrich, 1961, Pt. III, pp. 228, 343-344.
- artemis** (Viereck).
Taxonomy: Heinrich, 1961, Pt. III, pp. 213, 312-313.
- atrox** Cresson: Labrador, Ont., Man., B. C.
Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 226, 328-329 (♂ descr.).
- bimembris** Provancher. Ont. (Canad. Zone). Elevated to specific rank (*teste* Heinrich, 1961, Pt. III, pp. 336-337); reduced to subsp. of ***languidus*** Wesmael in Sup. 1, p. 51.
- brevipennis** (Cresson). Transf. to ***Cratichneumon*** Thomson.
- ***broweri** Heinrich. Maine (Mt. Katahdin).
Ichneumon broweri Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 215, 337. ♀.
- ***browni** Heinrich. Que. (Mt. Lyall, Gaspé).
Ichneumon browni Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 277. ♀.
- burkei** (Viereck). Transf. to ***Orgichneumon*** Heinrich as syn. of ***calculatorius*** (Thunberg).
- caliginosus** Cresson. Transcont., N. W. T. Hosts: Delete *Basilarchia archippus* (Cram.) and *Vanessa atalanta* (L.); add *Polygonia gracilis* Grote.
Taxonomy: Heinrich, 1961, Pt. III, pp. 212, 215, 229, 332-334 (♂ descr.; sp. restricted).
- calitergus** Cresson. Que.
Taxonomy: Heinrich, 1961, Pt. III, pp. 216, 229, 326-327 (♂ descr.).
- canadensis** Cresson. Newfoundland, N. S., P. E. I., N. B., Maine, Que., Ont. Host: *Pseudaletia unipuncta* (Haw.).
Amblyteles ctenuchae Cushman. Remove from syn. and place as syn. of ***trizonatus*** Provancher (*teste* Heinrich, 1961, Pt. III, p. 238; also Heinrich, 1959, Ent. News 70: 104 (desig. new lectotype)).
- ***canadicola** Heinrich. Newfoundland, Que., Maine, Ont., Mass. Transit. and Canad. Zones.
Ichneumon canadicola Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 293. ♀.
- centrator** Say. B. C.
- ?**cervulus** Provancher. Maine.
Taxonomy: Heinrich, 1961, Pt. III, pp. 228, 271.
- cessatorops kazubazuae** Heinrich. Alta.
Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 319-320 (♂ descr.).

- ***chasmodops** Heinrich. Maine, Que., Ont., N. H., N. Y., Minn., Man.
Ichneumon chasmodops Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223, 230, 259. ♀. (♂ misdet. *teste* Heinrich, 1962, Pt. VII, p. 877).
- citrifrons** Cresson. Ont. to N. J., Md., west to Ill. and Mich.
Ichneumon tumidifrons Cresson. Remove from syn. A valid species.
- ***conscopa** Heinrich. Maine (Dryden).
Ichneumon conscopa Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 222, 250. ♀.
- creperus** Cresson. N. W. T., Alaska, B. C. Host: *Actebia fennica* Tausch.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 222, 228, 237-238 (♀ descr.).
- curticrus** (Provancher). Man.
- deliratorius cinctitarsis** Provancher. P. E. I., Ont. to B. C. Question host reference. See sup. 1, p. 51.
Pterocormus stygicus (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, p. 331).
 Taxonomy: Heinrich, 1961. Pt. III, pp. 217, 226, 330-331.
- devinctor** (Say). Ont., Alta., N. W. T.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 227, 262-264.
- ***dioryctriae** Heinrich, emend. N. B., Maine, Que., Ont. Host: *Dioryctria rniculella* Grote.
Ichneumon dioryctiae [sic!] Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 215, 226, 341. ♂, ♀.
- ***eurypus** Heinrich. Que., Ont., N. W. T., Alta.
Ichneumon eurypus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 325. ♀.
- feralis** Cresson. Maine, Labrador. Host: ?*Hepialus mustelinus* Pack.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 216, 320-321; 1962, Pt. VII, pp. 879-880 (♂ descr.).
- ***feriens** Heinrich. N. B., Maine., Que., N. H., N. Y., Ont., Mich., Man., Alta., B. C., Alaska, Transit. and Canad. Zones.
Ichneumon feriens Heinrich 1961. Pt. II. Canad. Ent. Sup. 21 [vol. 93]: 216, 229, 231, 321. ♂, ♀.
- ***foxleei** Heinrich. Wyo., B. C., Yukon.
Ichneumon foxleei Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 309. ♀.
- fuscifrons** Cresson.
 Taxonomy: Heinrich, 1961. Pt. III, pp. 220, 229, 294-297. (♂ descr.).
- gestuosus** Cresson. Maine, N. H., Ont. Host: *Choristoneura fumiferana* (Clem.). Transf. from *Melanichneumon* Thomson, p. 285 (*teste* Heinrich, 1959, Ent. News 70 (8): 207).
- ***glaucopygos** Heinrich. Maine, Que., Mass., N. Y.
Ichneumon glaucopygos Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 224, 248. ♀.
- ***gracilicornops** Heinrich. Labrador, Que., Maine, Ont., Man., Sask., Alta.
Ichneumon gracilicornops Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 278. ♀.
- ***grandisops** Heinrich. Conn., N. Y., Ohio, N. C.
Ichneumon grandisops Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 218, 305, ♀.
- heterocampae** (Cushman). Que., Ont., Pa.
- ***heterodon** Heinrich. Ont., N. Y.
Ichneumon heterodon Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 306. ♀.

- ***hippisleayae** Heinrich. Man. (Dauphin Lake).
Ichneumon hippisleayae Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 264. ♀.
- ***homoioden** Heinrich. N. J., Mich.
Ichneumon homoioden Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 311. ♀.
- ***homorus** Heinrich. N. B., Maine, Que., Ont., Vt., N. Y.
Ichneumon homorus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 217, 322. ♀.
- hospitus** Cresson. Maine.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 228, 271-272 (♂ ?).
- ***hypermelanos** Heinrich. Ont. (Sudbury).
Ichneumon hypermelanos Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 259. ♀.
- infidelis** (Cresson). Transf. to *Orgichneumon* Heinrich as syn. of *calcatorius* (Thunberg).
- instabilis** (Cresson). Transf. to *Thyrateles* Perkins.
Amblyteles (Pterocormus) winkleyi Viereck. Remove from syn.; a valid species in *Ichneumon* Linnaeus.
- inurbanus** Cresson.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 219, 310.
- klagesi** Viereck.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 227, 346 (type not found).
- lachrymans** Provancher. Maine, N. Y.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 229, 269-271 (♀ descr.).
- lactus** Brullé.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 222, 231-234 (table to sep. from *annulatorius* F.).
- lariae labradoris** Heinrich. ? N. H.
- lariae lariae** Curtis. Greenland, N. W. T. (Boothia Peninsula), Baffin Is.
 Taxonomy: Heinrich, 1961, Pt. III, p. 254 (neotype selected).
- ***leucocoxalis** Heinrich. Maine, Pa.
Ichneumon leucocoxalis Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 266. ♀.
- lewisii** Cresson. Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1959. Ent. News 70 (8): 207). Question syn. of *fulvopictus* Ashmead (*teste* Heinrich, 1961, Pt. III, p. 300).
- lividulus** (Provancher). Syn. of *zelotypus* Cresson.
- ***mainensis** Heinrich. Maine (Dryden).
Ichneumon mainensis Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 880. ♀.
- maius** Cresson. N. B., Que., Mass., Ont. Host: *Lexis bicolor* Grote.
Ichneumon versabilis Cresson. Remove from syn. A valid species.
Ichneumon (Pterocormus) brittoni Viereck. Remove from syn. and transf. to syn. of *versabilis* Cresson.
- ***melanarcticus** Heinrich. Que., Labrador.
Ichneumon melanarcticus Heinrich, 1961. Pt. III. Canad. Ent. [vol. 93]: 215, 331. ♀.
- mendax** Cresson.
 Taxonomy: Heinrich, 1961. Pt. III, pp. 215, 226, 334-335 (♂ descr.).
- ***microferiens** Heinrich. Ont., Man., Alta., Alaska, Canad. Zone.
Ichneumon microferiens Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 323. ♀.

- **mystificans* Heinrich. Maine, Labrador.
Ichneumon mystificans Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 227, 342. ♂.
- **nearctivernus* Heinrich.
Ichneumon computatorius nearctivernus Heinrich, 1956. Canad. Ent. 78 (2): 648. ♀.
 Taxonomy: Heinrich, 1961, Pt. III, p. 339 (raised to sp. rank).
- nebularum* Heinrich. ? N. H.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 226, 317-318 (♂ descr.).
- **neomolitor* Heinrich. Alta. (Banff).
Ichneumon neomolitor Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 217, 329. ♀.
- **neosarcitor* Heinrich. Maine.
Ichneumon neosarcitor Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 218, 236, 244. ♂, ♀.
- **nereni emigrator* Heinrich. P. E. I., Maine, Que., Ont. *I. nereni nereni* Thomson is European.
Ichneumon ucreni emigrator Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 230, 289. ♂, ♀.
- neutralis* (Cresson). Transf. with its syn. to *Melanichneumon* subg. *Vulgichneumon* Heinrich as subsp. of *subcyaneus* Cresson (*teste* Heinrich, 1959. Ent. News 70 (8): 212; 1961, Pt. V, pp. 581, 610-611).
- nigratorius* (Fabricius). Preoccupied by Müller and replaced by *nigriculus* n. name in Sup. 1, p. 52.
- nigriculus* Walkley. Remove from Catalog and Sup. 1; sp. recorded in error from Nearctic region.
Ichneumon nigratorius Fabricius (Catalog, p. 300), preocc. Syn. of *Amblyjoppa proteus* (Christ), a European species (*teste* Heinrich, 1961, Pt. III, p. 346).
- nigrotergus* Davis.
 Taxonomy: Heinrich, 1961, Pt. IV, p. 417 (in text).
- nigrovariegatus* (Provancher). Newfoundland.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 225, 229, 273-275 (♂ descr.).
- **oblitus oblitus* Heinrich. Maine, Que., Ont.
Ichneumon oblitus oblitus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223, 228, 234. ♂, ♀.
- **oblitus polyglauco*s Heinrich. N. Y., S. Dak.
*Ichneumon oblitus polyglauco*s Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223, 228, 236. ♂, ♀.
- parvus* Cresson.
?Ichneumon xanthopsis Ashmead. (Syn. questioned by Heinrich, 1961, Pt. III, p. 345).
- pedalis* Cresson.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 226, 313 (text of *artemis* Viereck), 347.
- **perlugubris* Heinrich. Que., Sask.
Ichneumon perlugubris Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 218, 306. ♀.
- peroratus* (Cameron). Transf. from *Alphabetic List of Unplaced Species*, p. 409 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63 (2): 112).
- placidus* Provancher. Maine, Ont., Utah.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 218, 227, 302 (♀ descr.).

- ***polargus** Heinrich. Labrador, Ont., Man., Canad. Zone.
Ichneumon polargus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 327. ♀.
- procox** (Cresson). Transf. to **Thyrateles** Perkins.
- propitius** Cresson. Maine, Que., Ont. Transf. from **Hoplismenus** Gravenhorst, p. 284 (*teste* Heinrich, 1959, Ent. News 70 (8): 207).
- ***pseudomaius** Heinrich. Mass. (Cambridge).
Ichneumon pseudomaius Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 280. ♀.
- ***pseudovivax** Heinrich. Maine (Dryden).
Ichneumon pseudovivax Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 286. ♀.
- ***pseudowinkleyi** Heinrich. Maine, Que., N. Y., Ont. Man., Alta.
Ichneumon pseudowinkleyi Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 223, 252. ♀.
- ***pumiliops** Heinrich. Que., Ont., Mass., N. Y.
Ichneumon pumiliops Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 276. ♀.
- ***pusillamoenus** Heinrich. Que., Ont.
Ichneumon pusillamoenus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 224, 272. ♀.
- putus** Cresson.
Taxonomy: Heinrich, 1961, Pt. III, pp. 220, 290-291.
- ***pycnocephalus** Heinrich. B. C., Yukon.
Ichneumon pycnocephalus (!) Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223 [**pycnocephalus**], 261. ♀.
- quadrizonatus** (Viereck). Syn. of **subdolus** Cresson.
- restrictus** Cresson.
Taxonomy: Heinrich, 1961, Pt. III, pp. 228, 344-345 (♀ prob. known but not associated).
- rufiventris** (Brullé). Transf. to **Thyrateles** Perkins, p. 296, as syn. of **lugubrorator** (Gravenhorst).
Ichneumon semioccineus Cresson. Remove from syn. A valid sp.
- rufiventris** var. **incertus** (Cresson). Transf. to **Thyrateles** Perkins, as syn. of **lugubrorator** (Gravenhorst).
- saucius** Cresson. Que. Host: *Paranthrene palmii* Hy. Edw. Transf. from **Chasmias** Ashmead, p. 292 (*teste* Heinrich, 1961, Pt. III, pp. 212, 335).
Chasmias torvinus (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, p. 335).
- semioccineus** Cresson. N. Y., Del., S. C., "Western Terr." Removed from syn. of **rufiventris** (Brullé). A valid sp. (*teste* Heinrich, 1959, Ent. News 70 (8): 207).
Taxonomy: Heinrich, 1961, Pt. III, pp. 227, 310, 311-312.
- similaris** Provancher. Transcont. in Canad. Zone.
Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 226, 313-314 (♀ descr.).
- ***stagniphilos** Heinrich. Ont. (Ottawa).
Ichneumon stagniphilos Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 222, 224, 249. ♀.
- stygius** Cresson. Syn. of **deliratorius cinctitarsis** Provancher.
- subdolus** Cresson. N. S., P. E. I., Que., Ont., to N. C., Alta.
Pterocormus quadrizonatus (Viereck) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 208).
- ***substituens** Heinrich. Mass. (Cambridge).
Ichneumon substituens Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 265. ♀.

- ***suburbanus** Heinrich. N. S., P. E. I., Que., Maine, Conn., Mass., Ont., Mich., Man., Alta.
Ichneumon suburbanus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 227, 307. ♂, ♀.
- ***subversatus** Heinrich. Que., Maine, Ont.
Ichneumon subversatus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 283. ♀.
- terminatus** Provancher. Ont., Maine, Mich.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 267, 268-269.
- ***tritus** Heinrich. Que., Ont., N. Y.
Ichneumon tritus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 224, 256. ♀.
- trizonatus** Provancher.
Amblyteles ctenuchae Cushman (syn. *teste* Heinrich, 1961, Pt. III, pp. 222, 230, 238 (text), 292).
- truculentus** Cresson. Que.
- tumidifrons** Cresson. Ill. A valid species (*teste* Heinrich, 1961, Pt. III, p. 224, 267-268).
- ultimus** Cresson. Que., Maine, Ont., Md., W. Va., Canad. and Transit. Zones.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 222, 229, 257 (♂ descr.).
- uncinatus** Cresson. Ont., Mich.
- ***valdopacus** Heinrich. Maine (Greenville).
Ichneumon valdopacus Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 221, 286. ♀.
- versabilis** Cresson. Atlantic to Cont. Divide in Canad. Zone and cooler part Transit. Zone. Hosts: *Euphydryas phaëton* (Dru.); *Polygonia faunus* (Edw.); *Lycaena hypophlaeas* (Bdvl.). A valid species (*teste* Heinrich, 1959, Ent. News 70 (8): 208).
Amblyteles (Pterocormus) brittoni Viereck (syn. *teste* Heinrich, 1961, Pt. III, pp. 219, 221, 228, 230, 281-283, 284).
- vicinus** Cresson.
 Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 236-237 (generic placement).
- vivax** Cresson. Ont.
- volesus** Cresson. N. S., Maine, Que., Ont., Man.
Amblyteles balteatus Hopper (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 208). Transf. from syn. of *Amblyteles rufizonatus* (Cresson) (*teste* Heinrich, 1961, Pt. IV, p. 471).
- ***walleyi** Heinrich. Ont. (Smoky Falls).
Ichneumon walleyi Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 215, 338. ♀.
- winkleyi** (Viereck). Que., Maine, Conn., Ont., ?N. B. A valid species (*teste* Heinrich, 1959, Ent. News 70 (8): 208).
- zelotypus** Cresson. Que., Maine, Ont.
Pterocormus lividulus (Provancher) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 209).

*Genus **ORGICHNEUMON** Heinrich

Orgichneumon Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92] p. 15; Pt. II, Sup. 18, p. 95.

Type: *Ichneumon calcatorius* Thunberg. By monotypy and orig. desig.

Place in *Ichneumonini* on p. 301, immediately before (*Ichneumonini*) = *Protichneumoni*.

calcatorius (Thunberg). P. E. I., N. S., N. B., Ont., S. C., B. C. Hosts: *Dasychira plagiata* (Wlkr.), *Orgyia antiqua* (L.), *O. leucostigma*

A. & S. Transf. from *Coelichneumon* Thomson, Sup. 1, p. 52
(*teste* Heinrich 1961 (1960), Pt. I, pp. 15, 95).

Coelichneumon otiosus (Say) (syn. *teste* Heinrich, 1956, Canad. Ent. 87
(11): 647).

Pterocormus infidelis (Cresson) (syn. *teste* Heinrich, 1959, Ent. News:
211).

Pterocormus burkei (Viereck) (syn. *teste* Heinrich, 1956, Canad. Ent.
87 (11): 647).

Tribe PROTICHNEUMONINI

(= *Ichneumonini* of Catalog)

I am not at all sure that this segregate deserves tribal rank. J. R. T. Short can find no larval differences, and the placement of some genera in either the Protichneumonini or Ichneumonini is more or less arbitrary.

Revision: Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]:
20-87.

Genus COELICHNEUMON Thomson, Sup. 1, p. 52

(= *Ichneumon* of Catalog, pp. 301-303)

**albicoxa* Heinrich. Ont., Mich., Wis., N. C.

Coelichneumon albicoxa Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup.
15 [vol. 92]: 34, 81. ♂.

ater (Cresson). Que., Maine, Vt., Ont., Ohio.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 31, 35, 55-56. ♂, ♀.

azotus (Cresson). Maine, Que., Ont.

barnstoni Morley. Ont., Pa., Md., Wis., Alta. In bibliog. ref. change: ♂, ♀.
to: ♂ (♀ misdet.).

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 29, 34, 54 (♂ descr.).

brunneri (Rohwer). Maine, Ont., Colo. Host: *Dioryctria auranticella*
(Grote).

calculatorius (Thunberg). Transf. to **Orgichneumon* Heinrich.

chalybeus (Cresson). Correct spelling of *chalybaeus* in catalog, p. 303.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 29, 50-51.

citimus (Cresson). N. H. Removed from syn. of *germanus* Cresson; valid sp.
(*teste* Heinrich, 1961 (1960), Pt. I, pp. 35, 81).

**columbianus* Heinrich. B. C. (Robson).

Coelichneumon columbianus Heinrich, 1961 (1960). Pt. I. Canad. Ent.
Sup. 15 [vol. 92]: 28, 38. ♀.

**eximiops* Heinrich. Maine, Ill., Wis., Iowa, Kans. Host: *Achatodes zea*
(Harr.).

Coelichneumon eximiops Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup.
15 [vol. 92]: 29, 33, 49. ♂, ♀.

eximius (Stephens). Hosts: *Abagrotis placida* Grote, ?*Achatodes zea*
(Harr.).

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 29, 33, 47-48 (♂ descr.).

**flagellator* Heinrich. Colo.

Coelichneumon flagellator Heinrich, 1961 (1960). Pt. I. Canad. Ent.
Sup. 15 [vol. 92]: 32, 71. ♀.

**foxleei* Heinrich. B. C. (Robson).

Coelichneumon foxleei Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup.
15 [vol. 92]: 29, 52. ♀.

germanus Cresson. Syn. of *histricus* Cresson.

Ichneumon citimus Cresson. Remove from syn.; a valid species.

histricus (Cresson). P. E. I., Maine, Pa., Ont., Mich., S. Dak., B. C.

Ichneumon germanus Cresson (syn. *teste* Heinrich, 1961 (1960), Pt. 1,
pp. 31, 34, 66-67).

- jejunus** (Cresson). Que., Ont., Fla., Mont., B. C.
- ***leucographus** Heinrich. Maine, Ont.
Coelichneumon leucographus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 33, 39. ♀, ♂.
- ***magniscopa** Heinrich. Ont., Maine, Mass., N. Y., N. C., Fla.
Coelichneumon magniscopa Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 33, 37. ♂, ♀.
- ***masoni** Heinrich. B. C. (Squamish).
Coelichneumon masoni Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 43. ♀.
- maurus** (Cresson). Que., Ont., N. W. T., Alta., B. C., Calif.
 Taxonomy: Heinrich, 1961 (1960). Pt. I, pp. 30, 35, 68-70 (♂ descr.).
- navus** (Say). Que., Maine, Ont., Kans., Fla.
- ***neocitimus** Heinrich. N. W. T., Yukon.
Coelichneumon neocitimus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 30, 35, 79. ♂, ♀.
- ***neocretatus** Heinrich. N. Y., Maine, Que., Ont., Sask., ?Kans. Transit. Zone.
Coelichneumon neocretatus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 35, 51. ♂, ♀.
- ***neomexicanus** Heinrich. N. W. (Manzano National Forest).
Coelichneumon neomexicanus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 40. ♀.
- nigraticolor** (Viereck). Ont., Maine, Pa.
 Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 30, 34, 64-65 (♂ descr.).
- nigrosignatus** (Viereck). Transf. from Alphanumeric List of Unplaced Species, p. 408 (*teste* Heinrich, 1961 (1960), Pt. I, p. 82).
- ***nudus** Heinrich. Ga. (Summerville).
Coelichneumon nudus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15, [vol. 92]: 29, 43. ♀.
- ***obscuratus** Heinrich. B. C. (Robson).
Coelichneumon obscuratus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 45. ♀.
- orpheus** (Cresson). Maine, Que. Host. "Notodontidae pupa".
 Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 30, 35, 61-63 (♂ descr.).
- otiosus** (Say). Transf. to ***Orgichneumon** Heinrich.
- pepticus** (Cresson). Colo., Oreg., Wash.
 Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 32, 35, 63-64 (♀ descr.).
- pequoitorum** (Viereck). Syn. of **pervagus** (Cresson).
- pervagus** (Cresson). N. S., Maine, Labrador, B. C. Host: *Scoliopteryx libatrix* L.
Ichneumon pequoitorum (Viereck) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 207).
- ***phaenomenon** Heinrich. Maine, Alta., Alaska.
Coelichneumon phaenomenon Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 32, 35. ♂, ♀.
- ***pomilioaeneus** Heinrich. Maine (Dryden).
Coelichneumon pomilioaeneus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 50, 87. ♀ [spelled *pomiloaeneus* in key, p. 29].
- pulcher** (Brullé). Maine, Ont.
 Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 28, 33, 46-47 (♂ descr.).
- ***pulcherior** Heinrich. Ariz., Colo., B. C.
Coelichneumon pulcherior Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 36. ♀.

pumilionobilis Heinrich. Ont.

**punctifer* Heinrich. N. Y., Md., Va., Tex.

Coelichneumon punctifer Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 31, 34, 77. ♂, ♀.

**quadriceps* Heinrich. Md., Va., W. Va., Mich.

Coelichneumon quadriceps Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 31, 34, 78. ♂, ♀.

**rubricoxa* Heinrich. Calif.

Coelichneumon rubricoxa Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 32, 72. ♂, ♀.

**rubroaeneus* Heinrich. Calif. (Lake Almanor). Host: *Ufens plicatus* Grote.

Coelichneumon rubroaeneus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 43. ♀.

**sassacoides* Heinrich. B. C.

Coelichneumon sassacoides Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 42. ♀.

sassacus (Viereck). Que., Maine, N. H., Ont., ?Calif.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 28, 33, 40-42.

semilaevis (Cresson). Que., N. W. T., B. C., Calif.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 32, 72-73 (♂ descr.).

**similior* Heinrich. Ont., Maine.

Coelichneumon similior Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 44. ♂.

solutus occidentalis Roman. Transf. to **Coelichneumonops* as a valid sp.

tauma Heinrich. Ont., Que., N. Y., Minn. Hosts: *Choristoneura fumiferana* Clemson; *Lexis bicolor* Grote.

**terebratus* Heinrich. Colo.

Coelichneumon terebratus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 30, 70. ♀.

**terebrifer* Heinrich. Va.

Coelichneumon terebrifer Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 36, 71. ♀.

viola Cresson). Ont., Fla., Tex.

vitalis (Cresson). Maine, N. H., Md., Va., N. C., Ind., Utah.

**walleyi* Heinrich. Ont., B. C.

Coelichneumon walleyi Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 31, 34, 77. ♂, ♀.

*Genus **COELICHNEUMONOPS** Heinrich

Coelichneumonops Heinrich, 1958. Canad. Ent. 90 (12): 739.

Type: *(*Coelichneumonops vockerothi* Heinrich) = *solutus* (Holmgren). Orig. desig.

Place in Catalog on page 303 after *Coelichneumon* Thomson.

**cashmani* Heinrich. Yukon (Firth R., 69° 30'N, 139° 31'W).

Coelichneumonops cashmani Heinrich, 1958. Canad. Ent. 90 (12): 740. ♀.

occidentalis (Roman), changed status. Que., Baffin Is. Elevated to specific rank (*teste* Heinrich, 1961 (1960), Pt. I, pp. 83, 85. Transf. from *Coelichneumon*, Sup. 1, p. 52 (*teste* Heinrich, *loc. cit. supra*).

**solutus* (Holmgren). Que.

Ichneumon solutus Holmgren, 1895. Ichn. Suecica I, p. 145. ♀.

**Coelichneumonops vockerothi* Heinrich, 1958. Canad. Ent. 90 (12): 739. ♂, ♀. Syn. (*teste* Heinrich, 1961 (1960), Pt. I, [vol. 92]: 82, 83).

**walkleyae* Heinrich. B. C. (Vancouver).

Coelichneumonops walkleyae Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 83, 85. ♀.

Genus **PROTICHNEUMON** Thomson, p. 304

**effigies* Heinrich. Newfoundland to B. C., Maine, Pa., Mich., Kans., S. Dak., Colo., Mont.

Protichneumon effigies Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 22, 26. ♂, ♀.

grandis grandis (Brullé), changed status. Canad. and Transit. Zones. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. I, pp. 22, 25).

Ichneumon regnatrix Cresson. Remove from syn. A valid subsp.

grandis regnatrix (Cresson). Pa., Del., Ga., Fla., La., Kans. A valid subsp. (*teste* Heinrich, 1961 (1960), Pt. I, pp. 22, 25).

**grandis victoriae* Heinrich. B. C.

Protichneumon grandis victoriae Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 22, 25. ♂, ♀.

**polytropus* Heinrich. N. C. (Boardman).

Protichneumon polytropus Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 22, 27. ♂ [misspelled *polytropus* in key].

Genus **AMBLYJOPPA** Cameron, p. 340

magna (Cresson).

Taxonomy: Heinrich, 1961 (1960), Pt. I, p. 27.

*Genus **CATADELPHOPS** Heinrich

Catadelphops Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 863.

Type: *Trogus buccatus* Cresson. By monotypy and orig. desig.

Place on p. 304 of Catalog after *Amblyjoppa* Cameron.

buccatus (Cresson). Transf. from *Catadelphus* Wesmael (*teste* Heinrich, 1962, Pt. VII, p. 864).

*Genus **NEAMBLYJOPPA** Heinrich

Neamblyjoppa Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 865.

Type: *Neamblyjoppa nasuta* Heinrich. By monotypy and orig. desig.

Place on p. 304 of Catalog after **Catadelphops* Heinrich.

**nasuta* Heinrich. Ariz.

Neamblyjoppa nasuta Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 866. ♀.

Tribe **TROGINI**

Revision: Heinrich, 1962. Pt. VII, Canad. Ent. Sup. 29: 807-860.

*Subtribe **CALLAJOPPINA**

Genus **CATADELPHUS** Wesmael, p. 304

atrox (Cresson). Okla. Host: *Proserpinus juanita* Stkr.

atrox var. *marginipennis* (Cresson). Elevated to specific rank.

marginipennis (Cresson), new status. Alta.

Catadelphus atrox var. *marginipennis* (Cresson) of Catalog.

**ochraceus* Heinrich. Okla.

Catadelphus ochraceus Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 811, 813. ♂.

semiruber Hopper. B. C., Wyo.

*Genus **CALLAJOPPA** Cameron

Callajoppa Cameron, 1903. Entomologist 36: 236.

Type: (*Callajoppa bilineata* Cameron) = [*Ichneumon*] *cirro-gaster* (Schrank). By monotypy.

Place after *Catadelphus* Wesmael, p. 304.

**cirrogaster* (Schrank). ?Ont.; Europe; Japan.

Ichneumon cirrogaster Schrank, 1781. Enum. Ins. Austriae, p. 348.

**Ichneumon lutorius* Fabricius, 1787. Mant. Ins. I, p. 262.

**Callajoppa bilineata* Cameron, 1903. Entomologist 36: 236. ♀.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 814-815.

Genus **GNAMPTOPELTA** Hopper, p. 304

obsidianator obsidianator (Brullé). Que., Man.

Genus **TRICYPHUS** Kriechbaumer, pp. 304-305

ater Hopper. Fla.

**elegans floridanus* Heinrich. Fla.

Tricyphus elegans floridanus Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 840, 842. ♂.

Genus **TMETOGASTER** Hopper

(= *Conocalama* subgenus *Tmetogaster* Hopper, p. 305)

Raised to generic rank (*teste* Heinrich, 1962, Pt. VII, p. 836).

nubilipennis (Haldemann). Maine. Host: ?*Ampeloclea myron* Cresson.

Genus **CONOCALAMA** Hopper

(= *Conocalama* subgenus *Conocalama* Hopper, pp. 305-306)

Raised to generic rank (*teste* Heinrich, 1962, Pt. VII, p. 815).

uolteri (Cresson), changed status. Raised to sp. rank (*teste* Heinrich, 1962, Pt. VII, pp. 816, 818, 827; ♀ discussed).

brullei (Cresson). Hosts: *Dolba hylaenus* Drury, *Paonias astylus* Drury, *P. myops* S. & A., *Phlegethontius sexta* Joh.

canadensis (Provancher). Atlantic to Cont. Divide in Transit., U. Austr. Zones. Hosts: *Paonias myops* S. & A. Removed from syn. of *C. copei* (Cresson); a valid sp. (*teste* Heinrich, 1959, Ent. News 70 (8): 206).

Conocalama copei var. *nigrocinctus* (Hasey) (syn. *teste* Heinrich, 1962, Pt. VII, p. 822).

**catalinarum* Heinrich. Ariz. (Mt. Lemmon).

Conocalama catalinarum Heinrich, 1957. Canad. Ent. 89 (7): 334. ♂.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 817, 835-836.

copei copei (Cresson), changed status. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. VII, p. 821).

Trogus canadensis Provancher. Remove from syn. Valid sp.

**copei heteropteryx* Heinrich. Maine, Que., Ont.

Conocalama copei heteropteryx Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 816, 822. ♂, ♀.

copei var. *nigrocinctus* (Provancher). Syn. of *canadensis* (Provancher).

fuscalata Hopper. Ont.

**manitobae* Heinrich. Man. (Aweme).

Conocalama manitobae Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 817, 834. ♂.

mellosa mellosa (Cresson). N. Mex., Colo. Transf. from subsp. of *occidentalis* (Cresson).

Taxonomy: Heinrich, 1962, Pt. VII, pp. 817, 818, 829, 830 (relationships discussed; ♂ neallotype).

- mellosa rileyi** (Cresson), changed status. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. VII, pp. 817, 818, 830; ♂ neallotype).
- occidentalis** (Cresson), changed status. West. No. Amer. Host: *Smerinthus cerisyi* Kby. Raised to sp. rank (*teste* Heinrich, 1962, Pt. VII, p. 823).
- ?**Conocalama occidentalis occidentalis** var. **luteata** Hopper (syn. *teste* Heinrich, 1962, Pt. VII, p. 823).
- Taxonomy: Heinrich, 1962, Pt. VII, pp. 823-825.
- occidentalis bolteri** (Cresson). Given sp. rank.
- Trogus quebecensis** Provancher. A valid species.
- occidentalis mellosa** (Cresson). Now recognized as **mellosa mellosa** (Cresson).
- quebecensis** (Provancher). N. S., Maine, Que., Ont., Minn., Man., B. C. Host: ?*Eacles imperialis* Drury. Removed from syn. of **occidentalis bolteri** (Cresson); a valid sp. (*teste* Heinrich, 1962, Pt. VII, pp. 817, 818, 826).
- rileyi** (Cresson). Subsp. of **mellosa** (Cresson).

*Subtribe TROGINA

Genus MACROJOPPA Kriechbaumer, p. 306

Taxonomy: Heinrich, 1962, Pt. VII, pp. 845-846 (doubts of gen. syn. expressed).

Genus TROGUS Panzer, p. 306

Trogus Panzer. Under type citation change [*Ichneumon*] var. **coerulator** (Fabricius) to: [*Ichneumon*] **lapidator coerulator** (Fabricius).

Dinotomus Foerster. Change type citation to:

Type: *Ichneumon lapidator* Fabricius. Desig. by Ashmead in Smith, 1900.

Psilomastax Tischbein. Remove from syn. A valid genus containing no Nearctic spp. (*teste* Heinrich, 1962, Pt. VII, pp. 844, 846, in text).

edwardsii Cresson.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 848, 852-853 (prob. subsp.).

flavipennis Cresson. Wyo.

fulvipes Cresson. North. Transit. Zone.

***lapidator coerulator** (Fabricius). Yukon; Europe. *T. lapidator lapidator* (Fab.) is Palaearctic. Host: *Papilio machaon* L.

Ichneumon coerulator Fabricius, 1804. Systema Piezatorum, p. 68, no. 79.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 847, 848-849.

pennator (Fabricius). Host: *Papilio polyzenes asterias* Putnam.

***Dinotomus vulpinus** var. **nigrithorax** Strand, 1912. Arch. Naturg. Jahrg. 78, Abt. A (6): 74. ♂. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 105.)

Biology: Heinrich, 1962, Pt. VII, pp. 849, 850 (notes on hosts).

Subfamily LISSONOTINAE

Tribe GLYPTINI

Genus GLYPTA Gravenhorst, pp. 306-309

fumiferanae (Viereck). Utah, Colo., Ariz. Hosts: *Dioryctria reniculella* (Grt.), *Sciaphila duplex* (Wlsh.).

Biology: Dodge, 1961. Canad. Ent. 93 (3): 222-228.

Tribe LISSONOTINI

Genus ALLOPLASTA Foerster, p. 310

(=*Amersibia* of Catalog, p. 310)*Amersibia* Auctt., nec Foerster (see *Lampronota* Curtis).**Trysicampe* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 207 (syn. by Townes, Townes, and Gupta, 1961, p. 206; Perkins, 1962, p. 461).Type: *Ichneumon piceator* Thunberg. Desig. by Perkins, 1962.**Trichopimpla* Cameron, 1903. Ztschr. f. Hym.-Dipt. 3 (5): 303 (syn. teste Morley, 1913, Fauna Brit. India, Hym. vol. 3, pt. 1, p. 222; Townes, Townes and Gupta, 1961, p. 205-206).Type: *Trichopimpla pilosa* Cameron. By monotypy.*bullata* (Davis), n. comb. Transf. from *Amersibia* Foerster, p. 310; change vol. no. of bibliog. ref. from 21 to 22.*superba* (Provancher), n. comb. Transf. from *Amersibia* Foerster, p. 310.Genus *Amersibia* Foerster, p. 310*Amersibia* Foerster. Add pp. 214, 218 to bibliog. citation. Change type desig. to *Ichneumon catenator* Panzer. By substitution of *Amersibia* for *Meniscus* Schiodte. *Amersibia* was proposed by Foerster as a new name for *Meniscus* Schiodte which he considered preocc. by the plant name *Meniscium* (teste Foerster's handwritten MS; Schmiedeknecht, 1888, Zool. Jahrb. 3 (3): 439). Syn. of *Lampronota* Curtis, p. 311.*Alloplasta* Foerster. Remove from syn. A valid genus (teste Perkins, 1962, p. 403).*bullata* (Davis). Transf. to *Alloplasta* Foerster, p. 310.*superba* (Provancher). Transf. to *Alloplasta* Foerster, p. 310.

Genus LAMPRONOTA Curtis, p. 311

Meniscus Schiodte. Delete type citation. Add: Type: *Ichneumon catenator* Panzer. Desig. by Viereck, 1914. (*Ichneumon setosus* Holmgren was not an orig. incl. sp.).*Amersibia* Foerster. Proposed as n. name for *Meniscus* (erroneously believed preocc.).**Ctenopimpla* Cameron, 1899. Manchester Lit. and Phil. Soc. Mem. and Proc. 43 (3): 189. Preocc. (Syn. teste Townes, Townes, and Gupta, 1961, p. 204.)Type: *Ctenopimpla albomaculata* Cameron. By monotypy.**Adelopimpla* Schulz, 1906. Spolia Hym., p. 116. N. name for *Ctenopimpla*.

LISSONOTA subgenus LISSONOTA Gravenhorst, pp. 311-312

bibrevicincta (Davis). Change vol. no. in bibliog. ref. from 21 to 22.*occidentalis* (Viereck). Change page no. in bibliog. ref. from 83 to 84.

Genus PIMPLOPTERUS Ashmead, pp. 312-314

argyresthia Walley. N. S., N. B., Que., Ont. Host: *Argyresthia laricella* Kft.*Pimplopterus argyresthia* Walley, 1961. Canad. Ent. 93 (1): 1. ♂, ♀.*davisi* Townes.*Lampronota angusta* Davis. Change vol. no. in bibliog. ref. from 17 to 22.*electra* (Viereck). Change page no. in bibliog. ref. from 83 to 84.*fenellus* (Viereck).*Lissonota fenella* Viereck. Change page no. in bibliog. ref. from 82 to 83.

Harrimaniella minor Viereck. Change page no. in bibliog. ref. from 86 to 87.

palloranus (Davis). Change vol. no. in bibliog. ref. from 21 to 22.

parvus (Cresson). Host: *Dioryctria reniculella* (Grt.).

sexcinctus (Ashmead). Does not belong in *Pimplopterus*; a revisionary study of Lissonotini necessary for placement.

Genus **CRYPTOIMPLA** Taschenberg, pp. 314–315

Xenacis Foerster. Transf. from syn. of *Cylloceria* Schiodte, p. 342 (*teste* Perkins, 1962, p. 462).

Genus *Asphragis* Foerster, p. 315

Asphragis Foerster. Type-species misdet. Transf. to syn. of *Cylloceria* Schiodte, p. 342.

michiganensis (Davis). Transf. to **Campocinet*a Schmiedeknecht.

mirabilis (Cresson). Transf. to **Campocinet*a Schmiedeknecht.

subflavus (Davis). Transf. to **Campocinet*a Schmiedeknecht.

*Genus **CAMPOCINETA** Schmiedeknecht

Asphragis of authors not of type-species (misdet. by authors).

*Campocinet*a Schmiedeknecht, 1900. Zool. Jahrb. Abt. f. System. 13 (4): 301, 306, 309, 343. (See Townes, Townes, and Gupta, 1961, p. 206).

Type: *Campocinet*a *varicornis* Schmiedeknecht. By monotypy.

Replaces *Asphragis* of authors, p. 314.

michiganensis (Davis), n. comb. Transf. from *Asphragis* Foerster, p. 315.

mirabilis (Cresson), n. comb. Transf. from *Asphragis* Foerster, p. 315.

subflavus (Davis), n. comb. Transf. from *Asphragis* Foerster, p. 315.

Genus **SYZEUCTUS** Foerster, p. 315

Diceratops Foerster. In type citation after "Included" add, and designated.

Syzeuctus Foerster. In type citation after "Included" add, and designated.

Syzeucta Thomson. Delete type citation. Add: Emend.

**Leptoglyphis* Brèthes, 1927. Ent. Mitt. 16: 319 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 207).

Type: *Leptoglyphis minasensis* Brèthes. By monotypy.

**Paratanera* Rao, 1953. Indian Forest Rec. (n. s.) Ent. 8 (8): 171 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 207).

Type: *Paratanera indica* Rao. Orig. desig.

Tribe **BANCHINI**

Genus **EXETASTES** Gravenhorst, pp. 316–319

**Sennophrys* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 158 (syn. *teste* Perkins, 1962, p. 451).

Type: *Exetastes notatus* Holmgren. Desig. by Perkins, 1962.

**Icyona* Cameron, 1903. Ztschr. Syst. Hym. Dipt. 3: 340 (syn. *teste* Townes, Townes, and Gupta, p. 210).

Type: (*Icyona rufipes* Cameron) = *Exetastes cameroni* Townes. By monotypy.

**Rhynchexetastes* Cameron, 1906. So. African Mus. Ann. 5: 102 (syn. *teste* Townes, Townes, and Gupta 1961, p. 210).

Type: *Rhynchexetastes violaceipennis* Cameron. By monotypy.

Tegona Morley. Delete question-mark. Change type citation to: (*Tegona rufipes* Morley) = *Exetastes cameroni* Townes.
pictus Cushman. Ariz.

Subfamily CTENOPELMATINAE

(= *Scolobatinae* of Catalog and *Mesoleiinae* of Sup. 1)

Tribe EUCERATINI

Genus EUCEROS Gravenhorst, pp. 321-322

**Tautozelus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 212 (syn. *teste* Perkins, 1962, p. 457).

Type: (*Euceros egregius* Holmgren) = *Euceros serricornis* Haliday. Desig. by Perkins, 1962.

frigidus Cresson. Que., N. H., N. Y. Hosts: *Endasys subclavatus* (Say), *Lamachus* sp., *Neodiprion lecontei* (Fitch), *N. pratti banksianae* Roh., *Olesicampe lophyri* (Riley).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 34-36.—Tripp, 1961, Canad. Ent. 93 (1): 40-58.

thoracicus Cresson. B. C. Host: *Melanolophia imitata* Wlkr.

Tribe CATOGLYPTINI

(= *Pionini* of Catalog)

Genus TREMATOPYGUS Holmgren, p. 322

**Amorphognathon* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 203 (syn. *teste* Perkins, 1962, p. 404).

Type: *Tryphon melanocerus* Gravenhorst. Inc. by Kriechbaumer, 1897.

Epachthes Foerster. Preocc. Remove from syn. (An isogenotypic syn. of *Azelus* Foerster with no Nearctic spp.).

**Rhigelus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 208 (syn. *teste* Perkins, 1962, p. 449).

Type: (*Trematopygus kriechbaumeri* Thomson) = *melanocerus* (Gravenhorst). Desig. by Perkins, 1962.

**Campoporus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 210 (syn. *teste* Perkins, 1962, p. 412).

Type: *Ichneumon dictator* Thunberg. Desig. by Perkins, 1962.

Epachtus Thomson. Emend. Remove from syn.

Genus PION Schiedte, pp. 323-324

Sympherta Foerster. In type citation change "desig." to: Incl. by Davis, 1897.

?*Stiphrosomus* Foerster. Perkins, 1962, pp. 453, 458, considers this a syn. of *Trapezocora* Foerster.

*?*Trapezocora* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 208. Considered valid genus by Perkins, 1962, p. 458.

Type: *Mesoleptus antilope* Gravenhorst. Desig. by Perkins, 1962.

*?*Atrestes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209. Considered a syn. of *Trapezocora* by Perkins, 1962, pp. 408, 458.

Type: **Catoglyptus (Stiphrosomus) sulcatus* Thomson. Desig. by Perkins, 1962.

*?*Campogenes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209.

Type: (*Tryphon antilope* Gravenhorst) = *Trapezocora antilope* (Gravenhorst). Desig. by Perkins, 1962.

?Eustiphrosomus Hincks.

A revision will probably show several segregates here, or a single heterogeneous group.

Tribe CTENOPELMATINI

Genus CTENOPELMA Holmgren, pp. 324, 325

Several undescribed Nearctic spp. belong here.

XENOSCHESIS subgenus XENOSCHESIS Foerster, p. 325

Polycinetus Thomson. Delete type citation. Transf. to syn. of subg. *Polycinetis* Foerster as emend.

XENOSCHESIS subgenus POLYCINETIS Foerster, p. 325

Polycinetus Thomson. Emend. Preocc. Transf. from syn. of subg. *Xenoschesis* Foerster.

Tribe MESOLEIINI

Genus PERILISSUS Holmgren, pp. 326-327, Sup. 1, p. 55

**Ichnaeops* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 197.

Type: *Perilissus lutesceus* Holmgren. Incl. and desig. by Perkins, 1962.

**Exacrodes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 210 (syn. *teste* Townes, Townes, and Gupta, 1961, pp. 213-214).

Type: (*Exacrodes populans* Morley) = *cingulator* (Morley). Incl. by Morley, 1913.

**Pseudochorus* Rao, 1953. Indian Forest Rec. (n.s., Ent.) 8: 195. (syn. *teste* Townes, Townes, and Gupta, 1961, pp. 213-214).

Type: (*Pseudochorus kuriani* Rao) = *cingulator* Morley. Orig. desig.

Genus LABROSSYTA Foerster, p. 328

Labrossyta Foerster. Change type citation to: *Ichneumon scotopterus* Gravenhorst. Incl. by Thomson, 1894.

**Labrossytus* Thomson, 1894. Opusc. Ent., fasc. 18, p. 2001. Emend.

Genus Laphyroscoptes Foerster, p. 328

Laphyroscoptes Foerster. Delete type citation. Syn. of *Lathrolestes* Foerster, p. 328.

capitatus (Cresson). Transf. to **Nanium* Townes, n. gen.

longipes (Davis). Transf. to **Zaplethocornia* Schmiedeknecht.

Genus LATHROLESTES Foerster, pp. 328-329

Lathrolestes Foerster. Change type citation to: *Tryphon clypeatus* Zetterstedt. Desig. by Viereck, 1914. (See Perkins, 1962, p. 435.)

Laphyroscoptes Foerster (syn. *teste* Townes, Townes, and Gupta, 1961, pp. 214-215; Perkins, 1962, p. 434). Change type citation to: (*Tryphon gorskii* Ratzeburg) = *luteolator* Gravenhorst. Desig. by Viereck, 1914.

Lathrolestes Thomson. Delete type citation. Add: Emend.

Laphyroscoptes Thomson. Delete type citation. Add: Emend.

*Genus NANIMUM Townes, n. gen.

(= *Laphyroscoptes* of authors)

Type: *Tryphon capitatus* Cresson. Orig. desig.

The genus is one proposed by Townes (MS) for *Laphyroscoptes capitatus* (Cresson), invalid type desig. for *Laphyroscoptes* Foerster. His description follows:

Genus NANIAM

Front wing 3.5 to 5.4 mm. long; clypeus separated from face by an impression, its profile weakly convex and apex broadly arcuate; mandibular teeth equal; junction of occipital and hypostomal carinae some distance above base of mandible; lateral ocellus separated from eye by about 2.5 its diameter; first flagellar segment about 1.55 as long as second; mesopleurum with a median longitudinal groove on only its hind $0.25 \pm$; notaulus faint and rather short, or absent. Propodeum without carinae, its profile rather weakly convex; tarsal claws short, sparsely pectinate; areolet absent; mediella strongly arched; nervellus vertical or inclivous, broken below the middle or sometimes not broken; first tergite rather short and broad, its dorsal profile weakly convex or almost flat, spiracle at the middle, its base without a dorsal pit, its dorso-lateral carina present to apex of glymma and sometimes present (but weak) between spiracle and apex; glymma rather short, deep, separated from glymma on opposite side by a translucent partition; thyridium absent; sides of tergites 2 and 3 curved under, at least in female not clearly separated from their rather narrow epipleura; male subgenital plate simple; tip of penis somewhat swollen, moderately decurved, its apex rounded; ovipositor sheath 0.35 to 0.6 as long as apical depth of abdomen, moderately wide; ovipositor straight, moderately stout, with a strong subapical dorsal notch; cercus like the head of a mushroom, much wider than long.

Type: *Tryphon capitatus* Cresson.

This is an American genus, with the type-species in the eastern part of the Nearctic Region, and an undescribed species each in Mexico and in Chile.

The generic name is from *νᾰνιον* (puppet), in reference to the small size.

capitatum (Cresson), n. comb. Transf. from *Laphyroscoptus* Foerster, p. 328.

*Genus ZAPLETHOCORNIA Schmiedeknecht

Zaplethocornia Schmiedeknecht, 1912. Opusc. Ichn. fasc. 32, p. 2519.

Type: *Ichneumon procurator* Gravenhorst. Incl. by Schmiedeknecht, 1913.

Place on p. 329 before *Synoecetes* Foerster.

longipes (Davis), n. comb. Transf. from *Laphyroscoptus* Foerster, p. 328 (*teste* Townes *in litt.*).

Genus SYNOECETES Foerster, p. 329

Polyrhysius Thomson. Delete type citation. Add: Emend.

*Genus ESIGNA Perkins

(= *Gnesia* Foerster, p. 330)

Esigna Perkins, 1962. British Mus. (Nat. Hist.) Bul. Ent. 11 (8): 425.

New name for *Gnesia* Foerster, 1868, preocc. by Doubleday, 1848.

Type: *Gnesia caliroae* Rohwer. By substitution of *Esigna* for *Gnesia*.

rotundata (Davis), n. comb.

Genus PROTARCHUS Foerster, p. 330

Otlophorus Foerster. Remove from syn. and from Catalog. A valid genus (*teste* Perkins, 1962, p. 441) with no descr. Nearctic spp.

Neales Foerster. Isogenotypic syn. of preceding. Remove from Catalog.

Protarchoides Cushman. A revision may prove this is a distinct but closely related genus.

Genus HIMERTA Foerster, pp. 330-331

Himerta Foerster, 1868. Change type citation to *Euryproctus* (*Himertus*) *bisannulatus* Thomson.

Clepsiporthus Foerster. Change type citation to (*Mesoleptus?* *rubiginosus* Davis) = *Himerta rubiginosa* (Cresson).

- **Dolioctonus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 212.
Type: *Ichneumon defectivus* Gravenhorst. Incl. and desig. by Perkins, 1962.
- Himertus* Thomson. Delete type citation and add: Emend.
- **Daisetsuzania* Uchida, 1930. Hokkaido Univ., Fac. Agr., Jour. 25: 289 (syn. *teste* Townes, 1957, Proc. Ent. Soc. Wash. 59 (3): 104).
Type: *Daisetsuzania albifrons* Uchida. By monotypy and orig. desig.

annulata (Davis). Change vol. no. in bibliog. ref. from 21 to 22.

Genus *MESOLEIUS* Holmgren, pp. 331-334, Sup. 1, pp. 55-56

- Alexeter* Foerster. Emend. type citation as follows: (*Mesoleptus (Alexeter) ruficornis* Gravenhorst) = *sectator* (Thunberg), 1822. Perkins, 1962, p. 403, considers this a valid genus.
- Lagarotis* Foerster. Considered a valid genus by Perkins, 1962, p. 434.
- **Zemiophron* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 206 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 215). Perkins, 1962, p. 464, considers this a syn. of *Alexeter* Foerster.
Type: *Mesoleius laevissimus* Strobl. Desig. by Perkins, 1962.
- Oneista* Foerster. Perkins, 1962, p. 440, considers this a syn. of *Lagarotis* Foerster.
- **Dysantes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 207 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 215). Considered syn. of *Lagarotis* Foerster by Perkins, 1962, p. 419.
Type: *Ichneumon debitor* Thunberg. Desig. by Perkins, 1962.
- Aeolometis* Foerster. (Valid genus, *teste* Perkins, 1962, p. 402).
- Scopesis* Foerster. (Valid genus, *teste* Perkins, 1962, p. 451). Add to type citation: = *bicolor* (Gravenhorst).
- Tachyporthus* Foerster. Considered syn. of *Aeolometis* Foerster by Perkins, 1962, p. 456.
- **Scoparches* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 211 (syn. *teste* Townes, Townes, and Gupta, p. 215). Considered syn. of *Scopesis* Foerster by Perkins, 1962, p. 451.
Type: *Tryphon bicolor* Gravenhorst. Desig. by Perkins, 1962.
- **Allocritus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 211 (syn. *teste* Townes, Townes and Gupta, p. 215; Perkins, 1962, p. 403).
Type: *Mesoleius tenuiventris* Holmgren. Desig. by Perkins, 1962.
- Spudaea* Foerster. Considered syn. of *Rhinotorus* Foerster by Perkins, 1962, p. 452. Change type citation to: *Tryphon leucostomus* Gravenhorst. Desig. by Viereck, 1914. (See Perkins, 1962, p. 452.)
- **Rhinotorus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 211 (syn. *teste* Townes, Townes, and Gupta, p. 215). Considered valid genus by Perkins, 1962, p. 450.
Type: *Spudaea longicornis* Schmiedeknecht. Desig. by Perkins, 1962.
- **Campodorus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 213 (syn. *teste* Townse, Townes, and Gupta, 1961, p. 215; Perkins, 1962, p. 412).
Type: *Mesoleius melangaster* Holmgren. Desig. by Perkins, 1962.
- Spudaeus* Thomson. Delete type citation. Add: Emend.
- Lagarotus* Thomson. Delete type desig. Add: Emend.
- Scopesus* Thomson. Delete type desig. Add: Emend.
- Aelometis* Thomson. Delete type desig. Add: Emend.

A revision is necessary before the Nearctic species can be placed in the segregates comprising this genus.

nigropictus (Davis).

Lampronota nigropicta Davis. Change vol. no. in bibliog. ref. from 21 to 22.

tenthredinis Morley. Pa., Mich.

Biology: Finlayson, 1960. *Canad. Ent.* 92 (12): 933-934 (larval).—
Drooz, 1961. *Canad. Ent.* 93 (9): 804-807 (host immunity).

Genus **LAMACHUS** Foerster, pp. 334-335

angularis (Davis). Idaho. Host: *Neodiprion* sp. nr. *scutellatus* Roh.

contortionis Davis. Ky. Host: *Neodiprion lecontei* (Fitch).

Genus **SAOTIS** Foerster, p. 335

Saotus Thomson. Add 'Emend.' after bibliog. ref. Delete type desig.

Tribe EURYPROCTINI

Genus **SYNOMELIX** Foerster, p. 335

Zemiophora Foerster. In type citation change "Included by Dalla torre, 1901" to: Included by Thomson, 1894. Perkins, 1962, p. 464, considers this a valid genus.

Synomelix Foerster. Change type citation to: (*Synomelix sieboldii* Kriechbaumer) = *Synomelix albipes* (Gravenhorst) (*teste* Perkins, 1962, p. 456).

Zemiophorus Thomson. Delete type citation. Add: Emend.

Genus *Dialges* Foerster, pp. 335-336

Dialges Foerster. Change type citation to: *Tryphon vepretorum* Gravenhorst. Incl. by Kriechbaumer, 1897 (June); Davis' species was incl. later. Syn. of *Otlophorus* Foerster (*teste* Perkins, 1962, pp. 417, 441).

Delete from catalog. No Nearctic spp. Transf. Nearctic spp. to **Pantorhaestes** Foerster.

Genus **PANTORHAESTES** Foerster

(= *Dialges* of Catalog, p. 335)

Trophoctonus Foerster. Transf. from syn. of *Dialges* Foerster.

Pantorhaestes Foerster. Removed from syn. of *Dialges* Foerster as a valid genus (*teste* Perkins, 1962, pp. 443, 460).

frontalis (Davis), n. comb. Transf. from *Dialges* Foerster, p. 336.

rivalis (Davis), n. comb. Transf. from *Dialges* Foerster, p. 336.

tricolor (Davis), n. comb. Transf. from *Dialges* Foerster, p. 336.

Genus **MESOLEPTIDEA** Viereck, p. 336

decens (Cresson). Wis. Host: *Archips* sp.

Genus **POLYTERUS** Foerster, p. 336

Sychnoportus Foerster, 1868, p. 208 (as *Sychnoportus*, p. 220). Change date in type citation to 1898 (1897).

Genus **SYNDIPNUS** Foerster, p. 337

Polypystis Foerster. Perkins, 1962, p. 447, considers this a valid genus. If so treated, most (all?) of the Nearctic spp. will go in *Polypystis*.

Genus **HYPAMBLYS** Foerster, p. 337

**Apystus* Foerster, 1868. *Naturh. Ver. Rheinlande Verh.* 25: 212 (syn. *teste* Perkins, 1962, p. 406).

Type: *Tryphon albopictus* Gravenhorst. Desig. by Perkins, 1962.

**Lathrophagus* Foerster, 1868. *Naturh. Ver. Rheinlande Verh.* 25: 213 (syn. *teste* Perkins, 1962, p. 435).

Type: *Mesoleius buccatus* Holmgren. Desig. by Perkins, 1962.

Genus **PHOBETES** Foerster(=*Ipoctoninus* Hincks, p. 338)**Phobetes** Foerster, 1868 (nec Auctt.).Type: *Tryphon fuscicornis* Holmgren. Desig. by Viereck, 1914, as type of **Phobetes** Thomson, emend.**Ipoctonus** Foerster. Preocc. (Syn. teste Townes, Momoi, and Townes, 1965, p. 268.)**Philotymma** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209.Type: *Ichneumon chrysostomus* Gravenhorst. Desig. by Townes, Momoi, and Townes, 1965. An earlier desig. by Perkins, 1962 of *Ichneumon leptocerus* Gravenhorst is invalid because that sp. is not one of the four (two through generic syn.) included by Townes, Townes, and Gupta, 1961, p. 217, who made no type desig. then.***Phobetes** Thomson, 1889. Opusc. Ent., fasc. 13 p. 1430. Emend.***Griphodes** Kriechbaumer, 1894. Termesz. Füzetek 17: 57 (syn. of *Philotymma* Foerster teste Townes, Townes, and Gupta, 1961, p. 217).Type: *Griphodes caligatus* Kriechbaumer. By monotypy.***Phobetellus** Hincks, 1944. Proc. Roy. Ent. Soc. London (B) 13: 34.N. name for **Phobetes**.**Ipoctoninus** Hincks. N. name.Perkins, 1962, stated that *Philotymma* Foerster was a new synonym of *Phobetes* Foerster. As first reviser his choice is valid, even though Townes, Momoi, and Townes, 1965, use the name *Philotymma* for the genus.**egregia** (Davis), n. comb.**striata** (Davis), n. comb.**unicolor** (Provancher), n. comb.Genus **HYPERALLUS** Foerster, p. 338***Gastroporus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 206.Type: *Hyperallus caliroae* Viereck. Incl. and desig. by Perkins, 1962.Genus **HADRODACTYLUS** Foerster, pp. 338-339***Dizemon** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 199.Type: *Mesoleptus typhae* (Fourcroy). Incl. by Kriechbaumer, 1891.**Zemiodes** Foerster. Change type citation to: *Mesoleptus (Zemiodes) erythropus* Kriechbaumer. Desig. by Perkins, 1962.***Narcopoea** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 204.Type: *Ichneumon typhae* Fourcroy. Incl. by Kriechbaumer, 1891.Genus **EURYPROCTUS** Holmgren, pp. 339-340**Euryproctus** Holmgren. In type citation, replace "Desig. by Viereck, 1912" with: Desig. by Thomson, 1894.**bituminosus** Davis. Mass., Minn., Idaho.Tribe **OXYTORINI**(=*Callidiotini* of Catalog)**OXYTORINA** was used by Kerrich in 1939 for this supergeneric category.Genus **OXYTORUS** Foerster(=*Callidiotes* Foerster, p. 340)**Delolytus** Foerster. Syn. Change type citation to: (*Atractodes varicornis* Holmgren) = *luridator* (Gravenhorst).**Callidiotes** Foerster (syn. teste Meyer, 1936, Tabl. anal. Faune URSS (21) v. 5, p. 147). Change type citation to: (*Mesoleptus coxator*

Gravenhorst) = *luridator* (Gravenhorst) (*teste* Pfankuch, 1906, Ztschr. syst. Hym. Dipt. 6: 81; Perkins, 1962, p. 411).

Oxytorus Foerster. Selected as valid name by first reviser (Meyer, 1936, Tabl. anal. Faune URSS (21) v. 5, p. 147).

**Pantoporthus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209.

Type: *Ichneumon luridator* Gravenhorst. Desig. by Perkins, 1962.

Paracania Viereck. Syn.

Prosmoridaea Cushman. Syn.

albopleuralis (Provancher), n. comb.

antennatus (Cresson). Va. Placed in *Oxytorus* by Dalla Torre, 1901. Cat. Hym., v. 3 (Pt. 1), p. 352.

Exolytus concamerus Davis. Transf. from **Alphabetic List of Unplaced Species**, p. 408. N. syn.

elongata (Davis), n. comb.

Subfamily ORTHOPELMATINAE

Genus ORTHOPELMA Taschenberg, p. 341

californicum Ashmead. B. C., Wash., Oreg., Idaho. Hosts: *Diastrophus kincaidii* Gill.; gall on thimbleberry.

mediator (Thunberg). Ill., N. Dak., Colo., Wash. Hosts: *Diplolepis mayri* (Schlecht.); *D. multispinosa* (Gill.).

*Subfamily MICROCLEPTINAE

(= *Plectiscinae* of authors and Catalog, pp. 341-345, Sup. 1, p. 56)

Townes selected the name *Microleptinae*, from *Microleptes*, the oldest generic name, for *Plectiscinae* of authors. Unfortunately, *Microleptes* is a *lapsus calami* for *Microcleptes*. In Gravenhorst's original description, the Greek word μικροκλεπτης was incorrectly spelled μικρολεπτης and transliterated from the latter, but the meaning given was for the former, "furem rerum minutarum significante, quia hoc insectum minutum forsan non nisi larvas insectorum parvorum aggreditur." Paragraphs (a) (ii) and (c) of Article 32 of the International Rules apply here (see also Hopper, 1959. Ent. Soc. Wash. Proc. 61 (4): 166).

Genus CYLLOCERIA Schiedte, p. 342

Asphragis Foerster. Transf. from **Lissonotini** (syn. *teste* Perkins, 1962, p. 407; misdet. type-species).

Xenacis Foerster. Transf. to syn. of *Cryptopimpla* Taschenberg.

Genus DIACRITUS Foerster, p. 198

Transf. from **Neoxoridini** (= *Poemeniini* of Catalog, p. 198) (*teste* Cushman, 1917, Ent. Soc. Wash. Proc. 19 (1-4): 162-165; Townes, 1957, Ent. Soc. Wash. Proc. 59 (1): 16), and place provisionally in **Microcleptinae* after *Cylloceria* Schiedte on p. 342 (Townes, *loc. cit. supra*). Change type citation to: (*Mesostenus rufipes* Provancher) = *mulebris* (Cresson). Desig. by Viereck, 1914. (Davis, 1895, only doubtfully referred *mulebris* to *Diacritus*; species definitely incl. by Dalla Torre, 1902, *teste* Perkins, 1962, p. 417.)

Genus SYMPLECSIS Foerster, p. 343

clipeator (Lundbeck). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

Genus MEGASTYLUS Schiedte, p. 343, Sup. 1, p. 56

Correct author name, misspelled "Schidte" in Sup. 1, p. 56.

Brephoctonus Foerster. Transf. to syn. of *Plectiscus* Gravenhorst (= *Leipaulus* Townes, p. 348).

Genus **PROCLITUS** Foerster, p. 344

Proclitus Foerster. Change type citation to: (*Proclitus grandis* Foerster) = *praeter* Haliday (*teste* Perkins, 1962, p. 448).

Genus **MICROCLEPTES** Gravenhorst, emend.

(= *Microleptes* Gravenhorst, p. 345)

See remarks under *Microcleptinae*.

Subfamily **ORTHOCENTRINAE**

(= *Plectiscinae* of type-genus)

Taxonomy: Townes, 1958. Ent. Soc. Wash. Proc. 60 (5): 221 (identity of type-species of *Plectiscus* Gravenhorst).

*Genus **PLECTISCUS** Gravenhorst

(= *Leipaulus* Townes, p. 348)

Plectiscus Gravenhorst, 1829. Ichn. Europaea v. 2, p. 978.

Type: *Plectiscus impurator* Gravenhorst. Desig. by Westwood, 1840.

Brephoctonus Foerster. Syn. Transf. from syn. of *Megastylus* Schiodte, p. 343 (*teste* Townes, 1958. Ent. Soc. Wash. Proc. 60 (5): 221).

Leipaulus Townes (syn. *teste* Townes, *loc. cit. supra*).

suffuscus (Davis). Transf. from *Leipaulus* Townes (*teste* Townes, *loc. cit. supra*).

Subfamily **DIPLAZONTINAE**

(= *Diplazoninae* of Catalog)

Revision: Dasch, 1964. Amer. Ent. Inst. Mem. 3: 1-273; 153 figs. (keys to genera and species).

Genus **DIPLAZON** Nees, pp. 348-349, Sup. 1, p. 57

**albotibialis* Dasch. Que., Alaska.

Diplazon albotibialis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 11, 13, 53.
♂, ♀.

**algidus* Dasch. Greenland and Labrador to Alaska, south to north. Que., Man., Wyo., B. C.

Diplazon algidus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 13, 51. ♂, ♀.

**angustus* Dasch. P. E. I., N. W. T., Man., Yukon, Alaska, Calif., Huds. Zone.

Diplazon angustus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 13, 46. ♂, ♀.

bizonarius (Gravenhorst). Transf. to *Syrphophilus* Dasch.

**bradleyi* Dasch. Que., Man., N. W. T., Alaska, B. C., Wash., N. Mex.

Diplazon bradleyi Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 12, 37. ♂, ♀.

**cascadensis* Dasch. Alta., Wash.

Diplazon cascadensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 12, 14, 49.
♂, ♀.

**constrictus* Dasch. Colo., Calif., Canad. Zone.

Diplazon constrictus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 12, 14, 47.
♂, ♀.

**deletus deletus* (Thomson). Maine, Que. to N. W. T., Alta., Alaska south to N. C., Mich., Colo. Reduced to subsp. status (*teste* Dasch, 1964, p. 41).

- **Bassus multicolor* Holmgren, 1856. Svensk. Vet.-Akad. Handl. (n.s.) 1: 355. ♂, ♀. Preocc.
Bassus deletus Thomson, 1890. Opusc. Ent. 14: 1471. ♂, ♀.
- **deletus fuscifemoratus* Dasch. Alaska, Yukon south to Oreg., Utah, Colo.
Diplazon deletus fuscifemoratus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 41, 43. ♂, ♀.
- **flavifrons* Dasch. B. C., Wash., Calif.
Diplazon flavifrons Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 12, 39. ♂, ♀.
- **galenensis* Dasch. Idaho (Galena Summit, Blaine Co.).
Diplazon galenensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 11, 14, 45. ♂, ♀.
- ichneumonoides* (Provancher). Transf. to *Syrphophilus* Dasch.
Bassus scapulatus Provancher. Transf. to syn. of *Syrphophilus tricinctorius tricinctorius* (Thunberg).
- **insulcatus* Dasch. Alta., Wash.
Diplazon insulcatus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 12, 58. ♂, ♀.
- laetatorius* (Fabricius).
 Biology: Weems, 1954. Ohio Jour. Sci. 54: 45-54.—Butler and Dasch, 1958. Ariz. Agr. Exp. Sta. Tech. Bul. 135: 5-7.
- orbitalis* (Cresson). Transcont. in Huds., Canad. Transit. zones, but mostly west of 100° W. longitude.
Bassus orbitalis Cresson. Deleted from syn. of *tibiatorius* (Thunberg); a valid species (*teste* Dasch, 1964, pp. 11, 13, 29).
Bassus cinctulus Cresson (syn. *teste* Dasch, 1964, p. 29).
Bassus orbitalis Ashmead (syn. *teste* Dasch, 1964, p. 29).
- pectoratorius* (Thunberg). Transit. Zone into Mexico.
- rufiventris* (Gravenhorst). Transf. to *Tymmophorus* Schmiedeknecht.
- scutellaris* (Cresson). Canad. Zone.
- **tetragonus rufigaster* Dasch. Que., Mass., N. Y., Mich., N. W. T., Sask., Mont., Alta., Alaska, B. C., Wash.
Diplazon tetragonus rufigaster Dasch, 1964. Amer. Ent. Inst. Mem. 3: 25, 28. ♂, ♀.
- tetragonus tetragonus* (Thunberg), changed status. Reduced to subsp. rank (*teste* Dasch, 1964, p. 25).
 **Bassus albicornis* Provancher, 1879. Nat. Canad. 11: 273 (*lapsus* for *albicoxus* Provancher).
- tibiatorius* (Thunberg). Remove, in *sensu strictu*, from catalog.
Bassus orbitalis Cresson. Remove from syn.; a valid sp.
Bassus cinctulus Cresson. Syn. of *orbitalis* (Cresson).
Bassus orbitalis Ashmead. Syn. of *orbitalis* (Cresson).
- **tibiatorius occidentalis* Dasch. Alta. to Yukon and B. C. south to Calif., Ariz., Colo. *D. tibiatorius tibiatorius* (Thunberg) occurs in Eurasia.
Diplazon tibiatorius occidentalis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 33, 34. ♂, ♀.
- **walleyi* Dasch. N. W. T., Yukon, Man.
Diplazon walleyi Dasch, 1964. Amer. Ent. Inst. 3: 11, 14, 23. ♂, ♀.

Genus SYRPHOPHILUS Dasch

Zootrephes of authors (in part) (= *Zootrephus* Thomson, emend).
Syrphophilus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 8, 59.
 Type: *Bassus bizonarius* Gravenhorst. Orig. desig.

Place in *Diplazontinae* after genus *Diplazon* Nees, p. 349.

**asperatus* Dasch. Alaska.

Syrphophilus asperatus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 60, 71.
♀.

bizonarius (Gravenhorst). Transf. from *Diplazon* Nees, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 60, 61).

ichneumonoides (Provancher), Transcont. in Canad. Zone. Transf. from *Diplazon* Nees, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 61, 65).

**tricinctorius niveus* Dasch. Mass., Sask., Alta., Alaska south to S. C. and Mo.

Syrphophilus tricinctorius niveus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 67, 70. ♂, ♀.

tricinctorius tricinctorius (Thunberg), changed status. N. W. T. to Alaska, south to N. C., N. Mex., Calif. in Huds., Canad., Transit. Zones. Reduced to subsp. rank (*teste* Dasch, 1964, p. 68).

Bassus scapulatus Provancher (syn. *teste* Dasch, 1964, p. 68).

tricinctus (Ashmead). N. W. T. to Alaska south to Que., Colo., Wash., in Arctic and Huds. Zones. Transf. from syn. of *Promethes elongatus* (Provancher), p. 350 (*teste* Dasch, 1964, pp. 60, 61, 72).

*Genus **TYMMOPHORUS** Schmiedeknecht

Zootrepes of authors (in part) (= *Zootrepus* Thomson, emend.).

Tymmophorus Schmiedeknecht, 1913. Opusc. Ichn. 34: 2709, 2714.

Type: *Tymmophorus lacustris* Schmiedeknecht = *rufiventris* (Gravenhorst). By monotypy.

Place in *Diplazontinae* on p. 349, after **Syrphophilus* Dasch.

**fasciventris* Dasch. Yukon, Alaska, Colo., Huds. Zone.

Tymmophorus fasciventris Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 76, 85. ♂, ♀.

**gelidus* Dasch. N. W. T., Greenland, Arctic Zone.

Tymmophorus gelidus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 87. ♂, ♀.

gillettii (Davis). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 75, 81).

**graculus graculus* (Gravenhorst). Que. to B. C., Alaska, Yukon, south to Colo., Wyo., Wash. in Huds. and Canad. Zones; Europe.

Bassus graculus Gravenhorst, 1829. Ichn. Europaea 3: 339. "? ♀".

Taxonomy: Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 76, 77.

**graculus nigrofemoratus* Dasch. N. W. T., Alta., B. C., Colo.

Tymmophorus graculus nigrofemoratus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 77, 79. ♂, ♀.

rufiventris (Gravenhorst). Transf. from *Diplazon* Nees, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 75, 76, 82).

**thunbergi* Dasch. Que. to Mass., west to B. C., Alaska.

Tymmophorus thunbergi Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 76, 79. ♂, ♀.

Genus **PROMETHES** Foerster, pp. 349-350, Sup. 1, p. 57

Sussaba Cameron. Remove from syn.; a valid genus, *infra*.

cultriformis (Ashmead). Transf. to *Sussaba* Cameron, p. 350, as subsp. of *dorsalis* (Holmgren).

elongatus (Provancher). Transf. to *Sussaba*, p. 350.

Bioblapsis tricincta Ashmead. Transf. to *Syrphophilus* Dasch, p. 349, as valid sp.

Promethes rohveri Brues. Transf. to *Sussaba* Cameron, p. 350, as valid sp.

- ***gravenhorsti** Dasch. Newfoundland, N. B., Mass., N. Y., Mich., Wash., B. C., Alaska.
Promethes gravenhorsti Dasch, 1964. Amer. Ent. Inst. Mem. 3: 231, 232, 236. ♂, ♀.
- ***nomininguis** Dasch. Que. (Nomingue).
Promethes nomininguis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 231, 240. ♂, ♀.
- ***striatus** Dasch. Pa., Ohio, Colo., Alta.
Promethes striatus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 231, 233, 238. ♂, ♀.
- ***sulcator splendidus** Dasch. Alaska to Oreg.
Promethes sulcator splendidus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 233, 236. ♂, ♀.
- sulcator sulcator** (Gravenhorst), changed status. Transcont. Huds., Canad. and Transit. zones. Hosts: *Sphaerophoria robusta* Curr., *Melanostoma mellinum* (L.). Reduced to subsp. rank (*teste* Dasch, 1964, pp. 232, 233).

Genus SUSSABA Cameron

A valid genus (*teste* Dasch, 1964, pp. 7, 230, 241). Transf. from syn. of *Promethes* Foerster. Place after *Promethes* Foerster, p. 350.

- ***cognata faceta** Dasch. N. S., Que., Ont. to N. Y., Mich., also N. C., Tenn., Alaska to Calif. Transit., Canad. and Arctic Zones. *S. cognata cognata* (Holmgren) occurs in Europe.
Sussaba cognata faceta Dasch, 1964. Amer. Ent. Inst. Mem. 3: 264, 265. ♂, ♀.
- ***coloradensis** Dasch. Colo. (4 mi. west Cameron Pass).
Sussaba coloradensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 243, 270. ♀.
- dorsalis cultriformis** (Ashmead), changed status. Alta., B. C., Yukon, Alaska. Reduced to subsp. rank (*teste* Dasch, 1964, pp. 256, 257, 259).
- ***dorsalis dorsalis** (Holmgren). Newfoundland, Labrador, N. W. T., Yukon, Alaska, south to Calif., Colo., Que., Huds., Canad., Transit. Zones.
Bassus dorsalis Holmgren, 1856. Svenska Vetensk.-Akad. Handl. (n.s.) 1 (2): 353, 367. ♀.
- elongata** (Provancher). Transf. from *Promethes* Foerster, p. 350 (*teste* Dasch, 1964, pp. 245, 250).
- ***nigrithorax** Dasch. Que., Baffin Is., N. W. T., Alaska, Colo.
Sussaba nigrithorax Dasch, 1964. Amer. Ent. Inst. Mem. 3: 245, 249. ♂, ♀.
- ***placita** Dasch. B. C., Calif.
Sussaba placita Dasch, 1964. Amer. Ent. Inst. Mem. 3: 242, 244, 269. ♂, ♀.
- ***pulchella coriacea** Dasch. Que., Maine, Ont., south to N. C. west to Minn., Colo., also Alaska.
Sussaba pulchella coriacea Dasch, 1964. Amer. Ent. Inst. Mem. 3: 246, 247. ♂, ♀.
- ***pulchella pulchella** (Holmgren). N. W. T., Que. Huds. Zone; Europe; No. India.
Bassus pulchellus Holmgren, 1856. Svenska Vetensk.-Akad. Handl. (n.s.) 1 (2): 353, 366. ♂, ♀.
- ***punctiventris** (Thomson). N. S., Maine to Mass., west to Oreg., Wash., Alta., Yukon; also Ariz., Colo. Transit., Canad., Huds. zones: Europe.
Homoporus (!) *punctiventris* Thomson, 1890. Opusc. Ent. 14: 1490, 1500. ♀.
 Taxonomy: Dasch, 1964, pp. 242, 244, 267.

rohveri (Brues). Alaska, Yukon, Sask. south to Calif., N. Mex., Canad., Transit Zones. Hosts: *Endrosis sarcitrella* (L.) and *Metasyrphus perplexus* (Osborn). Transf. from syn. of *elongatus* (Provancher), a valid species (*teste* Dasch, 1964, pp. 244, 245, 254).

***rugipleuris ellesmerae** Dasch. Ellesmere Is.

Sussaba rugipleuris ellesmerae Dasch, 1964. Amer. Ent. Inst. Mem. 3: 261, 262, 263. ♂, ♀.

***rugipleuris rugipleuris** Dasch. N. W. T., Yukon, Alaska, Wyo. Arctic, Huds. Zones.

Sussaba rugipleuris rugipleuris Dasch, 1964. Amer. Ent. Inst. Mem. 3: 243, 244, 260, 261, 262. ♂, ♀.

Genus HOMOTROPUS Foerster

Homotropus Foerster. Remove from syn. of *Syrphoctonus* Foerster, Sup. 1, p. 57, a valid genus (*teste* Townes, Townes and Gupta, 1961, p. 329).

Place in Catalog before *Syrphoctonus* Foerster, on p. 350 (Sup. 1, p. 57).

alaskensis (Ashmead). Yukon. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, p. 118).

albopictus albopictus Davis, changed status. N. W. T., Yukon south to Mich., Idaho, B. C., also N. Mex. Reduced to subsp. rank (*teste* Dasch, 1964, p. 101).

***albopictus ithacae** Dasch. N. S., N. W. T., Que., to N. C. west to Wyo., Utah, Wash., Oreg.

Homotropus albopictus ithacae Dasch, 1964. Amer. Ent. Inst. Mem. 3: 101, 103. ♂, ♀.

***aquilonius** Dasch. Greenland.

Homotropus aquilonius Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 135. ♀.

***arizonensis** Dasch. Colo., Ariz., Calif.

Homotropus arizonensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 114. ♂, ♀.

***badius** Dasch. Calif.

Homotropus badius Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 99, 170. ♂, ♀.

belangerii (Provancher). Ont. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 90, 96, 116. ♂, ♀).

***columbiensis** Dasch. Alta., B. C. south to Calif., Utah, Colo.

Homotropus columbiensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 99, 123. ♂, ♀.

***compactus** Dasch. Mich., N. W. T., Colo., Wash., Oreg.

Homotropus compactus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 119. ♂, ♀.

***confertus** Dasch. Que., N. Mex., B. C.

Homotropus confertus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 92, 97, 142. ♂, ♀.

cressonii (Davis). Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 92, 178).

cultriformis (Davis). Alaska. Transf. from *Syrphoctonus* Foerster p. 350, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 91, 99, 179).

decoratus (Cresson). Mex. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 93, 99, 127).

***elegans** (Gravenhorst). Baffin Is., Que., Ont., Mich.

Bassus elegans Gravenhorst, 1829. Ichn. Europaea 3: 313. ♂.

**Bassus rufonotatus* Holmgren, 1856. Svenska Vetensk.-Akad. Handl. (n. s.) 1: 369. ♂, ♀.

- ***fossatus aureopectus** Dasch. N. W. T. to Alaska, south to Colo., Oreg.
Homotropus fossatus aureopectus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 158, 160. ♂, ♀.
- ***fossatus fossatus** Dasch. Maine and Que., to N. Y. and Mass. west to B. C., N. W. T.
Homotropus fossatus fossatus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 98, 157. ♂, ♀.
- ***fraudulentus fraudulentus** Dasch. Maine, Que., Idaho, Alta., Yukon, B. C., Wash., Colo., Canad. Zone.
Homotropus fraudulentus fraudulentus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 93, 97, 149, 150, 151. ♂, ♀.
- ***fraudulentus recurvatus** Dasch. Calif., Wash.
Homotropus fraudulentus recurvatus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 150, 151, 152. ♂, ♀.
- ***imperfectus** Dasch. Labrador, Mich., B. C., Wash., Oreg.
Homotropus imperfectus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 92, 97, 155. ♂, ♀.
- ***labradorensis** Dasch. Labrador, Alta., Colo.
Homotropus labradorensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 93, 98, 136. ♂, ♀.
- laevis** (Brues). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 92, 97, 153).
- maculifrons** (Cresson). Canad., Transit. Zones; Hawaii. Host: *Metasyrphus perplexus* (Osborn). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63 (2) : 104).
 Taxonomy: Dasch, 1964, pp. 92, 97, 147.
- melanogaster** (Holmgren). N. W. T., Que., Alaska, Wash. Arctic and Huds. Zones. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63 (2) : 104).
- minimus** (Cresson). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, p. 171).
- ***nigriclypealis** Dasch. Que., Alta., Greenland.
Homotropus nigriclypealis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 110. ♀.
- nigritarsus fuscitarsus** (Provancher), changed status. Change last part of distr. to read: . . . also in Canad. Zone east to Atlantic. *H. nigritarsus nigritarsus* (Gravenhorst) (recorded in Catalog as *elegans* var. *nigritarsus*) occurs in Europe.
Syrphoctonus fuscitarsus (Provancher), Sup. 1, p. 57. Reduced to subsp. rank (*teste* Dasch, 1964, p. 132). Transf. from *Syrphoctonus* Foerster, p. 351 (syn. of *humeralis* (Provancher)), and Sup. 1, p. 57 (*teste* Dasch, 1964, p. 132).
- nigritarsus groenlandicus** (Holmgren), changed status. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63: 104).
Syrphoctonus groenlandicus (Holmgren). Reduced to subsp. rank (*teste* Dasch, 1964, p. 132, 135).
- ***novitus** Dasch. Alaska (Sable Pass).
Homotropus novitus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 98, 130. ♂.
- ***nudus** Dasch. Que., N. W. T. to Alaska south to Mich., Colo., Calif. Huds., Canad. Zones.
Homotropus nudus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 111. ♂, ♀.
- pacificus** (Cresson). N. W. T., Canad. Zone; Mexico. Host: *Bigonicheta* sp. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63: 104).
 Taxonomy: Dasch, 1964, pp. 95, 99, 167.

- ***pallipes** (Gravenhorst). Transcont. in Huds., Canad., and Transit. Zones; Mexico, Europe.
Bassus pallipes Gravenhorst, 1829. Ichn. Europaea 3: 325. "♂" = ♀.
Syrphoctonus pallipennis (Provancher). Transf. from *Syrphoctonus* Foerster (syn. and transf. *teste* Dasch, 1964, pp. 94, 99, 175).
 **Bassus pallidipes* Bignell, 1898. Trans. Devon. Assoc. 30: 500. Emend.
- pectoralis** (Provancher). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 94, 99, 121).
- pleuralis pleuralis** (Cresson), changed status. East. No. Amer., centr. Tex. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 92, 97, 145).
Syrphoctonus pleuralis (Cresson), p. 351. Reduced to subsp. rank (*teste* Dasch, 1964, p. 145).
- pleuralis syrphicola** (Ashmead), changed status. Alta., B. C. south to Calif., Utah, Colo. Hosts: *Scaeva pyrastii* (L.); *Metasyrphys perplexus* (Osborn).
Bassus syrphicola Ashmead. Transf. from syn. of *Syrphoctonus pleuralis* (Cresson), p. 351, and reduced to subsp. rank (*teste* Dasch, 1964, pp. 145, 146).
- ***quadrangularis** Dasch. Colo., Alta, Yukon, Alaska, B. C., Idaho, also Mass., N. J.
Homotropus quadrangularis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 96, 106. ♂, ♀.
- ***robsonensis** Dasch. B. C. (Robson).
Homotropus robsonensis Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 96, 183. ♂, ♀.
- robustus** (Davis). B. C., Mich. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 91, 96, 181).
- ***rufulus** Dasch. Maine, Ont. to S. C. west to Wis., Ill.; also La.
Homotropus rufulus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 104. ♂, ♀.
- ***sicarius** Dasch. Labrador, Que., N. W. T., Alaska in Huds. and Arctic Zones. Host: simuliid pupa.
Homotropus sicarius Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 98, 161. ♂, ♀.
- ***signatus** (Gravenhorst). N. S., Que. to Md., Ohio, west to Colo., Oreg., B. C., Yukon, Alaska; Europe, Japan, Kuriles. Host: *Sphaerophoria cylindrica* (Say).
Bassus (Bassus) signatus Gravenhorst, 1829. Ichn. Europaea 3: 325. ♀.
Syrphoctonus compressiventris (Cresson) (syn. *teste* Dasch, 1964, p. 164).
Zootrephes montanus Davis. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 95, 100, 164).
- ***tarsatorius** Panzer. Que., N. W. T., Ont., Alaska, B. C., Oreg., Idaho, Alta., Colo., Mich., N. Y. in Huds., Canad. Zones; Europe, Asia.
Bassus tarsatorius Panzer, 1809. Faunae Ins. Germanicae Jahrg. 9, H. 102, T. 19. ♀.
- ***teres** Dasch. Colo.
Homotropus teres Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 95, 113. ♂, ♀.
- ***venustus** Dasch. Colo., Utah, Idaho.
Homotropus venustus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 89, 95, 138. ♂, ♀.
- ***vitreus** Dasch. Labrador, N. W. T., Alaska, B. C., Alta., Wash., Oreg., Calif., Wyo., Mich.
Homotropus vitreus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 100, 173. ♂, ♀.

Genus SYRPHOCTONUS Foerster, pp. 350–351, Sup. 1, p. 57

Homotropus Foerster. Remove from syn. A valid genus.

agilis (Cresson). Syn. of *flavolineatus* (Gravenhorst).

alaskensis (Ashmead). Transf. to *Homotropus* Thomson.

albopictus (Davis). Transf. to *Homotropus* Thomson and reduced to subsp. rank.

belangerii (Provancher). Transf. to *Homotropus* Thomson.

**citropectoralis* (Schmiedeknecht). N. Y., Pa., Ohio, Mich., B. C., Alaska; Europe.

Homocidus citropectoralis Schmiedeknecht, 1926. Opusc. Ichn. 5 (43): 3389, 3412. ♂.

compressiventris (Cresson). Transf. to *Homotropus* Thomson as syn. of *signatus* (Gravenhorst).

cressonii Davis. Transf. to *Homotropus* Thomson.

cultriformis (Davis). Transf. to *Homotropus* Thomson.

elegans var. *nigritarsus* (Gravenhorst). Delete from Catalog.

**flavolineatus* (Gravenhorst). Transcont. in Huds., Canad., Transit. and U. Austr. zones. Europe, Asia. Hosts: *Baccha clavata* (F.), *Metasyrphus lapponicus* (Zett.).

Bassus flavolineatus Gravenhorst, 1829. Ichn. Europeaea 3: 337. ♀.

Syrphoctonus agilis (Cresson) (syn. *teste* Dasch, 1964, p. 201).

foutsii Cushman. Transf. to *Campocraspedon* Uchida.

gillettii Davis. Transf. to *Tymmophorus* Schmiedeknecht.

laevis (Brues). Transf. to *Homotropus* Thomson.

maculifrons (Cresson). Transf. to *Homotropus* Thomson.

melanogaster (Holmgren). Transf. to *Homotropus* Thomson.

minimus (Cresson). Transf. to *Homotropus* Thomson.

pacificus (Cresson). Transf. to *Homotropus* Thomson.

pallipennis (Provancher). Transf. to *Homotropus* Thomson as syn. of *palipes* (Gravenhorst).

**patei* Dasch. Colo., Alaska.

Syrphoctonus patei Dasch, 1964. Amer. Ent. Inst. Mem. 3: 201, 207. ♀.

pectoralis (Provancher). Transf. to *Homotropus* Thomson.

pleuralis (Cresson). Transf. to *Homotropus* Thomson.

Bassus syrphicola Ashmead. Transf. to *Homotropus* Thomson as valid subsp. of *pleuralis*.

robustus Davis. Transf. to *Homotropus* Thomson.

vertebratus Cushman. Transf. to *Xestopelta* Dasch.

*Genus XESTOPELTA Dasch

Xestopelta Dasch, 1964. Amer. Ent. Inst. Mem. 3: 8, 208.

Type: *Syrphoctonus vertebratus* Cushman. Orig. desig.

Place on page 351 after *Syrphoctonus* Foerster.

vertebrata (Cushman). Vt., N. W. T., B. C., Wash. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, p. 209).

Himertosoma quinquecinctum Ashmead Ms., in Slosson, 1902. Syn. wrongly placed at top of p. 58 in Sup. 1. Place after *Syrphoctonus bilineatus* Ashmead Ms., in Slosson, 1900.

Genus PHTHORIMA Foerster, pp. 351–352, Sup. 1, p. 58

Phthorima Foerster. In type citation, change "Desig. by Viereck" to: Incl. by Thomson, 1890 [only one species].

bidens (Davis). Mass., Que., Ont., Ohio, Colo., Alaska. Host: *Neocnemodon coxalis* (Curr.).

**compressa* Desvignes. Alaska, Yukon, B. C., Alta., Colo.; Europe.
Bassus compressus Desvignes, 1856. Cat. Brit. Ich., p. 91. ♀.

extensor Cushman. N. S., Que., Ont., Ohio, W. Va., Tenn., B. C.

**rufipleurum* Dasch. Ont., N. H., Mass., Conn., N. Y., Md., Ohio, Mich., N. W. T.

Phthorima rufipleurum Dasch, 1964. Amer. Ent. Inst. Mem. 3: 217, 218, 221. ♂, ♀.

**townesi* Dasch. Ont., Mass., N. Y., Ohio, Mich., Iowa.

Phthorima townesi Dasch, 1964. Amer. Ent. Inst. Mem. 3: 217, 218, 224. ♂, ♀.

**sulcigena* Dasch. B. C. (Robson).

Phthorima sulcigena Dasch, 1964. Amer. Ent. Inst. Mem. 3: 217, 228. ♂.

*Genus **CAMPOCRASPEDON** Uchida

Campocraspedon Uchida, 1957. Hokkaido Univ. Fac. Agr. Jour. 50: 226, 237.

Type: *Campocraspedon satoi* Uchida. Orig. desig. and by monotypy.

Place on p. 352 after *Phthorima* Foerster.

Taxonomy: Dasch, 1964, p. 211.

foutsii (Cushman). Ont., N. C., Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 211, 212).

**truncatus* Dasch. Alaska, B. C., Idaho, Colo. Canad. Zone.

Campocraspedon truncatus Dasch, 1964. Amer. Ent. Inst. Mem. 3: 211, 212, 214. ♂, ♀.

Genus **ENIZEMUM** Foerster, p. 352, Sup. 1, p. 58

**huronense* Dasch. Mich. (Huron Mts., Marquette Co.).

Enizemum huronense Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 199. ♂.

**imitatum* Dasch. Ariz., Calif.

Enizemum imitatum Dasch, 1964. Amer. Ent. Inst. Mem. 3: 187, 196. ♂.

**insidiosum* Dasch. Calif. (Carmel).

Enizemum insidiosum Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 197. ♀.

**matanuskae* Dasch. Alaska, Yukon.

Enizemum matanuskae Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 191. ♀.

ornatum (Gravenhorst). N. S., Colo., Yukon, B. C., Canad. Zone.

petiolatum (Say). Canad. Zone.

**scorteum* Dasch. Que., N. W. T., Colo., B. C.

Enizemum scorteum Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 194. ♂, ♀.

**tridentatum* Dasch. Colo., Alta., Alaska.

Enizemum tridentatum Dasch, 1964. Amer. Ent. Inst. Mem. 3: 185, 187, 189. ♂, ♀.

Subfamily METOPIINAE

Revision: Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 3-318.

Genus **METOPIUS** Panzer, pp. 352-353

METOPIUS subgenus **METOPIUS** Panzer, p. 352

Delete statement in Catalog that this subgenus is not represented in the Nearctic Region.

- ***galbaneus** Townes and Townes. Calif., Oreg.
Metopius (Metopius) galbaneus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 63, 74. ♂, ♀.
- ***krombeini epixanthus** Townes and Townes. Colo., Ariz., Tex.
Metopius (Metopius) krombeini epixanthus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 69, 71. ♂, ♀.
- ***krombeini krombeini** Townes and Townes. N. Y. and N. J. south to Ga., west to Wis. and Ark.
Metopius (Metopius) krombeini krombeini Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 63, 69, 70. ♂, ♀.
- ***mimicus** Townes and Townes. Ariz.
Metopius (Metopius) mimicus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 63, 68. ♂, ♀.
- pulchellus montanus** Cresson, changed status. Colo., Utah, Ariz. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 72).
- pulchellus pulchellus** Cresson, changed status. Colo., Wyo. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 72, 74).
- ***pulchellus sonora** Townes and Townes. Ariz., N. Mex.
Metopius (Metopius) pulchellus sonora Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 72, 73. ♂, ♀.
- robustus concinnus** Cresson, changed status. Calif. Transf. from subg. *Clemontia* Michener, and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 64).
- robustus mirandus** Cresson, changed status. Colo., Kans. Transf. from syn. of *Metopius (Clemontia) montanus* Cresson and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 65).
Metopius (Clemontia) grandior Viereck (syn. by Townes and Townes, 1959, p. 65).
- robustus robustus** Cresson, changed status. N. Y. and N. J., to Ga., Ohio, Tenn., Mo. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 64, 66).
Metopius (Clemontia) harbecki Skinner (syn. by Townes and Townes, 1959, p. 66).
- ***vittatus** Townes and Townes. B. C., Oreg., Calif., Utah, Ariz.
Metopius (Metopius) vittatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 64, 76. ♂, ♀.

Metopius subgenus *Clemontia* Michener, pp. 352-353

Delete from Catalog and place species in subgenera as indicated below. Type-species was misidentified; true *Ichneumon micratorius* Fabricius belongs to *Peltocarus* Thomson of which there are no Nearctic species (*teste* Townes and Townes, 1959, pp. 61-62).

- basalis** Cresson. Transf. to subg. *Tylopius* Townes and Townes.
- bellus** Cresson. Transf. to subg. *Tylopius* Townes and Townes.
- birkmani** Brues. Transf. to subg. *Cultrarius* Davis.
- comptus** Cresson. Transf. to subg. *Cultrarius* Davis.
- concinnus** Cresson. Transf. to subg. *Metopius* Panzer as subsp. of **robustus** Cresson.
- edwardsii** Cresson. Transf. to subg. *Tylopius* Townes and Townes.
Metopius nevadensis Cresson. Remove from syn. and transf. to subg. *Tylopius* Townes and Townes as valid subspecies of **pollinctorius** (Say).
- errantia** Davis. Transf. to subg. *Peltales* Townes and Townes.

- grandior* Viereck. Transf. to subg. **Metopius** Panzer as syn. of **robustus mirandus** Cresson.
- harbecki* Skinner. Transf. to subg. **Metopius** Panzer as syn. of **robustus robustus** Cresson.
- medianus* Morley. Transf. to subg. **Tylopius** Townes and Townes as questionable syn. of **basalis basalis** Cresson.
- montanus* Cresson. Transf. to subg. **Metopius** Panzer as subsp. of **pulchellus** Cresson.
Metopius mirandus Cresson. Delete from syn. and transf. to subg. **Metopius** Panzer as subsp. of **robustus** Cresson.
- pollinatorius* (Say). Transf. to subg. **Tylopius** Townes and Townes.
Metopius pinatorius Brullé. Remove from syn.; valid European sp., or subsp. of **pollinatorius** Say (*teste* Townes and Townes, 1959, p. 98).
- pulchellus* Cresson. Transf. to subg. **Metopius** Panzer.
- robustus* Cresson. Transf. to subg. **Metopius** Panzer.
- rufipes* Cresson. Transf. to subg. **Cultrarius** Davis.
- scitulus* Cresson. Transf. to subg. **Cultrarius** Davis.
- ultimatus* Davis. Transf. to subg. **Cultrarius** Davis.
- xanthostigma* Ashmead. Transf. to subg. **Cultrarius** Davis.

METOPIUS subgenus CULTRARIUS Davis, p. 353

- birkmani* Brues. Calif., Ariz., Tex. Transf. from subg. **Clemontia** Michener. Change sex signs following bibliog. ref. to ♂ (♀ misdet.) (*teste* Townes and Townes, 1959, pp. 78, 88).
- comptus* Cresson. Ga., S. Dak. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, p. 78).
- **consector* Townes and Townes. Va., Minn., Mo., Nebr., Kans., S. Dak., Colo.
Metopius (Cultrarius) consector Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 78, 83. ♂, ♀.
- **pectoralis* Townes and Townes. Mo., ?Tex.
Metopius (Cultrarius) pectoralis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 78, 85. ♂, ?♀.
- rileyi* Marlatt. Nebr.
- rufipes* Cresson. Nebr. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 84).
- **scapulatus* Townes and Townes. Tex. (McDade).
Metopius (Cultrarius) scapulatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 77, 81. ♂.
- scitulus* Cresson. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 80).
- **secundus* Townes and Townes. N. Mex. ("San Janacio").
Metopius (Cultrarius) secundus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 78, 89. ♀.
- ultimatus* Davis. N. J., Ind., Mo., Kans., La., Miss. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 86).
- xanthostigma* Ashmead. Md. to S. C. west to N. Dak. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 82).

***METOPIUS subgenus PELTALES Townes and Townes**

- Metopius** subg. **Peltales** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 61, 91.
 Type: **Metopius errantius** Davis. Orig. desig.

Place under genus *Metopius* Panzer following subg. *Cultrarius* Davis, p. 353.

- **errantius arizonicus* Townes and Townes. Ariz. (Chiricahua Mts.).
Metopius (Peltales) errantius arizonicus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 93, 94. ♀.
- **errantius californicus* Townes and Townes. Calif., Oreg.
Metopius (Peltales) errantius californicus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 93, 95. ♂, ♀.
- errantius errantius* Davis, changed status. Minn., Ont., N. J., Va. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 92, 93).
- **errantius floridanus* Townes and Townes. Fla. (Alachua Co.).
Metopius (Peltales) errantius floridanus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 93, 94. ♀.
- **notatus* Townes and Townes. Ala. (Pyrition).
Metopius (Peltales) notatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 92, 96. ♀.

*METOPIUS subgenus TYLOPIUS Townes and Townes

Metopius subg. *Tylopius* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 61, 97.

Type: *Metopius pinatorius* Brullé (= *micratorius* of authors, not Fabricius). Orig. desig.

Place under genus *Metopius* Panzer after subg. *Peltales* Townes and Townes, p. 353.

- basalis basalis* Cresson, changed status. ?Ga. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 104, 105).
 ?*Metopius medianus* Morley (syn. by Townes and Townes, 1959, p. 105).
- **basalis heinrichi* Townes and Townes. N. B., Maine, Ont., B. C. Host: *Saturniidae*.
Metopius (Tylopius) basalis heinrichi Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 104. ♂, ♀.
- bellus* Cresson. Calif., Oreg. Transf. from subg. *Clemontia* Michener (*teste* Townes and Townes, 1959, pp. 98, 102).
- edwardsii* Cresson. Alta. Transf. from subg. *Clemontia* Michener (*teste* Townes and Townes, 1959, pp. 97, 103).
- pollinatorius nevadensis* Cresson, changed status. Nev., Calif., Wash. Host: *Apatela* sp. Transf. from syn. of *Metopius* subg. *Clemontia* Michener *edwardsii* Cresson and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 98, 100).
- pollinatorius pollinatorius* Say, changed status. N. S. and Que. west to B. C. Hosts: *Apetela* sp.; *A.* sp. on *Salix*; *Gluphisia septentrionalis* Wlkr.; hairy caterpillar on chokecherry. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 98.)

Genus PSEUDOMETOPIUS Davis, p. 353

- **Tylocomnoides* Uchida, 1940. Sapporo Nat. Hist. Soc. Trans. 16 (3): 178 (syn. by Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 119).
 Type: *Tylocomnoides egawai* Uchida. By monotypy and orig. desig.
- **Odontotylocomnus* Uchida, 1940. Sapporo Nat. Hist. Soc., Trans. 16 (3): 179. Syn. by Townes, 1957. Wash. Ent. Soc. Proc. 59 (3): 114).
 Type: *Odontotylocomnus pilosus* Uchida. Orig. desig. and by monotypy.

hagenii (Cresson). Okla.

Genus *SPUDAEUS* Gistel, pp. 353-354

minoris (Davis). Trans. to **Bothromus* Townes and Townes.

scaber umbrosus (Davis), changed status. Mts. of Calif. and Ariz. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 140). *S. scaber scaber* (Grav.) is European.

*Genus *BOTHROMUS* Townes and Townes

Bothromus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 142.

Type: *Tylecomnus minoris* Davis. Orig. desig.

Insert following *Spudaeus* Gistel, p. 354.

**gibbus* Townes and Townes. Colo., Alta., Ont., Que.

Bothromus gibbus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 143, 145. ♀.

**minoris cruralis* Townes and Townes. Calif. (Camino).

Bothromus minoris cruralis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 143, 144. ♀.

minoris minoris (Davis), changed status. Transf. from *Spudaeus* Gistel and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 143).

Genus *CHORINAEUS* Holmgren, p. 354

**aequalis* Townes and Townes. Alta., Ont., Que., Mass., Conn., N. Y., Pa., Va., N.C.

Chorinaeus aequalis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 13, 14, 21. ♂, ♀.

californicus Ashmead. Alaska, B. C., Wash., Calif. After bibliog. ref. change ♂ to: "♂" = ♀ (*teste* Townes *in litt.*).

carinatus (Cresson). Subsp. of *funebri* (Grav.).

cariniger Walsh. Syn. of *funebri carinatus* (Cresson).

constrictus Davis. N. Y., Md., Va., Tenn., N. C., Ga.

**emorsus* Townes and Townes. N. H., N. S.

Chorinaeus emorsus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 14, 33. ♀.

excessorius Davis. Calif., Ont., Maine, Vt., N. Y., N. J., Pa., R. I., Md., Va., Ga., Ala., Minn., Wis., Mich., Iowa, Mo., Kans., Utah. Hosts: *Ancylis comptana* (Fröhlich), *Choristoneura funiferana* (Clem.).

funebri carinatus (Cresson), changed status. B. C. to N. S. south to Tex. and Ala. Hosts: *Strepsicrates smithiana* (Wlsh.), *Tetralopha asperatella* Clem., *Acrobasis betulella* Hulst, *Anacampsis rhofructella* (Clem.), *Argyrotaenia velutinana* (Wlkr.), *?Trichotaphe* sp., *?Ancylis comptana fragariae* (Walsh & Riley). Reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 27, 28). *C. funebri funebri* (Grav.) is European.

Chorinaeus cariniger (Walsh) (syn. by Townes and Townes, 1959, p. 28).

**funebri clarus* Townes and Townes. Ariz., Nev.

Chorinaeus funebri clarus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 27, 30. ♀.

**funebri divisus* Townes and Townes. Idaho, Colo. Host: *Grapholitha conversana* Wlsh.

Chorinaeus funebri dirisus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 27, 31. ♂, ♀.

**labiosus* Townes and Townes. N. C. (Mount Pisgah).

Chorinaeus labiosus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 14, 32. ♀.

- ***longicalcar flavicrus** Townes and Townes. Oreg., Wash. *C. longicalcar longicalcar* Thomson is European.
Chorinaeus longicalcar flavicrus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 16, 19. ♂, ♀.
- longicalcar pleturus** Davis, changed status. B. C., Wash., Calif., Minn., Va., W. Va. Host: *Choristoneura fumiferana* (Clem.); geometrid. Reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 15, 16).
- ***longicalcar suralis** Townes and Townes. Calif. (Berkeley).
Chorinaeus longicalcar suralis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 16, 20. ♂, ♀.
- ***longicalcar talaris** Townes and Townes. Ont., Que. Hosts: *Choristoneura fumiferana* (Clem.), *Caripeta divisata* Wlkr., ?*C. angustiorata* Wlkr., *Semiothisa granitata* (Guen.), *Protoboarme porcelaria* (Guen.), *Paraphia piniata* Pack.
Chorinaeus longicalcar talaris Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 16, 18. ♂, ♀.
- opacitas** Davis. Calif., Ariz.
- pleturus** Davis. Subsp. of **longicalcar** Thomson.
- pusillus** Davis. Syn. of **Tricees costatus** (Davis).
- ***recurvus** Townes and Townes. N. Y., N. H.
Chorinaeus recurvus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 14, 31. ♂, ♀.
- Genus TRICEES Townes, p. 354**
- ***aquilus** Townes and Townes. N. C. (Highlands).
Tricees aquilus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 50. ♀.
- ***arcuatus** Townes and Townes. N. Y., Pa., Md., Va., N. C., Man.
Tricees arcuatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 56. ♂, ♀.
- ***bradleyi** Townes and Townes. Maine, N. Y., Md.
Tricees bradleyi Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 52. ♀.
- ***calvatus** Townes and Townes. Md., N. C., Tex.
Tricees calvatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 34, 54. ♂, ♀.
- ***cilius** Townes and Townes. Md., Va.
Tricees cilius Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 53. ♂, ♀.
- costatus** (Davis). B. C., Wash., Calif., Colo., Minn., Que., N. B., Maine, Vt., N. Y. Canad. Zone.
Chorinaeus pusillus Davis (syn. by Townes and Townes, 1959, p. 38).
- ***densus** Townes and Townes. Mich.
Tricees densus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 42. ♂, ♀.
- ***dentatus** Townes and Townes. Ont., R. I., N. Y., Md. Hosts: *Geometridae*.
Tricees dentatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 34, 55. ♂, ♀.
- ***diffidens** Townes and Townes. Ont., Que., Maine, Mass., N. Y., N. J., Md., Colo. Hosts: *Psilocorsis fletcherella* Gbsn., *Tetralopha* sp.
Tricees diffidens Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 57. ♂, ♀.
- ***ejectus** Townes and Townes. Utah (Wasatch Co.).
Tricees ejectus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 46. ♂.
- flavifrons** (Ashmead). Conn., Mich., Minn., S. Dak., Kans., Colo.

- ***fuscus** Townes and Townes. Ont., Mass., N. Y., Pa., N. J., Minn.
Trypoxenus fuscus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 49. ♂, ♀.
- ***integer** Townes and Townes. Mass., N. Y., R. I., Va., N. C., Sask., Mich.
Trypoxenus integer Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 48. ♂, ♀.
- marlatti** (Ashmead). R. I., N. C.
- ***masoni** Townes and Townes.
Trypoxenus masoni Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 37. ♀, ♂.
- onitis** (Davis). Man.
- ***sapineus litus** Townes and Townes. B. C., Alta., Wash., Calif., Colo.
Trypoxenus sapineus litus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 43, 44. ♀.
- ***sapineus sapineus** Townes and Townes. Que., N. H., N. C., Mich., Minn.
Trypoxenus sapineus sapineus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 43. ♀.
- ***sparsus** Townes and Townes. Vt. to S. C.
Trypoxenus sparsus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 50. ♂, ♀.
- ***tegaris** Townes and Townes. Calif. (Leevining).
Trypoxenus tegaris Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 40. ♀.
- ***teres** Townes and Townes. Calif., Colo., Man.
Trypoxenus teres Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 41. ♂, ♀.
- texanus** (Cresson). N. J., Md., Fla., Kans. Change sex sign following bibliog. ref. from ♂ to "♂" = ♀.
- ***walleyi** Townes and Townes. Ont., Que. Host: *Herculia thymetusalis* (Wlkr.).
Trypoxenus walleyi Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 47. ♂, ♀.

Genus **PERIOPE** Haliday, pp. 354-355

- ***Monoplectrochus** Heinrich, 1949. Münchner Ent. Gesell. Mitt. 35-39: 109. (Syn. *teste* Townes, 1957, Ent. Soc. Wash. Proc. 59(3): 111).
 Type: *Monoplectrochus hoerhammeri* Heinrich. Orig. design. and by monotypy.

aethiops (Cresson). Alta.

Genus **LEURUS** Townes, p. 355

- ***caeruliventris borealis** Townes and Townes. N. Y. and Mass. to Fla., Mich., La., Mo., Kans. Host: *Desmia funeralis* (Hübner).
Leurus caeruliventris borealis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 148, 149. ♂, ♀.
- caeruliventris** (Cresson) of Catalog, in *s. str.*, excluded as Neotropical (*teste* Townes and Townes, 1959, p. 143).

*Genus **SETICORNUTA** Morley

- ***Megatrema** Cameron, 1907. Ztschr. System. Hym. Dipt. 7: 468. Preocc.
 Type: *Megatrema albopilosa* Cameron. By monotypy.
Seticornuta Morley, 1913. Fauna British India, Hymenoptera, v. 3, Pt. 1, pp. 290, 310.
 Type: (*Seticornuta albicalcar* Morley) = *albopilosa* (Cameron). Orig. design. and by monotypy.

Insert following **Leurus** Townes, p. 355.

- apicalis** (Cresson). Hosts: *Acrobasis betulella* Hulst., *A. indigenella* (Zell.), *A. sylvicola* Ely. Transf. from *Exochus* Gravenhorst (*teste* Townes and Townes, 1959, pp. 151, 153). Change sex sign after bibliog. ref. to "♂" = ♀. (*Teste* Townes and Townes, 1959, pp. 153.)
- terminalis** (Ashmead). Ont., Que., Pa., N. J., Va., W. Va., N. C., Ohio, ?Mo., Kans. Host: "tortricid". Transf. from *Exochus* Gravenhorst (*teste* Townes and Townes, 1959, p. 151).

*Genus *CARRIA* Schmiedeknecht

Carria Schmiedeknecht, 1924. Ent. Monthly Mag. 60: 112.

Type: *Carria paradoxa* Schmiedeknecht. By monotypy.

Insert before *Colpotrochia* Holmgren, p. 355.

- ***dreisbachi californica** Townes and Townes. Calif.
Carria dreisbachi californica Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 155, 157. ♂, ♀.
- ***dreisbachi dreisbachi** Townes and Townes. Man to Que., south to Ill. and N. J., N. C.
Carria dreisbachi dreisbachi Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 154, 155. ♂, ♀.
- ***dreisbachi montana** Townes and Townes. Ariz., N. Mex., Colo.
Carria dreisbachi montana Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 155, 156. ♂, ♀.
- ***inucleata** Townes and Townes. Md., N. J., N. C., S. C.
Carria inucleata Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 154, 158. ♂, ♀.

Genus *COLPOTROCHIA* Holmgren, p. 355

Scallama Cameron. Remove from syn. Valid subg. of *Colpotrochia* with no Nearctic species (*teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 103-104).

Colpotrochoides Uchida. Place as syn. of subg. *Scallama* Cameron. Other generic synonymy in Catalog syn. of subg. *Colpotrochia* Holmgren (*teste* Townes and Townes, 1959, p. 128).

COLPOTROCHIA subgenus *COLPOTROCHIA* Holmgren

**Aithris* Cameron, 1900. Proc. Manchester. Lit. Philos. Soc. Mem. 44: 106 (syn. by Townes and Townes, 1959, p. 128).
Type: *Aithris coenutus* Cameron. By monotypy.

crassipes (Provancher).

Taxonomy and Biology: Townes and Townes, 1959, p. 131.

***fultoni** Townes and Townes. Va., N. C., S. C.

Colpotrochia (Colpotrochia) fultoni Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 129, 132. ♀.

texana (Cresson).

Taxonomy and Biology: Townes and Townes, 1959, p. 129.

trifasciata (Cresson). Atlantic to 100° W. in Transit. and Upper Austr. Zones.

Taxonomy and Biology: Townes and Townes, 1959, pp. 129, 133.

Genus *TRICLISTUS* Foerster, p. 355

***adustus** Townes and Townes. Oreg., Calif., Colo.

Triclistus adustus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 109, 119. ♀.

brunnipes (Cresson). Yukon, B. C., Wash., Oreg., Calif., Ariz., Man., Sask., Mont., Utah, Wyo., N. Mex.

- ***chosis** Townes and Townes. Ont., Mass., N. Y., Pa., N. J., Md., D. C., Va.
Triclistus chosis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216
 [Pt. 1]: 109, 121. ♀.
- ***crassus** Townes and Townes. Alaska to Calif. east to P. E. I., Que. and
 N. Y.
Triclistus crassus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216
 (Pt. 1): 108, 109, 110. ♂, ♀.
- emarginalus** (Say). Transcont. in Transit., U. Austr. and Canadian Zones.
 Hosts: *Archips argyrospilus* (Wlkr.), *Argyrotaenia velutinana*
 (Wlkr.), *Anthophila pariana* (Clerck), *Crocisia albicomana* Clem.,
Tetralopha robustella Zell., *Phlyctaenia extricalis* Guen., *Tholeria*
reversalis (Guen.), *Bucculatrix* sp. on *Solidago*; pyralid on *Alnus*
incana; *Arundinaria* sp. Transf. from *Exochus* Gravenhorst
 (teste Townes and Townes, 1959, p. 113).
Exochus fulvipes (Cresson) (syn. by Townes and Townes, 1959, p. 113).
- ***evexus** Townes and Townes. N. H. to Md. and N. J., Minn., Iowa, Sask.
 Hosts: *Archips cerasivorana* Fitch, *Acrobasis comptoniella* Froel.
Triclistus evexus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216
 [Pt. 1]: 108, 109, 118. ♂, ♀.
- fulvipes** (Cresson). Syn. of **emarginalus** (Say).
- ***melanocephalus** (Cameron). Ont. and Que. to N. C.; Mich., Wis., S. Dak.,
 Ariz.
Exochus melanocephalus Cameron, 1886. Biol. Centr. Amer., Ins., Hym.,
 v. 1, p. 280. "♂" = ♀.
Triclistus thoracicus Ashmead (syn. by Townes and Townes, 1959, p.
 126).
- ***occidentis** Townes and Townes. Alta., Wash., Calif.
Triclistus occidentis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216
 [Pt. 1]: 108, 109, 116. ♀.
- ***pallipes** Holmgren. Alaska, Yukon south to Calif., Colo., Kans., Mich. to
 Maine south to Ala. and Ga.; Holarctic, Formosa. Hosts: *Acleris*
variana (Fern.), *Paralobesia vitiana* (Clem.).
Triclistus pallipes Holmgren, 1873. Öfvers. Svenska Vetensk.-Akad.
 Förh. 30 (4): 59. ♀.
Exochus pygmaeus Cresson (syn. by Townes and Townes, 1959, p. 124).
- ***podagricus** (Gravenhorst). Alaska, Alta., Idaho, Sask., Ont., Que., N. S.;
 Europe.
Exochus podagricus Gravenhorst, 1829. Ichn. Europeaea, v. 2, p. 336. ?♀.
- propinquus** (Cresson). Pa., Va., N. C., Ga., Ala., Ohio, Mich.
pygmaeus (Cresson). Syn. of **pallipes** Holmgren.
- ***rectus** Townes and Townes. Ariz., Calif.
Triclistus rectus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216
 [Pt. 1]: 108, 109, 117. ♀.
- thoracicus** Ashmead. Syn. of **melanocephalus** (Cameron).
- *Genus **MACROMALON** Townes and Townes
- Macromalon* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt.
 1]: 8, 158.
 Type: *Macromalon montanum* Townes and Townes. Orig.
 desig. and by monotypy.
- Insert after *Triclistus* Foerster, p. 355.
- ***montanum** Townes and Townes. Colo.
Macromalon montanum Townes and Townes, 1959. U. S. Natl. Mus. Bul.
 216 [Pt. 1]: 159. ♂, ♀.
- Genus **HYPsicERA** Latreille, p. 356
- ***cuneata cuneata** Townes and Townes. Ont., Maine, R. I., N. Y., Ohio.

Hypsicera cuneata cuneata Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 161, 165. ♂, ♀.

**cuneata opaca* Townes and Townes. Alaska, Alta., Calif., Ariz.

Hypsicera cuneata opaca Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 165, 166. ♂, ♀.

**curvator* Fabricius. Que. to Pa., west to B. C. and Oreg.

Ichneumon curvator Fabricius, 1793. Ent. System., v. 2, p. 177. ♀.

Ichneumon mansuetor Gravenhorst (syn. by Townes and Townes, 1959, p. 163).

**fulviceps* Townes and Townes. Va. (Galax).

Hypsicera fulviceps Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 161, 164. ♀.

mansuetor (Gravenhorst). Syn. of *curvator* (Fabricius).

*Genus **STETHONCUS** Townes and Townes

Stethoncus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 167.

Type: *Stethoncus arcticus* Townes and Townes. Orig. desig. and by monotypy.

Insert following *Hypsicera* Latreille, p. 356.

**arcticus* Townes and Townes. Alaska, Labrador, Man., N. H.

Stethoncus arcticus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 168. ♂, ♀.

*Genus **SYNOPSIS** Townes and Townes

Synopsis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 168.

Type: *Synopsis clepsydra* Townes and Townes. Orig. desig. and by monotypy.

Insert before *Exochus* Gravenhorst, p. 356.

**clepsydra* Townes and Townes. B. C., Calif., Wis., Mich., Ind., N. Y., Mass., Vt., Que.

Synopsis clepsydra Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 169. ♂, ♀.

Genus **EXOCHUS** Gravenhorst, pp. 356-357

**Xanthexochus* Morley, 1913. Fauna British India, Hymenoptera, v. 3, pp. 290, 292 (syn. by Townes and Townes, 1959, p. 170).

Type: *Xanthexochus scutellatus* Morley. Orig. desig.

albiceps Walsh.

Taxonomy: Townes and Townes, 1959, p. 266 (sp. unknown).

albifrons Cresson. Hosts: *Choristoneura rosaceana* (Harr.), *Argyrotaenia velutinana* (Wlkr.).

alpinus Cushman. Syn. of *flavifrontalis* Davis.

annuliferus Walsh. B. C. to N. B. south to Ariz., and N. C.

Taxonomy: Townes and Townes, 1959, pp. 212-214 (♀ descr.).

apicalis Cresson. Transf. to *Seticornuta* Morley.

**armillosus* Townes and Townes. P. E. I., Mass., N. Y., N. J., Wis., Alta.

Exochus armillosus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 226. ♂, ♀.

atriceps atriceps Walsh, changed status. Ont. to Fla., also Wis., Kans., Tex. Reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 208, 209).

- ***atriceps atricorpus** Townes and Townes. N. B., Maine, Que., Man.
Exochus atriceps atricorpus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 208. ♂, ♀.
- atrocoxalis** Cresson. A subsp. of **mitratus** Gravenhorst.
- ***brutus** Townes and Townes. Ont., Que., N. Y., Pa., Md., N. C., Sask., Alta.
 Host: Phycitid on *Tilia*.
Exochus brutus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 228. ♂, ♀.
- ***bryanti** Townes and Townes. N. S., Ont., Alta.
Exochus bryanti Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 191. ♂, ♀.
- ***canidens** Townes and Townes. N. Y., Pa., Mich., Alta.
Exochus canidens Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 250. ♀.
- ***capnodes** Townes and Townes. Calif. (Oakland).
Exochus capnodes Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 239. ♂.
- ***cnemidotus** Townes and Townes. Yukon, B. C. to Que., Mass., N. Y., R. I.
Exochus cnemidotus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 237. ♂, ♀.
- ***cuneatus** Townes and Townes. Maine (Jimpond). Host: *Heterarthrus nemoratus* (Fall.).
Exochus cuneatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 255. ♂.
- ***decoratus hebes** Townes and Townes. Alaska, B. C., Ariz., Colo. Host: *Acleris variana* (Fern.). *E. decoratus decoratus* Holmgren is European.
Exochus decoratus hebes Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 263, 264. ♀.
- decoratus scitulus** Provancher, changed status. Ga., Mich., Minn., Ont., Que., N. S. Hosts: *Acleris variana* (Fern.), *Argyrotaenia* sp. on *Abies*; tortricid on *Abies*. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 265).
- ***denotatus** Townes and Townes. Ont., Que., Mass., N. Y., Pa., Md., N. J., N. C., Mich., Minn. Host: *Zomaria interruptolineana* (Fern.).
Exochus denotatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 251. ♂, ♀.
- ***dentifrons** Townes and Townes. Oreg., Calif., Ariz., N. Mex., Colo., Que.
Exochus dentifrons Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 206. ♂, ♀.
- dorsalis dorsalis** Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 248).
- dorsalis pictilis** Walkley, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 247).
- ***elimatus** Townes and Townes. Colo. (Rocky Mt. N. P.).
Exochus elimatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 194. ♂, ♀.
- emarginalus** (Say). Transf. to **Triclistus** Foerster.
- ***enodis** Townes and Townes. Ariz., Colo., S. Dak.
Exochus enodis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 172, 189. ♂, ♀.
- evetrieae** Rohwer. Wash.
- ***externus** Townes and Townes. Oreg. ("Summit Prairie").
Exochus externus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 238. ♀.

- ***fastigatus** Townes and Townes. Maine, Mass., R. I. Host: ? *Ancylis comp-tana* (Froel.).
Exochus fastigatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 249. ♂, ♀.
- ferrugineus** (Ashmead). Mass., Pa., Md., Fla., Iowa.
- flavifrontalis** Davis. Yukon, N. W. T., Wash., Oreg., Calif., Idaho, Utah, Colo., Minn., Mich., N. Y., N. B. Host: "tortricid."
Exochus alpinus Cushman, 1922 (syn. by Townes and Townes, 1959, p. 204).
Exochus montanus Walkley, 1958. U. S. Dept. Agr. Monog. No. 2, Sup. 1, p. 59. N. syn.
- ***genualis** Townes and Townes. N. J., Md., W. Va., Va., Ga., Ohio.
Exochus genualis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 233. ♂.
- ***gravipes** (Gravenhorst). N. S., Ont., Mich.; Europe.
Ichneumon gravipes Gravenhorst, 1820. Accad. Sci. Torino, Mem. 24: 384. ♂, ♀.
 Taxonomy: Townes and Townes, 1959, p. 194.
- ***hiuleus** Townes and Townes. B. C. (Rogers Pass).
Exochus hiuleus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 216. ♀.
- ***litus** Townes and Townes. Alaska, Wash., Oreg., Calif., Nev., N. S.
Exochus litus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 196. ♂, ♀.
- mandibularis** Cushman. Mich., N. H.
- ***megadon** Townes and Townes. R. I., N. Y., N. J., Mich., Colo.
Exochus megadon Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 259. ♀.
- ***mesodon** Townes and Townes. R. I., Conn., N. Y.
Exochus mesodon Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 258. ♀.
- ***mesorufus** Townes and Townes. N. B., N. Y., Del., Ala.
Exochus mesorufus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 232. ♂, ♀.
- mitratus atrocaxalis** Cresson, changed status. Man. to N. B. south to W. Va.; also "Dak. Terr.", Tex. Host: tortricid on *Kalmia*. *E. mitratus mitratus* Gravenhorst is European.
Exochus atrocaxalis Cresson. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 181).
- ***mitratus orias** Townes and Townes. B. C., Wash., Oreg., Calif., Alta., Wyo., Utah, Nev.
Exochus mitratus orias Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 181, 182. ♂, ♀.
- montanus** Walkley. Syn. of **flavifrontalis** Davis.
- ***montivagus** Townes and Townes. Colo. (Rocky Mt. N. P.).
Exochus montivagus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 201. ♀.
- ***nigripalpis subobscurus** Townes and Townes. Calif. Hosts: *Acleris variegata* (Schiff.), *Archips argyrospilus* (Wlkr.), *Argyrotaenia citrana*. (Fern.), *A. franciscana* (Wlsm.), *Cnephasia longana* (Haw.), *Pandemis pyrusana* Kft. *Platynota stultana* (Wlsm.). *E. nigripalpis nigripalpis* Thomson is European.
Exochus nigripalpis subobscurus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 217, 219. ♂, ♀.
- ***nigripalpis tectulum** Townes and Townes. B. C. to N. S. south to Oreg., Colo., N. C. Hosts: *Archips rosana* (L.), *Choristoneura funiferana* (Clem.).

Exochus nigripalpis tectulum Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 217, 218. ♂, ♀.

**ochreateus* Townes and Townes. Ariz. (nr. Alpine).

Exochus ochreateus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 202. ♂.

ostentatus Davis. Ont., N. Y., Pa., N. J., Md., Ala., Minn., Alta.

Taxonomy: Townes and Townes, 1959, pp. 252-254 (♀ descr.).

pallipes Cresson. Syn. of *pleuralis* Cresson.

**peroniae* Townes and Townes. 2 B. C., Wash., Oreg., Colo., also Ont., Que., N. S. to N. Y. and Mich. Hosts: *Acleris variana* (Fern.), *Clepsis melaleucana* (Wlkr.), ?*Argyrotaenia* sp., *Archippus packardianus* (Fern.).

Exochus peroniae Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 235. ♂, ♀.

pictilis Walkley. A subsp. of *dorsalis* Cresson.

pictus xanthopsis Ashmead, changed status. B. C., Wash., Oreg., Calif., Colo., Ont., Que., N. S., Maine, N. H., N. Y., N. C. Host: *Heterarthrus nemoratus* (Fall.). Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 186). *E. pictus pictus* Holmgren is European.

pleuralis Cresson. Mass. to Md., west to Mann., Utah, Ariz., Yukon. Hosts: *Anacamptis agrimoniella* (Clem.), *Ancyliis comptana* (Froel.); "*Peronea*" on *Viburnum*.

Exochus pallipes Cresson (syn. *teste* Townes and Townes, 1959, p. 256).

**postfurcalis* Townes and Townes. Ont., N. S. to N. C. west to Man., Colo. Hosts: *Acleris oxycoccana* (Pack.), *Episimus argutanus* (Clem.).

Exochus postfurcalis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 242. ♂, ♀.

**pullatus* Townes and Townes. Alaska, Man.

Exochus pullatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 197. ♂, ♀.

**quadradens* Townes and Townes. Md. (Takoma Park).

Exochus quadradens Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 254. ♀.

**russeus* Townes and Townes. Ariz., N. Mex., ? Pa.

Exochus russeus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 172, 188. ♂, ♀.

**rutilatus* Townes and Townes. B. C., Wis., Ont. and N. S. south to N. C.

Exochus rutilatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 225. ♂, ♀.

scitulus Provancher. A subsp. of *decoratus* Holmgren.

semirufus Cresson. Sask.

**signifer* Townes and Townes. Alaska, B. C., Utah, Minn., Wis., Mich., Ohio, N. Y., Maine.

Exochus signifer Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 240. ♀.

**silus* Townes and Townes. Utah, Idaho, Calif.

Exochus silus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 261. ♂, ♀.

**spilotus* Townes and Townes. Wash., Ont., Maine.

Exochus spilotus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 245. ♀.

**spinalis* Townes and Townes. Calif.

Exochus spinalis Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 202. ♀.

- **stenostoma* Townes and Townes. B. C. to Calif., Ariz. Host: *Ephestia figulilella* Greg.
Exochus stenostoma Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 179. ♂, ♀.
- **sulcatus* Townes and Townes. N. J.; ?Venezuela.
Exochus sulcatus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 211. ♂.
- **tenebrosus* Townes and Townes. Wash., Wyo., Colo.
Exochus tenebrosus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 220. ♂, ♀.
- terminalis* (Ashmead). Transf. to *Seticornuta* Morley.
- **transversus* Townes and Townes. Sask., Ont.
Exochus transversus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 241. ? ♂, ♀.
- **turgidus* Holmgren. Sask., Ont., Va., Fla., La., Calif.; Europe. Hosts: *Dioxyctria amatella* (Hlst.), *D. auranticella* (Grt.), *D. reticulella* (Grt.), *Petrova albicapitana* Busck.
Exochus turgidus Holmgren, 1856. Svenska Vetensk.-Akad. Handl. N. S., v. 1, n. 2, p. 312. ♀.
- **ventricosus* Townes and Townes. R. I., N. Y.
Exochus ventricosus Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 260. ♀.
- virgatifrons* Townes and Townes. Ont., Maine, N. H., Mass., Conn., N. Y., Md., Ill., Wis., Iowa. Host: *Canarsia ulmiarrosorella* (Clem.).
Exochus virgatifrons Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 229. ♂, ♀.
- washingtonensis* (Davis). Alaska, Alta., Wash., Idaho, S. Dak., Colo., N. M., Mich., Ont., Que., Maine, Vt., N. J., Pa.
- xanthopsis* Ashmead. A subspecies of *pictus* Holmgren.

Subfamily OPHIONINAE

Tribe CAMPOPLEGINI

Genus PYRACMON Holmgren, p. 358

Rhimphoctona Foerster. Change type citation to: (*Pyracmon fulripes* Holmgren) = *grandis* (Boyer de Fonscolombe).

Genus CYMODUSA Holmgren, p. 359

laevissima (Viereck). Transf. from *Campoplex* Gravenhorst, Sup. 1, p. 59. (Suggested by Walley and verified by examination of type spm.)

Genus CAMPOPLEX Gravenhorst, pp. 359-363

Sinophorus Foerster. Considered a valid genus by Townes, Townes, and Gupta, 1961, pp. 219, 449, but syn. of *Campoplex* Gravenhorst by Perkins, 1962, p. 452.

**Phaedroctonus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25:153 (syn. *teste* Townes, 1945. Amer. Ent. Soc. Mem. 11 (Pt. 2): 593; Townes, Townes, and Gupta, 1961, p. 220).

Type: (*Phaedroctonus minutus* Ashmead) = *cupressi* (Ashmead). Included by Ashmead, 1902.

Omorga Thomson. Delete type citation. Add: Emend.

cupressi (Ashmead). ? N. H.

frustranae Cushman. Md. Host: *Rhyacionia rigidana* Fern.

laevissima (Viereck). Transf. to *Cymodusa* Holmgren, p. 359.

mellipes (Provancher). Host: *Eucordylea ducharmeii* Freeman.

triannulatus (Cameron). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

validus (Cresson). Host: *Dioryctria reniculella* (Grt.).

*Genus **DEVORGILLA** Cameron

(= *Idechthis* Foerster, nec Huebner, p. 363)

(= *Exidechthis* Walkley, Sup. 1, p. 59)

Devorgilla Cameron, 1907. Tijdschr. v. Ent. 50: 51 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 222). Perkins, 1962, p. 430, considers *Exidechthis* Walkley a valid genus.

Type: *Devorgilla dilatata* Cameron. By monotypy.

All spp. in *Idechthis* Foerster in catalog (except **canescens**) will be n. comb. in *Devorgilla* Cameron.

canescens (Gravenhorst).

**Omorga columbiana* Johnson, 1899. U. S. Dept. Agr. Div. Ent. Bul. 20: 67. Nom. nud.

**Idechthis ephestiae* Fletcher, 1903. Ent. Soc. Ontario, Ann. Rpt. 33: 86. Nom. nud.

Genus **CASINARIA** Holmgren, pp. 364-365

Horogenes Foerster. Transf. from p. 376. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 224; Perkins, 1962, p. 428).

Type: *Campoplex tenuiventris* Gravenhorst. Included by Brischke, 1880.

Alcima Foerster. Delete type citation. Replace with: *Campoplex orbitalis* Gravenhorst. Included by Brischke, 1880.

**Rhythmonotus* Foerster, 1886. Naturh. Ver. Rheinlande Verh. 25: 151, 220 (as *Rhytmonotus*) (syn. *teste* Meyer, 1935. Tabl. anal. Faune URSS (16) v. 4, pp. 170-171; Perkins, 1962, p. 450).

Type: *Rhythmonotus* (!) *singularis* Schmiedeknecht. Included by Schmiedeknecht, 1909.

**Nothanomalon* Szépligeti, 1905. Gen. Ins. 34: 39 (syn. *teste* Townes, Townes and Gupta, 1961, p. 224).

Type: *Nothanomalon novoguineensis* Szépligeti. By monotypy.

Nothanomaloïdes Uchida, 1928. Fac. Agr. Hokkaido Imp. Univ. Jour. 21: 273. Preocc. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 225.)

Type: *Nothanomaloïdes matsuyamensis* Uchida. Orig. desig.

Deltops Seyrig, 1935. Paris Mus. d'Hist. Nat. Mem. 4: 84 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 225).

Type: *Deltops granulicoxis* Seyrig. Orig. desig.

**Longicharops* Uchida, 1940. Ins. Matsumurana 14: 131. N. name for *Nothanomaloïdes*.

**Neonortoniella* Blanchard, 1947. Zool. Mus. Hist. Nat. Montevideo Comun. 2 (42): 4 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 225).

Type: *Neonortoniella plusiae* Blanchard. By monotypy and orig. desig.

***melanophiae** Walley. B. C. Host: *Melanolophia imitata* (Wlkr.).

Casinaría melanophiae Walley, 1959. Canad. Ent. 91 (9): 565. ♂, ♀.

Genus **CHAROPS** Holmgren, p. 366

annulipes Ashmead. Del. Host: *Plathypena scabra* (F.).

Genus **BATHYPLECTES** Foerster, p. 366

***anura** (Thomson). N. J., Pa. Host: *Hypera postica* (Gyll.).

Canidia anura Thomson, 1887. Opusc. Ent., fasc. 11, p. 1113. ♂, ♀.

cureulionis (Thomson). N. J., Va., N. C., Alta.

Taxonomy: Aubert, 1960. Vie et Milieu 11 (3): 490.

Biology: Coles and Puttler, 1963. Jour. Econ. Ent. 56 (5): 609-611.—Fisher, Schlinger, Van den Bosch, 1961. Jour. Econ. Ent. 54 (1): 196-197.—Puttler, Jones, Coles, 1961. Jour. Econ. Ent. 54 (5): 878-880.—Van den Bosch and Dietrick, 1959. Ent. Soc. Amer. Ann. 52 (5): 609-616.

Genus **BIOLYSIA** Schmiedeknecht, p. 366

tristis (Gravenhorst). N. Y., Pa., N. J., Del.

Biology: Puttler and Coles, 1962. Jour. Econ. Ent. 55 (6): 831-833.

Genus **CAMPOLETIS** Foerster, pp. 366-370

argentifrons (Cresson). Host: *Spodoptera frugiperda* (J. E. Sm.).

longiceps (Roman). Transf. from *Ecphoropsis* Ashmead, p. 370 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 105).

Genus *Ecphoropsis* Ashmead, p. 370

Delete from Catalog. No Nearc. spp.

longiceps Roman. Transf. to *Campoletis* Foerster, p. 368.

Genus **DUSONA** Cameron, pp. 370-375

**ferruginea* Walkley. Fla. (Dade Co.).

Dusona ferruginea Walkley, 1963. Ent. News 74 (9): 239. ♀.

pilosa (Walley). Host: *Melanophila imitata* Wlkr.

Genus **NEPIERA** Foerster, p. 375

Nepiera Foerster. Change type citation to: (*Limneria concinna* Holmgren) = *Nepiera collector* (Thunberg) (*teste* Perkins, 1962, p. 438).

marginata (Provancher). N. B. Hosts: *Actebia fennica* (Tausch.); *Graphiphora smithi* (Snell); *Pseudaletia unipuncta* (Haw.).

Biology: Guppy, 1961. Canad. Ent. 93 (7): 569.

Genus **PHOBOCAMPE** Foerster, pp. 375-376

Hypotherutes Foerster. Change spelling of genus in type citation to *Hypotherentes* (!) and change date to 1898 (1897).

Phobocampe Thomson. Delete type citation. Add: Emend.

disparis (Viereck). N. Y.

*Genus **SYNETAERIS** Foerster

Synetaeris Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 155.

Type: *Synetaeris heteropus* Thomson. Desig. by Viereck, 1914.

Place in Catalog on p. 376 after *Phobocampe* Foerster.

**tenuifemur* Walley. N. B., Ont. B. C. Host: *Choristoneura fumiferana* (Clem.).

Synetaeris tenuifemur Walley, 1963. Canad. Ent. 95 (1): 23. ♂, ♀.

Biology: Miller and Renault, 1963. Canad. Ent. 95 (1): 24-28.

Genus **HOROGENES** Foerster, pp. 376-380

Horogenes Foerster. Delete type citation; place as syn. of *Casinarina* Holmgren.

Dyspetes Foerster. Delete type citation; transf. to Tryphonini as valid genus.

Other generic synonyms listed are to be placed as syns. of (*Horogenes* of authors) = *Diadegma* Foerster (*teste* Townes, Townes, and Gupta, 1961, p. 234). Perkins, 1962, pp. 428-429 suggests *Nythobia* Foerster as the name to use for this concept.

Stability in the Campoplegini will be possible only after a careful gener-

ic revision of the whole tribe. Certainly *Horogenes* Auctt. has been a catch-all genus for many years.

Transf. all species to *Diadegma* Foerster except as noted below.

cacoeciae (Viereck). Transf. to **Tranosema* Foerster as syn. of *arenicola* Thomson.

Genus **DIADEGMA** Foerster

(= *Horogenes* of Catalog and authors)

**Areolina* Enderlein, 1921. Stettin. Ent. Zeit. 82: 41 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 234).

Type: *Areolina imbecilla* Enderlein. Orig. desig.

Replaces *Horogenes* Foerster, p. 376. Species transf. from *Horogenes* in Catalog are n. comb. in *Diadegma* with the exception of a few spp. already cited in economic literature.

**chrysostictum* (Gmelin), n. comb. Molarceic. Host: *Ephestia sericarium* Scott.

Ichneumon chrysostictos Gmelin, 1790. In Linnaeus Syst. nat. Ed. 13, T. I, Pt. V, p. 2721, n. 407.

Horogenes kiehtani (Viereck) (syn. *teste* Walley in Fisher, 1959. Canad. Jour. Zool. 37 (4): 429).

Biology and Ecology: Fisher, 1959, *loc. cit. supra*, pp. 429-446;—1961, Jour. Expt. Zool. 38 (2): 267-275;—1962, Ecology 43 (2): 314-316.

eureka (Ashmead). Hosts: *Acleris variegana* (Schiff.), *Croesia albicomana* (Clem.), ?*Epinotia crenana* (Hbn.), *Pandemis pyrusana* Kft.

hospitum (Holmgren). Transf. from **Alphabetic List of Unplaced species**, p. 409 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 110).

pterophorae (Ashmead). Hosts: *Acleris variegana* (Schiff.), *Croesia albicomana* (Clem.).

stenosomus (Viereck). Que. Host: *Eucordylea ducharmeii* Freeman.

*Genus **TRANOSEMA** Foerster

Tranosema Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 157.

Type: *Tranosema arenicola* Thomson. Desig. by Viereck, 1914.

Place before *Hyposoter* Foerster, p. 380 of Cat.

**arenicola* Thomson. B. C., Europe.

Tranosema arenicola Thomson, 1887. Opusc. Ent. fasc. 11, p. 1138.

Horogenes cacoeciae (Viereck). Transf. from **Horogenes** Foerster, p. 377. N. syn. (*teste* Walley, in *litt.*).

Genus **HYPOSOTER** Foerster, pp. 380-383

Hyposoter Foerster. In type citation change "Included by Viereck" to: Included and desig. by Viereck.

Ischnoscopus Foerster. Under type citation change the date after Ashmead to 1898 (1897).

Anilastus Foerster. Remove question mark.

Anilasta Thomson. Delete type citation and add: Emend. Remove question mark.

annulipes (Cresson). Host: *Pseudaletia unipuncta* (Haw.).

exiguae (Viereck). Ariz.

parorgyiae (Viereck). Host: *Dasychira plagiata* (Wlkr.).

Genus **OLESICAMPE** Foerster, p. 383-385

Olesicampe Foerster. Change type citation to: *Ichneumon longipes* Mueller. Desig. by Viereck, 1912.

Olesicampa Thomson. Delete type citation and add: Emend.

?*Holocremna* Thomson. Delete type citation and add: Emend. (Perkins, 1962, p. 427, considers *Holocremnus* Foerster a valid genus.)

euurae (Ashmead). Idaho, ?Calif.

Biology: Caltagirone, 1964. Ent. Soc. Amer. Ann. 57 (3): 287-289 (nr. or subsp.?).

lophyri (Riley). Minn. Hosts: *Neodiprion lecontei* (Fitch); *N. swainei* Midd.

Tribe CREMASTINI

Genus DIMOPHORA Foerster, p. 386

Dimophora Foerster. Delete "Desig. by Viereck, 1914" from type citation; add: Incl. by Brischke, 1894 (see Perkins, 1962, p. 418).

Dimophorus Thomson. Change bibliog. ref. to: 1889. Opusc. Ent., fasc. 13, pp. 1355, 1356. Emend.

**Demophorus* Thomson, 1890. Opusc. Ent. fasc. 14, pp. 1442, 1457.

Type: (*Demophorus arenicola* Thomson) = *Dimophora robusta* Brischke. First included species.

Genus PRISTOMERUS Curtis, pp. 386-387

euryptychiae Cushman. Hosts: *Acrobasis caryae* Grt.; *Gnorimoschema gallesolidaginis* (Riley), *Polychrosis carduana* Busck, *Suleima helianthana* (Riley); *Walshia amorphella* (Clem.).

Genus NEOCREMASTUS Cushman

Neocremaustus Cushman. Removed from syn. of *Zaleptopygus* Viereck. A valid genus (*teste* Townes, 1958, Ins. of Micronesia v. 19, n. 2, p. 66 [under *Trathala* Cameron]).

mellipes (Provancher). Transf. from *Zaleptopygus* Viereck.

stigmaterus (Cresson). Transf. from *Zaleptopygus* Viereck.

Genus *Zaleptopygus* Viereck, pp. 388-390

(=CREMASTUS Gravenhorst, nec *Cremaustus* of Catalog, *auctt.*)

Neocremaustus Cushman. Remove from syn.; a valid genus.

aciculatus (Davis). Transf. to **Trathala* Cameron.

albipennis (Cresson). Transf. to *Cremaustus* Gravenhorst.

anomalous (Cushman). Transf. to *Cremaustus* Gravenhorst.

audax (Cresson). Transf. to *Cremaustus* Gravenhorst as syn. of *fuscipennis* (Cresson).

bilineatus (Cushman). Transf. to *Cremaustus* Gravenhorst.

brunneipennis (Walley). Transf. provisionally to *Cremaustus* Gravenhorst.

californicus (Provancher). Transf. provisionally to *Cremaustus* Gravenhorst.

champlaini (Cushman). Transf. to *Cremaustus* Gravenhorst.

cleridivorus (Cushman). Transf. to **Trathala* Cameron.

delicatus (Cresson). Transf. to **Trathala* Cameron.

dorcasemae (Cushman). Transf. to *Cremaustus* Gravenhorst.

egregiacolor (Viereck). Transf. to *Cremaustus* Gravenhorst.

flavo-orbitalis (Cameron). Transf. to **Trathala* Cameron.

fuscipennis (Cresson). Transf. to *Cremaustus* Gravenhorst.

gallaecola (Cushman). Transf. to *Cremaustus* Gravenhorst.

granulatus (Davis). Transf. to **Trathala* Cameron.

hartii (Ashmead). Transf. to **Trathala* Cameron.

- hyalinipennis* (Cresson). Transf. to **Cremastus** Gravenhorst.
incompletus (Provancher). Transf. to **Cremastus** Gravenhorst.
latithorax (Cushman). Transf. to ***Trathala** Cameron.
mellipes (Provancher). Transf. to **Neocremastus** Cushman.
mordellistenae (Cushman). Transf. to **Cremastus** Gravenhorst.
nemorialis (Davis). Transf. to ***Trathala** Cameron.
nigriclypealis (Cushman). Transf. to **Cremastus** Gravenhorst.
obesus (Cushman). Transf. to ***Trathala** Cameron.
orbitalis (Cresson). Transf. to **Cremastus** Gravenhorst.
orbis (Davis). Transf. to **Cremastus** Gravenhorst.
plesius (Cushman). Transf. to ***Trathala** Cameron.
quintilis (Viereck). Transf. provisionally to **Cremastus** Gravenhorst.
retiniae (Cresson). Transf. to ***Trathala** Cameron.
rohweri (Cushman). Transf. to **Cremastus** Gravenhorst.
rosae (Cushman). Transf. to ***Trathala** Cameron.
rostratus (Cushman). Transf. to ***Trathala** Cameron.
similis (Cushman). Transf. to ***Trathala** Cameron.
snowi (Viereck). Transf. to **Cremastus** Gravenhorst, provisionally.
stigmaterus (Cresson). Transf. to **Neocremastus** Cushman.
tetralophae (Cushman). Transf. to ***Trathala** Cameron.
vierecki (Cockerell). Transf. to **Cremastus** Gravenhorst, provisionally.

All these transfers, excepting the provisional ones are by Townes (see *Insects of Micronesia* 19 (2): 65-66, 1958).

Genus CREMASTUS Gravenhorst

(=*Zaleptopygus* Viereck, in part, pp. 388-390)

The holotype of *C. spectator* Gravenhorst had been misidentified for many years (see Townes, 1958, *Ins. of Micronesia*, v. 19, n. 2, pp. 65-67).

- albipennis* (Cresson). Transf. from *Zaleptopygus* Viereck.
anomalus Cushman. Transf. from *Zaleptopygus* Viereck.
bilineatus Cushman. Transf. from *Zaleptopygus* Viereck.
 ?*brunneipennis* Walley. Transf. from *Zaleptopygus* Viereck.
 ?*californicus* (Provancher). Transf. from *Zaleptopygus* Viereck.
champlaini Cushman. Transf. from *Zaleptopygus* Viereck.
dorcaschmae Cushman. Transf. from *Zaleptopygus* Viereck.
egregiacolor (Viereck). Transf. from *Zaleptopygus* Viereck.
fuscipennis (Cresson). Transf. from *Zaleptopygus* Viereck.
Zaleptopygus audax (Cresson). Syn. (*teste* Townes, 1958. *Ins. of Micronesia*, v. 19, no. 2, p. 65).
gallaecola Cushman. Mich. Host: *Gnorimoschema* sp. on aster. Transf. from *Zaleptopygus* Viereck.
hyalinipennis (Cresson). Transf. from *Zaleptopygus* Viereck.
incompletus (Provancher). Transf. from *Zaleptopygus* Viereck.
mordellistenae Cushman. Transf. from *Zaleptopygus* Viereck.
nigriclypealis Cushman. Transf. from *Zaleptopygus* Viereck.
orbitalis (Cresson). Transf. from *Zaleptopygus* Viereck.

- orbis* (Davis). Transf. from *Zaleptopygus* Viereck.
?quintilis Viereck. Transf. from *Zaleptopygus* Viereck.
rohweri Cushman. Transf. from *Zaleptopygus* Viereck.
?snowi (Viereck). Transf. from *Zaleptopygus* Viereck.
?vierecki (Cockerell). Transf. from *Zaleptopygus* Viereck.

*Genus *TRATHALA* Cameron

(= *Zaleptopygus* Viereck, in part, pp. 388-390)

See statement under *Cremastus* Gravenhorst.

**Trathala* Cameron, 1899. Manchester Lit. Phil. Soc. Mem. Proc. 43: 122.

Type: *Trathala striata* Cameron. By monotypy.

**Epicremastus* Szépligeti, 1905. Gen. Ins., v. 34, p. 51 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 252).

Type: *Epicremastus concolor* Szépligeti. By monotypy.

Paurolexis Cameron, 1907. Syn. Transf. from syn. of *Cremastus* of Catalog (*teste* Townes, Townes, and Gupta, 1961, p. 252).

**Haristaeus* Cameron, 1910. Ent. Soc. London, Trans. 35: 442. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 252).

Type: *Haristaeus nigrifrons* Cameron. By monotypy.

- aciculata* (Davis). Transf. from *Zaleptopygus* Viereck.
cleridivora (Cushman). Transf. from *Zaleptopygus* Viereck.
delicata (Cresson). Transf. from *Zaleptopygus* Viereck.
flavoorbitalis (Cameron). Transf. from *Zaleptopygus* Viereck.
granulata (Davis). Transf. from *Zaleptopygus* Viereck.
hartii (Ashmead). Transf. from *Zaleptopygus* Viereck.
latithorax (Cushman). Transf. from *Zaleptopygus* Viereck.
memoralis (Davis). Transf. from *Zaleptopygus* Viereck.
obesa (Cushman). Transf. from *Zaleptopygus* Viereck.
plesia (Cushman). Transf. from *Zaleptopygus* Viereck.
retinae (Cresson). Transf. from *Zaleptopygus* Viereck.
rosae Cushman. Transf. from *Zaleptopygus* Viereck.
rostrata (Cushman). Transf. from *Zaleptopygus* Viereck.
similis Cushman. Transf. from *Zaleptopygus* Viereck.
tetralophae (Cushman). Transf. from *Zaleptopygus* Viereck.

Genus *Cremastus* Auctt. and Catalog, pp. 390-392, Sup. 1, 61

Temelucha Foerster. Delete from syn., a valid name for species concept of *Cremastus* of auctt. and catalog.

Neleoithymus Foerster. A valid genus.

Tarytia Cameron. Syn. of *Temelucha* Foerster.

Cremastidea Viereck. Syn. of *Temelucha* Foerster.

Paurolexis Cameron. Transf. to syn. of *Trathala* Cameron.

Transf. all spp. listed on pages 390-392 under *Cremastus*, except *attenuatus* Cushman, to *Temelucha* Foerster. Transf. *attenuatus* to *Neleoithymus* Foerster.

Genus *TEMELUCHA* Foerster

(= *Cremastus* Auctt. and Catalog, pp. 390-392; Sup. 1, p. 61)

Temelucha Foerster. Change type citation to:

Type: (*Porizon macer* Cresson) = *facilis* (Cresson). Desig. by Perkins, 1962 (one of four spp. incl. by Ashmead in Smith, 1900).

**Paracremastus* Szépligeti, 1900. Termész. Füzetek 23: 28 (syn. *teste*

Townes, Townes and Gupta 1961, p. 256).

Type: *Paracremastus genalis* Szépligeti. By monotypy.

Tarytia Cameron. Syn.

Cremastidea Viereck. Syn. Change type citation to: (*Cremastidea chinensis* Viereck) = *biguttula* Matsumura.

- brevicauda* (Cushman). Transf. from *Cremastus*, p. 390.
brevinervis (Cushman). Transf. from *Cremastus*, p. 391.
brevipetiolata (Cushman). Transf. from *Cremastus*, p. 391.
bruneiceps (Cushman). Transf. from *Cremastus*, p. 391.
carpocapsae (Cushman). Transf. from *Cremastus*, p. 391.
chilonis (Cushman). Transf. from *Cremastus*, p. 391.
cookii (Weed). Transf. from *Cremastus*, p. 391.
epagoges (Cushman). Transf. from *Cremastus*, p. 391.
evetriae (Cushman). Transf. from *Cremastus*, p. 391.
facilis (Cresson). Transf. from *Cremastus*, p. 391.
ferruginea (Davis). Transf. from *Cremastus*, p. 391.
flaviceps (Cushman). Transf. from *Cremastus*, p. 391.
forbesi (Weed). Transf. with its syn. (Sup. 1, p. 61) from *Cremastus*, p. 392, Sup. 1, p. 61.
gracilipes (Cushman). Transf. from *Cremastus*, p. 392.
gracilis (Cushman). Transf. from *Cremastus*, p. 392.
grapholithae (Cushman). Transf. from *Cremastus*, p. 392.
hamiltonensis (Viereck). Transf. from *Cremastus*, p. 392.
interruptor (Gravenhorst). Mich., Idaho. Transf. from *Cremastus*, p. 392.
longigenalis (Cushman). Transf. from *Cremastus*, p. 392, Sup. 1, p. 61.
minor (Cushman). Ga. Host: *Ostrinia nubilalis* (Hbn.). Transf. from *Cremastus*, p. 392.
platynotae (Cushman). Also Yuma, Ariz. Transf. from *Cremastus*, p. 392.
protracta (Cushman). Transf. from *Cremastus*, p. 392.
pterophori (Cushman). Transf. from *Cremastus*, p. 392.
recta (Provancher). Transf. from *Cremastus*, p. 392.
rhyacioniae (Cushman). Transf. from *Cremastus*, p. 392.
ruficeps (Cushman). Transf. from *Cremastus*, p. 392.
sinuata (Cushman). Transf. from *Cremastus*, p. 392.

Genus NELEOTHYMUS Foerster

Neleothymus Foerster. A valid genus (*teste* Townes, 1958. Ins. of Micronesia v. 19, n. 2, p. 68 [under *Temelucha*]).

- attenuatus* (Cushman). Transf. from *Cremastus* auctt. p. 390 (*teste* Townes, 1958, *loc. cit. supra*).

Tribe TERSILOCHINI

Genus BARYCNEMIS Foerster, p. 394

Barycnemis Foerster. In type citation replace "Desig. by Viereck, 1914" with: Included by Rischke, 1880.

*Genus ISCHNOBATIS Foerster

(= *Luchotema* Walkley, Sup. 1, p. 61)

Ischnobatis Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 148.

Type: *Thersilochus (Ichnobatis(!) stramineipes* Brischke. Inc. by Brischke, 1880.

Luchatema Walkley (syn. *teste* Perkins, 1962, pp. 391, 431).

baldufi (Walkley), n. comb. Transf. from *Luchatema* Walkley, Sup. I, p. 61.

*Genus ALLOPHRYS Foerster

Allophrys Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 147.

Type: *Thersilochus(!) oculatus* Ashmead. Desig. by Viereck, 1914.

Place on p. 394, after *Heterocola* Foerster. There are several undescribed Nearctic spp. belonging here.

Tribe ANOMALINI

(= Subtribe ANOMALINA of Catalog)

Dr. Short and Dr. Townes, in their published works, have included the tribes Anomalini, Gravenhorstiini, and Therionini in the subfamily Anomalinae. Dr. Short also included the Ophionellini (Cushman, 1922) here.

Genus ANOMALON Panzer, p. 395

reticulatum (Cresson). Host: *Conoderus vespertinus* (F.).

Biology: Robb, 1963. Ent. Soc. Amer. Ann. 56: 675.

*Tribe GRAVENHORSTIINI

(= Subtribe GRAVENHORSTIINA of Catalog)

Genus APHANISTES Foerster, p. 396

**Formosanomalon* Uchida, 1928. Hokkaido Imp. Univ. Fac. Agr. Jour. 21: 241 (syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 107).

Type: (*Formosanomalon baibarense* Uchida) = *elegans baibarense* Shestakov. Orig. desig.

**Macrostemma* Shestakov, 1923. Acad. Sci. Russ. Mus. zool. Ann. 24: 46. (Syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 107.)

Type: *Macrostemma elegans* Shestakov. By monotypy and orig. desig.

Genus BARYLYPA Foerster, pp. 396-397

Berylypa Foerster. Place type cited in parentheses and add: = *delictor* (Thunberg).

**Laphyctes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 146. Preocc.

Type: *Laphyctes insidiator* Foerster. Incl. by Foerster, 1878 (syn. *teste* Perkins, 1962, p. 434).

*?*Magnibuca* Morley, 1913. Revis. Ichn. British Mus., v. 2, pp. 50, 79 (syn. ? *teste* Townes, Townes and Gupta, 1961, p. 313).

Type: *Magnibuca testacea* Morley. By monotypy.

relieta (Fabricius). Transf. from *Alphabetic List of Unplaced Species*, p. 409 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

Genus CAMPOSCOPUS Foerster

Camposcopus Foerster, 1868. Removed from syn. of *Gravenhorstia* Boie, p. 397 of Catalog.

Labrorychus Foerster (not of auctt. or of Catalog).

Type: *Anomalon nigricorne* Wesmael. Included by Brischke, 1880. N. syn. (Isogenotypic with *Blaptocampus* Thomson.)

**Blaptocampus* Thomson, 1892. Opusc. Ent., fasc. 16, p. 1769 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 312).

Type: *Anomalon nigricorne* Wesmael. Desig. by Viereck, 1914.

Place in *Gravenhorstiini*, p. 397, before *Gravenhorstia* Boie.

aclevivorus Rohwer. Transf. from *Gravenhorstia* Boie, p. 397 (*teste* Townes, Townes, and Gupta, p. 312).

Genus GRAVENHORSTIA Boie, pp. 397-398

Gravenhorstia Boie. Not in Nearctic fauna. According to Perkins (*in litt.*) the two characters that distinguish the genus are a central, preapical tooth on the clypeus and a strong, central tooth on face just below lower line of antennal insertions. I have seen no Nearctic species with both of these characters.

Camposcopus Foerster. Remove from syn. A valid genus (*teste* Townes, Townes and Gupta, 1961, p. 312).

Erigorgus Foerster. Delete type desig. and remove from syn. A valid genus (*teste* Perkins, 1962, pp. 412, 422).

Sympratis Foerster. Syn. of *Erigorgus* Foerster.

Odontopsis Foerster. Isogenotypic syn. of *Gravenhorstia* Boie.

aclevivorus (Rohwer). Transf. to *Camposcopus* Foerster.

ambigua (Norton). Transf. to *Erigorgus* Foerster.

cerinops (Gravenhorst). Transf. to *Erigorgus* Foerster.

curtus (Norton). Transf. to *Erigorgus* Foerster.

edwardsii (Cresson). Transf. to *Erigorgus* Foerster.

eureka (Ashmead). Transf. to *Erigorgus* Foerster.

ferruginea (Norton). Transf. to *Erigorgus* Foerster.

fuliginosa (Davis). Transf. to *Habronyx* Foerster.

luteopecta (Norton). Transf. to *Erigorgus* Foerster.

magniceps (Cresson). Transf. to *Habronyx* Foerster.

propinqua (Cresson). Transf. to *Erigorgus* Foerster.

rotunda (Davis). Transf. to *Erigorgus* Foerster.

rufula (Provancher). Transf. to *Erigorgus* Foerster.

semirufa (Norton). Transf. to *Erigorgus* Foerster.

suburbis (Davis). Transf. to *Erigorgus* Foerster.

xanthopsis (Ashmead). Transf. to *Erigorgus* Foerster.

Genus ERIGORGUS Foerster

Erigorgus Foerster. From syn. of *Gravenhorstia*, Boie, p. 397.

Type: *Anomalon fibulator* Gravenhorst, 1829. Desig. by Perkins, 1962. (*Anomalon carinatum* Brischke was only doubtfully included and not available for type desig.).

Sympratis Foerster. Transf. from syn. of *Gravenhorstia* Boie. In type citation change "*Erigorgus*" to: *Anomalon*.

ambiguus (Norton). Transf. from *Gravenhorstia* Boie, p. 397.

cerinops (Gravenhorst). Transf. from *Gravenhorstia* Boie, p. 397.

curtus (Norton). Iowa, Ark. Transf. from *Gravenhorstia* Boie, p. 397.

edwardsii (Cresson). Transf. from *Gravenhorstia* Boie, p. 397.

eureka (Ashmead). Transf. from *Gravenhorstia* Boie, p. 397.

ferrugineus (Norton). Transf. from *Gravenhorstia* Boie, p. 397.

fuliginosus (Davis). Transf. from *Gravenhorstia* Boie, p. 397.

luteopectus (Norton). Transf. from *Gravenhorstia* Boie, p. 397.

?*neglectum* (Morley). Transf. from *Therion* Curtis, p. 400.

propinquus (Cresson). Transf. from *Gravenhorstia* Boie, p. 397.

- rotundus** (Davis). Transf. from *Gravenhorstia* Boie, p. 397.
rufulus (Provancher). Transf. from *Gravenhorstia* Boie, p. 398.
semirufus (Norton). Transf. from *Gravenhorstia* Boie, p. 398.
suburbis (Davis). Transf. from *Gravenhorstia* Boie, p. 398.
xanthopsis (Ashmead). Transf. from *Gravenhorstia* Boie, p. 398.

Genus **AGRYPON** Foerster, *Sup.* 1, p. 61

- alaskensis** (Ashmead). B. C. Host: *Melanolophia imitata* Wlkr.

Genus **TRICHIONOTUS** Cameron

(= *Labrorychus* of Authors, p. 398)

Labrorychus Foerster of Catalog, and authors, not of type (*Labrorychus* Foerster of type is syn. of *Camposcopus* Foerster).

**Trichionotus* Cameron, 1905 (July). Straits Branch Roy. Asiatic Soc. 44: 124. Preocc. Syn. of *Labrorychus* authors (*teste* Townes, Townes, and Gupta, 1961, p. 316).

Type: *Trichionotus reticulatus* Cameron. By monotypy.

**Trichionotus* Cameron, 1905 (Aug.). Ann. Mag. Nat. Hist. (ser. 7) 16: 168 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 316).

Type: *Trichionotus reticulatus* Cameron. By monotypy.

**Phaenolabrorychus* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 379 (syn. *teste* Townes, Townes, and Gupta, p. 316).

Type: *Phaenolabrorychus anisitsi* Viereck. By monotypy and orig. desig.

**Paragrypon* Uchida, 1941. Ins. Matsumurana 15 (4): 159 (syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 115).

Type: *Gongropelma kikuchii* Uchida. Orig. desig.

All species are n. combs. in *Trichionotus* Cameron.

- prismaticus** (Norton), n. comb. Maine, Que., N. H., Vt., N. B., Ohio, Ont., Minn. Hosts: *Archips cerasivoranus* (Fitch); *Ostrinia nubilalis* (Hbn.); *Pyrausta penitalis* Grt.

Genus **HABRONYX** Foerster

Habronyx Foerster, 1860. Naturh. Ver. Rheinlande Verh. 17: 145.

Type: *Habronyx gravenhorstii* Foerster. By monotypy.

Place on p. 398, before *Atrometus* Foerster.

- fuliginosus** (Davis), n. comb. Transf. from *Gravenhorstia*, p. 397.
magniceps (Cresson), n. comb. Transf. from *Gravenhorstia* Boie, p. 397.

Genus **ATROMETUS** Foerster, p. 398

**Parania* Morley, 1913. Revis. Ichn. Brit. Mus. v. 2, pp. 50, 96 (syn. *teste* Townes, Townes, and Gupta, 1962, p. 316).

Type: *Parania nototrachoides* Morley. By monotypy.

- clavipes** (Davis). Host: *Argyrotaenia velutinana* (Wlkr.).

*Tribe **THERIONINI**

(= Subtribe *Therionina* of Catalog)

Genus **THERION** Curtis, pp. 399-400

- fuscipenne** (Norton).

Therion verticale (Morley) (syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

- neglectum** (Morley). Townes places this sp. in *Gravenhorstia* Boie (1961, Ent. Soc. Wash. Proc. 63 (2): 106). Probably belongs in *Eri-gorgus* Foerster as treated in this supplement.

- sassacus** Viereck. Host: *Pseudaletia unipunctata* (Haw.).

tenuipes (Norton).

**Exochilum diabolus* Morley, 1913. Revis. Ichn. Brit. Mus., Pt. 2, pp. 71, 73. ♀. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106.)

verticale (Morley). Syn. of *fuscipenne* (Norton).

Tribe OPHIONINI

Genus OPHION Fabricius, pp. 401–402

bifoveolatus Brullé. Transf. to *Enicospilus* Stephens, p. 404.

Ophion nigrovarius Provancher. Remove from syn.; a valid sp.

nigrovarius Provancher. (Misspelled *nigrivarius* in Catalog.) A valid sp. (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

Ophion novascotiae (Morley) (syn. *teste* Townes, *loc. cit. supra*).

novascotiae (Morley). Syn. of *nigrovarius* Provancher, p. 402.

stramineus Taschenberg. Transf. to *Enicospilus* Stephens, p. 404 as syn. of *bifoveolatus* (Brullé).

Genus CHILOPHION Cushman, p. 403

abnormus (Felt). Wyo.

Genus ENICOSPILUS Stephens, pp. 403–405

Dicamptus Szépligeti, 1905. Delete from syn. Valid genus.

Amesophilus Enderlein, 1918 (1914-1916). Change type citation to:

Ophion unicallosus Vollenhoven. Orig. desig.

americanus (Christ).

**Ophion rugosus* Brullé, 1846. Hist. Nat. Ins. Hym., v. 4, p. 138 (syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

bifoveolatus (Brullé). Transf. from *Ophion* Fabricius, p. 402 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

Ophion stramineus Taschenberg. Transf. from *Ophion* Fabricius, p. 402 (syn. *teste* Townes, *loc. cit. supra*).

cubitalis (Morley), preocc. Syn. of *glabratus* (Say).

excubitalis Walkley. Syn. of *glabratus* (Say).

glabratus (Say).

Enicospilus cubitalis (Morley). Preocc. Syn.

Enicospilus excubitalis Walkley. N. name. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 103.)

Subfamily MESOCHORINAE

Genus ASTIPHROMMA Foerster, p. 405

strenuum (Holmgren). Host (secondary?): *Melanolophila imitata* Wlkr.

Alphabetic List of Unplaced Species, pp. 407–409, Sup. 1, p. 62

Cryptus cinctipes Walsh. Transf. to *Ischnus* Gravenhorst, p. 270, placing alphabetically.

Cryptus rhomboidalis Walsh. Transf. to *Ischnus* Gravenhorst, p. 270, placing alphabetically.

Cryptus rufifrons Walsh. Transf. to *Habrocryptoides* Uchida (to be placed on p. 271).

Cryptus semirufus Brullé. Transf. to *Cubocephalus* Ratzeburg, p. 255, placing alphabetically.

Eriborus triannulatus Cameron. Transf. to *Campoplex* Gravenhorst, p. 362.

Exolytus concamerus Davis. Transf. to *Oxytorus* Foerster (= *Callidiotes* Foerster) as syn. of *antennatus* (Cresson), p. 340.

- Hemiteles clipeator* Lundbeck. Transf. to *Symplecis* Foerster, p. 343.
Hemiteles gastricus Holmgren. Transf. to **Charitopes* Foerster.
Ichneumon astutus Holmgren. Transf. to *Craticheumon* Thomson, p. 287.
Ichneumon bauchiformis Megerle. Transf. to *Cryptanura* Brullé, p. 265.
Ichneumon lugubator Gravenhorst. Transf. to **Thyrateles* Perkins (to be placed on p. 296).
Ichneumon nigrosignatus Viereck. Transf. to *Coelichneumon* Thomson, placing alphabetically.
Labrorychus relictus (Fabricius). Transf. to *Barylypa* Foerster, p. 396.
Limnerium hospitum Holmgren. Transf. to *Diadegma* Foerster (= *Horo-genes* of Catalog, p. 378).
Phygadeuon plectiscinus Roman. Transf. to **Charitopes* Foerster.
Pseudamblyteles peroratus Cameron. Transf. to *Ichneumon* Linnaeus (= *Pterocormus* Foerster of Catalog), p. 300.
Trogus atrocoeruleus Cresson. Transf. to **Protopelmus* Heinrich (to be placed on p. 296).

Superfamily CHALCIDOIDEA

- Taxonomy: Bouček *in* Kratochvil, 1957. Klíč Zvír. Č. S. R., v. 2, pp. 204-245, 269-288.—Ferrière and Kerrich, 1958. Handb. Ident. Brit. Ins. (Roy. Ent. Soc. London), v. 8, pt. 2a, 40 pp.—Nikolskaja, 1952 (Eng. trans. 1963). Keys to Fauna U.S.S.R. 44, 593 pp. (N. S. F. Smiths. Inst. pub., OTS 61-31220, U. S. Dept. Comm.)—Peck, 1963. Canad. Ent. Sup. 30, 1092 pp. (catalog).—Burks, 1964 (1963). Canad. Ent. 95: 1254-1263 (Provancher spp.).
 Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, 151 pp. (biological control).—Keen, 1958. U. S. Dept. Agr. Tech. Bul. 1169, pp. 93-112 (seed and cone ins. of forest trees).—Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, 97 pp. (lepidopterous hosts and par.).—Hedqvist, 1963. Stud. Forest. Suecica, no. 11, pp. 7-28 (par. of beetles in bark and wood).

Family MYMARIDAE

- Taxonomy: Debauche, 1948. Mus. Roy. Hist. Nat. Belg. Mem. 108: 1-248.—Debauche, 1949. Cong. Belg., Inst. Parcs Nat., Expl. Parc Nat. Albert, Miss. de Witte, pt. 49, pp. 1-105.—Annecke and Doutt, 1961. So. Afr. Dept. Agr. Tech. Ser. Ent. Mem. 5: 1-71 (generic classif.).

Genus OOCOTONUS Haliday, pp. 410-411

- americanus* Girault. N. J., Ohio. Host: Eggs *Philaenus leucophthalmus* (Linn.).
aphrophorae Milliron. Ohio.

Genus COSMOCOMOIDEA Howard, p. 411

- Taxonomy: Debauche, 1948, *loc. cit. supra*, p. 114 (syn. of *Ooctonus* Haliday).—Ogloblin, 1959. Münch. Ent. Ges. Mitt. 49: 50 (subg. of *Lymnaeon* Walker).
morrilli Howard. Ga., Tex.; Mexico, Cent. Amer. Host: *Homalodisca coagulata* (Say).

Genus CAMPTOPTERA Foerster, p. 411

- **Stichothrix* Foerster, 1856. Hym. Stud., v. 2, pp. 117-121.
 Type: *Stichothrix cardui* Foerster. By monotypy.

**Congolia* Ghesquière, 1942. Rev. Zool. Bot. Afr. 36: 320.

Type: *Congolia sycophila* Ghesquière. By monotypy.

Taxonomy: Debauche, 1949, *loc. cit. supra*, pp. 4, 17.—Annecke and Doutt, 1961, *loc. cit. supra*, p. 15.

Genus GONATOCERUS Nees, pp. 411–413

(= Genus *Lymaenon* Haliday, Sup. 1, p. 63, cited in error)

**Rachistus* Foerster, 1847. Linn. Ent., v. 2, p. 203.

Type: *Ooctonus litoralis* Haliday. Desig. by Gahan and Fagan, 1923.

**Oophilus* Enock, 1909. Roy. Ent. Soc. London Trans. 1909, p. 458.

Type: *Oophilus longicauda* Enock. By monotypy.

Taxonomy: Debauche, 1949, *loc. cit. supra*, pp. 4, 25 (*Lymaenon*).

ashmeadi Girault. Ga., Miss., La., Tex. Hosts: Eggs *Oncometopia orbona* (Fab.), *Homalodisca coagulata* (Say), *Cuerna costalis* (Fab.).

fasciatus Girault. Ga. Host: *Homalodisca coagulata* (Say).

koebelei Perkins. Fla.; Mexico.

marylandicus Girault. Ga. Host: *Gypona* sp.

novifasciatus Girault. Ga. Host: *Graphocephala versuta* (Say).

*triguttus Girault. Tex.; West Indies. Host: Leafhopper eggs.

Gonatocerus triguttus Girault, 1916. Ent. Soc. Amer. Ann. 9: 297. ♀, ♂.

Genus ALAPTUS Haliday, p. 413

**Parvulinus* Mercet, 1912. R. Soc. Esp. Hist. Nat. Bol. 12: 331.

Type: *Parvulinus auranti* Mercet. By monotypy.

Taxonomy: Girault, 1912. Ent. Soc. Wash. Proc. 14: 221.—Debauche, 1949, *loc. cit. supra*, p. 9.

**auranti* (Mercet). La.; Europe. Hosts: Several spp. of Coccidae questionably recorded; true hosts prob. Psocoptera.

Parvulinus auranti Mercet, 1912. R. Soc. Esp. Hist. Nat. Bol. 12: 333. ♀.

Metalaptus torquatus Malenotti (syn. by Mercet, 1917. Asoc. Esp. Prog. Ciencia, Cong. de Valladolid, sect. 4, p. 367).

torquatus (Malenotti). Syn. of *auranti* (Mercet).

Genus ERYTHMELUS Enock, pp. 413–414

**Enaesius* Enock, 1909. Roy. Ent. Soc. London Trans. 1909, p. 456.

Type: *Enaesius agilis* Enock. Desig. by Gahan and Fagan, 1923.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 18.

Genus PATASSON Walker, p. 414

**Antoniella* Soyka, 1950. Ent. Nachr. Burgdorf 3: 121.

Type: *Fulmekiella stubaiensis* Soyka. Orig. desig.

**Mariella* Soyka, 1950. Ent. Nachr. Burgdorf 3: 123.

Type: *Mariella superaddita* Soyka. Orig. desig.

Taxonomy: Debauche, 1948, *loc. cit. supra*, p. 172 (*Patasson* a subg. of *Anaphes* Haliday).—Annecke and Doutt, 1961, *loc. cit. supra*, p. 21 (syn.).

conotracheli (Girault). Delete *luna* Girault from syn.

luna (Girault). N. Y., N. J., Del., Md., Utah; Europe. Host: *Hypera postica* (Gyll.) eggs.

Anaphoidea luna Girault, 1914. Erroneously placed as a syn. of *conotracheli* (Girault) in Catalog. Types re-examined.

Biology: Clausen, 1956, *loc. cit. supra*, p. 116.

Genus ANAGRUS Haliday, p. 415

Pteratomus Packard, 1864. Transf. from **Unplaced Genera**, p. 593.

**Packardiella* Ashmead, 1904. Carnegie Mus. Mem. 1: 364. N. name,

unnecessarily proposed, for *Pteratomus* Packard.

**Paranagrus* Perkins, 1905. Hawaii. Sug. Pl. Assn. Bul., Ent. Ser., 1: 199.

Type: *Paranagrus optabilis* Perkins. Desig. by Gahan and Fagan, 1923.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 7.

armatus nigriceps Girault. Calif. Host: *Edwardsiana prunicola* (Edw.).

Biology: Mulla, 1956. Jour. Econ. Ent. 49: 438.

epos Girault. Fla. Hosts: *Edwardsiana prunicola* (Edw.), *Typhlocyba quercus* (F.).

Biology: Mulla, 1956. Jour. Econ. Ent. 49: 438.

giraulti Crawford. Ga., Ala. Host: *Homalodisca coagulata* (Say).

putnamii (Packard). Transf. from **Unplaced Species**, Sup. 1, p. 84.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 8.

Genus ANAPHES Haliday

(= *Mymar* Curtis of Catalog, pp. 415-416)

**Clinomymar* Kieffer, 1913. Soc. Agr. Alger. Bul. 4: 100.

Type: *Clinomymar peyerimhoffi* Kieffer. Orig. desig.

**Stammeriella* Soyka, 1950. Ent. Nachr. Burgdorf 3: 120.

Type: *Stammeriella wolfsthalii* Soyka. Orig. desig.

Taxonomy: Debauche, 1949, *loc. cit. supra*, p. 63.—Annecke and Doutt, 1961, *loc. cit. supra*, pp. 18-20.

Application was made to Int. Conn. Zool. Nomencl. to preserve usage of *Mymar* Curtis in traditional sense. This requires substitution of *Anaphes* (Type: *Ichneumon punctum* Shaw) for *Mymar* of Catalog, and *Mymar* for *Mymarilla* of Catalog. See Doutt and Annecke, 1963, Bul. Zool. Nomencl. 20: 134-136. Opinion 729, Bul. Zool. Nomencl., 22: 82, 1965 authorizes this change, so traditional usages are restored in this Catalog for *Anaphes* Haliday and *Mymar* Curtis.

**alaskae* Annecke and Doutt. Alaska.

Anaphes alaskae Annecke and Doutt, 1961. So. Afr. Dept. Agr. Tech. Ser. Ent. Mem. 5: 47. ♀, ♂.

iole Girault. Calif.

pratensis Foerster.

Biology: Clausen, 1956, *loc. cit. supra*, p. 116.

Genus ACMOPOLYNEMA Ogloblin, p. 416

bifasciatipenne bifasciatipenne (Girault), corrected spelling of *bifasciatipennis bifasciatipennis* of Catalog.

bifasciatipenne varium (Girault), corrected spelling of *bifasciatipennis varium* of Catalog.

Genus BARYPOLYNEMA Ogloblin, p. 416

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 60.

**medicae* Annecke and Doutt. D. C., Calif.

Barypolynema medicae Annecke and Doutt, 1961. So. Afr. Dept. Agr. Tech. Ser. Ent. Mem. 5: 57. ♀, ♂.

Genus POLYNEMA Haliday, pp. 416-418

**Maidliella* Soyka, 1946. Zentbl. Ges. Ent. 1: 178.

Type: *Maidliella neofuscipes* Soyka. Orig. desig.

**Novickyella* Soyka, 1946. Zentbl. Ges. Ent. 1: 179.

Type: *Novickyella gracilior* Soyka. Orig. desig.

Delete *Stephanodes* Enoch from syn.

Taxonomy: Soyka, 1956. Zool.-Bot. Ges. Wien Abhandl. 19: 32.—Annecke and Doutt, 1961, *loc. cit. supra*, pp. 34-36, 60.

Nomenclature: Peck, 1963, *loc. cit. supra*, pp. 42-49 (sp. names changed to neuter case).

- bimaculatipenne** Girault, corrected spelling of *bimaculatipennis* of Catalog.
boreum Girault, new status. Delete from syn. under *striaticorne* Girault, as var. *boreum* Girault, 1916, and ch. to valid sp., *teste* D. P. Annecke, *in litt.*
caesariatipenne Girault, corrected spelling of *caesariatipennis* of Catalog.
graculus Girault. [Name from L. subst., *graculus*, a jackdaw.]
mymaripenne Dozier, corrected spelling of *mymaripennis* of Catalog.
psecas Girault. Transf. to *Stephanodes* Enock.
striaticorne Girault. Delete *striaticorne* var. *boreum* Girault from syn., and ch. to sp.

Genus **STEPHANODES** Enock

- Delete from syn. of *Polynema* Haliday, *teste* Annecke and Doutt, 1961, *loc. cit. supra*, p. 34-35. Insert following *Polynema* Haliday on p. 418.
psecas (Girault), n. comb. Ill., Iowa. Trans. from *Polynema* Haliday; types examined.

Genus **CARAPHRACTUS** Haliday, p. 418

- cinctus** Haliday. N. W. T. (Southampton Isl.). Hosts: Eggs of Dytiscidae.
 Biology: Jackson, 1958. Roy. Ent. Soc. London Trans. 110: 533-566.

Genus **NEOMYMAR** Crawford, p. 418

- vierecki vierecki** Crawford. Fla., Iowa.

Genus **MYMAR** Curtis

(= *Mymarilla* of Catalog, pp. 418-419)

- ***Pterolinononyktera** Maláč, 1943. Ent. listy (Folia Ent.) Brno 6: 51.
 Type: *Pterolinononyktera obenbergeri* Maláč. Orig. desig.
 Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, pp. 26-29.
 Application was made to Int. Com. Zool. Nomencl. to preserve traditional usage of *Mymar* Curtis (Type: *Mymar pulchellum* Curtis). See Doutt and Annecke, 1963, *loc. cit. supra*, pp. 134-136. Opinion 729, Bul. Zool. Nomencl. 22: 82, 1965 takes favorable action on this application, so traditional usage for *Mymar* Curtis is restored in this Catalog. *Mymarilla* Westwood is a valid, but extralimital genus, different from *Mymar*, *teste* Annecke and Doutt, 1961, *loc. cit. supra*, pp. 31-32.
cincinnati Girault.
 Taxonomy: Annecke, 1961. So. Afr. Jour. Agr. Sci. 4: 551-552 (prob. syn. of *Mymar regale* Enock).
 ***pulchellum** Curtis. Pa.; Europe.
Mymar pulchellus Curtis, 1832. Brit. Ent. 9: 411. ♀, ♂.
Mymar venustum Girault, 1911 (syn. by Annecke, 1961, *loc. cit. supra*, pp. 550-551).
venustum Girault. Syn. of *pulchellum* Curtis.

Genus **ARESCON** Haliday, p. 419

- ***Xenomymar** Crawford, 1913. U. S. Natl. Mus. Proc. 46: 349.
 Type: *Xenomymar urichi* Crawford. Orig. desig.
 ***Neurotes** Enock, 1914. Roy. Ent. Soc., London, Proc. 1913, p. cxxxiv.
 Type: *Neurotes iridescens* Enock. By monotypy.
 Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 12.

Family **TRICHOGRAMMATIDAE**

Genus **TRICHOGRAMMA** Westwood, pp. 419-421

- Taxonomy: Quednau, 1956. Ber. Hundertjahr. Deut. Ent. Ges. Berlin, pp. 87-92.—Quednau, 1956. Ztschr. Pflanzenkrank. und Pflan-

zensch. 63: 333-344.—Quednau, 1960. Biol. Bund. für Land-und Forstwirtschaft. Mitt. 100: 11-50.

evanescens Westwood. Delete; valid but extralimital sp., *teste* Quednau, 1960, *loc. cit. supra*, p. 31.

**fasciatum* (Perkins). Fla., La., South. Tex.; Mexico, West Indies, Cent. and S. America.

Pentarthron fasciatum Perkins, 1912. Hawaii. Sugar Planters' Assn., Ent. Ser. Bul. 10, p. 19.

Biology: Burrell and McCormick, 1962. Jour. Econ. Ent. 55: 880.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 33.

minutum Riley. South. Canada and U. S. north of Gulf Coast. Hosts: Eggs of over 160 spp., mostly Lepidoptera.

Biology: Langston, 1957. Univ. Calif. Pubs., Ent. 14: 25-26.—Downey, 1958 (1957). Ill. State Acad. Sci. Trans. 50: 299.—Schaffner, 1959, *loc. cit. supra*, p. 81.—Glass, 1963. Ent. Soc. Amer. Ann. 56: 564.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 34.

retorridum (Girault). Southwest. U. S. north to Iowa.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 31.

**semifumatum* (Perkins). South. Tex., South. Calif.; Mexico, Hawaii.

Pentarthron semifumatum Perkins, 1910. Fauna Hawaii., vol. 2, pt. 6, p. 659. ♀.

Biology: Hinckley, 1961. Jour. Econ. Ent. 54: 207.—Stern and Bowen, 1963. Ent. Soc. Amer. Ann. 56: 358-372.—Poinar, 1964. Jour. Econ. Ent. 57: 381.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 33.

semblidis (Aurivillius). Ont. and N. Y. west to Sask.; Europe. Hosts: Eggs of aquatic and subaquatic insects.

Biology: Quednau, 1957. Deut. Ent. Ztschr. 4: 364.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 29.

Genus APHELINOIDEA Girault, p. 421

plutella Girault.

Biology: Henderson, 1955. U. S. Dept. Agr. Cir. 967, pp. 1-16.—Flock *et al.*, 1962. Jour. Econ. Ent. 55: 279.

Genus LATHROMEROIDES Girault, pp. 421-422

neomexicanus Girault. Iowa, Calif.

Genus OLIGOSITA Holiday, pp. 422-423

americana Girault. Ga. Host: *Homalodisca insolita* (Walk.).

sanguinea sanguinea (Girault). Calif.

Genus UFENS Girault, p. 423

niger (Ashmead). Ga., Utah, Wash., Calif. Hosts: *Colladonus geminatus* (Van Duzee), *Cuerna costalis* (Fab.), *Keonolla confluens* (Uhl.).

**osborni* Dozier. Fla.; West Indies. Hosts: Eggs of *Pachnaeus litus* (Germ.), *Diaprepes abbreviatus* (L.) ? secondary.

Ufens osborni Dozier, 1932. Ent. Soc. Wash. Proc. 34: 36. ♀, ♂.

Biology: Tucker, 1936. Barbados Agr. Jour. 5: 9.—Baranowski, 1960. Fla. Ent. 43: 197.

spiritus americanus Girault. Ga. Host: *Homalodisca coagulata* (Say).

spiritus spiritus Girault. Ga., Fla. Hosts: *Homalodisca coagulata* (Say), *Oncometopia orbona* (Fab.).

Genus HYDROPHYLITA Ghesquière, pp. 423-424

In generic ref. change v. 34 to v. 39.

aquivolans (Matheson and Crosby). Ohio, Kans. Host: Eggs of *Ischnura verticalis* (Say).

Biology: Davis, 1962. *Limnol. and Oceanog.* 7: 390-392.

Genus **ABBELLA** Girault, pp. 424-425

acuminata (Ashmead). Ga., La., Minn., Tex., Calif. Hosts: *Cuerna costalis* (Fab.), *Draeculacephala portola* (Ball), *Homalodisca insolita* (Walk.).

ceresarum (Ashmead). Calif.

subflava Girault.

Biology: Henderson, 1955. U. S. Dept. Agr. Cir. 967, pp. 1-16.—Flock *et al.*, 1962. *Jour. Econ. Ent.* 55: 279.

Family EULOPHIDAE

Subfamily EULOPHINAE

Genus **PNIGALIO** Schrank, pp. 425-426

flavipes (Ashmead). Ohio, Minn.

maculipes (Crawford). N. B., Que. Hosts: *Phytagromyza populicola* (Walk.), *Bucculatrix ainsliella* Murt., *B. packardella* Chamb.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81.

pallipes (Provancher). Ont. Transf. from *Eulophus* Olivier *teste* Burks, 1964, *loc. cit. supra*, p. 1257.

tischeriae (Ashmead). Ont. Host: *Lithocolletis salicifoliella* Clem.

Genus **SYMPIESIS** Foerster, pp. 426-428

**Teleognus* Foerster, 1856. *Hym. Stud.*, v. 2, pp. 72, 74.

Type: *Teleognus orbitalis* Foerster. By monotypy.

**Moroceras* Erdős, 1954. *Mus. Nat. Hung. Ann. Hist.-Nat.*, n. s., 5: 323.

Type: *Moroceras biroi* Erdős. Orig. desig.

**Sympiesis* subg. *Cladosympiesis* Graham, 1959. *Soc. Brit. Ent. Trans.* 13: 182.

Type: *Eulophus gordius* Walker. Orig. desig.

Taxonomy: Bouček, 1959. *Mus. Nat. Pragae Acta Ent.* 33: 121 (subgenera).—Delucchi, 1962. *Awamia* 5: 60 (disc. of *Moroceras* Erdős).—Graham, 1963. *Soc. Brit. Ent. Trans.* 15: 187 (syn.).

ancylae Girault. Minn.

Biology: Balduf, 1959. *Ill. Biol. Monog.* 26, p. 146.

bimaculatipennis (Girault). Ont., Wis., Minn., Oreg., Calif.

compressicornis (Provancher). N. S., Maine and Ont. south to Va. west to Kans., Idaho, and Oreg. Hosts: *Lithocolletis crataegella* Clem., *L. salicifoliella* Chamb., *L. caryaefoliella* (Clem.), leaf miners on *Amelanchier*, maple, oak, black cherry.

Sympiesis nigripes Ashmead, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1257).

conica (Provancher). Que. and Maine south to D. C., west to Idaho and Tex. Hosts: Listed under *nigrifemora* Ashmead in Catalog, p. 427.

Sympiesis nigrifemora Ashmead, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1259).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81 (*nigrifemora*).

dolichogaster Ashmead. Holarctic.

Taxonomy: Bouček, 1959. *Mus. Nat. Pragae Acta Ent.* 33: 130.

guttatipennis Girault. Mass., N. C. Host: *Exoteleia pinifoliella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81.

lexingtonensis Girault. Syn. of *miltoni* Girault.

marylandica Girault. Wis., Minn.

miltoni Girault. Maine south to W. Va., west to Wis. and Ky. Hosts: *Lithocolletis* spp.

Sympiesis mil.oui Girault, May 1917.

Sympiesis lexingtonensis Girault, Aug. 1917. N. syn.; types examined.

nigrifemora Ashmead. Syn. of *conica* (Provancher).

nigripes Ashmead. Syn. of *compressicornis* (Provancher).

stigmata Girault. Oreg. Host: Leafminer on apple.

trieladus (Provancher). Transf. from *Eulophus* Olivier *teste* Burks, 1964, *loc. cit. supra*, p. 1258.

viridula (Thomson). Ont. and N. Y. west to Mo. and Wyo.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 129-130.

Genus **NECREMNUS** Thomson, p. 428

comptus Gahan.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 150 (? syn. of *artynes* Walker).

duplicatus Gahan. Idaho.

Biology: Walz, 1957. Ent. Soc. Amer. Ann. 50: 220.

Taxonomy: Bouček, 1959, *loc. cit. supra*, p. 152 (? syn. of *tidius* Walker).

Genus **HEMIPTARSENUS** Westwood, p. 428

**Cleolophus* Mercet, 1924. R. Soc. Esp. Hist. Nat. Bol. 24: 461-462.

Type: *Cleolophus autonomus* Mercet. Orig. desig.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 144 (syn.).—Hedqvist, 1963, *loc. cit. supra*, p. 142.

*Genus **DIGLYPHUS** Walker

(= *Solenotus* Foerster of Catalog, p. 429)

Diglyphus Walker, 1844. Ann. Mag. Nat. Hist. 14: 409.

Type: *Cirrospilus chabrias* Walker. By monotypy.

Taxonomy: Ferrière, 1952. Soc. Venez. Stor. Nat. Bol. 6: 176 (*viridis* Foerster, type sp. of *Solenotus* Foerster = *Cirrospilus isaea* Walk.).—Graham, 1959. Soc. Brit. Ent. Trans. 13: 178 (*isaea* Walk. transf. to *Diglyphus* Walk.).

begini (Ashmead). Que. Host: *Phytomyza atricornis* Meigen, *P. aquilegiae* Hardy.

Biology: Doult, 1957. Jour. Econ. Ent. 50: 373-374.

intermedius (Girault). Fla., Ill. Host: *Liriomyza properpusilla* Frost.

Genus **EULOPHUS** Olivier, Sup. 1, p. 64

(= *Eulophus* Geoffroy of Catalog, pp. 430-431)

**Comedo* subg. *Onychocomedo* Graham, 1959. Soc. Brit. Ent. Trans. 13: 183.

Type: *Eulophus thespius* Walker. Orig. desig.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 160.—Gijs-wijt, 1964. Ent. Ber. 24: 31 (*Eulophus* Müller, 1764).

anomocerus (Crawford). Que., Ont., N. Y., Va., Mich., N. Dak.

magnisulcatus Girault. Maine south to W. Va. Host: *Coleophora laricella* Hbn.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81.

nebulosus (Provancher). Ont. and Mass. south to Fla., west to Wis.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

orgyiae (Fitch). Que., Miss., Wis., Wash., Oreg., Calif. Hosts: *Acronicta grisea* Walk., *Alsophila pometaria* Hbn., *Gracillaria rhoifoliella* Cham., *Gluphisia septentrionis* Walk., *Hemerocampa plagiata* Walk., *Orthosia hibisci* Gn.

pallipes (Provancher). Transf. to **Pnigalio** Schrank; delete **smerintheta** Ashmead from syn.

smerintheta (Ashmead). Correct name for species listed as **pallipes** Provancher in Catalog *teste* Burks, 1964, *loc. cit. supra*, p. 1257.

tricladius Provancher. Transf. to **Sympiesis** Foerster.

Genus DAHLBOMINUS Hincks, p. 431

fuscipennis (Zetterstedt). Md., Va., Ill., Mo., Minn.; Europe. Hosts: *Neodiprion lecontei* (Fitch), *N. nanulus* Schedl, *N. pinetum* (Nort.), *N. pratti* (Dyar), *N. sertifer* (Geof.), *N. tsugae* Midd., *Pristiphora erichsoni* (Htg.).

Biology: Burnett, 1956. Ent. Soc. Amer. Ann. 49: 55.—Clausen, 1956, *loc. cit. supra*, p. 101-102.—Riordan, 1957. Canad. Jour. Zool. 35: 603.—Burnett, 1958. Canad. Ent. 90: 279.—Finlayson and Finlayson, 1958. Canad. Ent. 90: 558.—Finlayson, 1960. Canad. Ent. 92: 38 (*fuliginosus* (Nees) [!]).—Szmidt, 1960. Anz. f. Schadlingsk. 33: 20.—Szmidt, 1961. Poznan. Wyzsza Skola Roln. Roczn. Dodatek 6: 11.—Bobb, 1962. Brooklyn Ent. Soc. Bul. 57: 102.—Finlayson, 1963. Canad. Ent. 95: 498.—Morris, Schroeder, and Bobb, 1963. Pine Sawfly in Va., Va. Div. For., pp. 15-16.

Taxonomy: Finlayson, 1960, *loc. cit. supra*, pp. 37, 38, 44 (imm. stages).
Genetics: Wilkes, 1964. Science 144: 305-307 (*fuliginosus* (Nees) [!]).

Genus DIMMOCKIA Ashmead, p. 431

incongrua (Ashmead). Ont. and Mass. south to Fla., Ohio, W. Va., Ill. Hosts: *Anacamptis innocuella* (Zell.), *Argyrotoxa semipurpurana* (Kearf.), *Episimus argutanus* (Clem.); almost always a secondary par.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 82.

pallipes Muesebeck. Ill., Wis. Hosts: *Exartema ferriferanum* (Walk.); *Sparganothis pettitana* (Rob.); prob. always secondary.

Genus DICLADOCERUS Westwood, p. 431

***Diglyphis** Thomson, 1878. Hym. Scand., v. 5, p. 208. [Not *Diglyphus* Walker.]

Type: **Diglyphis aeniscapus** Thomson. Desig. by Gahan and Fagan, 1923.

Taxonomy: Graham, 1959. Soc. Brit. Ent. Trans. 13: 180.

Subfamily APHELININAE

Taxonomy: Flanders, 1955. Ent. Soc. Amer. Ann. 46: 84-93 (biol. criteria in tax.).—Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 19-20 (fam. Aphelinidae).—Peck, 1963, *loc. cit. supra*, p. 239 (fam. Aphelinidae).

Genus ERETMO CERUS Haldeman, p. 432

haldemani Howard. Ill. Host: *Trialetrodes abutilonea* (Hald.).

***portoricensis** Dozier. Fla.; West Indies. Host: *Aleurothrixus floccosus* (Mask.).

Eretmocerus portoricensis Dozier, 1932. Ent. Soc. Wash. Proc. 34: 115.
♀.

Genus EUDEROMPHALE Girault, p. 432

(= *Cardiogaster* Motschulsky, Sup. 1, p. 64, cited in error)

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24:

65-68 (*Cardiogaster* in Eulophidae).—Peck, 1963, *loc. cit. supra*, p. 238 (*Cardiogaster* in Entedontinae). Graham, 1963. Soc. Brit. Ent. Trans. 15: 273 (*Euderomphale* in Entedontinae).

- **hyalina* (Compere and Annecke), n. comb. Calif. Host: *Aleurodes* sp.
Cardiogaster hyalina Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 68. ♀.
 Biology: Poinar, 1964. Jour. Econ. Ent. 57: 382.

Genus **ARCHENOMUS** Howard, p. 432
 (= *Pteroprix* Westwood of Sup. 1, p. 64)

Taxonomy: Alam, 1956. Roy. Ent. Soc., London, Trans. 108: 374.—Novitzky, 1961. Ent. Monthly Mag. 97: 193.—Peck, 1963, *loc. cit. supra*, pp. 241, 287.

Genus **MARIETTA** Motschulsky, p. 433

- carnesi* (Howard). D. C.; Japan, China, India.
 Biology: Azim, 1961. Mushi 35: 107.
- **graminicola* Timberlake. Md., Fla., Tex.; Hawaii. Hosts: *Anagyrus antoninae* Timb., poss. other primary parasites of grass scales.
Marietta graminicola Timberlake, 1925. Hawaii. Ent. Soc. Proc. 6: 180.
 ♀, ♂.
 Biology: Dean and Schuster, 1958. Jour. Econ. Ent. 51: 364.
- mexicana* (Howard). Md. Host: *Thysanus merceti* (Malen.).
 Biology: DeBach, Kennett, and Pence, 1958. Jour. Econ. Ent. 51: 115.
- pulchella* (Howard). Sask. Hosts: Sec. parasite on Coccidae.
 Biology: Peterson, 1962. Canad. Ent. 94: 740.

Genus **MARLATTIELLA** Howard, Sup. 1, p. 65

- prima* Howard. Del.; Japan.
 Taxonomy: Tachikawa, 1962. Shikoku Ent. Soc. Trans. 7: 74.

Genus **APHYTIS** Howard, pp. 433-434

- Biology: DeBach, 1959. Ent. Soc. Amer. Ann. 52: 354-359 (biol. control).
- abnormis* (Howard).
 Taxonomy: DeBach and Azim, 1962. Mushi 36: 1.
- chrysocephali* (Mercet).
 Biology: Smith, 1957. Canad. Ent. 89: 219.—Muma, 1959. Jour. Econ. Ent. 52: 581.—DeBach and Sisojevic, 1960. Ecology 41: 153.
- citrinus* Compere. Host: ? *Aonidiella aurantii* (Mask.).
 Taxonomy: DeBach, 1959, *loc. cit. supra*, pp. 360-361 (Japanese strain).
- **coheni* DeBach. Calif.; Israel. Hosts: *Aonidiella aurantii* (Mask.), *A. citrina* (Coq.), *Chrysomphalus dictyospermi* (Morg.).
Aphytis coheni DeBach, 1960. Ent. Soc. Amer. Ann. 58: 705. ♀, ♂.
 Biology: Fleschner, 1963. Pan-Pacific Ent. 39: 116.
- **fisheri* DeBach. Calif.; Burma. Host: *Aonidiella aurantii* (Mask.).
Aphytis fisheri DeBach, 1959. Ent. Soc. Amer. Ann. 52: 362. ♀, ♂.
 Biology: DeBach and Landi, 1959. Calif. Agr. 13: 9.
- **hispanicus* (Mercet). Fla., Tex., Calif.; Mexico, Europe, Orient. Hosts: *Parlatoria pergandii* Comst., ? *Aonidiella aurantii* (Mask.).
Aphelinus maculicoruis var. *hispanica* Mercet, 1912. Mus. Cien. Nat. Madrid Trab., ser. Zool., 10: 81-82.
 Taxonomy: Compere, 1955. Calif. Univ. Pubs., Ent. 10: 289, 294 (sp.).—DeBach, 1959, *loc. cit. supra*, pp. 359-360 (Assam form).
- **holoxanthus* DeBach. Fla., Tex.; China, Israel. Host: *Chrysomphalus aonidum* (L.).
Aphytis holoxanthus DeBach, 1960. Ent. Soc. Amer. Ann. 53: 704. ♀, ♂.
 Biology: Clancy *et al.*, 1963. Jour. Econ. Ent. 56: 603-605.

lepidosaphes Compere. Fla., Tex.; Mexico.

Biology: Clausen, 1956, *loc. cit. supra*, p. 83 (sp. X).—DeBach, 1959, *loc. cit. supra*, p. 355.—Dean, 1961. Ent. Soc. Amer. Ann. 54: 918.—DeBach and Landi, 1961. Hilgardia 31: 461.

lingnanensis Compere.

Biology: Clausen, 1956, *loc. cit. supra*, p. 82 (sp. A).—DeBach and Sisojevic, 1960, *loc. cit. supra*, p. 153.—DeBach and White, 1960. Calif. Agr. Expt. Sta. Bul. 770, p. 4.

Taxonomy: DeBach, 1959, *loc. cit. supra*, p. 360.

maculicornis (Masi).

Biology: Clausen, 1956, *loc. cit. supra*, p. 82.—Huffaker *et al.*, 1962. Hilgardia 32: 569.

Taxonomy: Douth, 1954. Jour. Econ. Ent. 47: 39-40.—Hafez and Douth, 1954. Canad. Ent. 86: 90.—Sugonyaev, 1962. Akad. Nauk SSSR Izv., ser. Biol., 5: 755.

***melinus** DeBach. Calif.; India, Pakistan. Host: *Aonidiella aurantii* (Mask.).

Aphytis melinus DeBach, 1959. Ent. Soc. Amer. Ann. 52: 361. ♀, ♂.

Biology: DeBach and Landi, 1959, *loc. cit. supra*, p. 9.

mytilaspidis (LeBaron).

Biology: Flanders, 1957. Jour. Econ. Ent. 50: 171 (Italian strain).—Flanders, 1960. Jour. Econ. Ent. 53: 757.—Tadič, 1961. Arh. za Poljopriv. Nauke 14: 118.—Tschumakova, 1961. Ent. Obozr. 40: 317.

Taxonomy: DeBach and Azim, 1962. Mushi 36: 1 (group char.).

proelia (Walker).

Taxonomy: DeBach, 1959, *loc. cit. supra*, p. 358 (*diaspidis* Howard).—Tschumakova, 1960. Leningrad. Vsesoi. Inst. Zash. Rast. Trudy 15: 57.—Benassy, 1961. Ann. Epiphyties, ser. C, 12: 115, 127.—Tschumakova, 1961, *loc. cit. supra*, p. 316.

Genus APHELINUS Dalman, pp. 434-435**mali** (Haldeman).

Biology: Evenhuis, 1958. Tijdschr. Plantenziekten 64: 3.—Lung, Wang, and Tang, 1960. Acta Ent. Sinica 10: 6.—Evenhuis, 1962. Entomophaga 7: 215.

nigritus Howard. Ill., Okla., Tex. (northern loc. in greenhouses).

Biology: Wood, 1958. Jour. Econ. Ent. 51: 553.

semiflavus Howard. [Prob. a composite sp.] Maine, Calif. Host: *Therioaphis maculatus* (Buck.).

Biology: van den Bosch, 1957. Jour. Econ. Ent. 50: 353.—Schlinger and Hall, 1959. Jour. Econ. Ent. 52: 154.—Barnes, 1960. Jour. Econ. Ent. 53: 1094.—Schaefers and Allen, 1962. Hilgardia 32: 426.—Force and Messenger, 1964. Ent. Soc. Amer. Ann. 57: 405-413.

Taxonomy: Janssen, 1961. Beitr. z. Ent. 11: 672

Genus MESIDIA Foerster, p. 435

Taxonomy: Ferrière, 1962. Schweiz. Ent. Ges. Mitt. 35: 139.

Genus ABLERUS Howard, pp. 435-436**clisiocampae** (Ashmead).

Biology: Hughes, 1960. Fla. Ent. 43: 90.

Genus AZOTUS Howard, p. 436

Taxonomy: Alam, 1956. Roy. Ent. Soc. London Trans. 108: 358, 376.

Genus TUMIDISCAPUS Girault, p. 436**cercopiphagus** Milliron. Fla., Mich.

Genus *PHYSCUS* Howard, pp. 436-437

**Encyrtophyscus* Blanchard in DeSantis, 1948. La Plata Mus. Rev., n. s., Zool. 5: 192.

Type: *Physcus flaviflagellatus* DeSantis. Desig. by DeSantis, 1948.

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 20.

**flaviventris* Howard. Tex.; Philippines. Host: Assoc. with *Antonina graminis* (Mask.).

Physcus flaviventris Howard, 1910. Ent. News 21: 162. ♀.

**fulvus* Compere and Annecke. Calif.; Formosa. Host: *Lepidosaphes beckii* (Newm.).

Physcus "B", Flanders, 1953. Lab. Agr. Gen. e Zool. Portici Bol. 33: 22.

Physcus fulvus Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 21. ♀, ♂.

Biology: Clausen, 1956, *loc. cit. supra*, p. 122 (sp. B).

varicornis (Howard). Wis., Sask. Hosts: *Phenacaspis pinifoliae* (Fitch), *Nuculaspis californica* (Colem.).

Genus *PROSPALTELLA* Ashmead, p. 437-438

Taxonomy: Alam, 1956. Roy. Ent. Soc. London Trans. 108: 359, 367.—Ferrière, 1961. Schweiz. Ent. Ges. Mitt. 34: 253.

aurantii (Howard).

Biology: Bénassy, 1958. Entomophaga 3: 104.—Muma, 1959. Jour. Econ. Ent. 52: 579.

Taxonomy: Ferrière, 1961, *loc. cit. supra*, pp. 256, 263.

berlesei (Howard). N. C., Fla.; Europe, Japan.

Biology: Gireau, 1956. Phytoma 82: 29.—Bénassy, 1957. Entomophaga 2: 283.—Bénassy, 1958. Ann. Epiphyt., ser. C, 9: 459.—Bénassy, 1961. Ann. Epiphyt., ser. C, 12: 127.

Taxonomy: Flanders, 1960. Jour. Econ. Ent. 53: 757.—Ferrière, 1961, *loc. cit. supra*, p. 256.

diaspidicola Silvestri. Mass., D. C., Ill.; West Indies, S. America, Europe, Africa.

Taxonomy: Flanders, 1960, *loc. cit. supra*, p. 757 (? syn. of *berlesei* (Howard)).

fasciata Malenotti. D. C., Fla., Tex.; Europe. Host: *Carulaspis visci* (Schr.).

Biology: Bénassy and Bianchi, 1960. Entomophaga 5: 168.

Taxonomy: Ferrière, 1961, *loc. cit. supra*, pp. 255, 259.

fuscipennis Girault. Transf. to *Coccophagoides*.

murtfeldtae (Howard). Ark.

peltata (Cockerell), corrected spelling of *peltatus* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 280.

perniciosi Tower.

Biology: Clausen, 1956, *loc. cit. supra*, p. 124.—Flanders, 1956. Lab. Zool. Agr. Portici Bol. 33: 23.—Chumakova, 1957. Zool. Zhur. 36: 534.—Bénassy and Bianchi, 1960. Entomophaga 5: 168.—Flanders, 1960. Jour. Econ. Ent. 53: 757.—Chumakova and Gorkunova, 1963. Ent. Obozr. 42: 320.

Genus *ENCARSIA* Foerster, p. 438

**basicincta* Gahan. Fla.; West Indies. Host: *Aleurothrixus floccosus* (Mask.).

Encarsia basicincta Gahan, 1927. U. S. Natl. Mus. Proc. 71 (4): 20. ♀.

coquilletti Howard. Idaho, Ariz., Wash.

formosa Gahan. Calif.

Biology: Burnett, 1958. Canad. Ent. 90: 179-191, 225-229.—Burnett,

1962. *Canad. Ent.* 94: 673.—Timofeeva, 1963. *Zashch. Rast. Vred. i Boleznei* 8: 44.

luteola Howard. Calif.

Biology: Poinar, 1964. *Jour. Ent.* 57: 382.

meritoria Gahan. Ariz., Calif.

pergandiella Howard. Host: *Trialeurodes abutilonea* (Hald.).

quaintancei Howard. Ill. Host: *Trialeurodes abutilonea* (Hald.).

variegata Howard. Host: *Aleurothrixus floccosus* (Mask.).

Genus **ASPIDIOTIPHAGUS** Howard, pp. 438-439

Taxonomy: Alam, 1956. *Roy. Ent. Soc. London Trans.* 108: 359.

citrinus citrinus (Craw).

Biology: Bénassy, 1958. *Entomophaga* 3: 104.—Hughes, 1960. *Fla. Ent.* 43: 90.—Bénassy, 1961. *Ann. Epiphyt.*, ser. C, 12: 42.

lounsburyi (Berlese and Paoli).

Taxonomy: Muma, 1959. *Jour. Econ. Ent.* 52: 579.—Annecke, 1963. *Ent. Soc. S. Afr. Jour.* 26: 206.

*Genus **COCCOPHAGOIDES** Girault

Coccophagoides Girault, 1915. *Queensland Mus. Mem.* 4: 58.

Type: *Coccophagus abnormicornis* Girault. Orig. desig.

**Diaspiniphagus* Silvestri, 1927. *Lab. Zool. Gen. e Agr. Portici Bol.* 20: 35.

Type: *Prospalta similis* Masi. Orig. desig.

Taxonomy: Compere, 1936. *Univ. Calif. Pubs.*, Ent. 6: 292.

Place in Aphelininae following *Aneristus* Howard, p. 439.

fuscipennis (Girault). D. C. Transf. from *Prospaltella* Howard, *teste* H. Compere, *in litt.*

**kuwanai* (Silvestri). Conn., N. Y., N. J., Ohio, Calif.; Japan. Host: *Aspidiotus perniciosus* (Comst.).

Diaspiniphagus kuwanai Silvestri, 1927. *Lab. Zool. Portici Bol.* 20: 39. ♀.

Taxonomy: Compere, 1936, *loc. cit. supra*, p. 293.

Biology: Flanders, 1960. *Jour. Econ. Ent.* 53: 757.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 294.

**similis* (Masi). N. Amer.; Europe. Host: *Aspidiotus perniciosus* (Comst.).

Prospalta similis Masi, 1908. *Lab. Zool. Portici Bol.* 3: 148. ♀.

**Prospaltella ilicis* Mercet, 1921. *R. Soc. Esp. Hist. Nat.* 50: 304. ♀. (Syn. by Silvestri, 1927, *loc. cit. supra*, p. 36.)

Distribution: Flanders, 1960, *loc. cit. supra*, p. 757.

Genus **COCCOPHAGUS** Westwood, pp. 439-441

Taxonomy: Alam, 1956, *loc. cit. supra*, pp. 358, 363.—Tachikawa, 1957.

Japan. Jour. Appl. Ent. and Zool. 1: 61.—Zinna, 1961. *Lab. Ent. Agr. Portici Bol.* 19: 303.

albicoxa Howard. Hosts: *Toumeyella pinicola* Ferris, *T. parvicornis* (Ckll.).

**basalis* Compere. Calif.; Brazil.

Coccophagus basalis Compere, 1939. *Calif. Univ. Pubs.*, Ent. 7: 86. ♀.

Biology: Flanders, Bartlett, Fisher, 1961. *Ent. Soc. Amer. Ann.* 54: 227-236.

capensis Compere. Calif.; S. Africa, Australia.

Biology: Clausen, 1956, *loc. cit. supra*, p. 93.

cowperi Girault. Tex., Calif.; Africa, Israel. Hosts: *Saissetia oleae* (Bern.), *S. nigra* (Niet.), *Coccus hesperidum* (L.). Incorrectly listed in *Catalog*, p. 441, as a syn. of *lycimnia* (Walker).

- Taxonomy: Compere, 1931. U. S. Natl. Mus. Proc. 78 (7): 57, 60.—Flanders, 1953. Ent. Soc. Amer. Ann. 46: 90-91.—Alam, 1956, *loc. cit. supra*, pp. 363-364.
- Biology: Clausen, 1956, *loc. cit. supra*, p. 94.—Flanders, 1959. Jour. Econ. Ent. 52: 597.
- flavifrons** Howard. Pa., Md., S. C., Ohio, Tex. Hosts: *Phenacaspis pinifoliae* (Fitch), ?*Coccus hesperidum* (L.).
- gurneyi** Compere. Calif.; Australia, Africa.
Biology: Clausen, 1956, *loc. cit. supra*, p. 94.—Bartlett and Lloyd, 1958. Jour. Econ. Ent. 51: 92.
- lycimnia** (Walker). Delete *cowperi* Girault from syn.
Biology: Clausen, 1956, *loc. cit. supra*, pp. 94-95.—Peterson, 1962. Canad. Ent. 94: 740.—Sonina, 1962. Akad. Nauk. Uzbek. SSR, Biol. Zhur. 3: 62.—Sugonyaev, 1962. Akad. Nauk. SSSR Izv., Ser. Biol. 5: 755.—Phillips, 1963. Canad. Ent. 95: 402.
- ***pulvinarieae** Compere. Calif.; Africa. Hosts: *Coccus hesperidum* (L.), *Saissetia nigra* (Niet.), *S. oleae* (Bern.).
Coccophagus pulvinarieae Compere, Mar. 1931. U. S. Natl. Mus. Proc. 78 (7): 53. ♀, ♂.
***Coccophagus eritraensis** Compere, Apr. 1931. Univ. Calif. Pubs., Ent. 5: 254. ♀, ♂. (Syn. by Flanders, 1959. Jour. Econ. Ent. 52: 597.)
Biology: Clausen, 1956, *loc. cit. supra*, pp. 94-95.—Flanders, 1959, *loc. cit. supra*, p. 597.
- rusti** Compere. Calif.; Africa.
Biology: Clausen, 1956, *loc. cit. supra*, p. 95.
- scutellaris** (Dalman). Fla., Oreg. Host: *Saissetia nigra* (Niet.).
Biology: Flanders, 1959. Jour. Econ. Ent. 52: 74.—Sonina, 1962. Akad. Nauk. Uzbek. SSR., Biol. Zhur. 3: 62.
- trifasciatus** Compere. Transf. to *Lounsburyia* Compere and Annecke, *infra*.
- yoshidai** Nakayama, corrected spelling of *yoshidae* Nakayama of Sup. 1, p. 66, *teste* Peck, 1963, *loc. cit. supra*, p. 318.
Biology: Sugonyaev and Peng, 1960. Ent. Obozr. 39: 702, 706.
- *Genus LOUNSBURYIA Compere and Annecke
- Lounsburyia** Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 28-29.
Type: *Coccophagus trifasciatus* Compere. Orig. desig.
Insert in Aphelininae after *Coccophagus* Westwood, p. 441.
- trifasciata** (Compere). Transf. from *Coccophagus* Westwood, *teste* Compere and Annecke, 1961, *loc. cit. supra*, p. 29.
Biology: Clausen, 1956, *loc. cit. supra*, p. 95.

Subfamily TETRASTICHINAE

Taxonomy: Ferrière, 1960. Acta Hym. (Japan) 1: 105-106 (key to genera).

Genus *Thripoctenus* Crawford, p. 442

petiolata Ashmead. Ariz.

Genus *Thripoctenus* Crawford, p. 442

Transf. to syn. under *Ceranisis* Walker in the Entedontinae, p. 460; included spp. to be transf. to *Ceranisis*.

Genus TETRASTICHUS Haliday

(= *Tetrastichus* Walker of Catalog, pp. 443-450)

Paramphaloidomyia Girault, 1917; Catalog, p. 452. N. syn.; types examined.

?**Lygellus* Giard, 1896. Soc. Biol. Paris C. R. 1896: 839.

Type: *Lygellus epilachnae* Giard. By monotypy.

**Myiomisa* Rondani, 1877. Soc. Ent. Ital. Bul. 9: 189 (syn. by Bouček, 1961. Min. Sel. Kruzy. Moldav. S.S.R. Trudy 7: 28).

Type: *Myiomisa microscopica* Rondani. By monotypy.

Taxonomy: Graham, 1961. Ent. Mo. Mag. 97: 34-64 (*Aprostocetus*).—Burks, 1962. Bul. Zool. Nomencl. 19: 306 (request for suppression of *Tetrastichus* Walker, 1842, and validation of *Tetrastichus* Haliday, 1844).—Hedqvist, 1963, *loc. cit. supra*, pp. 146-147 (*Aprostocetus*).—Int. Comn. Zool. Nomencl., 1965. Bul. Zool. Nomencl. 22: 26 (Opinion 720, suppression of *Tetrastichus* Walker, 1842).

argyrus Burks. Syn. of *homeri* (Girault).

asparagi Crawford. Syn. of *coeruleus* (Nees).

**auplopus* Burks. Va. Host: Reared from cell of *Auplopus* sp.

Tetrastichus auplopus Burks, 1963. Biol. Soc. Wash. Proc. 76: 55. ♀.

**barbarae* Burks. Oreg. Host: *Barbara colfaxiana* (Kearf.), prob. secondary.

Tetrastichus barbarae Burks, 1963. Biol. Soc. Wash. Proc. 76: 52. ♀, ♂.

bruchivorus Gahan. Introd. from France and recovered in N. C., but prob. not est. in U.S.

bruchophagi Gahan.

Taxonomy: Butler and Hansen, 1958. Pan-Pacific Ent. 34: 224, 226.

**byersi* Burks. Mich., Ind. Hosts: Pupae of *Dolichozepe americana* Needham, *D. walleyi* (Alex.).

Tetrastichus byersi Burks, 1963. Biol. Soc. Wash. Proc. 76: 53. ♀, ♂.

carinatus Forbes. Syn. of *charoba* (Walker).

**charoba* (Walker). Generally dist. in U. S. and Canada; Europe, Asia.

Cirrospilus charoba Walker, 1840. Ann. Nat. Hist. 4: 30. ♀.

Tetrastichus carinatus Forbes, 1885 (syn. by Graham, *loc. cit. supra*, p. 51 [*Aprostocetus*]).

[Note: *C. charoba* Walk. selected by Graham from 13 other apparently, but not certainly, synonymous names, although it does not have priority. Article 23 (b) of Int. Code of Zool. Nomencl. would not preserve *carinatus* Forbes for this sp. if this selection is accepted.]

chlamytis Ashmead. Mo., Ark., Kans., Tex., Utah.

**clito* (Walker). Ont.; Europe. Host: *Cassida rubiginosa* Müll.

Cirrospilus clito Walker, 1840. Ann. Nat. Hist. 4: 30. ♀, ♂.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 128.

coerulescens Ashmead. Mich., Wis., Minn., N. Mex., Ariz., Calif. Hosts; *Choristoneura funiferana* Clem., *C. pinus* Free., *Dichomeris marginella* (Fab.); prob. secondaries.

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 284.—Schaffner, 1959, *loc. cit. supra*, p. 82.

**coeruleus* (Nees). Wash.; Europe.

Eulophus coeruleus Nees, 1834. Hym. Ichn. Affin. Monog., v. 2, p. 174. ♀.

Tetrastichus asparagi Crawford, 1909 (syn. by Graham, 1961, *loc. cit. supra*, p. 39 [*Aprostocetus*]).

[Strict application of Article 23 (b) of Int. Code of Zool. Nomencl. would require retention of the name *asparagi* Crawford for this sp.]

dolosus Gahan. Ariz.

faustus Burks. Minn.

Biology: Balduf, 1959. Ill. Biol. Monog. 26, p. 146.

- ***garryana** Burks. B. C., Oreg. Hosts: *Besbicus mirabilis* (Kinsey), several cynipid galls on *Quercus garryana*.
Tetrastichus garryana Burks, 1963. Biol. Soc. Wash. Proc. 76: 49. ♀, ♂.
 Biology: Evans, 1963. Canad. Ent. 95: 1002-1005.
- gibboni** (Girault). Okla.
- hagenowii** (Ratzeburg).
 Biology: Cameron, 1955. Bul. Ent. Res. 46: 137-147.—Cameron, 1957. Bul. Ent. Res. 48: 205-206.—Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 249-253.
- homeri** (Girault), n. comb. Va., S. C., Ga., Fla., Iowa. Host: *Asteromyia* sp. leaf gall on *Solidago*. Transf. from *Paromphaloidomyia* Girault; types examined.
Tetrastichus argyrus Burks, 1943, n. syn.; types examined.
- ***incertus** (Ratzeburg). Mass., Pa., N. J., Md.; Europe. Host: *Hypera postica* (Gyll.).
Eulophus incertus Ratzeburg, 1844. Ichn. der Forstins., v. 1, p. 168.
 Biology: Chamberlin, 1925. Jour. Econ. Ent. 18: 597.—Coles and Puttler, 1963. Jour. Econ. Ent. 56: 610-611.
- johnsoni** Ashmead. N. H., Md., Mo. Host: Prepupae of *Dipogon sayi sayi* Banks.
- longicorpus** (Girault). Calif.
- malacosomae** Girault.
 Biology: Langston, 1957. Calif. Univ. Pubs. Ent. 14: 26-27.
- marcovitchi** (Crawford). Ind., Ill., Wis., N. Dak.
 Biology: Giese and Benjamin, 1959. For. Sci. 5: 205.
- marylandensis** (Girault).
 Biology: Schaffner, 1959, *loc. cit. supra*, pp. 82-83.
- ***megachilidis** Burks. Fla., Ohio, Ariz. Hosts: Prepupae of *Megachile* (*Litomegachile*) *gentilis* Cress., *M.* (*Melanosaurus*) *xylocopoides* Smith.
Tetrastichus megachilidis Burks, 1963. Biol. Soc. Wash. Proc. 76: 57. ♀, ♂.
 Biology: Butler and Wargo, 1963. Pan-Pacific Ent. 39: 205.
- melanis** Burks. N. H., Fla., Minn. [Prob. a syn. of the European *coccinellae* Kurdjumov.]
 Biology: Newcomer, 1958. Pan-Pacific Ent. 34: 89.
- ***milleri** Burks. Calif. Host: Sec. parasite of *Recurvaria milleri* (Busck).
Tetrastichus milleri Burks, 1963. Biol. Soc. Wash. Proc. 76: 56. ♀.
- modestus** Howard. N. H. Host: *Apanteles pyraustae* Vier.
 Biology: Schaffner, 1959, *loc. cit. supra*, p. 83.
- ***nordi** Burks. Mich. Host: *Agrilus* sp.
Tetrastichus nordi Burks, 1963. Biol. Soc. Wash. Proc. 76: 51. ♀, ♂.
- oecanthivorus compar** Gahan. Md., Ark., Okla.
- paracholus** Burks. Ont., N. C., Wis., Minn.
- ***pausiris** (Walker). Ont.; Europe. Host: *Dasyneura leguminicola* (Lint.).
Cirrospilus pausiris Walker, 1839. Monog. Chalc., p. 327.
 Taxonomy: Peck, 1963, *loc. cit. supra*, p. 143.
- phegus** Burks. Syn. of *racemariae* Ashmead.
- ***phidippi** Burks. Ariz. Host: Eggs of *Phidippus opifex* (McCook).
Tetrastichus phidippi Burks, 1963. Biol. Soc. Wash. Proc. 76: 60. ♀, ♂.
- ***politi** Burks. Va. Host: Galls of *Xanthoteras politum* (Bass.).
Tetrastichus politi Burks, 1963. Biol. Soc. Wash. Proc. 76: 48. ♀, ♂.

- ***pompilicola** Graham. Newfoundland. Host: *Anoplius nigerrimus* (Scop.).
Tetrastichus pompilicola Graham in Lindroth and Graham, 1960. Opusc. Ent. 25: 94. ♀.
- productus** Riley. Que., Minn. Host: *Janus abbreviatus* (Say); delete *Phytophaga destructor* (Say).
- ***psyllaephagus** Burks. Ariz. Host: Nymph of *Trioza collaris* Crawford.
Tetrastichus psyllaephagus Burks, 1963. Biol. Soc. Wash. Proc. 76: 54. ♀, ♂.
 Biology: Cazier, 1964. Pan-Pacific Ent. 40: 71.
- racemariae** Ashmead. Ont. south to Fla., west to Calif.
Tetrastichus ptegus Burks (syn. by Judd, 1963. Canad. Field-Nat. 77: 63).
- rapo** of Catalog. Syn. of **sinope** Walker.
- silvaticus** Gahan. N. B. south to Conn., west to Wash. and Calif.
- ***sinope** (Walker). Cosmopolitan. Host: *Apanteles glomeratus* (L.).
Cirrospilus sinope Walker, 1839. Monog. Chalc., v. 1, p. 295. ♀.
Tetrastichus rapo of Catalog and authors, long. misdet. teste Graham, 1961, loc. cit. supra, p. 38.
- strobilus** Burks. Host: (?) *Barbara colfaxiana* (Kearf.).
 Biology: Keen, 1958, loc. cit. supra, pp. 95-96.
- triozae** Burks. Hosts: *Arytaina minuta* Cwfd., *Calophya californica* Schw., *C. nigrella* Jens., *C. triozaomima* Schw., *Euphalerus vermiculosus* Cwfd., *Pecopsylla cercocarpi* Jens., *Trioza albifrons* Cwfd., *T. beameri*.
 Biology: Jensen, 1957. Higaradia 27: 79-80, 86-96.
- trifulcatus** Provancher.
 Taxonomy: Finlayson, 1963. Canad. Ent. 95: 498 (imm. stages).—Burks, 1964, loc. cit. supra, p. 1262 (types).
- turionum** (Hartig). Ont.
 Biology: Clausen, 1956, loc. cit. supra, pp. 130-131.—Juillet, 1959. Canad. Ent. 91: 716-718.—Schaffner, 1959, loc. cit. supra, p. 83.—Adlung, 1962. Ztschr. Angew. Ent. 50: 456.
- varicornis** (Girault). Maine, Mass. Host: *Epinotia nanana* (Treit.).
 Biology: Schaffner, 1959, loc. cit. supra, p. 83.
- venustus** Gahan. Que., Maine, Minn., Nebr.
 Taxonomy: Butler and Hansen. 1958. Pan-Pacific Ent. 34: 224-226.
- whitmani** (Girault).
 Biology: Giese and Benjamin, 1959. For. Sci. 5: 205.
- xanthomelaenae** (Rondani).
 Taxonomy; Bouček, 1957. Acta Ent. Mus. Nat. Pragae 31: 117 (*gallerucae* Fonsc.).—Peck, 1963, loc. cit. supra, pp. 132-133 (*gallerucae* Fonsc.).
- xanthops** (Ratzeburg). B. C. Host: *Coleophora laricella* Hbn.
 Biology: Schaffner, 1959, loc. cit. supra, p. 83.

Genus **APROSTOCETUS** Westwood, pp. 450-451

- canadensis** Ashmead. Syn. of **daira** (Walker).
- ***daira** (Walker). Que., Ont., Ohio, Nebr.; Europe.
Cirrospilus daira Walker, 1839. Monog. Chalc., v. 1, p. 330. ♀.
Aprostocetus canadensis Ashmead (syn. by Graham, 1961. Ent. Mo. Mag. 97:47).

Genus **SYNTOMOSPHYRUM** Foerster, pp. 451-452

- Tetrastichomyia** Girault, 1916, n. syn. Transf. from syn. under **Miotropis** Thomson, p. 454; types examined.
 Taxonomy: Graham, 1961. Ent. Mo. Mag. 97: 36 (*Aprostocetus*).

blattae Burks.

Biology: Roth and Willis, 1960, *loc. cit. supra*, p. 248.

clisiocampae (Ashmead). Transf. from **Miotropis** Thomson; types examined.

esurus (Riley).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 91-92.

ischnopterae (Girault).

Biology: Roth and Willis, 1960, *loc. cit. supra*, p. 249.

orgyiae (Girault), n. comb. Transf. from **Miotropis** Thomson; types examined.

philodromi (Gahan). Nebr.

silvensis (Girault), n. comb. Transf. from **Miotropis** Thomson; types examined.

Genus *Paromphaloidomyia* Girault, p. 452

Syn. of **Tetrastichus** Haliday, *supra*.

homeri Girault. Transf. to **Tetrastichus** Haliday.

Genus MELITOBIA Westwood, p. 452

Delete ***Aceratoneuromyia*** Girault from syn.; a valid, but extralimital genus, *teste* Gradwell, 1959. Ent. Mo. Mag. 94: 277.

chalybii Ashmead. Hosts: Attack almost any insect in lab. cultures or insectaries, but in nature apparently attack only aculeate Hymenoptera or their parasites.

Biology: Medler, 1958. Ent. News 69: 21-23.—Medler, 1958. Ent. Soc. Amer. Ann. 51: 340-344.—Krombein, 1964. Biol. Soc. Wash. Proc 77: 101.

Subfamily ELACHERTINAE

Genus EUPLECTRUS Westwood, pp. 452-453

mellipes Provancher. Maine, N. H., Wis., Alaska.

Biology: Guppy, 1959. Canad. Ent. 91: 426.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1258.

Genus DIAULINOPSIS Crawford, pp. 453-454

callichroma Crawford. Md. south to Fla., west to Nebr. and Calif.; Mexico, West Indies.

Genus MIOTROPIS Thomson, p. 454

Stenomesoideus Ashmead, n. syn. Transf. from Catalog, p. 460; types examined.

Miotropis Thomson has long been misidentified in the N. Amer. lit.

Delete ***Tetrastichomyia*** Girault from syn. and transf. to syn. of

Syntomosphyrum Foerster, p. 451.

clisiocampae Ashmead. Transf. to ***Syntomosphyrum*** Foerster.

mellea (Ashmead), n. comb. Transf. from ***Stenomesus*** Ashmead; types examined.

orgyiae (Girault). Transf. to ***Syntomosphyrum*** Foerster.

silvensis (Girault). Transf. to ***Syntomosphyrum*** Foerster.

Genus ELACHERTUS Spinola, pp. 455-456

aeneoniger Girault. Wis., Minn., Oreg., B. C. Host: *Choristoneura fumiferana* (Clem.).

glacialis Ashmead. Colo., Wash., Oreg. Hosts: *Barbara colfaxiana* (Kearf.). *Mellisopus latiferreanus* (Wlsh.).

Biology: Keen, 1958, *loc. cit. supra*, p. 94.

cacoeciae Howard. Oreg. Host: *Choristoneura fumiferana* (Clem.).

Biology: Carolin and Coulter, 1959. Jour. Econ. Ent. 52: 552.

coxalis Howard. Va. Host: *Callisto geminatella* Pack.

Biology: Hill and Hough, 1957. Va. Agr. Expt. Sta. Tech. Bul. 130, p. 16.

hyphantriae Crawford. Mass., Ark., Tex.

proteoteratis Howard. Ont., Mich., Idaho, Ariz., Calif.

Euplectrus viridaeneus Provancher, 1887 (syn. by Burks, *loc. cit. supra*, p. 1258).

viridaeneus (Provancher). Syn. of **proteoteratis** Howard.

Genus HYSSOPUS Girault, p. 456

benefactor (Crawford). Md., Ohio. Host: *Petrova virginiana* (Busck), *P. albicapitana* (Busck), *P. metallica* (Busck).

evetriae (Girault). Ohio. Host: *Petrova wenzeli* (Kearf.).

Biology: Miller and Altmann, 1958. Ohio Jour. Sci. 58: 278-280.—Keen, 1958, *loc. cit. supra*, p. 95.

johannseni (Crawford). Va., Miss. Hosts: *Laspeyresia* spp. in pine cones.

rhyacioniae Gahan. Ont. south to Fla. west to Mich., Ark., Tex. Hosts: *Dioryctria abietella* D. and S., *D. amatella* (Hulst), *D. cambicola* (Dyar), *D. zimmermani* (Grote).

thymus Girault. Ont. and N. Y. south to Fla. west to Idaho and Calif. Hosts: *Dioryctria auranticella* (Grote), *D. zimmermani* (Grote), *Petrova comstockiana* (Fern.), *P. wenzeli* (Kearf.), *Rhyacionia rigidana* (Fern.).

Biology: Miller and Altman, 1958. Ohio Jour. Sci. 58: 278-280.—Keen, 1958, *loc. cit. supra*, p. 95.—Watson and Arthur, 1959. Canad. Ent. 91: 480-484.—Schaffner, 1959, *loc. cit. supra*, p. 84.—Hartman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

Genus APTEROLOPHUS Gahan, p. 457

pulchricornis Gahan. S. C., Ind. Host: Taken sifting treehole litter.

Genus CIRROSPILUS Westwood, pp. 458-459

**Plesiospilus* Ferrière, 1953. Univ. Bologna Ist. Ent. Bol. 19: 398.

Type: *Eulophus unistriatus* Foerster. Orig. desig.

Taxonomy: Delucchi, 1958. Entomophaga 3: 253.

cinctithorax (Girault). N. B., Que., Ont., Mass. Hosts: *Argyresthia freyella* Wlsh., *Colophora fuscedinella* Zeller, *Lithocolletis salicifoliella* Clem., *L. tremuloidella* Braun, *Bucculatrix ainshliella* Murt.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

flavicinctus Riley. Host: *Bucculatrix ainshliella* Murt.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

flaveviridis Crawford. Ariz., Calif. Host: *Liriomyza* sp.

pictus (Nees).

Biology: Sundby, 1958 (1957). Norsk. Ent. Tidssk. Sup. 2, pp. 18-21.

Genus ZAGRAMMOSOMA Ashmead, pp. 459-460

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. (*Zagrammosoma* a subg. of *Cirrospilus* Westwood).

americanum Girault. Ariz., Calif. Host: *Recurvaria milleri* Busck.

interlineatum Girault. Mass., Fla., Ohio. Hosts: *Exoteleia pinifoliella* (Chamb.), *Lithocolletis cincinnatiella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

mirum Girault. Hosts: *Lithocolletis crataegella* Clem., *Liriomyza pictella* (Thomson).

Genus *Stenomeseioideus* Ashmead, p. 460

Transf. to syn. of *Miotropis* Thomson, p. 454.

melleus Ashmead. Transf. to *Miotropis* Thomson.

*Genus *MIRZAGRAMMOSOMA* Girault

Mirzagrammosoma Girault, 1915. Ent. Soc. Amer. Ann. 8: 279.

Type: *Mirzagrammosoma lineaticeps* Girault. By monotypy.

Insert in Elachertinae after *Zagrammosoma* Ashmead, p. 460.

**lineaticeps* Girault. Fla.; Cent. America, West Indies. Hosts: *Leucoptera coffeella* (Guérin), *Liriomyza archboldi* Frost.

Mirzagrammosoma lineaticeps Girault, 1915. Ent. Soc. Amer. Ann. 8: 279. ♀.

Subfamily ENTEDONTINAE

*Genus *CERANISUS* Walker

(= *Thripoctenus* Crawford of Catalog, p. 442)

Ceranisus Walker, 1842. Entomologist 1: expl. of Pl. N, fig. 2.

Type: *Cirrospilus pacuvius* Walker. By monotypy.

Cryptomphale Girault, 1917. Spec. Gen. nova Euloph., p. 2.

Type: *Thripoctenus nubilipennis* Williams. By monotypy.

Taxonomy: Burks, 1943. U. S. Natl. Mus. Proc. 93: 509.—Bakkendorf, 1957. Ent. Medd. 28: 1.—Graham, 1959. Soc. Brit. Ent. Trans. 13: 203.—Peck, 1963, *loc. cit. supra*, p. 117 (n. comb's.).

Insert in Entedontinae before *Astichus* Foerster, p. 460; transf. spp. in Catalog under *Thripoctenus* to *Ceranisus*.

Genus *OMPHALE* Haliday, p. 460

**Secodes* Foerster, 1856. Hym. Stud., v. 2, pp. 78, 81.

Type: *Secodes fagi* Foerster. By monotypy.

Taxonomy: Graham, 1963. Soc. Brit. Ent. Trans. 15: 240.

Genus *CLOSTEROCERUS* Westwood, p. 461

cinctipennis Ashmead. Que. south to Fla. west to Wis., Iowa, Mo. Hosts: *Brachys ovatus* Web. (eggs and larvae), *Neodiprion lecontei* (Fitch), *N. excitans* Roh., *N. virginianus* complex (eggs).

Biology: Benjamin, 1955. U. S. Dept. Agr. Tech. Bul. 1118, pp. 24-26.—Morris, Schroeder, and Bobb, 1963. Pine Sawfly in Va., Va. Div. For., p. 13.

tricinctus (Ashmead). Host: *Exoteleia pinifoliella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

trifasciatus Westwood. Mass., Ariz. Host: *Liriomyza pictella* (Thomson).

Biology: Sundby, 1957. Norsk Ent. Tidsskr., sup. 2, p. 41.

Genus *EUDERUS* Haliday, p. 462

**Secodelloidea* Girault, 1917. Sp. Gen. nova Euloph., p. 2.

Type: *Secodella rugosus* Crawford. By monotypy.

Taxonomy: Erdős, 1956. Rov. Közlem., n. s., 9: 2 (Euderini).—Graham, 1959. Soc. Brit. Ent. Trans. 13: 172, 203 (Euderinae).—Peck, 1963, *loc. cit. supra*, p. 172 (*Secodelloidea* Girault a syn.).—Bouček, 1963. Beitr. z. Ent. 13: 267 (*Secodelloidea* Girault distinct, poss. a subgen.).

argyresthia (Crawford). N. Y. south to Fla., west to Wash., Oreg., Tex. Hosts: *Recurvaria* spp.

crawfordi Peck. Ariz., Calif. Hosts: Galls of *Dryocosmus coxii* (Bass.), *Platitrochus suberi* Weld.

cushmani (Crawford). New England, N. Y., Ill. Hosts: *Coleophora laricella* Hbn., *Cydia packardii* (Zell.), *Dioryctria zimmermani* (Grote), *Proteoteras willingana* (Kearf.).

Biology: Balduf, 1959. Ill. Biol. Monog. 26: 74.—Schaffner, 1959, *loc. cit. supra*, p. 85.

rubriscapus (Girault), new status. Change from subsp. to sp.

rugosus (Crawford), new status. N. Y. south to Fla. west to Tenn. and Kans. Change from subsp. to sp.

rugosus rubriscapus (Girault). Change to sp.

rugosus rugosus (Crawford). Change to sp.

*Genus **FLOCKIELLA** Timberlake

Flockiella Timberlake, 1957. Pan-Pacific Ent. 33: 109.

Type: **Flockiella eucalypti** Timberlake. Orig. desig.

Insert in Entedontinae following **Euderus** Haliday, p. 463.

***eucalypti** Timberlake. Calif. Host: Reared from seed capsules of *Eucalyptus umbellata*.

Flockiella eucalypti Timberlake, 1957. Pan-Pacific Ent. 33: 110. ♀.

Biology: Flock, 1957. Pan-Pacific Ent. 33: 153-155.

Genus **BURKSIA** Fullaway, Sup. 1, p. 68

viridimaculata Fullaway. Calif.; Cuba, Argentina.

Genus **CHRYSOCHARIS** Foerster, pp. 463-464

ainsliei Crawford. S. C. Host: *Liriomyza pictella* (Thomson).

compressicornis Ashmead. Syn. of **viridis** Provancher.

***cubensis** Gahan. Fla.; West Indies.

Chrysocharis cubensis Gahan, 1932. Ent. Soc. Amer. Ann. 25: 748. ♀, ♂.

gemma (Walker). Transf. to **Kratochviliana** Maláč, *infra*.

imbratus (Walker). Transf. from **Unplaced Species**, p. 594, *teste* Graham, 1963. Soc. Brit. Ent. Trans. 15: 234.

laricinellae (Ratzeburg). Transf. to **Kratochviliana** Maláč, *infra*.

***majoriani** (Girault). Fla.; West Indies, Brazil, introd. into Hawaii for biol. control. Hosts: *Liriomyza sorosis* (Will.), *Phytobia* sp., leaf-miners on *Cassia* and other plants.

Chrysocharodes majoriani Girault, 1917. Descr. Hym. Chalc. var. cum Obs., p. 10. ♀.

viridis Provancher. Ont., Ohio. Host: Reared from gall on *Lactuca*.

Chrysocharis compressicornis Ashmead, 1894 (syn. by Burks, 1964, *loc. cit. supra*, p. 1257).

Genus **KRATOCHVILIANA** Maláč

Kratochviliana Maláč, 1943. Ent. listy (Folia Ent.) Brno 6: 1.

Type: **Kratochviliana moravica** Maláč. Orig. desig.

Epilampsis Delucchi, 1954. Neue Arten Subfam. Entedon., p. 3.

Type: **Chrysocharis boops** Thomson. Orig. desig.

Taxonomy: Bouček, 1961. Trudy Min. Sel. Kruzy. Moldav. S. S. R. 7: 28 (syn.)—Graham, 1963. Soc. Brit. Ent. Trans. 15: 205 (both above gen. syn. of **Chrysocharis** Foerster).

Insert in Entedontinae following **Chrysocharis** Foerster, p. 464.

gemma (Walker). B. C.; Europe. Transf. from **Chrysocharis** Foerster.

Taxonomy: Delucchi, 1954. Schweiz. Ent. Ges. Mitt. 27: 300-301 (**Epilampsis** Delucchi).

laricinellae (Ratzeburg). N. B., N. S., Ont., Wis. Transf. from **Chrysocharis** Foerster.

- Taxonomy: Bouček, 1961, *loc. cit. supra*, p. 28.—Peck, 1963, *loc. cit. supra*, pp. 205-207.
 Biology: Clausen, 1956, *loc. cit. supra*, p. 92.—Graham, 1958. Ent. Soc. Ont. Ann. Rpt. 1957, pp. 37-43.—Schaffner, 1959, *loc. cit. supra*, p. 85.

*Genus **ENAYSMA** Delucchi

Insert in Entedontinae following **Chrysocharis** Foerster, p. 464.

***ENAYSMA** subgenus **ENAYSMA** Delucchi

Enaysma Delucchi, 1954. Neue Arten Subfam. Entedon., p. 1.
 Type: **Enaysma zwölferti** Delucchi. Orig. desig.

The typical subgenus does not occur in N. Amer.

***ENAYSMA** subgenus **PENTENAYSMA** Graham

Enaysma subg. **Pentenaysma** Graham, 1959. Soc. Brit. Ent. Trans. 13: 196.

Type: **Eulophus latreillei** Curtis. Orig. desig.

Taxonomy: Miller, 1962. Canad. Ent. 94: 1039-1040.

***arienascapus** Miller. Que., Ont. Hosts: **Lithocolletis ostryaefoliella** Clem., **Lithocolletis** sp. on **Viburnum**.

Enaysma arienascapus Miller, 1962. Canad. Ent. 94: 1050. ♀, ♂.

***carioeca** Miller. Que., Ont. Hosts: **Lithocolletis** sp. on **Carya**, leafminer on oak.

Enaysma carioeca Miller, 1962. Canad. Ent. 94: 1043. ♀, ♂.

***clypeata** Miller. Que. Host: **Lithocolletis** sp. on **Acer**.

Enaysma clypeata Miller, 1962. Canad. Ent. 96: 1047, 1050. ♂.

***gahani** Miller. Que., Ont. Hosts: **Lithocolletis lucetiella** Clem., **Lithocolletis** spp.

Enaysma gahani Miller, 1962. Canad. Ent. 94: 1041. ♀, ♂.

***hirtiscapus** Miller. Ont. Host: **Lithocolletis tiliacella** Chamb.

Enaysma hirtiscapus Miller, 1962. Canad. Ent. 94: 1047. ♀, ♂.

***myricae** Miller. N. S. Host: **Lithocolletis** sp. on **Myrica gale**.

Enaysma myricae Miller, 1962. Canad. Ent. 94: 1043-1047. ♀, ♂.

*Genus **MOSERINA** Delucchi

Moserina Delucchi, 1962. Kans. Ent. Soc. Jour. 35: 389.

Type: **Moserina maculata** Delucchi. Orig. desig.

Insert in Entedontinae following **Achrysocharoides** Girault, p. 464.

***maculata** Delucchi. Ohio. Host: Reared from galls of **Pachypsylla celtidis-mamma** (Riley), and **P. celtidisvesicula** Riley.

Moserina maculata Delucchi, 1962. Kans. Ent. Soc. Jour. 35: 392. ♀, ♂.

Genus **PARACHRYSOCHARIS** Girault, p. 465

semiflava Girault. Wis. Host: **Auplopus** sp.

Genus **DEROSTENUS** Westwood, pp. 466-467

agromyzae Crawford. N. Y. south to Fla., west to N. Dak. and Ariz. Hosts: Delete **Agromyza scutellata** Fall and **A. pusilla** (Meig.); add **Mantura floridana** (Crotch), **Liriomyza sorosis** (Will.).

Biology: Peck, 1963, *loc. cit. supra*, p. 214.

arizouensis Crawford. Hosts: **Agromyza scutellata** Fall, **A. pusilla** (Meig.), **Liriomyza pictella** (Thomson).

fullawayi Crawford. Calif.; Hawaii; Mexico.

punctiventris Crawford. Idaho, Calif.

silvia (Girault). Maine south to Md. west to Wis., Calif. Hosts: *Coleophora laricella* (Hbn.), *Exoteleia pinifoliella* (Chamb.), *Tetralopha robustella* Zell., *Recurvaria milleri* Busck, *R. apicitripunctella* (Clem.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 85.

variipes Crawford. N. Y. south to Fla. west to La. and Tex.

Genus **HORISMENUS** Walker, pp. 467-468

**Pediobioidea* Girault, 1911. Canad. Ent. 43: 407.

Type: *Pediobioidea cyanea* Girault. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, pp. 217, 220.

livivorus Crawford. Tex., Ariz. (delete Maine). Hosts: *Lixus perforatus* Lec. (delete *Phyllocnistis populiella* Chamb.).

microgaster (Ashmead). Va., N. C. Hosts: *Callisto geminatella* (Pack.), *Tetralopha robustella* Zell., *Pyrausta futilalis* (Led.), *Choristoneura rosaceana* (Har.), *Exoteleia pinifoliella* (Cham.), *Coleophora laricella* (Hbn.); secondary par.

Biology: Hill and Hough, 1957. Va. Agr. Expt. Sta. Tech. Bul. 130, p. 16.—Schaffner, 1959, *loc. cit. supra*, p. 85.

violaceus (Ashmead). Mass., Va. Hosts: *Lithocolletis cincinnatiella* (Chamb.), *L. crataegella* Clem.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 85.

Genus **PEDIOBIUS** Walker, Sup. 1, p. 68

(= *Pleurotropis* Foerster of Catalog, pp. 468-470)

**Mestocharomyia* Girault, 1915. Queensland Mus. Mem. 3: 188. N. syn.

Type: *Mestocharis lividus* Girault. Orig. desig.

**Eupleurotropis* Girault, 1917. Spec. Gen. nova Euloph., p. 3.

Type: *Pleurotropis testaceipes* Crawford. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 223.

albipes (Provancher). Maine and Ont., south to Va., west to Ill. Hosts: *Apanteles congregatus* (Say), ? *Gelis tenellus* (Say), *Dibrachys cavus* (Walk.), *Euptromalus hemipterus* (Walk.), agromyzid on *Helianthus*, ? *Lithocolletis* sp.

Entedon albitarsis Ashmead, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1259).

albitarsis (Ashmead). Syn. of *albipes* (Provancher).

benefica (Gahan). Syn. of *nigritarsis* (Thomson).

bucculatricis (Gahan). Host: *Xenochalepus dorsalis* (Thunb.); may be secondary.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 85.

metallicus (Nees).

Biology: Clausen, 1956, *loc. cit. supra*, p. 123.

niger (Ashmead), corrected spelling of *nigra* of Catalog.

**nigritarsis* (Thomson). Ont. south to Va. west to Alta. and S. Dak.; Europe.

Pleurotropis nigritarsis Thomson, 1878. Hym. Scand., v. 5, p. 251. ♀, ♂.

Pleurotropis benefica Gahan (syn. by v. Rosen, 1956. K. Lantbrukshög. Ann. 23: 19).

Taxonomy: v. Rosen, 1959. Ent. Tidskr. 80: 163.—Peck, 1963, *loc. cit. supra*, p. 229.

sexdentatus (Girault). Hosts: Sec. par. of Lepidoptera.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

splendens (Cook and Davis). Maine, Pa. Host: *Eulophus anomocerus* (Crawford).

tarsalis (Ashmead). Hosts: Sec. par. of Lepidoptera.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

wilderi (Howard). Minn. Host: *Gelis* sp. in spider egg case.

Genus ENTEDON Dalman, p. 470

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 144.

leucogramma (Ratzeburg). Conn., Pa., S. C.; Europe.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 145-146.—Graham, 1963. Soc. Brit. Ent. Trans. 15: 194-195 (possible syn.).

Genus PARACRIAS Ashmead, pp. 470-471

mirus (Girault). N. Y., Ohio. Hosts: *Thysanocnemis* spp. in ash seeds.

*Genus CHRYSNOTOMYIA Ashmead

Chrysonotomyia Ashmead, 1904. Carnegie Mus. Mem. 1: 344.

Type: *Eulophus auripunctatus* Ashmead. Orig. desig.

Insert in Entedontinae following *Emersonopsis* Girault, p. 471.

***auripunctata** (Ashmead). Fla.; West Indies. Hosts: *Ctenodactylomyia watsoni* Felt gall on *Coccolobus uvifera*; gall on *Pithecolobium*.

Eulophus auripunctatus Ashmead, 1894. Linn. Soc. London Jour., Zool. 25: 166. ♀.

Family ELASMIDAE

This family is unnecessary: *Elasmus* itself is clearly eulophid, and the other genera now placed in the Elasmidae are closely related to *Aphelinus* Dalman. See Compere, 1947. Bul. Ent. Res. 38: 381.

Genus ELASMUS Westwood, pp. 471-472

apanteli Gahan. Wis.

atratus Howard. N. H., Mass.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

***maculatus** Howard. Fla.; West Indies. Hosts: *Apanteles* spp.

Elasmus maculatus Howard, 1894. Linn. Soc. London Jour., Zool. 25: 103. ♀.

setosiseutellatus Crawford. Hosts: *Apanteles* spp. on lepidopterous larvae.

Family THYSANIDAE

Genus THYSANUS Walker, pp. 472-474

citrifolii (Ashmead). Delete entry; species cited in error for *Siphonophora citrifolii* Ashmead, an aphid.

coquilletti (Ashmead). Fla. Hosts: *Aleuroplatus coronatus* (Quaint.), *A. gelatinosus* (Ckll.), *Aleurodes* sp.

dactylopii (Ashmead). Tex., N. Mex. Host: *Leucopis* sp. pred. on mealybugs.

elongatus (Girault). N. J., Md.

Taxonomy: Ferrière, 1957. Opusc. Zool. 10: 6 (*Signiphorina* Nikolskaja).

fasciatus (Girault).

Biology: Arnaud, 1959. Ent. News 70: 163 (primary par.).

flavopalliatius (Ashmead). Hosts: *Prospaltella* spp.

Biology: Muma, 1959. Jour. Econ. Ent. 52: 582 (sec. par.).—Hughes, 1960. Fla. Ent. 43: 90 (sec. par.).

louisianae Dozier. Fla.

merceti (Malenotti). Calif. Hosts: *Hemiberlesia lataniae* (Sign.), *H. rapax* (Comst.).

Biology: DeBach, Kennett, and Pence, 1958. Jour. Econ. Ent. 51: 114-115 (primary par.).—Valenzuela, 1962. Agronomia (Colombia) 1: 41 (primary par.).

niger (Ashmead).

Taxonomy: De Santis, 1957. La Plata Univ. Nac., Mus. Notas 19: 113.

occidentalis (Howard). Fla.

pulcher (Girault). Ark.

thoreauini (Girault). Hosts: *Hemiberlesia lataniae* (Sign.), *H. rapax* (Comst.).

Biology: DeBach, Kennett, and Pence, 1958, *loc. cit. supra*, pp. 114-115 (primary par.).

Family TANAOSTIGMATIDAE

Genus TANAOSTIGMODES Ashmead, p. 474

albiclavus Girault, corrected spelling of *albiclava* Girault of Catalog. Host: Gall on *Mimosa*; prob. phytophagous.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 331.

Family ENCYRTIDAE

Taxonomy: Ferrière, 1953. Schweiz. Ent. Ges. Mitt. 26: 1-45.—Erdős and Novicky, 1955. Beitr. z. Ent. 5: 165-202.—Hoffer, 1955. Narod. Mus. Praise Sborn. 11 (B): 3-21.—Hoffer in Kratochvil, 1957. Česk. Akad. Ved. Stud. Pram., Sek. Biol. 18: 245-269.—Hoffer, 1960. Mus. Nat. Pragae Acta Faun. Ent. 6: 93-119.—Compere and Annecke, 1960. Ent. Soc. S. Afr. Jour. 23: 375-389.—Tachikawa, 1963. Ehime Univ. Mem. 9: 1-264 (host list, pp. 9-29).—De Santis, 1963. Com. Inv. Cient. Prov. B. A. An. 4: 9-398.

Subfamily ENCYRTINAE

Genus TINEOPHOCTONUS Ashmead, p. 475

armatus (Ashmead). Fla.; Europe, S. Amer. Host: *Anobium punctatum* (DeG.).

*Genus ERICYDNUS Walker

Ericydnus Walker, 1837. Ent. Mag. 4: 363.

Type: *Ericydnus paludatus* Walker. Desig. by Westwood, 1840.

Insert in Encyrtinae following *Tineophoctonus* Ashmead, p. 475.

***sipylus** (Walker). Calif.; Europe.

Encyrtus sipylus Walker, 1837. Ent. Mag. 4: 445. ♀.

Genus LEPTOMASTIX Foerster, p. 475

dactylopii Howard.

Biology: Clausen, 1956, *loc. cit. supra*, p. 94.—Lloyd, 1958. Canad. Ent. 90: 450-461.

Genus ANAGYRUS Howard, pp. 475-476

antoniae Timberlake. Mexico.

Biology: Clausen, 1956, *loc. cit. supra*, p. 75.—Questel and Genung, 1957. Fla. Ent. 40: 123-125.—Dean and Schuster, 1958. Jour. Econ. Ent. 51: 363-365.—Dean, 1960. Jour. Econ. Ent. 53: 694.

fusciventris (Girault). Calif.; Hawaii, West Indies.

Biology: Clausen, 1956, *loc. cit. supra*, p. 75.

***graminicolens** Dozier. Tex.; West Indies. Host: ? *Antonina graminis* (Mask.).

Anagyrus graminicolens Dozier, 1937. Univ. P. R. Jour. Agr. 21: 123. ♀. [This may be a synonym of *Cerchysius pulchricornis* Howard, 1894, described from St. Vincent, W. I.].

pallidipes Ashmead. N. Y. south to Fla. west to Tex.

*Genus **NEODUSMETIA** Kerrich

Neodusmetia Kerrich, 1964. Entomophaga 9: 76.

Type: *Dusmetia sangwani* Subba Rao. Orig. desig.

Taxonomy: Burks, 1958 (1957). Brooklyn Ent. Soc. Bul. 52: 124-125.—Richards, 1958. Roy. Ent. Soc. London Proc., ser B, 27: 61.—Kerrich, 1964, *loc. cit. supra*, pp. 75-77.

Insert in Encyrtinae following *Anagyrsus* Howard, p. 476.

**sangwani* (Rao). Tex., Ariz.; Hawaii, Mexico, India, Pakistan. Host: *Antonina graminis* (Mask.).

Dusmetia sangwani Rao, Dec. 1957. Indian Acad. Sci. Proc. 46: 385. ♀, ♂.

**Dusmetia indica* Burks, Jan. 1958 (1957). Brooklyn Ent. Soc. Bul. 52: 125. ♀, ♂. (Syn. by Narayanan, Subba Rao, and Rao, 1960. Natl. Inst. Sci. India Proc. 26: 175.)

Biology: Dean, Schuster, and Bailey, 1961. Jour. Econ. Ent. 54: 953.—Beardsley, 1961. Hawaii. Ent. Soc. Proc. 17: 327.—Kerrich, 1964, *loc. cit. supra*, p. 75.

Genus **COMPERIA** Gomes, p. 476

merceti (Compere). Calif.

Biology: Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 244, 255, 351.

Genus **APOANAGYRUS** Compere, p. 476

californicus Compere. Ariz.

Genus **ECTROMATOPSIS** Compere, p. 476

americana (Howard). Tex., Ariz., Nev.; Mexico.

*Genus **HUNGARIELLA** Erdős

(= *Tetracnemus* of Catalog, pp. 447-478)

Hungariella Erdős, 1946. Mus. Natl. Hungarici Ann. Hist.-Nat. 39: 144.

Type: *Hungariella piceae* Erdős. Orig. desig.

Delete generic syn. in Catalog, p. 477, under *Tetracnemus*; *Charitopus* Foerster extralimital and valid.

Taxonomy: Erdős, 1955. Acta Zool. [Budapest] 1: 218.—Hoffer, 1959. Mus. Nat. Pragae, Acta Ent. 33: 13-14.—Hoffer, 1960. Mus. Nat. Pragae, Acta Faun. Ent. 6: 101.

peregrina (Compere). Calif.; S. Africa, S. America. Hosts: *Pseudococcus gahani* Green, *P. maritimus* (Ehrh.).

Biology: Clausen, 1956, *loc. cit. supra*, p. 130.

pretiosus (Timberlake). Calif.; Australia. Host: *Pseudococcus maritimus* (Ehrh.).

Biology: Clausen, 1956, *loc. cit. supra*, p. 130.—Bartlett and Lloyd, 1958. Jour. Econ. Ent. 51: 92.

*Genus **TETRACNEMUS** Westwood

(= *Tetracladia* Howard of Catalog, p. 478)

Paracalocerinus Girault, 1915; Catalog, p. 503.

Masia Mercet, 1919; Catalog, p. 503.

**Anusiella* Mercet, 1923. Real Soc. Esp. Hist. Nat. Bol. 23: 286.

Type: *Anusiella heydeni* Mercet. Orig. desig.

**Placoceras* Erdős, 1946. Frag. Faun. Hung. 9: 1.

Type: *Placoceras colocense* Erdős. By monotypy.

Taxonomy: Erdős, 1955, *loc. cit. supra*, p. 221-223.—Hoffer, 1960, *loc. cit. supra*, p. 101.

americanus (Girault). Transf. from *Paracalocerinus* Girault, p. 503, *teste* Peck, 1963, *loc. cit. supra*, p. 347.

marylandia (Girault). Transf. from *Paracalocerinus* Girault, p. 503, *teste* Peck, 1963, *loc. cit. supra*, p. 347.

tertius (Girault). Transf. from *Paracalocerinus* Girault, p. 503 *teste* Peck, 1963, *loc. cit. supra*, p. 347.

Genus **TETRACNEMOPSIS** Ashmead, p. 478

westwoodi (Cockerell). Que., Maine.

Genus **PENTACNEMUS** Howard, p. 478

bucculatricis Howard. Calif. Host: *Argyresthia pilatella* Braun.

Genus **LEPTOMASTIDEA** Mercet, p. 479

abnormis (Girault).

Biology: Clausen, 1956, *loc. cit. supra*, p. 109.

Genus **ENCYRTUS** Latreille, pp. 479-480

***Allorhypoideus** Brèthes, 1916. Buenos Aires Mus. Nac. Hist. Nat. Ann. 27: 425.

Type: *Allorhypoideus mirabilis* Brèthes. Orig. desig.

Taxonomy: Masi, 1921. [Genova]. Mus. Civ. di Stor. Nat. Ann., ser. 3, 9: 239.

fuscus (Howard).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

peckhamii (Ashmead). Que. and Ont. south to N. C., west to Wis. and Tenn. Host: *Eulecanium quercifex* (Fitch).

Genus **PARALITOMASTIX** Mercet, p. 481

pyralidis (Ashmead).

Biology: Clausen, 1956, *loc. cit. supra*, p. 22.

Genus **COPIDOSOMA** Ratzeburg, pp. 481-483

Taxonomy: De Santis, 1963. Com. Inv. Cient. Prov. B. A. An. 4: 278-280, 284, 299-300.

bakeri (Howard), new status. N. B. and Ont., south to Mass., west to Alta. and Calif. Hosts: 10 spp. of Noctuidae, listed in Catalog under subspp. of **bakeri**, p. 482.

Copidosoma bakeri bakeri (Howard) of Catalog, raised to sp. by Peck, 1963, *loc. cit. supra*, p. 361.

Berecynthus bakeri var. *arizonensis* Girault, 1916 (syn. by Peck, 1963, *loc. cit. supra*, p. 361).

Berecynthus bakeri var. *gemma* Girault, 1916 (syn. by Peck, 1963, *loc. cit. supra*, p. 361).

Berecynthus bakeri var. *euxoae* Strickland, 1916 (syn. by Peck, 1963, *loc. cit. supra*, p. 361).

***deceptor** Miller. Throughout Canada and north. U. S. Hosts: *Epinotia nana* (Treit.), *Acleris variana* (Fern.), *Duvita vittella* Busck, *Eucordylia huntella* Kief., *Recurvaria apictripunctella* Clem., *R. canusella* Free., *R. milleri* Busck, *R. morconella* Hein., *R. nanella* (Hbn.), *R. starki* Free., *R. thujaella* Kearf., *Exoteleia dodecella* (L.), *E. pinifoliella* (Cham.), *Argyresthia aureoargentella* Brower.

Copidosoma deceptor Miller, 1958. Pan-Pacific Ent. 34: 58. ♀, ♂.

Biology: Stark, 1961. Canad. Jour. Zool. 39: 895.—Telford, 1961. Jour. Econ. Ent. 54: 348.—Richards, 1963. Canad. Ent. 95: 519.

gelechiae Howard, new status.

Copidosoma gelechiae gelechiae (Howard) of Catalog, raised to sp. by Peck, 1963, *loc. cit. supra*, p. 363.

Copidosoma gelechiae var. *saga* Girault, 1920 (syn. by Peck, 1963, *loc. cit. supra*, p. 364).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.—Miller, 1963. Ohio Jour. Sci. 63: 71.

geniculatum (Dalman). Ont.; Europe. Host: *Rhyacionia frustrana* (Comst.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

lymani Howard. Wis. Host: *Rhyacionia buoliana* (Schiff.)

Genus **CERCHYSIUS** Westwood, p. 483

hubbardii Ashmead. Mont., Idaho, Ariz.

marylandicus Girault. N. H., Ind.

pallipes (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1257.

Genus **BAEOCHARIS** Mayr, p. 483

***pascuorum** Mayr. N. H.; Europe. Host: *Eriopeltis festucae* Fonsc.

Baeocharis pascuorum Mayr, 1875. Zool. Bot. Ges. Wien. Verh. 25: 768.

♀, ♂.

Genus **CHALCASPIUS** Howard, p. 484

pergandei Howard. Okla., Tex.

Genus **BOTHRIENCYRTUS** Timberlake, p. 484

planiformis (Howard). Hosts: *Hemerobius pacificus* Banks; reared from cocoons of undet. Hemerobiidae.

Genus **PENTELICUS** Howard, p. 485

Taxonomy: Kerrich, 1963. Beitr. z. Ent. 13: 364.

aldrichi Howard. N. H., Nebr.

Genus **HEMAENASIUS** Ashmead, p. 485

confusus Ashmead. Nebr.

Genus **TRICHOMASTHUS** Thomson, p. 485

Taxonomy: Alam, 1957. Roy. Ent. Soc. London Trans. 109: 446-447.

***albimanus** Thomson. N. H., Minn.; Europe. Host: *Eriopeltis festucae* Fonsc.

Trichomasthus albimanus Thomson, 1875. Hym. Scand., v. 4, p. 144. ♀,

♂.

Taxonomy: Alam, 1957, *loc. cit. supra*, p. 447.

***cyaneus** (Dalman). N. H., Mass.; Europe. Host: *Eriopeltis festucae* Fonsc.

Encyrtus cyaneus Dalman, 1820. Svenska. Vetensk. Akad. Handl. 41: 160. ♀.

Taxonomy: Alam, 1957, *loc. cit. supra*, pp. 447, 450.

cyanifrons (Dalman). N. H.

Taxonomy: Alam, 1957, *loc. cit. supra*, p. 447.

*Genus **MIRA** Schellenberg

Mira Schellenberg, 1803. Gen. des Mouch., p. 68.

Type: *Mira macrocera* Schellenberg. By monotypy.

Insert in Encyrtinae following *Trichomasthus* Thomson, p. 485.

***macrocera** Schellenberg. Idaho; Europe.

Mira macrocera Schellenberg, 1803. Gen. des Mouch., pp. 68-69.

*Genus **HAMBLETONIA** Compere

Hambletonia Compere, 1936. Hawaii. Ent. Soc. Proc. 9: 172.

Type: *Hambletonia pseudococcina* Compere. By monotypy.

Insert in Encyrtinae after *Discodes* Foerster, p. 485.

***pseudococcina** Compere. Fla., Tex., Calif; Hawaii, West Indies, Brazil.

Host: *Dysmicoccus brevipes* (Ckll.).

Hambletonia pseudococcina Compere, 1936. Hawaii. Ent. Soc. Proc. 9: 173. ♀, ♂.

Biology: Carter, 1937. Jour. Econ. Ent. 30: 370.—Plank, 1938. P. R. Expt. Sta. Rpt. for 1937, pp. 98-99.—Bartlett, 1939. P. R. Univ. Jour. Agr. 23: 67-71.—Clausen, 1956, *loc. cit. supra*, p. 106.

Genus HOMALOTYLUS Mayr, p. 486

**Lepidaphycus* Blanchard, 1936. Soc. Ent. Arg. Rev. 8: 13.

Type: *Lepidaphycus bosqi* Blanchard. Orig. desig.

Taxonomy: d'Araujo e Silva, 1945 (1944). Bol. Fitossanit. (Brazil) 1: 29.—Hoffer, 1959. Acta Ent. Mus. Nat. Pragae 33: 30.—De Santis, 1963. Com. Inv. Cient. Prov. B. A. An. 4: 162 (*Echthroplexis* Foerster).

Genus ANISOTYLUS Timberlake, p. 487

pallentipes Timberlake. Mo.

Genus PRIONOMITUS Mayr, p. 487

mitratus (Dalman). B. C., Calif.; Europe. Hosts: Nymphs of Psyllidae.

Biology: Jensen, 1957. Hilgardia 27: 72-78, 87-89, 92-95.

Genus PSYLLAEPHAGUS Ashmead, pp. 487-488

pachypsyllae (Howard). Calif. Hosts: *Pachypsylla celtidisvesicula* Riley, *P. venusta* (O. S.), *Trioza beameri* Tuthill.

Biology: Jensen, 1957, *loc. cit. supra*, pp. 79, 95.

trioziphagus (Howard). Ariz. Host: *Kuwayama medicaginis* (Cwfd.).

Biology: Cazier, 1964. Pan-Pacific Ent. 40: 73.

Genus MICROTERTYS Thomson, pp. 488-489

**Apentelicus* Fullaway, 1913. Hawaii. Agr. Expt. Sta. Ann. Rpt. 1912, p. 26.

Type: *Apentelicus kotinskyi* Fullaway. Orig. desig.

Taxonomy: Timberlake, 1919. Hawaii. Ent. Soc. Proc. 4: 184.

flavus (Howard). Cosmopolitan.

Biology: Bartlett and Lagace, 1961. Ent. Soc. Amer. Ann. 54: 222-227.

—Bartlett, 1964. Ent. Soc. Amer. Ann. 57: 344.—Bartlett and Ball, 1964. Ent. Soc. Amer. Ann. 57: 496-503.

Taxonomy: Annecke, 1962. Ent. Soc. S. Afr. Jour. 25: 174, 175.

Genus ISODROMUS Howard, p. 489

iceryae Howard. Hosts: *Chrysopa bimaculata* McCl., *C. cubana* Hagan, *C. sanchezi* Navas.

**montanus* Slosson. N. H. Host: *Chrysopa* sp.

Isodromus montanus Slosson, 1895. Ent. News 6: 278. [Type lost, but this may be *Isodromus vinulus* (Dalman), subsequently collected in P. E. I.]

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 395.

montinus (Packard). Colo.

puncticeps (Howard). N. J., Pa., Kans.

**vinulus* (Dalman). P. E. I.; Europe.

Encyrtus vinulus Dalman, 1820. Svenska Vetensk. Akad. Handl. 41: 160.

Taxonomy: Hellen, 1949. Notulae Ent. 29: 46 (*Nobrimus* Thomson).

Genus COCCIDENCYRTUS Ashmead, p. 490

**Coccidencyrtoides* Blanchard, 1940. Soc. Cient. Arg. An. 130: 107.

Type: Not desig.

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 59-61.

ochraceipes Gahan. Calif.; Hawaii, Brazil.

Genus PSEUDAPHYCUS Clausen, pp. 490-491

Taxonomy: Hoffer, 1960. Mus. Nat. Pragae Acta Faun. Ent. 6: 94-96.

malinus Gahan. Holarctic.Biology: Clausen, 1956, *loc. cit. supra*, p. 125.Taxonomy: Jasnoch, 1957. Ent. Obozr. 36: 720.—Hoffer, 1960, *loc. cit. supra*, pp. 95, 97.—Sugonyaev, 1962. Akad. Nauk S. S. S. R. Izv., ser. Biol., 5: 757.**Genus ACEROPHAGUS E. A. Smith, p. 491****notativentris** (Girault).

Biology: Flanders, 1959. Jour. Econ. Ent. 52: 72.

Genus APHYCUS Mayr, pp. 492-495**Aphycus** subg. **Aphycaspis** Hoffer, 1954. Ochr. Prir. 9: 170. N. syn.

Type: Not desig.; 2 spp. incl.

Taxonomy: Compere, 1957. Portici Lab. Ent. Agr. Bol. 15: 221-230 (*Metaphycus*).—Compere and Annecke, 1960. Ent. Soc. S. Afr. Jour. 23: 375-389.**alberti** Howard. Calif.; Australia, Hawaii.Taxonomy: Compere, 1957, *loc. cit. supra*, pp. 222-224.**apicalis** (Dalman). [N. Amer. record almost certainly an error.]Taxonomy: Compere and Annecke, 1960, *loc. cit. supra*, p. 377-378.**bifasciatus** (Timberlake).Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 39, 44 (*Waterstonia* Mercet).**californicus** Howard.

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 34.

eriococci Timberlake. Fla., Tex. Host: *Coccus hesperidum* (L.).**eruptor** Howard. Host: *Ceroplastes floridensis* Comstock.**flavus** Howard. Cosmopolitan. Hosts: *Coccus hesperidum* (L.), *Saissetia oleae* (Bern.).Taxonomy and Biology: Compere, 1957, *loc. cit. supra*, pp. 229-230.**hederaceus** (Westwood).Taxonomy: Compere, 1957, *loc. cit. supra*, p. 222.—Graham, 1959. Ent. Tidskr. 79: 173.**helvolus** Compere.Taxonomy: Compere, 1957, *loc. cit. supra*, p. 223.Biology: Clausen, 1956, *loc. cit. supra*, pp. 80-81.—Flanders, 1959. Jour. Econ. Ent. 52: 74, 596-599.—Damaino, 1963. Rev. di Agr. Subtrop. e Trop. 57: 452.**lounsburyi** Howard. Hawaii. Host: *Saissetia hemispherica* (Targ.).Biology: Clausen, 1956, *loc. cit. supra*, p. 81.—Beardsley, 1962. Hawaii. Ent. Soc. Proc. 18: 16.**luteolus** Timberlake.Taxonomy: Compere, 1957, *loc. cit. supra*, p. 229.Biology: Flanders, 1959, *loc. cit. supra*, p. 74.—Bartlett and Ball, 1964. Ent. Soc. Amer. Ann. 57: 496-503.**maculipes** Howard. Tex.**mexicanus** Howard. La.; Mexico. Delete Pa. from range.**pulvinariae** Howard.Taxonomy: Compere and Annecke, 1961, *loc. cit. supra*, p. 34.**stanleyi** (Compere).Biology: Clausen, 1956, *loc. cit. supra*, pp. 81-82.**Genus OEOENCYRTUS, p. 496**

Taxonomy: Hoffer, 1963. Mus. Nat. Pragae Acta Ent. 35: 560-563 (div. of genus into subgenera).

clisiocampae (Ashmead). Md., Ark., N. Mex., Idaho, Utah. Host: *Malacosoma fragile* (Str.), prob. secondary par.

kuwanai (Howard). N. Y.; Japan, Europe.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 116-118.—Templado, 1957. Inst. Biol. Barcelona, Apl. Pubs. 25: 119.—Hitchcock, 1959. Jour. Econ. Ent. 52: 764.—Tadic, Vasic, and Salatic, 1959. Zast. Bilja 52-53: 47-52.—Dowden, 1961. Jour. Econ. Ent. 54: 876.—Bjegovic, 1963. Zast. Bilja 14: 544.

***submetallicus** (Howard). Fla.; West Indies, Brazil, Philippines. Host: *Nezara viridula* (L.).

Encyrtus submetallicus Howard, 1896. Linn. Soc. London Jour., Zool. 26: 151. ♀.

Genus SYRPHOPHAGUS Ashmead, p. 497

quadrimaculati (Ashmead), corrected spelling of *quadrimaculatae* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 433.

Genus PSEUDENCYRTUS Ashmead, p. 497

cecidomyiae (Howard). Que., Ont., N. H., Mich. Host: *Rhabdophaga strobiloides* (O. S.).

Genus HOLCENCYRTUS Ashmead, p. 497

physokermis Girault. Que., Maine., N. H.

Genus CHEILONEURUS Westwood, pp. 497-498

elegans (Dalman). [All forms currently under this name may not be conspecific.]

Biology: Ferrière, 1952. Ninth Int. Cong. Ent. Amsterdam Trans. v. 1, p. 594.—Ferrière, 1956. Lab. Zool. Gen. e Agr. Portici Bol. 33: 354.—Sugonyaev, 1958. Ent. Obozr. 37: 309.

Taxonomy: Claridge, 1958. Ent. Mo. Mag. 94: 157.

inimicus Compere. Fla., Tex.

Genus CHRYSOPOPHAGUS Ashmead, p. 499

americanus (Perkins). Calif.; Hawaii.

amplicornis (Gahan). Ariz., Calif. Hosts: *Dactylopius* sp. on *Opuntia Antonina graminis* (Mask.), poss. sec. parasite.

compressicornis Ashmead. Hosts: Hyperparasite of *Chrysopa* spp.

Biology: Muma, 1959. Fla. Ent. 42: 151-152.

Genus HABROLEPIS Foerster, pp. 499-500

rouxi Compere.

Biology: Clausen, 1956, *loc. cit. supra*, p. 106.—Flanders, 1956. Lab. Zool. Gen. e Agr. Portici Bol. 33: 15-16, 25.—Smith, 1957. Canad. Ent. 89: 219-228.—Doutt, 1959. Ann. Rev. Ent. 4: 170-171.—Annecke, 1963. Ent. Soc. S. Afr. Jour. 26: 207.

Genus ADELENCYRTUS Ashmead, p. 500

Taxonomy: Compere and Annecke, 1961, *loc. cit. supra*, pp. 47-49 (key to spp.).

aulacaspidis (Brèthes). Nebr.; S. America, Europe.

Genus ANICETUS Howard, p. 500

annulatus Timberlake. Tex.; Mexico, Hawaii, Japan, China. Host: *Coccus hesperidum* L.

***toumeyellae** Milliron. Del., Va. Host: *Toumeyella liriodendri* (Gmel.).

Anicetus toumeyellae Milliron, 1959. Ent. Soc. Amer. Ann. 62: 29. ♀, ♂.

Genus ZARHOPALUS Ashmead, p. 501

inquisitor (Howard). Md., Ariz.; Mexico, West Indies. Host: *Ferrisiana virgata* (Ckll.).

Genus Coccobius Ratzeburg, p. 501

Delete; extralimital.

diaspidis Ashmead. Syn. of *Arrhenophagus chionaspidis* Aurivillius, p. 507.

Genus PSEUDHOMALOPODA Girault, p. 501

prima Girault.

Biology: Clancy *et al.*, 1963. Jour. Econ. Ent. 56: 604.

Genus EUSEMION Dahlbom, pp. 501-502

***corniger** (Walker). N. H.; Europe. Hosts: *Lepidosaphes ulmi* (L.), *Lecanium corni* Behé, *Pulvinaria vitis* (L.), other spp. in European lit.

Encyrtus corniger Walker, 1837. Ent. Mag. 5: 114. ♀.

Taxonomy: Ferrière, 1949. Schweiz. Ent. Ges. Mitt. 22: 383.

Biology: Schmutterer, 1951. Ztschr. f. Angew. Ent. 33: 121.—Zak-Ogaza, 1961. Polskie Pismo Ent. 31: 365.

*Genus COELOPENECYRTUS Timberlake

Coelopencyrtus Timberlake, 1919. Ent. Soc. Hawaii Proc. 4: 218.

Type: *Coelopencyrtus odyneri* Timberlake. Orig. Desig.

**Nesencyrtus* Timberlake, 1919, *loc. cit. supra*, p. 223.

Type: *Adelencyrtus kaalae* Ashmead. Orig. desig.

Taxonomy: Burks, 1958. Wash. Acad. Sci. Jour. 48: 22.—Tryapitzin, 1960. Ent. Obozr. 39: 697.

Insert in Encyrtinae following *Atropates* Howard, p. 502.

***hylaei** Burks. Md., Nebr. Hosts: *Hylaeus cressoni* (Ckll.), *Hylaeus* sp.

Coelopencyrtus hylaei Burks, 1958. Wash. Acad. Sci. Jour. 48: 25. ♀, ♂.

Biology: Brandhorst, 1962. Ent. Soc. Amer. Ann. 55: 477.

***hylaeoleter** Burks. Ont., Idaho, Utah. Host: *Hylaeus* sp.

Coelopencyrtus hylaeoleter Burks, 1958. Wash. Acad. Sci. Jour. 48: 24.

♀, ♂.

Genus XANTHOENCYRTUS Ashmead, p. 502

Delete *Mirastymachus* Girault from syn. and transf. to syn. under *Rhopus* Foerster, *infra*.

Taxonomy: Ghesquière, 1956. Lab. Zool. Gen. e Agr. Portici Bol. 33: 683-689, 692-695.

americanus (Girault). Transf. to *Rhopus* Foerster.

nigroclavatus Ashmead. Md., Va., Nebr.

*Genus RHOPUS Foerster

(= *Xanthoencyrtus* Ashmead of Catalog, p. 502, in Part)

Rhopus Foerster, 1856. Hym. Stud., v. 2, pp. 34, 37, 151.

Type: *Encyrtus piso* Walker. Orig. desig.

Mirastymachus Girault, 1915 (transf. from syn. under *Xanthoencyrtus* Ashmead, *teste* Ghesquière, 1956, *loc. cit. supra*, p. 689).

Taxonomy: Ghesquière, 1956, *loc. cit. supra*, pp. 683-692.

Insert in Encyrtinae following *Xanthoencyrtus* Ashmead, p. 502.

americanus (Girault). Del., Oreg. Transf. from *Xanthoencyrtus* Ashmead, *teste* Ghesquière, 1956, *loc. cit. supra*, p. 698.

Genus PAURIDIA Timberlake, p. 502

peregrina Timberlake. Calif.; Hawaii, China. Host: *Pseudococcus citri* (Risso).

Genus **PLAGIOMERUS** Crawford, p. 502

diaspidis Crawford. Fla., Tex.; Mexico. Delete D. C. from range.

*Genus **TRECHNITES** Thomson

(= *Psylledontus* Crawford of Catalog, pp. 502-503)

Trechnites Thomson, 1875. Hym. Scand., v. 4, p. 118.

Type: *Metallon fuscitarsis* Thomson. By monotypy.

Taxonomy: Hoffer, 1960. Mus. Nat. Pragae Acta Faun. Ent. 6: 109.—
Ferrière, 1961. Entomophaga 6: 39-40.

insidiosus (Crawford). Calif.

Taxonomy: Ferrière, 1961, *loc. cit. supra*, p. 41.

Biology: Madsen, Westigard, and Sisson, 1963. Canad. Ent. 95: 842-843.

Genus **AGROMYZAPHAGUS** Gahan, p. 503

detrimentosus Gahan. Wis., Iowa, Utah, Calif.

Genus *Paracalocerinus* Girault, p. 503

Transf. to syn. under **Tetracnemus** Westwood (= *Tetracladia* Howard of Catalog, p. 478); transf. included spp. to **Tetracnemus** Westwood *supra*, not *Tetracnemus* of Catalog, p. 477.

Genus **IXODIPHAGUS** Howard, p. 503

texanus Howard. Iowa, Mont.

Taxonomy: Quaraiishi, 1958. Amer. Midland Nat. 59: 489-504.

Genus **HUNTERELLUS** Howard, pp. 503-504

hookeri Howard. Cosmopolitan.

Taxonomy: Quaraiishi, 1958, *loc. cit. supra*, pp. 489-504.

Biology: Klyushkina, 1958. Zool. Zhur. 37: 1561.—Ushakova, 1962.
Akad. Nauk Kazakh. SSR Inst. Zool. Trudy 16: 183.

Genus **PARALEUROCERUS** Girault, p. 504

**Gibberella* Miller, 1961. Canad. Ent. 93: 494. N. syn.

Type: *Gibberella scutellata* Miller. Orig. desig.

bicoloripes Girault. N. S., Ont., N. H., Mass., Conn., Mich., Tex. Hosts:
Lithocolletis caryaefoliella (Clem.), *L. lucetiella* Clem., *L. cincin-*
natiella (Chamb.), *L. spp.*

**Gibberella scutellata* Miller, 1961. Canad. Ent. 93: 496. ♀, ♂. N. syn.;
types examined.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 87.

Genus **FORMICENCYRTUS** Girault, p. 504

thoreauini Girault. Ariz.

Genus **COMPERIELLA** Howard, pp. 504-505

bifasciata Howard. Fla., Calif.; Japan.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 96-97.—Flanders, 1956. Por-
tici Lab. Zool. Gen. e Agr. Bol. 33: 25-26.—Smith, 1957. Canad.
Ent. 89: 219-228.—Teran and DeBach, 1963. Rev. Agron. No-
roeste Arg. 4: 5-23.

Genus **COCCIDOXENUS** Crawford, p. 505

mexicanus Girault. Ariz.; Mexico, West Indies.

nubilipennis (Girault). Va.

Genus **QUAYLEA** Timberlake, p. 505

whittieri (Girault). Calif.; Hawaii, Australia.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 125-126.

Genus ANARHOPUS Timberlake, p. 505

sydneyensis Timberlake. Calif.; Australia.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 75, 130.—Flanders, 1959. Jour. Econ. Ent. 52: 75.

Genus PSEUDORHOPUS Timberlake, pp. 505-506

Taxonomy: Alam, 1957. Roy. Ent. Soc. London Trans. 109: 459-460.

hartmani Timberlake.

Taxonomy: Alam, 1957, *loc. cit. supra*, p. 460.

Subfamily ARRHENOPHAGINAE

Genus ARRHENOPHAGUS Aurivillius, pp. 506-507

Taxonomy: Man Mohan, 1963. Ztschr. f. Parasitenk. 22: 394.

chionaspidis Aurivillius.

Coccobius diaspidis Ashmead, 1900 (syn. by Ghesquière, *in litt.*).

Taxonomy: Tachikawa, 1957. Jap. Jour. Appl. Ent. and Zool. 1: 174.

Biology: Bénassy, 1958. Acad. Sci. (Paris) Compt. Rend. 246: 180.—Tachikawa, 1958. Ins. Mats. 21: 118.—Bénassy, 1961. Ann. des Épi-phyt., ser. C, 12: 42.

Family EUELMIDAE

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 131-132.

Genus METAPELMA Westwood, p. 507

schwarzi (Ashmead). Ark., Oreg.

Genus EUSANDALUM Ratzeburg, pp. 507-508

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 472.

acmaeoderae Rohwer, change to Girault.

Eusandalum acmaeoderae Girault, Mar. 1917.

Eusandalum acmaeoderae Rohwer, June 1917.

Genus CALOSOTA Curtis, p. 508

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 138-139.

longiventris (Ashmead). Idaho.

Genus EUELMUS Dalman, pp. 508-511

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 135.

allynii (French). Hosts: *Bruchophagus* spp., *Antistrophus pisum* (Walsh) galls on *Lygodesmia*.

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 285-286.—Neunzig and Gyrisco, 1959. Jour. Econ. Ent. 52: 900-901.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 98-99.—Brandhorst, 1964. Ent. Soc. Amer. Ann. 57: 75-76.

cyaniceps amicus Girault. Mass. Host: *Dioryctria disclosa* Hein.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 87.—Allen, 1962, *loc. cit. supra*, pp. 97-98.

cyaniceps cyaniceps Ashmead. Calif.

Biology: Allen, 1962, *loc. cit. supra*, pp. 96-97.

Taxonomy: Finlayson, 1962. Canad. Ent. 94: 277, 278-279 (imm. stages).

brevicauda (Crawford). Calif.

inyoensis Girault. Host: *Pimplopterus* sp.

Biology: Tilden, 1951. Microent. 16: 164, 173.

limneriae Howard.

Biology: Allen, 1962, *loc. cit. supra*, pp. 93-95.

neococcidis Peck. Host: *Tenodera angustipennis* Sauss.

Biology: Gurney, 1959. Ent. Soc. Wash. Proc. 61: 23.

pini Taylor. N. H.

popa Girault. Okla.; Hawaii, West Indies, Cent. and S. America, Orient, Australia.

Biology: Passlow, 1958. Queensl. Jour. Agr. Sci. 15: 35.—Harris, 1961. Bul. Ent. Res. 52: 134.

rhizophelus Brues. Syn. of *Eupelmella dryorhizoxeni* (Ashmead).

spongipartus Foerster. N. B., Ont., Wis.; Europe. Hosts: *Diprion similis* (Htg.), *Apanteles solitarius* (Ratz.).

Biology: Reeks and Smith, 1956. Canad. Ent. 88: 572.—Allen, 1962, *loc. cit. supra*, pp. 95-96.

Taxonomy: Finlayson, 1962. Canad. Ent. 94: 277, 279 (imm. stages).

***urozonus** Dalman. N. J., Md.; Europe. Host: ? *Bruchidius ater* (Marsh.).
Eupelmus urozonus Dalman, 1820. Svenska Vetensk. Akad. Handl. 41: 378. ♀.

Biology: Leonide, 1960. Soc. Ent. France Bul. 65: 274, 279.—Rivosecchi, 1960. Parassitol. 2: 289.—Féron, Bénard, and Poitout, 1961. Entomophaga 6: 180.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 135-137.

Genus ARACHNOPHAGA Ashmead, pp. 511-512

costalis Gahan.

Biology: Allen, 1962, *loc. cit. supra*, p. 100.

frontalis Gahan.

Biology: Allen, 1962, *loc. cit. supra*, pp. 99-100.

longicornis (Brues).

Biology: Allen, 1962, *loc. cit. supra*, p. 100.

picea (Riley).

Biology: Cazier and Mortenson, 1962. So. Calif. Acad. Sci. Bul. 61: 74, 83-84.

Genus EUPELMELLA Masi, p. 512

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 492 (*Macroneura*).

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 132.

canadensis (Provancher). Syn. of **vesicularis** (Retzius).

dryorhizoxeni (Ashmead). Mass. south to Fla. west to Kans.

Eupelmus rhizophelus Brues, n. syn.; types examined.

vesicularis (Retzius). Holarctic.

Theocolax canadensis Provancher, 1883 (syn. by Burks, 1964, *loc. cit. supra*, p. 1262).

Taxonomy: Finlayson, 1960. Canad. Ent. 92: 37, 38, 44 (imm. stages).—Hedqvist, 1963, *loc. cit. supra*, pp. 133-134.

Biology: Allen, 1962, *loc. cit. supra*, pp. 100-101.

Genus ANASTATUS Motschulsky, pp. 513-514

blattidarum Ferrière. Syn. of **tenuipes** Bolivar y Pieltain.

disparis Ruschka.

Biology: Clausen, 1956, *loc. cit. supra*, p. 76.—Karnozitzky, 1957. Bulg. Akad. Nauk. Zool. Inst. Trudov 4: 37, 97.—Templado, 1957. Inst. Biol. Apl. Pubs. Barcelona 25: 126.—Vasic and Salatic, 1959. Zast. Bilja 52-53: 45.—Stefanov and Keremedziev, 1961. Viss. Lesot. Inst. Sofia Nauch. Trudove 9: 162.—Tadic, 1961. Zast. Bilja 13: 63-64.—Salatic, 1963. Zast. Bilja 14: 693-699.

floridanus Roth and Willis.

Biology: Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 245-246.

mantis (Ashmead). Ga., Ill., Miss., Okla., Tex.

microcentri Gahan. Kans., Tex., Ariz.

semiflavidus Gahan. Calif.

***tenuipes** Bolivar y Pieltain. N. Hemisphere. Host: Egg case of *Supella supellectilium* (Serv.).

Anastatus tenuipes Bolivar y Pieltain, 1925. Soc. Roy. Ent. Égypte Bul. 9: 43. ♀.

Anastatus blattidarum Ferrière, 1930 (syn. by Roth and Willis, 1960, *loc. cit. supra*, p. 246).

Biology: Flock, 1941. Brooklyn Ent. Soc. Bul. 36: 1-4.—Roth and Willis, 1960, *loc. cit. supra*, p. 246-247.

Genus **ENCYRTASPIIS** Ashmead, p. 514

semirufa Gahan. Ariz.

Biology: Allen, 1962, *loc. cit. supra*, pp. 101-102.

Genus **LECANIOBIUS** Ashmead, p. 514

cockerelli Ashmead. Fla.; West Indies, S. America. Host: *Saissetia oleae* (Bern.).

utilis Compere. Calif.; S. America.

Biology: Clausen, 1956, *loc. cit. supra*, p. 108.

*Genus **PHLEBOPENES** Perty

Phlebopenes Perty, 1833. Delect. anim. artic. Brasil., p. 132.

Type: *Phlebopenes splendidus* Perty. By monotypy.

Revision: Roman, 1920. Ark. Zool. 12: 24-30.

Insert in Eupelmidae following *Zaischnopsis* Ashmead, p. 514.

***hetricki** Burks. Md., Ga., Fla.

Phlebopenes hetricki Burks, 1964. Ent. News 75: 1. ♀.

Family EUCHARITIDAE

Genus **PSEUDOCHALCURA** Ashmead, pp. 514-515

californica (Ashmead). Oreg.

gibbosa (Provancher). N. H.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1258.

Genus **PSEUDOMETAGEA** Ashmead, p. 515

Revision: Burks, 1961. Ent. News 72: 253-257.

***bakeri** Burks. Iowa, Wyo., Colo.

Pseudometagea bakeri Burks, 1961. Ent. News 72: 256. ♀, ♂.

hillmeadia Girault. Syn. of **schwarzii** (Ashmead).

schwarzii (Ashmead). Que. and Ont. south to Md. and D. C. west to Wis., Iowa, Nebr. Host: *Lasius neoniger* Emery.

Pseudometagea hillmeadia Girault, 1916 (syn. by Burks, *loc. cit. supra*, p. 255).

Biology: Ayre, 1962. Canad. Jour. Zool. 40: 157-164.

Genus **ORASEMA** Cameron, pp. 515-516

**Semora* Cameron, 1909. Amer. Ent. Soc. Trans. 35: 432-433. Preocc.

Type: *Semora xanthopus* Cameron. Orig. desig.

**Semorella* Ghesquière, 1946. Rev. Zool. Bot. Afr. 39: 368. N. name.

**Semorata* Strand, 1947. Folia Zool. Hydrobiol. 11: 393. N. name.

Taxonomy: Kerrich, 1963. Bul. Ent. Res. 54: 366.

***tolteca** Mann. Ariz.; Mexico. Host: *Pheidole* sp.

Orasema toteca Mann, 1914. Psyche 21: 183-184. ♀, ♂.

Family PERILAMPIDAE

Genus PERILAMPUS Latreille, pp. 517-519

canadensis canadensis Crawford. Hosts: *Ectemnius (Hypocrabro) stirpicola* (Pack.), *E. (H.) continuus* (Fab.), *E. (H.) paucimaculatus* (Pack.), *Euplilis* sp.

Biology: Krombein, 1960. Ent. News 71: 32, 66.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 101-102.

chrysopae Crawford.

Taxonomy: Kerrich, 1958. Opusc. Ent. 23: 82.

fulvicornis Ashmead, changed status. Raised from subsp. to sp. by Peck, 1963, *loc. cit. supra*, p. 517.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 87.—Béique, 1960. Canad. Ent. 92: 859.—Bennett, 1961. Tenn. Acad. Sci. Jour. 36: 353.—Harman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

fulvicornis prothoracicus Smulyan. Raised to sp. rank.

hyalinus Say. [May represent a species complex.]

Biology: Smith, 1958. Canad. Jour. Res. 36: 254-258.—Tripp, 1962. Canad. Ent. 94: 1250-1270.—Becker and Benjamin, 1964. Jour. Econ. Ent. 57: 356.

Taxonomy: Finlayson, 1963. Canad. Ent. 95: 499-500, 501 (imm. stages).—Burks, 1964, *loc. cit. supra*, pp. 1259-1260 (*aciculatus* Provancher).

prothoracicus Smulyan, changed status. Raised from subsp. to sp. by Peck, 1963, *loc. cit. supra*, p. 523.

stygius Provancher. Que. and Maine south to Va. west to Ohio, Kans. and La.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260.

Genus CHRYSOLAMPUS Spinola, p. 539

Taxonomy: Bouček, 1956. Mus. Nat. Pragae Acta Faun. Ent. 1: 87-88.—Kerrich, 1958. Opusc. Ent. 33: 82.

Transf. with component spp. from Pteromalidae, tribe Lamprotatini, and insert in Perilampidae following *Perilampus* Latreille, p. 519.

Genus ELATUS Walker, p. 539

***Parellatus** Girault, 1916. Queensland Mus. Mem. 5: 226.

Type: *Elatus ater* Girault. Orig. desc.

Taxonomy: Bouček, 1956, *loc. cit. supra*, p. 88.

Transf. with component spp. from Pteromalidae, tribe Lamprotatini, and insert in Perilampidae following *Perilampus* Latreille, p. 519.

laevis (Provancher), n. comb. ? Ont. [may be foreign]. Transf. from Unplaced Species, p. 594, *teste* Burks, 1964, *loc. cit. supra*, p. 1260.

Family AGAONIDAE

Genus BLASTOPHAGA Gravenhorst

(= *Blastophagus* Gravenhorst of Catalog, p. 519)

Nomenclature: China, 1960. Bul. Zool. Nomencl. 18: 69-72 (request for validation of *Blastophaga* Gravenhorst, 1829, and suppression of *Blastophagus* Gravenhorst, 1827).—Peck, 1963, *loc. cit. supra*, p. 526 (*Blastophaga*).—I.C.Z.N., 1964. Opinion 694, Bul. Zool. Nomencl. 21: 31-32 (validation of *Blastophaga* Gravenhorst, type *B. grossorum* Grav.).

psenes (Linnaeus). Cosmopolitan.

Bibliography: Condit and Enderud, 1956. Hilgardia 25: 64-85, 616.

Biology: Joseph, 1954. Agra Univ. Jour. Res. (Sci.) 3: 408.—Grandi,

1955. *Accad. Naz. dei Lincei Atti, Mem., Cl. Sci., ser. 8, 5: 3.*—
 Grandi, 1956. *Bologna Univ. Ist. di Ent. Bol.* 21: 111.—Mrak,
 1957. *Food Tech.* 11: 547.—Kuttamathiathu, 1958. *Ann. Sci.*
Nat., Zool. et Biol. Anim., ser. 11, 20: 201.
 Nomenclature: I.C.Z.N., 1964. *Opinion 694, Bul. Zool. Nomencl.* 21: 32
 (validation of *Cynips pscnes* Linnaeus, 1758).

Family TORYMIDAE

Subfamily IDARNINAE

Genus COLYOSTICHUS Mayr, p. 519

- brevicaudis* Mayr, corrected spelling of *brevicauda* of Catalog, *teste* Peck,
 1963, *loc. cit. supra*, p. 530.

*Genus NEOSYCOPHILA Grandi

(= *Sycophila* of Catalog, p. 519)

- Neosycophila* Grandi, 1923. *Genova Mus. Civ. di Stor. Nat. Ann.* 51: 106.

Type: *Neosycophila omeomorpha* Grandi. Orig. desig.

- The genus *Sycophila* Walker is a member of the Eurytomidae, *teste* E.
 F. Riek, *in litt.*

Subfamily TORYMINAE

Genus ALLOTORYMUS Huber, p. 520

- splendens* (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

Genus TORYMUS Dalman, pp. 520-527

- baccharidis* (Huber). Host: *Rhopalomyia californica* Felt.

Biology: Doutt, 1961. *Ent. Soc. Amer. Ann.* 54: 51 (*baccharicidis*).

- bedeguaris* (Linnaeus). Que., Ont., Ill., Iowa, Nebr., Wash.; Europe.

Biology: Judd, 1959. *Canad. Ent.* 91: 728-730.

- brevis* Breland. Minn.

- californicus californicus* (Ashmead). Delete Conn. and Fla. from dist.

- capillaceus* (Huber). Tex., Ariz., Calif. Delete Conn. from dist.

- citripes* (Huber). Host: Gall of *Euaresta bullans* (Wied.) on *Atriplex*.

- druparum* Boheman. Syn. of *varians* (Walker).

- duplicatus* (Huber). Que. and N. H., south to Fla. west to Nebr.

- fagopirum* (Provancher), corrected spelling of *fagopyrum* of Catalog, *teste*
 Peck, 1963, *loc. cit. supra*, p. 541.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

- flavicoxa* (Osten Sacken).

Cleonymus superbis Provancher, 1888 (syn. by Burks, 1964, *loc. cit.*
supra, p. 1257).

- fullawayi* (Huber). Host: *Dryocosmus dubiosus* (Full.).

- fulvus* (Huber). Md., Iowa.

- koebelei* (Huber). Host: *Rhopalomyia californica* Felt.

Biology: Doutt, 1961, *loc. cit. supra*, p. 51.

- longicauda* (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

- pachypsyllae* (Ashmead). Ohio, Kans., Idaho. Host: *Pachypsylla celtidis-*
mamma Riley.

pilularidis (Huber). Host: *Rhopalomyia californica* Felt.

Biology: Doust, 1961, *loc. cit. supra*, p. 51.—Burks, 1965. Ent. News 76: 74-76.

***rugglesi** Milliron. Del., Md., Va. Host: *Ilex opaca* seeds.

Torymus rugglesi Milliron, 1959. Ent. Soc. Amer. Ann. 52: 52. ♀, ♂.

scalaris (Huber). Kans.

strobiloides (Huber). Ont.

superbus (Provancher). Syn. of **flavicoxa** (Osten Sacken).

umbilicatus (Gahan). Md. south to Fla., west to Calif.; Mexico.

***varians** (Walker). N. C., Man.; Europe.

Callimome varians Walker, 1833. Ent. Mag. 1: 122. ♀.

Torymus druparum Boheman, 1834 (1833) (syn. by Olsson, 1957. Växtskyd. 21: 58).

Taxonomy: Eady, 1958. Ent. Mo. Mag. 94: 260 (*Syntomaspis* Foerster).

vesiculi Moser. Idaho.

Genus DIOMORUS Walker, p. 527

biorhizae Ashmead. Prob. a sp. of *Torymus*; type apparently lost. Transf. to Unplaced Species, p. 594.

viridis (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

zabriskiei Cresson. Hosts: *Crossocerus fergusonii* Pate, *Epicrossocherus insolens* (Fox), *Ectennius (Hypocraebro) spiniferus* (Fox), *E. (H.) paucimaculatus* (Pack.), *Euphilis (Corynopus) rufigaster* (Pack.), *E. (C.) arupaho* Pate.

Biology: Krombein, 1960. Ent. News 71: 32, 67.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 102-103.

Subfamily MONODONTOMERINAE

Taxonomy: Szelenyi, 1957. Mus. Nat. Hung. Ann. Hist.-Nat., n.s., 8: 381-388 (key to genera).—Szelenyi, 1960. Acad. Sci. Hung., Acta Zool. 5: 141-146 (rev. key to genera).

Genus LIODONTOMERUS Gahan, p. 528

insuetus Gahan. Nebr., Okla., Utah, Calif. Hosts: *Bruchophagus kolobovae* Fed., *B. roddei* (Guss.), *B. platyptera* (Walk.).

Biology: Neunzig and Gyrisco, 1959. Jour. Econ. Ent. 52: 899-901.

longfellowi (Girault). N. Y., Md., Va., W. Va., Ohio, Mich., Iowa, Utah.

Hosts: *Bruchophagus platyptera* complex.

Biology: Neunzig and Gyrisco, 1959, *loc. cit. supra*, pp. 899-901.

perplexus Gahan. Holarctic. Hosts: *Bruchophagus platyptera* complex.

Biology: Neunzig and Gyrisco, 1959, *loc. cit. supra*, pp. 899-901.

Genus MONODONTOMERUS Westwood, pp. 528-529

aereus Walker. Holarctic; India.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 114-116.—Wilbert, 1960. Entomophaga 5: 203.—Blunck and Wilbert, 1962. Ztschr. f. Angew. Ent. 50: 203.

dentipes (Dalman). Holarctic.

Monodontomerus viridaeneus Provancher (syn. by Burks, 1964, *loc. cit. supra*, p. 1259).

Biology: Finlayson and Finlayson, 1958. Canad. Ent. 90: 558-559.

Taxonomy: Finlayson, 1960. Canad. Ent. 92: 37, 39, 44 (imm. stages).

***mexicanus** Gahan. Ind., Calif.; Mexico. Hosts: *Trypoxylon mexicanum* Sauss., *Stenodynerus vagus* (Sauss.).

Monodontomerus mexicanus Gahan, 1941. U. S. Natl. Mus. Proc. 90: 468. ♀, ♂.

***minor** (Ratzeburg). Conn., N. Y. south to Va. west to Calif.; Europe. Hosts: *Thyridopteryx ephemeraeformis* (Haw.), *Phryganidia californica* Pack., *Samia cynthia* (Drury); recorded as hyperparasite of Lepidoptera in European lit.

Torymus minor Ratzeburg, 1848. Ichn. der Forstins., v. 2, p. 178. ♀, ♂.

Monodontomerus subobsoletus Gahan (syn. by Steffan, 1952. Paris Mus. d'Hist. Nat. Bul., ser. 2, 24: 293).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 102.

montivagus Ashmead. Host: *Megachile rotundata* (Fab.).

obscurus Westwood. Holarctic; Pa., Md., Ga., W. Va., Idaho. Host: *Megachile rotundata* (Fab.).

Taxonomy: Steffan, 1952, *loc. cit. supra*, pp. 289, 290.—Eady, 1958. Ent. Mo. Mag. 94: 269.

subobsoletus Gahan. Syn. of **minor** (Ratzeburg).

Genus ZAGLYPTONOTUS Crawford, pp. 529–530

schwarzi Crawford. Idaho.

Genus GLYPHOMERUS Foerster, p. 530

stigma (Fabricius). Nebr. Delete *Monodontomerus viridaeneus* Provancher from syn. and trans. to syn. under *Monodontomerus dentipes* (Dalman).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

Genus HYPERIMERUS Girault, p. 537

Transf. with included species from Pteromalidae, tribe Asaphini, and insert in Toryminae, following *Glyphomerus* Foerster, p. 530.

corvus Girault. Hosts: *Hemerobius* sp., *Symphherobius* sp.

Genus PSEUDOTORYMUS Masi, p. 530

lazulellus (Ashmead). N. B., Que., and Conn., west to Minn.

Genus ANTISTROPHOPLEX Crawford, p. 531

bicoloripes Crawford. Iowa. Host: *Antistrophus pisum* Walsh gall on *Lygodesmia*.

Biology: Brandhorst, 1964. Ent. Soc. Amer. Ann. 57: 74-77.

Genus MICRODONTOMERUS Crawford, p. 531

anthonomi (Crawford). Calif. Host: *Leptochilus* sp.

fumipennis Crawford. Wyo. south to N. Mex., west to Wash., Oreg., Calif. Host: *Malacosoma californicum* (Pack.).

Biology: Langston, 1957. Univ. Calif. Pubs., Ent. 14: 29-30.

Genus ROPTROCERUS Ratzeburg, Sup. 1, pp. 73, 76

(=*Pachyceras* Ratzeburg et al., Catalog, p. 549)

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 61.

xylophagorum (Ratzeburg). Que. and N. H. south to N. C. and La., west to B. C., Wash., and Ariz.

Biology: Reid, 1957. Canad. Ent. 89: 6-7.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 61-62, 66-70 (*eccoptogastri* Ratzeburg a syn.).—Burks, 1964, *loc. cit. supra*, p. 1261 (*rectus* Provancher).

Subfamily MEGASTIGMINAE

Genus MEGASTIGMUS Dalman, pp. 531–533

**Epimegastigmus* Girault, 1915. Queensland Mus. Mem. 4: 297, 307.

Type: *Xanthosomoides fulvipes* Girault. Orig. desig.

Taxonomy: Milliron, 1949. Amer. Midland Nat. 41: 263.

Biology: Lessmann, 1962. Ztschr. f. Angew. Ent. 49: 363-371 (imm. stages).—Lessmann, 1962. Ztschr. f. Angew. Ent. 50: 233-241 (host plants).

aculeatus aculeatus (Swederus). Ill.

Taxonomy and Biology: Balduf, 1957. Ent. Soc. Amer. Ann. 50: 479-483.—Balduf, 1959. Ill. Biol. Monog. 26, pp. 124-130.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 578 (var.).

aculeatus nigroflavus Hoffmeyer. N. J., and Pa. south to Va., west to Ill.; Japan, Russia.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 579 (var.).

Biology: Balduf, 1959, *loc. cit. supra*, pp. 124-126.

albifrons Walker.

Biology: Keen, 1958, *loc. cit. supra*, pp. 102-105.

americanus Milliron. Cited as *slossonae* Crosby in Catalog in error; latter is a *nomen nudum*, not validated through citation in synonymy. See Art. 11,d of Int. Code Zool. Nomencl.

brevicaudis Ratzeburg, corrected spelling of *brevicauda* of Catalog.

lasiocarpa Crosby. Alta., B. C., Wash. Delete Conn. from distb.

Biology: Keen, 1958, *loc. cit. supra*, p. 105.

milleri Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 106.

nigrovariegatus Ashmead.

Biology and Taxonomy: Balduf, 1957, *loc. cit. supra*, pp. 478-483.—Balduf, 1959, *loc. cit. supra*, pp. 130-145.

picea montana Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 106 (var.).

picea picea Rohwer.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 584 (var.).

Biology: Keen, 1958, *loc. cit. supra*, p. 106.

pinus pinus Parfitt.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 585 (var.).

Biology: Hussey and Klingler, 1954. Ent. Mo. Mag. 90: 198-201 (*pinus* Parfitt and var. *crosbyi* Hoffmeyer).—Keen, 1958, *loc. cit. supra*, pp. 106-108.—Hussey, 1959. Ent. Mo. Mag. 95: 237.

pinus marginatus Hoffmeyer.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 586 (var.).

rafni Hoffmeyer.

Biology: Keen, 1958, *loc. cit. supra*, pp. 108-110.

slossonae Crosby. *Nomen nudum*; see **americanus** Milliron.

specularis Walley.

Biology: Hedlin, 1957 (1956). Canad. Ent. 88: 691-697.

spermatrophus nigrodorsatus Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 111 (var.).

spermatrophus spermatrophus Wachtl.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 587 (var.).

Biology: Hussey, 1955. Roy. Ent. Soc. London Trans. 106: 133-151.—Hedlin, 1958. Ent. Soc. B. C. Proc. 55: 37.—Keen, 1958, *loc. cit. supra*, pp. 110-111.—Hussey, 1959. Ent. Mo. Mag. 95: 237.

tsugae heterophyllae Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 111 (var.).

tsugae tsugae Crosby.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 588 (var.).

Biology: Keen, 1958, *loc. cit. supra*, p. 111.

*Genus **EUMEGASTIGMUS** Hussey

Eumegastigmus Hussey, 1956. Roy. Ent. Soc., London, Proc., ser. B, 25: 157.

Type: *Eumegastigmus hypogea* Hussey. Orig. desig.

Insert in Megastigminae following *Megastigmus* Dalman, p. 533.

**transvaalensis* Hussey. Calif.; S. Africa, Canary Isls. Host: Seeds of *Schinus molle*.

Eumegastigmus transvaalensis Hussey, 1956. Roy. Ent. Soc., London Proc., ser. B, 25: 161. ♀, ♂.

Biology: Harper and Lockwood, 1961. Calif. Dept. Agr. Bul. 50: 129.

Subfamily **PODAGRIONINAE**

Placed in Torymidae in Sup. 1, p. 82.

Taxonomy: Ferrière, 1955. Soc. Roy. Ent. Belg. Mem. 27: 207 (Podagrionidae).

Genus **PODAGRION** Spinola, p. 583

**Cyanostola* Saussure in Grandidier, 1890. Hist. Madagascar 20, Hym. 1, pl. 15, fig. 30.

Type: *Cyanostola coerulea* Saussure. By monotypy.

**Podagrionella* Girault, 1913. Arch. f. Naturgesch. 79 (A) pt. 6: 96.

Type: *Podagrionella bella* Girault. By monotypy.

**Pachytomoidella* Girault, 1913. Wis. Nat. Hist. Soc. Bul. 11: 40.

Type: *Pachytomoidella magniclavus* Girault. Orig. desig.

**Propodagrion* Girault, 1915. Queensland Mus. Mem. 4: 287.

Type: *Propodagrion worcesteri* Girault. Orig. desig.

**Propachytomoides* Girault, 1917. Ins. Ins. Mens. 5: 152.

Type: *Propachytomoides semialbiclavus* Girault. Orig. desig.

Taxonomy: Ferrière, 1955, *loc. cit. supra*, p. 216.

**brasilense* Howard. Fla.; West Indies. Host: Mantid egg mass.

Podagrion brasilensis Howard, 1894. Linn. Soc. London, Jour., Zool. 25: 83. ♀.

Taxonomy: Gahan, 1951. Canad. Ent. 83: 176.

crassiclava Gahan. Fla.; Mexico.

**mantidiphagum* Girault. Ariz.; Mexico, West Indies. Host: Egg mass of undet. mantid.

Podagrion mantidiphagum Girault, 1917. Ent. 50: 37. ♀, ♂.

mantis Ashmead. Calif.; Mexico, Hawaii.

Biology: Gurney, 1959. Ent. Soc. Wash. Proc. 61: 23.

Family **ORMYRIDAE**Genus **ORMYRUS** Westwood, pp. 533-534

**Wania* Risbec, 1951. Inst. Franc. d'Afr. Noire Mém. 13: 294.

Type: *Wania ornata* Risbec. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 591.

brunneipes Provancher, May 1887. Que. and Ont. south to Fla. west to Mich. and Ill. Hosts: Listed under *ventricosus* Ashmead in Catalog, p. 534.

Ormyrus ventricosus Ashmead, Nov. 1887 (syn. by Burks, *loc. cit. supra*, p. 1259).

vacciniicola Ashmead.

Biology: Judd, 1959. Amer. Micro. Soc. Trans. 78: 213-214.

ventricosus Ashmead. Syn. of *brunneipes* Provancher.

Family PTEROMALIDAE

Subfamily SPHEGIGASTERINAE

Genus SPALANGIA Latreille, p. 535

Revision: Bouček, 1963. Mus. Nat. Pragae Acta Ent. 35: 429-512.

drosophilae Ashmead. N., Cent., and S. America, West Indies. Hosts: *Mero-myza americana* Fh., *Oscinella frit* (L.), *O. minor* (Ad.), *O. carbonaria* (Loew), *O. soror* Macq., *Hexacola* sp., *Loxotropa* sp., *Pseudogaurax anchora* (Loew).

Biology: Simmonds, 1952. Bul. Ent. Res. 43: 533.—Simmonds, 1953. Bul. Ent. Res. 44: 773.—Simmonds, 1954. Bul. Ent. Res. 45: 527.—Simmonds, 1956. Bul. Ent. Res. 47: 361-376.

***endius** Walker. Cosmopolitan. Hosts: *Chrysomyia* spp., *Fannia leucosticta* (Meig.), *F. scalaris* (F.), *Haematobia exigua* Meig., *H. irritans* (L.), *Musca domestica* L., *Stomoxys calcitrans* (L.), *Sarcophaga* spp., *Ophyra anthrax* Meig., *Ceratitis capitata* (Wied.). *Dacus dorsalis* Hend., *D. ferrugineus* (F.).

Spalangia endius Walker, 1839. Monog. Chalc., v. 2, p. 96. ♂.

Spalangia muscidarum var. *stomoxysiae* Girault, 1916 (syn. by Bouček, 1963, loc. cit. supra, p. 458).

**Spalangia philippinensis* Fullaway, 1917. Hawaii Ent. Soc. Proc. 3: 292. ♀, ♂. (Syn. by Bouček, 1963, loc. cit. supra, p. 458.)

Spalangia muscidarum var. *texensis* Girault, 1920 (syn. by Bouček, 1963, loc. cit. supra, p. 458).

***erythromera brachyceps** Bouček. ? Conn., ? Ont., ? Sask.; Europe. [N. Amer. specimens ref. to this subsp. with hesitation.]

Spalangia erythromera brachyceps Bouček, 1963. Mus. Nat. Pragae Acta Ent. 35: 471-472. ♀, ♂.

haematobiae Ashmead. Ont. and Alta. south to Va. and Tex.

Taxonomy: Bouček, 1963, loc. cit. supra, pp. 475-476 (*S. impuncta* Howard a possible syn.).

muscae Howard. Syn. of *nigra* Latreille.

muscarum Girault. Syn. of *nigripes* Curtis.

muscidarum Richardson. Syn. of *nigroaenea* Curtis.

***nigra** Latreille. N. Amer.; Europe, West Indies, Hawaii. Hosts: *Musca domestica* L., *Haematobia irritans* (L.), *Stomoxys calcitrans* (L.), *Phorbia antiqua* (Meig.), *Dacus cucurbitae* Coq., *Rhagoletis completa* Cress.

Spalangia nigra Latreille, 1805. Hist. Nat. Crust. Ins., v. 13, p. 288.

**Spalangia hirta* Haliday, 1833. Ent. Mag. 1: 334. ♀. (Syn. by Bouček, 1963, loc. cit. supra, p. 443.)

Spalangia rugosicollis Ashmead, 1894 (Syn. by Bouček, 1963, loc. cit. supra, p. 443).

Spalangia muscae Howard, 1911 (syn. by Bouček, 1963, loc. cit. supra, p. 443).

***nigripes** Curtis. Holarctic: N. America, Europe, Asia. Hosts: *Lucilia* sp., *Fannia leucosticta* (Meig.), *F. scalaris* (F.), *Musca domestica domestica* L., *M. d. vicina* Macq., undet. muscids.

Spalangia nigripes Curtis, 1839. Brit. Ent., v. 16 [3], fol. 740 [p. 2]. ♀.

**Spalangia hyaloptera* Foerster, 1850. Naturhist. Ver. der Preuss. Rheinl. Verhandl. 7: 509. ♀, ♂. (Syn. by Bouček, 1963, loc. cit. supra, p. 461.)

**Spalangia formicaria* Kieffer, 1905. Berlin Ent. Ztschr., 50: 1. ♀. (Syn. by Bouček, 1963, loc. cit. supra, p. 461.)

Spalangia muscarum Girault, 1920 (syn. by Bouček, 1963, loc. cit. supra, p. 461).

- ***nigroaenea** Curtis. Cosmopolitan. Hosts: *Musca domestica domestica* L., *M. d. vicina* Macq., *Musca* spp., *Haematobia exigua* Meig., *Stomoxys calcitrans* (L.), *Sarcophaga* spp., *Chrysomyia* spp., *Lucilia* spp., *Paratheresia claripalpis* (v. d. W.).
- Spalangia nigroaenea** Curtis, 1839. Brit. Ent., v. 16 [3], fol. 740 [p. 2].
♂.
- Spalangia homalaspis** Foerster, 1850. Naturhist. Ver. der Preuss. Rheinl. Verhandl 7: 505. ♀, ♂, (Syn. by Bouček, 1963, *loc. cit. supra*, p. 448.)
- ***Spalangia astuta** Foerster, 1851, *ibid.* 8: 1. ♀. (Syn. by Bouček, 1963, *loc. cit. supra*, p. 448.)
- Spalangia muscidarum** Richardson. 1913 (syn. by Bouček, 1963, *loc. cit. supra*, p. 448).
- rugosicollis** Ashmead. Syn. of **nigra** Latreille.
- stomoxysiae** Girault. Syn. of **endius** Walker.

*Genus **CEROCEPHALA** Westwood

- Cerocephala** Westwood, 1832. Mag. Zool. 2: Cl. ix, pl. 4.
Type: **Cerocephala cornigera** Westwood. By monotypy.
- ***Epimacrus** Walker, 1833. Ent. Mag. 1: 368.
Type: **Epimacrus rufus** Walker. By monotypy.
- ***Sciatheras** Ratzeburg, 1848. Ichn. der Forstins., v. 2, p. 209.
Type: **Sciatheras trichotus** Ratzeburg. By monotypy.
- ***Parasciatheras** Masi, 1917. Nov. Zool. 24: 189.
Type: **Cerocephala caelebs** Masi. By monotypy.
- ***Proamotura** Girault, 1920. Ins. Ins. Mens. 8: 143.
Type: **Proamotura aquila** Girault. By monotypy.
- Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 127-128.
- Insert in tribe Cerocephalini following **Choetospila** Westwood, p. 535.
- ***dubarae** Wallace. Pa. Host: Prob. *Hadrobregmus carinatus* (Say).
Cerocephala dubarae Wallace, 1959. Brooklyn Ent. Soc. Bul. 54: 84. ♀,
♂.

Genus **ACEROCEPHALA** Gahan, p. 536

- atroviolacea** (Crawford). Colo., Calif. Host: *Conophthorus flexilis* Hopk.
Biology: Keen, 1958, *loc. cit. supra*, pp. 49, 98.

Genus **ASAPHES** Walker, p. 536

- All species of **Asaphes** are believed to be secondary parasites of Aphidiidae.
- americanus** Girault. Syn. of **lucens** (Provancher).
- californicus** Girault. Colo., Wash., Oreg.
- fletcheri** (Crawford). Syn. of **lucens** (Provancher).
- lucens** (Provancher). N. B., Que., Ont., Maine south to N. C., west to Iowa and Colo. Hosts: *Aphidius testaceipes* (Cress.), *A. phorodontis* Ashm., *A. polygonaphis* (Fh.), *Diaretiella rapae* (M'Int.), *Praon aguti* Smith, *P. simulans* (Prov.).
- Megorismus fletcheri** Crawford (syn. by Burks, 1964, *loc. cit. supra*, p. 1258).
- Asaphes americanus** Girault (syn. by Burks, 1964, *loc. cit. supra*, p. 1258).
- Biology: Sekhar, 1958. Ent. Soc. Amer. Ann. 51: 1-8 (*fletcheri*).

Genus **Hyperimerus** Girault, p. 537

- Transf. with included sp. to Torymidae, subfamily Monodontomerinae, following **Glyphomerus** Foerster, p. 530.

Genus **DIPARA** Walker, p. 537

- ***Tricoryphus** Foerster, 1856. Hym. Stud., v. 2, p. 46.

Type: *Tricoryphus fasciatus* Thomson. Included by Thomson, 1876.

**Hispanolelaps* Mercet, 1927. Eos 3: 60.

Type: *Hispanolelaps coxalis* Mercet. Orig. desig.

Taxonomy: Bouček, 1954. Mus. Nat. Pragae Acta Ent. 29: 52, 54.

The female of this genus is wingless, commonly taken in Berlese samples; the male is winged.

Genus APTEROLELAPS Ashmead, p. 537

Taxonomy: Delucchi, 1958. Bol. Zool. Agr. Bahic., ser. 2, 1: 56 (syn. of *Trichoryphus* [!] Foerster).

Genus LAMPROTATUS Westwood, pp. 537-538

Delete *Miscogaster* Walker from syn.

Taxonomy: Delucchi, 1955. Lunds Univ. Aarsskr., n. s., 50 (20): 6-10.—Peck, 1963, *loc. cit. supra*, pp. 606-608.

abnormicolor (Girault). Transf. to *Miscogaster* Walker.

auratus (Ashmead). Transf. to *Miscogaster* Walker.

biguttus (Girault). Transf. to *Miscogaster* Walker.

diaeus Walker. Maine, Minn.

discoloripes (Girault). Transf. to *Miscogaster* Walker.

flora (Girault). Transf. to *Miscogaster* Walker.

keatsi (Girault). Transf. to *Miscogaster* Walker.

marylandicus (Girault). Transf. to *Miscogaster* Walker.

unguttus (Girault). Transf. to *Miscogaster* Walker.

Genus MISCOGASTER Walker

(= *Lamprotatus* Westwood of Catalog, in part, pp. 537-538)

Delete from syn. under *Lamprotatus* Westwood and transf. with following spp. to p. 538, following *Lamprotatus*.

Taxonomy: Delucchi, 1955, *loc. cit. supra*, pp. 6-7, 55-56.—Peck, 1963, *loc. cit. supra*, pp. 608-609 (transf. of spp. from *Lamprotatus* Westwood to *Miscogaster* Walker).

abnormicolor Girault. Transf. from *Lamprotatus* Westwood.

auratus (Ashmead). Pa., Mich., Wis., Nebr.

biguttata Girault. Transf. from *Lamprotatus* Westwood.

discoloripes Girault. Transf. from *Lamprotatus* Westwood.

flora Girault. Transf. from *Lamprotatus* Westwood.

keatsi Girault. Transf. from *Lamprotatus* Westwood.

marylandica Girault. Transf. from *Lamprotatus* Westwood.

ungutta Girault. Transf. from *Lamprotatus* Westwood.

Genus SYNTOMOPUS Walker, p. 538

americanus Ashmead. N. Y. south to Fla., west to Oreg. and Calif.; Mexico.

Genus Chrysolampus Spinola, p. 539

Transf. with included species to Perilampidae, following *Perilampus* Latreille, p. 519.

Genus Elatus Walker, p. 539

Transf. with included species to Perilampidae, following *Perilampus* Latreille, p. 519.

Genus *PACHYNEURON* Walker, pp. 539-541

**Serimus* Brèthes, 1913. Buenos Aires Mus. Nac. de Hist. Nat. Ann. 24: 90.

Type: *Serimus argentinus* Brèthes. Orig. desig.

Taxonomy: De Santis, 1957. Univ. Nac. de La Plata, Notas del Mus. 19: 118.

**Neopachyneuron* Girault, 1917. Descr. Hym. Chalc. Var. cum Obs., pt. 5, p. 9.

Type: *Pachyneuron eros* Girault. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 612.

altiscutum Howard, ch. to Cook, *teste* Peck, 1963, *loc. cit. supra*, p. 613. N. B., D. C., S. C., Colo. Hosts: *Cremifania nigricellulata* Czerny, *Leucopis* sp., *Leucopina americana* Mall., *Neoleucopis obscura* (Hal.), *N. pnicicola* Mall.

Biology: Brown and Clark, 1957 (1956). Canad. Ent. 88: 679-682.

anthomyiae Howard. Host: *Leucopis* sp.

eros Girault. B. C.

mucronatum Girault. Tex., Ariz.; Mexico. Host: Assoc. with coccids on *Opuntia*.

virginicum Girault. Maine, Ill.

Genus *CORUNA* Walker, Sup. 1, p. 74

clavata Walker. B. C., Alaska; Europe.

Biology: Stary, 1962. Zool. Listy 11: 267.

Genus *PACHYCREPOIDEUS* Ashmead, p. 541

**Anisopteromalía* Bouček, 1954. Mus. Nat. Pragae, Acta Ent. 29: 57-60.

Type: *Anisopteromalía crassinervis* Bouček. Orig. desig.

Taxonomy: Bouček, 1957 (1956). Casopis 53: 165.

vindemiae (Rondani), corrected spelling of *vindemmiae* of Sup. 1, p. 75, *teste* Peck, 1963, *loc. cit. supra*, p. 620. Hosts: *Fannia canicularis* (L.), *F. scalaris* (Fab.), *Calliphora vicina* R.-D., *Phormia regina* (Meig.), *Lucilia sericata* (Meig.), *Anastrepha* sp.

Biology: Nostvik, 1954. Oikos 5: 195.—Steve, 1959. Jour. Econ. Ent. 52: 530.

Genus *EUNEURA* Walker, p. 541

lachni (Ashmead). N. B. and Maine south to Fla., west to B. C. and Calif.

Host: *Pauesia ponderosae* (Mues.) on *Cinara* sp.

Genus *HALTICOPTERA* Spinola, pp. 541-542

**Pachylarthrus* Westwood, 1832. Phil. Mag., ser. 3, 1: 127.

Type: *Pachylarthrus insignis* Westwood. By monotypy.

Taxonomy: Nikolskaja, 1952, *loc. cit. supra*, p. 249.

aenea (Walker). Syn. of *patellana* Dalman.

brodiei Ashmead. Not *Halticoptera* Spinola; transf. to **Unplaced Species**, p. 594.

**patellana* (Dalman). Holarctic.

Diptolepis patellana Dalman, 1818. K. Svenska Vetensk-Akad. Handl. 39: 80. ♀.

Dicyclus aenea Walker, 1833 (syn. by Ferrière, 1952. Soc. Ven. di Stor. Nat. Bol. 6: 172).

Other syn., and hosts, under *aenea* in Catalog, p. 542.

rosae Burks. Maine, Ont., Sask., Utah, Alaska.

Biology: Balduf, 1959. Ill. Biol. Monog. 26: 41-50, 170-173.

stella Girault. Ariz. Host: *Aciurina maculata* (Cole).

***Genus SPHEGIGASTER Spinola**(= *Trigonogastra* Ashmead of Catalog, p. 542)*Sphegigaster* Spinola, 1811. Paris Mus. Hist. Nat. Ann. 17: 149.Type: *Diplolepis pallicornis* Spinola. Desig. by Ashmead, 1904.

Taxonomy: Delucchi, 1958. Bol. Zool. Agr. e Bach., ser. 2, 1: 56.

***flavicornis** (Walker). B. C.; Europe. Host: *Phytomyza ilicis* Curtis.*Merismus flavicornis* Walker, 1833. Ent. Mag. 1: 377. ♂.

Biology: Cameron, 1939. Bul. Ent. Res. 30: 178-180, 192-197.

Genus CYRTOGASTER Walker, p. 542**glasgowi** Crawford. Mo., Tex., Calif.**vulgaris** Walker. Wash.; Europe. Host: *Phytomyza nigra* Meig.***Genus CAPELLIA Delucchi**(= *Eurydinota* Foerster of Catalog, p. 543)*Capellia* Delucchi, 1958. Bol. Zool. Agr. e Bach., ser. 2, 1: 59.Type: *Eurydinota rufiventris* Girault. Orig. Desig.Taxonomy: Delucchi, 1958, *loc. cit. supra*, pp. 57-60.**lividicarpus** (Girault). Mass., B. C. Host: *Coleophora laricella* Hbn.Biology: Schaffner, 1959, *loc. cit. supra*, p. 88.**rufiventris** (Girault). Miss., Minn., Calif. Host: *Retinodiplosis* sp. on pine.**Genus HETEROSCHEMA Gahan, p. 543****punctata** (Ashmead). Miss., Mo.; West Indies. Host: *Ophiomyia* sp. in *Lippa* seed heads.**rugosopunctata** (Ashmead). Tex.**Genus LOPHOCOMODIA Ashmead**Transf. from **Unplaced Genera**, p. 593, to Sphegigasterini following **Heteroschema** Gahan, p. 543.**americana** Ashmead. Mich., Kans. Transf. from **Unplaced Species**, Sup. 1, p. 84, *teste* G. E. Wallace *in litt.*

Subfamily PTEROMALINAE

Genus MORANILA Cameron, Sup. 1, p. 75(= *Tomocera* Howard of Catalog, p. 543)**californica** (Howard). Calif.; Mexico, Hawaii, South Sea Isls., Australia, Africa.

Biology: Flanders, 1958. Jour. Econ. Ent. 51: 247.

Genus EUNOTUS Walker, p. 544***cretaceus** Walker. N. H., N. Y.; Europe. Host: *Eriopeltis festucae* Fonsc.*Eunotus cretaceus* Walker, 1834. Ent. Mag. 2: 298. ♂.**Genus SCUTELLISTA Motschulsky, p. 544****cyanea** Motschulsky. Cosmopolitan.Biology: Clausen, 1956, *loc. cit. supra*, pp. 126, 128-129.—Flanders, 1958. Jour. Econ. Ent. 51: 247.—Flanders, 1959. Jour. Econ. Ent. 52: 596-597.—Gexho, 1960. Tirana U. Shtet. Bul. Ser. Shken. Nat. 14: 55.—Talhok, 1961. Entomophaga 6: 208.***Genus MACROGLENES Westwood***Macroglenes* Westwood, 1832. Phil. Mag., ser. 3, 1: 127.Type: *Macroglenes oculatus* Westwood. By monotypy.***Stenophrus** Foerster, 1841. Beitr. Monog. Pterom., p. 40.Type: *Stenophrus compressus* Foerster. By monotypy.

Taxonomy: Gahan and Fagan, 1923. U. S. Natl. Mus. Bul. 124, p. 136.

Insert in tribe Pirenini, before **Pirene** Haliday, p. 544.

***penetrans** (Kirby). N. J., Ont., Mich., Oreg.; Europe. Host: *Sitodiplosis mosellana* (Gehin).

Ichneumon penetrans Kirby, 1800. Linn. Soc. London Trans. 5: 109.

***Macroglenes oculatus** Westwood, 1832. Phil. Mag., ser. 3, 1: 127.

***Stenophrus compressus** Foerster, 1841. Beitr. Monog. Pterom., p. 40.

Distribution: Peck, 1963, *loc. cit. supra*, p. 637.

Genus **PIRENE** Haliday, p. 544

marylandensis Girault. Transf. to **Bairanlia** Waterston, *infra*.

*Genus **BAIRAMLIA** Waterston

Bairanlia Waterston, 1929. Parasitol. 21: 103.

Type: **Bairanlia fuscipes** Waterston. Orig. desig.

Insert in Tribe Pirenini following **Pirene** Haliday, p. 544.

marylandensis (Girault). Transf. from **Pirene** Haliday, *teste* Waterston, 1929, *loc. cit. supra*, p. 103.

*Genus **HERBERTIA** Howard

Herbertia Howard, 1894. Linn. Soc. London, Jour., Zool. 25: 98.

Type: **Herbertia lucens** Howard. By monotypy.

Insert in tribe Pirenini, following **Spathopus** Ashmead, p. 544.

Revision: Burks, 1959. Ent. Soc. Wash. Proc. 61: 249-255.

***wallacei** Burks. Pa., Md., Va., Ohio, Tex. Host: *Phytomyza ilicicola* Loew.

Herbertia wallacei Burks, 1959. Ent. Soc. Wash. Proc. 61: 254. ♀, ♂.

Genus **MORODORA** Gahan, p. 544

armata Gahan. B. C.

Genus **HEMADAS** Crawford, p. 545

nubilipennis (Ashmead).

Biology: Judd, 1959. Amer. Micr. Soc. Trans. 78: 212-214.

Genus **Trigonoderus** Westwood, p. 545

Transf. with included spp. to tribe Cleonymini, p. 566.

*Genus **MACROMESUS** Walker

Macromesus Walker, 1848. List Hym. Brit. Mus., Chalc., pt. 2, pp. 106, 161.

Type: **Macromesus amphiretus** Walker. By monotypy.

***Wesenbergia** Kryger, 1943. Ent. Medd. 22: 360.

Type: **Wesenbergia oculata** Kryger. Orig. desig.

Taxonomy: Graham, 1959. Ent. Mo. Mag. 95: 73-78 (Macromesinae of Pteromalidae).—Hedqvist, 1960. Ent. Tidskr. 81: 140.—Boucek, 1961. Mus. Nat. Pragae Acta Ent. 34: 57 (near Tridymini).—Hedqvist, 1963, *loc. cit. supra*, pp. 57-58 (Cheiopachinae).

Insert in tribe Tridymini after **Elachertodomyia** Girault, p. 546.

***americanus** Hedqvist. Ariz., Oreg., Calif. Hosts: *Cylindrocapturus longulus* (Lec.), *C. catoni* Buc., *Pseudohylesinus nebulosus* (Lec.), *Scolytus praeceps* Lec., *S. unispinosus* Lec., *S. ventralis* Lec.

Macromesus americanus Hedqvist, 1960. Ent. Tidskr. 81: 140. ♀, ♂.

Genus **TRIDYMUS** Ratzeburg, p. 546

aphidis Girault. Ark.

gargantua Girault. N. H., Mich., Minn. Host: Reared from gall on willow.

nigriclavus Girault, corrected spelling of **nigriclava** of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 643.

oblongus (Provancher). Transf. from **Unplaced Species**, p. 594, *teste* Burks, 1964, *loc. cit. supra*, p. 1261.

Genus SYSTASIS Walker, p. 547

diplosidis Eckel. Fla., Ohio, Wis., Miss.

***encyrtoides** Walker. Wis., Oreg., Alaska; Europe. Host: *Contarinia* sp.
Systasis encyrtoides Walker, 1834. Ent. Mag. 2: 296. ♀, ♂.
Biology: Parnell, 1963. Roy. Ent. Soc., London Trans. 115: 271-272.

Genus IEROBIA Foerster, p. 547

Taxonomy: Delucchi, 1955. Soc. Roy. Ent. Belg. Mem. 27: 175 (*Ormocerus* Walker).—Peck, 1963, *loc. cit. supra*, p. 903 (N. Amer. spp. listed as unplaced).

Tribe MERISINI

Taxonomy: Szelényi, 1956. Mus. Nat. Hung., Ann. Hist.-Nat., n. s., 7: 167-180.

Genus MERISUS Walker, pp. 547-548

Taxonomy: Szelényi, 1956, *loc. cit. supra*, pp. 169-170.—Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 229.

cupraeus (Provancher). Transf. to *Cacnaxis* Foerster in tribe Pteromalini, *infra*.

destructor (Say). Holarctic.

Taxonomy: Szelényi, 1956, *loc. cit. supra*, p. 170 (*Homoporus* Thomson).
—Delucchi, 1957. Ztschr. f. Angew. Ent. 40: 418-419 (*Homoporus* subg. *Phaenacra* Foerster).

febriolosus Girault. P. E. I.

Taxonomy: Szelényi, 1956, *loc. cit. supra*, p. 168 (? syn. of *gibbiscuta* Thomson; ref. to *Homoporus* Thomson).

Biology: Cannon, 1963. Canad. Ent. 95: 34.

mordellistenae Crawford. Iowa, Calif.

***Genus HOMOPORUS Thomson**

(= *Merisoporus* Masi of Catalog, p. 548)

Homoporus Thomson, 1878. Hym. Scand., v. 5, pp. 60, 64.

Type: *Pteromalus fulviventris* Walker. Desig. by Ashmead, 1904.

[Not *Homoporus* Thomson, 1890, in Ichneumonidae, now considered a *lapsus* for *Homotropus* Thomson.]

***Phaenacra** Foerster, 1878. Naturhist. Ver. der Preuss. Rheinl. Verhandl. 35: 51.

Type: *Phaenacra nubigera* Foerster. Orig. desig.

Taxonomy: Delucchi, 1957, *loc. cit. supra*, p. 402 (*Homoporus* subg. *Phaenacra* Foerster).—Erdős, 1953. Acad. Sci. Hung. Acta Biol. 4: 239 (syn. of *Phaenacra* Foerster).—Peck, 1963, *loc. cit. supra*, p. 650 (*Merisoporus* Masi).

chalcidiphagus (Walsh and Riley). Holarctic.

Taxonomy: Erdős, 1953, *loc. cit. supra*, p. 239.—Szelényi, 1956, *loc. cit. supra*, p. 168.—Delucchi, 1956, *loc. cit. supra*, pp. 417-418.

Biology: Cannon, 1963, *loc. cit. supra*, p. 34.

Genus CALLITULA Spinola, p. 548

Taxonomy: Szelényi, 1956, *loc. cit. supra*, pp. 167, 169-170.

bicolor Spinola. Holarctic.

Biology: Simmonds, 1952. Bul. Ent. Res. 43: 528-533.—Simmonds, 1953. Bul. Ent. Res. 44: 387-392.—Hemer, 1959. Ztschr. f. Angew. Ent. 44: 339.

illinoensis (Ashmead). Md., Va., Fla., Tenn.

Genus **PSEUDOMICROMELUS** Gahan and Fagan, p. 553

deplanatus (Nees). Transf. to *Cyclogastrella* Bukovskij, *infra*.

*Genus **CYCLOGASTRELLA** Bukovskij

Cyclogastrella Bukovskij, 1938. Ent. Obozr. (Rev. Ent.) 27: 153.

Type: *Cyclogastrella quercina* Bukovskij. By monotypy.

Taxonomy: Graham, 1956. Ent. Mo. Mag. 92: 258.

Insert in tribe Merisini following *Callitula* Spinola, p. 548.

deplanata (Nees). Holarctic. Transf. from *Pseudomicromelus* Gahan and Fagan, p. 553, *teste* Graham, 1956, *loc. cit. supra*, p. 259.

Biology: Delucchi, 1962. *Awamia* 2: 123.

Genus **RHAPHITELUS** Walker, pp. 548-549

**Eucerchysius* Brèthes, 1913. Buenos Aires Mus. Nac. de Hist. Nat. Anal. 24: 103.

Type: *Eucerchysius scolyti* Brèthes. By monotypy.

Taxonomy: De Santis, 1952. Soc. Ent. Argentina Rev. 15: 270 (generic syn.).—Hedqvist, 1963, *loc. cit. supra*, pp. 93-94.

maculatus Walker. Que., N. H., Pa., Wash., Oreg.; Europe.

Biology: Jamnicky, 1959. *Biologia*, Bratislava 14: 817.—Szczepanski, 1960. *Polskie Pismo Ent.* 30: 409.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 94-96.

Genus **METACOLUS** Foerster, p. 549

**Pterosema* Foerster, 1878. *Naturh. Ver. Preuss. Rheinl. Verh.* 35: 44.

Type: *Pterosema varicolor* Foerster. Orig. desig.

Taxonomy: Bouček, 1957. *Mus. Nat. Prag. Acta Faun. Ent.* 2: 76 (generic syn.).—Hedqvist, 1963, *loc. cit. supra*, p. 97.

fasciatus Girault. Idaho. Hosts: Assoc. with Scolytidae in *Pinus* spp. and *Juniperus* sp.

Genus **DINOTISCUS** Ghesquière, p. 549

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 83.

agrili (Rohwer). Transf. to *Megatrydymus* Girault, p. 566.

Genus **TOMICOBIA** Ashmead, p. 566

Revision: Hedqvist, 1959. *Opusc. Ent.* 24: 177-184.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 109-110.

peratripes (Girault).

Taxonomy: Hedqvist, 1959, *loc. cit. supra*, p. 184.

tibialis Ashmead. Maine south to N. C., west to Idaho and Calif. Hosts: Adult Scolytidae.

Taxonomy: Hedqvist, 1959, *loc. cit. supra*, pp. 178-181.

Biology: Reid, 1957. *Canad. Ent.* 89: 7-8.—Ruckes, 1963. *Pan-Pacific Ent.* 39: 45.

Genus **RHOPALICUS** Foerster, pp. 549-550

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 71.

pallipes Provancher. Transf. to **Unplaced Species**, p. 594.

pulchripennis (Crawford). Que. and Maine south to Md. and Miss., west to Wash., Oreg., Calif. Hosts: *Pissodes terminalis* Hopping, *P. approximatus* Hopkins.

Biology: Reid, 1957, *loc. cit. supra*, p. 7.—Keen, 1958, *loc. cit. supra*, p. 100.

tutela (Walker). Que., Mass., N. Y., Pa., Ont., Mich.; Europe.

Biology: Nuorteva, 1956. *Acta Ent. Fenn.* 13: 64.—Chararas, 1959. Soc.

Ent. France Bul. 64: 11.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 71-79.

Genus AMBLYMERUS Walker, p. 550

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 223 (*Platymesopus* Westwood).—von Rosen, 1958. Opusc. Ent. 23: 205 (*Mesopolobus* Westwood).—von Rosen, 1960. Ent. Tidskr. 82: 11-13 (*Mesopolobus* Westwood, in part).

bruchophagi (Gahan). Holarctic; N. Y. west to Man., Oreg., Calif. Hosts: *Bruchophagus* spp.

Biology: Butler and Hansen, 1958. Pan-Pacific Ent. 34: 228.—Neunzig and Gyrisco, 1959. Jour. Econ. Ent. 52: 899.

confusus (Ashmead). Idaho, Utah. Host: *Tomicobia tibialis* Ashm. par. on *Ips oregonis* (Eich.).

flavipes (Walker). [Prob. not North American.]

Taxonomy: von Rosen, 1958. Opusc. Ent. 23: 212.—Peck, 1963, *loc. cit. supra*, p. 660.

mayetiolae (Gahan).

Taxonomy: von Rosen, 1958, *loc. cit. supra*, p. 207 (*Mesopolobus*).

salicis (Girault). Mo.

verditier (Norton). N. B., Que., and Maine south to N. J. and Pa., west to B. C. and Oreg. Hosts: *Choristoncura pinus* Free., *Diorctria disclosa* Hein., *Epinotia nanana* (Treit.), *Neodiprion lecontei* (Fitch); may be pri. or sec. par.

Biology: Keen, 1958, *loc. cit. supra*, pp. 98-99.—Schaffner, 1959, *loc. cit. supra*, p. 88.

Taxonomy: von Rosen, 1958, *loc. cit. supra*, pp. 223-225 (*Mesopolobus*).—Finlayson, 1960. Canad. Ent. 92: 934-936, 939 (imm. stages).

***Genus AHLBERGIELLA von Rosen**

Ahlbergiella von Rosen, 1955. Ent. Tidskr. 76: 88.

Type: *Eutelus aequus* Walker. Orig. desig.

Insert in tribe Pteromalini following *Amblymerus* Walker, p. 550.

***aequa** (Walker). Nebr. [det. H. von Rosen]; Europe. Host: *Delphacodes pellucida* (Fab.), eggs.

Eutelus aequus Walker, 1834. Ent. Mag. 2: 364. ♀.

Biology and Taxonomy: von Rosen, 1955. Ent. Tidskr. 76: 88.—von Rosen, 1956. K. Lantbr. Ann. 23: 20-39.—von Rosen, 1958. Opusc. Ent. 23: 230-231 (*Mesopolobus* Westwood).

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 222.

Biology: Raatikainen, 1962. Ann. Agr. Fenn. 1: 220 (*Mesopolobus*).

Genus ZACALOCHLORA Crawford, pp. 550-551

milleri Crawford. Colo., Idaho, Oreg. Hosts: *Laspeyresia piperana* (Kearf.), *Laspeyresia* spp. in *Pinus* spp. cones; undet. Tachinidae assoc. w. pine cones.

Biology: Keen, 1958, *loc. cit. supra*, pp. 100-102.

Genus PLATYTERMA Walker, p. 551

Taxonomy: von Rosen, 1958. Opusc. Ent. 23: 205 (syn. of *Mesopolobus*).

***nobilis** Walker. Minn., Wyo., Colo.; Europe.

Platyterma nobile Walker, 1834. Ent. Mag. 2: 304. ♀.

Platyterma citripes Ashmead (syn. by von Rosen, 1959. Ent. Tidskr. 80: 160 [*Mesopolobus*]).

Genus COELOPISTHIA Foerster, p. 551

***Kranophorus** Graham, 1956. Ent. Mo. Mag. 92: 257.

Type: *Pteromalus extentus* Walker. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 665 (*Kranophorus* unnecessarily proposed).

suborbicularis (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

Genus **DIBRACHOIDES** Kurdjumov, p. 551

druso (Walker). Calif.

Biology: Clausen, 1956, *loc. cit. supra*, p. 50.—Fisher *et al.*, 1961. Jour. Econ. Ent. 54: 197.—Delucchi, 1962. Awamia 2: 124.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 667 (*dynastes*).

Genus **UROLEPIS** Walker, p. 551

rufipes (Ashmead). N. Y., Minn., Nebr., Kans., Tex., Utah, Oreg.

Genus **TRICHOMALUS** Thomson, p. 552

***perfectus** (Walker). Idaho, B. C., Wash., Oreg., Calif.; Europe. Host: *Ceutorhynchus assimilis* (Payk.).

Pteromalus perfectus Walker, 1835. Ent. Mag. 2: 488. ♀.

Trichomalus fasciatus of Catalog (misdet. *teste* Peck, 1963, *loc. cit. supra*, p. 669).

Biology: McLeod, 1953. Ent. Soc. B. C. Proc. 49: 12.—Walz, 1957. Ent. Soc. Amer. Ann. 50: 219.—Jourdeuil, 1960. Ann. Epiphyt. 11: 462.

Taxonomy: Delucchi and Graham, 1956. Beitr. z. Ent. 6: 571.

Genus **DIGLOCHIS** Foerster, p. 552

occidentalis (Ashmead). Wis., Man., Oreg. Hosts: *Chrysops frigidus* O. S., *C. furcatus* Walk., *C. nigripes* Zett., *Hybomitra affinis* (Kby.).

Biology: James, 1952. Ent. Soc. Ont. Ann. 82: 70.—James, 1964 (1963). Canad. Ent. 95: 1229-1231 (imm. stages).

Genus **TRITNEPTIS** Girault, p. 552

diprionis Gahan.

Taxonomy: Finlayson, 1963. Canad. Ent. 95: 500.

hemerocampae Girault. N. S., N. B., P. E. I., Tenn., N. Mex., Wash., Calif.

Hosts: *Platyprepia guttata* Bdv.; delete *Diprion hercyniae* (Htg.).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 102.

klugii (Ratzeburg). Ont., Man., Sask. Host: *Neodiprion sertifer* (Geof.).

Biology: Lejeune and Hildahl, 1954. Canad. Ent. 86: 341.—Graham, 1956. For. Sci. 2: 152.—Griffiths, 1959. Canad. Ent. 91: 508.—Schneiderman and Horwitz, 1958. Jour. Expt. Biol. 35: 520.—Drooz, 1960. U. S. Dept. Agr. Tech. Bul. 1212, p. 33.—Ohnesorge, 1962. Ztschr. f. Angew. Ent. 49: 142.

Taxonomy: Finlayson, 1963. Canad. Ent. 95: 500.

Genus **DIBRACHYS** Foerster, pp. 553-554

cavus (Walker). Cosmopolitan. Hosts: *Choristoneura pinus* Free., *Spilonota ocellana* (D. and S.), *Ostrinia nubilalis* (Hbn.), *Dioryctria disclusa* Hein., *Neodiprion excitans* Roh., *N. sertifer* (Geof.), *N. lecontei* (Fitch), *Apanteles glomeratus* (L.); usually a sec. par., but may be primary.

Biology: Reeks and Smith, 1956. Canad. Ent. 88: 572.—Lyons, 1957. Canad. Ent. 89: 75.—Baeva, 1959. Akad. Nauk Tadzh. SSR Inst. Zool. and Par. Trudy 119: 55, 69, 77.—Schaffner, 1959, *loc. cit. supra*, p. 89.—Richter, 1960. Ent. Ztschr. 70: 115.—Wylie, 1960. Entomophaga 5: 120.—Bendel-Janssen, 1962. Ztschr. f. Pflanzenkrank. 9: 527.—Allen, 1962, *loc. cit. supra*, pp. 103-106.—Dixon and Benjamin, 1963. Jour. Econ. Ent. 56: 267.—Halstead, 1963. G. B. Pest Inf. Res. Bd. Rpt. 1962, pp. 5-6.

Taxonomy: Finlayson, 1960. Canad. Ent. 92: 40, 44.—Finlayson, 1963. Canad. Ent. 95: 501 (imm. stages).

Genus EUPTEROMALUS Kurdjumov, pp. 554-555

dubius (Ashmead). Minn. Host: *Lydella* sp., par. on *Ostrinia nubilalis* (Hbn.).

hemipterus (Walker). Holarctic. Host: *Lydella* sp., par. on *Ostrinia nubilalis* (Hbn.).

Biology: Clausen, 1956, *loc. cit. supra*, pp. 103-104.—Russo, 1959. Lab. Ent. Agr. Portici Bol. 17: 176.—Hemer, 1960. Ztschr. f. Angew. Ent. 46: 105.—Gersdorf, 1961. Ztschr. f. Angew. Ent. 47: 402.

sarcophagae Gahan. Idaho, Ariz.

subapterus (Riley). Holarctic.

tachinae Gahan. Ohio, Iowa, Kans., Tex. Hosts: *Ostrinia nubilalis* (Hbn.), *Hypoderma lineatum* (DeV.).

viridescens (Walsh). Ont., Minn., Wash.

Biology: Harcourt, 1960. Canad. Ent. 92: 423.

Genus LARIOPHAGUS Crawford, p. 555

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 217.

distinguendus (Foerster). Cosmopolitan.

Biology and Taxonomy: Kashef, 1954. Soc. Ent. France Bul. 59: 93.—Kashef, 1956 (1955). Soc. Ent. France Ann. 124: 58-88.

Biology: Kashef, 1959. Soc. Ent. Egypte Bul. 43: 171.—Kashef, 1961. Ztschr. f. Parasitenk. 21 (1): 65-70.

dryorhizoxeni (Ashmead). Pa.

texanus Crawford. S. C., Miss., Ariz., Calif.

Biology: Hinckley, 1960. Hawaii. Ent. Soc. Proc. 17: 267.

Genus SCHIZONOTUS Ratzeburg, p. 555

Taxonomy: Bouček, 1958. Mus. Nat. Prage Acta Ent. 32: 395.

latus (Walker). N. Mex. Delete *sieboldi* (Ratzeburg) from syn. in Sup. 1, p. 77; N. Amer. records under that name in Catalog and Sup. 1 refer to **latus** (Walker).

Taxonomy: Bouček, 1958, *loc. cit. supra*, pp. 396-398.

Genus METASTENUS Walker

(= *Scymnophagus* Ashmead of Catalog, p. 556)

Taxonomy: Graham, 1956. Ent. Mo. Mag. 92: 256.

townsendi (Ashmead). Mont.

Taxonomy: Delucchi, 1954. Bul. Ent. Res. 45: 265.—Graham, 1956, *loc. cit. supra*, p. 256.

Genus XENOCREPIS Foerster, p. 556

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 235.—Bouček, 1958. Mus. Nat. Prage Acta Ent. 32: 398.—von Rosen, 1960. Opusc. Ent. 25: 8.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 664.

***morys** (Walker). Holarctic; Idaho, Wash., Oreg., Calif. Host: *Ceutorhynchus assimilis* (Payk.).

Pteromalus morys Walker, 1848. List. Hym. Brit. Mus. Chalc., pt. 2, p. 197. ♂.

Xenocrepis pura Mayr, 1904 (syn. by Graham, 1957, *loc. cit. supra*, p. 235).

Biology: Walz, 1957. Ent. Soc. Amer. Ann. 50: 220.—von Rosen, 1958. Opusc. Ent. 23: 234.—Jourdeuil, 1960. Ann. des Epiphyt. 11: 462.

Genus MERAPORUS Walker, p. 556

requisitus Tucker. S. C. Host: Taken in stored wheat.

*Genus SPANIOPUS Walker

(=*Neopolycelis* Hincks of Catalog, p. 556)

Taxonomy: Graham, 1956. Ent. Mo. Mag. 92: 250.—Peck, 1963, *loc. cit. supra*, p. 695.

modestus (Gahan). Ill.

Taxonomy: Graham, 1956, *loc. cit. supra*, p. 251 (? syn. of *dissimilis* Walker).

websteri (Ashmead). Md.

*Genus ARTHROLYTUS Thomson

Pteromalus subg. *Arthrolytus* Thomson, 1878. Hyn. Scand., v. 5, pp. 147, 158.

Type: *Arthrolytus punctatus* Thomson. Desig. by Ashmead, 1904.

Place in tribe Pteromalini before *Psychophagus* Mayr, p. 557.

fasciatus (Provancher). Que., N. H., Mass., Pa. Transf. from Unplaced Species, p. 594, *teste* Burks, 1964, *loc. cit. supra*, p. 1262.

Genus PSYCHOPHAGUS Mayr, p. 557

omnivorus (Walker). Holarctic; Colo. Hosts: *Neodiprion lecontei* (Fitch), *Cephalcia marginata* Middk.; often a sec. par.

Taxonomy: Bakkendorf, 1955. Ent. Medd. 27: 137-143.—Bouček, 1961. Mus. Nat. Pragae Acta Ent. 34: 83.—Finlayson, 1963. Canad. Ent. 95: 499, 501-502 (imm. stages).

Biology: Bogavac, 1958. Zash. Bilja 46: 80.—Keen, 1958, *loc. cit. supra*, p. 89.—Schaffner, 1959, *loc. cit. supra*, p. 89.

tortricidis (Brues). Maine, Ont., Wis., Minn., Wyo. Host: *Choristoneura pinus* Free., *C. conflictant* (Walk.).

Biology: Dixon and Benjamin, 1963. Jour. Econ. Ent. 56: 267.—McGugan and Blais, 1959. Canad. Ent. 91: 766, 775-776.

Genus CECIDOSTIBA Thomson, p. 557

Taxonomy: Delucchi, 1957. Entomophaga 2: 140.

acuta (Provancher). N. S., Que., south to W. Va. west to Wash., Oreg., Calif.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1257.

burkei Crawford. Colo., N. Mex., Idaho, Utah. Host: *Dendroctonus obesus* (Mann.).

dendroctoni Ashmead. N. C., Calif.

polygraphi Ashmead. Maine.

thomsoni Crawford. Wyo., Wash., Oreg.

Genus CATOLACCUS Thomson, pp. 557-558, Sup. 1, p. 78

**Merisoides* Masi, 1911. Lab. Zool. Gen. e Agr. Portici Bol. 5: 141.

Type: *Merisoides crassiceps* Masi. By monotypy.

Taxonomy: Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 230.

aencoviridis (Girault). Throughout south. Canada, entire U. S.; Mexico, West Indies. Hosts: *Apanteles medicaginis* Mues., *Hormius balsalis* (Prov.), *Goniozus platynotae* Ashm.

Biology: Atkins *et al.*, 1957. Ent. Soc. Amer. Ann. 50: 257.—Allen and Smith, 1958. Hilgardia 25: 29.

cyanoideus Burks. Minn., Wyo.

kansensis (Girault). Ariz., Calif.

victoria Burks. Utah.

Genus **HETEROLACCUS** Masi, *Sup.* 1, p. 78

Taxonomy: Delucchi, 1958. *Bol. Zool. Agr. e Bach.*, ser. 2, 1: 54.

hunteri (Crawford). Ky. Host: *Prionomerus calceatus* Say.

Genus **ZATROPIS** Crawford, pp. 558-559

albiclavus (Girault). Mich., Wis., Idaho, Utah, Ariz. Host: *Asphondylia* sp. bud gall on *Larrea* sp.; *Dasyneura gleditschiae* O. S.

bruchivorus (Ashmead). Fla., Tex., Ariz., Calif.; Mexico.

catalpae Crawford. N. Y. west to Ill. and Minn. Hosts: *Dasyneura gleditschiae* O. S., *Hyperdiplosis phlox* Greene.

incertus (Ashmead). Fla., Ariz.

nigroaeneus (Ashmead). Fla., Mo., Nebr.

perdubius (Girault). Mass., N. Y., N. J., D. C., Ohio, Ill. Hosts: *Anthonomus musculus* (Say), *Smicronyx tychooides* Lec.

rosaecolis Burks. Mo., Nebr.

Biology: Balduf, 1959. *Ill. Biol. Monog.* 26, pp. 120-121.

tortricidis Crawford. Fla., Wis.

Genus **CAENACIS** Foerster, p. 559

cupraeus (Provancher). Transf. from *Merisus* Walker, p. 547, *teste* Burks. 1964, *loc. cit. supra*, p. 1261.

Genus **PSEUDOCATOLACCUS** Masi, p. 559

americanus Gahan. N. Mex., Utah. Host: *Asphondylia* sp. gall on *Larrea*.

Genus **MUSCIDIFURAX** Girault and Sanders, p. 559

raptor Girault and Sanders. Md., Nebr., Tex., Ariz., Calif.; Hawaii, West Indies, S. Amer., Africa. Hosts: *Fannia canicularis* (L.), *Stomoxys calcitrans* (L.).

Genus **NASONIA** Ashmead, pp. 559-560

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 125.

vitripennis (Walker).

Biology: Schneiderman and Horwitz, 1958. *Jour. Expt. Biol.* 35: 520.—Wylie, 1958. *Canad. Ent.* 90: 597.—Ohgushi, 1959. *Zool. Soc. of Japan, Zool. Mag.* 68: 426.—Ohgushi, 1961. *Jap. Jour. Appl. Ent. and Zool.* 5: 154.—Saunders, 1962. *Jour. Insect Physiol.* 8: 309.—Nagel and Pimental, 1963. *Canad. Ent.* 95: 208.—Wylie, 1963. *Canad. Ent.* 95: 881-886.—King and Hopkins, 1963. *Jour. Expt. Biol.* 40: 751-761.—Beard, 1964. *Jour. Insect Path.* 6: 1-7.—Nagel and Pimental, 1964. *Ecology* 45: 658-660.

Morphology: Cutler, 1955. *Roy. Ent. Soc. London Proc. (A)* 30: 73-81.—King, 1962. *Roy. Ent. Soc. London Proc. (A)* 37: 73, 121.

Genetics: Whiting, 1950. *Genetics* 35: 699.—Whiting, 1954. *Evolution* 40: 135.—Whiting, 1955. *Genetics* 40: 602.—Whiting, 1958. *Internatl. Cong. Ent.*, *Proc.* 10, vol. 2, p. 857.—Whiting, 1958. *ASB Bul.* 5: 16.

Taxonomy: De Santis, 1957. *Univ. Nac. de La Plata, Mus. Notas* 19: 169.—Tonapi, 1958. *Roy. Ent. Soc., London Trans.* 110: 550.—Saul, 1960. *Rev. Suisse de Zool.* 67: 270.—Hedqvist, 1963, *loc. cit. supra*, pp. 125-127.

*Genus **DINARMUS** Thomson

(= *Bruchobius* Ashmead of Catalog, p. 560)

Dinarmus Thomson, 1878. *Hym. Scand.*, v. 5, pp. 50, 56.

Type: *Dinarmus acutus* Thomson. Desig. by Ashmead, 1904.

Taxonomy: Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 240.—Ferrière and Delucchi, 1957. Entomophaga 2: 121.

**acutus* (Thomson). N. J., Pa., N. C., Mich., Ky., Tenn., Minn., Nebr., Oreg., Europe. Hosts: *Bruchus brachialis* Fahr., *Bruchidius ater* (Marsham).

Dimachus (*Dinarmus*) *acutus* Thomson, 1878. Hym. Scand., v. 5, p. 56.
♀.

Sphaerakis mayri Masi (syn. by Delucchi, 1956, *loc. cit. supra*, p. 243).

laticeps (Ashmead).

Taxonomy: Delucchi, 1956, *loc. cit. supra*, pp. 243-246.

Biology: Cheema and Misra, 1962. Cur. Sci. (India) 31: 21.

mayri (Masi). Syn. of *acutus* (Thomson).

Genus *PTEROMALUS* Swederus, pp. 560-561

archippi Howard. N. H. south to Fla., west to Ark., Tex., and Calif.

fuscipes (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

puparum (Linnaeus). Cosmopolitan.

Biology: Clausen, 1956, *loc. cit. supra*, p. 49.—Blunck, 1957. Jour. Econ. Ent. 50: 836.—Wiltshire, 1958. Roy. Ent. Soc., London Trans. 110: 241.—Blunck and Wilbert, 1959 (1957). Internatl. Cong. Crop Prot. Proc. 1: 1017.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1261 (*pieridis* Provancher).

vanessae Howard. Calif.

*Genus *SPINTHERUS* Thomson

Spintherus Thomson, 1878. Hym. Scand., v. 5, p. 88, 129.

Type: *Spintherus obscurus* Thomson. By monotypy.

Insert in tribe Pteromalini following *Pteromalus* Swederus, p. 561.

orchestis (Ratzeburg), n. comb. N. Y., Ohio; Europe. Host: *Rhynchaenus pullicornis* (Say).

Genus *HABROCYTUS* Thomson, pp. 561-563

acutiventris Peck.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260 (*acutus* Provancher).

analis (Ashmead). Nev. Hosts: *Pemphredon giffardi* (Roh.), Chrysidid, *Omalus* sp., par. on *Pemphredon* sp.

bedeguaris (Thomson). Maine; Europe.

Biology: Judd, 1959. Canad. Ent. 91: 728-730.—Gijswijt, 1962. Ent. Ber. 22: 250.

caprae (Linnaeus). Delete; sp. is probably not a chalcid. N. Amer. records of a chalcid under this name cannot now be placed.

giraulti Peck (= *canadensis* Girault, 1917, not Ashmead, 1887). Transf. to *Louchetron* Graham, *infra*.

medicaginis Gahan. N. Y., Mich.; Hawaii, Europe, Asia. Hosts: *Bruchophagus* spp.

Biology: Beardsley, 1956. Hawaii. Ent. Soc. Proc. 16: 11.—Butler and Hansen, 1958. Pan-Pacific Ent. 34: 228.—Carillo and Dickason, 1963. Oreg. Agr. Expt. Sta. Tech. Bul. 68, p. 31.

melanicus (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

phycidis Ashmead. N. B., Mich.

Biology: Dixon and Benjamin, 1963. Jour. Econ. Ent. 56: 267.

thyridopterigis Howard. [This may be a composite sp.] Maine and Ont. south to N. C., west to Wis., Ill., and Mo.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 89.—Harman and Kulman, 1962. *Jour. Econ. Ent.* 55: 1007.

*Genus **LONCHETRON** Graham

Lonchetron Graham, 1956. *Ann. Ent. Fenn.* 22: 80.

Type: *Lonchetron fennicuum* Graham. Orig. desig.

Insert in tribe Pteromalini after *Habrocytus* Thomson, p. 563.

giraulti (Peck), n. comb. Transf. from *Habrocytus* Thomson; types examined.

Genus **ANISOPTEROMALUS** Ruschka, pp. 563–564

calandrae (Howard).

Biology: Chatterji, 1955. *Zool. Soc. India Proc.* 8: 11-23.—Ghani and Sweetman, 1955. *Biologia* (Lahore) 1: 115-139.—Cabal Concha, 1956. *Fac. Nac. Agron. Colombia Rev.* 18: 61.—Calderon, 1962. *Riv. di Parassitol.* 23: 216.

Morphology: Tonapi, 1958. *Roy. Ent. Soc., London Trans.* 110: 550.

Genus **TRIMEROMICRUS** Gahan, p. 564

maculatus Gahan. Mo., Okla., Tex., Idaho, Utah, Wash., Oreg. Hosts: *Bruchophagus* spp.

Biology: Walz, 1957. *Ent. Soc. Amer. Ann.* 50: 220.

Genus **SYSTELLOGASTER** Gahan, p. 564

ovivora Gahan. N. C., Ohio, Okla.

Biology: Judd, 1955. *Canad. Ent.* 87: 98.—Roth and Willis, 1960. *Smithsn. Misc. Coll.* 141: 248.

Genus **HYOPTEROMALUS** Ashmead, pp. 564–565

inimicus Muesebeck. N. B., Minn., Mo., N. Dak.

percussor Girault. Nev., N. Mex., Oreg. Hosts: Campoplegini par. on *Hemeroampa pseudotsugata* McD. and other Lepidoptera.

Genus **HEMITRICHUS** Thomson, p. 565

rufipes (Thomson). Syn. of *seniculus* (Nees).

**seniculus* (Nees). Que. south to D. C., west to Mich. and Kans.; Europe.

Pteromalus seniculus Nees, 1834. *Hym. Ichn. Affin. Monog.*, v. 2, pp. 101, 423. ♀.

Dinachus (Hemitrichus) rufipes Thomson (syn. by Delucchi, 1955. *Soc. Roy. Ent. Belg. Mem.* 27: 173).

Genus **NORBANUS** Walker, p. 565

perplexus (Ashmead). N. J., Del., Tenn., Kans.

*Genus **LAMPOTERMA** Graham

(= *Metastenus* of Catalog, pp. 565–566)

Lampoterma Graham, 1956. *Ent. Mo. Mag.* 92: 256 (n. gen. for *Metastenus* Thomson, not Walker).

Type: *Metastenus viridis* Thomson. Orig. desig.

Taxonomy: Peck, 1963, *loc. cit. supra*, pp. 741-742 (n. comb's.; ch. spp. name endings to neuter).

faciale (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

Genus **NEOCATOLACCUS** Ashmead, p. 566

tylodermae (Ashmead). N. H. south to Fla. west to Mich., Ill., Kans., Ariz.

Host: *Onychobaris subtonsa* Lec.

Biology: Wester, 1956. *Ent. Soc. Wash. Proc.* 58: 286.

Genus MEGATRYDYMUS Girault, p. 566

- agrili** (Rohwer). Transf. from *Dinotiscus* Ghesquière, p. 549; type re-examined.
taciti Girault. N. J., Ark., Oreg., Calif. Host: Reared from cynipid galls, on oak.

Genus HABRITYS Thomson, Sup. 1, p. 79

- latro** Wallace, emend. for *latrus*. Va. Hosts: *Ectemnius stirpicola* (Pack.), *Euphlis* sp.
 Biology: Krombein, 1960. Ent. News 71: 32, 67.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 103.

Tribe CLEONYMINI

Taxonomy: Kerrich and Graham, 1957. Soc. Brit. Ent. Trans. 12: 265-311.—Bouček, 1959 (1958). Mus. Nat. Pragae Acta Ent. 32: 353-386 (Cleonyminae).—Hedqvist, 1963, *loc. cit. supra*, p. 50.

Genus HEYDENIA Foerster, p. 566

- Taxonomy: Hedqvist, 1957. Opusc. Ent. 22: 39.—Hedqvist, 1963, *loc. cit. supra*, pp. 52-53.
unica Cook and Davis. Ala., Tex., Ariz., Calif.

Genus TRIGONODERUS Westwood, p. 545

- Taxonomy: Kerrich and Graham, 1957, *loc. cit. supra*, pp. 284-285.
 Transf. with included spp. from tribe Tridymini, p. 545, and insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.
algonquinia Girault. Transf. to *Platygerrius* Thomson, *infra*.
conicus Girault. Transf. to *Gastracanthus* Westwood, *infra*.
unguttus Girault. Que., N. J., D. C., Ill., Tex. Host: *Euparius marmoreus* Oliv. in shelf fungi.
 Biology: Graves, 1960. Ent. Soc. Amer. Ann. 53: 74.

*Genus PLATYGERRHUS Thomson

- Platygerrius** Thomson, 1878. Hym. Scand., v. 5, pp. 4, 13.
 Type: *Platygerrius gracilis* Thomson. By monotypy.
 Taxonomy: Kerrich and Graham, 1957, *loc. cit. supra*, pp. 300-303.
 Insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.
algonquinia (Girault). Transf. from *Trigonoderus* Westwood, *teste* Kerrich and Graham, 1957, *loc. cit. supra*, p. 303.

*Genus GASTRACANTHUS Westwood

- Gastracanthus** Westwood, 1833. Mag. Nat. Hist. 6: 121.
 Type: *Gastracanthus pulcherrimus* Westwood. By monotypy.
 ***Hetroxys** Westwood, 1833, *loc. cit. supra*, p. 495. N. name.
 ***Etroxys** Foerster, 1856. Hym. Stud., v. 2, pp. 66, 71. Emend.
 ***Aetroxys** Walker, 1872. Notes on Chalc., p. 110. Emend.
 ***Photismus** Thomson, 1878. Hym. Scand., v. 5, pp. 66, 71.
 Type: *Photismus nubilosus* Thomson. By monotypy.
 ***Heteroxys** Dalla Torre, 1898. Cat. Hym., v. 5, p. 101. Emend.
 Taxonomy: Kerrich and Graham, 1957, *loc. cit. supra*, pp. 281-284.
 Insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.
conicus (Girault). Que., Ont., N. Y., N. J., Md. Delete Ariz. from dist.
 Transf. from *Trigonoderus* Westwood, *teste* Kerrich and Graham, 1957, *loc. cit. supra*, p. 283.

*Genus **JANSSONIELLA** Kerrich

Janssoniella Kerrich, 1957. In Kerrich and Graham, Soc. Brit. Ent. Trans. 12: 303.

Type: *Janssoniella caudata* Kerrich. Orig. desig.

Insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.

**caudata* Kerrich. N. J., B. C., Calif.; Europe. Host: Reared from bracket fungi.

Janssoniella caudata Kerrich, 1957. In Kerrich and Graham, Soc. Brit. Ent. Trans. 12: 304. ♀.

Genus **EPISTENIA** Westwood, p. 567

**Idiobia* Brèthes, 1927. Ent. Mitt. 16: 330.

Type: *Idiobia schmidti* Brèthes. By monotypy.

Taxonomy: Bouček, 1959, *loc. cit. supra*, p. 381.

coeruleata Westwood. Va., Fla., Ariz., Calif. Hosts: *Isodontia elegans* (Smith), *Leptochilus republicanus zendaloides* (Robt.), *Trypoxylum* (*Trypargilum*) *tridentatum* Pack., *T. (T.)* sp.

Biology: Krombein, 1959. Ent. News 70: 19.

odyneri Ashmead. N. Mex., Ariz.

osmiae (Ashmead). Mo., Tex. Host: *Leptochilus republicanus zendaloides* (Robt.).

polita (Say). D. C., N. C., Fla.

Genus **PTINOBIUS** Ashmead, p. 567

Taxonomy: Bouček, 1959, *loc. cit. supra*, p. 363 (prob. a syn. of *Cleonymus* Latreille).

Genus **CHEIRO?ACHUS** Westwood, pp. 567-568

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 102-103.

colan (Linnaeus). Canada, north. U. S. and Pacific Coast; Europe.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 103-107.

*Genus **COLOTRECHNUS** Thomson

Insert in tribe Cleonymini after *Cheiropachus* Westwood, p. 658.

***COLOTRECHNUS** subgenus **COLOTRECHNUS** Thomson

Colotrechnus Thomson, 1878. Hym. Scand., v. 5, p. 46.

Type: *Colotrechnus subcoeruleus* Thomson. By monotypy.

The typical subgenus does not occur in North America.

***COLOTRECHNUS** subgenus **ZANONIA** Masi

Zanonia Masi, 1921. Genova Mus. Civ. Stor. Nat. Ann., ser. 3, 9: 184.

Type: *Zanonia viridis* Masi. By monotypy.

Taxonomy: Masi, 1922. Soc. Ent. Ital. Bol. 54: 111 (closely rel. to *Colotrechnus* Thomson).—Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 233 (syn. of *Colotrechnus* Thomson).—Burks, 1958. Fla. Ent. 41: 13 (subg. of *Colotrechnus* Thomson).

**ignotus* Burks. N. C., Fla., Okla., Tex., Ariz., Calif. Host: Reared from heads of *Bidens* and other Compositae.

Colotrechnus (Zanonia) ignotus Burks, 1958. Fla. Ent. 41: 14. ♀, ♂.

Family **EURYTOMIDAE**Genus **HARMOLITA** Motschulsky, pp. 568-573

Taxonomy: Gahan, 1957. Brooklyn Ent. Soc. Bul. 52: 82-83.—Claridge, 1958. Ent. Mo. Mag. 94: 81-85 (*Tetramesa* Walker).—Claridge, 1961. Roy. Ent. Soc. London Trans. 113: 175-216 (*Tetramesa*

Walker).—Peck, 1963, *loc. cit. supra*, pp. 751-783 (*Tetramesa* Walker).

albomaculata (Ashmead). Holarctic.

Taxonomy and Biology: Claridge, 1961, *loc. cit. supra*, p. 211.

agropyrophila Phillips and Emery. Syn. of **cornuta** (Walker).

atlantica Phillips and Emery. Syn. of **linearis** (Walker).

bambusae Phillips. Ala.

***cornuta** (Walker). Atlantic Coast west to Kans.; Europe. Host: *Agropyron repens*.

Isosoma cornutum Walker, 1832. Ent. Mag. 1: 19. ♂.

Harmolita agropyrophila Phillips and Emery (syn. by Claridge, 1961, *loc. cit. supra*, p. 212).

dactylicola Phillips and Emery. Syn. of **longula** (Dalman).

festucae Phillips and Emery. Poss. syn. of European **H. giraudi** (von Schlechtendal) *teste* Claridge, 1961, *loc. cit. supra*, p. 194.

hordei (Harris). P. E. I.

Biology: Cannon, 1963. Canad. Ent. 95: 28.—Sterling and MacLaren, 1964. Canad. Jour. Plant Sci. 44: 53-56.

***linearis** (Walker). Holarctic; N. Y., Mich., Ind. Hosts: *Agropyron* spp.

Isosoma lineare Walker, 1832. Ent. Mag. 1: 22. ♀.

Harmolita atlantica Phillips and Emery (syn. by Claridge, 1961, *loc. cit. supra*, p. 192).

lolii Gahan. Oreg.

***longicornis** (Walker). N. Y., S. Dak.; Europe. Host: *Phalaris arundinacea*.

Isosoma longicorne Walker, 1832. Ent. Mag. 1: 17. ♂.

Harmolita phalaridis Phillips and Poos (syn. by Claridge, 1961, *loc. cit. supra*, p. 209).

***longula** (Dalman). Mass. and N. Y. south to Va., west to Mich., Tenn. and Utah; Europe. Host: *Dactylis glomerata*.

Eurytoma longula Dalman, 1820. Svenska Vetensk. Akad. Handl. 41: 173, pl. 7, fig. 15. ♂.

Harmolita dactylicola Phillips and Emery (syn. by Claridge, 1961, *loc. cit. supra*, p. 210).

maculata (Howard). England. Hosts: *Bromus* spp.

ovata Phillips and Emery. Sec. homonym of *Isosoma ovata* Szepliget, 1901; requires a new name, *teste* O. Peck *in litt.*

opuntiae Muesebeck. Tex., N. Mex., Nev., Calif.

phalaridis Phillips and Poos. Syn. of **longicornis** (Walker).

tritici (Fitch).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1257 (*basilaris* Provancher).

Genus GAHANIOLA Erdős, *Sup. 1*, p. 79

phyllostachitis (Gahan). Ala.; China, Japan.

Genus AXIMA Walker, p. 573

zabriskiei Howard. Que., Va., Ind., Tex., Calif.

Biology: Krombein, 1960. Ent. News 71: 32, 68.

Genus MACRORILEYA Ashmead, p. 573

oecanthi (Riley). Ariz.

Genus RILEYA Ashmead, p. 573

cecidomyiae Ashmead. Md., N. Mex., Tex., Idaho, Ariz. Hosts: *Asphondylia* spp.

Rileyia tegularis Gahan, 1918, n. syn.; types re-examined.

Biology: Highland, 1964. Jour. Econ. Ent. 57: 83.

mellea Ashmead. Host: Reared from leaf gall on *Eugenia axillaris*.

piercei Crawford. Fla.

regularis Gahan. Syn. of *cecidomyiae* Ashmead.

Genus **CHRYSEIDA** Spinola, p. 574

**bennetti* Burks. Tex.; Mexico, West Indies. Hosts: *Bruchus* sp. in *Cajanus cajan*, *Merobruchus* sp. in *Havardia brevifolia*.

Chryseida bennetti Burks, 1956. Brooklyn Ent. Soc. Bul. 51: 115. ♀.

Genus **TENUIPETIOLUS** Bugbee, Sup. 1, p. 80

medicaginis (Gahan). Tex., Calif.

Genus **EURYTOMA** Illiger, pp. 574-579

Delete *Eurytomocharis* from syn.; valid genus, *infra*.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 33-34.

abnormis Ashmead. Syn. of *conica* Provancher.

appendigaster (Swederus).

Taxonomy: Claridge, 1959. Ent. Mo. Mag. 95: 4.—Claridge, 1960. Ent. Medd. 29: 248 (*verticillata* Fabricius).—Peck, 1963, *loc. cit. supra*, p. 818 (*verticillata*).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 106-108.

ashmeadi Peck (= *minuta* Ashmead, 1894, not Walker, 1832). Transf. to *Eurytomocharis* Ashmead, *infra*.

auriceps Walsh, changed status.

Eurytoma auriceps auriceps Walsh of Catalog. Raised to sp. rank (*teste* Bugbee, 1956. Ent. Soc. Amer. Ann. 49: 503).

Eurytoma auriceps seminatrix Walsh (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

Eurytoma vagabunda Ashmead (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

auriceps seminatrix Walsh. Syn. of *auriceps* Walsh.

bicolor Walsh. Md. Host: Reared from *Aulacidea* gall on *Lactuca*.

bigeloviae Ashmead. Utah, Calif.

Eurytoma chalcidiformis Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

bolteri Riley, changed status.

Eurytoma bolteri bolteri Riley of Catalog. Raised to sp. by Miller, 1963. Ohio Jour. Sci. 63: 72.

Biology: Miller, 1963, *loc. cit. supra*, p. 72.

**brevivena* Bugbee. Ariz. Host: *Disholcaspis quercusglobulus* (Fitch) galls on *Quercus gambelli*.

Eurytoma brevivena Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 198. ♀, ♂.

**calycis* Bugbee. Ont. Host: Phytophagous in shoots of *Pinus banksiana*.

Eurytoma calycis Bugbee, 1961. Canad. Ent. 93: 33. ♀, ♂.

Biology: Thomas and Herdy, 1961. Canad. Ent. 93: 34-39.

**celtigalla* Bugbee. Tex. Host: ? *Phytophaga celtiphylla* Felt gall on *Celtis* spp.

Eurytoma celtigalla Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 49. ♀, ♂.

chalcidiformis Girault. Syn. of *bigeloviae* Ashmead.

conica Provancher. Ont. south to N. C., west to Kans. and Tex. Hosts: *Phloeosinus dentatus* (Say), scolytids in elm.

Eurytoma phloeosini Ashmead (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

Eurytoma abnormis (Ashmead) (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

crassineura Ashmead. Que. south to N. C. west to Idaho and Calif. Cited in error as sec. par. of *Acrobasis comptoniella* Hulst by Schaffner, 1959, *loc. cit. supra*, p. 90; specimens re-examined by R. E. Bugbee.

eragrostidis (Howard). Transf. to *Eurytomocharis* Ashmead, *infra*.

**flavovultus* Bugbee. Tex. Host: *Pachypsylla venusta* galls on *Celtis* spp.

Eurytoma flavovultus Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 45. ♀, ♂.

**furva* Bugbee. Calif. Host: *Disholcaspis washingtonensis* (Gill.) gall on *Quercus douglasii*.

Eurytoma furva Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 198. ♀, ♂.

gigantea Walsh. Mont.

Biology: Miller, 1959. Tenn. Acad. Sci. Jour. 34: 249-251.

**inornata* Bugbee. Md. Hosts: *Euplilis (Corynopus) rufigaster* (Pack.), *E. (C.) coarctata modesta* (Roh.), rarely *Trypoxylon (Trypoxylon)* sp. nesting in *Hibiscus* stems.

Eurytoma inornata Bugbee, 1962. Kans. Ent. Soc. Jour. 35: 347. ♀, ♂.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 103-104.

juniperina juniperina Marcovitch. N. Dak. Host: *Juniperus scopulorum* berries.

**levivultus* Bugbee. Ohio. Host: *Pachypsylla gemma* Riley galls on *Celtis* sp.

Eurytoma levivultus Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 48. ♀, ♂.

magdalidis Ashmead. N. C. Host: *Oncideres cingulata* (Say).

minnesota Girault, corrected spelling of *minncsotae* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 803.

muhlenbergiae (Howard). Transf. to *Eurytomocharis* Ashmead, *infra*.

nigricoxa Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

obtusiventris Gahan.

Biology: Miller, 1959, *loc. cit. supra*, p. 249.

orchidearum (Westwood).

Eurytoma phoenix Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

pachyneuron Girault. P. E. I. and N. Y., south to N. C., west to B. C. and Calif. Hosts: *Harmolita* spp. in *Elymus* spp.

Eurytoma phoebus Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

Eurytoma pater Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

parva Phillips, new status.

Eurytoma bolteri parva Phillips of Catalog. Raised to sp. by Bugbee, *in litt.*

pater Girault. Syn. of *pachyneuron* Girault.

phloesini Ashmead. Syn. of *conica* Provancher.

phoebus Girault. Syn. of *pachyneuron* Girault.

phoenix Girault. Syn. of *orchidearum* (Westwood).

**pini* Bugbee. Que. south to Fla., west to B. C. and Wash. Hosts: *Rhyacionia* spp. in *Pinus* spp.

Eurytoma pini Bugbee, 1958. Kans. Ent. Soc. Jour. 31: 197. ♀, ♂.

Biology: Watson and Arthur, 1959. Canad. Ent. 91: 480-484.—Schaffner, 1959, *loc. cit. supra*, p. 90 (*tylodermatis*).—Arthur, 1961. Canad. Ent. 93: 657.—Harman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

punctiventris Walsh. Syn. of *querciglobuli querciglobuli* (Fitch).

- querciglobuli querciglobuli** (Fitch), changed status. N. H. south to N. C., west to Minn. and Tex. Hosts: *Disholcaspis mamma* (Cress.), *D. virens* (Ashm.), *D. quercusglobulus* (Fitch) galls on *Quercus* spp.
- Macroglenes querciglobuli** Fitch (reduced to subsp. rank by Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 193-197).
- Eurytoma punctiventris** Walsh (syn. by Bugbee, 1958, *loc. cit. supra*, p. 193).
- Biology: Judd, 1957. Ent. News 68: 195.
- ***querciglobuli rubra** Bugbee. Fla., Miss. Hosts: *Disholcaspis virens* (Ashm.) and *D. spongiosa* galls on *Quercus virginiana*, *D. sp.* gall on *Q. stellata*.
- Eurytoma querciglobuli rubra** Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 196. ♀.
- ***querciglobuli utahensis** Bugbee. Utah. Host: *Disholcaspis colorado* (Gill.) gall on *Quercus utahensis*.
- Eurytoma querciglobuli utahensis** Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 197. ♀.
- ***sciromatis** Bugbee. N. C., Ga., Fla., La. Host: Reared from cankers on *Pinus* spp. of *Cronartium fusiforme*; may be phytophagous.
- Eurytoma sciromatis** Bugbee, 1962. Kans. Ent. Soc. Jour. 35: 346. ♀, ♂.
- ***semivenae** Bugbee. N. Y. west to Kans. and Tex. Hosts: *Pachypsylla vesicula* Riley and *P. mamma* Riley galls on *Celtis* spp.
- Eurytoma semivenae** Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 47. ♀, ♂.
- solenozopheriae** Ashmead. Fla. Name prob. cited in error as sec. par. of *Bucculatrix ainshliella* Murt. by Schaffner, 1959, *loc. cit. supra*, p. 90.
- stigma** Ashmead. Nev., Calif. Hosts: *Hoplitis producta gracilis* (Mich.), *Pemphredon giffardi* (Roh.), *Solierella similis* (Bridw.), *Trypoxylon sculleni* Sandh.
- studiosa** Say. Que. and Ont. south to Fla., west to Colo. and N. Mex. Host: *Disholcaspis succinipes* (Ashm.).
- Eurytoma succinipedis** Ashmead (syn. by Bugbee, 1956, *loc. cit. supra*, p. 505).
- succinipedis** Ashmead. Syn. of *studiosa* Say.
- triodiae** (Howard). Transf. to *Eurytomocharis* Ashmead, *infra*.
- ***tumoris** Bugbee. Calif. Host: ? Phytophagous in stems and branches of *Pinus sylvestris*.
- Eurytoma tumoris** Bugbee, 1962. Kans. Ent. Soc. Jour. 35: 345. ♀, ♂.
- Biology: Stark and Koehler, 1964. Pan-Pacific Ent. 40: 41-46.
- tylodermais** Ashmead. Hosts: Curculionidae only; other published host records should be disregarded, *teste* R. E. Bugbee *in litt.* Records as par. of *Rhyacionia* spp. in Schaffner, 1959, *loc. cit. supra*, p. 90, should be referred to **pini** Bugbee.
- vagabunda** Ashmead. Syn. of **auriceps** Walsh.

Genus EURYTOMOCHARIS Ashmead

Delete from syn. under *Eurytoma* Illiger, p. 574, and insert as valid genus following *Eurytoma*, p. 579.

Taxonomy: Bugbee, 1956, *loc. cit. supra*, pp. 505-506.—Peck, 1963, *loc. cit. supra*, pp. 831-832.

ashmeadi (Peck), n. comb. Transf. from *Eurytoma* Illiger, *teste* Peck, 1963, *loc. cit. supra*, p. 831 (*minuta* Ashmead).

eragrostidis Howard. Transf. from *Eurytoma* Illiger; types examined.

muhlenbergiae (Howard). Transf. from *Eurytoma* Illiger, *teste* Bugbee, 1956, *loc. cit. supra*, p. 505.

triodiae Howard. Transf. from *Eurytoma* Illiger; types examined.

Genus *HEIMBRA* Cameron, Sup. 1, p. 82

opaca (Ashmead) [= *opacas* (!) of Sup. 1, p. 82]. Kans., N. Mex., Utah, Calif.

Genus *EUDECATOMA* Ashmead, pp. 579-582

Nomenclature: Peck, 1963, *loc. cit. supra*, pp. 833-844 (subsp. ch. to var.).

amsterdamensis (Girault). Syn. of *mellea* (Curtis).

florida (Girault), corrected spelling of *floridiae* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 836.

**mellea* (Curtis). Que., N. Y., Oreg.; Holarctic. Hosts listed in Catalog under *amsterdamensis* (Girault), p. 579.

Decatoma mellea Curtis, 1831. Brit. Ent. 8: 345. ♂ (= ♀).

Decatoma amsterdamensis Girault, 1917 (syn. by Claridge, 1959. Soc. Brit. Ent. Trans. 13: 152, 160).

nubilistigma (Walsh). N. H. Host: Reared from gall of *Euura* sp. on *Salix discolor*.

occidentalis occidentalis (Balduf). Utah, Oreg. Hosts: *Disholcaspis cldoradensis* (Beut.), *Xanthoteras eburneum* (Bass.), twig gall on *Quercus garryana*.

vacciniicola (Balduf).

Biology: Judd, 1959. Amer. Micros. Soc. Trans. 78: 213.

Genus *SYSTOLE* Walker, p. 582

Taxonomy: Claridge, 1959. Ent. Mo. Mag. 95: 38.

geniculata Foerster.

Biology: Roberts, 1963. Jour. Econ. Ent. 56: 541.

Genus *BRUCHOPHAGUS* Ashmead, pp. 582-583

Taxonomy: Bouček, 1954. Mus. Nat. Pragmae Acta Ent. 30: 76 (subg. of *Eurytoma*).—Fedoseeva, 1954. Mosk. Univ. Vestnik 9 (5): 113-118.—Fedoseeva, 1958. Zool. Zhur. 37: 1345-1351.

Biology: Burks, 1958 (1957). Ent. Soc. Wash. Proc. 59: 273-277 (hosts).—Fedoseeva, 1960. Nauch. Dok. Vyssh. Shkoly. Biol. 3: 14-18 (ecology).

**kolobovae* Fedoseeva. Cosmopolitan. Hosts: Seeds of *Lotus* spp.

Bruchophagus kolobovae Fedoseeva, 1956. Akad. Nauk S.S.S.R. Dokl. 111: 491. ♀, ♂.

Taxonomy: Fedoseeva, 1958, *loc. cit. supra*, p. 1349.—Perju, 1960. Acad. R. P. Romaine, Bucharest Comun. 10: 575.—Szélenyi, 1961. Budapest. Növen. Kut. Int. Ekvön 8: 133, 136.—Strong, 1962. Ent. Soc. Amer. Ann. 55: 1-4.

mexicanus Ashmead. Idaho, Ariz., Calif. Host: Seeds of *Astragalus mollissimus*.

**platyptera* (Walker). Cosmopolitan. Hosts: Seeds of clovers.

Systole platyptera Walker, 1834. Ent. Mag. 2: 153. ♀.

Eurytoma gibba Boheman, 1836 (syn. by Claridge, 1959. Ent. Mo. Mag. 95: 39 [syn. questionably by Erdős, 1951. Folia Ent. Hung., n. s., 4: 60 and Hellén, 1953. Not. Ent. 33: 18]).

Biology: Carillo and Dickason, 1963. Oreg. State U. Agr. Expt. Sta. Tech. Bul. 68, p. 11 (*gibbus*).

Taxonomy: Fedoseeva, 1954, *loc. cit. supra*, pp. 115, 117 (*gibbus*).—Strong, 1962, *loc. cit. supra*, pp. 1-4 (*gibbus*).

**roddei* (Gussakovsky). Cosmopolitan. Hosts: Seeds of *Medicago* spp.

Euryfoma [*Eurytoma*] *roddei* Gussakovsky in Rodd, Gussakovsky and Antova, 1933. [Pests of dry-farming crops of Cent. Asia, Tashkent], pp. 122, 150. ♀, ♂.

**Bruchophagus gibbus medicaginis* Kolobova, 1950. Ent. Obozr. 31: 70 (syn. by Perju, *loc. cit. supra*, p. 575).

Taxonomy: Nikolskaya, 1952. Acad. Sci. U.S.S.R., Keys to Fauna of U.S.S.R. 44: 173, 175.—Fedoseeva, 1954, *loc. cit. supra*, p. 116.—Fedoseeva, 1958, *loc. cit. supra*, p. 1349.—Strong, 1962, *loc. cit. supra*, pp. 1-4.

Biology: Strong, 1962. Hilgardia 32: 229-248.—Carillo and Dickason, 1963, *loc. cit. supra*, p. 25.—Strong, Bacon, and Russell, 1963. Hilgardia 35: 1-12.

sculptus (Ashmead), corrected spelling of *sculpta* of Sup. 1, p. 82, *teste* Peck, 1963, *loc. cit. supra*, p. 831.

Family CHALCEDECTIDAE

Genus CHALCEDECTUS Walker, p. 584

**Episystole* Girault, 1927. S. Austr. Mus. Rec. 3: 317.

Type: *Episystole poeta* Girault. Orig. desig.

**Neochalcodectus* Masi, 1936. Soc. Ent. Ital. Bol. 68: 68.

Type: *Neochalcodectus sinaiticus* Masi. By monotypy.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 568.

Genus EUCHRYSLIA Westwood, p. 584

hyalinipennis Ashmead. Fla., N. Mex., Ariz. Host: *Oncideres rhodosticta* Bates.

Family CHALCIDIDAE

Subfamily HALTICHELLINAE

Genus HALTICHELLA Spinola, p. 584

longicornis Ashmead.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 110.

rhyacioniae Gahan. Mass. south to S. C. and Miss., west to Nebr. and Tex. Host: *Rhyacionia rigidana* (Fern.).

Biology: Miller and Neiswander, 1959. Ohio Agr. Expt. Sta. Res. Bul. 840, p. 18.—Schaffner, 1959, *loc. cit. supra*, p. 91.

xanticles (Walker). Iowa, Okla., Tex., Sask. Hosts: *Grapholitha molesta* (Busck), *Coleophora laricella* Hbn., *Exotelecia pinifoliella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 91.—Allen, 1962, *loc. cit. supra*, p. 109.

Genus HOCKERIA Walker

(= *Stomatoceras* Kirby of Catalog, p. 585)

Hockeria Walker, 1834. Ent. Mag. 2: 21, 34.

Type: *Chalcis bispinosa* Fabricius. Desig. by Kirby, 1883.

Taxonomy: Bouček, 1951. Mus. Nat. Pragae Acta Ent. 27, Sup., p. 61.—Steffan, 1953. Feuille Nat. (Cahiers Nat.), n.s., 8: 10.—Habu, 1960. Nat. Inst. Agr. Sci. Japan Bul., ser. C, 11: 220.

Use of this generic name is provisional, to conform with preponderant usage in current literature. Since the genotype of *Stomatoceras* is a misidentified species, the case should be referred to the Internatl. Comm. on Zool. Nomencl.

americensis (Girault), new status.

Stomatoceras unipunctatipennis americensis Girault, 1918 (ch. from subsp. to sp.; types re-examined).

eriensis (Wallace), new status. Del. south to N. C., west to N. Dak., Kans., Tex., Calif.

Stomatoceras rubra var. *ericensis* Wallace, 1942 (ch. to sp. by Steffan, 1959. *Vie et Milieu* 10: 304).

rubra (Ashmead), new status. Calif., Mexico. Host: *Harrisina brillians* B. & McD. Ch. from subsp. to sp. by Steffan, 1959, *loc. cit. supra*, p. 304.

tenuicornis (Girault). Calif.

unipunctatipennis (Girault), new status. N. Y. south to Fla., west to Oreg., Calif. Hosts: *Neodiprion* spp.

Stomatoceras unipunctatipennis unipunctatipennis of Catalog (ch. from subsp. to sp.; types re-examined).

Genus SCHWARZELLA Ashmead, p. 585

The female of this genus has not been identified.

arizonensis Ashmead. N. Mex., Calif.

Subfamily BRACHYMERIINAE

Taxonomy: Steffan, 1959. *Mus. Nat. Pragmae Acta Ent.* 33: 287-290.

*Tribe CRATOCENTRINI

Genus ACANTHOCHALCIS Cameron, p. 585

Revision: Steffan, 1959, *loc. cit. supra*, pp. 306-309.

ACANTHOCHALCIS subgenus ACANTHOCHALCIS Cameron

Changed from genus to subgenus, by Steffan, 1959, *loc. cit. supra*, p. 307.

nigricans Cameron. Kans., Okla.; Mexico.

*ACANTHOCHALCIS subgenus BELOCHALCIS Steffan

Acanthochalcis subg. *Belochalcis* Steffan, 1959. *Mus. Nat. Pragmae Acta Ent.* 33: 308.

Type: *Acanthochalcis unispinosa* Girault. By monotypy.

unispinosa Girault. Ariz.

*Tribe PHASGONOPHORINI

Genus PHASGONOPHORA Westwood, p. 585

sulcata Westwood. N. H.

Genus TRIGONURA Sichel, p. 586

**Bactrochalcis* Kieffer, 1912. *Soc. Ent. de France Ann.* 80: 463.

Type: *Bactrochalcis reticulata* Kieffer. By monotypy.

Revision: Burks, 1959. *Ent. Soc. Amer. Ann.* 52: 75-81.

**algeri* Burks. Tex., Ariz., Calif. Hosts: *Chrysobothris pinta* Wickham, *C. octocola* Lec.

Trigonura algeri Burks, 1959. *Ent. Soc. Amer. Ann.* 52: 77. ♀, ♂.

californica Rohwer. Utah, Ariz., Oreg. Host: *Chrysobothris femorata* (Olivier).

elegans (Provancher). Conn., Ont., N. Y., Pa., W. Va., Ark. Hosts: *Agrilus* sp., *Chrysobothris femorata* (Oliv.), *C. sexsignata* (Say), *Magdalis armicollis* (Say), *M. barbata* (Say), *M. olyra* (Hbst.), ? *Scolytus* sp.

Trigonura hicorniae Rohwer, 1919 (syn. by Burks, 1959, *loc. cit. supra*, p. 78).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260

hicorniae Rohwer. Syn. of *elegans* (Provancher).

**insularis* (Cresson). Fla.; West Indies.

Phasgonophora insularis Cresson, 1865. Ent. Soc. Phila. Proc. 4: 102. ♀, ♂.

**pini* Burks. B. C., Oreg., Calif.

Trigonura pini Burks, 1959. Ent. Soc. Amer. Ann. 52: 80. ♀, ♂.

tarsata (Dalla Torre). N. B., Vt., Mass., Ont., Pa., N. C., Ohio. Hosts: *Magdalis armicollis* (Say), *M. barbata* (Say).

**ulmi* Burks. Que., Ont., N. Y., N. J., Pa., N. C., Ill., Iowa. Hosts: *Magdalis armicollis* (Say), *Scolytus quadrispinosus* Say., *Scolytus* sp.

Trigonura ulmi Burks, 1959. Ent. Soc. Amer. Ann. 52: 80. ♀, ♂.

*Tribe BRACHYMERIINI

Genus BRACHYMERIA Westwood, p. 586

Revision: Burks, 1960. Amer. Ent. Soc. Trans. 86: 225-273.

BRACHYMERIA subgenus BRACHYMERIA Westwood

Ch. from gen. to subg. by Habu, 1960. Nat. Inst. Agr. Sci. Japan Bul., Ser. C, 11, p. 144.

**aeca* Burks. N. S., Que., Maine, south to Fla., west to B. C. and N. Mex.

Hosts: *Chaetophlepsis* sp., prob. other Tachinidae parasitic on Lepidoptera larvae, poss. also Tenthredinidae.

Brachymeria (Brachymeria) aeca Burks, 1960. Amer. Ent. Soc. Trans. 86: 242. ♀, ♂.

belfragei (Crawford). Tex.; Mexico, Honduras, Panamá.

coloradensis (Cresson). N. H. and Ont., south to Fla., west to B. C. and Calif.; Holarctic. Hosts: *Sarcophaga kellyi* Ald., *S. hunteri* Hough, par. on grasshoppers.

Chalcis tachinae Howard, 1885 (syn. by Burks, 1960, *loc. cit. supra*, p. 251).

Biology: Smith, 1957. Canad. Jour. Res. 36: 258.—Spencer, 1958. 10th Internatl. Ent. Cong. Proc. 4: 497.

**comitator* (Walker). Fla., Tex.; Mexico south to Colombia and Brazil.

Hosts: *Ceramidia butleri* (Mos.), *C. viridis* (Druce), *C. sp.*, *Alabama argillacea* (Hbn.), *Pieris* sp.

Chalcis comitator Walker, 1862. Ent. Soc. London Trans., ser. 3, 1: 350. ♂.

compsilurae (Crawford). Maine, N. H., and Ont., south to N. C. and Tenn.; Mich., Ill., Wis., Minn., Man., Mont., south to Colo. and N. Mex., B. C., Oreg. Hosts: *Rileymyia fulvipes* (Bigot), other Tachinidae par. on Lepidoptera.

hammari (Crawford). Ark., Kans., Tex. west to Oreg. and Calif.; Mexico. Hosts: *Argyrotaenia citrana* (Fern.), *Carpocapsa pomonella* (L.), *Platynota stultana* (Wlsh.), *Psorosina hammondi* (Riley), ?*Cremastus cookii* Weed.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 110.

fonscolombi (Dufour). Worldwide in warm-temperate zone.

**intermedia* (Nees). Mass., Conn.; S. Europe, Near and Middle East. Hosts: Pupae of many Lepidoptera.

Chalcis intermedia Nees, 1834. Hym. Ichn. affin. Monog., v. 2, p. 29. ♂.
Distribution: Burks, 1960. Ent. News 71: 62.

incerta (Cresson). Fla.; West Indies, Mexico. Hosts: *Alabama argillacea* (Hbn.), *Celerio lineata* (Fab.), *Heliothis zea* (Bod.), *Laphygma frugiperda* (Sm.), *Lymire edwardsi* (Grote), *Megalopyge krugii* Dew., *M. opercularis* (A. & S.), *Neonympha* sp., *Oiketicus abbotii* Grote, *Papilio cressphontes* Cram., *Mocis latipes* (Guén.).

louisianae (Girault). Syn. of *columbiana* (Howard) in subg. *Pseudobrachymeria*.

**molestae* Burks. Md. south to Fla., west to Ind., Tenn. and Miss. Hosts: *Grapholitha molesta* (Busck), *Anchylopera platanana* Clem., *Arogalea cristifasciella* (Chamb.).

Brachymeria (Brachymeria) molestae Burks, 1960. Amer. Ent. Soc. Trans. 86: 245. ♀, ♂.

ovata (Say), changed status. Ont.; U. S. south of Maine, N. H., and Mont. Hosts: Over 100 spp. of Lepidoptera, from Psychidae to Papilionidae. Raised from subsp. to sp. rank by Burks, 1960, *loc. cit. supra*, p. 258.

Chalcis ovata var. *abiesae* Girault, 1917 (syn. by Burks, 1960, *loc. cit. supra*, p. 259).

Biology: Genung, 1959. Fla. Ent. 42: 40.—Schaffner, 1959, *loc. cit. supra*, p. 91.—Allen, 1962, *loc. cit. supra*, pp. 110-111.

ovata abiesae Girault. Syn. of *ovata* Say.

ovata ovata (Say). Raised to sp. rank.

robusta (Cresson), corrected spelling of *robustus* of Catalog, *teste* Genung, 1958. Fla. Ent. 41: 191.

Biology: Genung, 1959. Fla. Ent. 42: 40.

**russelli* Burks. Miss., Tex., N. Mex., Ariz.; Mexico. Hosts: *Coptocycla (Psalidonota) texana* (Schaeffer), *Chelymorpha cassidea* (Fab.), *Nuzonia* sp.

Brachymeria (Brachymeria) russelli Burks, 1960. Amer. Ent. Soc. Trans. 86: 240. ♀, ♂.

slossonae (Crawford.) Fla. Host: *Ephyriades brunnea floridensis* B. & C.

tachinae (Howard). Syn. of *coloradensis* (Cresson).

tegaris (Cresson). Ill. and Tenn. west to Wash., Oreg., and Calif. Host: *Hemithrixion oestriforme* B. B.

Biology: Smith, 1957. Canad. Jour. Zool. 36: 259.—Spencer, 1958. Int. Cong. Ent. 10 Proc., v. 4, p. 501.

**truncata* Burks. Syn. of *truncatella* Burks.

**truncatella* Burks, new name. Sask., Nebr., Tex., Colo., N. Mex., Ariz., Calif.

**Brachymeria (Brachymeria) truncata* Burks, 1960. Amer. Ent. Soc. Trans. 86: 234. ♀, ♂. Preocc. by *Brachymeria truncata* (Schmitz), 1946.

**weemsi* Burks. Fla.

Brachymeria (Brachymeria) weemsi Burks, 1960. Amer. Ent. Soc. Trans. 86: 236. ♀.

*BRACHYMERIA subgenus GAHANULA Burks

Brachymeria subg. *Gahanula* Burks, 1960. Amer. Ent. Soc. Trans. 86: 261.

Type: *Brachymeria discreta* Gahan. Orig. desig.

discreta Gahan. Tex., Ariz., Calif., Hawaii; Mexico. Hosts: *Tinea* sp., ? pyraustid moth infesting *Polistes instabilis* Sauss. nest.

discretoidea Gahan. Tex., Ariz.; Mexico, Panamá. Host: Unident. moth infesting *Trigona amalthea* (Oliv.) nest.

*BRACHYMERIA subgenus PSEUDOBRACHYMERIA Burks

Brachymeria subg. *Pseudobrachymeria* Burks, 1960. Amer. Ent. Soc. Trans. 86: 263.

Type: *Pseudochalcis conica* Ashmead. Orig. desig.

columbiana (Howard). D. C., Va., Fla., La. Host: ? *Laetilia coccidivora* Comst.

Chalcis louisianae Girault (syn. by Burks, 1960, *loc. cit. supra*, p. 266).

**conica* (Ashmead). Tex.; south through Cent. Amer. to Brazil; Trinidad, W. I.

Pseudochalcis conica Ashmead, 1904. Carnegie Mus. Mem. 1: 407. ♀.

**flegiae* Burks. Fla., Tex. Host: *Palpita flegia* (Cram.).

Brachymeria (Pseudobrachymeria) flegiae Burks, 1960. Amer. Ent. Soc. Trans. 86: 271. ♀, ♂.

**laetiliae* Burks. N. Car., Okla., N. Mex., Ariz., Calif. Hosts: *Laetilia cocci-divora* Comst., *L. zamacrella* Dyar.

Brachymeria (Pseudobrachymeria) laetiliae Burks, 1960. Amer. Ent. Soc. Trans. 86: 268. ♀, ♂.

pedalis (Cresson). Tex., Colo., N. Mex., Ariz., Calif. Hosts: *Noctuelia elau-talis* (Grote), *Melittara prodenialis* Walk., *M. dentata* Grote, *Ozamia clarefacta* Dyar.

**psyche* Burks. Fla. Host: *Oiketiscus abbotii* Grote.

Brachymeria (Pseudobrachymeria) psyche Burks, 1960. Amer. Ent. Soc. Trans. 86: 267. ♀.

Subfamily DIRHININAE

Genus DIRHINUS Dalman, p. 588

**Dirrhinoidea* Girault, 1912. Arch. Naturg. 78 (A) 9: 165.

Type: *Dirrhinoidea maculata* Girault. Orig. desig.

**Eniacella* Girault, 1913. Wis. Nat. Hist. Soc. Bul. 11: 35.

Type: *Eniacella ruficornis* Girault. Orig. desig.

Taxonomy: Habu, 1960, *loc. cit. supra*, p. 309.

texanus (Ashmead). Ariz., Calif.

Dirhinus paoli Burks, n. syn.; addl. mat. shows it to be in range of var. of *texanus* (Ashmead).

paoli Burks. Syn. of *texanus* (Ashmead).

Subfamily CHALCIDINAE

Genus METADONTIA Ashmead, p. 588

amoena (Say). Md. south to Fla. west to Ill., Mo., Kans., Tex., N. Mex., Ariz., Calif.; Mexico, Cent. and S. America.

Genus CHALCIS Fabricius, p. 588-589

barbara (Cresson). Mich. In ref. to orig. descr. ch. ♂ to "♂" = ♀.

canadensis (Cresson).

Biology: Judd, 1953. Amer. Midl. Nat. 49: 817.

divisa (Walker). Calif.; Mexico.

Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 303.

lasia Burks. Ariz.

megalomis Burks. Oreg. Host: *Stratiomys* sp.

phoenicapoda Burks.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 869 (*rufipes* Kirby).

Genus SPILOCHALCIS Thomson, pp. 589-592

albifrons (Walsh).

Biology: Poinar and Gyrisco, 1963. Jour. Econ. Ent. 56: 534.

dema Burks. Pa., Calif.; Mexico.

mariae (Riley), corrected spelling of *maria* (Riley) of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 881.

nortonii (Cresson). Conn.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 91.

odontotae Howard. Fla.; Mexico.

phoenica Burks. Ariz., Calif.; Mexico.

side (Walker).

Biology: Arthur, 1958. *Canad. Ent.* 90: 590-595.—Schaffner, 1959, *loc. cit. supra*, p. 91.—Allen, 1962, *loc. cit. supra*, p. 111.

xanthostigma (Dalman). Delete; extralimital. *Ont.* specimen det. as this is **albifrons** (Walsh); specimen re-examined.

Genus **CERATOSMICRA** Ashmead, pp. 592-593

debilis (Say). Md., Ariz., Calif.; Mexico, West Indies.

Family LEUCOSPIDIDAE

Genus **LEUCOSPIS** Fabricius, p. 593

Taxonomy: Burks, 1961. *Stud. Ent. Rio de Janeiro* 4: 540.—Habu, 1962. *Fauna Japonica*, Chalc., *Leucosp.*, and *Podagr.*, pp. 165-170.

affinis affinis Say. Hosts: *Anthidium maculosum* Cress., *Ashmeadiella aridula* Ckll., *Megachile inermis* Prov., *M. relativa* Cress., *M. gentilis* Cress., *Stelis* sp., *Hoplitis producta* (Cress.), *Osmia kincaidii* Ckll.

Biology: Medler, 1958. *Ent. News* 69: 21-24.—Medler and Koerber, 1958. *Ent. Soc. Amer. Ann.* 51: 340-344.—Medler, 1958. *Canad. Ent.* 90: 326-327.

Taxonomy: Michener, 1954. *Univ. Kans. Sci. Bul.* 35: 1743 (subsp. ch. to sp.).

affinis floridana Cresson. Delete Mass. from dist.; spec. discolored by cyanide. Hosts: *Megachile (Chelostomoides) georgica* Cress., *M. (Sayapis)* sp.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 894 (subsp. ch. to var.).

birkmani Brues. Fla., Ariz., Calif.; Mexico.

robertsoni Crawford. Ala.

slossonae Weld. Host: *Anthidiellum* sp.

texana Cresson. Ala.

Unplaced Genera, p. 593

Lophocomodia Ashmead, 1888. Transf. to Sphegigasterini following **Heteroschema** Gahan, p. 543.

Pteratomus Packard. Transf. to Mymaridae as syn. under **Anagrus** Haliday, p. 415.

Unplaced Species, p. 594

Lophocomodia americana Ashmead. Transf. to Sphegigasterini, p. 543.

Diomorus biorhizae Ashmead. Transf. from **Diomorus** Walker, p. 527.

Type lost; species is apparently a *Torymus*.

Halticoptera brodiei Ashmead. Transf. from **Halticoptera** Spinola, p. 542.

Type lost, but original description clearly not of a *Halticoptera*.

Coccophagus brunneus Provancher.

Taxonomy: Burks, 1964. *loc. cit. supra*, p. 1257.

Camptoptera clavata Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

Semiotellus fasciatus Provancher. Transf. to **Arthrolytus** Thomson, p. 557.

***Solenotus fletcheri** Cockerell, 1889. *Colo. Biol. Assn. Rpt.* 6: [2].

Entedon imbratus Walker. Transf. to **Chrysocharis** Foerster, p. 463.

Perilampus laevis Provancher. Transf. to **Elatus** Walker, p. 519.

Semiotellus minimus Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

**Meraporus monticola* Ashmead, 1889. Colo. Biol. Assn. Rpt. 3: [4].

Pteromalus nigricornis Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260.

Semiotellus oblongus Provancher. Transf. to *Tridymus* Ratzeburg, p. 546.

Rhopalicus pallipes Provancher. Transf. from *Rhopalicus* Foerster *teste* Burks, 1964, *loc. cit. supra*, p. 1261.

Eulophus ramosus Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1258.

Superfamily CYNIPOIDEA

Family IBALIIDAE

Genus *IBALIA* Latreille, pp. 594-595

ensiger Norton.

Biology: Wickman, 1964. Pan-Pacific Ent. 40: 19.

Family CYNIPIDAE

Taxonomy: Weld, 1957. Cynipid Galls of the Pacific Slope, 80 pp., Ann Arbor, Mich.—Weld, 1959. Cynipid Galls of the Eastern U. S., 156 pp., Ann Arbor, Mich.—Weld, 1960. Cynipid Galls of the Southwest, 52 pp., Ann Arbor, Mich. (All privately printed.)

TRYBLOGRAPHA subgenus DIDICTYUM Riley

(= *Trybliographa* subg. *Hexaplasta* Foerster of Catalog, p. 603)

Taxonomy: Weld, 1962 (1961). Ent. Soc. Wash. Proc. 63(4): 280. When *Hexaplasta* Foerster was made a synonym of *Hexacola* Foerster the name *Didictyum* was revived for *Hexaplasta* of authors and as a subgenus in *Trybliographa*.

zigzag Riley. Fla. Host: *Megaselia etletiae* (Comstock). In reference to o.d., add pp. 214, 500, and Amer. Ent. 3: 52, 1880.

Taxonomy: Weld, 1962, *loc. cit. supra*, p. 280.

TRYBLOGRAPHA subgenus TRYBLOGRAPHA Foerster, pp. 603-604

rapae (Westwood). Hosts: *Hylemyia* spp.

Biology: Wishart and Monteith, 1954. Canad. Ent. 56: 145-154, 14 figs. (early stages).

Genus SYNERGUS Hartig, pp. 610-613

**magnificus* Weld. Calif. Reared from galls of *Disholcaspis truckeensis* (Ashmead).

Synergus magnificus Weld, 1957. U. S. Natl. Mus. Proc. 107: 107. ♀, ♂.

Genus CEROPTRES Hartig, p. 614

**montensis* Weld. Calif. Reared from galls of *Andricus reniformis* McCracken and Egbert.

Ceroptres montensis Weld, 1957. U. S. Natl. Mus. Proc. 107: 108. ♀, ♂.

Genus NEUROTERUS Hartig, pp. 620-624

**floricornis* Weld. Ariz. Gall on *Quercus reticulata*.

Neuroterus floricornis Weld, 1957. U. S. Natl. Mus. Proc. 107: 109. ♀, ♂, 0.

**lamellae* Weld. Ariz. Gall on *Quercus subturbinella*.

Neuroterus lamellae Weld, 1957. U. S. Natl. Mus. Proc. 107: 109-110. ♀, 0.

**florulentus* Weld. Calif. Gall on *Quercus dumosa* and *Q. lobata*.

Neuroterus florulentus Weld, 1957. U. S. Natl. Mus. Proc. 107: 110. ♀, ♂, 0.

Genus LIODORA Foerster, p. 629

**dumosae* Weld. Calif. Gall on *Quercus dumosa*.

Liodora dumosae Weld, 1957. U. S. Natl. Mus. Proc. 107: 111. ♀, ♂, 0.

Genus AMPHIBOLIPS Reinhard, p. 630-631

**murata* Weld. Fla. Gall on *Quercus myrtifolia*, *Q. pumila*, *Q. laurifolia*, and *Q. cinerea*.

Amphibolips murata Weld, 1957. U. S. Natl. Mus. Proc. 107: 111-112. ♀, 0.

Genus ANDRICUS Hartig, pp. 631-637

crystallinus Bassett. Calif.

Biology: Douth, 1960. Pan-Pacific Ent. 36(5): 167-170, ♀, ♂, 0 (describes the alternating bisexual generation on the leaves of *Quercus douglasii*).

foliaformis Gillette. Ariz. Gall on *Quercus bicolor*, *Q. macrocarpa*.

Andricus foliosus Weld, 1926. N. syn.

**mendocinensis* Weld. Calif. Gall on *Quercus densiflora*.

Andricus mendocinensis Weld, 1957. U. S. Natl. Mus. Proc. 107: 112. ♀, 0.

Genus DISHOLCASPIIS Dalla Torre and Kieffer, pp. 638-640

**edura* Weld. Ariz. Gall on *Quercus oblongifolia* and *Q. arizonica*.

Disholcaspis edura Weld, 1957. U. S. Natl. Mus. Proc. 107: 113. ♀, 0.

**mamillana* Weld. Calif. Gall on *Quercus douglasii*.

Disholcaspis mamillana Weld, 1957. U. S. Natl. Mus. Proc. 107: 115. ♀, 0.

**mellifica* Weld. Calif. Gall on *Quercus garryana*.

Disholcaspis mellifica Weld, 1957. U. S. Natl. Mus. Proc. 107: 114. ♀, 0.

**prehensa* Weld. Calif. Gall on *Quercus dumosa*.

Disholcaspis prehensa Weld, 1957. U. S. Natl. Mus. Proc. 107: 113. ♀, 0.

**spissa* Weld. Ariz. Gall on *Quercus subturbinella*, *Q. arizonica*, *Q. harardi*.

Disholcaspis spissa Weld, 1957. U. S. Natl. Mus. Proc. 107: 114. ♀, 0.

Genus ANTRON Kinsey, pp. 640-641

**magdalenae* Weld. N. Mex. Gall on *Quercus subturbinella*.

Antron magdalenae Weld, 1957. U. S. Natl. Mus. Proc. 107: 116. ♀, 0.

Genus LOXAULUS Mayr, p. 643

**beutenmuelleri* Weld. N. J., Pa., Ill. Gall on *Quercus rubra*, northern red oak.

Loxaulus beutenmuelleri Weld, 1957. U. S. Natl. Mus. Proc. 107: 116-117. ♀.

Genus DRYOCOSMUS Giraud, pp. 645-646

dubiosus (Fullaway). Calif. Galls on *Quercus agrifolia*.

Dryocosmus bicornis McCracken and Egbert (syn. by Douth, 1959. Ent. Soc. Amer. Ann. 52(1): 69-74. ♀, 0). *D. bicornis* is alternating agamic generation on the leaves.

Genus HETEROECUS Kinsey, pp. 646-647

pacificus (Ashmead).

Biology: Lyon, 1963. Ent. Soc. Wash. Proc. 65(3): 250-254, figs. A, B, C, D. (Describes the alternating bisexual generation on the leaves. ♀, ♂, 0.)

Genus CALLIRHYTIS Foerster, pp. 647-653

agrifoliae (Ashmead).

Biology: Lyon, 1964. Ent. Soc. Wash. Proc. 66(3): 193. (Describes the alternating bisexual generation on *Quercus agrifolia*. ♀, ♂, 0.)

**balanella* Weld. Ariz. Gall on *Quercus emoryi*.

Callirhytis balanella Weld, 1957. U. S. Natl. Mus. Proc. 107: 117. ♀, 0.

**floripara* Weld. Calif. Gall on *Quercus agrifolia*.

Callirhytis floripara Weld, 1957. U. S. Natl. Mus. Proc. 107: 118. ♀, ♂, 0.

**glomerosa* Weld. Va. Gall on *Quercus coccinea*.

Callirhytis glomerosa Weld, 1957. U. S. Natl. Mus. Proc. 107: 119. ♀, 0.

**intersita* Weld. Va. Taken ovipositing in internodes of new growth of *Quercus alba*.

Callirhytis intersita Weld, 1957. U. S. Natl. Mus. Proc. 107: 119. ♀.

**medularis* Weld. Pa., Va., Ohio. Gall on *Quercus velutina* and *Q. coccinea*.

Callirhytis medularis Weld, 1957. U. S. Natl. Mus. Proc. 107: 121. ♀, ♂, 0.

**perobscura* Weld. Va. Ovipositing in buds of *Quercus velutina*.

Callirhytis perobscura Weld, 1957. U. S. Natl. Mus. Proc. 107: 122. ♀.

pomiformis (Ashmead).

Biology: Lyon, 1959. So. Calif. Acad. Sci. Bul. 58(1): 33-37. (Describes the alternating bisexual generation on the leaves of *Quercus agrifolia*. ♀, ♂, 0.)

Genus Undetermined, p. 653

Oxylabis bifoveolata Brues, transf. from Diapriidae, p. 681 (*teste* L. Masner, who has examined the type in Amer. Mus. Nat. Hist. coll.).

Rhodites fusiformans Cockerell, 1890. Entomologist 23: 75. 0 only.

Rhodites globosus Cockerell, 1890. Entomologist 23: 75. 0 only.

Rhodites spinosellus Cockerell. Catalog p. 654. Delete *Nom. nud.*

*Superfamily EVANIOIDEA

Taxonomy: Short, 1959. Ent. Monthly Mag. 95 (1145): 217-219 (larvae).
—Crosskey, 1962. Roy. Ent. Soc. London, Trans. 114 (Pt. 12): 399-400 (classification).

Morphology, Biology, Taxonomy: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 247-301.

Family EVANIIDAE

Taxonomy and Biology: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 285-286.

Genus EVANIELLA Bradley, p. 656

californica (Ashmead).

Taxonomy: Snelling, 1963. Pan-Pacific Ent. 39 (2): 107-108 (♀ descr.).

neomexicana (Ashmead). Calif.

Family AULACIDAE

(= *Aulacinae* of Catalog)

Taxonomy and Biology: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 284-285.

Morphology: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 247-281.

Genus PRISTAULACUS Kieffer, Sup. 1, p. 88

(= *Aulacostethus* Philippi, pp. 657-659)

ater (Westwood). Minn.

rufitarsis (Cresson). Alaska.

Genus *AULACUS* Jurine, pp. 659-660

dispilus Townes. Host: Reared from *Celtis laevigata*.

lovei (Ashmead). Host: *Xiphodria tibialis* Say.

Family GASTERUPTIIDAE

(= *Gasteruptiinae* of Catalog)

Revisions: Pasteels, 1956. Mus. Congo Belge, Ann., Sci. Zool., (Ser. 8) 50: [1]-94 (No. Africa).—Pasteels, 1957. Inst. Roy. des Sci. Nat. de Belg. Mem. (ser. 2) 56: [1]-125 (Australia).—Pasteels, 1957. Soc. Roy. d'Ent. Belg., Bul. et Ann. 93 (5-6): 173-176 (New Zealand).—Pasteels, 1958. *Op. cit. supra* 94 (7-8): 169-213.

Taxonomy: Short, 1959. Ent. Monthly Mag. 95 (1145): 219.

Genus *GASTERUPTION* Latreille, p. 660

assectator assectator (Linnaeus). Alaska.

kirbii kirbii (Westwood). Mich.

kirbii russeum Townes. Host: *Hoplitis sambuci* Titus.

Genus *RHYDINOFOENUS* Bradley, p. 661

barnstoni barnstoni (Westwood). Alaska.

floridanus bradleyi Townes. Hosts: *Hylaecus cressoni* (Ckll.); *Trypoxylon frigidum* Smith.

pattersonae (Melander and Brues). Host: *Dianthidium curvatum sayi* Ckll.

tarsatorius tarsatorius (Say). N. C.

*Superfamily PELECINOIDEA

Insert in Catalog before *Proctotrupoidea*, p. 655.

Taxonomy: Handlirsch, 1933. Handbuch der Zoologie, v. 4 (2), Insecta 2, p. 981.

Family PELECINIDAE

Remove from *Proctotrupoidea*, pp. 661-662 and place in superfamily *Pelecinoidea* before *Proctotrupoidea*, p. 655.

Superfamily PROCTOTRUPOIDEA

The families *Evaniidae* and *Gasteruptiidae* are removed to the superfamily **Evanioidae* and the family *Peleciniidae* to the superfamily **Pelecinoidea*.

Morphology: Pschorn-Walcher, 1955. Schweiz. Ent. Gesell. Mitt. 28: 214-219.

Phylogeny: Bradley, 1955. Soc. Roy. Ent. de Belg. Mem. 27: 129-131.—Bradley, 1958 (1956). Tenth Internatl. Congr. Ent. Proc. 1: 267.

Family VANHORNIIDAE

Genus *VANHORNIA* Crawford, p. 662

eucnemidarum Crawford. Maine, N. H., Conn.

Family ROPRONIIDAE

Genus **ROPRONIA** Provancher, p. 662

Taxonomy: Yasumatsu, 1956. *Insecta Matsumurana* 19: 117-122.—Yasumatsu, 1958. *Insecta Matsumurana* 21: 112-114.—Heqvist, 1959. *Ent. Tidskr.* 80: 137-139.

Biology: Chao, 1957. *Fukien Agr. Jour.* 5: 73-76 (*Ropronia* recorded as parasitic on sawfly larvae—first record of host for the genus).

Distribution: Yasumatsu, 1961. *Mushi* 35: 68-69.

Family HELORIDAE

Taxonomy: Riek, 1955. *Austral. Jour. Zool.* 3: 258-265.—Pschorn-Walcher, 1955. *Schweiz. Ent. Gesell. Mitt.* 28: 233-250 (revision of Palearctic species).

Morphology: Oeser, 1961. *Berlin Zool. Mus. Mitt.* 37: 72-73 (ovipositor).

Genus **HELORUS** Latreille, p. 663

paradoxus (Provancher). N. B.

Family PROCTOTRUPIDAE

Taxonomy: Riek, 1955. *Austral. Jour. Zool.* 3: 106-117 (revision of the Australian species).—Pschorn-Walcher, 1958. *Beitr. z. Ent.* 8: 724-731.—Pschorn-Walcher, 1958. *Schweiz. Ent. Gesell. Mitt.* 31: 57-64.—Masner, 1961. *Parc Nat. Upemba Miss. de Witte, fasc.* 60: 37-47 (key to the genera of the world).

Morphology: Oeser, 1961. *Berlin Zool. Mus. Mitt.* 37: 71-72 (ovipositor).

Genus **PROCTOTRUPES** Latreille, pp. 663-664

caudatus Say. Pa., D. C.

cockerelli (Brues), n. comb. Transf. from *Phaenoserphus* Kieffer, p. 664 (*teste* L. Masner upon examination of type).

pallidus (Say). Idaho.

rufigaster Provancher. N. H.

Genus **PHAENOSERPHERUS** Kieffer, p. 664

cockerelli (Brues). Transf. to *Proctotrupes* Latreille, pp. 663-664.

obscuripes (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

placidus (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

serricornis (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

simplicior (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

Genus **CRYPTOSERPHERUS** Kieffer, pp. 664-665

**Brachyserphus* Hellen, 1941. *Notulae Ent.* 21: 42. N. syn (*teste* L. Masner).

Type: *Codrus parvulus* Nees. By orig. desig.

abruptus (Say). N. H., N. J., Md., W. Va., S. C.

flavipes (Provancher). N. B.; N. C.

obsoletus (Say). Fla.

Genus **CODRUS** Panzer, pp. 665-666

longiceps (Ashmead). Ark.

obscuripes (Brues), n. comb. Transf. from *Phaenoserphus* Kieffer, p. 664 (*teste* L. Masner upon examination of type).

- placidus** (Brues), n. comb. Transf. from **Phaenoserphus** Kieffer, p. 664 (*teste* L. Masner upon examination of type).
- serriicornis** (Brues), n. comb. Transf. from **Phaenoserphus** Kieffer, p. 664 (*teste* L. Masner upon examination of type).
- simplicior** (Brues), n. comb. Transf. from **Phaenoserphus** Kieffer, p. 664 (*teste* L. Masner upon examination of type).

Family CERAPHRONIDAE

Taxonomy: Dessart, 1962. Soc. Roy. Ent. de Belg. Bul. et Ann. 98: 305-309 (key to the genera of the world).

Genus CERAPHRON Jurine, pp. 666-668

Allomicrops Kieffer, 1914. Syn. by Dessart, 1963. Soc. Roy. Ent. de Belg. Bul. et Ann. 99: 524.

***Eulagynodes** Girault, 1917. New Javanese Hymenoptera, p. 9 (Private pub.). Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 126.

Type: **Eulagynodes bicolor** Girault. By monotypy and orig. desig.

abnormis Perkins. Transf. from **Allomicrops** Kieffer, *teste* Dessart, 1963. Soc. Roy. Ent. de Belg. Bul. et Ann. 99: 523.

***Eulagynodes bicolor** Girault, 1917. New Javanese Hymenoptera, p. 9 (private pub.). ♀. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 126.

longicornis Ashmead. Transf. to **Lagynodes** Foerster, p. 669.

salicicola Ashmead. Transf. to **Aphanogmus** Thomson, p. 668.

Genus APHANOGMUS Thomson, p. 668

Taxonomy: Dessart, 1962. Soc. Roy. Ent. de Belg. Bul. et Ann. 98: 294-300.—Dessart, 1963. Soc. Roy. Ent. de Belg. Bul. et Ann. 99: 387-416.—Dessart, 1964. Soc. Roy. Ent. de Belg. Bul. et Ann. 100: 259-278.

floridanus Ashmead. Ohio. Host: *Mycodiplosis* sp.

salicicola (Ashmead), n. comb. Transf. from **Ceraphron** Jurine, p. 667 (*teste* L. Masner).

Genus Allomicrops Kieffer, p. 669

Syn. of **Ceraphron** Jurine, *supra*.

abnormis (Perkins). Transf. to **Ceraphron** Jurine, p. 666.

Genus LAGYNODES Foerster, p. 669

longicornis (Ashmead), n. comb. Transf. from **Ceraphron** Jurine, p. 667 (*teste* L. Masner).

Genus ATRITOMELLUS Kieffer, p. 669

conwentziae (Gahan). Transf. from **Dendrocercus** Ratzeburg, p. 672 (*teste* Masner, 1964. Acta Soc. Ent. Cechosl. 61: 126).

conwentziae var. **rufus** (Gahan). Transf. from **Dendrocercus** Ratzeburg, p. 672 (*teste* Masner, *loc. cit. supra*). Calif.

Genus LYGOCERUS Foerster, pp. 669-670

Biology: Muesebeck, 1959. Ent. News 57: 91.

anomaliventris (Ashmead), n. comb. Transf. from **Conostigmus** Dahlbohm, p. 670 (*teste* L. Masner).

***attentus** Muesebeck. Maine. Hosts: Aphidiinae in *Macrosiphum euphorbiae* (Thomas).

Lygocerus attentus Muesebeck, 1959. Ent. News 57: 94. ♀, ♂.

- ***incompletus** Muesebeck. Maine. Hosts: Aphidiinae in *Macrosiphum euphorbiae* (Thomas).
Lygocerus incompletus Muesebeck, 1959. Ent. News 57: 96. ♀, ♂.
- ***latifrons** Muesebeck. Calif. Host: Species of Hemerobiidae.
Lygocerus latifrons Muesebeck, 1959. Ent. News 57: 93. ♀, ♂.
- ***leucopidis** Muesebeck. Calif. Host: *Leucopis* sp.
Lygocerus latifrons Muesebeck, 1959. Ent. News 57: 93. ♀, ♂.
- ***pinicola** Muesebeck. Calif. Host: *Leucopis atrifacies* Aldrich.
Lygocerus pinicola Muesebeck, 1959. Ent. News 57: 92. ♀, ♂.

Genus **CONOSTIGMUS** Dahlbom, pp. 670-671

Conostigmoides Dodd, 1914. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 124.

anomaliveutris (Ashmead). Transf. to *Lygocerus* Foerster, p. 669.

erythrothorax (Ashmead). Transf. from *Conostigmoides* Dodd, p. 672, *teste* L. Masner.

Taxonomy: Masner, 1964. Acta Soc. Ent. Cechosl. 61: 124-125.

Genus *Conostigmoides* Dodd, p. 672

Syn. of *Conostigmus* Dahlbom, *supra*.

erythrothorax (Ashmead). Transf. to *Conostigmus* Dahlbom, p. 670.

Genus **DENDROCERUS** Ratzeburg, p. 672

Delete; a valid genus but without known Nearctic species. Transf. the N. Amer. forms to *Atritomellus* Kieffer, p. 669 (*teste* Masner, 1964. Acta Soc. Ent. Cechosl. 61: 125).

Family DIAPRIIDAE

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London Handbooks 8 (3): 3.—Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 289-292.

Subfamily DIAPRIINAE

Taxonomy: Risbec, 1950. Contribution a l'Etude des Proctotrupidae. Fr. W. Africa, Trav. du Lab. d'Ent. du Secteur Soudanais de Recherches Agron., pp. 224-225 (key to African genera).—Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 292.

Genus **BRUESOPRIA** Wing, Sup. 1, p. 89

americana (Brues). D. C.

Genus **AUXOPAEDUTES** Brues, p. 672

Cracinopria Fouts. Syn. by Masner, 1964. Acta Ent. Soc. Cechosl. 61: 135. All species listed under *Cracinopria* in Catalog are n. combs. in *Auxopaedeutes*. Endings of names requiring agreement in gender should be changed to masculine.

Genus **MYRMECOPRIA** Ashmead, p. 673

mellea (Ashmead).

Taxonomy: Masner, 1964. Acta Soc. Ent. Cechosl. 61: 123. Redescription, with first description of female.

Genus *Adeliopra* Ashmead, p. 673

Syn. of *Entomacis* Foerster, *infra*.

longii Ashmead. Transf. to *Entomacis* Foerster, *infra*.

Genus ENTOMACIS Foerster, p. 673

Hemilexis Foerster, 1856. See 1st Sup. p. 90.

Hemilexodes Ashmead, 1893. N. syn. (*teste* L. Masner).

Adeliopria Ashmead, 1902. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 134.

floridana (Ashmead), n. comb. Transf. with *Hemilexodes*, 1st Sup. p. 90 (*teste* L. Masner).

longii (Ashmead). Transf. from *Adeliopria* Ashmead, *teste* L. Masner. Taxonomy: Masner, 1964, *loc. cit. supra*, p. 134.

Genus Aparamesius Kieffer, p. 673

Syn. of *Paramesius* Westwood, *infra*. Transf. included spp. to that genus.

Genus PARAMESIUS Westwood, p. 674

**Lipoglyptus* Crawford, 1910. U. S. Natl. Mus. Proc. 38: 123 (through synonymy with *Aparamesius* Kieffer, *teste* Baltazar, 1961. Philippine Jour. Sci. 90: 395).

Type: *Lipoglyptus primus* Crawford. By monotypy and orig. desig.

Aparamesius Kieffer, 1913. N. syn. (*teste* L. Masner). Cite *analis* (Ashmead) and *nigriclavus* (Fouts) as n. combs, and remove parentheses from author of *clavipes*.

Genus ANEURHYNCHUS Westwood, pp. 674-675

Glyptonota Foerster, 1856. Syn. by Masner and Sundholm, 1959. Acta Soc. Ent. Čechosl. 56: 164.

nigriclavatus (Ashmead). Transf. from *Glyptonota* Foerster, p. 677. Taxonomy: Masner and Sundholm, 1959, *loc. cit. supra*, pp. 162-163.

Genus SPILOMICRUS Westwood, pp. 675-676

Loxotropa Foerster, 1856. Syn. by Masner, 1964. Entomophaga 9: 82.

**Eriopria* Kieffer, 1910. In André, Spec. Hym. Eur. Alg., v. 10, pp. 693, 744. Syn. by Masner, 1964 (*loc. cit. supra*, p. 82).

Type: *Eriopria nigra* Kieffer. Desig. by Kieffer, 1912.

**Tritopria* Kieffer, 1910. *Loc. cit. supra*, pp. 717, 748. Syn. by Masner, 1964 (*loc. cit. supra*, p. 82).

Type: *Tritopria lusitanica* Kieffer. By monotypy.

**Cologlyptus* Crawford, 1910. U. S. Natl. Mus. Proc. 38: 123. N. syn. (*teste* L. Masner).

Type: *Cologlyptus kiefferi* Crawford. By monotypy and orig. desig.

**Scutellipria* Szabó, 1961. Mus. Nat. Hungarici, Ann. Hist.-Nat. 53: 493. Syn. by Masner, 1964 (*loc. cit. supra*, p. 82).

Type: *Scutellipria quinquepunctata* Szabó. By monotypy and orig. desig.

**foutsii* Masner, n. name. Replaces *kiefferi* Fouts, preocc.

kiefferi Fouts. Preocc. Replaced by *foutsii* Masner.

*Genus PENTAPRIA Kieffer

(= *Xenopria* Fouts, p. 676)

Pentapria Kieffer, 1905. Mus. Civ. Stor. Nat. Genova, ser. 3, 2: 34.

Type: *Pentapria conjugens* Kieffer. First included species.

Xenopria Fouts, 1939. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 134.

columbiana (Fouts).

Taxonomy: Masner, 1964, *loc. cit. supra*, p. 134.

Genus *Phaenopria* Ashmead, pp. 676-677

Syn. of *Trichopria* Ashmead, p. 678; transf. included spp. to that genus.

Genus *Glyptonota* Foerster, p. 677

Syn. of *Aneurhynchus* Westwood, p. 674.

nigroclavata Ashmead. Transf. to *Aneurhynchus* Westwood, p. 674.

Genus *Acidopria* Kieffer, p. 677

Syn. of *Basalys* Westwood, p. 680.

Genus *Loxotropa*, Foerster, p. 677

Syn. of *Spilomicrus* Westwood, p. 675; *Loxotropa* of Catalog = *Basalys* Westwood, p. 680. Transf. spp. included in *Loxotropa* in Catalog to *Basalys*.

Genus TRICHOPRIA Ashmead, pp. 678-680

Phaenopria Ashmead. Syn. by Sundholm, 1960. *Opuscula Ent.* 25: 220. All species listed in Catalog are transf. here as n. combs.

Delete *Ceratopria* Ashmead from syn. and transf. to syn. of *Basalys* Westwood, p. 680.

Taxonomy: Sundholm, *loc. cit. supra*, pp. 215-223.—Masner, 1964. *Acta Soc. Ent. Cechosl.* 61: 136.

bifoveolata (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

columbiana (Ashmead). Minn.

floridana (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

infuscateps (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

longiceps (Ashmead). Transf. to *Basalys* Westwood, p. 680.

megaplasta (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

popei (Muesebeck). N. Y., Minn. Hosts: *Dictya* sp., *Elgiva rufa* (Panz.). Biology: Knutson and Berg, 1963. *Canad. Ent.* 95: 724-726.

pusilla (Ashmead). Transf. to *Basalys* Westwood, p. 680.

simulans (Ashmead). Transf. to *Diapria* Latreille, p. 680.

tabanivora Fouts. Misspelled *tabanivora* in Catalog. N. Y., Ala., Fla. Host: *Tabanus lineola* F.

virginica (Ashmead). Transf. with *Phaenopria*; preocc. in *Trichopria*; replaced by *virginiensis* L. Masner, n. name.

**virginiensis* Masner, n. name. Replaces *Phaenopria virginica* Ashmead nec *Diapria virginica* Ashmead, both now in *Trichopria*.

Genus *Cracinopria* Fouts, p. 680

Syn. of *Auxopaedentes* Brues, p. 672; transf. all included species to that genus.

Genus BASALYS Westwood, p. 680

(= *Loxotropa* Foerster of Catalog, p. 677)

Ceratopria Ashmead, 1893. Remove from syn. under *Trichopria* Ashmead. Syn. by Masner, 1964. *Entomophaga* 9: 85.

Acidopria Kieffer, 1913. Syn. by Masner, 1964 (*loc. cit. supra*, p. 85).

**Tropidopsis* Ashmead, 1893. U. S. Natl. Mus. Bul. 45, pp. 386, 402. N. syn. (teste L. Masner).

Type: *Tropidopsis clavata* Ashmead. By monotypy and orig. desig.

**Nesopria* Muesebeck and Walkley, 1956. N. name for *Tropidopsis* Ashmead, preocc. N. syn. (*teste* L. Masner).

Taxonomy: Masner, 1964. Entomophaga 9: 85-86.

All species listed in the Catalog under *Acidopria* Kieffer and *Loxotropa* Foerster, p. 677, are transf. to *Basalys* as n. combs. (*teste* L. Masner).

longiceps (Ashmead). Transf. from *Trichopria* Ashmead, p. 679 (*teste* Masner, 1964. Entomophaga 9: 86).

pusilla (Ashmead), n. comb. Transf. from *Trichopria* Ashmead, p. 679 (*teste* L. Masner).

Genus *DIAPRIA* Latreille, p. 680

Taxonomy: Sundholm, 1960. Opusc. Ent. 25: 215-223.

simulans (Ashmead), n. comb. Transf. from *Trichopria* Ashmead, p. 679 (*teste* L. Masner).

Genus *DOLIOPRIA* Kieffer, p. 681

americana Fouts.

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 135.

Genus *Prasynacra* Kieffer, p. 681

Syn. of **Synacra* Foerster (= *Paratelopsilus* Whittaker) p. 690.

gracilis Fouts. Transf. to *Synacra* Foerster.

*Subfamily AMBOSITRINAE

Place in Diapriidae after *Prosynacra* Kieffer, p. 681.

Taxonomy: Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 289-295.

Genus *PROPSILOMMA* Kieffer, p. 683

Transf. from subfam. Cinetinae (replaced by subfam. Belytinae in Sup. 1, p. 91) to subfam. Ambositrinae.

*Subfamily ISMARINAE

Place in Diapriidae before Subfam. Cinetinae, p. 681 (replaced in Sup. 1 by Belytinae).

Taxonomy: Hellén, 1963. Fauna Fennica 14: 4.

Genus *ISMARUS* Haliday, p. 681

Transf. from subfam. Cinetinae (replaced by Belytinae in Sup. 1, p. 91) to subfam. Ismarinae.

Biology: Chambers, 1955. Ent. Monthly Mag. 91: 114-115.

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 11.

Subfamily BELYTINAE

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3), 107 pp. (Keys to the British species).—Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 292.

Genus *OXYLABIS* Foerster, p. 681

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 27.

bifoveolata Brues. Remove from *Oxylabis*, p. 681, and from Proctotrupeoidea; a species of Cynipoidea (*teste* L. Masner upon examination of type).

fuscicornis (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).

Genus *BELYTA* Jurine, Sup. 1, p. 91

**Paraclista* Kieffer, 1909. In André, Spec. Hym. Eur. Alg., v. 10, p. 476. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 63.

Type: *Belyta brachyptera* Thomson. Desig. by Kieffer, 1910.

All species listed in Catalog under *Cinetus* Jurine, pp. 682-683, belong here (see Sup. 1, p. 91). Endings of names requiring agreement in gender should be changed to feminine.

frontalis Ashmead. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).

nasuta (Provancher), n. comb. Transf. from *Cinetus* Jurine, Sup. 1, p. 91 (*teste* L. Masner).

picipes (Ashmead, n. comb. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).

Genus *ZYGOTA* Foerster, pp. 683-684

longicornis (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).

Genus *MACROHYNNIS* Foerster, p. 684

**Cinelaptus* Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 7, 91. N. syn. (*teste* L. Masner).

Type: *Cinelaptus fragilis* Nixon. By monotypy and orig. desig.

Genus *MIOTA* Foerster, pp. 684-685

Synonymized under *Cinetus* Foerster by Muesebeck, 1958, Agr. Monogr. No. 2, Sup. 1, p. 91, and by Masner, 1964, Acta Soc. Ent. Čechosl. 61: 126, but now restored as a valid genus with *Leptorhaptus* authors, not Foerster, as synonym. Most of the species listed in the Catalog under *Leptorhaptus* are transferred here (*teste* L. Masner).

**Leptonetus* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 128. N. syn. (*teste* L. Masner).

Type: *Cinetus politus* Thomson. By orig. desig.

alaskensis (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).

americana (Ashmead), n. comb. Transf. from *Cinetus* Jurine, Sup. 1, p. 91 (*teste* L. Masner).

ashmeadi (Kieffer), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

bakeri (Kieffer), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

bisulcata (Kieffer), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

clarimontis (Kieffer), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

coloradensis (Ashmead). Transf. to *Cinetus* Jurine, Sup. 1, p. 91.

filicornis (Kieffer), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

flavicornis Kieffer. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

longinervis (Kieffer), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

pleuralis (Fouts). Transf. to *Cinetus* Jurine, Sup. 1, p. 91.

rufa (Ashmead), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

vera (Fouts), n. comb. Transf. from *Scorpioteleia* Ashmead, p. 685 (*teste* L. Masner).

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61:129.

Genus *CINETUS* Jurine, Sup. 1, p. 91

(= *Leptorhaptus* Foerster, p. 685; *Stylidolon* Ashmead, p. 685)

Remove *Miota* Foerster from synonymy; a valid genus. Both *Leptorhaptus* Foerster and *Stylidolon* Ashmead are now considered synonyms of *Cinetus* Jurine (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 126). However, of the species listed in the Catalog under *Leptorhaptus* only *conicus* Ashmead and *texanus* (Ashmead) belong in *Cinetus*; the remainder are transf. to *Miota* Foerster, p. 684 (*teste* L. Masner).

americanus (Ashmead). Transf. to *Miota* Foerster, p. 684.

coloradensis (Ashmead), n. comb. Transf. from *Miota* Foerster, p. 684 (*teste* L. Masner).

conicus (Ashmead). Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 128).

nasutus Provancher. Transf. to *Belyta* Jurine, Sup. 1, p. 91.

pleuralis Fouts. Transf. from *Miota* Foerster, p. 685 (*teste* L. Masner).

politus (Ashmead). Preocc. when transf. from *Stylidolon* Ashmead to *Cinetus* Jurine. Replaced by *subpolitus* Masner.

ruficornis (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).

subpolitus Masner. Replaces *Stylidolon politum* Ashmead, preocc. when transf. to *Cinetus*, *teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 128.

texanus (Ashmead), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

Genus *SCORPIOTELEIA* Ashmead, p. 685

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 130.

vera Fouts. Transf. to *Miota* Foerster, p. 684.

Genus *ACLISTA* Foerster, pp. 685-689

Pantoclis Foerster. Remove from syn.; an independent genus (*teste* Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 11, 41).

Zelotypa Foerster. Remove from syn. under *Aclista* and place as syn. of *Pantoclis* Foerster.

aculeata (Kieffer). Transf. to *Pantoclis* Foerster.

alaskensis (Ashmead). Transf. to *Miota* Foerster, p. 684.

analis (Ashmead). Transf. to *Pantoclis* Foerster.

bakeri (Kieffer). Transf. to *Pantoclis* Foerster.

bruesi (Kieffer). Transf. to *Pantoclis* Foerster.

californica (Ashmead). Transf. to *Pantoclis* Foerster.

canadensis (Ashmead). Transf. to *Pantoclis* Foerster.

clinoneura (Kieffer). Transf. to *Pantoclis* Foerster.

coloradensis (Ashmead). Transf. to *Pantoclis* Foerster.

consimilis Muesebeck. Transf. to *Pantoclis* Foerster.

dubiosa (Kieffer). Transf. to *Pantoclis* Foerster.

duplicata Muesebeck and Walkley. Transf. to *Pantoclis* Foerster.

flavicus (Kieffer). Transf. to *Pantoclis* Foerster.

floridana (Ashmead). Transf. to *Pantoclis* Foerster.

- frontalis* (Ashmead). Transf. to *Belyta* Jurine, Sup. 1, p. 91.
fuscicornis (Ashmead). Transf. to *Oxylabis* Foerster, p. 681.
georgica (Ashmead). Transf. to *Pantoclis* Foerster.
integrifrons (Kieffer). Transf. to *Pantoclis* Foerster.
klagesi (Kieffer). Transf. to *Pantoclis* Foerster.
jeannettensis Muesebeck and Walkley. Transf. to *Pantoclis* Foerster.
longicornis (Ashmead). Transf. to *Zygota* Foerster, p. 683.
monilicornis (Ashmead). Transf. to *Pantoclis* Foerster.
montana (Ashmead). Transf. to *Pantoclis* Foerster.
orthoneura (Kieffer). Transf. to *Pantoclis* Foerster.
picipes (Ashmead). Transf. to *Belyta* Jurine, Sup. 1, p. 91.
rufescens (Ashmead). Transf. to *Pantoclis* Foerster.
ruficauda (Ashmead). Transf. to *Pantoclis* Foerster.
ruficornis (Ashmead). Transf. to *Cinetus* Jurine, Sup. 1, p. 91.
scutellata aptera (Kieffer). Raised to specific rank and transf. to *Pantoclis* Foerster.
singularis (Kieffer). Transf. to *Pantoclis* Foerster.
subfusca (Kieffer). Transf. to *Pantoclis* Foerster.
subobtusa (Kieffer). Transf. to *Pantoclis* Foerster.

Genus *PANTOCLIS* Foerster, p. 686

Remove from syn. under *Aclista* Foerster and treat as valid genus, *teste* Nixon, 1957. Roy. Ent. Soc., London, Handbooks 81 (3): 11, 41; place after *Aclista*, p. 689.

Zelotypa Foerster; remove from syn. of *Aclista* Foerster. N. syn. (*teste* L. Masner).

- aculeata* Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
analis Ashmead. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
aptera Kieffer, changed status.
Pantoclis scutellata aptera Kieffer. Raised to specific rank and transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).
bakeri Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
bruesi Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
californica (Ashmead). Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
canadensis Ashmead. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
clinoneura Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
coloradensis (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
consimilis (Muesebeck), n. comb. Transf. from *Aclista* Foerster, Sup. 1, p. 91, (*teste* L. Masner).
dubiosa Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).
duplicata (Muesebeck and Walkley), n. comb. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).
flavivrus Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).
floridana Ashmead. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).
georgica (Ashmead). Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).

- integrifrons** Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).
jeannettensis (Muesebeck and Walkley), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).
klagesi Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).
monilicornis (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).
montana Ashmead. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).
orthoneura Kieffer. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).
rufescens Ashmead. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).
ruficauda Ashmead. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).
singularis Kieffer. Transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).
subfusca Kieffer. Transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).
subobtusa Kieffer. Transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).

Genus **ACROPIESTA** Foerster, p. 689

- **Pantopiesta* Maneval, 1939. Soc. Ent. France Bul. 44: 169, 170. Syn. by Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 24.
 Type: *Cinetus flaviventris* Thomson. By monotypy and orig. desig.

Genus **RHYNCHOPSILUS** Kieffer, p. 689

- **Brunnicophilus* Nixon, 1931. Ent. Rec. and Jour. Variation 43: 83. Syn. by Nixon, 1957. Roy. Ent., London, Handbooks 8 (3): 13.
 Type: *Brunnicophilus donisthorpei* Nixon. By monotypy and orig. desig.

Genus **POLYPEZA** Foerster, Sup. 1, p. 89

(= *Atelopsilus* Kieffer, pp. 689-690)

- Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 131. Remove from Diapriinae to Belytinae where it replaces *Atelopsilus* Kieffer, p. 689.
 Taxonomy: Masner and Sundholm, 1959. Acta Soc. Ent. Čechosl. 56: 164.—Masner, 1964, *loc. cit. supra*, p. 131.
alaskensis (Ashmead), n. comb. Transf. from *Spilomicrus* Westwood, p. 675 (*teste* L. Masner).
brunnea (Ashmead).
 Taxonomy: Masner, 1964, *loc. cit. supra*, p. 131.

*Genus **SYNACRA** Foerster

- Synacra* Foerster, 1856. Hym. Stud., v. 2, pp. 128, 130, 134.
 Type: *Diapria brachialis* Nees. Desig. by Ashmead, 1893.
 **Artibolus* Haliday, 1857. Nat. Hist. Rev. 4: Proc. p. 173.
 Type: *Diapria brachialis* Nees. Desig. by Muesebeck and Walkley, 1956. Isogenotypic with *Synacra* Foerster.
 **Neuropria* Kieffer, 1904. Soc. Hist. Nat. Metz Bul. 23: 53. Syn. by Pschorn-Walcher, 1957. Schweiz. Ent. Gesell. Mitt. 30: 74.
 Type: *Neuropria sociabilis* Kieffer. By monotypy.
Prosynacra Kieffer, 1905. N. syn. (*teste* L. Masner).
Paratelopsilus Whittaker, 1930. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 131.
 Place at end of subfam. Belytinae.
 Taxonomy: Pschorn-Walcher, 1957. Schweiz. Ent. Gesell. Mitt. 30: 74-76.
canadensis (Whittaker).
 Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 131-132.

gracilis (Fouts), n. comb. Transf. from *Prosynacra* Kieffer, p. 681 (*teste* L. Masner).

Family SCELIONIDAE

Subfamily TELENOMINAE

Genus ARADOPHAGUS Ashmead, p. 690

fasciatus Ashmead. Tex.; Europe.

Genus TIPHODYTES Bradley, p. 690

gerriphagus (Marchal). Calif.

Genus EUMICROSOMA Gahan, p. 690

**Nardo* Nixon, 1938. Ann. Mag. Nat. Hist. (11), 1: 278. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 108.

Type: *Nardo cumaeus* Nixon. By orig. desig.

**Szelenyiella* Szabó, 1957. Opusc. Zool. 2: 49. Syn. by Masner, 1965, *loc. cit. supra*, p. 108.

Type: *Szelenyiella platythoracis* Szabó. By monotypy and orig. desig.

beneficum Gahan. U.S.S.R.

bicolor (Ashmead). Mich. Host: Unknown eggs on *Poa compressa*.

Genus PROTRIMORUS Kieffer, p. 690

Transf. to Scelioninae as a syn. of *Opisthacantha* Ashmead (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 140).

TELENOMUS subgenus TELENOMUS Haliday, pp. 691-694

alsophilae Viereck. Mass., Pa. Host: *Ennomus subsignarius* (Hbn.).

basalis Wallaston. Transf. to *Trissolcus* Ashmead, p. 694.

bifidus Riley. Wis. Host: *Dasychira plagiata* (Wlkr.).

californicus Ashmead. N. Mex., Nev., Oreg.

chrysopae Ashmead. Host: *Lomamyia flavicornis* (Wlkr.).

clisiocampae Riley. Colo., Wash.

coloradensis Crawford. Idaho, Wash. Host: *Hemerocampa pseudotsugata* McD.

cosmopeplae Gahan. Transf. to *Trissolcus* Ashmead, p. 694.

dimmocki Ashmead. Ohio, Ga., Fla. Hosts: *Cosmopepla bimaculata* (Thom.), *Podisus maculiventris* (Say), *Thyanta custator* (F.).

dolichoecerus (Ashmead). Okla. Host: *Emesaya brevipennis* (Say).

graptae Howard. Ill., Colo., Ariz. Hosts: *Lycaena thoe* Guerin, *Plebejus icarioides* Bdv.

heliolithidis Ashmead. Fla.

ichthyurae Ashmead. Maine, Okla.

perplexus Girault. Hosts: *Euschistus variolarius* (Pal. de Beauv.), *E. tristigmus* (Say).

spilosomatis Ashmead. Ohio.

utahensis Ashmead. Transf. to *Trissolcus* Ashmead, p. 694.

Genus TRISSOLCUS Ashmead, p. 694

**Asolcus* Nakagawa, 1900. Spec. Rep. Imp. Agr. Sta. Japan 6, p. 17. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 145.

Type: *Asolcus nigripedius* Nakagawa. By monotypy.

**Aphanurus* Kieffer, 1912. In Andre, Spec. Hym. Eur. Alg., v. 11, pp. 10, 69.

Type: *Teleas semistriatus* Nees. By orig. desig.

**Microphanurus* Kieffer, 1926. Das Tierreich, Lief. 48, pp. xv, 16, 91. Proposed for *Aphanurus* Kieffer, procc. Syn. of *Asolcus* Nakagawa, teste Watanabe, 1951. Shikoku Ent. Soc. Trans. 2: 21.

basalis (Wollaston), n. comb. Transf. from *Telenomus* subg. *Telenomus* Haliday, Sup. 1, p. 92 (teste L. Masner).

brochymenae (Ashmead). Ind., Tex. Host: *Acrosternum hilare* (Say).

cosmopeplae (Gahan), n. comb. Transf. from *Telenomus* subg. *Telenomus* Haliday, p. 692 (teste L. Masner).

podisi Ashmead. W. Va., Ohio, Ind. Host: *Banasa dimidiata* (Say).

thyantae Ashmead. Ga., Mo., Tex.

utahensis (Ashmead), n. comb. Transf. from *Telenomus* subg. *Telenomus* Haliday, p. 694 (teste L. Masner).

Genus *Hadrophanurus* Kieffer, p. 694

Transf. to Scelioninae as a syn. of *Gryon* Haliday (teste Masner, 1961. Acta Soc. Ent. Cechosl. 58: 158).

pennsylvanicus (Ashmead). Transf. to *Gryon* Haliday.

Subfamily Baeinae of Catalog

Delete; include in Scelioninae. Place the contained genera at the beginning of the Scelioninae, p. 701, except *Tetrabaeus* Kieffer, which is transf. to Platygasteridae, p. 708. Transf. *Acoloides xanthogaster* (Ashmead) to **Gryon* Haliday.

Subfamily TELEASINAE

Genus *TRIMORUS* Foerster, pp. 697-701

(= *Trichasius* Provancher, Sup. 1, p. 92)

Trichasius Provancher, 1887. N. syn. (teste L. Masner).

Paragryon Kieffer, 1908. N. syn. (teste L. Masner).

Transf. here all spp. in Catalog under *Paragryon* Kieffer, p. 696, and in Sup. 1 under *Trichasius* Provancher, p. 92; all are n. combs. in *Trimorus* Foerster.

Subfamily SCELIONINAE

Genus *CERATOBAEUS* Ashmead, p. 695

binotatus Ashmead. Md.

Genus *BAEUS* Haliday, p. 695

zabriskiei (Ashmead), n. comb. Transf. from *Acoloides* Howard, p. 696 (teste L. Masner).

Genus *Acoloides* Howard, pp. 695-696

Syn. of *Idris* Foerster, *infra*. Remove *Psilacolus* Kieffer from syn. under *Acoloides* and place as syn. of *Gryon* Haliday. Transf. to *Idris* Foerster all species listed under *Acoloides* in Catalog except *xanthogaster* (Ashmead), which is transf. to *Gryon* Haliday, and *zabriskiei* (Ashmead), which is transf. to *Baeus* Haliday, p. 695.

*Genus *IDRIS* Foerster

(= *Acoloides* Howard, pp. 695-696)

Idris Foerster, 1856. Hym. Stud. v. 2, pp. 102, 105.

Type: *Idris flavicornis* Foerster. By monotypy.

Acoloides Howard, 1890. Insect Life 2: 269. Syn. by Masner, 1961. Acta Soc. Ent. Cechosl. 58: 163.

**Megacolus* Priesner, 1951. Inst. Fouad I du Desert Bul. 1: 121.

Type: *Megacolus desertorum* Priesner. By monotypy and orig. desig.

**Philoplanes* Muesebeck and Walkley, 1956. U. S. Natl. Mus. Proc. 105: 384. N. name for *Megacolus* Priesner, preocc.

Taxonomy: Masner, 1961, *loc. cit. supra*, pp. 163-166.

saitidis (Howard). Pa., Ariz. Host: *Phidippus opifex* (McCook).

seminiger (Ashmead). Nebr.

Genus THORON Haliday, p. 696

**metallicus* Haliday. Europe; Mass.

Thoron metallicus Haliday, 1830. Ent. Mag. 1: 272. ♀.

pallipes Ashmead. Transf. to *Paridris* Kieffer, p. 704.

Genus SCELIO Latreille, pp. 702-703

Taxonomy: Nixon, 1958. Roy. Ent. Soc., London Trans. 110: 303-318 (revision of African species).

Biology: Greathead, 1963. Roy. Ent. Soc., London Trans. 114: 439-442.

bisulcus (Ashmead). Hosts: *Melanoplus* sp., *M. differentialis* (Thomas).

Scelio striaticollis Brues, 1906. N. syn. (*teste* C. F. W. Muesebeck on comparison of types).

Biology: Lanham and Evans, 1958. Pan-Pacific Ent. 34: 213-214.—Lanham and Evans, 1960. Brooklyn Ent. Soc. Bul. 55: 84-86 (phoresy).

striaticollis Brues. Syn. of *bisulcus* (Ashmead).

Genus OPISTHACANTHA Ashmead, p. 703

Protrimorus Kieffer, 1908. Transf. from Telenominae and made syn. of *Opisthacantha* by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 140.

americana (Ashmead). Transf. from *Protrimorus* Kieffer, p. 690, by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 141.

Genus PARIDRIS Kieffer, p. 704

brevipennis Fouts. Calif.

pallipes (Ashmead), n. comb. Transf. from *Thoron* Haliday, p. 696 (*teste* L. Masner).

*Genus CALOTELEA Westwood

(= *Ceratoteleia* Kieffer, p. 705)

Calotelea Westwood, 1837. In Hope. Ent. Soc. London Trans. 2: 55.

Type: *Calotelea aurantea* Hope. By monotypy.

**Caloteleia* Ashmead, 1893. U. S. Natl. Mus. Bul. 45: 209, 210, 212. Emendation.

Ceratoteleia Kieffer, 1908. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 69.

Prosanteris Kieffer, 1908. Syn. with *Ceratoteleia* by Muesebeck, 1958, Sup. 1, p. 93.

**Neuroteleia* Kieffer, 1910. Ent. Soc. France Bul. 1910: 293. Syn. by Masner, 1965, *loc. cit. supra*, p. 69.

Type: *Neuroteleia rufa* Kieffer. By orig. desig.

**Lamproteleia* Kieffer, 1910, *loc. cit. supra*, p. 293. Syn. by Masner, 1965, *loc. cit. supra*, p. 69.

Type: *Lamproteleia fasciatipennis* Kieffer. By orig. desig.

Transf. here the species listed under *Ceratoteleia* Kieffer in the Catalog, p. 705, and in Sup. 1, p. 93.

***Genus GRYON Haliday**

Gryon Haliday, 1833. Ent. Mag. 1: 271.

Type: *Gryon misellus* Haliday. By monotypy.

**Acolus* Foerster, 1856. Hym. Stud., v. 2, p. 100. Syn. by Masner, 1961. Acta Soc. Ent. Cechosl. 58: 158.

Type: *Acolus opacus* Thomson. Desig. by Ashmead, 1903.

Hadronotus Foerster, 1856. Syn. by Masner, 1961, loc. cit. supra, p. 158.

**Plastogryon* Kieffer, 1908. Soc. Sci. de Bruxelles Ann. 32: 119, 131. Syn. by Maneval, 1940. Faune de la France, v. 7, p. 113.

Type: *Plastogryon foersteri* Kieffer. Desig. by Brues, 1908.

Psilacolus Kieffer, 1908. N. syn. (teste L. Masner).

**Holacolus* Kieffer, 1912. In André, Spec. Hym. Eur. Alg., v. 11, pp. 89, 94, 106. Syn. by Masner, 1961, loc. cit. supra, p. 158.

Type: *Acolus opacus* Thomson. Desig. by Muesebeck and Walkley, 1956.

Telenomoides Dodd, 1913. Syn. of *Hadronotus* Foerster.

Hadronotellus Kieffer, 1917. Syn. of *Hadronotus* Foerster.

Hadrophanurus Kieffer, 1926. Syn. by Masner, 1961, loc. cit. supra, p. 158.

**Heterogryon* Kieffer, 1926. Das Tierreich, Lief. 48, pp. xxvi, 271, 446, 448. Syn. by Masner, 1961, loc. cit. supra, p. 158.

Type: *Plastogryon sagax* Kieffer. Desig. by Muesebeck and Walkley, 1956.

Syntelesia Fouts, 1927. N. syn. (teste L. Masner).

Transf. to *Gryon* all species listed in the Catalog under *Hadrophanurus* Kieffer, p. 694, *Hadronotus* Foerster, pp. 704-705, and *Syntelesia* Fouts, p. 706, and mark all, except *pennsylvanicus* (Ashmead), n. combs. Insert *Gryon* Haliday in place of *Hadronotus* Foerster, pp. 704-705.

xanthogaster (Ashmead), n. comb. Transf. from *Acoloides* Howard, p. 696 (teste L. Masner).

Genus Pegoteleia Kieffer, pp. 705-706

Delete from Catalog; no North American species known. Transfer the species listed under *Pegoteleia* in the Catalog to **Probaryconus* Kieffer, where all are n. combs. Chg. *striata* (Ashmead) to *striatus*.

Genus Prosapegus Kieffer, p. 705

Syn. of *Macroteleia* Westwood, infra.

elongata (Ashmead). Transf. to *Macroteleia* Westwood.

***Genus PROBARYCONUS Kieffer**

(= *Pegoteleia* of Catalog, pp. 705-706)

Probaryconus Kieffer, 1908. Soc. Sci. de Bruxelles Ann. 32: 118, 165, 168.

Type: *Baryconus (Probaryconus) spinosus* Kieffer. By monotypy.

**Amblyconus* Kieffer, 1913. In André, Spec. Hym. Eur. Alg., v. 11 p. 221. Syn. by Masner, 1965. Brit. Mus. (Nat. Hist.) Bul., Ent. Sup. 1: 90.

All species listed in the Catalog under *Pegoteleia* Kieffer, p. 706, are transf. here as n. combs.; *striata* (Ashmead) becomes *striatus*.

Genus MACROTELEIA Westwood, p. 706

**Baeoneura* Foerster, 1856. Hym. Stud., v. 2, pp. 100, 102. Syn. by Muesebeck and Walkley, 1956. U. S. Natl. Mus. Proc. 105: 335.

Type: *Baeoneura floridana* Ashmead. Desig. by Muesebeck and Walkley, 1956.

Baeoneura Ashmead, 1887. Ent. Amer. 3: 99. Error for *Baeoneura* Foerster.

Prosapegus Kieffer, 1908. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 137.

Stictoteleia Kieffer, 1926. Syn. by Masner, 1964, *loc. cit. supra*, p. 137.
elongata (Ashmead), n. comb. Transf. with *Prosapegus* Kieffer, p. 705.
virginiensis Ashmead. Transf. with *Stictoteleia* Kieffer, p. 706.

Genus *Stictoteleia* Kieffer, p. 706

Syn. of *Macroteleia* Westwood, *supra*.

virginiensis (Ashmead). Transf. to *Macroteleia* Westwood.

Genus *Synteleia* Fouts, p. 706

N. syn. of *Cryon* Haliday (*teste* L. Masner). The single species, *coracina* Fouts, is transf. to *Cryon*, and changed to *coracinus* (Fouts).

Genus PSEUDANTERIS Fouts, p. 706

Taxonomy: Masner, 1964. Acta Soc. Ent. Česosl. 61:141.

Family PLATYGASTERIDAE

Taxonomy: Szabó, 1959. Mus. Nat. Hungarici Ann. Hist.-Nat. 51: 389-390.—Masner, 1964. Acta Soc. Ent. Česosl. 61: 146-162.

Subfamily INOSTEMMINAE

Genus *Monocrita* Foerster, p. 707

Syn. of *Isostasius* Foerster, p. 708.

carinata Ashmead. Transf. to *Metaclisis* Foerster.

nigripes Ashmead. Transf. to *Platygaster* Latreille.

Genus METACLISIS Foerster, p. 707

belonocnemae Ashmead. Transf. to *Inostemma* Haliday, p. 708.

carinata (Ashmead), n. comb. Transf. from *Monocrita* Foerster, p. 707 (*teste* L. Masner).

erythropus Ashmead. Transf. to *Platygaster* Latreille, p. 710.

floridana (Ashmead), n. comb. Transf. from *Accrota* Foerster, p. 707 (*teste* L. Masner).

Genus *Acerota* Foerster, p. 707

Syn. of *Inostemma* Haliday; all included spp. are transf. to *Inostemma* except *floridana* Ashmead, which is transf. to *Metaclisis* Foerster.

Genus ALLOTROPA Foerster, pp. 707-708

burrelli Muesebeck. Established throughout range of host in U. S.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 74-75.

**citri* Muesebeck. So. China; Calif. Host: *Planococcus citri* (Risso).

Allotropia citri Muesebeck, 1954. Brooklyn Ent. Soc. Bul. 49: 18. ♂, ♀.
 Release and recovery in U.S.: Bartlett and Lloyd, 1958. Jour. Econ. Ent. 51: 92-93.

utilis Muesebeck. N. H., Vt.; Japan. Host: *Phenacoccus pergandei* Ckll.

Biology: Murakami, 1962. Kyushu Univ. Facul. Agr. Sci. Bul. 19: 390-402.

Genus *Tridavus* Brèthes, p. 708

Syn. of *Fidiobia* Ashmead, *infra*.

drakei Ogloblin. Transf. to *Fidiobia* Ashmead.

Genus FIDIOBIA Ashmead, p. 709

Transf. from subfam. Platygasterinae to subfam. Inostemminae and

place before *Inostemma* Haliday, p. 708 (*teste* Jansson, 1956. Ent. Tidskr. 77: 87-90.—Masner, 1956. Acta Faun. Ent. Mus. Natl. Pragae 30: 114).

Triclavus Brèthes, 1916. N. syn. (*teste* L. Masner).

drakei (Ogloblin), n. comb. Transf. with *Triclavus* Brèthes, p. 708.

Genus *INOSTEMMA* Haliday, p. 708

Acerota Foerster. N. syn. (*teste* Masner, 1964. Acta Soc. Ent. Česosl. 61: 146). All species listed in Catalog are transf. to *Inostemma* as n. combs. except *floridana* which is transf. to *Metaclisis* Foerster (*teste* L. Masner).

**Brachinostemma* Kieffer, 1916. Zentbl. f. Bakt., Parasitenk. u. Infektionskrankheiten, Abt. 2, 46: 551. Syn. by Masner, 1964, *loc. cit. supra*, p. 146.

Type: *Brachinostemma mediterraneum* Kieffer. By monotypy and orig. desig.

**Inocerota* Szelényi, 1939. Mus. Nat. Hungarici Ann. 32: 121. Syn. by Masner, 1964, *loc. cit. supra*, p. 146.

Type: *Inocerota discensus* Szelényi. By orig. desig.

americanum (Ashmead), n. comb. Transf. from *Acerota* Foerster, p. 707.

Taxonomy: Masner, 1964. Acta Soc. Ent. Česosl. 61: 147.

belonocnemae (Ashmead), n. comb. Transf. from *Metaclisis* Foerster, p. 707 (*teste* L. Masner).

cecidomyiae (Ashmead), n. comb. Transf. from *Acerota* Foerster, p. 707.

leonardi (Fouts), n. comb. Transf. from *Acerota* Foerster, p. 707.

Genus *ISOSTASIUS* Foerster, p. 708

Monocrita Foerster. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 130.

Genus *TETRABAEUS* Kieffer, p. 695

Transf. from Scelionidae to Platygasteridae, subfam. Inostemminae, and place after *Isostasius* Foerster, p. 708.

**Crabroborus* Muesebeck, 1963. Beitr. z. Ent. 13: 391. Syn. by Masner, 1964. Acta Soc. Ent. Česosl. 61: 148.

Type: *Crabroborus krombeini* Muesebeck. By monotypy and orig. desig.

americanus (Brues). Wis., Que., Md. Hosts: *Ectemnius* (*Hypocrabro*) *paucimaculatus* (Pack.), *Euphilis* (*Corynopus*) *rufigaster* (Pack.), *E. (C.) coarctata modesta* (Roh.).

**Crabroborus krombeini* Muesebeck, 1963. Beitr. z. Ent. 13: 392. ♀, ♂. Syn. by Masner, 1964. Acta Soc. Ent. Česosl. 61: 149.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 104-108, fig. 11.

Subfamily PLATYGASTERINAE

Genus *Fidiobia* Ashmead, p. 709

Transf. to Inostemminae, p. 708.

Genus *ISOCYBUS* Foerster, p. 709

canadensis (Provancher). Ind.

*Genus *METANOPEDIAS* Brues

Metanopedias Brues, 1910. Amer. Mus. Nat. Hist. Bul. 28: 79.

Type: *Metanopedias sicarius* Brues. By monotypy.

Insert in Platygasterinae before *Trichacis* Foerster, p. 709.

rubicola (Ashmead), n. comb. Transf. from *Trichacis* Foerster, p. 709, with its synonyms (*teste* L. Masner).

Genus *TRICHACIS* Foerster, pp. 709-710

rubicola Ashmead. Transf. to *Metanopiedias* Brues.

Genus *ERITRISOMERUS* Ashmead, p. 710

noveboracensis Brues. Transf. to *Platygaster* Latreille, p. 710.

Genus *PLATYGASTER* Latreille, pp. 710-715

**Prosactogaster* Kieffer, 1914. In Andre, Spec. Hym. Eur. Alg., v. 11, pp. 352, 363. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 135.

Type: *Platygaster lineatus* Kieffer. Desig. by Muesebeck and Walkley, 1956.

**Misocyclops* Kieffer, 1914, *loc. cit. supra*, pp. 353, 362. Syn. by Masner, 1965, *loc. cit. supra*, p. 135.

Type: *Platygaster ornatus* Kieffer. By monotypy.

**Parepimeces* Kieffer, 1926. Das Tierreich, Lief. 48, pp. 563, 760. Syn. by Masner, 1965, *loc. cit. supra*, p. 135.

Type: *Epimeces ensifer* Westwood. By substitution of *Parepimeces* for *Epimeces* Westwood, preocc.

erythropus (Ashmead), n. comb. Transf. from *Metaclisis* Foerster, p. 707 (*teste* L. Masner).

hyalinipennis (Ashmead). N. Y. Host: *Caryomyia tubicola* (O. S.) on hickory.

nigripes (Ashmead), n. comb. Transf. from *Monocrita* Ashmead, p. 707 (*teste* L. Masner).

noveboracensis (Brues). Transf. from *Eritrissomerus* Ashmead, p. 710 (*teste* L. Masner).

Genus *EUXESTONOTUS* Fouts, p. 715

Remove from syn. under *Xestonotidea* Gahan. A valid genus containing all the species placed in Catalog under *Xestonotidea*, except *andriciphila* (Ashmead) which is transf. to *Leptacis* Foerster, of which *Xestonotidea* is a syn.

Genus *Sactogaster* Foerster, p. 715

Syn. of *Synopeas* Foerster (= *Leptacis* Foerster of Catalog in part); included spp. transf. to *Synopeas*.

Genus *SYNOPEAS* Foerster, p. 716

Remove from syn. under *Leptacis* Foerster, p. 716, and place as valid genus before *Leptacis*.

Ectadius Foerster, 1856. Transf. here from syn. under *Leptacis* Foerster, p. 716. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 149.

Polymecus Foerster, 1856. Transf. here from syn. under *Leptacis* Foerster, p. 716. Unnecessarily proposed as n. name for *Ectadius* Foerster.

Sactogaster Foerster, 1856. N. syn. (*teste* L. Masner). All species listed in Catalog are transf. to *Synopeas* as n. combs.; where necessary ending is to be changed to neuter.

Dolichotrypes Crawford and Bradley, 1911. Transf. here from syn. under *Leptacis* Foerster, p. 716. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 149.

Taxonomy: Ghesquière, 1948. Soc. Ent. de Belg. Bul. et Ann. 84:44.—Masner, 1960. Rev. de Zool. et de Bot. Africaines 62: 3.—Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 140.

abdominator (Fouts), n. comb. Transf. from *Leptacis* Foerster, p. 716 (*teste* L. Masner).

aciculatum (Fouts), n. comb. Transf. from *Leptacis* Foerster, p. 716 (*teste* L. Masner).

- angustulum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- anomaliventre** (Ashmead), n. comb. Transf. from **Sactogaster** Foerster, p. 716 (*teste* L. Masner).
- ashmeadii** Dalla Torre. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- auripes** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- bradleyi** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- breviventre** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- carinator** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- cynipsiphilum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- dubiosum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- flavicorne** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- floridanum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- ***foutsi** Masner, n. name. Replaces **longiventre** (Fouts). preocc., upon transf. from **Sactogaster** Foerster, p. 716.
- globatum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- hopkinsi** (Crawford and Bradley), n. comb. N. C., Fla. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- howardii** (Ashmead), n. comb. Transf. from **Sactogaster** Foerster, p. 71 (*teste* L. Masner).
- incertum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- longiventre** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- maculipes** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- mucronatum** (Fouts), n. comb. Transf. from **Sactogaster** Foerster, p. 716 (*teste* L. Masner).
- nigripes** Ashmead. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- pennsylvanicum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- pubescens** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- punctatum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- rufiscapus** Ashmead. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- rugosiceps** (Kieffer), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- striatifrons** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 718 (*teste* L. Masner).

texanum (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 718 (*teste* L. Masner).

varipes (Harrington), n. comb. Transf. from **Sactogaster** Foerster, p. 716 (*teste* L. Masner).

Genus **LEPTACIS** Foerster, pp. 716-718

Ectadius Foerster, 1856. Remove from syn.; place as syn. of **Synopeas** Foerster (*teste* Masner, 1964, Acta Soc. Ent. Cechosl. 61: 149).

Synopeas Foerster, 1856. Remove from syn.; a valid genus (*teste* Masner, 1960, Rev. de Zool. et de Bot. Africaines 62:3).

Anopedias Foerster, 1856. Remove from syn.; a valid genus without known Nearctic species (*teste* L. Masner).

Xestonotus Foerster, 1856. Syn. by Masner, 1964, *loc. cit. supra*, p. 151.

Polymecus Foerster, 1856. Remove from syn.; syn. of **Anopedias** (unnecessarily proposed replacement name).

Dolichotrypes Crawford and Bradley, 1911. Remove from syn.; place as syn. of **Synopeas** Foerster (*teste* L. Masner, 1964, *loc. cit. supra*, p. 149.)

Xestonotidea Gahan, 1919. Syn. by Masner, 1964, *loc. cit. supra*, p. 6, 151.

Axestonotus Kieffer, 1926. Syn. by Masner, 1964, *loc. cit. supra*, p. 151.

***Proleptacis** Kieffer, 1926. Das Tierreich, Lief. 48, pp. xxi, 562, 632. Syn. by Masner, 1960, *loc. cit. supra*, p. 3.

Type: **Leptacis foersteri** Kieffer. By orig. desig.

***Anacoryphe** Debauche, 1947. Soc. Ent. de Belg. Bul. et Ann. 83: 247. Treated as subgenus by Masner, 1960, *loc. cit. supra*, p. 3.

Type: **Anacoryphe orchymonti** Debauche. By monotypy and orig. desig.

***Mandraka** Risbec, 1953. Inst. Sci. de Madagascar Mem. 3: 343. Treated as subgenus by Masner, 1960, *loc. cit. supra*, p. 3.

Type: **Mandraka pauliani** Risbec. By monotypy.

Taxonomy: Masner, 1960, *loc. cit. supra*, pp. 1-34 (revision of the African species).

abdominator Fouts. Transf. to **Synopeas** Foerster.

aciculata Fouts. Transf. to **Synopeas** Foerster.

andriciphila (Ashmead). Transf. from **Xestonotidea** Gahan, p. 716 (*teste* Ghesquière, 1948. Soc. Ent. de Belg. Bul. et Ann. 84: 42).

angustula Fouts. Transf. to **Synopeas** Foerster.

ashmeadii (Dalla Torre). Transf. to **Synopeas** Foerster.

auripes (Ashmead). Transf. to **Synopeas** Foerster.

bradleyi Fouts. Transf. to **Synopeas** Foerster.

breviventris Ashmead. Transf. to **Synopeas** Foerster.

carinator Fouts. Transf. to **Synopeas** Foerster.

cynipsiphila Ashmead. Transf. to **Synopeas** Foerster.

dubiosa Fouts. Transf. to **Synopeas** Foerster.

flavicornis Ashmead. Transf. to **Synopeas** Foerster.

floridana Ashmead. Transf. to **Synopeas** Foerster.

globata Fouts. Transf. to **Synopeas** Foerster.

hopkinsi (Crawford and Bradley). Transf. to **Synopeas** Foerster.

incerta (Ashmead). Transf. to **Synopeas** Foerster.

longiventris Ashmead. Transf. to **Synopeas** Foerster.

maculipes (Ashmead). Transf. to **Synopeas** Foerster.

nigripes (Ashmead). Transf. to **Synopeas** Foerster.

pennsylvanica Fouts. Transf. to **Synopeas** Foerster.

- pubescens* Ashmead. Transf. to *Synopeas* Foerster.
punctata Ashmead. Transf. to *Synopeas* Foerster.
rufiscapus (Ashmead). Transf. to *Synopeas* Foerster.
rugosiceps Kieffer. Transf. to *Synopeas* Foerster.
striatifrons Ashmead. Transf. to *Synopeas* Foerster.
texana Fouts. Transf. to *Synopeas* Foerster.

Superfamily BETHYLOIDEA

Family CHRYSIDIDAE

Biology: Krombein, 1958. Amer. Ent. Soc. Trans. 84: 141-168, 2 pls.
 (spp. of coastal N. C.).

Genus *OMALUS* Panzer, pp. 718-719

- **Philoctetes* Abeille de Perrin, 1870. Soc. Linn. Lyon Ann. 26, sup.: 26.
 Type: *Holopyga (Philoctetes) cicatrix* Abeille de Perrin. Desig. by Ashmead, 1902.
- Diplorrhous* Aaron, 1885. Amer. Ent. Soc. Trans. 12: 216.
 Type: *Diplorrhous plicatus* Aaron. By monotypy.
- **Ellampus* subg. *Dictenus* Semenov, 1932. Soc. Ent. Ross. Hor. 42: 6.
 Type: *Ellampus (Dictenus) specularis* Semenov. Orig. desig.
- Revision: Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 235-250, 30 figs.
- **aeneus* (Fabricius). Canada and U. S. south to Ga., N. Mex. and Ariz., chiefly in Canadian and Transition Zones, occasionally Upper Austral; Europe. Hosts: *Pemphredon* sp. and *Passaloecus* sp. in U. S.; *Stigmus*, *Passaloecus* and *Pemphredon* in Europe. (*Omalus*)
- Chrysis aeneus* Fabricius, 1787. Mant. Ins. 1: 284.
- Omalus laeviventris* Cresson (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 238).
- Omalus diversus* Aaron (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 238).
- **auratus* (Linnaeus). N. Y. south to S. C., Ohio, Ind. Hosts: *Pemphredon (Cemonus) l. lethifer* (Shuck.) and *Passaloecus turionum* Dahlb. in U. S.; in Europe *Pemphredon (P.) lugubris* F., *Pemphredon (Cemonus) unicolor* F., *Trypoxylon figulum* F. and *T. attenuatum* Sm.—the latter two records are very dubious. (*Pseudomalus*)
- Sphex aurata* Linnaeus, 1758. Syst. Nat., ed. 10, p. 572.
- Omalus sinuosus* (Say) (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 241. Note that *O. janus* is removed from syn. and revaluated with *O. corruscans* (Norton) and *O. purpuratus* (Provancher) as syns.).
- Taxonomy: Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 95-96.
 Biology: Thomas, 1962. Ent. News 73: 217-218.
- **butleri* Bohart and Campos. Ariz., N. Mex., Utah, Colo., B. C., Ind., N. Y. (*Omalus*)
- Omalus (Omalus) butleri* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 240, figs. 6, 17. ♀, ♂.
- cressoni* (Aaron). Oreg., Calif., Ariz., Colo., Utah, Mont., Nebr. Hosts: *Xylocelia occidentalis* (Fox), *Pemphredon giffardi* (Roh.), *Stigmus inordinatus* Fox. (*Diplorrhous*)
- Biology: Powell, 1964. Wasmann Jour. Biol. 21: 172-173.
- diversus* Aaron. Syn. of *aeneus* (Fabricius). In orig. citation for *diversus*, change ♀ to ♂.

- ***downeyi** Bohart and Campos. Oreg., Calif., Nev., chiefly in Canadian Zone. (*Diplorrhos*)
Omalus (Diplorrhos) downeyi Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 246, figs. 5, 8. ♂, ♀.
- glomeratus** (du Buysson). Calif. to Wash., east to Idaho, Colo., N. Mex. Host: *Stigmus inordinatus* Fox. (*Omalus*)
- ***granti** Bohart and Campos. Calif., Ariz., N. Mex., Nev., Colo. (*Diplorrhos*)
Omalus (Diplorrhos) granti Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 247, fig. 19. ♂, ♀.
- intermedius** (Aaron). Mont., Md. Host: *Xylocelia virginiana* Roh. Transf. from *Elampus* Spinola. (*Diplorrhos*)
 Biology: Krombein, 1963. Ent. Soc. Wash. Proc. 65: 264.
- iridescens** (Norton). Throughout Canada and U. S., in Canadian, Transition and Austral Zones. Hosts: *Stigmus inordinatus* Fox, *S. americanus* Pack., *Diodontus trisculcus* Fox. (*Omalus*)
- janus** (Haldeman). Canada and U. S. south to Calif., Ariz., N. C., chiefly in Canadian and Transition Zones. Host: *Pemphredon (P.) concolor* Say, *P. (P.) errans* Roh., *P. (Cemonus) giffardi* (Roh.). (*Pseudomalus*)
Omalus sinuosus (Say) of Catalog, in part. *O. janus* not a syn. (*teste* Bohart and Campos, 1960, *loc. cit. supra*, p. 242).
Elampus coruscans Norton (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 242). Note that *coruscans* was misspelled in orig. cit. under *sinuosus* in Catalog.
Elampus purpuratus Provancher (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 242).
Omalus semicircularis Aaron (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 242).
- ***krombeini** Bohart and Campos. Ariz., southern Calif. (*Diplorrhos*)
Omalus (Diplorrhos) krombeini Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 247, figs. 3, 13. ♂, ♀.
- laeviventris** Cresson. Syn. of *aeneus* (Fabricius).
- ***maeswaini** Bohart and Campos. Alaska, Canada and U. S. south to Calif., Ariz. and Ga. Hosts: *Stigmus americanus* Pack., *Pemphredon (Cemonus) l. lethifer* (Shuck.), ? *P. (C.) harbecki* Roh. (*Pseudomalus*)
Omalus (Pseudomalus) maeswaini Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 244, fig. 22. ♂, ♀.
 Biology: Krombein, 1960. Ent. News 71: 32-33.
- plicatus** (Aaron). Alaska, Canada, western and northern U. S. south to Calif., N. Mex., Minn., Mich., N. Y. (*Diplorrhos*)
- semicircularis** Aaron. Syn. of *janus* (Haldeman).
- seminudus** (Aaron). Alaska, B. C. south to Calif., Idaho, Ont. Transf. from *Elampus* Spinola. (*Diplorrhos*)
- sinuosun** (Say). Syn. of *auratus* (Linnaeus). N. B.: *O. janus* Haldeman is removed from syn. and revalidated, with *O. coruscans* Norton) and *O. purpuratus* (Provancher) as synonyms. (*Pseudomalus*)
- speculum** (Say). Wash., Oreg., Calif., Colo. (*Diplorrhos*)
- ***telfordi** Bohart and Campos. Tex. to southern Calif., Nev. (*Diplorrhos*)
Omalus (Diplorrhos) telfordi Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 249, figs. 14, 27. ♂, ♀.
- ***trilobatus** Bohart and Campos. B. C. and Idaho south to Calif., Ariz. and Colo., in Canadian, Transition and Upper Sonoran Zones. Host: *Pemphredon (Cemonus) giffardi* (Roh.). (*Pseudomalus*)
Omalus (Pseudomalus) trilobatus Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 245, figs. 4, 15, 25, 28. ♂, ♀.

variatus (Aaron). Western N. Amer. in Canadian, Transition and Upper Sonoran Zones. Host: *Stigmus inordinatus* Fox. (*Diplorrhos*)

Genus **ELAMPUS** Spinola, p. 719

intermedius (Aaron). Transf. to **Omalus**, p. 718.

seminudus (Aaron). Transf. to **Omalus**, p. 718.

Genus **Diplorrhos** Aaron, p. 719

Transferred with component species to **Omalus** as a subgenus (*teste* Bohart and Campos, 1960, *loc. cit. supra*, p. 236).

Genus **HEDYCHRIDIUM** Abeille de Perrin, p. 720

amabile Cockerell. Ariz., Nev.

fletcheri Bodenstein. Ala., B. C.

polygona Rohwer. Transf. to **Hedychrum** Latreille, p. 720.

Genus **HEDYCHRUM** Latreille, pp. 720-721

continuum Aaron. Fla.

polygona (Rohwer). Transferred from **Hedychridium** Abeille de Perrin, p. 720 (*teste* K. V. Krombein who examined type).

violaceum Brullé. Host: ? *Cerceris halone* Bks. In citation of *wiltii* Cresson, change ♀ to ♂.

Genus **CHRYSTURA** Dahlbom

(= *Chrysis* subg. *Chrystura* Dahlbom of Catalog, p. 721)

Raised to generic rank (Krombein, 1963. Ent. News 74: 149).

doriae Gribodo. Hosts: *Trypoxylon* (*T.*) *bidentatum* Fox, *T.* (*T.*) *sculleni* Sandh. Kans., Tex.; Mexico.

***kyrae** Krombein. Md., Va., Mo. (?), Ind. Host: *Osmia* (*O.*) *l. lignaria* Say.

Chrystura kyrae Krombein, 1963. Ent. News 74: 150. ♂, ♀.

Biology: Krombein, 1963, *loc. cit. supra*, p. 152.

pacifica (Say). Delete host record.

tota Aaron. B. C.

CHRYSIDIS subgenus **CHRYSOGONA** Foerster, pp. 721-722

densa Cresson. Delete *Pseudodynerus quadrisectus* (Say) as a host and add *Pseudomasaris vespoidea* (Cr.), *P. zonalis* (Cr.) and *P. edwardsii* (Cr.).

Biology: Hicks, 1927. Canad. Ent. 59: 78.—Hicks, 1929. Canad. Ent. 61: 122.

perpulchra Cresson. Host: *Sphex aberti* (Hald.).

Biology: Hicks, 1932. Canad. Ent. 64: 145-151.

verticalis Patton. Host: *Trypoxylon backi* Sandh.

Biology: Thomas, 1962. Amer. Midland Nat. 67: 365-366.—Thomas, 1963. Mich. Acad. Sci., Arts, Letters, Papers 48: 127-130.

CHRYSIDIS subgenus **DICHRYSIDIS** Lichtenstein, p. 722

annulipes (Mocsáry). Syn. of **bigeloviae** Cockerell.

bigeloviae Cockerell. Add ♂ after orig. descr.

mesillae Cockerell. Tex., Okla.; Mexico (Zacatecas). Add ♀ after orig.

Chrysis (**Dichrysis**) **annulipes** (Mocsáry) (listed in Sup. 1), n. syn., based on type examination by K. V. Krombein. descr.

CHRYISIS subgenus CERATOCHRYISIS Cooper, Sup. 1, p. 95

enhuyeki Cooper. Host: *Leptochilus republicanus zendalooides* (Robt.).
Biology: Krombein, 1959. Ent. News 70: 17-23.

CHRYISIS subgenus TRICHRYISIS Lichtenstein, p. 722

mucronata Brullé. Host: *Trypoxylon (Trypargilum) t. tridentatum* Pack.
Biology: Parker, 1962. Pan-Pacific Ent. 38: 140.

parvula Fabricius. Add Preocc. after citation for *virens* Cresson.
Biology: Krombein, 1958. Amer. Ent. Soc. Trans. 84: 144.

CHRYISIS subgenus CHRYISIS Linnæus, pp. 722-725

Taxonomy: Bohart, 1962. Acta Hym. 1: 361-375, 25 figs. (sexdentate forms).

aaroni Mocsáry.

Chrysis (Pyria) nana Mocsáry (syn. by Bohart, 1962. Acta Hym. 1: 375).
Taxonomy: Krombein, 1958. Amer. Ent. Soc. Trans. 84: 146.

alabamensis Mocsáry. Transfer to **Neochrysis* Linsenmaier as a syn. of *pan-amensis* (Cameron).

***aridula** Bohart. Ariz., southern Calif.

Chrysis aridula Bohart, 1962. Acta Hym. 1: 364, figs. 1, 5, 17. ♂, ♀.

***arizonica** Bohart. Ariz., Tex. Host: *Stenodynerus (Parancistrocerus) toltectus* (Sauss.).

Chrysis arizonica Bohart, 1962. Acta Hym. 1: 366, figs. 2, 10, 18, 19. ♂, ♀.

***australia** Bohart. Calif., Nev., Utah, Ariz., N. Mex.; Mexico (Baja California, Zacatecas).

Chrysis australia Bohart, 1964. Biol. Soc. Wash. Proc. 77: 233, figs. 8, 13. ♂, ♀.

***bequaerti** Bohart. D. C., Ga., Ark., Mo., Ind., S. Dak. to Tex., N. Mex.

Chrysis bequaerti Bohart, 1962. Acta Hym. 1: 366, figs. 7, 9, 20, 21, 25. ♂, ♀.

***cembricola** Krombein. Pa., Md., D. C., Va., W. Va., N. C. Host: *Symmorphus canadensis* (Sauss.).

Chrysis (Chrysis) cembricola Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53, fig. 1. ♀, ♂.

Biology: Krombein, 1958, loc. cit. supra, pp. 57-58.

clara Cresson. S. Dak., Colo., Wash. Transf. from *Chrysis* subg. *Pyria* Lepelletier & Serville, p. 725.

Taxonomy: Bohart, 1962. Acta Hym. 1: 367.

***clypeata** Mocsáry. Syn. of *lauta* Cresson.

coerulans Fabricius. Hosts: *Ancistrocerus spilogaster* Cam., *A. tigris cytainus* (Cam.), *A. tuberculocephalus sutterianus* (Sauss.), *Euodynerus leucomelas* (Sauss.), *E. f. foraminatus* (Sauss.), *E. f. scutellaris* (Sauss.), *Stenodynerus acarophorus* Boh.

Biology: Parker, 1962. Pan-Pacific Ent. 38: 140.—Medler, 1964. Ent. News 75: 26-27.—Medler, 1964. Ent. Soc. Wash. Proc. 66: 209-215.

cognata Gribodo. Syn. of *intricata* Brullé.

***coloradica** Bohart. Calif., Nev., Idaho. Host: *Anthidium collectum* Huard.

Chrysis coloradica Bohart, 1964. Biol. Soc. Wash. Proc. 77: 224. N. name for *pulcherrima* Cresson, preocc., questionably placed in syn. of *lauta* Cresson in Catalog.

***crotema** Bohart. N. Mex., Ariz.; Mexico (Zacatecas).

Chrysis crotema Bohart, 1964. Biol. Soc. Wash. Proc. 77: 228, figs. 5, 18. 19. ♂, ♀.

decepta Rohwer. Syn. of *pattoni* Aaron.

- derivata** du Buysson. Que., N. H., Mass., N. J., Pa., Md., N. C., Ill., Minn., Mo. Hosts: *Ancistrocerus catskill halophilus* Vier., *Euodynerus foraminatus scutellaris* (Sauss.).
Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 160, fig. 7.
- dorsalis** Aaron. Delete Fla. from distribution. Host: *Photopsis* sp.
Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 146, fig. 5.
- equidens** Viereck. N. C., Tex., Kans., Nebr.
Taxonomy: Krombein, 1958, *loc. cit. supra*, pp. 145-146, fig. 6.
- fabricii** Mocsáry. Delete from North American fauna (*teste* Bohart, 1962. *Acta Hym.* 1: 375).
- falsifica** Buysson. Syn. of *lauta* Cresson.
- fuscipennis** Brullé. Calif. (Sacramento and Stanislaus Counties). Host: *Sceliphron caementarium* (Dru.).
Biology: Stage, 1960. *Pan-Pacific Ent.* 36: 191-195, 1 pl.
- inaequidens** Dahlbom. Over most of U. S., N. Y. to Wash. and south into Mexico (Chihuahua). Hosts: *Euodynerus meguera* (Lep.), *E. foraminatus scutellaris* (Sauss.) and *E. foraminatus apopkensis* (Robt.). Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.
Chrysis (Pyria) texana Gribodo (syn. by Bohart, 1962. *Acta Hym.* 1: 368, fig. 14).
Biology: Krombein, 1958, *loc. cit. supra*, pp. 161-163 (recorded as *fabricii* Mocs.).—Moore and Parker, 1962. *Pan-Pacific Ent.* 38: 14.
- inflata** Aaron. Host: *Ancistrocerus lineativentris* Cam., *A. tuberculiceps suterianus* (Sauss.).
- intricata** Brullé. Tex. (Brownsville); Mexico south to French Guiana. Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.
**Chrysis suiditi* Dahlbom, 1845. *Hym. Europaea* 2: 317. ♀.
Chrysis (Pyria) cognata Gribodo (syn. by Bohart, 1962. *Acta Hym.* 1: 368, fig. 16).
**Chrysis proxima* Cameron, 1888. *Biol. Cent-Amer., Hym.*, v. 1, p. 465. ♀.
**Chrysis schulthessi* Mocsáry, 1889. *Monog. Chrysid.*, p. 572. ♂.
**Chrysis aenescens* Mocsáry, 1889. *Monog. Chrysid.*, p. 577. ♀.
**Chrysis aperta* du Buysson, 1897. *Ann. Soc. Ent. France* 66: 559. ♂.
- kahli** Viereck. Syn. of *propria* Aaron.
- laminifera** Bischoff. Ark.
Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 143, fig. 3.
- lauta** Cresson. N. C., Ga., Miss., Tex., Kans., Nebr., Colo., N. Mex., Ariz.; Mexico (Morelos, Jalisco). Transfer *pulcherrima* Cresson to syn. of **coloradica* Bohart. Host: *Anthidium porterae* Ckll.
Chrysis (Chrysis) falsifica Buysson (syn. by Bohart, 1964. *Biol. Soc. Wash. Proc.* 77: 224).
**Chrysis (Tetrachrysis) clypeata* Mocsáry, 1889. *Monog. Chrysid.*, p. 393. ♂. (Syn. by Bohart, 1964, *loc. cit. supra*, p. 224.)
Biology: Custer, 1928. *Ent. News* 39: 123-134.
- montana** Aaron.
Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 145.
- nana** Mocsáry. Syn. of *aaroni* Mocsáry. Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.
- nitidula** Fabricius. Host: *Ancistrocerus c. catskill* (Sauss.), *Euodynerus f. foraminatus* (Sauss.).
Biology: Medler, 1964. *Ent. Soc. Wash. Proc.* 66: 209-215.
- ***oraria** Bohart. Ariz., Tex.
Chrysis oraria Bohart, 1962. *Acta Hym.* 1: 370. ♂, ♀.
- pattonella** Viereck. Syn. of *propria* Aaron.

- pattoni** Aaron. Host: *Ancistrocerus spilogaster* Cam.
Chrysis (Chrysis) decepta Rohwer (syn. by Krombein, 1957. Ent. News 68: 191).
- pellucidula** Aaron. N. Y., Pa., Calif. Host: *Trypoxylon t. tridentatum* Pack.
 Biology: Hicks, 1934. Univ. Colo. Studies 21: 267.
- *praestans** du Buysson. Ky., Colo. to Tex., west to Wash. and Calif.; West Indies (Grenada).
Chrysis praestans du Buysson, 1898. Rev. Ent. Caen 17: 144. ♀.
 Taxonomy: Bohart, 1962. Acta Hym. 1: 370, fig. 8.
- *prolata** Bohart. Kans., Wis.
Chrysis prolata Bohart, 1964. Biol. Soc. Wash. Proc. 77: 229. ♀.
- propria** Aaron.
Chrysis (Chrysis) kahli Viereck (syn. by Krombein, 1957, loc. cit. supra, p. 191).
Chrysis (Chrysis) pattonella Viereck (syn. by Krombein, 1957, loc. cit. supra, p. 191).
- provancheri** Schulz. S. Dak., B. C.
- *rivalis** Bohart. Calif., Oreg., Idaho, Wyo., Utah, Colo., Nev.
Chrysis rivalis Bohart, 1964. Biol. Soc. Wash. Proc. 77: 229, figs. 4, 22, 23. ♂, ♀.
- serrata** Taylor. Wash., Calif., Nev., N. Mex., Utah, Mich. Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.
 Taxonomy: Bohart, 1962. Acta Hym. 1: 371, fig. 12.
- smaragdula** Fabricius. Ariz. Host: *Monobia quadridens* (L.). Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.
 Biology: Krombein, 1958, loc. cit. supra, p. 163.
 Taxonomy: Bohart, 1962. Acta Hym. 1: 371, fig. 13.
- *stenodyneri** Krombein. N. Y. south to Fla., Ind., Mo., Kans. Hosts: *Stenodynerus ammonia histrionalis* (Robt.), *S. krombeini* Boh., *S. linca-tifrons* Boh.
Chrysis (Chrysis) stenodyneri Krombein, 1958. Amer. Ent. Soc. Trans. 84: 151, figs. 1, 2, 8. ♀, ♂.
 Biology: Krombein, 1958, loc. cit. supra, pp. 155-160.
- *tensa** Bohart. Calif., Ariz., N. Mex., Tex., Utah; Mexico (Sonora, Chihuahua).
Chrysis tensa Bohart, 1964. Biol. Soc. Wash. Proc. 77: 230, figs. 2, 14, 15. ♂, ♀.
- tenuicornis** Taylor. Oreg., Calif., N. Mex.; Mexico (Baja California).
 Taxonomy: Bohart, 1962. Acta Hym. 1: 373, figs. 3, 15.
- texana** Gribodo. Syn. of *inaequidens* Dahlbom.
- *tularensis** Bohart. Calif. (Tulare Co.).
Chrysis tularensis Bohart, 1962. Acta Hym. 1: 373, figs. 4, 6. ♂, ♀.
- *vagabunda** Bohart. Calif., Oreg., Wash., Nev., Utah.
Chrysis vagabunda Bohart, 1964. Biol. Soc. Wash. Proc. 77: 225, figs. 24, 25. ♂, ♀.
- *venustella** Bohart. Calif., Nev., Wash.
Chrysis venustella Bohart, 1964. Biol. Soc. Wash. Proc. 77: 235, figs. 9, 12. ♂, ♀.
- *vibex** Bohart. Calif., Ariz., N. Mex., Tex.; Mexico (Chihuahua, Nuevo Leon, Jalisco).
Chrysis vibex Bohart, 1964. Biol. Soc. Wash. Proc. 77: 231, figs. 1, 7, 11, 16. ♂, ♀.
- *wasbaueri** Bohart. Generally distributed over U.S., Mass. to Wash., south to Mexico (Chihuahua, Nueva Leon).
Chrysis wasbaueri Bohart, 1962. Acta Hym. 1: 372, figs. 11, 22, 23, 24. ♂, ♀.

xerophila Bohart. Calif.

Chrysis xerophila Bohart, 1964. Biol. Soc. Wash. Proc. 77: 226, figs. 3, 20, 21. ♂, ♀.

Chrysis subgenus Pyria Lepageletier and Serville, p. 725

Delete this heading and transfer component species to **Chrysis** subg. **Chrysis** Linnaeus, pp. 722-725 (*teste* Bohart, 1962. Acta Hym. 1: 362).

***Genus NEOCHRYSIS** Linsenmaier

Pleurocera subg. **Neochrysis** Linsenmaier, 1959. Schweiz. Ent. Ges. Mitt. 32: 74.

Type: *Chrysis punctatissima* Spinola. Orig. desig.

Place after **Chrysis** subg. **Chrysis** Linnaeus, p. 725. Raised to generic rank (*teste* Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 108).

***panamensis** (Cameron). Md.; Panama.

Chrysis panamensis Cameron, 1888. Biol. Cent.-Amer., Hym. 1, p. 464, pl. 20, fig. 8.

Chrysis (**Chrysis**) **alabamensis** Mocsáry (transf. from **Chrysis** and syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 108).

Biology and Taxonomy: Krombein, 1958, *loc. cit. supra*, pp. 147-149, fig. 4.

Genus PARNOPE Latreille, pp. 725-726

Revision: Telford, 1964. Univ. Calif. Pubs. Ent. 36: 1-42, 5 pls., 1 text fig.

arizonensis Viereck. Syn. of **concinus** Viereck.

***borregoensis** Telford. Southern Calif.

Parnopes borregoensis Telford, 1964. Univ. Calif. Pubs. Ent. 36: 9, pl. 1, fig. 2. ♂, ♀.

***boutheryi** Brèthes. Syn. of **edwardsii** (Cresson).

chrysoprasinus Smith. N. Y. south to Fla., west to Wis. and Tex.

concinus Viereck. Calif. to western Tex., Nev.; Mexico (Baja California, Jalisco).

Parnopes arizonensis Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 11).

**Parnopes digueti* du Buysson, 1904. Rev. d'Ent. Caen 23: 274. ♂. (Syn. by Telford, 1964, *loc. cit. supra*, p. 11.)

diadema Viereck. Syn. of **fulvicornis fulvicornis** Cameron.

***digueti** du Buysson. Syn. of **concinus** Viereck.

edwardsii (Cresson). Change *edwardsi* in specific heading in Catalog to **edwardsii**. Alaska to California, east to the Rocky Mts.; Mexico (Baja California). Host: *Steniolia obliqua* (Cr.).

**Parnopes boutheryi* Brèthes, 1902. Mus. Nac. Buenos Aires An. 8 (3): 287. ♀, ♂. (Syn. by Telford, 1964, *loc. cit. supra*, p. 6.)

Parnopes hageni Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 6).

Parnopes henshawi Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 6).

Biology: Evans and Gillaspay, 1964. Amer. Midland Nat. 72: 277, fig. 14.

excurvatus Viereck. Calif., Nev., Ariz. In orig. citation change ♀ to "♀" = ♂.

festivus Cockerell. Ariz. to western Tex.; Mexico (Chihuahua).

***fulvicornis atlanticus** Krombein. Md., Va., N. C., ? Fla. Host: ? *Microbembex monodonta* (Say).

Parnopes westcottii atlanticus Krombein, 1958. Amer. Ent. Soc. Trans. 84: 164, ♀, ♂. (Made a subsp. of **fulvicornis** by Telford, 1964. *loc. cit. supra*, p. 19.)

Biology: Krombein, 1958, *loc. cit. supra*, pp. 166-167.

- **fulvicornis fulvicornis* Cameron, changed status. Idaho and Iowa south to Calif. and Tex., and further south to Guatemala.
- Parnopes fulvicornis* Cameron, 1888. Biol. Cent.-Amer. Hym., v. 1, p. 466, pl. 20, figs. 1, la. ♀. (Reduced to subsp. rank, *teste* Telford, 1964, *loc. cit. supra*, p. 16.)
- Parnopes westcottii* Melander and Brues (syn. by Telford, 1964, *loc. cit. supra*, p. 16).
- Parnopes diadema* Viereck (syn. under typical *westcottii* by Krombein, 1958. Amer. Ent. Soc. Trans. 84: 164).
- Parnopes taeniata* Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 16).
- hageni* Viereck. Syn. of *edwardsii* (Cresson).
- heushawi* Viereck. Syn. of *edwardsii* (Cresson).
- taeniata* Viereck. A syn. of *fulvicornis fulvicornis* Cameron.
- westcottii* Melander and Brues. Syn. of *fulvicornis fulvicornis* Cameron.

Genus CLEPTES Latreille, pp. 726

- purpuratus* Cresson. Host: *Neodiprion* sp.
Biology: Dahlsten, 1961. Canad. Ent. 93: 192-193.
- **semiauratus* (Linnaeus). New Jersey (Metuchen); introduced from Europe.
Sphex semiauratus Linnaeus, 1761. Fauna Suec., Ed. 2, p. 413. ♂.
- **Cleptes pallipes* Lepeletier, 1806. Mus. Hist. Nat. Ann. 7: 119, pl. 8, fig. 1. ♀.
- **Cleptes diana* Mocsáry, 1889. Monog. Chrysid., p. 46. ♂.

Genus MESITIOPTERUS Ashmead, p. 726

- **floridensis* Krombein. Fla. (Gainesville).
Mesitiopterus floridensis Krombein, 1960. Amer. Ent. Soc. Trans. 86: 28, fig. 6. ♂, ♀.
- kahlii* Ashmead. Ariz. (Portal).

*Genus MICROSEGA Krombein

- Microsega* Krombein, 1960. Amer. Ent. Soc. Trans. 86: 31.
Type: *Microsega bella* Krombein. By monotypy and orig. desig.
Place in Amiseginae (Sup. 1, p. 96) after *Mesitiopterus*.
- **bella* Krombein. Tex. (Cameron Co.).
Microsega bella Krombein, 1960. Amer. Ent. Soc. Trans. 86: 32, figs. 1, 2, 5. ♀.

Genus ADELPHÉ Mocsáry, Sup. 1, p. 96

- **anisomorphae* Krombein. Ga., Fla., La. Host: *Anisomorpha ferruginea* (Beauv.), eggs.
Adelphé anisomorphae Krombein, 1960. Amer. Ent. Soc. Trans. 86: 35, fig. 3. ♂, ♀.

Family BETHYLIDAE

Taxonomy: Evans, 1964. Mus. Compar. Zool. Bul. 132: 1-222, 144 figs. (synopsis of American spp.).

*Subfamily EPYRINAE

*Tribe CEPHALONOMIINI

Genus CEPHALONOMIA Westwood, p. 727

- **Cephalonomia* subg. *Cephaloderma* Hoffer, 1936. Festschr. Embrik Strand, vol. 1, p. 459. (Syn. by Evans, 1964, *loc. cit. supra*, p. 159.)
Type: *Cephalonomia (Cephaloderma) strandi* Hoffer. By monotypy.

gallicola (Ashmead).

**Cephalonomia (Cephaloderma) strandi* Hoffer, 1936. Festschr. Embrik Strand, vol. 1, p. 460. ♀. (Syn. by Evans, 1964, *loc. cit. supra*, p. 159.)

hyalinipennis Ashmead. Mass. Host: *Conophthorus coniperda* (Schw.).

**perpusilla* Evans. Oreg., Calif., Ariz.; Mexico (Baja California, Nayarit). Host: Ciid beetle larvae in fungi.

Cephalonomia perpusilla Evans, 1963. Psyche 70: 152. ♂, ♀.

utahensis Brues. Hosts: *Conophthorus radiatae* Hopk. and *Ernobius punctulatus* Fall.

Biology: Schaefer, 1962. Ent. Soc. Amer. Ann. 55: 574-575, fig. 6.

Genus PLASTANOXUS Kieffer

Transferred from p. 731.

chittendenii (Ashmead). Transcont. in U. S. and southern Canada.

**incompletus* Evans. Ariz. (Mesa).

Plastanoxus incompletus Evans, 1964. Mus. Compar. Zool. Bul. 132: 152. ♀.

laevis (Ashmead). Brazil (?).

westwoodi (Kieffer). Widely distributed in U. S.; Africa; probably cosmopolitan.

*Tribe SCLERODERMINI

*Genus NESEPYRIS Bridwell

Nesepyris Bridwell, 1920. Hawaiian Ent. Soc. Proc. 4: 309.

Type: *Nesepyris ewa* Bridwell. By monotypy.

Place before *Glenosema* Kieffer, p. 727.

**floridanus* Evans. Fla.; Mexico.

Nesepyris virginianus Evans, 1964. Mus. Compar. Zool. Bul. 132: 164, 111, 112. ♀.

**virginianus* Evans. Md., Va.

Nesepyris virginianus Evans, 1964. Mus. Compar. Zool. Bul. 132: 164, fig. 110. ♀.

Genus GLENOSEMA Kieffer, p. 727

californicus (Bridwell). Transfer to syn. of *Bethylus decipiens* (Provancher), p. 732.

**crandalli* Evans. Ariz. (Santa Catalina Mts.).

Glenosema crandalli Evans, 1964. Mus. Compar. Zool. Bul. 132: 170, fig. 116. ♀.

Genus SCLERODERMA Latreille, p. 728

**Neoscleroderma* Kieffer, 1905. Soc. Sci. Bruxelles Ann. 29: 106. (Syn. by Evans, 1964, *loc. cit. supra*, p. 174.)

Type: *Ateleopterus virginianus* Ashmead. Desig. by Kieffer, 1914.

*Tribe EPYRINI

Genus LAELIUS Ashmead, p. 728

utilis Cockerell. Ont.

EPYRIS subgenus EPYRIS Westwood

(= Genus *Epyris* Westwood, pp. 728-729)

**Muellerella* Saussure, 1892. In Grandidier, Hist. Nat. Madagascar 20:

pl. 25, fig. 20. (Syn. by Evans, 1964, *loc. cit. supra*, p. 104.)

Type: *Muellerella amabilis* Saussure. By monotypy.

**Parepyris* Kieffer, 1913 (not of Brèthes, 1913). Lab. Zool. Gen. e Agr. Portici Bol. 7: 108. (Syn. by Evans, 1964, *loc. cit. supra*, p. 104.)

Type: *Epyris interruptus* Kieffer. Desig. by Kieffer, 1914.

Psilepyris Kieffer, 1913. (Syn. by Evans, 1964, *loc. cit. supra*, p. 104.)

indivisus Kieffer. Transf. from *Psilepyris* Kieffer, p. 730 (*teste* Evans, 1964, *loc. cit. supra*, p. 104).

**vierecki* Krombein. Md. (Plummers Island).

Epyris vierecki Krombein, 1962. Biol. Soc. Wash. Proc. 75: 1. ♂, ♀.

Nomen Nudum in *Epyris* Westwood

**Epyris monticola* Ashmead in Cockerell, 1889. Colo. Biol. Assn., 10th Rept., [p. 2] (probably published originally in Custer County Courant newspaper).

*Genus BAKERIELLA Kieffer

Bakeriella Kieffer, 1910. Soc. Ent. France Ann. 78: 288.

Type: *Bakeriella flavicornis* Kieffer. By monotypy.

Place before *Rhabdepyris* Kieffer, p. 729.

**floridana* Evans. Fla. (Paradise Key).

Bakeriella floridana Evans, 1964. Mus. Compar. Zool. Bul. 132: 134, fig. 84. ♂, ♀.

Genus RHABDEPYRIS Kieffer, pp. 729-730

Chlorepyris Kieffer, 1913. (Syn. by Evans, 1964, *loc. cit. supra*, p. 93.)

aeneiceps (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730. Delete Ga. from distribution.

analis (Cresson). Transf. to *Anisepyris* Kieffer, p. 730.

columbianus (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730.

fulgens (Brues). Transf. from *Chlorepyris* Kieffer, p. 730 (*teste* Evans, 1964, *loc. cit. supra*, p. 95).

grandis (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730.

haemorrhoidalis Kieffer. Transf. to *Holepyris* Kieffer, p. 730.

occidentalis (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730.

zeae Turner and Waterston. Transf. to syn. of *Holepyris sylvanidis* (Brèthes), p. 730.

Genus HOLEPYRIS Kieffer, p. 730

**Holepyris* subg. *Rysepyris* Kieffer, 1906. In André, Spec. Hym. Eur. Alg., v. 9, p. 341. (Syn. by Evans, 1964, *loc. cit. supra*, p. 140.)

Type: *Holepyris (Rysepyris) nunidicus* Kieffer. Desig. by Kieffer, 1914.

**Misepyrus* Kieffer, 1913. Lab. Zool. Gen. e Agr. Portici Bol. 7: 108. (Syn. by Evans, 1964, *loc. cit. supra*, p. 140.)

Type: *Holepyris remotus* Kieffer. Desig. by Kieffer, 1914.

**Parepyris* Brèthes, 1913 (not of Kieffer, 1913). Buenos Aires Mus. Nac. de Hist. Nat. An. 24: 87. (Syn. by Evans, 1964, *loc. cit. supra*, p. 140.)

Type: *Parepyris sylvanidis* Brèthes. By monotypy.

haemorrhoidalis (Kieffer). Transf. from *Anisepyris* Kieffer, p. 729 (*teste* Evans, 1964, *loc. cit. supra*, p. 143).

**sylvanidis* (Brèthes). Widespread in U. S.; cosmopolitan. Host: *Oryzaephilus surinamensis* (L.).

Parepyris sylvanidis Brèthes, 1913. Buenos Aires Mus. Nac. de Hist. Nat. An. 24: 87. ♂, ♀.

Rhabdepyris zeae Turner and Waterston (syn. by Evans, 1964, *loc. cit. supra*, p. 143).

Genus *Psilepyris* Kieffer, p. 730

Syn. of *Epyris* subg. *Epyris* Westwood, p. 728.

indivisus (Kieffer). Transf. to *Epyris* Westwood, p. 729.

Genus *Chlorepyris* Kieffer, p. 730

Transfer to synonymy of *Rhabdepyris* Kieffer, p. 729.

fulgens (Brues). Transfer to *Rhabdepyris* Kieffer, p. 729.

Genus *Xanthepyrus* Kieffer, p. 730

A synonym of *Pseudisobrachium* Kieffer, pp. 731-732.

Genus *Acrepyris* Kieffer, p. 730

Transfer to *Pristocera* Klug, p. 731, as a valid subgenus (*teste* Evans, 1963. *Mus. Compar. Zool. Bul.* 129: 248).

reticulatus (Kieffer). Transf. to *Pristocera* Klug, p. 731, as a syn. of *armifera* (Say).

Genus ANISEPYRIS Kieffer, pp. 730-731

**Rhabdepyris* subg. *Lophepyris* Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 201. (Syn. by Evans, 1964, *loc. cit. supra*, p. 96.)

Type: *Rhabdepyris (Lophepyris) bridwelli* Evans. By orig. desig.

Revision: Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 97-120, 28 figs.—
Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 201-204.

aeneiceps (Ashmead). Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 107).

analis (Cresson). Fla. and Tex. to Tenn. and N. C. Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 118).

**arizonicus* Evans. Ariz. (Santa Rita Mts.).

Anisepyris arizonicus Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 112, fig. 15. ♀.

**bradleyi* (Evans). Tex. (Wharton).

Rhabdepyris (Lophepyris) bradleyi Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 204. ♀.

**bridwelli* (Evans). Tex. (Brownsville, Laredo); Mexico.

Rhabdepyris (Lophepyris) bridwelli Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 202. ♀, ♂.

columbianus (Ashmead). Mass. west to Kans. south to Fla. and Tex. Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 104).

Anisepyris pulchellus Fouts (syn. by Evans, 1959, *loc. cit. supra*, p. 104).

**dietrichorum* Evans. Ariz. (Arivaca in Pima Co.).

Anisepyris dietrichorum Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 118, fig. 21. ♀.

**gibbosifrons* Evans. N. J., Fla.

Anisepyris gibbosifrons Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 116, figs. 23, 25, 26. ♀, ♂.

grandis (Ashmead). Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 108).

**laticeps* Evans. Southeastern Ariz.

Anisepyris laticeps Evans, 1959. *Ent. Soc. Wash. Proc.* 61: 113, figs. 19, 24. ♀, ♂.

occidentalis (Ashmead). Ariz. and southern Calif. to Idaho and Wash. Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 109).

Anisepyris punctaticeps Kieffer (syn. by Evans, 1959, *loc. cit. supra*, p. 109).

pulchellus Fouts. Syn. of **columbianus** (Ashmead).

punctaticeps Kieffer. Syn. of **occidentalis** (Ashmead).

subviolaceus Kieffer. Fla., Tex. and N. Mex. north to Pa., Mich., Wyo., B. C.

***williamsi** Evans. Ariz. and Calif. north to Oreg., Idaho and Utah.

Anisepyris williamsi Evans, 1959. Ent. Soc. Wash. Proc. 61: 106, fig. 9.
♀, ♂.

Genus *Plastanoxus* Kieffer, p. 731

Transfer with component species to *Tribe Cephalonomiini and place after *Cephalonomia* Westwood, p. 727 (*teste* Evans, 1964, *loc. cit. supra*, p. 148).

***Subfamily PRISTOCERINAE**

Genus PRISTOCERA Klug, p. 731

PRISTOCERA subgenus ACREPYRIS Kieffer

Reduced to subg. of *Pristocera* Klug (*teste* Evans, 1963, *loc. cit. infra* p. 248).

**Pristocera* subg. *Neopristocera* Yasumatsu, 1955. Fac. Agr. Kyushu Univ. Jour. 10: 248.

Type: *Pristocera japonica* Yasumatsu. Orig. desig.

Revision: Evans, 1963. Mus. Compar. Zool. Bul. 129: 241-290, 60 figs.

armifera (Say). N. H. and Vt. south to Fla., west to S. Dak., Colo. and Tex. Host: *Melanotus* sp.

Scleroderma thoracica Westwood not a syn. of *atra* Klug but of *armifera* (*teste* Evans, 1963, *loc. cit. supra*, p. 256).

Acropyris reticulatus Kieffer (syn. by Evans, 1963, *loc. cit. supra*, p. 256).

atra Klug. N. C. to Fla., west to N. Mex. Remove *thoracica* (Westwood) from syn. of *atra* and transfer it to syn. of *armifera* (Say).

***bridwelli** Evans. Ark. (Dodd City).

Pristocera (Acropyris) bridwelli Evans, 1963. Mus. Compar. Zool. Bul. 129: 267. ♂, ♀.

***californica** Evans. Calif., Utah, Wyo.

Pristocera (Acropyris) californica Evans, 1963. Mus. Compar. Zool. Bul. 129: 263. ♂.

***chihuahua** Evans. Ariz.; Mexico (Chihuahua, Zacatecas).

Pristocera (Acropyris) chihuahua Evans, 1963. Mus. Compar. Zool. Bul. 129: 284. ♂.

***cockerelli** Evans. Tex. to Ariz.; Mexico (Sonora, Oaxaca).

Pristocera (Acropyris) cockerelli Evans, 1963. Mus. Compar. Zool. Bul. 129: 264. ♂, ♀.

***fraterna** Evans. N. C. to Fla., Kans.

Pristocera (Acropyris) fraterna Evans, 1963. Mus. Compar. Zool. Bul. 129: 261. ♂, ♀ (?).

hyalina Brues. La., Tex., N. Mex.

***Genus APENESIA Westwood**

Apenesia Westwood, 1874. Thesaurus Ent. Oxon., p. 170.

Type: *Apenesia amazonica* Westwood. Desig. by Westwood, 1881.

**Aeluroides* Tullgren, 1904. Ark. Zool. 1: 428.

Type: *Aeluroides sjostedti* Tullgren. By monotypy.

- **Propristocera* Kieffer, 1905. In André, Spec. Hym. Eur. Alg., v. 9, p. 247.
Type: *Propristocera interrupta* Kieffer, Desig. by Kieffer, 1914.
- **Cleistepyris* Kieffer, 1910. Soc. Ent. France Ann. 79: 48.
Type: *Cleistepyris punctatus* Kieffer, 1910. Desig. by Kieffer, 1914.
- **Dipristocera* Kieffer, 1914. Das Tierreich, Lief. 41, p. 471.
Type: *Dipristocera microchela* Kieffer. By monotypy.
- **Neopristocera* Benoit, 1957. Explor. Parc Nat. Albert, Mission DeWitte, fasc. 88, p. 44. Preocc.
Type: *Neopristocera triloba* Benoit. Orig. desig.
Revision: Evans, 1963. Mus. Compar. Zool. Bul. 130: 249-359, 138 figs.
Place after *Pristocera* Klug, p. 731.
- **chiricahua* Evans. Ariz.; Mexico (Mexico).
Apenesia chiricahua Evans, 1963. Mus. Compar. Zool. Bul. 130: 306, figs. 57, 60, 69, 80, 84. ♂.
- **cochise* Evans. Ariz. (Cochise Co.).
Apenesia cochise Evans, 1963. Mus. Compar. Zool. Bul. 130: 296, figs. 27, 32. ♂.
- **dissomphaloides* Evans. Ariz. (Pinal Co.).
Apenesia dissomphaloides Evans, 1963. Mus. Compar. Zool. Bul. 130: 297, figs. 37, 42. ♂.
- **exilis* Evans. Ariz., Calif.
Apenesia exilis Evans, 1963. Mus. Compar. Zool. Bul. 130: 293, figs. 28, 30, 33, 34. ♂.
- **martini* Evans. Fla. (Manatee Co.).
Apenesia martini Evans, 1963. Mus. Compar. Zool. Bul. 130: 294, fig. 29. ♂.
- **mohave* Evans. Calif.; Mexico (Baja California).
Apenesia mohave Evans, 1963. Mus. Compar. Zool. Bul. 130: 308, figs. 58, 61. ♂.
- **pallidula* Evans. Ariz. (Cochise Co.).
Apenesia pallidula Evans, 1963. Mus. Compar. Zool. Bul. 130: 300, figs. 38, 43, 46, 50. ♂.
- **parapolita* Evans. Ark., La., Ala., and Ga., north to Ill., W. Va. and N. Y.
**Propristocera polita* Evans, 1958. Ent. Soc. Wash. Proc. 59: 294, figs. 2, 6. ♂. Preocc. in *Apenesia*.
Apenesia parapolita Evans, 1963. Mus. Compar. Zool. Bul. 130: 322 (♂), 347 (♀), figs. 81, 96, 127, 136. N. name.
- **pima* Evans. Ariz. (Tucson).
Apenesia pima Evans, 1963. Mus. Compar. Zool. Bul. 130: 292, figs. 26, 31, 35, 36. ♂.

*Genus **PARASCLERODERMA** Kieffer

Parascleroderma Kieffer, 1904. Mus. Civ. Stor. Nat. Genova Ann. 41: 376.

Type: *Parascleroderma fulviceps* Kieffer. Orig. desig.

Place on p. 731 after **Apenesia* Westwood.

- **insolita* (Evans). Tex. (Brownsville).
Apenesia insolita Evans, 1963. Mus. Compar. Zool. Bul. 130: 350, figs. 130, 138. ♀.

Genus **PSEUDISOBRACHIUM** Kieffer, pp. 731-732

**Monepyris* Kieffer, 1905. Soc. Sci. Bruxelles Ann. 29: 101, 124.

Type: *Epyris halidayi* Westwood (= *subcyanicum* Haliday).
By monotypy.

**Plutobethylus* Kieffer, 1910. Soc. Ent. France Ann. 79: 51.

Type: *Plutobethylus distans* Kieffer. Orig. desig.

**Lyssepyris* Kieffer, 1913. Portici Lab. Zool. Gen. e Agr. Bol. 7: 108.

Type: *Holepyris flavicornis* Kieffer. By monotypy.

Xantepyrus Kieffer, 1913. Portici Lab. Zool. Gen. e Agr. Bol. 7: 108.

Type: *Epyris flaviventris* Kieffer. By monotypy.

**Lissepyris* (?) Kieffer, 1914. Das Tierreich 41: 236. Typ. error.

Xanthepyrus Kieffer, 1914. Das Tierreich 41: 417. Emend.

**Parisobranchium* Kieffer, 1914. Das Tierreich 41: 424.

Type: *Rhabdepyris* (?) *albipes* Kieffer. By monotypy.

Revision: Evans, 1961. Mus. Compar. Zool. Bul. 126: 211-318, 5 pls.

Members of this genus have been taken in ant nests, but it is not certain whether they are parasitic on the ant larvae or on larvae of associated myrmecophilous beetles.

agile Whittaker. Change orig. cit. to Roy. Ent. Soc. London Trans. 76: 386, pl. 13, fig. 4. ♂. Syn. of *prolongatum* (Provancher).

**anomalum* Evans. N. J., Va., Fla., Ill.

Pseudisobranchium anomalum Evans, 1961. Mus. Compar. Zool. Bul. 126: 311, figs. 8, 54, 64, 67. ♂.

**apache* Evans. Ariz. (Santa Cruz, Gila and Pinal Counties).

Pseudisobranchium apache Evans, 1961. Mus. Compar. Zool. Bul. 126: 299, fig. 46. ♂.

**arenarium* Evans. N. J., Pa. (?), N. C., Ga., Fla. (?), Ala., Miss., Mo. (?), Ill. Associated with ponerine ants.

Pseudisobranchium arenarium Evans, 1961. Mus. Compar. Zool. Bul. 126: 263, figs. 20, 39, 57. ♂, ♀ (?).

**ashmeadi* Evans. Mass., Ont., Mich. and Kans., south to Fla., Ala. and La. Associated with formicine and dolichoderine ants.

Pseudisobranchium ashmeadi Evans, 1961. Mus. Compar. Zool. Bul. 126: 275, figs. 1, 23, 38, 58, 63. ♂, ♀ (?).

carbonarium (Ashmead). Md. south to Ga., Ala., W. Va., Ky. (?), Ill., Kans., N. Dak. (?).

Taxonomy: Evans, 1961, *loc. cit. supra*, p. 271, figs. 23, 37. ♂, ♀ (?).

**carolinianum* Evans. S. C., Fla.

Pseudisobranchium carolinianum Evans, 1961. Mus. Compar. Zool. Bul. 126: 254. ♂.

**castaneum* Evans. Calif. (San Diego).

Pseudisobranchium castaneum Evans, 1961. Mus. Compar. Zool. Bul. 126: 248, fig. 56. ♂.

**comanche* Evans. Ariz., Tex.

Pseudisobranchium comanche Evans, 1961. Mus. Compar. Zool. Bul. 126: 298, fig. 59. ♂.

**crassum* Evans. Tex. (Brownsville, San Antonio).

Pseudisobranchium crassum Evans, 1961. Mus. Compar. Zool. Bul. 126: 239, fig. 13. ♂.

**emarginatum* Evans. Tex. (Kerrville).

Pseudisobranchium emarginatum Evans, 1961. Mus. Compar. Zool. Bul. 126: 303, fig. 49. ♂.

flavicoxis Fouts. Syn. of *rufiventre* (Ashmead).

flavinervis Fouts. Calif., Nev., Ariz., Tex.

Taxonomy: Evans, 1961, *loc. cit. supra*, p. 305, figs. 6, 31, 38, 62. ♂, ♀ (?).

flaviventre (Kieffer). Del. to Fla., west to Tex., Kans., Ill. Associated with myrmicine ants.

Taxonomy: Evans, 1961, *loc. cit. supra*, p. 288, figs. 41, 60. ♂, ♀ (?).

- ***foutsi** Evans. Tex., N. Mex. (?), Ariz. (?), Calif. (?); Mexico (Coahuila).
Pseudisobrachium foutsi Evans, 1961. Mus. Compar. Zool. Bul. 126: 300, figs. 29, 61. ♂.
- ***gibbosum** Evans. N. Mex. (Rodeo).
Pseudisobrachium gibbosum Evans, 1961. Mus. Compar. Zool. Bul. 126: 255. ♂.
- ***krombeini** Evans. N. Mex. (Albuquerque, White Sands).
Pseudisobrachium krombeini Evans, 1961. Mus. Compar. Zool. Bul. 126: 287, figs. 27, 50. ♂.
- ***macrops** Evans. Tex. (Cameron and Hidalgo Counties).
Pseudisobrachium macrops Evans, 1961. Mus. Compar. Zool. Bul. 126: 309. ♂.
- magnum** (Ashmead). Syn. of **prolongatum** (Provancher).
- mandibulare** (Ashmead). Syn. of **prolongatum** (Provancher).
- ***matthewsi** Evans. Tex. (Van Horn, El Paso (?)).
Pseudisobrachium matthewsi Evans, 1961. Mus. Compar. Zool. Bul. 126: 249, fig. 36. ♂, ♀ (?).
- ***minimum** Evans. N. Mex., Ariz.
Pseudisobrachium minimum Evans, 1961. Mus. Compar. Zool. Bul. 126: 280, fig. 24. ♂.
- ***minutissimum** Evans. N. Mex., Ariz.; Mexico (Morelos, Baja California), Guatemala.
Pseudisobrachium minutissimum Evans, 1961. Mus. Compar. Zool. Bul. 126, fig. 26. ♂.
- montanum** (Ashmead). Syn. of **prolongatum** (Provancher).
- myrmecophilum** (Ashmead). Syn. of **prolongatum** (Provancher).
- ***navajo** Evans. Ariz. (Coconino and Yavapai Counties).
Pseudisobrachium navajo Evans, 1961. Mus. Compar. Zool. Bul. 126: 283, fig. 25. ♂.
- ***obscurum** Evans. Tex., Ariz.; Mexico (Chihuahua, Baja California).
Pseudisobrachium obscurum Evans, 1961. Mus. Compar. Zool. Bul. 126: 258, figs. 16, 36. ♂, ♀ (?).
- ***occidentale** Evans. Calif., Ariz. Associated with dolichoderine ants.
Pseudisobrachium occidentale Evans, 1961. Mus. Compar. Zool. Bul. 126: 244, figs. 14, 55. ♂, ♀ (?).
- ***otiosum** Evans. Ariz. (Superior).
Pseudisobrachium otiosum Evans, 1961. Mus. Compar. Zool. Bul. 126: 256. ♂.
- ***pallidum** Evans. Ariz. (Wellton).
Pseudisobrachium pallidum Evans, 1961. Mus. Compar. Zool. Bul. 126: 258, fig. 17. ♂.
- paucipunctatum** Fouts. Utah, Calif.
Taxonomy: Evans, 1961, *loc. cit. supra*, p. 316. ♀.
- ***persimile** Evans. Calif., B. C. (?).
Pseudisobrachium persimile Evans, 1961. Mus. Compar. Zool. Bul. 126: 284, fig. 2. ♂, ♀ (?).
- prolongatum** (Provancher). Change ♀ to "♀" = ♂ in orig. cit. N. B. and N. S. west to B. C., and Wash., south to N. C., Ky., Ill. and Iowa. Associated with formicine and myrmicine ants.
Pseudisobrachium magnum (Ashmead) (syn. by Evans, 1961, *loc. cit. supra*, p. 266, figs. 21, 22, 39, 57).
Pseudisobrachium myrmecophilum (Ashmead), ♂ (♀ misdet.) (syn. by Evans, 1961, *loc. cit. supra*, p. 266).
Pseudisobrachium mandibulare (Ashmead), ♀ (♂ misdet.) (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

Pseudisobrachium montanum (Ashmead) ♀ (♂ misdet.) (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

Pseudisobrachium rugosulum Fouts (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

Pseudisobrachium agile Whittaker (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

puncticeps Fouts. Syn. of *rufiventre* (Ashmead).

**pusillum* Evans. La. (Shreveport), Ark. (?).

Pseudisobrachium pusillum Evans, 1961. *Mus. Compar. Zool. Bul.* 126: 297. ♂, ♀ (?).

**rectangulatum* Evans. Tex., Kans., Nebr.; Mexico (Nuevo Leon).

Pseudisobrachium rectangulatum Evans, 1961. *Mus. Compar. Zool. Bul.* 126: 304. ♂.

rufiventre (Ashmead). Mass. and N. Y. south to Fla. and La. Associated with formicine ants.

Pseudisobrachium flavicoxis Fouts (syn. by Evans, 1961, *loc. cit. supra*, p. 293, figs. 5, 40. ♂, ♀).

Pseudisobrachium puncticeps Fouts (syn. by Evans, 1961, *loc. cit. supra*, p. 293).

rugosulum Fouts. Syn. of *prolongatum* (Provancher).

**texanum* Evans. Tex. (Harlingen, Brownsville, Wharton, San Antonio).

Pseudisobrachium texanum Evans, 1961. *Mus. Compar. Zool. Bul.* 126: 240, figs. 48, 53. ♂.

Genus DISSOMPHALUS Ashmead, p. 732

**Thaumatepyris* Kieffer, 1910. *Soc. Ent. France Ann.* 79: 47.

Type: *Thaumatepyris punctatus* Kieffer. By monotypy.

**Glenobethylus* Kieffer, 1910. *Soc. Ent. France Ann.* 79: 50.

Type: *Glenobethylus montanus* Kieffer. By monotypy.

**Parecitopria* Ogloblin, 1930. *Soc. Ent. Arg. Rev.* 3: 15.

Type: *Parecitopria azarai* Ogloblin. By monotypy.

Taxonomy: Evans, 1962. *Ent. Soc. Wash. Proc.* 64: 65-78, 4 figs. (revised key).

altivolans Evans. Ala., Ill., Tex., Ariz., Calif.

Taxonomy: Evans, 1962, *loc. cit. supra*, p. 76. ♀.

apertus Kieffer. N. Y., Pa., Ill.

**arizonicus* Evans. Ariz. (Portal).

Dissomphalus arizonicus Evans, 1962. *Ent. Soc. Wash. Proc.* 64: 70, fig. 3. ♂.

barberi Evans. Maine, N. C.

foveolatus (Brown and Cheng). Ga., Ark., Ill. Delete Ariz. from distribution.

kansanus Evans. Pa., Fla., Ill.

nigrescens Evans. Ark. ?

Taxonomy: Evans, 1962, *loc. cit. supra*, p. 75 (putative ♀).

xanthopus Ashmead. Ky., Miss., Ark. Ariz.

*Subfamily BETHYLINAE

Genus BETHYLUS Latreille, p. 732

Digoniozus Kieffer (syn. by Evans, 1962, *loc. cit. infra*, p. 1).

Revision: Evans, 1962. *Breviora*, No. 150, 12 pp., 3 figs., 1 map.

amoenus Fouts. N. W. T. south to Alta., east through Wis. and Ill. to N. Y., Maine, and N. S.

brachypterus Whittaker. Syn. of *decipiens* (Provancher).

- decipiens** (Provancher). Alaska south to central Calif. eastward to N. Y., Maine, and N. S.
Digoniozus oregonensis (Ashmead) (syn. by Evans, 1962, *loc. cit. supra*, p. 7).
Glenoseua californicus (Bridwell) (syn. by Evans, 1962, *loc. cit. supra*, p. 7).
Bethylus brachypterus Whittaker (syn. by Evans, 1962, *loc. cit. supra*, p. 7). Change ♀ ♂ to ♀.
Bethylus flavicornis Whittaker (syn. by Evans, 1962, *loc. cit. supra*, p. 7).
flavicornis Whittaker. Syn. of *decipiens* (Provancher).

Genus *Digoniozus* Kieffer, p. 732

Place as a synonym of *Bethylus* Latreille, p. 732, and transfer *oregonensis* (Ashmead) to synonymy of *decipiens* (Provancher).

Genus GONIOZUS Foerster, pp. 732-733

- ***castaneicolor** Evans. "United States."
 **Bethylus castaneus* Kieffer, 1907. Berlin Ent. Ztschr. 51: 295. ♀. Preocc. in *Goniozus*.
Goniozus castaneicolor Evans, 1964. Mus. Compar. Zool. Bul. 132: 201. N. name.

Genus *Perisierola* Kieffer, pp. 733-734

Transfer to synonymy of *Parasierola* Cameron, p. 734.

Genus PARASIEROLA Cameron, p. 734

Perisierola Kieffer (syn. by Evans, 1964, *loc. cit. supra*, p. 195).

Remove parens from names of authors of *alutacea*, *gracilicornis*, and *punctaticeps*, and place parens around names of authors of *breviceps*, *cellularis*, and *emigrata*.

bicarinata Brues. Transfer to **Prosierola* Kieffer which follows.

- ***distinguenta** Kieffer. Calif.; Nicaragua.
Parasierola distinguenta Kieffer, 1908. In Wytsman, Gen. Ins., fasc. 76, p. 14.

*Genus PROSIEROLA Kieffer

Prosierola Kieffer, 1905. In André, Spec. Hym. Eur. Alg., v. 9, p. 243. Type: *Epyris* (?) *nasalis* Westwood. By monotypy.

Place after *Parasierola* Cameron, p. 734.

- bicarinata* (Brues). Ga., Fla., Tex. Transf. from *Parasierola* Cameron, p. 734 (*teste* Evans, 1964, *loc. cit. supra*, p. 185).

Family DRYINIDAE

Genus MESODRYINUS Kieffer, p. 1034

- ***crawfordi** Krombein. Md. (Plummers Island).
Mesodryinus crawfordi Krombein, 1962. Biol. Soc. Wash. Proc. 75: 3. ♀.

Genus PSILODRYINUS Kieffer, p. 1035

- typhlocybae** (Ashmead). Tex. Host: *Metcalfa pruinosa* (Say).
 Biology: Dean and Bailey, 1961. Jour. Econ. Ent. 54: 1104-1106, 2 figs.

Genus EUCAMPTONYX Perkins, p. 1037

- secundus** Fenton. Md., Kans.

Genus GONATOPUS Ljungh, pp. 1037-1038

- ***curriei** Krombein. Md. (Plummers Island).
Gonatopus curriei Krombein, 1962. Biol. Soc. Wash. Proc. 75: 4. ♀.

Genus **EPIGONATOPUS** Perkins, p. 1039

- plesius** Fenton. Ont. Host: *Macrosteles fascifrons* (Stål).
Biology: George, 1959. Canad. Ent. 91: 256.

Genus **AMPULICOMORPHA** Ashmead, p. 1043

- confusa** Ashmead. Wis. Host: nymphs of *Epiptera floridiae* (Wlkr.) on rotten pine and oak logs.
Biology: Bridwell, 1958. Ent. Soc. Wash. Proc. 60: 23-26.

Genus **EMBOLEMUS** Westwood, p. 1043

- Change citation for *Embolemus* to London and Edinb. Phil. Mag. and Jour. Sci. 2: 444.

Family **TRIGONALIDAE**Genus **LYCOGASTER** Shuckard, p. 735

- pullata pullata** Shuckard. Ga. Host: *Telea polyphemus* Crmr., probably secondary.

- pullata nevadensis** (Cresson). Host. *Euodynerus foraminatum scutellaris* (Sauss.).

Genus **BAREOGONALOS** Schulz, p. 735

- canadensis** (Harrington). Calif. Host: *Vespa (Dolichovespa) arenaria* (F.).

- Biology: Stage and Slobodchikoff, 1962. Pan-Pacific Ent. 37(2): 97-98.

Superfamily **SCOLIOIDEA**Family **TIPHIIDAE**Genus **TIPHIA** Fabricius, pp. 735-739

- Taxonomy: Allen, 1961. Amer. Ent. Soc. Trans. 87: 1-20 (key to described North American spp.).

- Tiphia femorata* Fabricius and *T. morio* Fabricius were introduced from Europe and liberated in New York in 1956 and 1957 for control of *Amphimallon majalis* (Raz.), the European chafer.

- arida** Malloch. Vt., Pa.

- atlantis** Allen.

- Taxonomy: Allen, 1961, *loc. cit. supra*, p. 16. ♂.

- ***bakeri** Allen. Wash., Nev.

- Tiphia bakeri* Allen, 1961. Amer. Ent. Soc. Trans. 87: 12. ♂.

- dentata** Allen. Syn. of *micropunctata* Allen.

- fulvicauda** Cameron.

- Taxonomy: Allen, 1962. Amer. Ent. Soc. Trans. 88: 24 (type redescription).

- hollowayi** Allen. Syn. of *infossata* Allen.

- illinoensis** Robertson.

- Tiphia waldenii* Viereck (syn. by Allen, 1961, *loc. cit. supra*, p. 18).

- incisurata** Malloch.

- Taxonomy: Allen, 1961, *loc. cit. supra*, p. 20.

- ***indistincta** Allen. W. Va. (Kanawha Sta.).

- Tiphia indistincta* Allen, 1961. Amer. Ent. Soc. Trans. 87: 14. ♀.

- infossata** Allen.

- Tiphia hollowayi* Allen (syn. by Allen, 1961, *loc. cit. supra*, p. 19).

- *irfla* Allen. Fla.
Tiphia irfla Allen, 1961. Amer. Ent. Trans. 87: 10. ♂, ♀.
- jaynesi* Allen. Md.
micropunctata Allen.
Tiphia dentata Allen (syn. by Allen, 1961, *loc. cit. supra*, p. 18).
- *montana* Allen. Mont.
Tiphia montana Allen, 1961. Amer. Ent. Soc. Trans. 87: 13. ♂.
- nevadana* Cameron.
 Taxonomy: Allen, 1962, *loc. cit. supra*, p. 22 (redescription of type).
- *pennsylvanica* Allen. Pa., N. J., Del., Fla., La.
Tiphia pennsylvanica Allen, 1961. Amer. Ent. Soc. Trans. 87: 15. ♀.
- puncticeps* Cameron.
 Taxonomy: Allen, 1962. Amer. Ent. Soc. Trans. 88: 23 (type redescription).
- relativa* Viereck.
Tiphia winnemanae Malloch (syn. by Allen, 1961, *loc. cit. supra*, p. 17).
- *tempeae* Allen. Ariz. (Tempe).
Tiphia tempeae Allen, 1961. Amer. Ent. Soc. Trans. 87: 11. ♂.
- texensis* Malloch.
 Taxonomy: Allen, 1961, *loc. cit. supra*, p. 19.
- vulgaris* Robertson.
 Taxonomy: Allen, 1961, *loc. cit. supra*, p. 19.
- waldenii* Viereck. Syn. of *illinoensis* Robertson.
- winnemanae* Malloch. Syn. of *relativa* Viereck.

Genus NEOTIPHIA Malloch, p. 739

(= *Neotiphia* subg. *Neotiphia* Malloch, of Catalog)

- Revision: Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 241-270.
- *anima* Allen and Krombein. N. Mex., Ariz.
Neotiphia anima Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 262. ♀.
- *barbata* Allen and Krombein. Ariz. (Continental, Tucson, Douglas).
Neotiphia barbata Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 264. ♂.
- carinata* Krombein. Syn. of *novemexicana* Allen.
- cockerelli* Allen, changed status. Tex., N. Mex.
Neotiphia (Neotiphia) crawfordi Allen of Catalog, in part. *N. cockerelli* Allen is a valid sp. (*teste* Allen and Krombein, 1964, *loc. cit. supra*, p. 255, fig. 50).
- conspicua* Allen. Syn. of *crawfordi* Allen.
- crawfordi* Allen. Tex. Remove *cockerelli* Allen, a valid sp., from synonymy.
Neotiphia (Neotiphia) conspicua Allen (syn. by Allen and Krombein, 1964, *loc. cit. supra*, p. 257, figs. 28, 41, 42).
- cristata* Allen. Transf. to *Krombeinia* Pate.
- novomexicana* Allen.
Neotiphia carinata Krombein (syn. by Allen and Krombein, 1964, *loc. cit. supra*, p. 251).
- *parma* Allen and Krombein. Ariz., N. Mex.; Mexico (Mexico, Aguascalientes, Zacatecas).
Neotiphia parma Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 267, figs. 7, 54. ♂.
- pima* Pate. Kans. and Colo. to Tex., N. Mex. and Ariz.

- **rioverdei* Allen and Krombein. Ariz. (Del Rio Verde).
Neotiphia rioverdei Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 263. ♀.
- sulcata* (Roberts). Mich., Iowa and S. Dak. south to Tex. and Ariz.; Mexico (Jalisco).
Neotiphia (Krombeinia) sulcata (Roberts). Transf. from *Krombeinia* Pate (teste Allen and Krombein, 1964, loc. cit. supra, p. 245).
 **Neotiphia mexicana* Allen (syn. by Allen and Krombein, 1964, loc. cit. supra, p. 245).
- waltoni* Allen. Ariz.; Mexico (Chihuahua, Durango).

Genus **KROMBEINIA** Pate, changed status, p. 739

(= *Neotiphia* subg. *Krombeinia* Pate, of Catalog)

- Revision: Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 214-241.
- cristata* (Allen). Ariz., N. Mex.
Neotiphia (Neotiphia) cristata Allen. Transf. from *Neotiphia* Malloch (teste Allen and Krombein, 1964, loc. cit. supra, p. 238, figs. 3, 29).
- **jonesi* Allen and Krombein. Ariz. (Douglas, Chiricahua, Huachuca Mts., Oracle).
Krombeinia jonesi Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 239, figs. 6, 65. ♂, ♀.
- sulcata* (Roberts). Transf. to *Neotiphia* Malloch.

Genus **PARATIPHIA** Sichel, pp. 739-740

- **aequalis atrata* Allen. Ariz. The typical subspecies occurs in Baja California, Mexico.
Paratiphia aequalis atrata Allen, 1963. Amer. Ent. Soc. Trans. 88: 228, figs. 5, 10, 15, 16. ♂, ♀.
- algonquina* Viereck. Pa.
- **asotinae* Allen. Wash. (Asotin).
Paratiphia asotinae Allen, 1963. Ent. News 74: 222. ♂, ♀.
- bakeri* Cameron.
 Taxonomy: Allen, 1962, loc. cit. supra, p. 28 (type redescription).
- **belfragei* Allen. Tex. (Cypress Mill, Kerrville).
Paratiphia belfragei Allen, 1963. Ent. Soc. Amer. Ann. 56: 575, figs. 1, 2 c, d. ♂, ♀.
- **bradleyi* Allen. Tex. (Uvalde).
Paratiphia bradleyi Allen, 1963. Amer. Ent. Soc. Trans. 88: 231, figs. 2, 7, 12. ♂.
- **bridwelli* Allen. Kans. (Dickinson Co.).
Paratiphia bridwelli Allen, 1963. Amer. Ent. Soc. Trans. 88: 231, figs. 1, 6, 11, 19. ♂.
- claripennis* Cameron.
Paratiphia ormsbyensis Cameron (syn. by Allen, 1962, loc. cit. supra, p. 29).
- **ephippiata* Allen. Western Tex., N. Mex., Colo.
Paratiphia ephippata Allen, 1963. Ent. Soc. Amer. Ann. 56: 574, figs. 1, 2 a, b, f. ♂, ♀.
- fuscinerva* Cameron.
 Taxonomy: Allen, 1962, loc. cit. supra, p. 31 (type redescription).
- fortistriolata* Cameron. Syn. of *robusta* Cameron.
- insueta* Allen. Tex. (Ft. Davis Mts.).
Paratiphia insueta Allen, 1963. Ent. Soc. Amer. Ann. 56: 576, figs. 1, 2 e. ♂.

intermedia Cameron. Wash.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 32 (type redescription).—
Allen, 1963, *loc. cit. supra*, p. 229, figs. 4, 9, 14, 17 (redescription
♂, ♀).

**mitchelli* Allen. Tex., N. Mex.

Paratiphia mitchelli Allen, 1963. Amer. Ent. Soc. Trans. 88: 232, figs. 3,
8, 13, 18. ♂.

neomexicana Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 31 (type redescription).

nevadensis Cameron.

Paratiphia parvula Cameron (syn. by Allen, 1962, *loc. cit. supra*, p. 27).

ormsbyensis Cameron. Syn. of *claripennis* Cameron.

parvula Cameron. Syn. of *nevadensis* Cameron.

robusta Cameron. Oreg., Wash., Idaho, Nev.

Paratiphia fortistriolata Cameron (syn. by Allen, 1962, *loc. cit. supra*, p.
33).

texana Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 25 (type redescription).

varipunctata Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 30 (type redescription).

**verna* Allen. Calif., Nev.

Paratiphia verna Allen, 1963. Ent. News 74: 219. ♂, ♀.

Genus BRACHYCISTIS Fox, pp. 742–745

aequalis Fox. Transf. to *Acanthetropis* Wasbauer.

idiotes Cockerell. Transf. to *Acanthetropis* Wasbauer.

noctivaga Bradley. Transf. to *Acanthetropis* Wasbauer.

normalis Malloch. Transf. to *Acanthetropis* Wasbauer.

*Genus ACANTHETROPIS Wasbauer

Acanthetropis Wasbauer, 1958. Pan-Pacific Ent. 34: 139.

Type: *Acanthetropis lamellatus* Wasbauer. Orig. desig.

Place after *Colocistis* Krombein, p. 745.

aequalis (Fox). Transf. from *Brachycistis*, p. 742 (*teste* Wasbauer, 1958,
loc. cit. supra, p. 142).

idiotes (Cockerell). Transf. from *Brachycistis*, p. 743 (*teste* Wasbauer, 1958,
loc. cit. supra, p. 142).

noctivaga (Bradley). Transf. from *Brachycistis*, p. 744 (*teste* Wasbauer,
1958, *loc. cit. supra*, p. 142).

normalis (Malloch). Transf. from *Brachycistis*, p. 744 (*teste* Wasbauer,
1958, *loc. cit. supra*, p. 142).

*Genus BRUESIELLA Mann

(= *Eurycros* Mickel and Krombein, p. 746)

Bruesiella Mann, 1914. Psyche 21: 182.

Type: *Bruesiella fornicaria* Mann. By monotypy and orig.
desig.

This new synonymy is based on an examination of the type from Hidalgo,
Mexico, in the Museum of Comparative Zoology. The genus was assigned
erroneously by Mann to the Bethyliidae.

METHOCHA subgenus METHOCHA Latreille, p. 747

californica Westwood. Host: probably *Cicindela senilis* Horn, reared in lab.
on *Omus californicus* Esch.

Biology: Burdick and Wasbauer, 1959. Wasmann Jour. Biol. 17: 75-88, 6 figs.

**impolita* Krombein. W. Va., D. C., N. Y.

Methocha (Methocha) impolita Krombein, 1958. Ent. Soc. Wash. Proc. 60: 58. ♀.

MYRMOSA subgenus MYRMOSA Latreille, pp. 747-748

bradleyi Roberts.

Biology: Linsley, 1960. Pan-Pacific Ent. 36: 36 (mating behavior).

Genus MYRMOSULA Bradley, p. 748

parvula (Fox). Host: *Lasioglossum (Dialictus) inconspicuum* (Sm.).

Family SIEROLOMORPHIDAE

Genus SIEROLOMORPHA Ashmead, pp. 748-749

Taxonomy: Evans, 1961. Breviora, No. 140, 12 pp., 6 figs.

ambigua (Ashmead). Syn. of *canadensis* (Provancher).

**apache* Evans. Ariz.

Sierolomorpha apache Evans, 1961. Breviora, No. 140, p. 5, fig. 6. ♂.

**bicolor* Evans. Ariz.

Sierolomorpha bicolor Evans, 1961. Breviora, No. 140, p. 4, fig. 5. ♀, ♂.

**brevicornis* Evans. S. C. (Greenville).

Sierolomorpha brevicornis Evans, 1961. Breviora, No. 140, p. 8, fig. 3. ♂.

canadensis (Provancher). Alta., Ont. and Mass. south to Ariz., Tex. and Fla.

Sierolomorpha ambigua (Ashmead) (syn. by Evans, 1961. Breviora, No. 140, p. 11).

**nigrescens* Evans. Yukon, Alta. and Sask. south to Calif., Ariz. and Colo.

Sierolomorpha nigrescens Evans, 1961. Breviora, No. 140, p. 9, fig. 1. ♂, ♀.

**similis* Evans. Conn. south to Ga., W. Va., Kans.

Sierolomorpha similis Evans, 1961. Breviora, No. 140, p. 6, fig. 4. ♂, ♀.

Family MUTILLIDAE

Subfamily APTEROGYNINAE

Genus CHYPHOTES Blake, pp. 749-751

**minimus* Mickel. Ariz. (Organ Pipe Natl. Mon.).

Chyphotes minimus Mickel, 1963. Pan-Pacific Ent. 39: 186. ♂.

**nitidus* Mickel. Calif. (Winterhaven).

Chyphotes nitidus Mickel, 1963. Pan-Pacific Ent. 39: 188. ♀.

Subfamily TYPHOCTINAE

Taxonomy: Krombein and Schuster, 1957. Ent. Soc. Wash. Proc. 59: 209-232, 2 pls.

Genus TYPHOCTES Ashmead, p. 751

peculiaris mirabilis (Cockerell), changed status. Kans., Colo., Tex., N. Mex., Ariz.; Mexico (Chihuahua).

Typhoctes peculiaris (Cresson) of Catalog, in part (*mirabilis* (Ckll.) is a subsp. of *peculiaris*, not a syn., *teste* Krombein and Schuster, 1957, *loc. cit. supra*, p. 230, figs. 5, 6).

peculiaris peculiaris (Cresson), changed status. Wash., Idaho, Utah, Ariz., Calif.

Typhoctes peculiaris (Cresson) of Catalog, in part (*peculiaris* (Cr.) and *difficilis* (Mickel) constitute the subspecies *p. peculiaris*, *teste* Krombein and Schuster, 1957, *loc. cit. supra*, p. 227, fig. 3)

**striolatus* Krombein and Schuster. Ariz. to western Tex.

Typhoctes striolatus Krombein and Schuster, 1957. Ent. Soc. Wash. Proc. 59: 223, fig. 2. ♀, ♂.

**williamsi* Krombein and Schuster. Southern Calif.

Typhoctes williamsi Krombein and Schuster, 1957. Ent. Soc. Wash. Proc. 59: 220, figs. 1, 4. ♂, ♀.

Tribe SPHAEROPHTALMINI

Taxonomy: Schuster, 1958. Ent. Amer. (n.s.) 37: 1-130, 7 pls. (Part II of a tribal revision of males containing keys to genera and subgenera and revisions of *Acrophotopsis* Schuster, *Dilophotopsis* Schuster and *Acanthophotopsis* Schuster).

Insert after heading subfamily SPHAEROPHTALMINAE, p. 751.

PHOTOMORPHUS subgenus PHOTOMORPHUS Viereck

(= *Photomorphus* Viereck of Catalog, pp. 751-752)

Reduced to subgeneric rank (*teste* Schuster, 1952. Brooklyn Ent. Soc. Bul. 47: 53).

banksi (Bradley). Ala.

johnsoni johnsoni Viereck, changed status.

Photomorphus johnsoni Viereck. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 46).

**johnsoni natchitoches* Schuster. La.

Photomorphus (Photomorphus) johnsoni natchitoches Schuster, 1958. Ent. Amer. (n.s.) 37: 46. ♂.

PHOTOMORPHUS subgenus PHOTOMORPHINA Schuster

Photomorphus subg. *Photomorphina* Schuster, 1958. Ent. Amer. (n.s.) 37: 8 (in key), 39. Preocc. by *Photomorphus* subg. *Photomorphina* Schuster, 1952, and a syn. of it.

Type: *Photomorphus (Photomorphina) quadriangulata* Schuster. Orig. desig.

Place on p. 752 after *Photomorphus* subg. *Photomorphus* Viereck.

**aurifera* Schuster. Ariz.

Photomorphus (Photomorphina) aurifera Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂. Preocc. by and a syn. of *Photomorphus (Photomorphina) aurifera* Schuster, 1952.

**auriventris* Schuster. Type locality not cited.

Photomorphus (Photomorphina) auriventris Schuster, 1958. Ent. Amer. (n.s.) 37: 40. ♂.

bicolor (Blake). Transf. from *Photopsis* Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 42).

**californicus* Schuster. Calif.

Photomorphus (Photomorphina) californica Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.

clandestinus (Viereck). Transf. from *Odontophotopsis* Viereck, p. 756 (*teste* Schuster, 1958, *loc. cit. supra*, p. 45).

**cobabi* Schuster. Ariz.; Mexico.

Photomorphus (Photomorphina) cobabi Schuster, 1958. Ent. Amer. (n.s.) 37: 41. ♂.

- **cochisae* Schuster. Ariz.; Mexico.
Photomorphus (Photomorphina) cochisae Schuster, 1958. Ent. Amer. (n.s.) 37: 43. ♂.
- **coloradella* Schuster. Colo.
Photomorphus (Photomorphina) coloradella Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- **comobabi* Schuster. Ariz.; Mexico.
Photomorphus (Photomorphina) comobabi Schuster, 1958. Ent. Amer. (n.s.) 37: 45. ♂.
- **dichrous* Schuster. Ariz.
Photomorphus (Photomorphina) dichrous Schuster, 1958. Ent. Amer. (n.s.) 37: 41. ♂.
- **imperialoides* Schuster. Ariz.
Photomorphus (Photomorphina) imperialoides Schuster, 1958. Ent. Amer. (n.s.) 37: 40. ♂.
- jason* (Fox). Transf. from *Photopsis* Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 41).
- **juanita* Schuster. Tex.; Mexico.
Photomorphus (Photomorphina) juanita Schuster, 1958. Ent. Amer. (n.s.) 37: 43. ♂. Preocc. by and a syn. of *Photomorphus (Photomorphina) juanita* Schuster, 1952.
- **minimus* Schuster. Ariz. (Wellton).
Photomorphus (Photomorphina) minima Schuster, 1958. Ent. Amer. (n.s.) 37: 43. ♂.
- **nanullus* Schuster. Ariz.
Photomorphus (Photomorphina) nanulla Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- **obscurus* Schuster. Calif.
Photomorphus (Photomorphina) obscura Schuster, 1958. Ent. Amer. (n.s.) 37: 45. ♂.
- **quadriangulatus* Schuster. Ariz.
Photomorphus (Photomorphina) quadriangulata Schuster, 1958. Ent. Amer. (n.s.) 37: 42. ♂.
- sarpcdon* (Fox). Transf. from *Odontophotopsis* Viereck, p. 757 (*teste* Schuster, 1958, *loc. cit. supra*, p. 43).
- spinci floridensis* (Schuster). Transf. from *Odontophotopsis* Viereck, p. 757.
- spinci spinci* (Bradley). Transf. from *Odontophotopsis* Viereck, p. 757 (*teste* Schuster, 1958, *loc. cit. supra*, p. 44).
- **spinciformis* Schuster. Tex.
Photomorphus (Photomorphina) spinciformis Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- subtenuis* (Viereck). Transf. from *Odontophotopsis* Viereck, p. 757 (*teste* Schuster, 1958, *loc. cit. supra*, p. 43).
- **taeniatus parksi* Schuster. Tex.
Photomorphus (Photomorphina) taeniatus parksi Schuster, 1958. Ent. Amer. (n.s.) 37: 42. ♂.
- **taeniatus taeniatus* Schuster. Tex. Ariz.
Photomorphus (Photomorphina) taeniatus taeniatus Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- thamyras* (Fox). Transf. from *Odontophotopsis* Viereck, p. 758 (*teste* Schuster, 1958, *loc. cit. supra*, p. 43).
- trunculus* (Viereck). Transf. from *Odontophotopsis* Viereck, p. 758 (*teste* Schuster, 1958, *loc. cit. supra*, p. 41).

**vegas* Schuster. N. Mex.

Photomorphus (Photomorphina) vegas Schuster, 1958. Ent. Amer. (n.s.) 37: 42. ♂.

SPHAEROPHTHALMA subgenus MICROMUTILLA Ashmead
(= *Micromutilla* Ashmead of Catalog, in part, p. 752)

Micromutilla Ashmead is a weakly defined subgenus of *Sphaerophthalma* Blake, not a discrete genus (*teste* Schuster, 1958, *loc. cit. supra*, p. 9).

aeontia (Fox). Transf. from *Photopsis* Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 16).

**arizonae* Schuster. Ariz.

Sphaerophthalma (Micromutilla) arizonae Schuster, 1958. Ent. Amer. (n.s.) 37: 16. ♂.

bellerophon (Fox). Transf. from *Photopsis* Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 15).

brachyptera (Schuster). Transf. from *Photopsis* Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 18).

**californiensis californiensis* Schuster. Calif.

Sphaerophthalma (Micromutilla) californiense californiense Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

**californiensis fuscatella* Schuster. Calif.

Sphaerophthalma (Micromutilla) californiense fuscatella Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

difficilis (Baker). Transf. from *Photopsis* Blake, p. 754 (*teste* Ferguson, 1962. Univ. Calif. Pubs. Ent. 27: 82). Host: *Auplopus architectus metallicus* (Bks.).

hyalina (Blake). Transf. from *Photopsis* Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 19).

juxta (Blake). Kans. Transf. from *Photopsis* Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 14).

**maricopella castanea* Schuster. Ariz. (Quijotoa).

Sphaerophthalma (Micromutilla) maricopella castanea Schuster, 1958. Ent. Amer. (n.s.) 37: 17. ♂.

**maricopella maricopella* Schuster. Calif.

Sphaerophthalma (Micromutilla) maricopella maricopella Schuster, 1958. Ent. Amer. (n.s.) 37: 17. ♂.

mesillensis (Cockerell). Transf. from *Photopsis* Blake, p. 755 (*teste* Schuster, 1958, *loc. cit. supra*, p. 17).

pallida (Blake). Transf. from *Photopsis* Blake, p. 755 (*teste* Schuster, 1958, *loc. cit. supra*, p. 16).

**pateli* Schuster. Ariz. (Hereford).

Sphaerophthalma (Micromutilla) pateli Schuster, 1958. Ent. Amer. (n.s.) 37: 15. ♂.

**quijotoa quijotoa* Schuster. Ariz. Another subspecies, *quijotoa parrasia* Schuster, occurs in Baja California.

Sphaerophthalma (Micromutilla) quijotoa quijotoa Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

**reducta* Schuster. Ariz.

Sphaerophthalma (Micromutilla) reducta Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

**sabino* Schuster. Ariz.

Sphaerophthalma (Micromutilla) sabino Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.

**sonora* Schuster. Ariz. (Tucson).

Sphaerophthalma (Micromutilla) sonora Schuster, 1958. Ent. Amer. (n.s.) 37: 16. ♂.

- **sublobata* Schuster. Idaho.
Sphaerophthalma (*Micromutilla*) *sublobata* Schuster, 1958. Ent. Amer. (n.s.) 37: 16. ♂.
- **uvaldella* Schuster. Tex.
Sphaerophthalma (*Micromutilla*) *uvaldella* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.
- **yavapai* Schuster. Ariz.
Sphaerophthalma (*Micromutilla*) *yavapai* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.
- **yumaella* Schuster. Ariz.
Sphaerophthalma (*Micromutilla*) *yumaella* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.

*SPHAEROPHTHALMA subgenus PHYSETAPISIS Schuster

- Sphaerophthalma* subg. *Physetapsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 9 (in key), 20.
 Type: *Sphaerophthalma* (*Physetapsis*) *papaga* Schuster. Orig. desig.

Insert on p. 752 after *Micromutilla* Ashmead.

- **borealis* Schuster. Southwestern Canada.
Sphaerophthalma (*Physetapsis*) *borealis* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.
- **ecarinata* Schuster. Calif.
Sphaerophthalma (*Physetapsis*) *ecarinata* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.
- **papaga ephysetos* Schuster. Southwestern Ariz., southern Calif.
Sphaerophthalma (*Physetapsis*) *papaga ephysetos* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.
- **papaga papaga* Schuster. Southeastern Ariz.
Sphaerophthalma (*Physetapsis*) *papaga papaga* Schuster, 1958. Ent. Amer. (n.s.) 37: 20, pl. 6, fig. 3. ♂.
- **subcarinata* Schuster. N. Mex.
Sphaerophthalma (*Physetapsis*) *subcarinata* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.

SPHAEROPHTHALMA subgenus Sphaerophthalma Blake

(= *Sphaerophthalma* Blake of Catalog, p. 752)

Reduced to subgeneric rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 10).

- albiplumosa* Schuster. Reared from nest of solitary vespid in old clay cell of *Sceliphron*.
- **auripilis fasciventris* Schuster. Type locality not cited.
Sphaerophthalma (*Sphaerophthalma*) *auripilis fasciventris* Schuster, 1958. Ent. Amer. (n.s.) 37: 39. ♂.
- pennsylvanica pennsylvanica* (Lepelletier). Host: *Trypargilum clavatum* (Say) prepupa in cocoon in rotten stump.

SPHAEROPHTHALMA subgenus PHOTOPSIS Blake

(= *Photopsis* Blake of Catalog, in part, pp. 753-756)

Reduced to subgeneric rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 10).

Taxonomy and Biology: Ferguson, 1962. Univ. Calif. Pubs. Ent. 27: 1-92, 7 pls., 2 text figs.

- abdominalis* (Blake). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.
- abstrusa* (Baker). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster as a subspecies of *amphion* (Fox).

- acontia* (Fox). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- albicincta* (Fox). N. Mex. and northern Ariz. to Utah and Oreg.
Photopsis albicincta (Fox). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 36).
- **albicincta flavipes* Schuster. Southern Ariz.
Sphaerophthalma (Photopsis) albicincta flavipes Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.
- **albicincta piceiceps* Schuster. Tex.
Sphaerophthalma (Photopsis) albicincta piceiceps Schuster, 1958. Ent. Amer. (n.s.) 37: 35. ♂.
- albopilosa* (Blake). Insert (*Sphaerophthalma*) after *Mutilla* in orig. cit.
- amphion* (Fox). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.
- **angulifera* Schuster. Type locality not cited.
Sphaerophthalma (Photopsis) angulifera Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.
- anthophora* Ashmead. Change spelling in specific heading and in orig. cit. from *anthophorae* to *anthophora*.
- **arenicola* Schuster. Type locality not cited.
Sphaerophthalma (Photopsis) arenicola Schuster, 1958, Ent. Amer. (n.s.) 37: 25. ♂.
- **baboquivari* Schuster. Ariz.
Sphaerophthalma (Photopsis) baboquivari Schuster, 1958. Ent. Amer. (n.s.) 37: 24, pl. 4, figs. 1-6. ♂.
- bellerophon* (Fox). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- bicolor* (Blake). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.
- **bisetosa* Schuster. N. Mex.
Sphaerophthalma (Photopsis) bisetosa Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.
- blakeii* (Fox). Host: *Diadasia vallicola* Timb.
Biology: Ferguson, 1962, *loc. cit. supra*, pp. 10-15, pls. 2, 3, 4, 5 and 7.
- brachyptera* Schuster. Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- ceyx* (Fox). Syn. of *blakeii* (Fox).
- **ceyxoides* Schuster. Ariz.
Sphaerophthalma (Photopsis) ceyxoides Schuster, 1958. Ent. Amer. (n.s.) 37: 25. ♂.
- clara clara* (Cresson), changed status. Colo. to Wyo. and Idaho. This subsp. is transitional to *Sphaerophthalma* subg. *Physetapsis* Schuster.
Photopsis clara (Cresson). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 27).
- **clara cleomella* Schuster. Mont. This subsp. is transitional to *Sphaerophthalma* subg. *Physetapsis* Schuster.
Sphaerophthalma (Photopsis) clara cleomella Schuster, 1958. Ent. Amer. (n.s.) 37: 27. ♂.
- contracta* (Blake). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.
- danaus* (Blake). Kans., Tex.; Mexico. Transf. from *Odontophotopsis* Viereck, p. 756 (*teste* Schuster, 1958, *loc. cit. supra*, p. 24).
- **dentifera* Schuster. S. Dak., Minn.
Sphaerophthalma (Photopsis) dentifera Schuster, 1958. Ent. Amer. (n.s.) 37: 24. ♂.
- difficilis* Baker. Transfer to *Sphaerophthalma* subg. *Micromutilla* Ashmead.

- edwardsii edwardsii* (Cresson), changed status. Oreg., Idaho.
Photopsis edwardsii (Cresson). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 36).
- **edwardsii flammifera* Schuster. Calif.
Sphaerophthalma (Photopsis) edwardsii flammifera Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.
- **facilis facilis* (Cameron). Ariz.; Mexico.
Sphaerophthalma (!) *facilis* Cameron, 1896. Biol. Cent.-Amer., Hym. 2, p. 392. ♂. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 26).
Photopsis hubbardii (Fox). Syn. by Schuster, 1958, *loc. cit. supra*, p. 26.
- **facilis rubriventris* Schuster. Tex.
Sphaerophthalma (Photopsis) facilis rubriventris Schuster, 1958. Ent. Amer. (n.s.) 37: 26. ♂.
- **ferruginopsis* Schuster. Ariz., Calif.
Sphaerophthalma (Photopsis) ferruginopsis Schuster, 1958. Ent. Amer. (n.s.) 37: 29. ♂.
- **fuscipes* Schuster. Ariz. This sp. is transitional to *Sphaerophthalma* subg. *Physetapsis* Schuster.
Sphaerophthalma (Photopsis) fuscipes Schuster, 1958. Ent. Amer. (n.s.) 37: 21. ♂.
- **helicæon diegueno* Schuster. Ariz.
Sphaerophthalma (Photopsis) helicæon diegueno Schuster, 1958. Ent. Amer. (n.s.) 37: 35. ♂.
- helicæon helicæon* (Fox), changed status.
Photopsis helicæon (Fox). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 35).
- helicæon lingulatus* (Viereck), changed status.
Photopsis lingulata Viereck. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 26).
- hubbardii* (Fox). Syn. of *facilis facilis* (Cameron).
- hyalina* (Blake). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- imperialiformis imperialiformis* (Viereck), changed status. Tex. to Kans. and Colo.
Photopsis imperialiformis (Viereck). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 34).
- **imperialiformis maricopæ* Schuster. Ariz. to Wash.
Sphaerophthalma (Photopsis) imperialiformis maricopæ Schuster, 1958. Ent. Amer. (n.s.) 37: 34. ♂.
- indigenus* (Baker). Calif.
- ingenua* (Baker). Syn. of *orestes* (Fox).
- jason* (Fox). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.
- juxta* (Blake). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- lingulata* (Viereck). A subsp. of *helicæon* (Fox).
- **luiseno* Schuster. Calif.
Sphaerophthalma (Photopsis) luiseno Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.
- **megagnathos auriferus* Schuster. Calif.
Sphaerophthalma (Photopsis) megagnathos auriferus Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.
- **megagnathos megagnathos* Schuster. Calif.
Sphaerophthalma (Photopsis) megagnathos megagnathos Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.

- melanderi* (Baker). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster as a subsp. of *uro* (Blake).
- mesillensis* Cockerell. Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- **militaris* Schuster. Ariz., Calif.
Sphaerophthalma (Photopsis) militaris Schuster, 1958. Ent. Amer. (n.s.) 37: 27, pl. 5, fig. 2. ♂.
- **neomexicana* Schuster. N. Mex.
Sphaerophthalma (Photopsis) neomexicana Schuster, 1958. Ent. Amer. (n.s.) 37: 30. ♂.
- **noctivaga infusata* Schuster. Ariz.
Sphaerophthalma (Photopsis) noctivaga infusata Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.
- noctivaga noctivaga* (Melander), changed status. Tex. to Kans.
Photopsis noctivaga (Melander). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 32).
- nokomis nokomis* (Blake), changed status. Ariz.
Photopsis nokomis (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 35).
- **nokomis ruficeps* Schuster. Ariz.
Sphaerophthalma (Photopsis) nokomis ruficeps Schuster, 1958. Ent. Amer. (n.s.) 37: 35. ♂.
- nudata* (Baker). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster as a syn. of *amphion amphion* (Fox).
- **ordae* Schuster. Tex.
Sphaerophthalma (Photopsis) ordae Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.
- orestes* (Fox). Wash. to Baja California. Hosts: *Anthidium c. collectum* Huard, *Euodynerus boscii auranum* (Cam.), *Tachysphex tenuipunctus* Fox.
Photopsis pattersonae Melander (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).
Photopsis uniformis Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).
Photopsis pedata Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).
Photopsis ingenua Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).
Photopsis salmani Mickel (syn. by Ferguson, 1962, *loc. cit. supra*, p. 10).
 ?**Sphaerophthalma (Photopsis) salmani fresnoensis* Schuster, 1958. Ent. Amer. (n.s.) 37: 30. ♂. Presumed a syn. because Ferguson placed typical *salmani* as a syn. of *orestes*.
 ?**Sphaerophthalma (Photopsis) salmani oregana* Schuster, 1958. Ent. Amer. (n.s.) 37: 31. ♂. Presumed a syn. because Ferguson placed typical *salmani* as a syn. of *orestes*.
 Biology: Ferguson, 1962, *loc. cit. supra*, pp. 6-10, pls. 1, 6, tab. 1.
- palamedes* (Fox). Syn. of *pluto* (Fox).
- pallida* (Blake). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- **pallidipes gila* Schuster. Type locality not cited—Ariz. (?)
Sphaerophthalma (Photopsis) pallidipes gila Schuster, 1958. Ent. Amer. (n.s.) 37: 28. ♂.
- **pallidipes pallidipes* Schuster. Type locality not cited.
Sphaerophthalma (Photopsis) pallidipes pallidipes Schuster, 1958. Ent. Amer. (n.s.) 37: 27. ♂.
- **parkeri* Schuster. Ariz.
Sphaerophthalma (Photopsis) parkeri Schuster, 1958. Ent. Amer. (n.s.) 37: 28. ♂.
- pattersonae* (Melander). Syn. of *orestes* (Fox).

pedata (Baker). Syn. of *orestes* (Fox).

**piceogaster* Schuster. Type locality not cited.

Sphaerophthalma (Photopsis) piceogaster Schuster, 1958. Ent. Amer. (n.s.) 37: 27. ♂.

**pinalea pinalea* Schuster. Ariz.

Sphaerophthalma (Photopsis) pinalea pinalea Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.

**pinalea texanella* Schuster. Tex. to N. Dak.

Sphaerophthalma (Photopsis) pinalea texanella Schuster, 1957. Ent. Amer. (n.s.) 37: 32. ♂.

**pinales* Schuster. Ariz.

Sphaerophthalma (Photopsis) pinales Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.

pluto (Fox).

Photopsis palamedes (Fox) (syn. by Schuster, 1958, *loc. cit. supra*, p. 31).

**rustica ocellaria* Schuster. Calif.

Sphaerophthalma (Photopsis) rustica ocellaria Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.

rustica rustica (Blake), changed status.

Photopsis rustica (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 32).

salmani (Mickel). Syn. of *orestes* (Fox).

**salmani fresnoensis* Schuster. Syn. (?) of *orestes* (Fox).

**salmani oregana* Schuster. Syn. (?) of *orestes* (Fox).

**scudderi* Schuster. Ariz.

Sphaerophthalma (Photopsis) scudderi Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.

**similis* Schuster. Type locality not cited.

Sphaerophthalma (Photopsis) similis Schuster, 1958. Ent. Amer. (n.s.) 37: 30. ♂.

**spinifera* Schuster. Kans.

Sphaerophthalma (Photopsis) spinifera Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.

**tetracuspis* Schuster. Type locality not cited.

Sphaerophthalma (Photopsis) tetracuspis Schuster, 1958. Ent. Amer. (n.s.) 37: 31. ♂.

**tuberculifera* Schuster. Type locality not cited.

Sphaerophthalma (Photopsis) tuberculifera Schuster, 1958. Ent. Amer. (n.s.) 37: 25. ♂.

unicolor (Cresson). U. S. west of Rocky Mts.; Mexico (Baja California del Norte). Hosts: *Anthidium c. collectum* Huard, *Callanthidium illustre* (Cr.), *Ashmeadiella c. californica* (Ashm.), *Anthophora abruptella* Ckll., *A. bomboides neomexicana* Ckll., *A. linsleyi* Timb., *A. montana* Cr., *A. occidentalis* Cr., *Diadasia bituberculata* (Cr.), *Melissodes robustior* Ckll., *Xeromelecta californica* (Ashm.).

Biology: Ferguson, 1962, *loc. cit. supra*, pp. 15-22, pls. 3, 5, and 7.

uniformis (Baker). Syn. of *orestes* (Fox).

uro (Blake). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.

***SPHAEROPHTHALMA** subgenus **PHOTOPSIODES** Schuster

Sphaerophthalma subg. *Photopsioides* Schuster, 1958. Ent. Amer. (n.s.) 37: 10 (in key), 36.

Type: *Agama uro* Blake. Orig. desig.

Place after *Sphaerophthalma* subg. *Photopsis* Blake, p. 756.

- abdominalis** (Blake). Transf. from **Photopsis** Blake, p. 753 (*teste* Schuster, 1958, Ent. Amer. (n.s.) 37: 37).
- amphion abstrusa** (Baker). Transf. from **Photopsis** Blake, p. 753 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).
- amphion amphion** (Fox), changed status. Transf. from **Photopsis** Blake, p. 753 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).
- Photopsis nudata** Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 38).
- contracta** (Blake). Transf. from **Photopsis** Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 37).
- uro melanderi** (Baker), changed status. Transf. from **Photopsis** Blake, p. 755 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).
- ***uro stenognatha** Schuster. N. Mex., Ariz.
Sphaerophthalma (Photopsioides) uro stenognatha Schuster, 1958. Ent. Amer. (n.s.) 37: 38. ♂.
- uro uro** (Blake), changed status. Transf. from **Photopsis** Blake, p. 756 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38). Hosts: *Dianthidium curvatum sayi* Ckll., *Trypargilum tridentatum* (Pack.).

ODONTOPHOTOPSIS subgenus ODONTOPHOTOPSIS Viereck

(= *Odontophotopsis* Viereck of Catalog, pp. 756-758)

- Tetraphotopsis** Ashmead, p. 758. Syn. by Schuster, 1958, *loc. cit. supra*, p. 54.
Reduced to subgeneric rank (*teste* Schuster, 1958, *loc. cit. supra*, pp. 8 (in key), 46).
- acmaea** Viereck. A subsp. of **adonis** (Fox).
- adonis acmaea** Viereck, changed status.
Odontophotopsis acmaea Viereck. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 54).
- adonis adonis** (Fox), changed status.
Odontophotopsis adonis (Fox). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 54).
- alamonis** Viereck. Transf. to **Dilophotopsis** Schuster as a syn. of **concolor concolor** (Cresson).
- alemon** (Fox).
Odontophotopsis trita (Melander) (syn. by Schuster, 1958, *loc. cit. supra*, p. 56).
Odontophotopsis crucis Viereck (syn. by Schuster, 1958, *loc. cit. supra*, p. 56).
- ***anomala** Schuster. Tex.
Odontophotopsis (Odontophotopsis) anomala Schuster, 1958. Ent. Amer. (n.s.) 37: 60. ♂.
- ***apacheorum apacheorum** Schuster. Tex.
Odontophotopsis (Odontophotopsis) apacheorum (!) apacheorum (!) Schuster, 1958. Ent. Amer. (n.s.) 37: 55. ♂.
- ***apacheorum rostrata** Schuster. Ariz.
Odontophotopsis (Odontophotopsis) apacheorum (!) rostratus Schuster, 1958. Ent. Amer. (n.s.) 37: 55. ♂.
- ***armata** Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) armata Schuster, 1958. Ent. Amer. (n.s.) 37: 60. ♂.
- atripes** Mickel. Syn. of **pudica** (Melander).
- aulus** (Blake). A subsp. of **tapajos** (Blake).

- **bequaertii* Schuster. Tex.
Odontophotopsis (Odontophotopsis) bequaertii Schuster, 1958. Ent. Amer. (n.s.) 37: 52. ♂.
- **braccata* Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) braccatus Schuster, Ent. Amer. (n.s.) 37: 54. ♂.
- brevicornis* (Fox). Syn. of *melicausa* (Blake).
- clandestina* Viereck. Transf. to *Photomorphus* subg. *Photomorphina* Schuster.
- **clypeata* Schuster. Ariz.
Odontophotopsis (Odontophotopsis) clypeatus Schuster, 1958. Ent. Amer. (n.s.) 37: 59. ♂.
- concolor* (Cresson). Transf. to *Dilophotopsis* Schuster.
- **conifera* Schuster. Ariz.
Odontophotopsis (Odontophotopsis) coniferus Schuster, 1958. Ent. Amer. (n.s.) 37: 48. ♂.
- cookii* Baker.
 Biology: Ferguson, 1963. Pan-Pacific Ent. 39: 65-66.
- crucis* Viereck. Syn. of *alemon* (Fox).
- danaus* (Blake). Transf. to *Sphacrophthalma* subg. *Photopsis* Blake, p. 754.
- **edentata distans* Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) edentata distans Schuster, 1958. Ent. Amer. (n.s.) 37: 53. ♂.
- **edentata edentata* Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) edentata edentata Schuster, 1958. Ent. Amer. (n.s.) 37: 53. ♂.
- fallax* Viereck.
Odontophotopsis ocellata Baker, n. syn. Schuster, 1958, *loc. cit. supra*, p. 57, placed *fallax* as a syn. of *ocellata*, but the former antedates the latter.
- **grandiceps* Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) grandiceps Schuster, 1958. Ent. Amer. (n.s.) 37: 53. ♂.
- **hexadonta* Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) hexadontus Schuster, 1958. Ent. Amer. (n.s.) 37: 51. ♂.
- hubbardi* Ashmead. Syn. of *venusta* (Blake).
- **inconspicua brunnea* Schuster. Type locality not cited.
Odontophotopsis (Odontophotopsis) inconspicua brunnea Schuster, 1958. Ent. Amer. (n.s.) 37: 54. ♂.
- inconspicua inconspicua* (Blake), changed status.
Odontophotopsis inconspicua (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 54).
- indotata* Viereck. Syn. of *melicausa westcottii* (Melander).
- **lamellifera* Schuster. Ariz.
Odontophotopsis (Odontophotopsis) lamellifera Schuster, 1958. Ent. Amer. (n.s.) 37: 56. ♂.
- melicausa melicausa* (Blake), changed status.
Odontophotopsis melicausa Blake. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 58).
Odontophotopsis brevicornis (Fox) (syn. by Schuster, 1958, *loc. cit. supra*, p. 58).
Odontophotopsis mellicornis Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 58).
Odontophotopsis obliqua Viereck (syn. by Schuster, 1958, *loc. cit. supra*, p. 58).

**melicausa piceipes* Schuster. Mont.

Odontophotopsis (Odontophotopsis) mellicausa (!) piceipes Schuster, 1958. Ent. Amer. (n.s.) 37: 58. ♂.

melicausa westcottii (Melander), changed status.

Odontophotopsis westcottii (Melander). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 59).

Odontophotopsis iudotata Viereck (syn. by Schuster, 1958, *loc. cit. supra*, p. 59).

mellicornis Baker. Syn. of *melicausa* (Blake).

obliqua Viereck. Syn. of *melicausa* (Blake).

ocellata Baker. Syn. of *fallax* Viereck.

**parksiana* Schuster. Tex.

Odontophotopsis (Odontophotopsis) parksiana Schuster, 1958. Ent. Amer. (n.s.) 37: 57. ♂.

**parva* Schuster. Type locality not cited.

Odontophotopsis (Odontophotopsis) parva Schuster, 1958. Ent. Amer. (n.s.) 37: 55. ♂.

pudica (Melander).

Odontophotopsis atripes Mickel (syn. by Schuster, 1958, *loc. cit. supra*, p. 57).

**quadridentata* Schuster. Type locality not cited.

Odontophotopsis (Odontophotopsis) quadridentata Schuster, 1958. Ent. Amer. (n.s.) 37: 51. ♂.

sarpedon (Fox). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

spinci floridensis (Schuster). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

spinci spinci (Bradley). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

subtenuis Viereck. Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

tapajos aulus (Blake), changed status.

Odontophotopsis aulus (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 53).

tapajos tapajos (Blake), changed status.

Odontophotopsis tapajos (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 53).

**terrata obscura* Schuster. Ariz.

Odontophotopsis (Odontophotopsis) terrata obscura Schuster, 1958. Ent. Amer. (n.s.) 37: 59. ♂.

terrata terrata (Cockerell), changed status.

Odontophotopsis terrata (Cockerell). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 59).

thamyras (Fox). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

trita (Melander). Syn. of *alemon* (Fox).

truncula Viereck. Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

**unicornis* Schuster. Ariz.

Odontophotopsis (Odontophotopsis) unicornis Schuster, 1958. Ent. Amer. (n.s.) 37: 52. ♂.

venusta (Blake).

Tetraphotopsis hubbardi Ashmead (syn. by Schuster, 1958, *loc. cit. supra*, p. 54).

westcottii (Melander). A subsp. of *melicausa* (Blake).

***ODONTOPHOTOPSIS** subgenus **PERIPHOTOPSIS** Schuster

Odontophotopsis subg. *Periphotopsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 8 (in key), 60.

Type: *Odontophotopsis (Periphotopsis) mamatus* Schuster.
By monotypy and orig. desig.

Place after *Odontophotopsis* Viereck, p. 758.

**mamata* Schuster. Ariz.

Odontophotopsis (Periphotopsis) mamatus Schuster, 1958. Ent. Amer. (n.s.) 37: 60. ♂.

Genus *Tetraphotopsis* Ashmead, p. 758

A synonym of *Odontophotopsis* subg. *Odontophotopsis* Viereck.

***Genus ACROPHOTOPSIS** Schuster

Acrophotopsis Schuster, 1958. Ent. Amer. (n.s.) 37: 4 (in key), 61.

Type: *Acrophotopsis eurygnathus* Schuster. Orig. desig.

Insert on p. 758 after *Morsyma* Fox.

**eurygnathus* Schuster. Southern Ariz.

Acrophotopsis eurygnathus Schuster, 1958. Ent. Amer. (n.s.) 37: 10 (in key), 65, pl. 1, figs. 1, 2. ♂.

***Genus DILOPHOTOPSIS** Schuster

Dilophotopsis Schuster, 1958. Ent. Amer. (n.s.) 37: 5 (in key), 71.

Type: *Mutilla concolor* Cresson. Orig. desig.

Insert on p. 758 after *Acorphotopsis* Schuster.

concolor concolor (Cresson), changed status. Kans. to Colo. and Wyo., Tex., N. Mex., eastern Ariz.; Mexico (Zacatecas, Durango, Jalisco).

Odontophotopsis concolor (Cresson). Transf. from *Odontophotopsis* Viereck, p. 756 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 84).

Odontophotopsis alamonis Viereck. Syn. by Schuster, 1958, *loc. cit. supra*, p. 84.

**concolor laredo* Schuster. Tex. (Winterhaven, Laredo, Cotulla).

Dilophotopsis concolor laredo Schuster, 1958. Ent. Amer. (n.s.) 37: 84 (in key), 86. ♂.

**concolor sonorensis* Schuster. Southern Ariz. and Calif.; Mexico (Baja California).

Dilophotopsis concolor sonorensis Schuster, 1958. Ent. Amer. (n.s.) 37: 84 (in key), 88. ♂.

**concolor utahensis* Schuster. Mont., Utah, western Colo., Nev., northeastern Calif.

Dilophotopsis concolor utahensis Schuster, 1958. Ent. Amer. (n.s.) 37: 84 (in key), 87. ♂.

**stenognatha* Schuster. Ariz. (Tucson).

Dilophotopsis stenognatha Schuster, 1958. Ent. Amer. (n.s.) 37: 11 (in key), 74. ♂.

Taxonomy: Mickel, 1963. Pan-Pacific Ent. 39: 184 (♀).

***Genus ACANTHOPHOTOPSIS** Schuster

Acanthophotopsis Schuster, 1958. Ent. Amer. (n.s.) 37: 5 (in key), 88.

Type: *Acanthophotopsis falciformis* Schuster. Orig. desig.

Insert on p. 758 after *Dilophotopsis* Schuster.

**bequaertii* Schuster. Ariz. (Hereford).

Acanthophotopsis bequaertii Schuster, 1958. Ent. Amer. (n.s.) 37: 12 (in key), 101. ♂.

**bifurca* Schuster. Tex. (Val Verde Co., Winterhaven).

Acanthophtopsis bifurca Schuster, 1958. Ent. Amer. (n.s.) 37: 13 (in key), 98, pl. 3, fig. 3. ♂.

**dorophora* Schuster. Ariz. (Tucson, Yuma).

Acanthophtopsis dorophora Schuster, 1958. Ent. Amer. (n.s.) 37: 13 (in key), 104, pl. 2, fig. 1, pl. 3, fig. 2. ♂.

**evansii* Schuster. Tex. (Alpine and Chisos Mts.); Mexico (Durango).

Acanthophtopsis evansii Schuster, 1958. Ent. Amer. (n.s.) 37: 12 (in key), 93, pl. 3, fig. 1. ♂.

**falciformis falciformis* Schuster. Calif. (Palm Springs); Mexico (Zacatecas).

Acanthophtopsis falciformis falciformis Schuster, 1958. Ent. Amer. (n.s.) 37: 13 (in key), 108, pl. 2, figs. 2, 3. ♂.

**falciformis furcisterna* Schuster. Ariz. (Tucson, Phoenix, Ajo).

Acanthophtopsis falciformis furcisterna Schuster, 1958. Ent. Amer. (n.s.) 37: 14 (in key), 111. ♂.

Genus PSEUDOMETHOCA Ashmead, pp. 758-761

contumax (Cresson). Mexico.

**Mutilla microphthalma* Gerstaecker, 1874. Arch. Naturges. 40: 64. ♂.
Taxonomy: Mickel, 1935. Amer. Ent. Soc. Trans. 61: 393.

frigida frigida (Smith). Probable hosts: *Lasioglossum (Dialictus) inconspicuum* (Sm.), *L. (D.) zephyrum* (Sm.), *L. (D.) rohweri* (Ellis), *L. (D.) versatum* (Robt.) and *Augochlorella striata* (Prov.).
Biology: Lin, N., 1964. Ins. Sociaux 11: 187-192.

Genus DASYMUTILLA Ashmead, pp. 761-770

asteria Mickel. Host: *Microbembex nigrifrons* (Prov.) (teste J. D. Haddock, in litt.).

biguttata (Cockerell). Ark.

creon (Blake). Ark.

dugesii (Cockerell and Casad). Host: *Anthophora occidentalis* Cr.

gloriosa (Saussure). Host: *Microbembex nigrifrons* (Prov.) (teste J. D. Haddock, in litt.).

leda (Blake). N. Mex.

macilenta (Blake). Delete Ala. from distribution.

nigripes (Fabricius). B. C. Host: *Cerceris flavofasciata* H. S. Smith.
Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 198.

pyrrhus (Fox). Host: *Bembicine* sp.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 2-4, fig. 1.

vesta vesta (Cresson). B. C.

Genus LOMACHAETA Mickel, p. 770

variegata Mickel. Hosts: *Solierella plenocoloides similis* (Brid.), *S. blaisdelli* (Brid.), nesting in stems of *Eriogonum elatum*.

Biology: Parker, 1962. Pan-Pacific Ent. 38: 116.

*Genus SMICROMUTILLA Mickel

Smicromutilla Mickel, 1964. Pan-Pacific Ent. 40: 108.

Type: *Smicromutilla powelli* Mickel. Orig. desig. and by monotypy.

Insert on p. 770 after *Lomachaeta* Mickel.

**powelli* Mickel. Calif. (San Luis Obispo Co.). Host: ? *Xylocelia occidentalis* Fox.

Smicromutilla powelli Mickel 1964. Pan-Pacific Ent. 40: 108, 1 fig. ♂, ♀.

TIMULLA subgenus TIMULLA Ashmead, pp. 770-772

grotei (Blake). Mexico (Jalisco, Guanajuato).

**Mutilla fulviventris* Gerstaecker, 1874. Arch. Naturges. 40: 323. ♂.

Taxonomy: Mickel, 1937. Ent. Amer. 17: 78.

oajaca (Blake). Mexico (Morelos, Jalisco, Colima).

**Mutilla ardens* Gerstaecker, 1874. Arch. Naturges. 40: 323. ♂.

**Mutilla mazatlanae* Cameron, 1894. Biol. Cent.-Amer. Hym., v. 2, p. 294.

♂.

Taxonomy: Mickel, 1938. Roy. Ent. Soc. London Trans. 87: 641.

Biology: Linsley, 1960. Pan-Pacific Ent. 36: 36 (mating behavior).

ocellaria rufidorsa Mickel. Ark.

EPHUTA subgenus EPHUTA Say, pp. 772-773

Taxonomy: Schuster, 1957. N. Y. Ent. Soc. Jour. 64: 7-84 (Part II of revis. treating Species Group Grisea).

This revision reduces **Ephuta** of the Catalog to subgeneric rank.

albiceps Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 75. ♀.

argenteiceps Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 16. ♂, ♀.

auricapitis Schuster. Possibly the opposite sex of **ecarinata** *ecarinata* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 76. ♀.

baboquivari Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 79. ♀.

cephalotes Schuster. The opposite sex is possibly **minuta** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 68. ♂.

coloradella Schuster. Possibly the opposite sex of **grisea** Bradley.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 73. ♀.

conchate Mickel.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 21. ♀, ♂.

ecarinata ecarinata Schuster. The opposite sex is possibly **sudatrix** (Melander) or **auricapitis** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 49. ♂.

ecarinata neomexicana Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 52. ♂.

ecarinata pima Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 51. ♂.

floridana dietrichi Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 40. ♀.

floridana floridana Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 34. ♂, ♀.

grisea fuscosericea Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 14. ♂.

grisea grisea Bradley. The opposite sex is possibly **coloradella** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 13. ♂.

margueritae margueritae Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 56. ♂, ♀.

margueritae xanthocephala Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 63. ♂, ♀.

minuta Schuster. Possibly opposite sex of **cephalotes** Schuster.

pauvilla pauvilla Bradley. Host: *Dipogon s. sayi* Bks. (*teste* H. E. Evans, *in litt.*).

psphenophila Schuster. The opposite sex is possibly *tentativa* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 44. ♂.

rufisquamis (André). The opposite sex is possibly *tumacacori* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 65. ♂.

scrupesa Say.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 26. ♀. ♂.

sudatrix (Melander). Possibly the opposite sex of *ecarinata* *ecarinata* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 54. ♀.

tegulicia Bradley. Possibly a syn. or subsp. of *idiasta* (Cameron) of Mexico.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 47. ♂.

tentativa Schuster. Possibly the opposite sex of *psphenophila* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 42. ♀.

tumacacori Schuster. Possibly the opposite sex of *rufisquamis* (André).

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 82. ♀.

***EPHUTA** subgenus **XENOCHILE** Schuster

Ephuta subg. *Xenochile* Schuster, 1957. N. Y. Ent. Soc. Jour. 64: 8.

Type: *Ephuta (Xenochile) krombeini* Schuster. Monotypic and by orig. desig.

Place after subgenus *Ephuta* Say, p. 773.

**krombeini* Schuster. Ariz. (Ramsey Canyon in Huachuca Mts.).

Ephuta (Xenochile) krombeini Schuster, 1957. N. Y. Ent. Soc. Jour. 64: 9. ♂.

Family SCOLIIDAE

SCOLIA subgenus **SCOLIA** Fabricius

The typical subgenus is restricted to the Palaearctic Region (*teste* Betrem and Bradley, 1964. Zool. Meded. 40: 90).

SCOLIA subgenus **DISCOLIA** Saussure

(= *Scolia* subgenus *Scolia* Fabricius of Catalog, pp. 774-775)

Transfer citations for *Scolia*, *Lacosi*, and *Lisoca* to the typical subgenus above. Change citation for *Discolia* as follows:

Scolia subg. *Discolia* Saussure, 1863. Soc. Ent. France Ann. (4) 3: 18.

Type: *Scolia (Discolia) nobilitata* Fabricius. Desig. by Betrem and Bradley, 1964.

Add the following to the subgeneric synonymy:

Scolia subg. *Scolia* sect. *Scolioides* Guiglia and Capra, 1934. Soc. Ent. Ital. Boll. 66: 115.

Type: *Scolia hirta* Schrank. Orig. desig.

dubia monticola Cameron. Syn. of *mexicana* Saussure.

**mexicana* Saussure.

Scolia (Lacosi) mexicana Saussure, 1958. Soc. Ent. France Ann. (3) 6: 219. ♀.

Scolia (Scolia) dubia monticola Cameron (syn. by Bradley, 1964. *In* Betrem and Bradley, Zool. Meded. 40: 96).

nobilitata otomita Saussure, changed status.

Scolia (Scolia) otomita Saussure. Reduced to subsp. rank (*teste* Bradley, 1964. *In* Bertem and Bradley, Zool. Meded. 40: 96).

otomita Saussure. Subsp. of *nobilitata* Fabricius.

Genus TRISCOLIA Saussure

(= *Scolia* subgenus *Triscolia* Saussure and Sichel of Catalog p. 775)

Raised to generic rank (*teste* Betrem and Bradley, 1964. Zool. Meded.

- 39: 435). Change bibliographic citation and genotype designation as follows:
Scolia subg. *Triscolia* Saussure, 1863. Soc. Ent. France Ann. (4): 3. 17.
 Type: *Scolia (Triscolia) badia* Saussure. By monotypy.

Genus **CAMPSOMERIS** Guérin, pp. 775-776

- **Campsomeris* subg. *Xanthocampsomeris* Bradley, 1957. Amer. Ent. Soc. Trans. 83: 70.
 Type: *Tiphia tricincta* Fabricius. Orig. desig.
- **Campsomeris* subg. *Pygodasis* Bradley, 1957. Amer. Ent. Soc. Trans. 83: 72.
 Type: *Scolia quadrinotata* Fabricius. Orig. desig.
- Taxonomy: Bradley, 1957. Amer. Ent. Soc. Trans. 83: 65-77 (subgeneric reclassification Amer. spp.).—Betrem, 1962. Ent. News 73: 207 (type of *Dielis*).
- Delete heading, **Subgenus CAMPSOMERIS** Guérin, in Catalog, and reference to *Colpa*; and change type designation for *Elis* subg. *Dielis* to (*Scolia radula* Fabricius =) *Sphex plumipes* Drury.
- **completa* Rohwer. Ariz. (Chiricahua and Santa Rita Mts.); Mexico to El Salvador. (*Xanthocampsomeris*)
Campsomeris (Campsomeris) completa Rohwer, 1927. Wash. Acad. Sci. Jour. 17: 151. ♀.
- **druryi* Cockerell. Syn. of *quadrinotata* (Fabricius).
- ephippium* *ephippium* (Say). (*Pygodasis*)
- fulvohirta* (Cresson). (*Xanthocampsomeris*)
- limosa* (Burmeister). (*Xanthocampsomeris*)
- **maculata* (Drury). Syn. of *quadrinotata* (Fabricius).
- pilipes* (Saussure). (*Subgenus?*)
- plumipes confluenta* (Say). On flowers of *Rubus*, *Arabis*, *Melilotus*, *Solidago*, and *Cephalanthus*. ? Host: *Cotalpa lanigera* (L.) (*Dielis*).
 Biology: Kurczewski, 1963. Ent. News 74: 21-24.
- plumipes fossulana* (Fabricius). (*Dielis*)
 **Campsomeris szetschwanensis* Forma *D* Betrem, 1932. Ent. Ber. 9: 414.
 ♂ (Syn. by Betrem, 1964. In Bradley, Spolia Zool. Mus. Hainuensis 21: 35.)
- plumipes plumipes* (Drury). (*Dielis*)
- **quadrinotata* (Fabricius). (*Pygodasis*)
 **Vespa maculata* Drury, 1773. Illustr. Nat. Hist. 2: 74, pl. 39, fig. 2.
 ♀. Preocc.
Scolia quadrinotata Fabricius, 1775. Syst. ent., p. 355. ♀.
 **Campsomeris druryi* Cockerell, 1907. Entom. 40: 50. N. name.
Campsomeris (Campsomeris) quadrinotata (Fabricius) (syn. by Bradley, 1964. Ent. News 75: 105).
- quadrinotata* (Fabricius). Syn. of *quadrinotata* (Fabricius).
- tolteca* (Saussure). (*Dielis*)
- **trifasciata nassauensis* Bradley. Fla. (Key Vaca); Bahamas. (*Dielis*)
Campsomeris (Campsomeris) trifasciata nassauensis Bradley, 1928. Acad. Nat. Sci. Phila. Proc. 80: 322. ♀, ♂.
- trifasciata trifasciata* (Fabricius). (*Dielis*)

Genus **TRIELIS** Saussure

(= *Campsoscolia* Betrem of Catalog, p. 776)

- Trielis* Saussure, 1863. Soc. Ent. France Ann. (4) 3: 18.
 Type: *Elis xantiana* Saussure. By monotypy.
 Taxonomy: Betrem, 1962. Ent. News 73: 146.

Family SAPYGIDAE

Genus SAPYGA Latreille, pp. 777-778

aculeata Cresson. Minn.*louisii* Krombein. N. J. (Princeton), Fla. (Orlando).*pumila* Cresson. Hosts: *Ashmeadiella* (*A.*) *aridula* Ckll., *Megachile* (*Eutricharaea*) *rotundata* (F.).

Family FORMICIDAE

Morphology: Wilson, 1954. *Insectes Sociaux* 1: 75-80, figs. 1-2 (polymorphism).—Eisner and Brown, 1958 (1956). 10th. Int. Cong. Ent. Proc. 2: 503-508, figs. 1-9 (evolution and social significance of proventriculus).—Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 439-490, pls. 1-25 (studies of the proventriculus).—G. C. and J. Wheeler, 1960. *Psyche* 67: 87-94 (techniques for study of ant larvae).—Nachtweg, 1961. *Insectes Sociaux* 8: 369-381.—Nachtweg, 1963. *Insectes Sociaux* 10: 43-57 (sound organs).—Nachtweg, 1964 (1963). *Insectes Sociaux* 10: 359-378 (acoustics).

Taxonomy: Van Pelt, 1948. Fla. Ent. 30: 57-67, figs. 1-24 (key to species of Alachua County, Florida).—G. C. and J. Wheeler, 1963. *The Ants of North Dakota*. Univ. N. Dakota Press, Grand Forks, 326 pp., 56 figs., 20 illus., 81 maps.—Gregg, 1963. *The Ants of Colorado: Their Taxonomy, Ecology and Geographic Distribution*. Univ. of Colorado Press, Boulder. 792 pp., 26 tables, 24 pls., 16 distribution maps, 163 altitudinal charts, 1 colored vegetation map.

Economics: Smith and Weiss, 1942. U. S. Dept. Agr., Tech. Bul. 798: 1-44 (relation of insects to spread azalea flower spot).—Smith, 1950. *In Pest Control Technology*. Natl. Pest Control Assoc. Inc., Garrard Press, Champaign, Ill., pp. 261-300, figs. 104-119 (house-infesting ants).—Simeone, 1954. State Univ. N. Y., College of Forestry, Syracuse, Bul. 34: 1-19 (carpenter ants and their control).—Pimentel, 1955. *Jour. Econ. Ent.* 48: 28-30.—Reid, 1962. Ga. Agr. Expt. Sta. and Univ. Ga. Handbook, 71 pp., 17 pls., 154 figs. (ants as intermediate hosts of chicken and turkey tapeworms).—Orlob, 1964 (1963). *Ent. Expt. and Appl.* 6: 95-106 (plant virus trans.).

Embryology: Ledoux, 1954. *Ins. Sociaux* 1: 149-175, figs. 1-55, pl. 1 (*Oecophylla longinoda* Latreille).

Evolution: Brown and Wilson, 1960 (1959). *Quart. Rev. Biol.* 34: 278-294, figs. 1-33 (dacetine ants).

Ecology: Van Pelt, 1956. *Amer. Midland Nat.* 56: 358-387, figs. 1-8, tables 1-3 (ants of Welaka Reserve, Fla.).—Kannowski, 1956. *Amer. Midland Nat.* 56: 168-185, table 1 (ants of Ramsey County, N. Dak.).—Van Pelt, 1958. *Amer. Midland Nat.* 59: 1-57 (annotated list of ants of Welaka Reserve, Fla.).—Carter, 1962. *Elisha Mitchell Sci. Soc. Jour.* 78: 150-204, fig. 1, table 1 (distribution N. C. ants).—*ibidem*, 78: 1-18, tables 1-2 (distribution ants in N. C. Piedmont).—Van Pelt, 1963. *Amer. Midland Nat.* 69: 205-223, figs. 1-2, tables 1-2 (altitudinal distribution of ants in southern Blue Ridge Mts.).

Physiology: Schneirla, 1953. *Insect Physiology*. John Wiley and Sons, Inc., N. Y., ch. 25, pp. 656-685 (basic problems in insect behavior), *ibidem*, ch. 26, pp. 685-723 (insect behavior in relation to its setting), *ibidem*, ch. 27, pp. 723-748 (modifiability in insect behavior), *ibidem*, ch. 28, pp. 748-780 (collective activities and social patterns among insects).—Glockner, 1957. *Insectes Sociaux* 4: 83-90, figs. 1-3 (effect of hormones on metamorphosis).—Eisner and Wilson 1958 (1956). 10th. Int. Cong. Ent. Proc. 2: 509-513, figs. 1-3 (radioactive studies, food transmission).—Wilson, 1959. *Anat.*

- Rec. 134: 653 (pheromones in the organization of ant societies).—Eisner and Happ, 1962. *Psyche* 69: 107-116, text fig. 1; figs. 1-3, pl. 6 (infrabuccal pocket of a formicine ant, a social filtration device).—Roth and Eisner, 1962. *Ann. Rev. Ent.* 7: 107-136, tables 1-2 (chemical defenses of arthropods).—Wilson, 1963. *Sci. Amer.* 208: 100-106, illus. (pheromones).—Wilson and Bossert, 1963. *Recent Progress* 19: 673-716, figs. 1-10, table 1 (chemical communication in animals). Academic Press, Inc., N. Y.
- Biology: Lafleur, 1941. *N. Y. Ent. Soc. Jour.* 49: 227-231 (civil disturbances in ant communities), *ibidem*, pp. 199-204 (communal disaffection).—Flanders, 1945. *Sci.* 101 (2619): 245-246 (Are castes determined by rate of egg deposition?).—Brackbill, 1948. *Auk* 65: 66-77 (anting by four species of birds).—Nixon, 1951. *The Association of Ants with Aphids and Coccids*. Commonwealth Inst. Ent. (London) pp. 1-35.—Flanders, 1951. *Canad. Ent.* 83: 93-98 (role of ants in biological control of homopterous insects).—Flanders, 1952. *Jour. Econ. Ent.* 45: 38-39 (ovisorption as the mechanism causing worker development in ants).—Flanders, 1953. *Sci. Monthly* 76: 142-148, fig. 1 (caste determination in the social Hymenoptera).—Talbot, 1953. *Mich. Univ., Contrib. Lab. Vertebr. Biol.* 63: 1-13 (fauna and populations).—Wilson, 1953. *Psyche* 60: 15-20 (caste determination).—Gosswald and Bier, 1954. *Insectes Sociaux* 1: 229-246, figs. 1-5, tables 1-5 (caste determination in genus *Formica*).—Chapman, 1954. *Pan-Pacific Ent.* 30: 93-102, fig. 1, tables 1-2 (swarming of ants on summits of U. S. western mountains).—Bier, 1954. *Insectes Sociaux* 1: 1-19, figs. 1-2 table 1.—Gosswald, 1955. *Rev. Suisse de Zool.* 62: 372-386 (caste determination in ants).—Wilson and Eisner, 1957. *Insectes Sociaux* 4: 157-166, figs. 1-6 (liquid transmission of food).—Talbot, 1957. *Insectes Sociaux* 4: 375-384 (populations).—Brian, 1957. *Ann. Rev. Ent.* 2: 107-120 (caste determination).—Gosswald and Bier, 1957. *Insectes Sociaux* 4: 335-348, tables 1-9 (caste determination in genus *Formica*).—Weber, 1958 (1956). *10th. Int. Cong. Ent. Proc.* 2: 459-473, figs. 1-12 (evolution of ants and feeding habits).—Wenner, 1959. *Amer. Midland Nat.* 62: 174-182 (ants of Bidwell Park, Chico, Calif.).—Kannowski, 1959. *Insectes Sociaux* 6: 115-162, fig. 1, tables 1-4 (flight activities and colony founding of bog ants in southeastern Mich.).—Downey, 1962. *Ent. News* 73: 57-66 (ants associated with larvae of a lycaenid butterfly).—Ayre, 1962. *N. Y. Ent. Soc. Jour.* 70: 159-167 (problems in using Lincoln Index for estimating size ant colonies).—Kincaid, 1963. *Amer. Micros. Soc. Trans.* 82: 101-105, figs. 1-5 (pollination of plants by ants).—Wilson, 1963. *Ann. Rev. Ent.* 8: 345-368, tables 1-2 (social biology).—Wilson, 1963. *Evolution* 17: 249-253, table 1 (social modification).—Ayre, 1963. *Canad. Ent.* 95: 712-715 (feeding habits).

Subfamily DORYLINAE

- Taxonomy: Borgmeier, 1958. *Studia Ent.* 1: 197 (key for identification of females to genera, in tribe *Ecitonini*).
- Biology: Schneirla, 1953. *Insectes Sociaux* 1: 29-41 (army ant queen).—Tafari, 1955. *N. Y. Ent. Soc. Jour.* 63: 21-41, pls. 1-3, table 1 (growth and polymorphism of larva of *Eciton hamatum* (F.)).—Schneirla, 1956 (1955). *Smiths. Inst. Ann. Rpt.*, pp. 379-406, figs. 1-4, pls. 1-2 (army ants).—Schneirla, 1957. *Insectes Sociaux* 4: 259-298, figs. 1-2, tables 1-3 (comparison of functional patterns in army ants).—Schneirla, 1957. *Amer. Phil. Soc. Proc.* 101: 106-133, figs. 1-8, tables 1-4 (theoretical consideration of cyclic processes).—Schneirla, 1958. *Insectes Sociaux* 5: 215-255, figs. 1-6, tables 1-2 (behavior and biology of *Neivamyrmex nigrescens* (Cress.) and *N. opacithorax* (Emery)).—Brown, 1960. *Psyche* 66: 25-27 (alarm and attack behavior).—Schneirla, 1960. *Smithsonian Treasury of Science*. Simon and Schuster, N. Y., pp. 664-

696 (the army ants).—Schneirla, 1961. Ztschr. f. Tierpsychol. 18: 1-32, figs. 1-5, tables 1-4 (sexual broods and colony division of *Neivamyrmex nigrescens* (Cress.)).—Rettenmeyer, 1963. Univ. Kans. Bul. 44(9): 287-465, figs. 1-23, tables 1-4 (behavioral studies).

Morphology: Hagan, 1954. Amer. Mus. Nat. Hist., Amer. Mus. Novitates 1663: 1-12, figs. 1-2 (anatomy of queen of *Eciton*).—*Ibidem* 1664: 1-17, figs. 1-18 (reproductive system of queen of *Eciton*).—*Ibidem*, 1665: 1-20, figs. 1-21 (the oocyte cycle).—Lappano, 1958. Insectes Sociaux 5: 31-66, figs. 1-25, tables 1-2 (morphological study of larval development in all worker broods of *Eciton burchelli* (Westw.)).—Whelden, 1963. N. Y. Ent. Soc. Jour. 71: 158-178, figs. 10 (A-D4), 11 (A-G), 12 (A-1) (reproductive system of worker and female of *Eciton burchelli* (Westw.) and *E. hamatum* (F.)).—Whelden, 1963. *Ibidem*, pp. 246-261, figs. 1 ((A-K, 14 (A-E), 15 (A-D), 16 (A-E) (antennae and legs, *E. hamatum* and *E. burchelli*)).

Genus NOMAMYRMEX Borgmeier, Sup. 1, p. 108

Morphology: Borgmeier, 1957. Rev. Brasil. Biol. 17: 390.
Taxonomy: Borgmeier, 1958, Studia Ent. 1: 201.

Genus LABIDUS Jurine, Sup. 1, p. 108

Morphology: Borgmeier, 1957. Rev. Brasil. Biol. 17: 389.

coccus (Latreille). Ark.

Biology: Kempf, 1961. Studia Ent. 4: 551-552 (as a cave ant).—Rettenmeyer, 1963. Univ. Kans. Sci. Bul. 44 (9): 418-424.

Morphology: Borgmeier, 1957, *loc. cit. supra*, p. 390.

Genus NEIVAMYRMEX Borgmeier, Sup. 1, pp. 108-110

Morphology: Borgmeier, 1957, *loc. cit. supra*, pp. 392-393.

californicus (Mayr). Nev.

carolinensis (Emery). Ohio, Va.

fuscipennis (W. M. Wheeler). Kans.; Mexico.

harrisii (Haldeman).

Taxonomy: Borgmeier, 1958. Studia Ent. 1: 206-207.

melanocephalus (Emery). Honduras.

nigrescens (Cresson). Nebr., Colo.

Biology: Rettenmeyer, 1963. Univ. Kans. Sci. Bul. 44 (9): 446-452, fig. 23.

Morphology: Borgmeier, 1957, *loc. cit. supra*, p. 393.

Ecology: Gregg, 1963. The Ants of Colorado, pp. 286-288, map.

opacithorax (Emery). Va., Ariz.

Biology: Rettenmeyer, 1963. Univ. Kans. Sci. Bul. 44 (9): 437-446, fig. 22.

Morphology: Borgmeier, 1957, *loc. cit. supra*, p. 393.

pauillus (W. M. Wheeler). La.

pilosus mandibularis (M. R. Smith). N. Mex.

wheeleri (Emery). Ariz.

Subfamily CERAPACHYINAE

Biology: Wilson, 1958. Insectes Sociaux 5: 129-140 (behavior).

ACANTHOSTICHUS subgenus CTENOPYGA Ashmead, p. 782

texanus Forel.

Taxonomy: M. R. Smith, 1955. Brooklyn Ent. Soc. Bul. 50: 48-50 (type lost).

Subfamily PONERINAE

Revision: Brown, 1960. Harvard Univ., Mus. Comp. Zool. Bul. 122: 145-230, figs. 1-48 (tribe Amblyoponini).
 Biology: Wilson, 1958. Evolution 12: 24-31 (nomadic and predatory behavior).

*Genus AMBLYOPONE Erichson

(= *Stigmatomma* Roger of Catalog, pp. 782-783)

Amblyopone Erichson, 1842. Arch. f. Naturgesch. 8: 260.

Type: *Amblyopone australis* Erichson. By monotypy.

Taxonomy: Brown, 1960. *loc. cit. supra*, pp. 155-169.

Morphology: Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 476, pl. 22, fig. 91 (proventriculus).

Biology: Haskins, C. P. and E. F., 1951. Amer. Midland Nat. 45: 432-445, fig. 1 (colony founding of *A. australis* Erichson).

Amblyopone replaces *Stigmatomma*, which is a synonym (*teste* Brown, 1960, *loc. cit. supra*).

oregonense (W. M. Wheeler), changed status.

Stigmatomma pallipes oregonense W. M. Wheeler. Raised to sp. rank (*teste* Brown, 1960, *loc. cit. supra*, p. 169).

pallipes (Haldeman), changed status. Ariz., Colo., Okla.

Stigmatomma pallipes pallipes (Haldeman). Raised to sp. rank (*teste* Brown, 1960, *loc. cit. supra*, p. 169).

Stigmatomma pallipes montigena Creighton (syn. by Brown, 1960, *loc. cit. supra*).

Stigmatomma pallipes subterranea Creighton (syn. by Brown, 1960, *loc. cit. supra*).

Morphology: Whelden, 1957. N. Y. Ent. Soc. Jour. 65: 1-21, pl. 1, figs. 1-6; pl. 2, figs. 1-7.

Ecology: Gregg, 1963. The Ants of Colorado, pp. 279-280, 282, map.

pallipes montigena Creighton. Syn. of *pallipes* (Haldeman).

pallipes oregonense W. M. Wheeler. Raised to specific rank.

pallipes pallipes (Haldeman). Raised to specific rank.

pallipes subterranea Creighton. Syn. of *pallipes* (Haldeman).

Genus PLATYTHYREA Roger, p. 783

Taxonomy: Brown, 1952. Breviora 6: 4 (in key).

punctata (F. Smith).

Biology: Brown, 1957. Harvard Univ., Mus. Comp. Zool. Bul. 116: 229.

*Genus PRIONOPELTA Mayr

Prionopelta Mayr, 1866. Akad. der Wiss. Wien, Math.-Nat. Kl. Sitzber. 53: 503.

Type: *Prionopelta punctulata* Mayr. By monotypy.

Taxonomy: Brown, 1960, *loc. cit. supra*, pp. 173-178.

Place after *Platythyrea*, p. 783.

**antillana* Forel. Fla. (Juniper Springs in Marion County).

Prionopelta punctulata antillana Forel, 1909. Deut. Ent. Ztschr., p. 239.

Biology: Kempf, 1961. Studia Ent. 4: 489-490.

Genus ECTATOMMA F. Smith

(= *Ectatomma* subgenus *Ectatomma* F. Smith of Catalog, p. 783)

Revision: Brown, 1958. Harvard Univ., Mus. Comp. Zool. Bul. 118: 206-211.

Ectatomma raised to generic rank (*teste* Brown, 1958, *loc. cit. supra*).

tuberculatum (Olivier).

Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 209, 211, 298, 299.—Kempf, 1962. Studia Ent. 5: 2-3.

*Genus GNAMPTOGENYS Roger

(= *Ectatomma* subgenus *Parectatamma* Emery of Catalog, p. 783)*Gnamptogenys* Roger, 1863. Berlin. Ent. Ztschr. 7: 174.Type: *Ponera tornata* Roger. Desig. by Emery, 1911.*Ectatoma* subg. *Parectatoma* Emery (syn. by Brown, 1958, *loc. cit. supra*, p. 212.)*hartmani* (W. M. Wheeler). La. (Lucky); Honduras. Emendation in spelling of *hartmanni* ! of catalog.Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 228, 230, 234, 302.

Historical: Brown, 1961. Psyche 68: 69.

Biology: Echols, 1964. Ent. Soc. Amer. Ann. 57: 137.

Genus PROCERATIUM Roger, p. 784

Sysphincta Roger (syn. by Brown, 1958, *loc. cit. supra*, p. 241).

Biology: Brown, 1958 (1957). Psyche 64: 115.

croceum (Roger).Biology: Brown, 1958, *loc. cit. supra*, pp. 246, 247.*melinum* (Roger).Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 243, 246-248 (also biology). Brown, *op. cit.*, p. 334 considers *melinum* a European species which very doubtfully occurs in North America.*pergandei* (Emery). Fla.Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 243, 246, 247-248 (also biology).*silaceum* Roger. Okla.Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 241, 245-248 (also biology).Genus *Sysphincta* Roger, p. 784Transfer to synonymy of *Proceratium*, p. 784.

Genus DISCOTHYREA Roger, pp. 784-785

Taxonomy: Borgmeier, 1957. Acad. Brasil. de Cien. An. 29: 124-125, figs. 36-39 (♂).—Brown, 1958, *loc. cit. supra*, pp. 248-253.

Biology: Brown, 1958 (1957). Psyche 64: 115.

testacea Roger. Okla., S. C.Taxonomy: M. R. Smith, 1955. Brooklyn Ent. Soc. Bul. 50: 98 (probable type locality, collector).—Brown, 1958, *loc. cit. supra*, pp. 253, 341-342.

PACHYCONDYLA subgenus PACHYCONDYLA F. Smith, p. 785

Taxonomy: Kempf, 1961. Rev. Brasil Ent. 10: 189-204, figs. 1-13 (Brazilian species).

harpax (Fabricius). Jamaica, Trinidad.Taxonomy: Kempf, 1961, *loc. cit. supra*, p. 194.

Biology: Kempf, 1961. Studia Ent. 4: 493.

Genus BRACHYPONERA Emery

(= *Euponera* subgenus *Brachyponera* Emery of Catalog, p. 785)

Raised to generic rank by Wilson, 1958. Harvard Univ., Mus. Compar. Zool. Bul. 119: 346.

Genus TRACHYMESOPUS Emery

(= *Euponera* subgenus *Trachymesopus* Emery of Catalog, p. 786)Raised to generic rank by Wilson, 1958, *loc. cit. supra*, p. 352.*gilva* (Roger). Transf. to *Cryptopone* Emery, *infra*.*stigma* (Fabricius).**Ponera quadridentata* Smith, 1859. Linn. Soc. London Jour., Zool. 3:

143. (Syn. by Wilson, 1958, *loc. cit. supra*, p. 355.)
Biology: Kempf, 1960. *Studia Ent.* 3: 427-428.

*Genus **CRYPTOPONE** Emery

Cryptopone Emery, 1892. *Soc. Ent. de France Bul.* 61:CCLXXV.

Type: ? *Amblyopone testacea* Motschulsky. By monotypy.

Place after *Trachymesopus*, p. 786.

- gilva* (Roger). Ky., N. C. Transf. from *Trachymesopus*, p. 786 (*teste* Brown, 1963. *Breviora* No. 190, p. 6).

Genus **PONERA** Latreille, pp. 786-787

coarctata pennsylvanica Buckley. Ariz., Ark., Okla.

Biology: G. C. and J. Wheeler, 1963. *The Ants of North Dakota*, pp. 91-92, map.

Ecology: Gregg, 1963. *The Ants of Colorado*, pp. 281-282, 284, map.

**exotica* M. R. Smith. N. C. (Piedmont and Coastal Regions; apparently introduced).

Ponera exotica M. R. Smith, 1962. *Acta Hym.* 1 (4): 377-382, fig. 1, A, B, ♀, ♀.

inexorata W. M. Wheeler. Ariz. (Cochise County, 5400 ft.)

opaciceps Mayr. Uruguay.

Taxonomy: Kempf, 1962. *Studia Ent.* 5: 7-9, figs. 8, 9.

Biology: Kempf, 1960. *Studia Ent.* 3: 391.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 283-284, map.

trigona opacior Forel. Oreg.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 284-286, map.

Genus **ODONTOMACHUS** Latreille, pp. 787-788

Morphology: Eisner, 1957. *Harvard Univ., Mus. Compar. Zool. Bul.* 116: 475-476, pl. 22, fig. 90 (proventriculus).

haematoda insularis Guérin.

Biology: Taylor and Wilson, 1961. *Psyche* 68: 142.

Subfamily **PSEUDOMYRMECINAE**

Taxonomy: G. C. and J. Wheeler, 1956. *Ent. Soc. Amer. Ann.* 49: 376-379, pl. 3, figs. 1-6 (larva).

Genus **PSEUDOMYRMEX** Lund, *Sup.* 1, p. 112

Taxonomy: Kempf, 1958. *Studia Ent.* 1: 434 (*gracilis* (Fabricius) group).

Biology: Brown, 1960. *Ecology* 41: 590.

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 452-453, pl. 1, fig. 5 (proventriculus).

apache Creighton.

Biology: Creighton, 1963. *Amer. Mus. Novitates* 2156: 1-4, table 1.

elongatus (Mayr).

Taxonomy: Creighton, 1955. *N. Y. Ent. Soc. Jour.* 63: 17-20 (also key U. S. species of *Pseudomyrmex*).

gracilis mexicanus (Roger). Fla. (Dade County). Probably introduced.

Taxonomy: G. C. and J. Wheeler, 1956, *loc. cit. supra*, pp. 385-386, pl. 1, figs. 18-21; pl. 2, fig. 3 (larva).—Brown, 1957. *Harvard Univ., Mus. Comp. Zool. Bul.* 116: 235.

pallidus (F. Smith).

Physiology: Blum and Callahan, 1963. *Psyche* 70: 69-74 (morphology and physiology of poison glands and venom).

Subfamily MYRMICINAE

Taxonomy: C. C. and J. Wheeler, 1960. Ent. Soc. Amer. Ann. 53: 98-110, pl. 1; figs. 1-3 (ant larvae).—G. C. and J. Wheeler, 1960. Ent. Soc. Wash. Proc. 62: 1-32, pl. 1-2 (ant larvae).

MYRMICA subgenus MYRMICA Latreille, pp. 789-791

Taxonomy: Collingwood, 1958. Roy. Ent. Soc., London Proc., Ser. A.33: 65-75, figs. 1-2 (*Myrmica* of Britian).—G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 98-110, figs. 1-3 (larvae).—G. C. and J. Wheeler, 1963. The Ants of North Dakota, pp. 94-108, figs.

Biology: Brian, 1957. Insectes Sociaux 4: 177-190, fig. 1, table 1 (growth and development of colonies).—Weir, 1958. Insectes Sociaux 5: 315-339, figs. 1-7, tables 1-9 (polyethism in workers).—Weir, 1958. Jour. Ins. Physiol. 1: 352-360, figs. 1-5 (effect of temperature variation on queen oviposition and colony formation).—Kannowski, 1959. Insectes Sociaux 6: 143-144 (flight comparison).—Weir, 1959. Insectes Sociaux 6: 271-290, figs. 1-5 (influence of worker age on trophogenic larval dormancy).—*Ibidem*, pp. 167-201, fig. 1-tables 1-9 (egg masses and early larval growth).—Brian and Hibble, 1963. Insectes Sociaux 10: 71-82, figs. 1-2, tables 1-5.—Weir, 1959. Physiol. Zool. 32: 63-77, figs. 1-8 (interrelation of queen and worker oviposition).—Carr, 1962. Insectes Sociaux 9: 177-211.—Brian and Hibble, 1963. Insectes Sociaux 10: 71-82.

Physiology: Weir, 1958 (1957). Quart. Jour. Micros. Sci. 98: 499-506, figs. 1-2 (functional anatomy of mid-gut).

brevinodis brevinodis Emery.

Biology: Kannowski, 1959, *loc. cit. supra*, p. 121 (p. 155, pleometrosis).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 99-101, map.

Ecology: Gregg, 1963. The Ants of Colorado, pp. 291-292, 294, map.

brevinodis brevispinosa W. M. Wheeler. Alta., Wash.

Taxonomy: Kannowski, 1956. Amer. Midland Nat. 56: 176, ♂ (also *brevinodis discontinua* ♂).—Gregg, 1961. N. Y. Ent. Soc. Jour. 69: 211, ♀.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 296-297, 299, map.

brevinodis discontinua Weber.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 298-300, map.

brevinodis suleinodoides Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 293-295, 297, map.

laevinodis Nylander. Syn. of **rubra** (Linnaeus).**lobicornis fracticornis** Emery.

Biology: Kannowski, 1957. Psyche 64: 1-5 (host of *Leptothorax provancheri* Emery).—Kannowski, 1959, *loc. cit. supra*, pp. 121-124, 155-156.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 104-106, map.

Ecology: Gregg, 1963, *loc. cit. supra* pp. 300, 302-303, map.

punctiventris punctiventris Roger. Ark., Mass.

Taxonomy: Gregg, 1961. N. Y. Ent. Soc. Jour. 69: 211. ♀.

Biology: Kannowski, 1959, *loc. cit. supra*, p. 124.

punctiventris pinetorum W. M. Wheeler. N. Y.***rubra** (Linnaeus).

Formica rubra Linnaeus, 1758. Syst. Nat., Ed. 10, v. 1, p. 580.

Myrmica (Myrmica) laevinodis Nylander (syn. by Yarrow, 1955. Roy. Ent. Soc., London, Proc., Ser. B, 24: 113-115).

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 4-5 (larva).

Biology: Brian, 1951. Experimentia 7: 182 (caste determination).—Brian, 1951. Physiol. Compar. and Oecol. 2: 248-262, figs. 1-2, tables 1-7.—Brian, 1953. *Ibidem* 3: 25-36, tables 1-2 (oviposition by workers).—Brian, 1954. Insectes Sociaux 1: 101-122. fig. 1-3,

tables 1-6 (caste differentiation, larval dormancy, winter size, vernalization).—Brian, 1955. *Ibidem* 2: 1-34, figs. 1-5, tables 1-12 (caste differentiation, growth of workers and intercastes).—Brian, 1955. *Ibidem* 2: 85-114, figs. 1-5, tables 1-8 (caste differentiation, larval dormancy, winter size, and vernalization).—Brian M. V. and A. D., 1955. *Evolution* 9: 280-290, figs. 1-2, tables 1-3 (macrogynes and microgynes).—Brian, 1956. *Insectes Sociaux* 3: 369-394, figs. 1-3, tables 1-8 (caste differentiation, controlled larval nutrition).—Brian, 1956. *Jour. Anim. Ecol.* 25: 319-337, fig. 1, tables 1-2 (segregation of *Myrmica* spp.).—Brian, 1957. *Insectes Sociaux* 4: 191-210, fig. 1, tables 1-7 (serial organization of brood).—Brian, 1957. *Physiol. Compar. and Oecolog.* 4: 329-345, figs. 1-3, tables 1-8 (food distribution and larval size in cultures).—Weir, 1958. *Insectes Sociaux* 5: 315-339, figs. 1-6, tables 1-9 (polyethism in workers).—Brian 1962. *Ibidem* 9: 295-310, illus. (social conditions affecting early larval differentiation).—Brian, 1963. *Ibidem* 10: 91-102 (caste differentiation).

Morphology: Allen, 1957. *Ent. Monthly Mag.* 93: 136-139 (intercastes).
Physiology: Weir, 1959. *Insectes Sociaux* 6: 375-386, figs. 1-6, table 1 (retro-cerebral endocrine glands and their relation to larval growth and development).

sabuleti americana Weber. N. C., Ark.

Taxonomy: Kanno, 1956. *Amer. Midland Nat.* 56: 175. ♂.

Biology: P. B. and P. M. Kanno, 1957. *Ohio Jour. Sci.* 57: 371-374 (mating activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 96-99, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 308-310, 312, map.

sabuleti hamulata Weber.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 300-301, map.

scabrinodis mexicana W. M. Wheeler.

Taxonomy: Gregg, 1961. *N. Y. Ent. Soc. Jour.* 69: 211. ♀.

schencki emeryana Forel.

Biology: Kanno, 1959. *Insectes Sociaux* 6: 121.—Medler, 1958. *Ent. Soc. Wash. Proc.* 60: 258 (swarming).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 103-104, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 311-312, 314, map.

schencki spatulata M. R. Smith. ? N. Y.

striolagaster Cole. Colo.

Taxonomy: Cole 1957. *Tenn. Acad. Sci. Jour.* 32: 208-209 (♂).—Gregg, 1961, *loc. cit. supra*, p. 211. ♀.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 313-314, map.

*Genus **PARAMYRMICA** Cole

Paramyrmica Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 37-42.

Type: **Paramyrmica colax** Cole. By monotypy.

Taxonomy: G. C. and J. Wheeler, 1959. *Tenn. Acad. Sci. Jour.* 34: 219, fig. 1, A-G (larva).—Gregg, 1961, *loc. cit. supra*, pp. 209-220, fig. 1.

Place after **Myrmica** subg. **Myrmica**, p. 791.

***colax** Cole. Tex. (Limpia Canyon in Davis Mts., Jeff Davis Co.). Inquiline in nest of **Myrmica (Myrmica) striolagaster** Cole.

Paramyrmica colax Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 37-41, fig. 1, a, b, c. ♀ ♀.

Taxonomy: G. C. and J. Wheeler, 1959, *loc. cit. supra*, pp. 219-220, fig. 1, A-G (larva).—Gregg, 1961, *loc. cit. supra*, pp. 213-215. ♀ ♀.

rugiventris (M. R. Smith). Ariz., Colo. Transf. from **Tetramorium**, p. 824 (*teste* Gregg, 1961, *loc. cit. supra*, p. 215).

Taxonomy: Gregg, 1961, *loc. cit. supra*, pp. 210, 215-220 fig. 1. ♀ ♀ ♂.
Historical: Brown, 1957. *Breviora* No. 72, pp. 5-7.

Genus **MANICA** Jurine, p. 791

Taxonomy: Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 213 (key to males).—
G. C. and J. Wheeler, 1960. *Ent. Soc. Wash. Proc.* 62: 5 (larva).—
G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 108-110, figs.

bradleyi (W. M. Wheeler).

Taxonomy: Cole, 1957, *loc. cit. supra*, pp. 210-212, fig. 1a (♀ ♂).—G. C.
and J. Wheeler, 1960, *loc. cit. supra*, p. 6 (larva).

hunteri (W. M. Wheeler).

Taxonomy: Cole, 1957, *loc. cit. supra*, pp. 212-213, fig. 1, b (♂).

mutica (Emery).

Taxonomy: Cole, 1957, *loc. cit. supra*, p. 213, fig. 1, c (♂).—G. C. and J.
Wheeler, 1960, *loc. cit. supra*, pp. 5-6 (larva).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 314-317, map.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 109-110, map.

POGONOMYRMEX subgenus **POGONOMYRMEX** Mayr, pp. 791-794

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 2 (larva).

Morphology: Eisner, 1957. *Harvard Univ., Mus. Compar. Zool. Bul.* 116:
477-478, pl. 23, figs. 95-96 (proventriculus).

apache W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 318-319, map.

badius (Latreille). La.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 2 (larva).

Physiology: Wilson, Durlach, and Roth, 1959 (1958). *Psyche* 65: 108-
114 (chemical releasers of necrophoric behavior).—Wilson, 1959
(1958). *Psyche* 65: 41-51, fig. 1, table 1 (chemical releasers of
alarm and digging).

barbatus barbatus (F. Smith). Ark.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 2 (larva).

Biology: Young and Howell, 1954. *Okla. Acad. Sci. Proc.* 35: 60-62 (mat-
ing swarms).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 319-321, 323, map.

Economics: Gordon, 1943. *Jour. Econ. Ent.* 36: 354 (damage to air-
plane runways).—Young and González, 1957. *Mexico. Secretaria
de agricultura y ganaderia, fol. tec.* 23: 1-20, figs. 1-6, tables 1-5.

barbatus fuscatus Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 322-324, map.

barbatus rugosus Emery. Colo., Tex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 325, 327, map.

maricopa barnesi M. R. Smith. Utah.**maricopa maricopa** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 326-328, map.

occidentalis comanche W. M. Wheeler. La.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 332-334, map.

occidentalis occidentalis (Cresson).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 118-120, figs.,
map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 328-333, map.

Physiology: Weber, 1959. *Ent. News* 70: 85-90 (stings, also population).

subdentatus Mayr. Nev., Oreg.**POGONOMYRMEX** subgenus **EPHEBOMYRMEX** W. M. Wheeler, p. 794

Biology: Creighton, 1956. *Psyche* 63: 54-66, fig. 1.

imberbiculus W. M. Wheeler. Colo.

Taxonomy: Creighton, 1956. *Psyche* 63: 63-64, fig. 1 (♀).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 334-336, map.

Genus *STENAMMA* Westwood, pp. 794-795

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 120-122, maps 10-11.

brevicornis (Mayr). ? Colo.

Biology: Kannoſki, 1958. Ent. News 69: 231-233 (swarming of males).
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 346-348, 350, map.

diecki Emery. Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 121-122, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 349-350, map.

huachuacanum M. R. Smith. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 350-351, 353, map.

impar Forel.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 122, map.

meridionale M. R. Smith. N. C., Okla.

occidentale M. R. Smith. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 352-354, map.

APHAENOGASTER subgenus *ATTOMYRMA* Emery, pp. 795-798

ashmeadi (Emery). N. C.

flemingi M. R. Smith. Ala., Ky., La., N. C.

Aphaenogaster (Attomyrma) macrospina M. R. Smith (syn. by M. R. Smith, 1957. Brooklyn Ent. Soc. Bul. 52: 113).

floridana M. R. Smith. N. C., S. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 7 (larva).

fulva Roger. Colo., Fla.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 336-337, 339, map.

huachucana huachucana Creighton. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 338-340, map.

macrospina M. R. Smith. Syn. of *flemingi* M. R. Smith.

mariae Forel. Ky.

***megommatus** M. R. Smith. Nev., Ariz., Calif., Oreg.

Aphaenogaster (Attomyrma) megommatus M. R. Smith, 1963. N. Y. Ent. Soc. Jour. 71: 244-246, fig. 1, A. B. ♀.

rudis picea Emery.

Biology: Haskins, 1960. N. Y. Ent. Soc. Jour. 68: 66-67 (longevity of fertile females).

rudis rudis Emery. Colo., Wyo.

Biology: Brown 1959 (1958). Psyche 65: 39-40 (nest raided by *Formica subintegra* Emery.)

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 340-342, map.

subterranea valida W. M. Wheeler. Rocky Mt. Region from Colo. to B. C. and west to Utah.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 342-344, map.

uinta W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 344-345, 347, map.

Genus *NOVOMESSOR* Emery, pp. 798-799

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 8 (larva).

albisetosus (Mayr).

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 8, 10, pl. 2, fig. 1 (larva).

cockerelli (André).

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 10 (larva).

Genus VEROMESSOR Forel, p. 799

- Taxonomy: G. C. and J. Wheeler, 1956. *Psyche* 63: 142-143 (larva).
- andrei** (Mayr).
Biology: McCluskey, 1958. *Science* 128: 536-537, fig. 1 (daily rhythm of male).
- lariversi** M. R. Smith.
Taxonomy: Cole, 1963. *Ent. Soc. Amer. Ann.* 56: 680, 682, figs. 1, B; fig. 3, B; fig. 4, B (♀ ♀ ♂).
- lobognathus** (Andrews). N. Dak.
Taxonomy: G. C. and J. Wheeler, 1956. *Psyche* 63: 143-145, fig. 2, A-J (larva).—Cole, 1963, *loc. cit. supra*, pp. 680-682, fig. 1, C; fig. 2, C; fig. 3, C; fig. 4, C (♀ ♀ ♂).
Biology: G. C. and J. Wheeler 1956. *Psyche* 63: 140-142.—*Ibidem*, 1959. *Ent. Soc. Amer. Ann.* 52: 176-179, figs. 1-5 (behavior, nest structure).—*Ibidem*, 1963, *loc. cit. supra*, pp. 123-125, figs., map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 354-356 map.
- pergandei** (Mayr).
Taxonomy: Cole, 1963, *loc. cit. supra*, p. 681 (♀).
- ***smithi** Cole. Nev. (Mercury in Nye County).
Veromessor smithi Cole, 1963. *Ent. Soc. Amer. Ann.* 56: 678-680, fig. 1, A; fig. 2, A; fig. 3, A; fig. 4, A. ♀ ♀ ♂.

PHEIDOLE subgenus PHEIDOLE Westwood, pp. 799-806

- Taxonomy: Creighton, 1957. *N. Y. Ent. Soc. Jour.* 65: 203-212 (*vasliti* complex).—Gregg, 1958. *N. Y. Ent. Soc. Jour.* 66: 7-48 (key to species of the U. S.).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 125-131, maps 13, 14.
Biology: Weber, 1948. *Ent. News* 59: 31-35 (food of larvae and adults).
- bahai** (Forel).
Taxonomy: M. R. Smith, 1955. *Brooklyn Ent. Soc. Bul.* 50: 99 (opinions of authors concerning correct taxonomic placement).
- bicarinata bicarinata** Mayr.
Pheidole (Pheidole) vinelandica buccalis W. M. Wheeler (syn. by Cole, 1956. *Tenn. Acad. Sci. Jour.* 31: 114).
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 126-127, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 408-409, map.
- bicarinata longula** Emery. N. Dak.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 127, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 408, 410, map.
- ***bicarinata paiute** Gregg. (*In subarmata* group.) Nev. (Goldfield).
Pheidole bicarinata paiute Gregg, 1958. *N. Y. Ent. Soc. Jour.* 66: 17-18. ♀ 2♀.
- bicarinata vinelandica** Forel.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 127-128, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 410, 412-413, map.
Economics: Reid and Nugara, 1961. *Jour. Parasitol.* 47: 885-889, pl. 1, figs. 1-16.
- californica micula** W. M. Wheeler. Raised to sp. rank.
- californica oregonica** Emery.
Pheidole (Pheidole) californica shoshoni Cole. (syn. by Gregg, 1958, *loc. cit. supra*, p. 33).
- californica shoshoni** Cole. Syn. of **californica oregonica** Emery.
- ceres** W. M. Wheeler.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 413-415, map.
- cockerelli** W. M. Wheeler. Colo.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 415-417, map.

- constipata* W. M. Wheeler. Subsp. of *floridana* Emery.
- creightoni* Gregg. Calif.
- davisi* W. M. Wheeler. N. C.
- dentata* Mayr.
Biology: Van Pelt, 1950. Ent. News 61: 161-163, fig. 1, A, B, C (parasitism by a chalcid).
- dentigula* M. R. Smith.
Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 12 (larva).
- desertorum* W. M. Wheeler. Okla., N. Mex.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 417-419, map.
- flavens sculptior* Forel. Delete from Catalog; a misdetermination (*teste* Gregg, 1958, *loc. cit. supra*, p. 45).
- floridana constipata* W. M. Wheeler.
Pheidole (Pheidole) constipata W. M. Wheeler. Reduced to subsp. rank (*teste* Gregg, 1958, *loc. cit. supra*, p. 35).
- floridana floridana* Emery, changed status, N. C.
Pheidole (Pheidole) floridana lauta W. M. Wheeler (syn. by Gregg, 1958, *loc. cit. supra*, p. 35).
Pheidole (Pheidole) floridana Emery. Reduced to subsp. rank (*teste* Gregg, 1958, *loc. cit. supra*, p. 35).
- floridana lauta* W. M. Wheeler. Syn. of *floridana floridana* Emery.
- grallipes* W. M. Wheeler.
Pheidole grallipes var. *vistana* Forel (syn. by Gregg, 1958, *loc. cit. supra*, p. 22).
- grallipes* var. *vistana* Forel. Syn. of *grallipes* W. M. Wheeler.
- hyatti hyatti* Emery. Okla., Tex.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 419-420, map.
- lamia* W. M. Wheeler.
Biology: Gregg, 1956. Ent. News 67: 37-39 (also distribution).
- macclendoni* W. M. Wheeler.
Taxonomy: Gregg, 1958, *loc. cit. supra*, pp. 46-47. ♀.—Cole, 1958 (1957). N. Y. Ent. Soc. Jour. 65: 130-131 (♀, especially ♀).
- megacephala* (Fabricius).
Biology: Broekhuysen, 1948. Union So. Africa Dept. Agr. Bul. 266, pp. 1-40, figs. 1-22, tables 1-10.—Brown, 1958. Acta Hym. 1: 47.—Weber, 1960. Ent. Soc. Wash. Proc. 62: 232.—Taylor and Wilson, 1961. Psyche 68: 143.—Kempf, 1962. Studia Ent. 5: 18-19.
- metallescens metallescens* Emery.
Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 12 (larva).
- micula* W. M. Wheeler, changed status.
Pheidole (Pheidole) californica micula W. M. Wheeler. Raised to sp. rank (*teste* Gregg, 1958, *loc. cit. supra*, p. 33).
- militicida* W. M. Wheeler.
Biology: Creighton, 1960 (1959). Psyche 66: 1-12, fig. 1 (major worker).
- **moerens* W. M. Wheeler. Ala. (Mobile). Apparently introduced. Originally described from Puerto Rico.
Pheidole moerens W. M. Wheeler, 1908. Amer. Mus. Nat. Hist. Bul. 24: 136-138. ♀ ♀.
- morrisii morrisii* Forel.
Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 12 (larva).
- **obtusospinosa* Pergande. Syn. of **subdentata* Pergande.
- pilifera coloradensis* Emery.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 128-130, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 419, 421-422, map.

pilifera pilifera (Roger). N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 130-131, map.

***rugulosa** Gregg. (*In subarmata* group.) Ariz. (Harding's Ranch near Tucson.)

Pheidole rugulosa Gregg, 1958. N.Y. Ent. Soc. Jour. 66: 26-29. ♀ 24
♀ ♂.

senex Gregg.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 422-424, map.

sitarches campestris W. M. Wheeler, changed status. Tex. and Colo. to Mo. and Miss.

Pheidole (Pheidole) soritis W. M. Wheeler, in part of Sup. 1. Remove **sitarches rufescens** var. **campestris** W. M. Wheeler and its synonym, **rufescens** from synonymy of **soritis** and place as a subspecies of **sitarches** W. M. Wheeler (*teste* Gregg, 1958, *loc. cit. supra*, pp. 30, 38).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 424-425, map.

sitarches sitarches W. M. Wheeler. Tex.; Mexico.

Biology: Wilson, 1957. Psyche 64: 46-50 (nuptial flights).

sitarches soritis W. M. Wheeler, changed status. Ariz., N. Mex., Tex., Utah; Mexico.

Pheidole (Pheidole) soritis W. M. Wheeler. A subsp. of **sitarches** not a species (*teste* Gregg, 1958, *loc. cit. supra*, pp. 30, 38).

Pheidole (Pheidole) tepicana cavigenis W. M. Wheeler (syn. by Gregg, 1958, *loc. cit. supra*, p. 48).

soritis W. M. Wheeler, of Sup. I. A subsp. of **sitarches** W. M. Wheeler. N.B., **sitarches rufescens** var. **campestris** W. M. Wheeler and its synonym **sitarches rufescens** W. M. Wheeler, is another subsp. of **sitarches**.

***subdentata** Pergande. Ariz.; Mexico.

Pheidole subdentata Pergande, 1895. Calif. Acad. Sci. Proc. 5: 888. ♀.

Pheidole (Pheidole) vashlii arizonica Santschi (syn. by Creighton, 1957. N. Y. Ent. Soc. Jour. 65: 211).

****Pheidole obtusospinosa*** Pergande, 1895. Calif. Acad. Sci. Proc. 5: 889. 24. (Syn. by Creighton, 1957, *loc. cit. supra*, p. 211.)

tepicana cavigenis W. M. Wheeler. Syn. of **sitarches soritis** W. M. Wheeler.

vashlii arizonica Santschi. Syn. of **subdentata** Pergande.

vinelandica buccalis W. M. Wheeler. Syn. of **bicarinata bicarinata** Mayr.

PHEIDOLE subgenus CERATOPHEIDOLE Pergande, p. 806

Taxonomy: Gregg, 1958, *loc. cit. supra*, pp. 9, 16 (key to species of U. S.).

grundmanni M. R. Smith.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 424, 426-427, map.

Genus EPIPHEIDOLE W. M. Wheeler, p. 806

inquilina W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 427-429, map.

Genus SYMPHEIDOLE W. M. Wheeler, p. 807

elecebra W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 429-431, map.

Genus CARDIOCONDYLA Emery, p. 807

Taxonomy: Weber, 1952. Amer. Mus. Novitates No. 1548: 5.

Biology: Wilson, 1960 (1959). Psyche 66: 29-34 (tandem running in genus *Cardiocondyla*).

emeryi Forel.

Taxonomy: Weber, 1952, *loc. cit. supra*, p. 5.

nuda minutior Forel. Calif., Tex., La. An introduced form. Probably a native of the Oriental Region.

CREMATOGASTER subgenus ORTHOCREMA Santschi, pp. 807-808

minutissima minutissima Mayr. N. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 14, pl. 2, figs. 11-13 (larva).

minutissima missouriensis Emery. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 363-364, map.

CREMATOGASTER subgenus CREMATOGASTER Lund, pp. 808-810

Taxonomy: Buren, 1958. N. Y. Ent. Soc. Jour. 66: 119-134 (also biology).

Biology: Soulié, 1962. Insectes Sociaux 9: 181-195 (colony foundation and development).

cerasi (Fitch).

Biology: Kownowski, 1959. Insectes Sociaux 6: 125.

lineolata emeryana Creighton.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 358-360, map.

lineolata lineolata (Say).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 132-133, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 357, 359, map.

punctulata Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 361-362, 364, map.

vermiculata Emery. N. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 13, pl. 2, figs. 14-15 (larva).

MONOMORIUM subgenus MONOMORIUM Mayr, pp. 810-811

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 133-136, fig., map 16.

floricola (Jerdon).

Biology: Brown, 1964. Ent. News 75: 15.

***metoecus** Brown and Wilson. Ala. (Tuscaloosa). Parasite of *Monomorium minimum* (Buckley).

Monomorium metoecus Brown and Wilson, 1957. Ent. News 68: 239-244, fig. 1, a and b, ergatogyne.

Taxonomy: Wilson and Brown, 1958. Ent. News 69, 33-38, fig. 1, A and B (♀ also biology).

minimum (Buckley). Change heading in Sup. 1, p. 128 from *minimum minimum* to **minimum**.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 133-135, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 366-368, map.

pharaonis (Linnaeus).

Biology: Peacock, Hall, Smith and Goodfellow, 1950. Scot. Dept. Agr. Misc. Pub. No. 17: 1-50, figs. 1-5, tables 1-3.—Sudd, 1953. Adv. of Sci. (Brit.) 10: 17-18 (colony formation).—Peacock, Waterhouse and Baxter, 1955. Ent. Monthly Mag. 91: 37-42 (viability in regard to temperature and moisture).—Brown, 1958. Acta Hym. 1: 36.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 135-136, map.—Brown, 1964. Ent. News 75: 14-15.—Eichler, 1963. Deut. Ent. Ztschr. 10: 207-215.

Morphology: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 16 (larva).

Embryology: Smith and Peacock, 1957. Roy. Soc. Edinbh. Proc., Section B, 66: 235-261, figs. 1-4, table 1 (cytology).

viridum peninsulatum Gregg. Fla. and Gulf Coast States to Ariz., including southern Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 368-370, map.

viridum viridum Brown. N. Y., Long Island (Coram, Selden).

MONOMORIUM subgenus PARHOLCOMYRMEX Emery, p. 811

destructor (Jerdon).

Economics: Kempf, 1960. *Studia Ent.* 3: 506-507.

Genus XENOMYRMEX Forel, p. 811

Taxonomy: G. C. and J. Wheeler, 1960. *Ent. Soc. Wash. Proc.* 62: 19-20 (larva).—Creighton, 1957. *Amer. Mus. Novitates* 1843: 1-14 (including key to species).

floridanus floridanus Emery, changed status. Cuba, Bahamas. Another subspecies, *f. skwarrae* W. M. Wheeler, occurs in Mexico.

Xenomyrmex stolli floridanus Emery. A subsp. of **floridanus** not a subsp. of **stolli** Emery (*teste* Creighton, 1957, *loc. cit. supra*, p. 6).

SOLENOPSIS subgenus SOLENOPSIS Westwood, pp. 812-813

Taxonomy: Snelling, 1963. *Calif. Dept. Agr., Bur. Ent., Occas. Papers No. 3*: 1-10, figs. 1-12 (keys to all castes).

Physiology: Blum, Walker, Callahan and Novak, 1958. *Science* 128: 306-307 (chemical, insecticidal and antibiotic properties of fire ant venom).

aurea W. M. Wheeler, changed status.

Solenopsis (Solenopsis) aurea amblychila W. M. Wheeler (syn. by Snelling, 1963, *loc. cit. supra*, p. 7).

aurea amblychila W. M. Wheeler. Syn. of **aurea** W. M. Wheeler.

aurea aurea W. M. Wheeler. Raised to sp. rank.

geminata geminata (Fabricius).

Biology: Kempf, 1961. *Studia Ent.* 4: 507.

saevisima richteri Forel.

Taxonomy: Wilson, 1953. *Evolution* 7: 262-263, fig. 1 (origin of variation).—Brown, 1957. *Quart. Rev. Biol.* 32: 258-261, figs. 4-7.—Wilson and Brown, 1958. *Evolution* 12: 211-218, figs. 1-3, table 1 (morphological changes in introduced population).

Biology: Wilson, 1958. *Sci. Amer.* 198: 36-41, maps, illus.—Green, 1962. *Jour. Econ. Ent.* 55: 1003-1004, table 1.

Morphology: Callahan, Blum and Walker, 1959. *Ent. Soc. Amer. Ann.* 52: 573-590, figs. 1-19 (also histology of poison glands and sting).

Physiology: Caro, Derbes and Jung, 1957. *Amer. Med. Assoc. Arch. Derm.* 75: 475-478, figs. 1-7.—Favorite, 1958. *U. S. Pub. Health Serv., Pub. Health Rpts.* 73: 445-448.—Wilson, Durlach and Roth 1959 (1958). *Psyche* 65: 108-114 (chemical releases of necrophoric behavior).—Wilson, 1959. *Science* 129: 643-644 (nature of odor trail).—Wilson, 1962. *Anim. Behavior* 10: 134-147, figs. 1-8, tables 1-4 (chemical communication among workers—mass foraging).—Blum and Callahan, 1960. *XI Int. Congr. F. Entom. Wien, Verh. B.* 111: 290-293 (chemical and biological properties of venom).—Wilson, 1962. *Anim. Behavior* 10: 148-158, figs. 1-5, tables 1-2 (chemical communication among workers—analysis of the odour trail).—Wilson, 1962. *Ibidem*, 159-164, table 1 (chemical communication among workers—induction of social responses).

xyloni McCook. Colo.

Biology: Wray, 1962. *Jour. Econ. Ent.* 55: 145 (apparent introduction into N. C.)

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 370-371, 373, map.

Physiology: Blum, Roberts and Novak, 1961. *Psyche* 68: 73-74 (chemical and biological characters of venom).

SOLENOPSIS subgenus EUOPHTHALMA Creighton, p. 813

globularia littoralis Creighton.

Taxonomy: G. C. and J. Wheeler 1960, *loc. cit. supra*, p. 22 (larva).

SOLENOPSIS subgenus DIPLORHOPTRUM Mayr, pp. 813-814

molesta molesta (Say). Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 136-138, map.—
Macnamara, 1945. *Canad. Ent.* 77: 40.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 372-373, 375, map.

molesta validiuscula Emery. Pacific Coast States east to Idaho, Colo., N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 374-375, 377, map.

pergandei Forel.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 21-22 (larva).

picta Emery. N. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 22 (larva).

salina W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 376-378, map.

tennesseensis M. R. Smith. Kans. (Kearny County), Calif. (near Azusa).**texana texana** Emery. N. C.**texana truncorum** Forel. Colo., Ariz., Calif.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 378-380, map.

Genus ANERGATES Forel, p. 815

atratus (Schenk). Md. (Baltimore), N. Y. (Suffolk County, Long Island).

Morphology: Meyer, 1955. *Insectes Sociaux* 2: 163-170, figs. 1-4.

Genus EREBOMYRMA W. M. Wheeler, p. 815

***Spelaeomyrmex** W. M. Wheeler, 1922. *Amer. Mus. Novitates* No. 45: 9. (Syn. by Wilson, 1962. *Psyche* 69: 63.)

Type: **Spelaeomyrmex urichi** W. M. Wheeler. By monotypy.

Biology: Wilson, 1962, *loc. cit. supra*, pp. 62-72, fig. 1.

longii W. M. Wheeler. Okla. (Fort Sill).

Genus MYRMECINA Curtis, pp. 815-816

americana Emery. Colo., N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 364-365, 367, map.

LEPTOTHORAX subgenus NESOMYRMEC W. M. Wheeler, pp. 816-817

Revision: Kempf, 1959. *Studia Ent.* 2: 391-432, figs. 1-31.

wilda M. R. Smith. Tex.; Mexico.

Taxonomy: Kempf, 1959, *loc. cit. supra*, 421-423, figs. 8, 28 (♂ ♀).

LEPTOTHORAX subgenus MYRAFANT M. R. Smith, pp. 817-819

Taxonomy: Cole, 1958. *Ent. Soc. Amer. Ann.* 51: 535-538 (*nitens-carinatus* complex).—G. C. and J. Wheeler, 1960. *Ent. Soc. Wash. Proc.* 62: 23 (larva).

andrei Emery. Nev., Ariz., N. Mex.

Taxonomy: Cole, 1958, *loc. cit. supra*, pp. 537-538 (♂, ♀, ♂).

ambiguus ambiguus Emery. Slave of *L. duloticus* Wesson.

Biology: Kownowski, 1959. *Insectes Sociaux* 6: 124 (150-151, parasitism; 155 pleometrosis).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 140-141, map.

***carinatus** Cole. Tex. (Limpia Canyon, Davis Mts., 5,400 ft.), Ariz.

Leptothorax (Leptothorax) carinatus Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 213-215, fig. 1. ♀ ♀.

Taxonomy: Cole, 1958, *loc. cit. supra*, pp. 537-538 (♂, ♀).

curvispinosus Mayr. Okla., Ariz.

Biology: Talbot, 1957. *Ecology* 38: 449-456 (populations).—Kownowski, 1959, *loc. cit. supra*, p. 124.

foveata M. R. Smith. Va.

furunculus W. M. Wheeler. Wyo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 381, 382, map.

***hispidus** Cole. Tex. (Limpia Canyon, Davis Mts., 5,400 ft.); Mexico.

Leptothorax (Leptothorax) hispidus Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 42-45, fig. 1, a, b, c. ♀ ♀.

longispinosus Roger.

Biology: Kannoowski, 1959, *loc. cit. supra*, p. 125.

mariposa W. M. Wheeler, changed status.

Leptothorax (Myrafant) nitens nitens Emery, in part of Sup. 1. Remove **mariposa** W. M. Wheeler from syn. and raise to sp. rank (*teste*, Cole, 1958, *loc. cit. supra*, p. 536).

nitens Emery, changed status. Wash., Oreg., Nev.

Leptothorax (Myrafant) nitens nitens Emery. Raised to sp. rank (*teste* Cole, 1958, *loc. cit. supra*, p. 536).

Leptothorax (Myrafant) nitens heathii W. M. Wheeler. (Syn. by Cole, 1958, *loc. cit. supra*, p. 536).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 382-384, map.

nitens heathii W. M. Wheeler. Syn. of **nitens** Emery.

nitens nitens Emery of Sup. I. Raised to sp. rank; remove **mariposa** W. M. Wheeler from syn. and also raise it to sp. rank.

obliquicanthus Cole.

Taxonomy: Gregg, 1953. *Breviora* No. 22, pp. 1-3, fig. 1. ♀.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 384-385, 387, map.

rugatulus brunnescens W. M. Wheeler. Colo. and Utah to Mont. and the Dakotas.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 388-389, map.

rugatulus rugatulus Emery.

Taxonomy: Kannoowski, 1956. *Amer. Midland Nat.* 56: 178-179 (♀; also **rugatulus brunnescens** W. M. Wheeler).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 141-143, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 386-388, map.

schaumi Roger.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 23 (larva).

schmittii W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 388, 390-391, map.

texanus texanus W. M. Wheeler.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 24 (larva).

tricarinatus neomexicanus W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 393-394, map.

tricarinatus tricarinatus Emery. Ariz., Idaho, N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 143, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 391-393, map.

tuscaloosae Wilson. N. C.

LEPTOTHORAX subgenus DICHOTHORAX Emery, p. 820

pergandei pergandei Emery.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 23 (larva).

LEPTOTHORAX subgenus LEPTOTHORAX Mayr, pp. 820-822

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 143-148, figs., maps 21-23.

crassipilis W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 401-402, 405, map.

duloticus L. G. Wesson. Enslaves *Leptothorax ambiguus ambiguus* Emery.

Biology: Talbot, 1957. Ecology 38: 449-456 (populations).—Kannowski, 1959. Insectes Sociaux 6: 124-125 (150-151, parasitism).

hirticornis Emery. Calif.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 145-146, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 403, 405, map.

muscorum (Nylander).

Biology: Kannowski 1959, *loc. cit. supra*, p. 125.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 143-145, map.

Ecology: Brown, 1955. Ent. News 66: 47-50.—Gregg, 1963, *loc. cit. supra*, pp. 393-400, map.

provancheri Emery. Colo. Host: *Myrmica lobicornis fracticornis* Emery.

Biology: Kannowski, 1957. Psyche 64: 1-5.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 146-148, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 404-407, map.

Genus **HARPAGOXENUS** Forel, pp. 822-823

americanus (Emery). N. C., Ont.

Genus **TRIGLYPHOTHRIX** Forel, p. 823

striatidens (Emery).

Biology: Taylor and Wilson, 1961. Psyche 68: 142.

Genus **TETRAMORIUM** Mayr, pp. 823-824

caespitum (Linnaeus).

Biology: Brown, 1964. Ent. News 75: 15.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 24-25 (larva).

Historical: Brown, 1957. Breviora 72: 1-4.

guineense (Fabricius).

Biology: Taylor and Wilson, 1961. Psyche 68: 138.—Brown, 1964. Ent. News 75: 14-15.

Ecology: Brown, 1958. Acta Hym. 1: 28.

rugiventris M. R. Smith. Transf. to *Paramyrmeica* Cole, p. 791.

simillimum (F. Smith).

Biology: Taylor and Wilson, 1961. Psyche 68: 142-143.

Genus **XIPHOMYRMEX** Forel, p. 824

Taxonomy: Cole, 1957. Tenn. Acad. Sci. Jour. 32: 209-210 (♂).

PARACRYPTOCERUS subgenus **HARNEDIA** M. R. Smith, p. 825

Revision: Kempf, 1958. Studia Ent. 1: 65-144, pls. 1-8.

rohweri (W. M. Wheeler).

Taxonomy: Kempf, 1958, *loc. cit. supra*, pp. 129-132, pl. 2, fig. 8; pl. 4, fig. 2; pl. 6, fig. 12.

texanus (Santschi).

Taxonomy: Kempf, 1958, *loc. cit. supra*, pp. 123-127, pl. 2, fig. 5; pl. 4, fig. 4; pl. 6, fig. 7.

Biology: Creighton, 1963. Psyche 70: 133-143, figs. 1-3.

PARACRYPTOCERUS subgenus **CYATHOMYRMEX** Creighton, p. 825

Revision: Kempf, 1958. Studia Ent. 1: 144-158, pl. 8.

varians (F. Smith).

Taxonomy: Kempf, 1958, *loc. cit. supra*, pp. 155-158, pl. 8, figs. 7, 8.

STRUMIGENYS subgenus **STRUMIGENYS** F. Smith, pp. 825-826

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 25-26 (larva).—Brown, 1960 (1959). Psyche 66: 37-52, figs. 1-9 (*gundlachi* group).—Brown, 1962. Psyche 69: 238-267, figs. 1-30 (Neotropical species and key).

- Biology: Brown and Wilson, 1960 (1959). *Quart. Rev. Biol.* 34: 281.
- ***eggersi** Emery. Fla. (Miami, Fisher's Isl., Archbold Biol. Station). Probably introduced.
- Strumigenys eggersi** Emery, 1890. *Soc. Ent. Ital. Bul.* 22: 68, pl. 7, fig. 9. ♂ ♀.
- Taxonomy: Brown, 1960 (1959). *Psyche* 66: 46-47, figs. 2, 6 (♂, ♀).—Brown, 1962. *Psyche* 69: 249, 257, 264.
- Biology: Weber 1952. *Amer. Mus. Novitates* No. 1554: 5.—Kempf, 1958, *loc. cit. supra*, p. 554.—Kempf, 1961. *Studia Ent.* 4: 515.
- ***gundlachi** Emery. Fla. (Royal Palm Ranger Station, Everglades Natl. Park; Key Largo.) Probably introduced.
- Strumigenys gundlachi** Roger, 1862. *Berlin Ent. Ztschr.* 6: 253, pl. 1, fig. 18 a ♀ not ♀.
- Taxonomy: Brown, 1960 (1959). *Psyche* 66: 37-45, figs. 1, 5 (♂ ♀).—Brown, 1962. *Psyche* 69: 249, 257, 264.
- Biology: Weber, 1952, *loc. cit. supra*, pp. 4-5.
- louisianae** Roger. Ariz., Okla.
- Taxonomy: Brown, 1953. *Psyche* 60: 1-2.—G. C. and J. Wheeler, 1954. *Psyche* 61: 136-137, pl. 10, figs. 1-6 (larva).—Brown, 1957. *Quart. Rev. Biol.* 32: 271.—Brown, 1961. *Psyche* 68: 64-67, 68 (variation and synonymy).—Brown, 1962. *Psyche* 69: 246-247, 257, 263.
- Biology: Wilson, 1953. *Ent. Soc. Amer. Ann.* 46: 481-483.—Kempf, 1958. *Studia Ent.* 1: 555.
- ***silvestrii** Emery. La. (Paradise). Apparently introduced.
- Strumigenys silvestrii** Emery, 1905. *Soc. Ent. Ital. Bul.* 37: 168, fig. 27. ♂ ♀.
- Taxonomy: Brown, 1959. *Studia Ent.* (n.s.) 2: 25-28, fig. 1 (♂ ♀).—Brown, 1962. *Psyche* 69: 246, 257, 259.
- SMITHISTRUMA subgenus WESSONISTRUMA Brown, p. 826**
- Biology: Brown and Wilson, 1960 (1959). *Quart. Rev. Biol.* 34: 282.—Brown, 1964. *Amer. Ent. Soc. Trans.* 89: 190-197.
- angulata** (M. R. Smith). Ill. (Giant City State Park).
- pergandei** (Emery). N. C., Mo., Kans.
- Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 144-145 (larva).
Note: W. L. Brown, 1964, *loc. cit. supra*, p. 197 remarks that this species was taken at Billerica, Mass. "the northernmost locality from which any dacetine ant has been taken in the New World."
- SMITHISTRUMA subgenus SMITHISTRUMA Brown, pp. 826-828**
- Biology: Brown, 1964, *loc. cit. supra*, pp. 185-186, 189-191, 193-200.
- abdita** (L. G. Jr., and R. G. Wesson). N. C. (Great Smoky Mt. Natl. Park, 2600 ft.), Ill., Iowa and Va.
- Taxonomy: Brown, 1964, *loc. cit. supra*, pp. 199-200 (*abdita-missouriensis* complex).
- bimarginata** (L. G. Jr., and R. G. Wesson). Ill. (Red Hills State Park).
- brevisetosa** (M. R. Smith). Syn. of *piliuasis* (Forel).
- bunki** W. L. Brown. Fla. (Duvall Co).
- ***carolinensis** W. L. Brown. S. C. (U. S. Hwy. 17, 1 mile east Ravenel), N. C. (Marshville in Union Co.).
- Smithistruma carolinensis** W. L. Brown, 1964. *Amer. Ent. Soc. Trans.* 89: 185-186, pl. 16, fig. 1, ♀.
- claydi** Pfitzer.
- Taxonomy: Brown, 1964, *loc. cit. supra*, p. 191.
- clypeata** (Roger). Ark., Ala., N. C. (Great Smoky Mts. Nat. Park at 2,000 ft.), N. J.
- Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).
Biology: Wilson, 1953. *Ent. Soc. Amer. Ann.* 46: 486.

- creightoni** (M. R. Smith). N. C., Ga., Tenn.
- dietrichi** (M. R. Smith). N. C.
Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).
Biology: Wilson, 1953, *loc. cit. supra*, p. 487.
- filirrhina** W. L. Brown. Mo.
- filitalpa** W. L. Brown. Ind. (Brown Co. State Park).
- laevinasis** (M. R. Smith). N. C., Ala.
Taxonomy: Brown, 1964, *loc. cit. supra*, p. 199 (*pilinasis-laevinasis* complex).
- missouriensis** (M. R. Smith). Iowa, Ill., N. C.
Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).
Biology: Wilson, 1953, *loc. cit. supra*, pp. 485-486.
- ohioensis** (Kennedy and Schramm). Ga., Ind., N. J.
- ornata** (Mayr). Okla., Mich., Mo., Tenn., S. C., La., Ark., Tex., Del.
- pilinasis** (Forel). Mo., Ark., La., Tenn., N. C.
Smithistruma (*Smithistruma*) *brevisetosa* (M. R. Smith) (syn. by Brown, 1964, *loc. cit. supra*, p. 197).
Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).—Brown, 1964, *loc. cit. supra*, p. 199 (*pilinasis-laevinasis* complex).
Biology: Wilson, 1953, *loc. cit. supra*, p. 485.
- pulchella** (Emery). Remove Iowa from range of states.
- reflexa** (L. G. Jr., and R. G. Wesson). Md.
- rostrata** (Emery).
Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 144 (larva).
Biology: Wilson, 1953, *loc. cit. supra*, p. 485.
- talpa** (Weber). Ill. (Red Hills State Park).
Biology: Wilson, 1953, *loc. cit. supra*, p. 486.

Genus *TRICHOSCAPA* Emery, p. 829

Biology: Brown and Wilson, 1960 (1959). *Quart. Rev. Biol.* 34: 283.

- membranifera** (Emery). Calif. (near Stockton). Apparently introduced.
Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 145 (larva).
Biology: Weber, 1952. *Amer. Mus. Novitates* No. 1554: 7.—Wilson, 1953, *loc. cit. supra*, pp. 483-485.—Brown, 1954. *Harvard Univ. Mus. Comp. Zool. Bul.* 112: 6.

Genus *QUADRISTRUMA* Brown, p. 829

Biology: Brown, 1954, *loc. cit. supra*, p. 6.—Brown and Wilson, 1960 (1959), *loc. cit. supra*, p. 281.

- emmae** (Emery).
Biology: Kempf, 1961. *Studia Ent.* 4: 516.

*Genus *EURHOPALOTHRIX* Brown and Kempf

Eurhopalothrix Brown and Kempf, 1960. *Studia Ent.*, Petropolis (n.s.), 3: 202-203.

Type: *Rhopalothrix Bolau* Mayr. Desig. by Brown and Kempf, 1961.

Taxonomy: Brown and Kempf, 1961 (1960): *Psyche* 67: 44.

Place after genus *Quadristruma* Brown, p. 829.

- ***floridana** Brown and Kempf. Fla. (Highlands Hammock, Highlands County).

Eurhopalothrix floridana Brown and Kempf, 1960. *Studia Ent.*, Petropolis (n.s.) 3: 207-208, fig. 34 (in key, p. 246). ♀.

CYPHOMYRMEX subgenus CYPHOMYRMEX Mayr, pp. 829-830

Biology: Weber, 1957. Ecology 38: 480-494, figs. 1-5 (cultivation of fungus).

rimosus (Spinola). Miss. (near Gulfport).

Taxonomy: Weber, 1958. Ent. Soc. Wash. Proc. 60: 259-260.—G. C. and J. Wheeler, 1960. Ent. Soc. Wash. Proc. 62: 28 (larva).

CYPHOMYRMEX subgenus MYCETOSORITIS W. M. Wheeler, p. 830

hartmani (W. M. Wheeler), corrected spelling of *hartmanni* (!) of catalog, p. 830.

Genus TRACHYMYRMEX Forel, pp. 830-831

Biology: Weber, 1960. Ent. News 71: 1-6 (comparison of worker and female behavior).

septentrionalis (McCook), changed status.

Trachymyrmex septentrionalis obscurior (W. M. Wheeler) (syn. by Weber, 1958. Ent. News 69: 52).

Trachymyrmex septentrionalis seminole (W. M. Wheeler) (syn. by Weber, 1958, *loc. cit. supra*, p. 53).

septentrionalis obscurior (W. M. Wheeler). Syn. of *septentrionalis* (McCook).

septentrionalis seminole (W. M. Wheeler). Syn. of *septentrionalis* (McCook).

septentrionalis septentrionalis (McCook). Raised to sp. rank.

Genus ATTA Fabricius, pp. 832-833

Revision: Borgmeier, 1959. Studia Ent. 2 (fasc. 1-4): 321-390, figs. 1-29.

Biology: Weber, 1962. Natural History (N. Y.) 61: 45-51, illus.—Smith, 1963. Ent. Soc. Wash. Proc. 65: 299-302.

mexicana (F. Smith). Extreme south. Ariz.; Mexico, Honduras, Guatemala, El Salvador.

Taxonomy: Borgmeier, 1959, Studia Ent. 2 (fasc. 1-4): 351-353, figs. 16, 28 (♀, ♀, ♂).

Biology: Smith, 1963, *loc. cit. supra*, pp. 299-302.

texana (Buckley). Thirteen parishes in western La., much of the eastern half of Tex.; States of Tamaulipas and Vera Cruz, Mexico.

Taxonomy: Borgmeier, 1959. Studia Ent. 2 (fasc. 1-4): 356-358, fig. 29 (♀, ♀, ♂).

Biology: Bennett, 1958. U. S. Dept. of Agr., For. Pest Leaflet 23, pp. 1-4, figs. 1-4.—Warter, Moser and Blum, 1962. La. Acad. Sci. Proc. 25: 42-46 (correlation between night hawk feeding and nuptial flights of *A. texana* and *Iridomyrmex pruinosus* (Rog.)).—Moser, 1962. Forests and People 12: 40-41, illus. (laboratory and field studies of nesting habits).—Moser, 1963. Ent. Soc. Amer. Ann. 56: 286-291, figs. 1-6, table 1 (contents and structure of nest in summer).—Smith, 1963, *loc. cit. supra*, pp. 299-302.

Physiology: Moser and Blum, 1963. Science 140: 1228 (trail marking substance, source and potency).

Subfamily DOLICHODERINAE

Morphology: Pavan, 1955. Riv. Sci. Nat., "Natura" 46: 135-145, figs. 1-6, table 1.

Physiology: Pavan and Trave, 1958. Insectes Sociaux 5: 299-308 (venom of *Tapinoma nigerrimum* Nyl.).—Torossian, 1959. *Ibidem*, 6: 369-374, pl. 1 (tropholaetic and proctodeal exchange in *Dolichoderus quadripunctatus* (L.)).—Wilson and Pavan, 1960 (1959). Psyche 66: 70-76, tables 1-2 (glandular sources of chemical releasers of social behavior).

DOLICHODERUS subgenus **HYPOCLINEA** Mayr, pp. 833-835

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 149-154, figs., maps 24, 25.

Biology: Kanno, 1959. *Insectes Sociaux* 6: 144-145 (flights comparisons of species).—Torossian, 1960. *Insectes Sociaux* 7: 383-393, figs. 1-3 (biology of *Dolichoderus quadripunctatus* (L.)).

Morphology: Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 453-454, pl. 2, fig. 7 (proventriculus).

mariae Forel.

Biology: Talbot, 1956. *Psyche* 63: 134-139 (flight activities).—Kanno, 1959, *loc. cit. supra*, 129-133.

plagiatus (Mayr).

Biology: Kanno, 1959, *loc. cit. supra*, p. 133.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 149-151, map.

pustulatus Mayr.

Biology: Kanno, 1959, *loc. cit. supra*, pp. 133-134 (155, pleometrosis).

taschenbergi (Mayr).

Biology: Kanno, 1959. *Ent. Soc. Amer. Ann.* 52: 755-760, figs. 1-3 (flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 151-154, fig., map.

Genus LIOMETOPUM Mayr, p. 835

Morphology: Eisner, 1957, *loc. cit. supra*, p. 455, pl. 5, fig. 22 (proventriculus).

apiculatum Mayr.

Biology: Gregg, 1963. Univ. Colo. Studies, Series in Biol. No. 11, pp. 1-6, figs. 1, 2.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 438-441, map.

occidentale luctuosum W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 441-443, map.

Genus IRIDOMYRMEX Mayr, pp. 835-836

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 459-460, pl. 7, fig. 32; pl. 8, fig. 34 (proventriculus).

humilis (Mayr).

Biology: Flanders, 1943. *Calif. Citrograph* 28: 117, 128, 137, illus. (Argentine ant versus parasites of black scale).—McCluskey, 1958. *Science* 128: 536-537, fig. 1 (daily rhythm in male Argentine ant).

Morphology: Pavan, 1955. *Soc. Ital. di Sci. Nat. Atti* 94: 379-477, figs. 1-32; pls., tables 1-8, illus.—Nachtwey, 1963. *Insectes Sociaux* 10: 50-53, figs. 3, 4; photograph 8.

Physiology: Pavan, 1950 (1948). 8th Internatl. Cong. Ent. Proc., Stockholm, pp. 863-865, illus.—Weber, 1961. *Ent. Soc. Wash. Proc.* 63: 218 (use of poison).—Torossian, 1961. *Insectes Sociaux* 8: 189-191.

pruinus analis (André). Calif. to Tex., Okla., and Kans., north to Idaho, and N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 154-155, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 436-438, map.

pruinus pruinus (Roger). N. Y. to Fla. west to Wisc., Tex., and N. Mex.

Biology: Warter, Moser and Blum, 1962. *La. Acad. Sci. Proc.* 25: 42-46 (correlation between night hawk feeding and nuptial flights of *pruinus pruinus*.)

Physiology: Blum, Warter, Monroe and Chidester, 1963. *Jour. Ins. Physiol.* 9: 881-885, fig. 1 (chemical releasers of social behavior-methyl-n-amyl ketone).

Genus **FORELIUS** Emery, p. 836

foetidus foetidus (Buckley). Kans., Okla. and Tex. to Colo. and Calif., south to Mexico.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 434-436, map.

DORYMYRMEX subgenus **CONOMYRMA** Forel, p. 837

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 463-464, pl. 7, fig. 33; pl. 8, fig. 37; pl. 10, fig. 46 (proventriculus).

bicolor W. M. Wheeler, changed status.

Dorymyrmex (Conomyrma) pyramicus bicolor W. M. Wheeler. Raised to sp. rank (*teste* Cole, 1958 (1957)). N. Y. Ent. Soc. Jour. 65: 130).

Taxonomy: Wilson, 1958 (1957). Psyche 64: 76.

pyramicus bicolor W. M. Wheeler. Raised to sp. rank.

pyramicus pyramicus (Roger). Entire U. S. with the possible exception of New England States north of Conn., and Wash.

Taxonomy: Wilson, 1958 (1957). Psyche 64: 76.

Biology: Wilson 1958 (1957). Psyche 64: 48.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 155-157, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 432-434, map.

Genus **TAPINOMA** Foerster, pp. 837-833

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 456-457, pl. 6, fig. 26 (proventriculus).

Physiology: Torossian, 1960. Insectes Sociaux 7: 171-174 (tropholactic and proctodeal in *Tapinoma erraticum* (Latreille)).—Weber, 1961. Ent. Soc. Wash. Proc. 63: 217-218 (use of poison).

melanocephalum (Fabricius).

Biology: King, 1948. Iowa Acad. Sci. Proc. 55: 395.—Kempf, 1961. Studia Ent. 4: 520.—Brown, 1964. Ent. News 75: 14-15.

Physiology: Weber, 1961, *loc. cit. supra*, p. 218 (employment of venom by ant).

sessile (Say).

Biology: Kannoński, 1959. Insectes Sociaux 6: 126-129 (155, pleometrosis).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 157-160, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 443-447, map.

Subfamily **FORMICINAE**

Biology: Pontin, 1960. Insectes Sociaux 7: 227-230 (experiments in colony founding in *Lasius niger* (L.) and *Lasius flavus* (F.)).—Kannoński, 1963. Pavia Univ., Atti IV Cong. U.I.E.I.S., v. 12, pp. 74-102, tables 1-7 (flight activities).

Morphology: Eisner and Wilson, 1952. Psyche 59: 47-60, fig. 1, pls. 5, A, B, C, D; pl. 6, A, B, (proventriculus).

***PLAGIOLEPIS** subgenus **PLAGIOLEPIS** Mayr

Plagiolepis subg. *Plagiolepis* Mayr, 1861. Europ. Formicid., p. 42.

Type: *Formica pygmaea* Latreille. By monotypy.

Insert before *Brachymyrmex* Mayr, p. 838.

***alluaudi** Emery. Calif. (Catalina Isl.). Introduced. An Old World species that has been widely disseminated by commerce.

Taxonomy: M. R. Smith, 1957. N. Y. Ent. Soc. Jour. 65: 195-198 (also biology).

Biology: Taylor and Wilson, 1961. Psyche 68: 143.

BRACHYMYRMEX subgenus **BRACHYMYRMEX** Mayr, pp. 838-839

Biology: Arnaud and Quate. 1951. Pan-Pacific Ent. 27: 171 (note on swarming).

depilis Emery. N. S. and B. C. south to Fla. and Calif.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 161-163, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 447-449, map.

heeri var. **obscurior** Forel. Raised to sp. rank.

obscurior Forel, changed status.

Brachymyrmex (Brachymyrmex) heeri var. **obscurior** Forel. Raised to sp. rank (*teste* Brown, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 237).

Morphology: Eisner, 1957. *Ibidem* 116(8), pl. 20, fig. 84 (cuticular framework of proventriculus of worker).

CAMPONOTUS subgenus CAMPONOTUS Mayr, pp. 839-842

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 163-170, figs., maps 30-32.

Biology: Riordan, 1960. *Insectes Sociaux* 7: 353-355 (location of nests of carpenter ants, *Camponotus* spp. by a radioactive isotope).

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 470-473, pl. 15, fig. 67; pl. 16, fig. 68; pl. 17, figs. 70-74 (proventriculus).

americanus Mayr.

Morphology: Eisner and Wilson, 1952. *Psyche* 59: 47-60, fig. 1; pl. 5, A, B, C, D; pl. 6, A, B, C (proventriculus).

herculeanus herculeanus (Linnaeus).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 164-165, map.

Ecology: Brown, 1955. *Ent. News* 66: 47-48.—Gregg, 1963, *loc. cit. supra*, pp. 656-660, map.

Physiology: Ayre 1964 (1963). *Ent. Exp. and Appl.* 6: 165-170.

herculeanus modoc W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 665-669, map.

laevigatus (F. Smith).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 660-663, map.

noveboracensis (Fitch).

Biology: Kanno, 1959. *Insectes Sociaux* 6: 134-135.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 165-168, figs., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 663-665, map.

penusylvanicus (DeGeer).

Morphology: Forbes and McFarlane, 1961. *N. Y. Ent. Soc. Jour.* 69: 92-103, figs. 1-5 (comparative anatomy of digestive glands of female and male).—Keister, 1963. *Ent. Soc. Amer. Ann.* 56: 336-340, figs. 1-3 (anatomy of tracheal system).

Biology: Van Pelt, 1958. *Tenn. Acad. Sci. Jour.* 33: 120-122, fig. 1 (parasitism by a fungus).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 168-170, map.

CAMPONOTUS subgenus TANAEMYRMEX Ashmead, p. 843

sansabeanus sansabeanus (Buckley).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 669-671, map.

sansabeanus torrefactus W. M. Wheeler. Colo., Nev.

vicinus Mayr. Alta., N. Dak. and Okla. to Calif. and B. C.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 170-171, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 671-675, map.

CAMPONOTUS subgenus MYRMOTHRIX Forel, pp. 843-844

abdominalis floridanus (Buckley). Dauphine and Horn Islands in the Gulf of Mexico.

CAMPONOTUS subgenus MYRMENTOMA Forel, pp. 844-845

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 171-174, figs., maps 34, 35.

caryae discolor (Buckley). N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 172-173, map.

nearcticus Emery.

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 134.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 173-174, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 675, 677, map.

rasilis W. M. Wheeler. N. C., Calif. (Imperial County).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 677-679, map.

subbarbatus Emery. N. C., Md., N. Y.

CAMPONOTUS subgenus **COLOBOPSIS** Mayr, p. 846

pylartes fraxinicola M. R. Smith. N. C.

mississippiensis M. R. Smith. N. C., Md. (Plummers Island).

PARATRECHINA subgenus **PARATRECHINA** Motschoulsky, pp. 847-848

longicornis (Latreille).

Biology: Brown, 1964. *Ent. News* 75: 14-15.

Economics: Fox and Garcia-Moll, 1961. *Jour. Econ. Ent.* 54: 1065-1066, figs. 1-2.

PARATRECHINA subgenus **NYLANDERIA** Emery, pp. 848-849

parvula (Mayr). Ariz., N. Dak., ? Utah.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 175-176, map.

Genus PRENOLEPIS Mayr, pp. 849-850

imparis coloradensis W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 496-498, map.

LASIUS subgenus **LASIUS** Fabricius, pp. 850-851

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 177-188, maps 37-40.—Gregg, 1963, *loc. cit. supra*, pp. 449-453.

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 145-146 (flight comparisons).

alienus (Foerster).

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 135-136.—Judd and Benjamin, 1958. *Canad. Ent.* 90: 419.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 178-179, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 454-457, map.

crypticus Wilson.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 179-182, map.

neoniger Emery.

Biology: Ayre, 1962. *Canad. Jour. Zool.* 40: 157-164, figs. 1-5 (parasitism).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 182-185, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 457-461, map.

sitkaensis Pergande.

Biology: Medler, 1958. *Ent. Soc. Wash. Proc.* 60: 258 (emergence of males, winged females for flights).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 185-188, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 461-465, map.

LASIUS subgenus **CAUTOLASIUS** Wilson, Sup. 1, pp. 148-149

Taxonomy: Gregg, 1963, *loc. cit. supra*, pp. 449-453.

flavus (Fabricius). N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 189-191, map.—Waloff, 1957. *Insectes Sociaux* 4: 391-408, tables 1-11 (effect of number of queens on their survival and the development of first brood).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 465-469, map.

nearcticus W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 469-471, map.

LASIUS subgenus **CHTHONOLASIUS** Ruzsky, pp. 851-852

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 191-194, maps 42, 43.—Gregg, 1963, *loc. cit. supra*, pp. 449-453.

Biology: Kannoński 1959. *Insectes Sociaux* 6: 145-146.

***atopus** Cole. Calif. (3 miles south of Leggett, Mendocino County).

Lasius (Chthonolasius) atopus Cole, 1958. *Tenn. Acad. Sci. Jour.* 33: 75-77, fig. 1, A, B. ♀.

humilis W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 473-475, map.

minutus Emery.

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 136-138 (151-153, colony founding; possible parasitism on *Lasius alienus* (Foerster) and *Lasius sitkaënsis* (Pergande)).

Physiology: Kannoński, 1959. *Ecology* 40: 162-165 (radioactive phosphorus in study of colony distribution).

speculiventris Emery. Host ant, *Lasius minutus* Emery.

Biology: Kannoński, 1959, *loc. cit. supra*, pp. 138-141 (153-154, parasitism on *minutus* and possibly other *Lasius* spp.).

subumbratus Viereck.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 191-192, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 475-478 map.

umbratus (Nylander). N. Dak.

Biology: Kannoński, 1959, *loc. cit. supra*, p. 141 (154-155, possible parasitism of other *Lasius* spp.).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 192-194, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 478-481, map.

Genus ACANTHOMYOPS Mayr, *Sup. 1*, pp. 150-151

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 194-204, figs., maps 45-49.—Gregg, 1963, *loc. cit. supra*, pp. 449-453.

claviger claviger (Roger).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3, (local distribution, flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 195-197, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 481-482, map.

Physiology: Chadha, Eisner, Monro and Meinwald, 1962. *Jour. Ins. Physiol.* 8: 175-179, figs. 1-4 (citronellal and citral in mandibular gland secretions).

claviger coloradensis (W. M. Wheeler).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 481, 483-484, map.

interjectus interjectus (Mayr).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3 (local distribution, flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 197-200, figs., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 484-486, map.

latipes (Walsh).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3 (local distribution flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 200-202, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 486-488, map.

murphyi (Forel).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3 (local distribution, flight activities).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 489-490, map.

- occidentalis** (W. M. Wheeler). N. Dak., ? Wis.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 490-493, map.
- parvulus** (M. R. Smith). Ill., N. Dak.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 202-203, map.
- pogonogynus** (Buren). Idaho.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 493-494, map.
- subglaber** (Emery). Wis., Tenn.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 203-204, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 493. 495-496, map.
- Genus MYRMECOCYSTUS Wesmael, pp. 854-857**
- comatus** W. M. Wheeler. Colo.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 643-645, map.
- lugubris** W. M. Wheeler. Nev., Ariz.
- mendax** W. M. Wheeler.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 645-648, map.
- mexicanus hortideorum** McCook.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 648-651, map.
- navajo** W. M. Wheeler. Colo.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 651-653, map.
- pyramicus** M. R. Smith. Calif., Idaho.
Taxonomy: Cole, 1958 (1957). N. Y. Ent. Soc. Jour. 65: 129-130 (♀, ♂).
- semirufus** Emery.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 653-655, map.
- FORMICA subgenus PROFORMICA Ruzsky, p. 857**
- Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 206-214, figs., maps 50-53.
- bradleyi** W. M. Wheeler.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 206-209, fig., map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 602-606, map.
- lasioides** Emery. Coast to coast in south. Canada and north. U. S. with extensions in Rocky Mts. to N. Mex. and Appalachians.
Biology: Kincaid, 1963. Amer. Micros. Soc. Trans. 82: 101-105, figs. 1-5, (as pollinators of plants).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 209-211, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 498-500, 502, map.
- limata** W. M. Wheeler. Utah.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 211-212, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 502, 504 map.
- manni** W. M. Wheeler.
Formica (Formica) manni W. M. Wheeler. Transf. by Wilson and Brown, 1955. Psyche 62: 126.
Taxonomy: Wilson and Brown, 1955, *loc. cit. supra*, pp. 127-128.
- neogagates** Emery. Coast to coast in south. Canada and north. U. S. with extensions in the Appalachians to N. C. and in the Rocky Mts. to N. Mex. Slave of *Formica wheeleri* Creighton.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 212-214, fig., map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 503-505, map.
- obtusopilosa** Emery.
Formica (Formica) obtusopilosa Emery. Transf. by Wilson and Brown, 1955. Psyche 62: 128.
Taxonomy: Wilson and Brown, 1955, *loc. cit. supra*, p. 128.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 217-219, fig., map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 608-611 map.

perpilosa W. M. Wheeler. Wyo.

Formica (Formica) perpilosa W. M. Wheeler. Transf. by Wilson and Brown, 1955. *Psyche* 62: 128.

Taxonomy: Wilson and Brown, 1955, *loc. cit. supra*, p. 128.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 611-613, map.

FORMICA subgenus NEOFORMICA W. M. Wheeler, pp. 858-860

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 147 (flight comparisons).

pallidefulva pallidefulva Latreille.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 625-628, map.

pallidefulva nitidiventris Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 628-630, map.

schaufussi dolosa W. M. Wheeler. Va. to Fla. west to Iowa, Mo., Tex., and Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 630-632.

FORMICA subgenus FORMICA Linnaeus, pp. 860-873

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 214-228, figs., maps 54-60 (*sanguinea* group); pp. 229-252, figs., maps 61-71 (*rufa* group); pp. 252-253, map 72 (*microgyna* group); pp. 254-258, figs., map. 73 (*exsecta* group); pp. 258-274, figs., maps 74-79 (*fusca* group).

Biology: Gosswald, 1957. *Insectes Sociaux* 4: 335-348, tables 1-9 (caste determination in the genus *Formica*).—Kannoński, 1959. *Insectes Sociaux* 6: 147.

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 473-474, pl. 25, figs. 100-103 (proventriculus).

Physiology: Osman and Kloft, 1961. *Insectes Sociaux* 8: 383-395 (venom).

altipetens W. M. Wheeler. N. Dak., Mont., and B. C. to Mex.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 260-261, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 507-509, map.

aterrima Cresson.

Taxonomy: Gregg, 1963, *loc. cit. supra*, pp. 544, 546.

ciliata Mayr. N. Dak. Temporary parasite of *Formica cinerea lepida* W. M. Wheeler.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 233-234, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 545-547, map.

cinerea var. **canadensis** Santschi. Syn. of **cinerea lepida** W. M. Wheeler.

cinerea lepida W. M. Wheeler. Sask., Utah, Tex. Host of temporary parasites, *Formica ciliata* Mayr, *F. dakotensis* Emery and *F. criniventris* W. M. Wheeler.

Formica (Formica) cinerea var. **canadensis** Santschi (syn. by M. R. Smith, 1960. *Ent. Soc. Wash. Proc.* 62: 251-252).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 261-263, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 509-512, 514, map.

cinerea montana Emery. Ohio to Dakotas, Nebr., Colo., and N. Mex.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 263-264, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 513-514, map.

comata W. M. Wheeler. N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 547-548, 550, map.

criniventris W. M. Wheeler. Probably a temporary parasite of *F. cinerea lepida* W. M. Wheeler.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 234-236, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 549-551, map.

curiosa Creighton.

Taxonomy: Wilson and Brown, 1955. *Psyche* 62: 123-125, fig. 2.

dakotensis Emery. Alaska, Nev., N. Dak., Ohio.

Formica (Formica) dakotensis var. *montigena* W. M. Wheeler (syn. by Brown, 1957. Ent. News 68: 167).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 236-238, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 551-554, map.

dakotensis var. *montigena* W. M. Wheeler. Syn of *dakotensis* Emery.

densiventris Viereck. Utah.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 589-593, map.

exsectoides Forel. Miss. (Holly Springs).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 597-599, map.

Physiology: Eisner and Happ, 1964. Sci. 134: 329-331, figs. 1-4 (haemorrhage of a coccinellid beetle and its repellent effect on ants).

fossiceps Buren. N. Dak.

Biology: King, 1949. Iowa Acad. Sci. Proc. 56: 367-370 (mixed colony with *F. obscuriventris clivia* Creighton).—King, 1951. *Op. cit.*, pp. 487-489.—King, 1952. *Op. cit.* pp. 469-474, figs. 1, 2 (macropseudogynes, or ? pterergates).—King and Sallee, 1957. *Op. cit.* 64: 667-669, table 1 (mixed colony with *F. obscuriventris clivia*).—King and Sallee, 1959. *Op. cit.* 66: 472-473 (slave of *F. rubicunda* Emery).—King and Sallee, 1962. *Op. cit.* 69: 531-539, figs. 1-12, table 1 (mixed colony with *F. obscuriventris clivia*).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 238-239, map.

fusca Linnaeus. Holarctic. Labrador and Alaska south through Canada. Occurs in every state in U. S., but absent from certain unfavorable habitats, such as deserts.

Biology: King, 1949. Iowa Acad. Sci. Proc. 56: 367-370 (in mixed colony with *Formica reflexa* Buren).—King, 1951. *Op. cit.* pp. 487-489 (*ibidem*).—Kannowski, 1959. Insectes Sociaux 6: 141-142.—Wallis, 1960. *Op. cit.* 7: 187-190, figs. 1-8, tables 1-2 (spinning movements of larvae).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 264-267, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 514-525, map.

hewitti W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 526-527, map.

integra haemorrhoidalis Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 854-857, map.

integroides coloradensis W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 557-560, map.

integroides planipilis Creighton. Utah, Colo., Wyo., N. Dak., Wash.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 560-561, map.

integroides propinqua W. M. Wheeler. Colo., Utah.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 562-564, map.

laeviceps Creighton. N. Dak., Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 239-240, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 564-565, map.

manni W. M. Wheeler. Transf. to *Formica* subg. *Proformica* Ruzsky, p. 857.

marcida W. M. Wheeler. N. Dak., S. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 267-268, map.

mucescens W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 566-567, map.

microgyna W. M. Wheeler. Wyo., Utah, N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 584-587, map.

neoclara Emery.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 268-271, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 526, 528-530, map.

- neorufibarbis gelida** W. M. Wheeler. Calif. to Alaska to Sask. and south through Rocky Mts. to N. Mex.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 533-536, map.
- neorufibarbis neorufibarbis** Emery. Nebr.
Biology: Kanno, 1959. *Insectes Sociaux* 6: 142.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 271-273, map.
Ecology: Brown, 1955. *Ent. News* 66: 47-50.—Gregg, 1963, *loc. cit. supra*, pp. 530-533, map.
- obscuripes obscuripes** Forel. South. Canada and north. U. S. from Ind. and Mich. to Calif. and B. C., also the Rocky Mt. states.
Biology: King and Sallee, 1957. *Iowa Acad. Sci. Proc.* 63: 721-723, tables 1-3.—Talbot, 1959. *Amer. Midland Nat.* 61: 124-128 (flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 240-244, fig., map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 566, 568-572, map.
- obscuripes ravidula** W. M. Wheeler. Colo.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 579-581, map.
- obscuriventris clivia** Creighton. Colo., N. Mex.
Biology: King, 1949. *Iowa Acad. Sci. Proc.* 56: 367-370 (mixed colony with *Formica fossiceps* Buren).—King and Sallee, 1951. *Op. cit.* 58: 487-489 (*ibidem*).—King, 1955. *Op. cit.* 62: 509-513, figs. 1, 2 (winged workers).—King and Sallee, 1959. *Op. cit.* 66: 472-473 (slave of *Formica rubicunda* Emery).—King and Sallee, 1962. *Op. cit.* 69: 531-539, figs. 1-12, table 1 (mixed colonies with *Formica fossiceps* Buren).
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 574-577, map.
- obscuriventris obscuriventris** Mayr.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 244-246, map.
Ecology: Gregg, 1963, *loc. cit. supra*, 572-574, map.
- obtusopilosa** Emery. Transf. to *Formica* subg. *Proformica* Ruzsky, p. 858.
- opaciventris** Emery. N. Dak.
Biology: Scherba, 1961. *N. Y. Ent. Soc. Jour.* 69: 71-87, tables 1-6 (reproduction, nest structure).—Scherba, 1963. *Op. cit.* 71: 219-231, tables 1-6, figs. 1-3.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 254-256, map.
- oreas comptula** W. M. Wheeler.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 246-248, map.
- oreas oreas** W. M. Wheeler.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 577-579, map.
- oregonensis** Cole.
Biology: Kincaid, 1963. *Amer. Micros. Soc. Trans.* 82: 101-105, figs. 1-5 (pollinates a plant).
Taxonomy: Cole, 1956. *Tenn. Acad. Sci. Jour.* 31: 212-214.
- parcipappa** Cole.
Taxonomy: Wilson and Brown, 1955. *Psyche* 62: 125.
- perpilosa** W. M. Wheeler. Transf. to *Formica* subg. *Proformica* Ruzsky, p. 858.
- postoculata** Kennedy and Dennis. Pa. (Mt. Morris).
- pruinosa** W. M. Wheeler.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 537-539, map.
- puberula** Emery.
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 220-221, map.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 613-616, map.
- rasilis** W. M. Wheeler.
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 587-589, map.
- reflexa** Buren. N. Dak.
Biology: King, 1949. *Iowa Acad. Sci. Proc.* 56: 367-379 (mixed colony

with *fusca* L.).—King, 1951. *Op. cit.* 487-489 (*ibidem*).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 249-250, map.

rubicunda Emery.

Biology: King and Sallee, 1959. Iowa Acad. Sci. Proc. 66: 472-473 (slaves—*Formica fossiceps* Buren and *F. obscuriventris clivia* Creighton).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 221-223, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 616-618, map.

rufibarbis gnava Buckley.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 539-541, map.

spatulata Buren.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 253, map.

subintegra Emery.

Biology: Brown, 1959 (1958). *Psyche* 65: 39-40.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 225-227, map.

sublucida W. M. Wheeler. New England states to S. Dak., Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 622-623, map.

subnitens Creighton. N. Dak., Oreg., Colo.

Taxonomy: Miller, 1957. *Insectes Sociaux* 4: 253-257, figs. 1-4 (♀, ♀, ♂).
Biology: Ayre, 1957. *Insectes Sociaux* 4: 173-176 (ecological notes).—
Ayre, 1958. *Op. cit.* 5: 1-7.—Ayre, 1958. *Op. cit.* 5: 147-157, fig. 1 (meteorological factors affecting foraging).—Ayre, 1959. *Op. cit.* 6: 105-114, figs. 1-3 (food habits).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 581-584, map.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 250-252, map.

subnuda Emery.

Biology: G. C. and J. Wheeler 1963, *loc. cit. supra*, pp. 223-225, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 618-621, map.

subpolita ficticia W. M. Wheeler.

Ecology: Gregg 1963, *loc. cit. supra*, pp. 541-542, map.

ulkei Emery. Iowa, Ind., Wyo.

Biology: Scherba, 1958. *Insectes Sociaux* 5: 201-213, figs. 1-5 (reproduction, mounds).—Kannowski, 1959. *Op. cit.* 6: 142-143.—Talbot, 1959. *Amer. Midland Nat.* 61: 128-132 (flight activities).—Scherba, 1959, *Op. cit.* 61: 499-508, figs. 1-2 (moisture regulations in mounds).—Talbot, 1961. *Ecology* 42: 202-205 (mounds).—Scherba, 1962. *Amer. Midland Nat.* 67: 373-385, figs. 1-4 (mound temperatures).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 256-258, fig., map.

wheeleri Creighton. N. Dak. Slave: *Formica neogagates* Emery.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 227-228, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 623-625, map.

whymperi alpina W. M. Wheeler.

Taxonomy and Ecology: Gregg, 1963, *loc. cit. supra*, pp. 593-596 (♀).

Genus POLYERGUS Latreille, pp. 873-875

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 274-277, figs., maps 80, 81.

Biology: Dobrzanska and Dobrzanska, 1960. *Insectes Sociaux* 7: 1-8 (new observations on *Polyergus rufescens* Latr.).

Morphology: Forbes and Brassel, 1962. *N. Y. Ent. Soc. Jour.* 70: 79-87, pl. 1, figs. 1-5; pl. 2, figs. 8-19 (male genitalia and terminal segments of *Polyergus rufescens bicolor* Wasmann, *P. r. breviceps* Emery, *P. r. umbratus* W. M. Wheeler, and *P. lucidus* Mayr).

lucidus longicornis M. R. Smith. Ga., N. C.

lucidus lucidus Mayr. N. Dak., Ark., Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 274-275, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 633-635, map.

rufescens bicolor Wasmann. Colo.

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 275-277, map (as *rufescens* Latr.).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 635-638, map.

rufescens breviceps Emery.

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 275-277, map (as *rufescens* Latr.).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 638-641, map.

rufescens umbratus W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 641-643, map.

Superfamily VESPOIDEA

Family VESPIDAE

Taxonomy: Bohart and Bechtel, 1957. Calif. Ins. Survey Bul. 4: 73-101, 34 text figs., 7 maps, 2 pls. (social Vespidae of Calif.).—Richards, 1962. A Revisional Study of the Masarid Wasps, 294 pp., 241 figs.

Biology: Krombein, 1961. Wash. Acad. Sci. Jour. 51: 89-93, 6 figs. (symbiosis between saprogllyphid mites and solitary vespid wasps).

Richards (1962) proposed dividing the Vespidae into three families. In North America the Vespidae would include the social wasps (Vespinae, Polistinae and Polybiinae of the Catalog), and the solitary wasps would be assigned to the Eumenidae (Zethinae and Eumeninae of the Catalog) and the Masaridae (Masarinae and Euparagiinae of the Catalog).

Genus VESPA Linnaeus, p. 875

crabro germana Christ. W. Va., Ohio, Ind., Ala.

Genus VESPULA Thomson, pp. 875-877

Revision: Miller, 1961. Canad. Ent., Supp. 22, Vol. 93, 52 pp.

VESPULA subgenus VESPULA Thomson, pp. 875-877

acadica (Sladen), changed status.

Vespula (Vespula) rufa acadica (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 15).

Vespula (Vespula) rufa sladeni Bequaert (syn. by Miller, 1961, *loc. cit. supra*, p. 15).

atropilosa (Sladen), changed status.

Vespula (Vespula) rufa atropilosa (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 17).

consobrina (Saussure), changed status.

Vespula (Vespula) rufa consobrina (Saussure). Restored to sp. rank (*teste* Bohart and Bechtel, 1957, *loc. cit. supra*, p. 79).

intermedia (Buysson), changed status.

Vespula (Vespula) rufa intermedia (Buysson). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 23).

maculifrons (Buysson).

Biology: Haviland, 1962. Ent. Soc. Wash. Proc. 64: 181-183 (colony size).

pennsylvanica (Saussure).

Biology: Chapman, 1963. Ecology 44: 766-767 (predation on winged ants).

rufa acadica (Sladen). Raised to sp. rank.

rufa atropilosa (Sladen). Raised to sp. rank.

rufa consobrina (Saussure). Raised to sp. rank.

rufa intermedia (Buysson). Raised to sp. rank.

rufa sladeni Bequaert. Syn. of *acadica* (Sladen).

rufa vidua (Saussure). Raised to sp. rank.

vidua (Saussure), changed status.

Vespula (Vespula) rufa vidua (Saussure). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 26).

VESPULA subgenus DOLICHOVESPULA Rohwer, p. 877

adulterina adulterina (Buysson). Delete; the color variant in western North America thought to be typical *adulterina* from Asia is just a variation of *arctica* Rohwer.

adulterina arctica Rohwer. Raised to sp. rank.

albida (Sladen), changed status.

Vespula (Dolichovespula) norvegica albida (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 28).

arctica Rohwer, changed status.

Vespula (Dolichovespula) adulterina arctica Rohwer. Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 30).

arenaria (Fabricius), changed status.

Vespula (Dolichovespula) arenaria arenaria (Fabricius). Raised to sp. rank (*teste* Bohart and Bechtel, 1957, *loc. cit. supra*, p. 88).

Vespula (Dolichovespula) arenaria fernaldi (Lewis) (syn. by Bohart and Bechtel, 1957, *loc. cit. supra*, p. 88).

arenaria fernaldi (Lewis). Syn. of *arenaria* (Fabricius).

norvegicoides (Sladen), changed status.

Vespula (Dolichovespula) norvegicoides (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 36).

norvegica albida (Sladen). Raised to sp. rank.

norvegica norvegicoides (Sladen). Raised to sp. rank.

Genus POLISTES Latreille, pp. 878-879

annularis (Linnaeus).

Biology: Rabb, 1960. Ent. Soc. Amer. Ann. 53: 111-121.—Balduf, 1961. Ent. News 72: 259-260.

exclamans exclamans Viereck. Md., N. J.

Biology: Hodapp and Bickley, 1959. Ent. Soc. Wash. Proc. 61: 73.—Rabb, 1960, *loc. cit. supra*, pp. 111-121.

fuscatus fuscatus (Fabricius).

Biology: Rabb, 1960, *loc. cit. supra*, pp. 111-121.

Genus PSEUDOMASARIS Ashmead, pp. 882-883

Taxonomy: Richards, 1962. A Revisional Study of the Masarid Wasps, pp. 276-281, figs. 236-241 (revised key and places the subgenera *Toryna* Bradley and *Holopticus* Bradley in synonymy).

Revision: Richards, 1963. Univ. Calif. Pubs. Ent. 27: 283-310, 3 pls., 26 text figs.

bariscipus Bradley. Syn. of *basirufus* Rohwer.

basirufus Rohwer. Ariz., Calif.

Pseudomasaris (Holopticus) maculifrons (Fox), of Catalog in part. Remove *zonalis basirufus* Rohwer from syn. (*teste* Richards, 1962, *loc. cit. supra*, p. 281).

Pseudomasaris (Holopticus) bariscipus Bradley (syn. by Richards, 1962, *loc. cit. supra*, p. 281).

coquilletti Rohwer. Ariz.

edwardsii (Cresson). Mexico (Baja California).

- ***macneilli** Bohart. Calif., Utah.
Pseudomasaris macneilli Bohart, in Richards, 1963. Univ. Calif. Pubs. Ent. 27: 291. ♂, ♀.
- ***macswaini** Bohart. Southern Calif.
Pseudomasaris macswaini Bohart, in Richards, 1963. Univ. Calif. Pubs. Ent. 27: 301. ♂, ♀.
- maculifrons** (Fox). Utah, N. Mex.; Mexico (Sonora, Baja California). Remove **basirufus** Rohwer, a valid sp., from syn.
- marginalis** (Cresson). Nev., Wash., B. C.
Pseudomasaris (Holopticus) rohweri Bradley (syn. by Richards, 1962, loc. cit. supra, p. 280).
- ***micheneri** Bohart. Calif. (Inyo Co.).
Pseudomasaris micheneri Bohart, in Richards, 1963. Univ. Calif. Pubs. Ent. 27: 298, figs. 1, 14, 21. ♂, ♀.
- occidentalis** (Cresson). Kans., N. Mex.
- rohweri** Bradley. Syn. of **maculifrons** (Fox).
- texanus** (Cresson). Ariz.
- vespoides** (Cresson). Wash., Mont.; Mexico (Baja California).
- zonalis** (Cresson). Mont., Nebr.
Pseudomasaris (Pseudomasaris) zonalis albopictus Bohart (syn. by Richards, 1962, loc. cit. supra, p. 280).
- zonalis albopictus** Bohart. Syn. of **zonalis** (Cresson).

Subfamily EUPARAGIINAE

Taxonomy: Richards, 1962. A Revisional Study of the Masarid Wasps, pp. 49-51, figs. 47-54.

Genus EUMENES Latreille, pp. 884-885

- aureus** Isely.
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 152-153, figs. 1, 2.
- crucifera bolliformis** Viereck.
 Biology: Linsley, 1962, loc. cit. supra, p. 153.
- iturbide iturbide** Saussure.
 Biology: Linsley, 1962, loc. cit. supra, p. 153.

Genus MONOBIA Saussure, p. 886

- quadridens** (Linnaeus). Prey: Stenocmidae (?) sp., larva.
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 101.

Genus EUODYNERUS Dalla Torre

(= *Ryggium* Spinola of Catalog, pp. 887-892)

Ryggium is restricted to the Old World (*teste* van der Vecht, 1963, Zool. Nomencl. Bul. 20: 234). The North American species formerly assigned to *Ryggium* should be placed in *Euodynerus* (*teste* R. M. Bohart, in litt.). Delete *Ryggium*, *Ryggium* (1) and *Rhynchium*, *Rynchium*, *Leionotus* (genotype as listed is incorrect), *Rhyggium*, *Lionotus*, *Delphinaloides*, and *Allodynerus* from generic synonymy; these names apply to extralimital taxa. Add *Euodynerus* subg. *Syneuodynerus* Blüthgen (Soc. Ent. Ital. Boll. 81: 67, 1951; genotype, *Odynerus egregius* Herrich-Schaeffer, by orig. desig. and monotypy) to generic synonymy. Change all specific endings to masculine gender. All names are n. combs. in *Euodynerus*.

- annulatus arvensis** (Saussure), n. comb.
 **Odynerus cultus* Cresson, 1872. Amer. Ent. Soc. Trans. 4: 236. ♂.
 (Syn. of **annulatus arvensis**, *teste* R. M. Bohart, in litt.).
- annulatus evectus** (Cresson), n. comb.
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 153-154.

- *cultus** (Cresson). Syn. of **annulatus arvensis** (Saussure).
- foraminatus foraminatus** (Saussure), n. comb. Nests in sumac borings. Prey: Larvae of Gelechiidae, Oecophoridae, Olethreutidae, Pyralidae, Pyraustidae, Thyridae, Tortricidae.
Biology: Medler, 1964. Ent. Soc. Amer. Ann. 57: 56-60.
- hidalgo hidalgo** (Saussure), n. comb. In citation of **Odynerus ductus** Cresson, change 1875 to 1872.
Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 154.
- leucomelas** (Saussure), n. comb. Nests in wood borings.
Biology: Medler, 1964. Ent. News 75: 26-27.
- *molestus boharti** (Krombein), n. comb. Fla.
Rygchium molestum boharti Krombein, 1959. Ent. Soc. Wash. Proc. 61: 145, fig. 1. ♂, ♀.
- molestus molestus** (Saussure), n. comb. and changed status. Prey: *Desmia funeralis* (Hbn.), larva.
Rygchium molestum (Saussure). Reduced to subsp. rank (*teste* Krombein, 1959, *loc. cit. supra*, p. 148).
Rygchium turpe (Saussure) (syn. by Krombein, 1959, *loc. cit. supra*, p. 148).
Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 101.
- *schwarzi** (Krombein), n. comb. N. J., Pa., Md., D. C., Va., Okla. Nests in borings in wood.
Rygchium schwarzi Krombein, 1962. Biol. Soc. Wash. Proc. 75: 5. ♂, ♀.
- turpe** (Saussure). Syn. of **molestus molestus** (Saussure).

Genus ANCISTROCERUS Wesmael, pp. 892-896

- catskill catskill** (Saussure). Nests in abandoned cells of *Anthophora occidentalis* Cr. in clay bank.
Biology: Hobbs, Nummi, and Virostek, 1961. Canad. Ent. 93: 144.
- lineiventris fulvicarpus** Cameron.
Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 154-155, fig. 3.
- tigris tigris** (Saussure). Nesting in cocoons of *Diprion similis* (Htg.).
Biology: Coppel, 1961. Ent. News 72: 246-248, 2 figs.
- tuberculiceps sutterianus** (Saussure). Replaces **tuberculocephalus sutterianus** (Saussure).
- tuberculiceps tuberculiceps** (Saussure). Replaces **tuberculocephalus tuberculocephalus** (Saussure).
- tuberculocephalus sutterianus** (Saussure). Change to **tuberculiceps sutterianus** (Saussure).
- tuberculocephalus tuberculocephalus** (Saussure). Change to **tuberculiceps tuberculiceps** (Saussure).
- waldenii flavidulus** Bequaert. Prey: Larvae of *Cnephasia longana* (Haw.), *Archips argyrosipilus* (Wlkr.).
Biology: Richards, 1962. Pan-Pacific Ent. 38: 145-146.
- waldenii waldenii** (Viereck). Nesting in cavities in mortar.
Biology: Morris, 1959. Canad. Ent. 91: 500.

Genus SYMMORPHUS Wesmael, p. 896

- albomarginatus** (Saussure). Md.
- cristatus cristatus** (Saussure). Md. (Plummers Island).

Genus LEPTCCHILUS Saussure, pp. 896-898

- ornatus ornatus** Saussure. Replaced by **republicanus republicanus** (Dalla Torre), a substitute name.
- ornatus zendaloides** (Robertson). Replaced by **republicanus zendaloides** (Robertson).

republicanus republicanus (Dalla Torre).

Leptochilus ornatus ornatus Saussure, a secondary homonym in *Odynerus* for which **republicanus** was proposed as a substitute name.

republicanus zendaloides (Robertson). Nests in sumac (*Rhus*) stems and preys on leaf-mining coleopterous larvae, *Brachys*, *Chalepus*, *Prionomerus*.

Leptochilus ornatus zendaloides (Robertson). **Ornatus** is a secondary homonym and **republicanus** was proposed as a substitute name.

Biology: Krombein, 1959. Ent. News 70: 17-23.

tylocephalus tylocephalus (Bohart). Prey: Gracilariid leaf-miner in *Galactia*. Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 10.

STENODYNERUS subgenus **STENODYNERUS** Saussure, pp. 898-901

fundatiformis fundatiformis (Robertson). Nests in ground. Prey: Larvae of Coleoptera (*Chlamisus* in Chrysomelidae) and Lepidoptera (Psychidae, Geometridae, Gelechiidae, Olethreutidae).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 4-10.

fundatus (Cresson). Asterisk should precede specific heading on p. 166, Sup. 1.

ochrogonius Bohart.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 155-156, fig. 3.

pulvinatus pulvinatus Bohart, changed status.

Stenodynerus (Stenodynerus) pulvinatus Bohart. Reduced to subsp. rank (*teste* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 149).

***pulvinatus surrufus** Krombein. Fla.

Stenodynerus (Stenodynerus) pulvinatus surrufus Krombein, 1959. Ent. Soc. Wash. Proc. 61: 149. ♂, ♀.

taos (Cresson).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156.

STENODYNERUS subgenus **PARANCISTROCERUS** Bequaert, pp. 901-903

perennis perennis (Saussure). Nest in boring in sumac pith. Prey: larvae of sp. of Blastobasidae.

Biology: Krombein, 1960. Ent. News 71: 33.

***vogti** Krombein. Md. (Plummers Island). Nests in borings in wood.

Stenodynerus (Parancistrocerus) vogti Krombein, 1962. Biol. Soc. Wash. Proc. 75: 6. ♀.

Family POMPILIDAE

Taxonomy: Evans, 1959. Ent. Soc. Amer. Ann. 52: 430-444, 51 figs. (larvae).

Biology: Evans and Yoshimoto, 1962. Ent. Soc. Amer. Misc. Publ. 3: 65-119 (northeastern spp.).

Genus **HEMIPEPSIS** Dahlbom, p. 909

ustulata ochroptera Stål.

Taxonomy: Evans, 1959, *loc. cit. supra*, pp. 432-433, fig. 42 (larva).

Genus **PEPSIS** Fabricius, pp. 909-910

formosa formosa (Say). Prey: *Aphonopelma chalcodes* Chamb.

Biology: Cazier and Mortenson, 1964. Ent. Soc. Amer. Ann. 57: 533-541, 8 figs.

mexicana Lucas.

Taxonomy: Evans, 1959, *loc. cit. supra*, pp. 431-432, fig. 41 (larva).

thisbe Lucas.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 431, figs. 1-7, 40 (larva).

Genus PRIOCNESSUS Banks, p. 911

- nebulosus** (Dahlbom). Prey: *Agelenopsis potteri* Blackw., A. sp.
Biology: Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 23.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 100-101.

Genus PRIOCNEMIODES Radoszkowski, p. 911

- unifasciatus californicus** Townes. Prey: *Lycosa pacifica* Bks.
unifasciatus unifasciatus (Say). Prey: *Lycosa rabida* Walek.
Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 100.

Genus CRYPTOCEILUS Panzer, pp. 911-912

- attenuatum** Banks. Prey: *Lycosa antelucana* Mont.
idoneum birkmanni Banks. Prey: *Lycosa tigana* Gertsch and Wallace.
Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 75.

DIPOGON subgenus DEUTERAGENIA Susterer, pp. 912-913

- calipterus calipterus** (Say). Prey: *Amaurobius* sp.
calipterus nubifer (Cresson).
Taxonomy: Wasbauer, 1960. Pan-Pacific Ent. 36: 174, figs. 4-6. ♂.
***fascipennis** (Haupt), n. comb. Ill. Probably a synonym of *sayi sayi* Banks.
Deuteragenia fascipennis Haupt, 1959. Nova Acta Leopoldina 21, no. 141: 32, fig. 16. ♀.
papago anomalus Dreisbach. Prey: *Sergiolus variegatus* (Hentz), *Haplo-drassus hiemalis* (Em.).
Taxonomy: Evans, 1959, *loc. cit. supra*, p. 436 (larva).
Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 104-105.
sayi sayi Banks. Nests in wood borings. Prey: adult and juvenile female spiders belonging to Amaurobiidae, Gnaphosidae, Salticidae and Thomisidae, mostly species of *Xysticus*.
Biology: Medler and Koerber, 1957. Ent. Soc. Amer. Ann. 50: 621-625, 6 figs.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 52.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 102-104.
Taxonomy: Evans, 1959, *loc. cit. supra*, p. 436, figs. 14-19, 45 (larva).

DIPOGON subgenus DIPOGON Fox, p. 913

- brevis brevis** (Cresson). Prey: *Phidippus purpuratus* Keys.
Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 105.
***diablo** Wasbauer. Calif. (Contra Costa Co.).
Dipogon (Dipogon) diablo Wasbauer, 1960. Pan-Pacific Ent. 36: 172, figs. 1-3. ♀, ♂.
***leechi** Wasbauer. Calif. (Marin Co.); Mexico (Baja California).
Dipogon (Dipogon) leechi Wasbauer, 1960. Pan-Pacific Ent. 36: 171. ♀.

*DIPOGON subgenus WINNEMANELLA Krombein

- Dipogon* subg. *Winnemanella* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 7.

Type: *Dipogon (Winnemanella) fulleri* Krombein. By monotypy and orig. desig.

Place after subg. *Dipogon*, p. 913.

- ***fulleri** Krombein. Md., S. C. Prey: *Icius hartii* Em.
Dipogon (Winnemanella) fulleri Krombein, 1962. Biol. Soc. Wash. Proc. 75: 8. ♀.

PRIOCNEMIS subgenus PRIOCNEMISSUS Haupt, Sup. 1, p. 173

- minorata** Banks.
Taxonomy: Evans, 1959, *loc. cit. supra*, p. 434, figs. 8-13, 44 (larva).
Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 99.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 86-87.

oregona Banks. Prey: *Actinoxia versicolor* Sim., *Atypoides riversi* P.-Camb.

PRIOCNEMIS subgenus PRIOCNEMIS Schiodte, Sup. 1, p. 173

(= *Priocnemis* subg. *Myrmecosalius* Ashmead, p. 914)

cornica (Say). Prey: Many spp. of errant spiders. Delete ? before reference to *Agenia atrata* Provancher.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 434, fig. 38 (larva).—Townes, 1963. Ent. Soc. Wash. Proc. 65: 115.

Biology: Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 23.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 96-97.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 87-88.

germana (Cresson). Prey: *Amaurobius bennetti* (Blackwall), *A. sp.*

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 98.

hestia (Banks). Prey: *Agroeca* sp.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 98.

notha notha (Cresson). Prey: *Trochosa pratensis* Em.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 97-98.

scitula relicta Banks. Prey: *Habrocestum pulcx* (Hentz), *Agelenopsis* sp.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 62.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 98-99.

scitula scitula (Cresson).

Minagenia perfecta (Provancher) of Sup. 1, p. 177 (syn. by Townes, 1963, *loc. cit. supra*, p. 115).

Genus CALICURGUS Lepeletier, p. 915

hyalinatus alienatus (Smith). Prey: *Neoscona* spp., *Araneus marmoreus* Clerck, *A. sp.*, *Wixia ectypa* (Walck.).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 21.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 52-53.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 62.—Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 101.

hyalinatus rupex (Cresson). Md.

Genus PHANAGENIA Banks, p. 915

bombycina (Cresson). Prey: *Lycosa avida* Walck., *L. gulosa* Walck.

Biology: Savin, 1924. Nat. Hist. 24: 520-522.—Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 23.—Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 108.

Genus AUPLOPUS Spinola, pp. 915-917

architectus architectus (Say). Prey: *Clubiona* sp., *Icius similis* Bks.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 62-63.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 108-109.

caerulescens careulescens (Dahlbom). Md. (Plummers Is.).

caerulescens subcorticalis (Walsh). Makes mud cells in borings in sumac stems. Prey: *Clubiona* sp. *Trachelas tranquillus* (Hentz), *Anyphaena pectorosa* Koch.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 109-110.—Medler, 1964. Ent. News 75: 189-191.

inermis Townes. Mexico (Morelos). Prey: *Lycosa* sp.

Biology: Evans, 1964. Kans. Ent. Soc. Jour. 37: 306.

mellipes variitarsatus (Dalla Torre). Makes mud cells in borings in sumac stems.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 110.

nigrellus (Banks). Prey: *Phidippus* sp.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 109.

AGENIELLA subgenus LEUCOPHRUS Townes, p. 917

fulgifrons (Cresson). Prey: *Phidippus audax* Hentz.

semitincta (Banks). N. Y. (Ithaca). Prey: *Agelcnopsis potteri* Blackw.
Biology: Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 24.

AGENIELLA subgenus NEMAGENIA Banks, p. 918

longula (Cresson). Prey: *Lycosa* sp.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 75.

AGENIELLA subgenus AGENIELLA Banks, pp. 918-919

conflicta Banks. Prey: *Trochosa* sp., *Arctosa littoralis* Hentz.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 106-107.

evansi Townes. Prey: *Lycosa* sp., *Tarantula kochi* Keys.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.

obscura delicata Banks. Change heading to **utilis delicata** Banks.

obscura obscura Banks. Syn. of **utilis utilis** (Cameron).

partita Banks. Prey: *Arctosa* sp.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 107.

utilis delicata Banks. Formerly **obscura delicata** Banks.

***utilis utilis** (Cameron). Mexico (Tabasco).

Pseudagenia utilis Cameron, 1891. Biol. Cent.-Amer. Hym., v. 2, p. 170. ♀.

Ageniella (Ageniella) obscura obscura Banks (syn. by Townes, 1963. Ent. Soc. Wash. Proc. 65: 115).

AGENIELLA subgenus PRIOPHANES Banks, p. 919

arcuata (Banks). Md., N. Mex. Prey: *Oxyopes salticus* Hentz, *Misumenops celer* Hentz.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 107.—Evans, 1964. Kans. Ent. Soc. Jour. 37: 306.

***carolae** Wasbauer. Calif. (Riverside Co.). On flowers of *Asclepias erosa*.

Ageniella (Priophanes) carolae Wasbauer, 1959. Kans. Ent. Soc. Jour. 32: 109, fig. 4. ♀.

fuscipennis Townes. Calif. (Alameda and Glenn Counties). Prey: *Xysticus* sp. On flowers of *Foeniculum vulgare*.

Taxonomy: Wasbauer, 1959, *loc. cit. supra*, p. 109, figs. 1-3. ♂.

rufescens (Banks). Ariz.. Wyo.

Genus MINAGENIA Banks, p. 919

osoria (Banks). Host: Lycosid spider.

Biology: Kaston, 1959. Brooklyn Ent. Soc. Bul. 54: 103-106, fig. 9.

perfecta (Provancher) of Sup. I, p. 177. Transfer to *Priocnemis* subg.

Priocnemis Schiodte, p. 914, as a synonym of *scitula scitula* (Cresson).

Genus CEROPALES Latreille, pp. 920-921

maculata fraterna Smith.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 111-112.

APORUS subgenus APORUS Spinola, pp. 921-922

bequaerti (Banks).

Taxonomy: Evans, 1958. Ent. News 69: 149, figs. 3-6. ♂.

Genus ALLAPORUS Banks, p. 922

***fascipennis** Evans. Tex. (Cameron Co.).

Allaporus fascipennis Evans, 1959. Kans. Ent. Soc. Jour. 32: 29. ♀, ♂.

Genus PSORTHASPIS Banks, p. 923

albocaudata (Malloch). Syn. of *planata* (Fox).

brimleyi (Malloch). Ark.

planata (Fox).

Psorthaspis albocaudata (Malloch) (syn. by Evans, 1958, *loc. cit. supra*, p. 148).

Genus TASTIOTENIA Evans, p. 924

festiva Evans. N. Mex. Taken on flowers of *Euphorbia*, *Prosopis*, *Croton*, *Aplopappus*. Prey: ? *Latrodectus mactans* (F.).

Biology and Distribution: Evans, 1961. Southwest. Naturalist 6: 51-52.

*Genus EPIPOMPILUS Kohl

(=Genus *Aulocostethus* Ashmead of Sup. 1, p. 179)

Epipompilus Kohl, 1884. K. K. Zool.-Bot. Ges. Wien Verh. 34: 57.

Type: *Epipompilus maximiliani* Kohl. Desig. by Ashmead, 1900.

**Epicostethus* Banks, 1947. Mus. Comp. Zool. Bul. 99: 445.

Type: *Epicostethus williamsi* Banks. By monotypy and orig. desig.

Revision: Evans, 1961. Psyche 68: 25-37.

pulcherrimus Evans. Bahamas (Andros Is.).

Genus EVAGETES Lepelletier, pp. 924-925

ingenuus (Cresson).

Pompilus fiorentinii Dalla Torre (syn. by Evans, 1963. Ent. Soc. Wash. Proc. 65: 108). Transferred from *Pompilidae* of Uncertain Position, p. 937.

**macswaini* Evans. Calif., Wyo.

Evagetes macswaini Evans, 1957. Pan-Pacific Ent. 33: 181, fig. 1. ♂, ♀.

parvus (Cresson). Costa Rica.

AGENIOIDEUS subgenus RIDESTUS Banks, p. 925

biedermanni (Banks). Prey: *Loxosceles devius* Gertsch and Mulaik.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.

Genus SERICOPOMPILUS Howard, p. 926

apicalis (Say). Prey: *Phidippus audax* v. *bryantae* Kaston, *P. whitmanii* Peckh., *Acanthepeira stellata* (Walck.).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 101.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 193.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 89-91.

Genus POECILOPOMPILUS Howard, pp. 927-928

interruptus interruptus (Say). Prey: *Acanthepeira stellata* Walck.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 438, figs. 26-30 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 93-94.

Genus EPISYRON Schiedte, pp. 926-927

biguttatus biguttatus (Fabricius). Prey: *Araneus diadematus* Clerck.

Biology: Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 88.

biguttatus californicus (Banks). Prey: *Neoscona naiba* Chamb. & Gertsch.

posterus (Fox). Prey: *Gea heptagon* (Hentz), *Neosoconella pegnica* (Walck.), *Neoscona vertebrata* McCook.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 102.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.—Krombein, 1964. Amer. Mus. Novitates 2201: 10-11.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 439 (larva).

quinquenotatus quinquenotatus (Say). Prey: *Metazygia wittfeldae* (McCook), *Aranea cornuta* Clerck, *A. patagiata* Clerck, *A. sp.*, *Epeira displicata* Hentz, *Neoscona arabesca* (Walck.).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 102.—Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 24.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 63.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 91-92.—Evans, 1963. Ent. News 74: 238-239, fig. 2.—Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 118.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 439, fig. 46 (larva).

Genus TACHYPOMPILUS Ashmead, p. 928

ferrugineus burrus (Cresson).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 87-88.

ferrugineus ferrugineus (Say).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 87.

ANOPLIUS subgenus LOPHOPOMPILUS Radoszkowski, pp. 928-929

aethiops (Cresson). Prey: *Lycosa frondicola* Em.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 70.

atrox (Dahlbom). Prey: *Dolomedes urinator* Hentz.

Biology: Krombein, 1959, *loc. cit. supra*, p. 194.

carolina (Banks). Prey: *Wadotes hybridus* (Em.), *W. sp.*

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 63.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 70-71.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442, fig. 50 (larva).

cleora (Banks). Prey: *Arctosa littoralis* (Hentz).

Biology: Krombein 1958. Ent. Soc. Wash. Proc. 60: 102.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 69-70.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 443 (larva).

ANOPLIUS subgenus NOTIOCHARES Banks, p. 929

amethystinus amethystinus (Fabricius). Prey: *Lycosa sp.*

amethystinus atramentarius (Dahlbom).

Biology: Evans and Yoshimoto 1962, *loc. cit. supra*, pp. 71-72.

ANOPLIUS subgenus ARACHNOPHROCTONUS Howard, pp. 930-931

americanus americanus (Palisot de Beauvois). Change 1805 to 1811, and add Pl. 3, fig. 6 in orig. ref.

americanus juxtus (Cresson). Prey: *Lycosa sp.*

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 76-77.

americanus trifasciatus (Beauvois). Md. (Plummers Is.). Change 1805 to 1811, and add Pl. 3, fig. 7 in orig. ref.

apiculatus autumnalis (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442, fig. 49 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 74-75.

apiculatus pretiosus (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442 (larva).

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 74-75.—Krombein, 1964. Amer. Mus. Novitates 2201: 11.

marginalis (Banks). Prey: *Geolycosa spp.*, *Lycosa spp.*, *Arctosa littoralis* Hentz.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 102-103.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 73-74.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 88-89.—Krombein, 1964. Amer. Mus. Novitates 2201: 11-13.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 441, figs. 31-34, 48 (larva).

relativus (Fox).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 72-73.

semirufus (Cresson). Mexico (Morelos). Prey: *Lycosa* sp., *Pardosa milvina* Hentz, *P. falcifera* Camb.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 103.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 75-76.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 89.—Evans, 1964. Kans. Ent. Soc. Jour. 37: 306.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442 (larva).

***variegatus** (Dreisbach), n. comb. N. Mex.

Arachnoproctonus (!) variegatus Dreisbach, 1957. Ent. News 68: 72, 2 figs. ♂.

ANOPLIUS subgenus POMPILINUS Ashmead, pp. 931-932

bequaerti Evans. Prey: *Lycosa* sp.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 13.

***clavipes** (Dreisbach), n. comb. Tex. (Conlon), Kans. (Medora).

Pompilinus clavipes Dreisbach, 1958. Ent. News 69: 61, figs. ♂.

clystera (Banks). Prey: *Lycosa* sp.***drakei** (Dreisbach), n. comb. N. Y. (Cranberry Lake).

Pompilinus drakei Dreisbach, 1958. Ent. News 69: 62, figs. ♂.

estellina (Banks). Prey: Small spiders, possibly Lycosidae.

Biology: Evans, 1964. Kans. Ent. Soc. Jour. 37: 305-306.

fraternus (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440, figs. 35-37 (larva).

krombeini Evans.

Taxonomy: Evans, 1959, *loc. cit. supra*, pp. 440-441 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 80.

marginatus (Say). Prey: *Tibellus duttoni* (Hentz).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440, fig. 39 (larva).

Biology: Krombein, 1959, *loc. cit. supra*, p. 194.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 78-80.—Kurczewski, 1963, *loc. cit. supra*, p. 89.

splendens (Dreisbach). Prey: *Habronattus viridipes* (Hentz), *Castianeira* sp., *Lycosa* sp., *Agelenopsis* spp.

Biology: Krombein, 1959, *loc. cit. supra*, p. 194.

subcylindricus (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 77-78.

tenebrosus (Cresson). Prey: *Tarentula kochi* Keys.

ANOPLIUS subgenus ANOPLIUS Dufour, pp. 932-933

depressipes Banks.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 83-84.

illinoensis (Robertson). Prey: *Lycosa* sp.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 439, figs. 20-25, 47 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 82-83.

imbellis Banks. Nesting in soil near areas of still water. Prey: *Pardosa ramulosa* McCook.

Biology: Wasbauer, 1957. Wasmann Jour. Biol. 15: 81-97, 7 figs.

ithaca (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 83.—Kurczewski, 1963, *loc. cit. supra*, pp. 89-90.

papago Banks, changed status. Ariz. Prey: *Lycosa* sp.

Anoplius (Anoplius) ventralis tarsatus Banks. Remove **papago** Banks,

a valid sp., from syn. (*teste* Evans, 1964. Kans. Ent. Soc. Jour. 37: 304).

Biology: Evans, 1964, *loc. cit. supra*, pp. 304-305.

ventralis tarsatus Banks. Remove **papago** Banks from syn. Prey: *Alopecosa gertschi* Schenkel.

Biology: Powell, 1958. Pan-Pacific Ent. 34: 53-56.

ventralis ventralis (Banks). Prey: *Lycosa helluo* Walck.

virginiensis (Cresson). Prey: Agelenid spiders.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 81-82.

POMPILUS subgenus HESPEROPOMPILUS Evans, pp. 933-934

***hilli** Evans. Calif. (Pomona Mts.).

Pompilus (Hesperopompilus) hilli Evans, 1957. Pan-Pacific Ent. 33: 183. ♂.

*POMPILUS subgenus XENOPOMPILUS Evans

Pompilus subg. *Xenopompilus* Evans, 1953. Ent. Soc. Amer. Ann. 46: 531.

Type: *Pompilus (Xenopompilus) tlahuicanus* Evans. Orig. desig.

Place after subg. *Hesperopompilus*, p. 934.

***tlahuicanus** Evans. Ariz. (Portal); Mexico (Morelos, Jalisco, Durango, Chihuahua).

Pompilus (Xenopompilus) tlahuicanus Evans, 1953. Ent. Soc. Amer. Ann. 46: 534, fig. 1. ♀, ♂.

**Pompilus (Xenopompilus) tarahumarae* Evans, 1953. Ent. Soc. Amer. Ann. 46: 535. ♀. (Syn. by Evans, 1960. Ent. News 71: 166.)

POMPILUS subgenus PERISSOPOMPILUS Evans, Sup. 1, p. 184

perfasciatus Evans.

Taxonomy: Evans, 1958. Ent. News 69: 147, figs. 1-2. ♂.

POMPILUS subgenus AMMOSPHEX Wilcke, p. 934

angularis (Banks). Prey: *Pellenes* sp., *Xysticus* sp., *Callilepis altitudonis* Chamb., *Habronattus* (?) sp.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.—Evans, 1963. Ent. News 74: 239.

anomalus anomalus (Dreisbach). Prey: *Xysticus contractor* Thor.

michiganensis (Dreisbach). Prey: *Xysticus conctator* Thor., *X. transversatus* (Walck.).

Biology: Kurczewski and Snyder, 1964. Biol. Soc. Wash. Proc. 77: 215-222, 6 figs.

occidentalis (Dreisbach). Prey: *Pardosa* sp., *P. uintana* Gertsch.

Biology: Powell, 1957. Pan-Pacific Ent. 33: 39-40.—Evans, 1963. Ent. News 74: 239.

solonus solonus (Banks). Prey: *Lycosa* sp.

POMPILUS subgenus ARACHNOSPILA Kincaid, pp. 934-935

fumipennis eureka (Banks). Prey: *Tarentula kochi* Keys.

Genus APORINELLUS Banks, pp. 935-936

Taxonomy: Evans, 1957. Pan-Pacific Ent. 33: 185-186 (key).

apicatus (Banks). Prey: *Xysticus* sp.

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.

***borregoensis** Evans. Calif. (Borrego). On flowers of *Croton californicus*.

Aporinellus borregoensis Evans, 1957. Pan-Pacific Ent. 33: 184, fig. 2. ♂, ♀.

bridwelli Evans. Prey: *Oxyopes helius* Chamb.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.

completus Banks. Prey: *Pellenes oregonensis* Peck., *Phidippus clarus* Keys.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 63.

fasciatus (Smith). Prey: *Tibellus duttoni* (Hentz).

Taxonomy: Krombein, 1959, *loc. cit. supra*, pp. 194-195.

taeniatus taeniatus (Kohl). Prey: *Pellenes* sp.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 13.

Pompilidae of Uncertain Position, p. 937

Pompilus ephippiger Smith. Delete from North American fauna (*teste* Evans, 1963. Ent. Soc. Wash. Proc. 65: 108).

Pompilus florentinii Dalla Torre. Transfer to synonymy of **Evagetes ingenuus** (Cresson), p. 925.

Pompilus obscurus Dahlbom. Delete from North American fauna (*teste* Evans, 1963, *loc. cit. supra*, p. 108).

Superfamily SPHECOIDEA

Based primarily on a study of larvae, H. E. Evans (Ent. News 75: 225-237, 1964) proposed recognizing only the single family Sphecidae in this superfamily. He suggested regrouping the sphecoid wasps into the following eight subfamilies:

Ampulicinae (= Ampulicidae of Catalog)

Sphecinae (= Sphecinae of Catalog)

Larrinae (= Larrinae, Trypoxyloninae and Crabroninae of Catalog)

Mellinae (= Mellinini of Catalog)

Pemphredoninae (= Pemphredoninae of Catalog)

Astatinae (= Astatinae of Catalog)

Philanthinae (= Philanthinae of Catalog)

Nyssoninae (= Nyssoninae of Catalog less Mellinini)

Family AMPULICIDAE

AMPULEX subgenus RHINOPSIS Westwood, p. 938

canaliculata Say.

Taxonomy: Evans, 1959. Ent. News 70: 57-58, 6 figs. (larva).

*DOLICHURUS subg. PARADOLICHURUS Williams

Dolichurus subg. **Paradolichurus** Williams, 1959. Wasmann Jour. Biol. 17: 299.

Type: **Dolichurus (Paradolichurus) californicus** Williams. By orig. desig. and monotypy.

Place after **Dolichurus** on p. 938.

***californicus** Williams. Calif. (San Diego Co.).

Dolichurus (Paradolichurus) californicus Williams, 1959. Wasmann Jour. Biol. 17: 300, figs. 1, 2, 4. ♀.

Family SPHECIDAE

Taxonomy: Evans, 1959a. Amer. Ent. Soc. Trans. 85: 168-189, text fig.

1 (keys to subfamilies and genera based on larval characters, and remarks on evolution and classification based on larval characters).

—Evans, 1964. Amer. Ent. Soc. Trans. 90: 235-299, 114 figs. (larvae, supplement).—Evans, 1964. Ent. News 75: 225-237, 3 figs. (classification and evolution).

Biology: Evans, 1963. Sci. Amer. 208, no. 4, pp. 145-154 (predatory wasps).

Subfamily ASTATINAE

Taxonomy: Evans, 1958a. Amer. Ent. Soc. Trans. 84: 109-113, figs. 1-8, 46-48 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 165-166 (larvae).—Parker, 1962. Ent. Soc. Amer. Ann. 55: 643-644 (key to genera).

Genus DIPLOPECTRON Fox, pp. 938-939

diablensis Williams. Calif. (San Diego Co.).

Taxonomy: Williams, 1959. Wasmann Jour. Biol. 17: 303, fig. 5. ♀.

Genus ASTATA Latreille

(= *Astata* subgenus *Astata* Latreille, pp. 939-940)

Revision: Parker, 1962, *loc. cit. supra*, pp. 643-659, 42 figs.

Raised to generic rank by Parker, 1962.

***bakeri** Parker. Ont. west to B. C., south through S. Dak. and Wash. to Tex. and Calif.; Mexico (Pacific coast). Prey: *Nysius raphanus* How., *Lygaeus bicrucis* Say (?).

Astata bakeri Parker, 1962. Ent. Soc. Amer. Ann. 55: 647, text fig. 1, figs. 11, 21. ♂, ♀.

Biology: Williams, 1946. Hawaiian Ent. Soc. Proc. 12: 647 (rec. as *Astata* sp.).

bicolor Say. Southern Canada and U. S. east of Rocky Mts.; Mexico. Prey: nymphs of Pentatomidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 165-166 (larva).—Parker, 1962, *loc. cit. supra*, p. 652, figs. 7, 18, 32.

Biology: Evans, 1962. N. Y. Ent. Soc. Jour. 70: 30-31.

bigeloviae Cockerell and Fox. Western Tex. to Calif.; Mexico (Jalisco).

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 650, fig. 24.

***boharti** Parker. N. Mex., Ariz.

Astata boharti Parker, 1962. Ent. Soc. Amer. Ann. 55: 650, fig. 25. ♂, ♀.

***clypeata** Parker. East slope of Rocky Mts. in U. S.; Mexico (western mts.).

Astata clypeata Parker, 1962. Ent. Soc. Amer. Ann. 55: 651, figs. 15, 26. ♂, ♀.

***femorata** Parker. Ariz. (Peña Blanca in Santa Cruz Co.).

Astata femorata Parker, 1963. Pan-Pacific Ent. 39: 185, figs. 1-3, ♂.

leuthstromi Ashmead. Alaska, Canada, northern U. S., south in mts. to Ariz.

Nests in soil beneath vegetation. Prey: Immature Pentatomidae.

Biology: Evans, 1958b. N. Y. Ent. Soc. Jour. 65: 176-177.—Evans, 1962, *loc. cit. supra*, pp. 31-32.

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 648, fig. 22.

***mexicana** Cresson. Canada, U. S. and Mexico, west of Rocky Mts.

Astata mexicana Cresson, 1881. Amer. Ent. Soc. Trans. 9: Proc. p. v. ♂.
Taxonomy: Parker, 1962, *loc. cit. supra*, p. 653, figs. 13, 28, 30, 34.

nevadica Cresson. Western North America, Canada to Mexico.

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 654, figs. 9, 10, 12, 16, 27, 31, 33.

***nubecula bechteli** Parker. Desert areas, Wash. and Colo., south to Calif. and Tex.; Mexico (Sonora).

Astata nubecula bechteli Parker, 1962. Ent. Soc. Amer. Ann. 55: 649. ♂, ♀.

nubecula nubecula Cresson, changed status. Northern U. S., south to Va. and Calif. (San Diego). Prey: Nymphs, *Thyanta* sp.

Astata (Astata) nubecula Cresson. Reduced to subsp. rank (*teste* Parker, 1962, *loc. cit. supra*, p. 649).

occidentalis Cresson. Southern Canada, U. S.; Mexico (Michoacan, Baja California). Nests in soil devoid of vegetation. Prey: Adult and nymphal Pentatomidae.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 110-111, figs. 1-8 (larva).—Parker, 1962, *loc. cit. supra*, p. 651, figs. 8, 23.

Biology: Evans, 1958b, *loc. cit. supra*, pp. 168-176, figs. 3-8.—Powell and Burdick, 1960. *Pan-Pacific Ent.* 36: 25-30.

unicolor Say. Southern Canada, U. S.; Mexico to El Salvador. Nests in soil beneath overhanging vegetation. Prey: Immature Pentatomidae.

Astata (Astata) unicolor var. *rufiventris* Cresson (syn. by Parker, 1962, *loc. cit. supra*, p. 652).

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 111-112, figs. 46-48 (larva). Biology: Evans, 1958b, *loc. cit. supra*, pp. 160-168, figs. 1 2.

unicolor var. *rufiventris* Cresson. Syn. of *unicolor* Say.

**williamsi* Parker. Oreg., Idaho, Utah, Nev., Calif.

Astata williamsi Parker, 1962. *Ent. Soc. Amer. Ann.* 55: 653, figs. 14, 29, 35, 36. ♂, ♀.

Genus DRYUDELLA Spinola

(= *Astata* subgenus *Dryudella* Spinola, p. 940)

Raised to generic rank by Parker, 1962, *loc. cit. supra*, p. 643. Place parens around all author names, except that Cockerell in heading for *millsi* should be removed from parens.

aspera (Fox). Idaho.

elegans (Cresson). Idaho.

immigrans (Williams). Calif.

millsi Cockerell. Remove parens around Cockerell in sp. heading.

montana (Cresson). Idaho, Wyo. Prey: Small nymphs of *Zelus* or *Pselliopus* (Reduviidae), *Eurygaster* (Scutelleridae), and *Corimelaena montana* Van D. (Cydniidae).

Biology: Evans, 1963. *Ent. News* 74: 236.

Subfamily LARRINAE

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 113-126, figs. 9-45, 58, 59 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 166-167, figs. 54-59 (larvae).

Genus LYRODA Say, p. 941

subita (Say). Idaho, Calif., B. C.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 281-282, figs. 78-84 (larva).

Genus BOTHYNOSTETHUS Kohl, p. 941

distinctus Fox. Idaho.

Genus PISONOPSIS Fox, p. 941

Transferred to subfamily Trypoxyloninae, p. 954, by Evans on basis of larval characters.

Genus PLENOCULUS Fox, pp. 941-942

Revision: Williams, 1960. *Calif. Acad. Sci. Proc.* 31: 1-49, 90 figs.

abdominalis Ashmead. Syn. of *davisi davisi* Fox.

apicalis Williams. Syn. of *davisi davisi* Fox.

**boharti* Williams. Southern Calif.

Plenoculus boharti Williams, 1960. *Calif. Acad. Sci. Proc.* 31: 28, figs. 40, 61, 83, 84. ♀, ♂.

**boregensis boregensis* Williams. Calif. (Borego in San Diego Co.).

Plenoculus boregensis boregensis Williams, 1960. *Calif. Acad. Sci. Proc.* 31: 20, figs. 26-29. ♀, ♂.

- ***boregensis perniger** Williams. Calif. (Thousand Palms).
Plenoculus boregensis perniger Williams, 1960. Calif. Acad. Sci. Proc. 31: 21. ♂.
- cockerellii** Fox. Southern Calif. to western Tex.; Mexico (Baja California, Guerrero). Prey: Pyralid larvae.
 Taxonomy: Williams, 1960, *loc. cit. supra*, p. 15, figs. 4, 14, 15, 16, 42, 48, 50, 51, 70, 80. ♂.
- ***cuneatus** Williams. Southern Calif. and Nev.
Plenoculus cuneatus Williams, 1960. Calif. Acad. Sci. Proc. 31: 12, figs. 10, 17, 18, 24, 25. ♀, ♂.
- davisi atlanticus** Viereck. Prey: Nymphal and adult mirids, *Phytocoris* sp. (Mirinae).
- davisi davisi** Fox. Western Pa. Prey: mature and nymphal mirids (Mirinae, Phylinae, Orthotylinae), immature aphids (?).
Plenoculus abdominalis Ashmead (syn. by Williams, 1960, *loc. cit. supra*, p. 43).
Plenoculus apicalis Williams (syn. by Williams, 1960, *loc. cit. supra*, p. 44).
 Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 166-167, figs. 54-59 (larva).
 Biology: Evans, 1961. Ent. News 72: 223-228.
- ***davisi gracilis** Williams. Calif. (Riverside Co.).
Plenoculus davisi gracilis Williams, 1960. Calif. Acad. Sci. Proc. 31: 42, fig. 54. ♀.
- ***davisi mojavensis** Williams. Southern Calif., Ariz., N. Mex.
Plenoculus davisi mojavensis Williams, 1960. Calif. Acad. Sci. Proc. 31: 39, figs. 86, 88. ♀, ♂.
- ***davisi transversus** Williams. Calif. (Tulare and Riverside Counties).
Plenoculus davisi transversus Williams, 1960. Calif. Acad. Sci. Proc. 31: 40, figs. 8, 57, 59. ♀.
- ***deserti** Williams. Southern Calif.
Plenoculus deserti Williams, 1960. Calif. Acad. Sci. Proc. 31: 26, figs. 85, 87. ♂, ♀.
- ***palmarum** Williams. Southern Calif.
Plenoculus palmarum Williams, 1960. Calif. Acad. Sci. Proc. 31: 22, figs. 9, 36, 37, 71, 73, 78. ♂, ♀.
- propinquus** Fox. Nev., Oreg., Wash. Utah.
- ***sinuatus** Williams. Southern Calif.
Plenoculus sinuatus Williams 1960. Calif. Acad. Sci. Proc. 31: 7, figs. 30, 32, 35. ♀, ♂.
- ***stygius** Williams. Southern Calif. and Ariz. Prey: small mirid bug.
Plenoculus stygius Williams, 1960. Calif. Acad. Sci. Proc. 31: 31, figs. 5, 62, 90. ♀, ♂.
- ***timberlakei** Williams. Southern Calif. and Ariz.
Plenoculus timberlakei Williams, 1960. Calif. Acad. Sci. Proc. 31: 11, figs. 2, 11, 19-22, 31, 38, 47, 49, 52, 77. ♀, ♂.

Genus SOLIERELLA Spinola, pp. 942-944

blaisdelli (Bridwell).

Taxonomy: Evans, 1958, *loc. cit. supra*, p. 123, fig. 42 (larva).—Evans, 1964, *loc. cit. supra*, p. 285 (larva).

***boregensis** Williams. Calif. (San Diego Co.).

Solierella boregensis Williams, 1958. Pan-Pacific Ent. 34: 208, fig. 2. ♀, ♂.

?**flavomaculata** (Cameron). Transf. to *Alysson*, p. 981.

fossor (Rohwer). Ariz.

inermis (Cresson). N. C., Fla. Change Lygaeidae to Miridae in Catalog, p. 943.

**mandibularis* Williams. Replaced by *prosopidis* Williams.

**masoni* Williams. Calif. (Thousand Palms).

Solierella masoni Williams, 1959. Ent. Soc. Wash. Proc. 61: 74, 5 figs.
♀, ♂.

mirifica Pate.

Taxonomy: Williams, 1962. Ent. Soc. Wash. Proc. 64: 185-186 (♀).

plenoculoides plenoculoides (Fox). Ariz. Change fall to gall in rearing data.

**prosopidis* Williams. Calif. (San Bernardino Co.). On flowers of *Prosopis*.

**Solierella mandibularis* Williams, 1958. Pan-Pacific Ent. 34: 212, figs.
4, 4a. ♀. Preocc.

Solierella prosopidis Williams, 1959. Pan-Pacific Ent. 35: 116. N. name.

**semirugosa* Williams. Calif. (San Diego, Riverside and Yolo Counties). On
flowers of *Euphorbia polycarpa*.

Solierella semirugosa Williams, 1958. Pan-Pacific Ent. 34: 210, figs.
3-3d. ♀, ♂.

vierecki (Rohwer). Ariz.

Genus NITELOPTERUS Ashmead, p. 944

californicus (Ashmead). Ariz.

**evansi* Krombein. Wyo., Wash. Prey: *Dictyna* sp.

Nitelopterus evansi Krombein, 1963. Ent. News 74: 61. ♀.

Biology: Evans, 1963. Ent. News 74: 234-236, figs. 1-2.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 283, figs. 88-92 (larva).

slossonae barberi Krombein. Prey: small or immature Linyphiidae, Lycosidae
and Salticidae.

Biology: Krombein and Kurczewski, 1963. Biol. Soc. Wash. Proc. 76:
140-143.—Krombein, 1964. Amer. Mus. Novitates 2201: 14-15.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 283-284 (larva).

slossonae slossonae Ashmead. Prey: small, mostly immature, Lycosidae,
Dictynidae, Salticidae and Linyphiidae.

Biology: Krombein and Kurczewski, 1963, *loc. cit. supra*, pp. 140-143.—
Krombein, 1964. Amer. Mus. Novitates 2201: 13-14.

Genus NITELA Latreille, pp. 944-945

virginiensis Rohwer. Mich.

Taxonomy: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 60. ♂.

TACHYTES subgenus TACHYTES Panzer, pp. 945-946

Taxonomy: Bohart, 1962. Pan-Pacific Ent. 38: 117-129, 26 figs. (*pepticus*
group).

aurulentus (Fabricius). Transf. to *Tachytes* subg. *Tachyplena*, p. 946, where
it replaces *mandibularis* Patton. N. B., *aurulentus* Auctt. is re-
placed by *austrinus* Banks.

austrinus Banks. Replaces *aurulentus* Auctt., *nec* Fabricius.

basirufus Rohwer. Colo., Utah, Nev., Ariz., Calif.; Mexico (Hidalgo).

brevipilis Banks. Syn. of *sayi* Banks.

**californicus* Bohart. Calif., Oreg., Idaho.

Tachytes californicus Bohart, 1962. Pan-Pacific Ent. 38: 125, figs. 15-
17. ♂, ♀.

elongatus elongatus Cresson.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 116-117, figs. 9-17 (larva).

exornatus Fox. Prey: *Conalcea* (?) sp., nymph.

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 75.

fulviventris fulviventris Cresson. N. Dak. south to Tex., west to Wyo., Utah,
N. Mex.; Mexico (Oaxaca). Another subsp. occurs in Baja Cali-
fornia.

- fulviventris inferioris* Banks. Syn. of *pepticus pepticus* (Say).
hesperus Banks. Syn. of *sayi* Banks.
 **nevadensis* Bohart. Nev., Calif., Oreg., Wash.
Tachytes nevadensis Bohart, 1962. Pan-Pacific Ent. 38: 124, figs. 21-23.
 ♂, ♀.
pennsylvanicus Banks. N. Y. to Va. west to Idaho, Colo., N. Mex., Oreg., B. C.
Tachytes pepticus (Say), in part, of Catalog. (*T. pennsylvanicus* Banks
 a valid sp., *teste* Bohart, 1962, *loc. cit. supra*, p. 122).
 **pepticus chelatus* Bohart. Ariz., Utah.
Tachytes pepticus chelatus Bohart, 1962. Pan-Pacific Ent. 38: 120, figs.
 5, 6, 7. ♂, ♀.
pepticus pepticus (Say), changed status. Ill. and Ind. only.
Tachytes pepticus (Say). Reduced to subsp. rank (*teste* Bohart, 1962,
loc. cit. supra, p. 119). N. B. *T. pennsylvanicus* Banks is a valid
 sp. not a syn.
Tachytes fulviventris inferioris (Banks) (syn. by Bohart, 1962, *loc. cit.*
supra, p. 119).
pepticus sericatus Cresson, changed status. N. C. to Fla., Ala., Tex., Kans.,
 Nebr., Colo.
Tachytes sericatus Cresson. Reduced to subsp. rank (*teste* Bohart, 1962,
loc. cit. supra, p. 120).
sayi Banks. Western U. S. and B. C. east to Iowa, Kans., Tex.; Mexico (Baja
 California).
Tachytes hesperus Banks (syn. by Bohart, 1962, *loc. cit. supra*, p. 129).
Tachytes brevipilis Banks (syn. by Bohart, 1962, *loc. cit. supra*, p. 129).
 **sculleni* Bohart. Western Tex. to southern Calif., Nev.
Tachytes sculleni Bohart, 1962. Pan-Pacific Ent. 38: 126, figs. 8-11. ♂, ♀.
sericatus Cresson. A subsp. of *pepticus* (Say).
spatulatus Fox. Colo., N. Mex., Ariz., Utah, Nev., Wyo., Calif.
Tachytes utahensis Banks (syn. by Bohart, 1962, *loc. cit. supra*, p. 128).
utahensis Banks. Syn. of *spatulatus* Fox.
- TACHYTES subgenus TACHYPLENA Banks, pp. 946-947
- aurulentus* (Fabricius). Transf. from *Tachytes* subg. *Tachytes*, p. 945.
Tachytes (Tachyplena) mandibularis Patton (syn. by van der Vecht,
 1961. Zool. Verhandl. Rijksmus. Natuurlijke Hist. Leiden, No. 48,
 pp. 11-12).
 Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 117, figs. 18-20 (larva).
crassus Patton. Md. (Plummers Is.). Prey: *Orchelimum* sp.
 Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 64.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 285-286, figs. 96-98 (larva).
distinctus Smith.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 286-287 (larva).
ermineus Banks. Idaho.
harpax Patton. Pa.
mandibularis Patton. Syn. of *aurulentus* (Fabricius).
- TACHYTES subgenus TACHYNANA Banks, pp. 947-948
- abdominalis* (Say). Idaho.
pattoni Banks. Idaho.

TACHYTES subgenus TACHYOIDES Banks, p. 948

- mergus* Fox. Ala. Nests in pure sand with high water table. Prey: Immature
 and adult *Tridactylus apicalis* Say, *T. minutus* Scud.
 Biology: Krombein and Kurczewski, 1963. Biol. Soc. Wash. Proc. 76: 143-

150, figs. 1-3.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 287-288, figs. 85-87 (larva).

Genus *LARROPSIS* Patton, pp. 948-949

Revision: Bohart and Bohart, 1952. Ent. Soc. Wash. Proc. 64: 21-37, 32 figs. (subg. *Ancistromma*).

aurantia (Fox). Alta. east to N. Dak., south to Ariz. and Kans. Prey: *Ceuthophilus fusiformis* Scudd. (*Ancistromma*)

***bradleyi** Bohart and Bohart. Oreg., Calif. (*Ancistromma*)

Larropsis (Ancistromma) bradleyi Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 25, figs. 20, 21, 31. ♀, ♂.

capax (Fox). B. C., Alta., east to N. Dak., south to Calif., Kans. and N. Mex. Prey: *Ceuthophilus* sp., nymph. (*Ancistromma*)

***corrugata** Bohart and Bohart. B. C., Oreg., Calif. (*Ancistromma*)

Larropsis (Ancistromma) corrugata Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 31, figs. 3, 18, 19, 27. ♀, ♂.

distincta (Smith). Transcont., B. C. to Maine, south to Calif., Kans., N. C. Nest in natural cavities in coarse soil. Prey: Adult *Nemobius fasciatus* (DeG.). (*Ancistromma*)

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 119-120, figs. 29-38 (larva).
Biology: Evans, 1958c. Ent. News 69: 197-200.

***granulosa** Bohart and Bohart. Calif., Nev., Idaho, Ariz., N. Mex. (*Ancistromma*)

Larropsis (Ancistromma) granulosa Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 33, figs. 4, 6, 7, 28. ♀, ♂.

***hurdi** Bohart and Bohart. Calif. (*Ancistromma*)

Larropsis (Ancistromma) hurdi Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 34, figs. 5, 8, 9, 30. ♀, ♂.

***platynota** Bohart and Bohart. Ariz. (Tucson). (*Ancistromma*)

Larropsis (Ancistromma) platynota Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 35, figs. 24, 32. ♀.

portiana Rohwer. Western Tex., N. Mex. (*Ancistromma*)

rubens Mickel. Syn. of *sericifrons* (H. S. Smith).

sericifrons (H. S. Smith). Nebr., Wyo., Tex., N. Mex., Ariz. (*Ancistromma*)
Larropsis rubens Mickel (syn. by Bohart and Bohart, 1962, *loc. cit. supra*, p. 36).

***shappirioi** Bohart and Bohart. D. C., Va. (*Ancistromma*)

Larropsis (Ancistromma) shappirioi Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 37, figs. 14, 15, 28. ♀, ♂.

tenuicornis (Smith). Idaho. (*Larropsis*)

TACHYSPHEX subgenus TACHYSPHEX Kohl, pp. 949-953

amplus Fox. Nev., Idaho.

apicalis Fox. Ga., N. C. Nests in nearly vertical sand banks, usually near water courses, and stores nymphs of many genera of Acrididae and adults of *Melanoplus*.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 288-289, figs. 99-103 (larva).
Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 15.

ashmeadii Fox. Tex., N. Mex., Ariz., Idaho, Wyo. Prey: Juvenile Acrididae (*Metator* sp.).

belfragei (Cresson). Fla. Prey: Nymphs of Tettigoniidae (*Conocephalus* sp.).

***boharti** Krombein. N. C., Fla. Nests in loose sand near water courses. Prey: Nymphs of Acrididae (*Psinidia fenestralis* (Serv.), *Scirtetica marmorata picta* Scud., *Chortophaga* sp.).

Tachyspex boharti Krombein, 1963. Ent. News 74: 177. ♀, ♂.
Biology: Krombein, 1963, *loc. cit. supra*, pp. 179-180.

**cockerellae* Rohwer. Calif.; Guatemala.

Tachysphex cockerellae Rohwer, 1914. U. S. Natl. Mus. Proc. 47: 518. ♂.

coquilletti Rohwer. Colo., Tex. Prey: Nymphs of Mantidae (*Litaneutria* sp.).

eldoradensis Rohwer. Idaho.

exsectus Fox. Colo., Tex.

fusus Fox. Introd. in Hawaii. Prey: Nymphs of Acrididae (*Chortophaga oxya* (?)).

Biology: Rau and Rau, 1918. Wasp Studies Afield, pp. 149-150.

**hurdi* Bohart. Oreg., Calif.; Mexico (Baja California).

Tachysphex hurdi Bohart, 1962. Biol. Soc. Wash. Proc. 75: 33, figs. 13-15. ♂, ♀.

laevifrons (Smith). Nests in flat or slightly sloping sand. Prey: Immature *Melanoplus* (Acrididae).

**linsleyi* Bohart. Calif., Nev., Wyo., Ariz., N. Mex., Tex. Nests in sandy soil. Prey: Immature Acrididae.

Tachysphex linsleyi Bohart, 1962. Biol. Soc. Wash. Proc. 75: 35, figs. 7-9. ♂, ♀.

montanus (Cresson). Idaho. Prey: Nymphal Acrididae (*Oedaleonotus*).

mundus Fox. N. J.

nigrior Fox. Oreg.

parvulus (Cresson). N. Mex.

pechumani Krombein. Nests in sandy or gravelly soil. Prey: Nymphal and adult Acrididae.

**powelli* Bohart. Calif.

Tachysphex powelli Bohart, 1962. Biol. Soc. Wash. Proc. 75: 35, figs. 1-3. ♂, ♀.

propinquus Viereck. Prey: Adult Acrididae (*Phlibostroma* sp.).

quebecensis (Provancher). Wis., Minn., N. Dak., Calif. Prey: Immature Acrididae (*Camnula*, *Melanoplus*).

Biology: Peckham and Peckham, 1905. Wasps, Social and Solitary, pp. 263-264.

**schlingeri* Bohart. Calif., Nev., Idaho, Wyo.

Tachysphex schlingeri Bohart, 1962. Biol. Soc. Wash. Proc. 75: 36, figs. 4-6. ♂, ♀.

semirufus (Cresson). Prey: Nymphal Acrididae (*Melanoplus*).

sepulcralis Williams. Ga., W. Va., Pa., N. Y., N. H. Nests in sandy soil covered with vegetation. Prey: Nymphal Acrididae (*Melanoplus*).

similis Rohwer. Nests in open sand. Prey: Immature Acrididae of many genera.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 15-17, fig. 1.

tarsatus (Say). Delete immature Mantidae as prey. Nests in a variety of sandy soils. Prey: Immature Acrididae of many genera, and adult *Melanoplus*.

Biology: Peckham and Peckham, 1905. Wasps, Social and Solitary, pp. 261-263.

tenuipunctus Fox. Nests in sandy rangeland. Prey: Immature Acrididae (*Aulocara*, *Melanoplus*, *Oedaleonotus*).

Biology: Newton, 1956. Jour. Econ. Ent. 49: 615-619.

terminatus (Smith). Que., N. S., P. E. I. Nests in open sand. Prey: Nymphal Acrididae of many genera.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 118, figs. 21-28 (larva).

Biology: Rau and Rau, 1918. Wasp Studies Afield, pp. 144-149.—Rau, 1927. Acad. Sci. St. Louis Trans. 25: 188-190.

texanus (Cresson). Kans., Colo., N. Mex., Ariz. Prey: Nymphal Acrididae (*Arphia* sp.).

Biology: Williams, 1913. Kans. Univ. Sci. Bul. 8: 206.

wheeleri Rohwer. Ala.

***williamsi** Bohart. Calif. (San Francisco Co.).

Tachysphex williamsi Bohart, 1962. Biol. Soc. Wash. Proc. 75: 38, figs. 10-12. ♂, ♀.

Genus PROSOPIGASTRA Costa, Sup. 1, p. 188

***nearctica** Bohart. Calif.

Prosopigastra nearctica Bohart, 1958. Ent. Soc. Wash. Proc. 60: 122, 6 figs. ♂, ♀.

MOTES subgenus MOTES Kohl, pp. 953-954

argentata (Beauvois). Prey: *Orocharis saltator* Uhl., nymph.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 103.

Taxonomy: Evans, 1957a. Amer. Ent. Soc. Trans. 83: 89-99, figs. 36-68 (larvae).—Evans, 1959a. Amer. Ent. Soc. Trans. 85: 157-161 (larvae).

Subfamily TRYPOXYLONINAE

*PISON subgenus KROMBEINIELLUM Richards

(=Pison subgenus *Paraceramius* Radoszkowski, Sup. 1, p. 188)

Pison subg. *Krombeiniellum* Richards, 1962. A Revisional Study of the Masarid Wasps, p. 118. N. name.

Insert Preocc. after citation for *Paraceramius*.

koreense (Radoszkowski). Md. (Plummers Is.), Mich.

Taxonomy: Krombein, 1958. Ent. News 69: 166-167.

Genus PISONOPSIS Fox

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 157, figs. 64-70 (larva).

Transfer this genus with component species from subfamily Larrinae, p. 941, to subfamily Trypoxyloninae, p. 954, and place before genus *Trypoxylon* Latr.

birkmanni Rohwer.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 157-158, figs. 64-70 (larva).

Genus TRYPOXYLON Latreille

(=Trypoxylon subgenus *Trypoxylon* Latreille of Catalog, pp. 955-956)

adelpiae Sandhouse. Syn. of **johnsoni** Fox.

aldrichi Sandhouse. Wyo.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 95, figs. 56-58 (larva).

backi Sandhouse.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 21-22.

***clarkei** Krombein. N. Y., N. J., Pa., Md., D. C., Va., N. C. Nests in wooden borings.

Trypoxylon (Trypoxylon) clarkei Krombein, 1962. Biol. Soc. Wash. Proc. 75: 9. ♂, ♀.

figulum (Linnaeus).

Taxonomy: Soika, 1934. Soc. Ent. France Ann. 103: 342-343, pl. 3, fig. 2 (larva).

frigidum Smith.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 96, figs. 59-60 (larva).
Biology: Thomas, 1962. Amer. Midland Nat. 67: 365.

johnsoni Fox.

Trypoxylon (Trypoxylon) adelphiae Sandhouse (syn. by Krombein, 1962, *loc. cit. supra*, p. 11).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 97, fig. 61 (larva; recorded as *adelphiae*).

pennsylvanicum Saussure. Prey: Immature orb-weaver spider.

richardsi Sandhouse. Nests in twig borings, rose stems, and empty galls.

Prey: Small immature spiders.

Biology: Krombein, 1959. Biol. Soc. Wash. Proc. 72: 101-102.

Genus *TRYPARGILUM* Richards, new status

(= *Trypoxylon* subgenus *Trypargilum* Richards of Catalog, pp. 956-957)

This group merits generic rank on the basis of morphological and ethological characters of both adults and larvae.

arizonense (Fox), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 92, figs. 47-48 (larva).

californicum (Saussure), n. comb.

clavatum (Say), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 91, figs. 36-43 (larva).—
Evans, 1959a, *loc. cit. supra*, p. 160 (larva).

collinum collinum (Smith), changed status and n. comb. Nests in twigs.

Trypoxylon (Trypargilum) collinum Smith. Reduced to subsp. rank (*teste* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 153).

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 160 (larva).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 18.

collinum rubrocinctum (Packard), changed status and n. comb.

Trypoxylon (Trypargilum) rubro-cinctum Packard. Reduced to subsp. rank (*teste* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 153).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 94, fig. 63 (larva).—Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

johannis (Richards), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 92, figs. 44-46 (larva).—
Evans, 1959a, *loc. cit. supra*, p. 160 (larva).—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 153.

politum (Say), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 95, fig. 62 (larva).—Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

rubrocinctum (Packard). A subsp. of *collinum* (Smith).

spinosum (Cameron), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 93, fig. 49 (larva).

striatum (Provancher), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 94, fig. 55 (larva).—Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

Biology: Balduf, 1961. Brooklyn Ent. Soc. Bul. 56: 82-83.

texense (Saussure), n. comb. Fla. Prey: Adult and immature Oxyopidae, Araneidae, Tetragnathidae, Thomisidae, and Salticidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 159 (larva).

Biology: Kurczewski, 1963. Fla. Ent. 46: 243-245.

**tridentatum archboldi* (Krombein), n. comb. Fla. (Lake Placid).

Trypoxylon (Trypargilum) tridentatum archboldi Krombein, 1959. Ent. Soc. Wash. Proc. 61: 150. ♀, ♂.

Biology: Krombein, 1959, *loc. cit. supra*, pp. 151-152.

tridentatum tridentatum (Packard), changed status and n. comb.

Trypoxylon (Trypargilum) tridentatum Packard. Reduced to subsp. rank (*teste* Krombein, 1959, *loc. cit. supra*, p. 150).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 93, figs. 50-52 (larva).—
Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

Tribe PSENINI

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 139-145, figs. 1-22 (larvae).

DIODONTUS subgenus DIODONTUS Curtis, p. 958

atratus parenosus Pate. Calif. (Beverly Hills).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 22.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 144-145, figs. 13-19 (larva).

PSEN subgenus PSEN Latreille, p. 959

barthi Viereck.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 142-143, fig. 20 (larva).

erythropoda Rohwer. Ind.

PSEN subgenus PSENEO Malloch, p. 959

kohlii kohlii Fox. Replaced by *longiventris kohlii* Fox.

kohlii spicatus Malloch. Syn. of *longiventris longiventris* (Cameron).

longiventris kohlii Fox. Replaces *kohlii kohlii* Fox. Ind.

**longiventris longiventris* (Cameron), n. status and n. comb. Mexico (Veracruz).

Mimesa longiventris Cameron, 1891. Biol. Cent.-Amer., Hym., v. 2, p. 137, pl. 8, fig. 18. "♀" = ♂.

Psen (Pseno) kohlii spicatus Malloch, n. syn. (*teste* K. V. Krombein, who examined the type of *longiventris* Cameron).

simplicicornis Fox.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 142 (larva).

*Genus AMMOPSEN Krombein

Ammopsen Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 18.

Type: *Ammopsen masoni* Krombein. By monotypy and orig. desig.

Place before *Mimesa* Shuckard, p. 959.

**masoni* Krombein. Southern Calif., Ariz., N. Mex.

Ammopsen masoni Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 19. ♂, ♀.

MIMESA subgenus MIMESA Shuckard, pp. 960-961

basirufa Packard. Prey: Nymph of *Idiocerus* sp., adult *Macropsis viridis* (Fitch).

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 64.

ezra (Pate). Pa., Md.

polita (Malloch). Maine, Md.

psychrus (Pate). Transf. to subg. *Mimumesa*, p. 961.

MIMESA subgenus MIMUMESA Malloch, p. 961

nigra (Packard). Nests in decaying wood. Prey: *Agallia* sp.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 143-144, figs. 21-22 (larva).

Biology: Gurney, 1951. Ent. Soc. Wash. Proc. 53: 280.

psychrus (Pate). Transf. from subg. *Mimesa* (*teste* K. V. Krombein, who examined the type of *borealis* Smith).

Genus PLUTO Pate, p. 962

? *albifacies* (Malloch). Tex.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 140-141, figs. 1-6 (larva).

sayi (Rohwer). Calif.

tibialis (Cresson). Ala., S. C.

Tribe PEMPHREDONINI

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 126-136, figs. 49-57, 60-69 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 167-168 (larvae).

Genus XYLOCELIA Rohwer, pp. 962-964

atra Mickel. Pa.

franclemonti Krombein. Pa., Md.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 133, figs. 65, 66 (larva).

metathoracica Mickel. Ala.

occidentalis (Fox). Nests in large colonies in ground. Prey: *Aphis* sp., *Myzus persicae* Sulz. (?), *Macrosiphum* (*Acyrtosiphon*) sp., *Rhopalosiphum* sp.

Biology: Powell, 1964. *Wasmann Jour. Biol.* 21: 155-176.

virginiana Rohwer. Md. Prey: Nymphs of *Prociophilus tessellatus* (Fitch). Nests in ground.

Biology: Krombein, 1958. *Biol. Soc. Wash. Proc.* 71: 22-24.—Krombein, 1963. *Ent. Soc. Wash. Proc.* 65: 264.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 133, fig. 67 (larva).

Genus PULVERRO Pate, pp. 964-965

mescalero Pate. Tex.

PEMPHREDON subgenus PEMPHREDON Latreille, pp. 965-966

concolor Say.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 130-131, fig. 56 (larva).

PEMPHREDON subgenus CEMONUS Panzer, p. 966

giffardi (Rohwer). Nev.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 129, fig. 57 (larva).

harbecki Rohwer. Md., Va. Nests in boring in sumac pith. Prey: *Rhopalosiphum rhois* Mon.

Biology: Krombein, 1960. *Ent. News* 71: 34.

***lethifer** form **littoralis** Wagner. Ont. south to Fla., Pa. west to Ill., Colo., Utah, Wash., Calif. Introduced from Europe. Nests in soft pith of roses, berries, sumac, hibiscus. Prey: Nymphs of *Aphis* sp., nymphs and adults of *Chaitophorus populicola patchae* H. R. L.

Pemphredon (**Diphlebus**) **littoralis** Wagner, 1918. *Deutsch. Ent. Ztschr.*, p. 143. ♀, ♂.

Taxonomy: Krombein, 1959. *Brooklyn Ent. Soc. Bul.* 54: 95-96 (as *lethifer lethifer* (Shuckard)).—Evans, 1964, *loc. cit. supra*, pp. 246-248, figs. 23-25 (larva).

Biology: Krombein, 1960. *Ent. News* 71: 34-35.—Krombein, 1964. *Biol. Soc. Wash. Proc.* 77: 99-100, fig. 17.—Thomas, 1964. *Mich. Acad. Sci., Arts and Letters, Papers* 49: 199-201.

tenax Fox.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 128-129, figs. 49-55 (larva).

STIGMUS subgenus STIGMUS Panzer, pp. 966-967

americanus Packard. Md. Prey: *Therioaphis* sp.

Biology: Krombein, 1958. *Biol. Soc. Wash. Proc.* 71: 24.—Krombein, 1961. *Brooklyn Ent. Soc. Bul.* 56: 64-65.

fraternus Say. Prey: Nymphs of *Therioaphis* sp. and *Monellia* sp.

inordinatus **inordinatus** Fox. Nests in pith of mulberry twigs and peony stems. Prey: *Aphis frangulae* Kalt. (?).

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 134-135, figs. 68, 69 (larva).
Biology: Wasbauer and Simonds, 1964. *Pan-Pacific Ent.* 40: 114-116, 1 fig.

Nomen Nudum in Stigmus Panzer

**Stigmus coloradensis* Ashmead, 1889. In Cockerell. Colo. Biol. Assn., 10th Rept., [p. 2] (probably published originally in Custer County Courant newspaper).

Genus PASSALOEUCUS Shuckard, pp. 967-968

annulatus (Say). Nest in boring in sumac pith. Prey: *Macrosiphum* sp., nymphs; adult *Neothomasia populicola* (Thos.).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 24.—Krombein, 1960. Ent. News 71: 35-36.

cuspidatus Smith. The oldest available name for the species called *mandibularis* (Cresson) in Catalog (*teste* K. V. Krombein, who has examined the types).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 24-25.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 131-132, figs. 60-64 (larva). —Evans, 1959a, *loc. cit. supra*, p. 167 (larva).—Evans, 1964, *loc. cit. supra*, pp. 250-251 (larva).

gertrudis Krombein. Pa.

ithacae Krombein. Mich.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 249-250, fig. 22 (larva).

mandibularis (Cresson). Syn. of **cuspidatus** Smith; delete ? before ref. to **cuspidatus**.

relativus Fox. Prey: Nymphs of *Aphis* sp.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 25.

***turionum** Dahlbom. Md., Va., N. C., Ohio, Ind., Mich.; introduced from Europe. Nests in twigs.

Passaloeucus turionum Dahlbom, 1845. Hym. Eur. 1: 246. ♀, ♂.

**Passaloeucus brevicornis* Morawitz, 1864. Acad. Sci. St. Petersburg Bul. 7: 462. ♀, ♂.

Taxonomy: Krombein, 1961. Ent. News 72: 258-259.

Genus SPILOMENA Shuckard, pp. 968-969

alboclypeata Bradley. B. C., Oreg., Calif., Idaho, Mont., Utah, Ariz., N. Mex., Colo., Kans., W. Va., Va. Prey: immature Thysanoptera.

Taxonomy and Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 60, figs. 4, 4a, 6.

ampliceps Krombein.

Taxonomy: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 60, figs. 3, 3a.

***barberi** Krombein. Mass., N. Y. and Ont. south to Ga. and Tenn., Iowa, Kans., Colo., N. Mex., Ariz., Utah, Calif. Nests in abandoned anobiid borings in wood. Provisions with immature thrips.

Spilomena barberi Krombein, 1962. Biol. Soc. Wash. Proc. 75: 12. ♂, ♀.

pusilla (Say). Md. Prey: immature *Sericothrips*.

Biology and Taxonomy: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53, 61, figs. 2, 2a, 5.

Genus XYSMA Pate, p. 969

ceanothae (Viereck). Md., Ga. Nests in deserted anobiid beetle burrows in wood. Prey: larvae of Thripinae.

Biology and Taxonomy: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 25.

Subfamily SPHECINAE

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 147-149, figs. 31-35 (larvae).

—Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 91-182, 115 figs. (reclassification).

Tribe AMMOBIINI

(= Tribes *Sphecini* of Catalog and *Chlorionini* of Sup. 1)

Revision: Bohart and Menke, 1963, *loc. cit. supra*, pp. 117-160.

The tribal heading must be changed because Bohart and Menke transferred *Chlorion* Latreille to Tribe Sceliphronini.

Genus AMMOBIA Billberg, Sup. 1, p. 190

(= *Sphex* subg. *Sphex* Linnaeus, pp. 971-972, of Catalog)

Raised to generic rank by Evans and Lin, 1956. Amer. Ent. Soc. Trans. 81: 139.

ashmeadi (Fernald). Idaho, Utah, Nev., Calif.

**dorsalis* (Lepeletier). Southern U. S., Fla. and Ga. to Calif.; Central and South America.

Sphex dorsalis Lepeletier, 1845. Hist. Nat. Ins., Hym., v. 3, p. 347. ♂.

Sphex (Sphex) singularis Smith (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 127).

flavitarsis (Fernald), changed status. Va. to Fla., west to Tex.; Mexico (Durango).

Sphex (Sphex) opacus flavitarsis (Fernald). Raised to specific rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 121).

habena (Say). Md. to Fla., west to Ark. and Tex.; Mexico.

ichneumonea (Linnaeus), changed status. Southern Canada, U. S., south to Brazil and Peru. Delete *jamaicensis* (Drury), a valid sp., and its synonym *ornata* (Lepeletier), from synonymy.

ichneumoneus aurifluus Perty. Syn. of *jamaicensis* (Drury).

icheumoneus fulviventris Guérin. Syn. of *jamaicensis* (Drury).

jamaicensis (Drury). Fla.; West Indies, ? S. America.

Sphex (Sphex) ichneumoneus ichneumoneus (Linnaeus) of Catalog, in part. Remove *jamaicensis* and its syn., *ornata* Lepeletier, from syn. of *ichneumoneus* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 125).

Sphex (Sphex) ichneumoneus aurifluus Perty (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 125).

Sphex (Sphex) ichneumoneus fulviventris Guérin (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 125).

lucae Saussure. Transfer to *Fernaldina* Bohart and Menke.

opacus flavitarsis (Fernald). Raised to specific rank.

singularis (Smith). Syn. of *dorsalis* (Lepeletier).

tepaneca (Saussure). Tex. (Alpine); Mexico. Prey: Tettigoniidae.

Biology: Gillaspay, 1962. Brooklyn Ent. Soc. Bul. 57: 15-17.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 237-238, figs. 1-4 (larva).

texana (Cresson). Kans., Okla., Ariz.

*Genus FERNALDINA Bohart and Menke

Fernaldina Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 130.

Type: *Sphex lucae* Saussure. By monotypy and orig. desig.

Place before *Isodontia*, p. 972.

lucae (Saussure). Southeastern and western U. S., B. C.; northern Mexico.

Transferred from *Sphex* subg. *Sphex*, p. 972.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156-157, fig. 4.

Genus ISODONTIA Patton

(= *Chlorion* subgenus *Isodontia* Patton, pp. 972-973)

**Isodontia* subg. *Murrayella* Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 137.

Type: *Sphex elegans* Smith. Orig. desig.

Raised to generic rank by Evans and Lin, 1956, *loc. cit. supra*, p. 143.

apicalis (Smith). N. J. to Fla., west to Tex., Tenn., Nebr., Ariz. (*Isodontia*) *Sphex (Isodontia) aztecus cinereus* (Fernald). Replaced by *apicalis* (Smith), an older name, which is not a homonym (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 134).

Sphex (Isodontia) harrisi (Fernald) of Catalog, in part. Transfer citation for *harrisi* alone to syn. of *apicalis* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 134).

auripes Fernald. (*Murrayella*)

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 147-148 (larva).

aztecus aztecus (Saussure). Delete *aztecus* (Saussure) and *robustus* (Cameron) from Catalog, and transfer *macrocephalus* (Fox) to synonymy of *philadelphica* (Lepelletier).

elegans (Smith). B. C., U. S. west of 100th Meridian. (*Murrayella*)

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 238-239, figs. 13, 16 (larva).

exornata Fernald. N. C. to Fla., west to Tex. (*Isodontia*)

harrisi Fernald. Remove *philadelphica* Lepelletier, a valid species, from synonymy: remove *apicalis* (Harris) and *mexicana* (Saussure) as another valid species; transfer *harrisi* to synonymy of *apicalis* (Smith).

mexicana (Saussure). U. S. east of Rockies, Ariz.; Mexico, Central America. Prey: *Oecanthus argentinus* Sauss., *Gryllus assimilis* F. (*Murrayella*)

Sphex (Isodontia) harrisi (Fernald) of Catalog, in part. References to *apicalis* (Harris), *apicalis* (Saussure) and *apicalis* var. *mexicana* (Saussure) belong under *mexicana* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 139).

Biology: Lin, C. S., 1962. *Tex. Jour. Sci.* 14: 429-430.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 239-240 (larva).

philadelphica (Lepelletier). Eastern states, N. Y. to Kans., south to Fla. and Tex., Ariz., Calif. (*Isodontia*)

Sphex (Isodontia) aztecus aztecus Saussure, of Catalog, in part. *S. macrocephalus* a syn. of *philadelphica* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 135).

Sphex (Isodontia) harrisi (Fernald) of Catalog, in part. *S. philadelphica* removed from syn. and raised to sp. rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 135).

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 240 (larva).

Genus *PRIONYX van der Linden

(= *Sphex* subg. *Priononyx* Dahlbom, p. 973)

Prionyx van der Linden, 1827. *Nouv. Mem. Acad. Roy. Sci. Bruxelles* 4: 362.

Type: *Ammophila kirbii* van der Linden. By monotypy.

Taxonomy: Parker, 1960. *Pan-Pacific Ent.* 36: 205-208, 1 pl. (key to N. A. spp.).

atratus (Lepelletier).

Biology: Evans, 1958d. *Ent. Soc. Amer. Ann.* 51: 178-181, fig. 1.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 147 (larva).

canadensis (Provancher), changed status. Wash. to north. Calif., east to Idaho, Utah, Nev.

Sphex (Priononyx) pubidorsus (Costa), in part. *C. canadensis* is a valid sp. (*teste* Parker, 1960, *loc. cit. supra*, p. 205); *excisus* (Kohl) should also be removed from syn. of *pubidorsus* and placed as a syn. of *canadensis* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 157).

- **fervens* (Linnaeus). Tex.; West Indies.
Sphex fervens Linnaeus, 1758. Syst. Nat., ed. 10, p. 569. ♀. (Type from West Indies, not Indies.)
- Sphex (Priononyx) striatus* (Smith). Syn. by Schulz, 1912. Ent. Ztschr. Berlin 57: 56.
 Taxonomy: van der Vecht, 1959. Ent. Ber. 19: 130.
 Biology: Evans, 1958d, *loc. cit. supra*, p. 184, figs. 2-3.
- **foxi* Bohart and Menke. Tex., Nev., Utah; northern Mexico.
Sphex (Priononyx) ferruginea Fox, preocc. Substitute name proposed by Bohart and Menke, 1963 (Univ. Calif. Pubs. Ent. 30: 152).
- **parkeri* Bohart and Menke. U. S. south to Isthmus of Tehuantepec.
Priononyx parkeri Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 154, figs. 35, 54, 96, 102. ♂, ♀.
 Biology: Evans, 1958d, *loc. cit. supra*, pp. 183-184.—Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156, fig. 4.—Krombein, 1964. Amer. Mus. Novitates 2201: 18-19.
- pubidorsus* (Costa). Remove *canadensis* (Provancher), a valid sp., and its syn., *excisus* (Kohl), from syn. of *pubidorsus*; place *pubidorsus* in syn. of *thomae* (Fabricius).
- striatus* (Smith). A syn. of *fervens* (Linnaeus).
- **subatratus* Bohart, n. comb. Oreg. and Idaho south and east to Calif., Utah. Ariz., N. Mex., western Tex.; Mexico (Chihuahua).
Priononyx subatrata Bohart, 1958. Brooklyn Ent. Soc. Bul. 53: 90. ♂, ♀.
- thomae* (Fabricius). Southeastern and western states, south to Argentina.
Sphex (Priononyx) pubidorsus (Costa) in part. Remove *canadensis* (Provancher), and its syn. *excisus* (Kohl), as a valid sp.; place *pubidorsus* (Costa) in syn. of *thomae* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 159).
 Biology: Evans, 1958d, *loc. cit. supra*, pp. 181-183.

Genus PALMODES Kohl

(=*Sphex* subg. *Palmodes* Kohl, p. 944, of Catalog)

- Revision: Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 179-191, 17 figs.
- Raised to generic rank by Evans and Lin. 1956, *loc. cit. supra*, p. 141.
- **californicus* Bohart and Menke. Calif., Nev., Oreg., B. C. Prey: adult *Platylyra californica* Scud., immature *Neduba morsei* Caud.
Palmodes californicus Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 182, figs. 3, 13. ♂, ♀.
- **carbo* Bohart and Menke. B. C. to Calif., east to N. W. T., Mont., Colo. and N. Mex.
Sphex (Palmodes) laeviventris Cresson, in part. Remove *morio* Kohl, a valid sp., from synonymy (*teste* Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 188, fig. 17). However, *morio* is preoccupied, so *carbo* proposed as a replacement name by Bohart and Menke, 1963, *loc. cit. supra*, p. 144.
- daggyi* Murray. Syn. of *dimidiatus* (DeGeer).
- **dimidiatus* (DeGeer). U. S. except northwest; Mexico (Chihuahua, Coahuila).
Sphex dimidiatus DeGeer, 1773. Mém. pour servir à l'Hist. des Ins. 3: 577, pl. 30, fig. 5. ♂.
Sphex (Palmodes) daggyi Murray (syn. by Bohart and Menke, 1961, *loc. cit. supra*, p. 190).
Sphex (Palmodes) rufiventris opuntiae (syn. by Bohart and Menke, 1961, *loc. cit. supra*, p. 190).
Sphex (Palmodes) rufiventris rufiventris Cresson (syn. by Bohart and Menke, 1961, *loc. cit. supra*, p. 190).

- ***hesperus** Bohart and Menke. Calif. to B. C., Nev., Utah, Wyo., Colo. Prey: immature *Anabrus simplex* Hald.
Palmodes hesperus Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 184, fig. 6. ♂, ♀.
- ***insularis** Bohart and Menke. Calif. (San Clemente Is.).
Palmodes insularis Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 186. ♂, ♀.
- laeviventris** (Cresson). Remove *morio* (Kohl), a valid sp., from synonymy, and place it under ***carbo** Bohart and Menke. Calif., Wash., Nev., Mont., Utah, Idaho, Wyo., Colo.
- ***lissus** Bohart and Menke. Southern Calif., Ariz., Tex.
Palmodes lissus Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 187, figs. 5, 12. ♂, ♀.
- ***pacificus** Bohart and Menke. Calif.
Palmodes pacificus Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 188, figs. 8, 9, 14. ♂, ♀.
- praestans** (Kohl). Calif., Nev., Ariz., N. Mex.; Mexico (Coahuila).
- rufiventris opuntiae** (Rohwer). Syn. of **dimidiatus** (DeGeer).
- rufiventris rufiventris** (Cresson). Syn. of **dimidiatus** (DeGeer).
- ***stygius** Bohart and Menke. Calif., Nev., Utah, Ariz., N. Mex.
Palmodes stygius Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 191, figs. 1, 11, 16. ♂, ♀.

SPHEX subgenus CHLORION Latreille, p. 974

Transfer to Tribe Sceliphronini and place after **Podium** Fabricius, p. 980.

Genus SPHEX Linnaeus

(= *Ammophila* Kirby, of Catalog, pp. 974-977)

- ***Ammophila** subg. *Eremnophila* Menke, 1964. Canad. Ent. 96: 875.
 Type: *Ammophila opulenta* Guérin. Orig. desig.
 Biology: Evans, 1959b. Amer. Midland Nat. 62: 449-473;—Powell, 1964. Kans. Ent. Soc. Jour. 37: 240-258.
- aberti** (Haldeman). Transfer *montezuma* Cameron to syn. of **junceus** (Cresson). Prey: Larvae of *Euchlaena* sp. in Geometridae, and of Hesperiididae sp.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 148, figs. 31-33 (larva).
 Biology: Evans, 1959b. *loc. cit. supra*, pp. 454-456.—Powell, 1964, *loc. cit. supra*, pp. 244-251.
- ***aphrodite** (Menke), n. comb. Ariz., Nev., Calif.
Ammophila aphrodite Menke, 1964. Acta Hym. 2: 8, fig. 2. ♂, ♀.
- arvensis** (Dahlbom). Delete from Catalog, an extralimital species (*teste* Menke, 1964. Acta Hym. 2: 21); **evansi** (Menke) replaces **arvensis** of American authors.
- aureonotatus** (Cameron). Prey: *Heterocampa guttivitta* (Wlkr.), larva. (*Eremnophila*)
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 104.—Evans, 1959b, *loc. cit. supra*, pp. 464-465.
- ***bellulus** (Menke), n. comb. Ariz.
Ammophila bellula Menke, 1964. Acta Hym. 2: 17, fig. 10. ♂, ♀.
- ***boharti** (Menke), n. comb. Calif., Nev.
Ammophila boharti Menke, 1964. Acta Hym. 2: 9, fig. 7. ♂, ♀.
- ***californicus** (Menke), n. comb. Calif.
Ammophila californica Menke, 1964. Acta Hym. 2: 18, fig. 16. ♂, ♀.
- chiriquensis** (Cameron). Syn. of **volcanicus** (Cameron).

- **cleopatra* (Menke), n. comb. Western United States.
Ammophila cleopatra Menke, 1964. Acta Hym. 2: 19, fig. 12. ♂, ♀.
- denningi* (Murray). Syn. of *strenuus* (Cresson).
- **evansi* (Menke), n. comb. Eastern United States. Replaces *arvensis* of American authors, not Dahlbom.
Ammophila evansi Menke, 1964. Acta Hym. 2: 20, fig. 17. ♂, ♀.
- extremitatus* (Cresson). Western United States.
Ammophila placida Smith, of Catalog in part. Remove *extremitatus* from syn. (*teste* Menke, *in litt.*).
- femurrubrus* (Fox). Southwestern States.
Ammophila volcanica Cameron, of Catalog in part; *femurrubra* Fox is a valid sp., not a syn. (*teste* Menke, *in litt.*).
- fernaldi* (Murray). Ariz.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 241-242, figs. 6, 7 (larva).
- ferruginosus* (Cresson). Insert H. S. before Smith in original citation for *Sphex cressoni*.
- **formicoides* (Menke), n. comb. Ariz., N. Mex., Tex.; Mexico (Sonora, Durango).
Ammophila formicoides Menke, 1964. Acta Hym. 2: 10, fig. 3. ♂, ♀.
- harti* Fernald. Prey: Spp. of Geometridae and Noctuidae.
 Biology: Evans, 1959b, *loc. cit. supra*, pp. 459-461.
- **hurdi* (Menke), n. comb. Calif.
Ammophila hurdi Menke, 1964. Acta Hym. 2: 12, fig. 1. ♂, ♀.
- junceus* (Cresson). Prey: Spp. of Noctuidae and Notodontidae, including *Macrurocampa marthesia* (Cram.).
Ammophila montezuma Cameron, n. syn. (*teste* Menke, *in litt.*; transf. from syn. of *aberti* and placed in syn. of *junceus*).
 Biology: Evans, 1959b, *loc. cit. supra*, pp. 461-462.
- **karenae* (Menke), n. comb. Calif., Ariz., N. Mex., Nev., Idaho; Mexico (Baja California).
Ammophila karenae Menke, 1964. Acta Hym. 2: 21, fig. 9. ♂, ♀.
- macra* (Cresson). Western United States.
Ammophila procera Dahlbom, of Catalog in part. Remove *macra* from syn. (*teste* Menke, *in litt.*).
- **marshi* (Menke), n. comb. Calif., Nev.
Ammophila marshi Menke, 1964. Acta Hym. 2: 13, fig. 5. ♂, ♀.
- **mcclayi* (Menke), n. comb. Calif.; Mexico (Baja California).
Ammophila mcclayi Menke, 1964. Acta Hym. 2: 24, fig. 13. ♂, ♀.
- **murrayi* (Menke), n. comb. Calif.
Ammophila murrayi Menke, 1964. Acta Hym. 2: 14, fig. 4. ♂, ♀.
- nasalis* (Provancher). Prey: Geometrid caterpillars.
 Biology: Hicks, 1935. Pan-Pacific Ent. 11: 97-99.
- nearcticus* (Kohl). Idaho.
- **nefertiti* (Menke), n. comb. Wash., Oreg., Calif., Ariz., Nev., Idaho.
Ammophila nefertiti Menke, 1964. Acta Hym. 2: 16, figs. 8, 11. ♂, ♀.
- nigricans* (Dahlbom). Prey: Larvae of *Euparthenos nubilis* (Hbn.) and *Zale* sp.
 Biology: Evans, 1959b, *loc. cit. supra*, p. 465.
- **parkeri* (Menke), n. comb. Calif., Nev. Prey: Geometrid caterpillars.
Ammophila parkeri Menke, 1964. Acta Hym. 2: 23, fig. 14. ♂, ♀.
 Biology: Powell, 1964, *loc. cit. supra*, pp. 243-244.
- peckhami* Fernald.
 **Sphex willistoni* Fernald, 1934. No. Amer. and W. Indies *Sphex*, p. 91, fig. 37. ♀. N. syn. (*teste* Menke, *in litt.*).

- pictipennis** (Walsh). Eastern United States.
Ammophila placida Smith, of Catalog in part. Remove **pictipennis** from syn. (*teste* Menke, *in litt.*).
- pilosus** Fernald. Prey: Larvae of Lycaenidae, Geometridae, Noctuidae.
 Biology: Hicks, 1935. Pan-Pacific Ent. 11: 99-101.—Evans, 1963. Ent. News 74: 238, fig. 5—Powell, 1964, *loc. cit. supra*, p. 244.
- placidus** (Smith). Remove **extremitatus** (Cresson) and **pictipennis** (Walsh), both valid spp., from synonymy. Western United States. Prey: Larvae of sp. of HesperIIDae.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 148, fig. 34 (larva).
 Biology: Evans, 1959b, *loc. cit. supra*, pp. 456-459.
- procerus** (Dahlbom). Remove **macra** (Cresson), a valid sp., from syn. Prey: larvae of *Schizura ipomeae* (Dblly.), *Heterocampa manteo* (Dblly.), *Nadata gibbosa* Sm., *Symmerista* sp., and *Smerinthus cerisyi* Kby.
Ammophila saeva Smith, n. syn. (*teste* Menke, *in litt.*).
 Biology: Tilden, 1953. Pan-Pacific Ent. 29: 211-218.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 104-105.—Evans, 1959b, *loc. cit. supra*, pp. 451-454.—Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156, fig. 4.
- pruinus** (Cresson). Prey: Larvae of Geometridae, Noctuidae, Pyralidae.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 149, fig. 35 (larva).
 Biology: Linsley, 1962, *loc. cit. supra*, p. 156.—Powell, 1964, *loc. cit. supra*, pp. 251-253, 256.
- ***regina** (Menke), n. comb. Calif., Oreg.
Ammophila regina Menke, 1964. Acta Hym. 2: 25, fig. 15. ♂, ♀.
- saevus** (Smith). Syn. of **procerus** (Dahlbom).
- ***stangei** (Menke), n. comb. Calif., Nev.
Ammophila stangei Menke, 1964. Acta Hym. 2: 15, fig. 6. ♂, ♀.
- strenuus** (Cresson).
Ammophila denningi Murray, n. syn. (*teste* Menke, *in litt.*).
- trichiosomus** (Cameron). Syn. of **xanthopterus** (Cameron).
- urnarius urnarius** (Dahlbom). Prey: Spp. of Noctuidae and Geometridae.
 Biology: Evans, 1959b, *loc. cit. supra*, pp. 462-464.
- volcanicus** (Cameron). Remove **femurrubrus** (Fox), a valid sp., from synonymy.
Ammophila chiriquensis Cameron, n. syn. (*teste* Menke, *in litt.*).
 Biology: Linsley, 1962, *loc. cit. supra*, p. 156, fig. 3.
- wrightii** (Cresson). Prey: Geometrid larvae.
 Biology: Hicks, 1934. Psyche 41: 150-157, 2 figs.
- xanthopterus** (Cameron).
Ammophila trichiosoma Cameron, n. syn. (*teste* Menke, *in litt.*).

Genus **PODALONIA** Spinola, pp. 977-978

caerulea Murray. Idaho.

robusta (Cresson). Prey: Noctuid larva.

Biology: Evans, 1963. Ent. News 74: 237, fig. 4.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 240-241, figs. 5, 8 (larvae).

Tribe SCALIPHONINI

Revision: Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 99-117.

Genus **SCALIPHON** Klug, pp. 978-979

lucae (Saussure). Delete from Catalog; occurs only in southern Baja California.

Genus CHALYBION Dahlbom, p. 979

- **zimmermanni aztecum* (Saussure), changed status. Western Tex. to Ariz.; Mexico.
Pelopus (!) *aztecus* Saussure, 1867. Reise der Ost. Freg. Novara, Zool. 2: 26. ♂. Reduced to subsp. rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 112).
zimmermanni zimmermanni Dahlbom, changed status. Tenn., Fla. to eastern Tex.
Chalybion zimmermanni Dahlbom. Reduced to subsp. rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 112).

Tribe Podiini

Delete this heading. *Podium* Fabricius belongs to Tribe Sceliphronini (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 105).

Genus PODIUM Fabricius, pp. 979-980

- carolina* Rohwer. Syn. of *rufipes* Fabricius.
 **krombeini* Bohart and Menke. Tex., southern Calif.; Mexico (Morelos, Puebla, Oaxaca).
Podium krombeini Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 106, figs. 4, 49, 60. ♂, ♀.
luctuosum Smith. Nests in borings in dead wood and seals entrance with mud. Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 118-119.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 244-245, figs. 14, 15 (larva).
rufipes Fabricius. N. Y. to Fla., Iowa, Kans., Tex.; Mexico, Central and South America.
 **Podium denticulatum* Smith. 1856. Brit. Mus. Cat. Hym. 4: 236. ♂, ♀. (Syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 108.)
Podium carolina Rohwer (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 108).

Genus CHLORION Latreille

(= *Sphex* subg. *Chlorion* Latreille, p. 974 of Catalog)

- Revision: Menke, 1961. Ent. Soc. Amer. Ann. 54: 667-669, 9 figs.
 Raised to generic rank by Menke and transferred to tribe Sceliphronini by Bohart and Menke, 1963, *loc. cit. supra*, p. 101.
aerarium Patton. Remove *eyaneum* Dahlbom, a valid species, from synonymy, as well as its synonym, *occultus* (Kohl).
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 104.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 195.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 242-244, figs. 9-12 (larva).
eyaneum Dahlbom, changed status. Tex., N. Mex., Ariz.; Mexico.
Sphex (Chlorion) aerarius (Patton) of Catalog, in part. *Chlorion eyaneum* is a valid sp., and *occultus* Kohl is a syn. of it (*teste* Menke, 1961, *loc. cit. supra*, p. 669).

Subfamily MELLININAE

- Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 145-147, figs. 23-30 (larva).
 Tribe Mellinini of Catalog raised to subfamily rank by Evans on basis of larval characters.

Genus MELLINUS Fabricius, p. 980

- bimaculatus* Packard. Pa., N. Y.

Subfamily NYSSONINAE

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 149-156, figs. 36-42, 60, 62, 63, 71-73 (larvae).

This heading should be transferred to follow genus *Mellinus* Fabr.

Genus ALYSSON Panzer, p. 981

conicus Provancher. Md.

flavomaculatus Cameron. Transf. from *Solierella*, p. 942 (*teste* H. E. Evans, who has examined the type).

melleus Say.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 150, fig. 60 (larva).

triangulifer triangulifer Provancher. Md.

NYSSON subgenus NYSSON Latreille, pp. 982-983

ressoni Cameron. Transf. to *Bembecinus*, p. 994, as an unrecognized sp.

daecke Viereck. Pa.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 150 (larva).

lateralis Packard. Md

rusticus Cresson. Host: ? *Psammaecius adornatus* (Brad.).

Biology: Powell and Chemsak, 1959. Pan-Pacific Ent. 35: 200.

simplicicornis Fox. Pa., W. Va.

NYSSON subgenus EPINYSSON Pate, pp. 983-984

melanopus Pate. Pa.

moestus Cresson. Host: ? *Psammaecius adornatus* (Brad.).

Biology: Powell and Chemsak, 1959, *loc. cit. supra*, p. 200.

opulentus Gerstaecker.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 150-151, figs. 36-38 (larva).

pumilus Cresson. Host: ? *Psammaecius adornatus* (Brad.).

Biology: Powell and Chemsak, 1959, *loc. cit. supra*, p. 200.

seminole Bradley. S. C.

trichrus (Mickel). Ala.

Genus HYPONYSSON Cresson, pp. 984-985

raui Rohwer. Fla., Ala.

Genus ZANYSSON Rohwer, p. 985

fuscipes (Cresson). Ala.

plesius (Rohwer). Ala.

Genus METANYSSON Ashmead, pp. 985-986

(= *Huachuca* Pate, p. 986)

Fritz (Neotropica 2: 91, 1957) demonstrates that the subgenus *Huachuca* Pate is not valid. Delete the subgeneric headings *Metanysson* Ashmead and *Huachuca* Pate, and transfer bibliographic citation for the latter from p. 986 to p. 985.

ARGOGORYTES subgenus ARCHARPACTUS Pate, p. 986

nigrifrons (Smith). Wis.

Genus OCHLEOPTERA Holmberg, p. 986

bipunctata (Say). Prey: *Coelidia olitoria* (Say), nymph.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 152 (larva).

AMMATOMUS subgenus TANYOPRYMNUS Cameron, pp. 986-987

moneduloides (Packard). Nests in vertical sand banks. Prey: *Rhynchomitra microrrhina* (Wlkr.), adults and nymphs.

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 195.

SPHECIUS subgenus SPHECIUS Dahlbom, p. 987

speciosus (Drury).

Biology: Lin, N., 1963. Behavior 20: 115-133, 6 figs. (territoriality of males.—Lin, N., 1964. Brooklyn Ent. Soc. Bul. 58: 121-123 (fighting of nesting females).

Genus LESTIPHORUS Lapeletier, p. 988

The generic name *Lestiphorus*, and its type species, *Crabro bicinctus* Rossi, were placed on the Official Lists of Generic and Specific Names of the International Commission on Zoological Nomenclature (Bul. Zool. Nomencl. 20: 331-332, 1963).

HARPACTOSTIGMA subgenus ARCESILAS Pate, p. 989

laminiferum (Fox). Idaho, Utah. Prey: *Scolops* sp., possibly *hesperius* Uhl., nymphs and adults.

Biology: Gittins, 1958. Pan-Pacific Ent. 34: 142.

Genus PSAMMALETES Pate, p. 989

pechumani Pate. Ind.

PSAMMAECIUS subgenus HOPLISOIDES Gribodo, pp. 989-991

adornatus (Bradley). Prey: Nymphs of Membracidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 151-152, fig. 40 (larva).

Biology: Powell and Chemsak, 1959, Pan-Pacific Ent. 35: 195-201.

costalis (Cresson). N. Y. Prey: *Stictocephala* sp. near *borealis* (Fairm.), adults.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 151, figs. 39, 62 (larva).

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 196.

denticulatus (Packard). Prey: Deltoccephaline nymph.

Biology: Krombein, 1959, *loc. cit. supra*, p. 196.

nebulosus (Packard). Prey: *Microcentrus* sp., nymph.

Biology: Krombein, 1959, *loc. cit. supra*, p. 196.

GORYTES subgenus GORYTES Latreille, pp. 991-992

angustus (Provancher). Change ♀ to "♀" = ♂ in original citation of *angustus*.

canaliculatus Packard. Mass., Pa., Md. Nests in sand. Prey: Cicadellidae (*Macropsis viridis* (Fitch) adult, *Idiocerus* sp. nymphs).

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 119.

***deceptor** Krombein. N. H. south to Va., west to Ont., Minn., Nebr., Kans. Prey: Adult *Spissistylus constans* (Wlk.).

Gorytes (*Gorytes*) **deceptor** Krombein, 1958. Ent. Soc. Wash. Proc. 60: 62. ♀, ♂.

***mcateei** Krombein and Bohart. N. Y., Pa., Md., D. C., Va.

Gorytes (*Gorytes*) **mcateei** Krombein and Bohart, 1962. Biol. Soc. Wash. Proc. 75: 15. ♀.

Genus STIZUS Latreille, pp. 993-994

occidentalis Parker. Ariz.

Genus STIZOÏDES Guérin, p. 994

**Omphalium* Vachal, 1899. Soc. Ent. France Ann. 68: 534. Preocc.

Type: *Omphalium niger* Vachal. By monotypy.

**Scotomphales* Vachal, 1900. Soc. Ent. France Bul. p. 233. N. name.
Revision: Gillaspay, 1963. Mus. Comp. Zool. Bul. 128: 369-391, 1 pl.

- **foxi* Gillaspay. Ariz.; Mexico (Baja California). (*Tachystizus*)
Stizoides (Tachystizus) foxi Gillaspay, 1963. Mus. Comp. Zool. Bul. 128:
378, figs. 1, 2, 5, 7, 9, 11. ♀, ♂.
unicinctus (Say). N. C., Alta., B. C.; Mexico (Zacatecas). Host: *Prionyx*
thomae (F.). (*Tachystizus*)

Genus BEMBECINUS Costa, pp. 994-995

- cressoni* (Cameron), n. comb. Transf. from Nysson subg. Nysson, p. 982 (teste
K. V. Krombein, who examined the type).
godmani godmani (Cameron).
Taxonomy: Willink, 1957. Ann. Mag. Nat. Hist. (12) 9: 702-704.—
Evans, 1959a, loc. cit. supra, pp. 152-153, figs. 71-73 (larva).
moneduloides (Smith).
Taxonomy: Willink, 1957, loc. cit. supra, pp. 701-702.

Genus STENIOLIA Say, p. 995

Revision: Gillaspay, 1964. Amer. Ent. Soc. Trans. 89: 1-117, 6 pls.
Biology: Evans and Gillaspay, 1964. Amer. Midland Nat. 72: 257-280, 14
figs.

All species of the genus whose biology is known use adult flies as prey,
principally Bombyliidae.

albiantia Parker. Subsp. of *scelopacea* Handlirsch.

- **californiensis* Gillaspay. Calif.; Mexico (Baja California).
Steniolia californiensis Gillaspay, 1964. Amer. Ent. Soc. Trans. 89: 52,
figs. 5, 10, 25, 29, 34, 50. ♂, ♀.
**dissimilis* C. L. Fox. Southern Ariz.; Mexico (Sonora, Sinaloa).
Steniolia dissimilis C. L. Fox, 1923. Calif. Acad. Sci. Proc. 12: 429. ♂,
♀.

- duplicata* Provancher. Western Tex. to Calif., Nev.; Mexico (Baja California,
Chihuahua, Coahuila). Remove *scelopacea* Handlirsch, a valid
sp., from syn. Place *Nom. nud.* after citation for *S. edwardsii*
Patton. Prey: Adult Bombyliidae, Syrphidae and Muscoidea.
Biology: Evans and Gillaspay, 1964, loc. cit. supra, pp. 274-276.
Taxonomy: Evans, 1964, loc. cit. supra, pp. 263-264, figs. 34-36 (larva).

- **elegans* Parker. Wyo. to Wash., south to western Tex. and southern Calif.;
Mexico (Baja California, Sonora, Coahuila, Aguascalientes, San
Luis Potosi, Hidalgo).
Steniolia elegans Parker, 1929. U. S. Natl. Mus. Proc. 75 (5): 50. ♂.
Biology: Evans and Gillaspay, 1964, loc. cit. supra, p. 276.

- **eremica* Gillaspay. Southern Calif., Ariz., Nev. Prey: Adult asilid, *Efferia*
texana (Bks.).
Steniolia eremica Gillaspay, 1964. Amer. Ent. Soc. Trans. 89: 67, figs. 14,
38, 54, 84. ♂, ♀.

- nigripes* Parker. Mexico (Baja California). Prey: Adult bombyliid fly,
Aphoebantus sp.
Biology: Evans and Gillaspay, 1964, loc. cit. supra, pp. 273-274.

- obliqua* (Cresson). Mont. to N. Mex., west to B. C. and Calif. Prey: Principally
adult Bombyliidae of genus *Villa*; occasionally Syrphidae
(*Pipiza*) and Calliphoridae (*Lucilia*).
Biology: Evans and Gillaspay, 1964, loc. cit. supra, pp. 266-272, figs. 1-10,
13, 14.
Taxonomy: Evans, 1964, loc. cit. supra, p. 265, fig. 45 (larva).

- scelopacea albiantia* Parker, changed status. B. C. to northern Calif., Idaho.
Steniolia albiantia Parker. Reduced to subsp. rank (teste Gillaspay,
1964, loc. cit. supra, p. 75).

scolopacea *scolopacea* Handlirsch, changed status. Calif., Nev.; Mexico (Baja California).

Steniolia duplicata Provancher of Catalog, in part. *S. scolopacea* is a valid sp. (*teste* Gillaspy, 1964, *loc. cit. supra*, p. 71, figs. 8, 15, 33, 39, 55, 68, 77, 85).

tibialis Handlirsch. Wash. to Calif., Nev., Idaho. Prey: Adult bombyliid fly, *Conophorus nigripennis* (Lw.) and syrphid fly, *Syrphus* sp.

Biology: Evans and Gillaspy, 1964, *loc. cit. supra*, p. 276.

***vanduzeei** Gillaspy. Calif., Nev.

Steniolia vanduzeei Gillaspy, 1964. Amer. Ent. Soc. Trans. 89: 62, figs. 13, 37, 53, 83. ♂, ♀.

Genus STICTIELLA Parker, pp. 995-996

Taxonomy: Gillaspy, 1959. Pan-Pacific Ent. 35: 193 (species groups).—Gillaspy, Evans and Lin, C. S., 1962. Ent. Soc. Amer. Ann. 55: 559-566, 1 fig.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 559-563, 1 fig.

The species whose biology is known use adult Lepidoptera as prey, and usually mass-provision their cells.

argentata C. L. Fox. Transfer to **Glenostictia**, which follows.

bituberculata Parker. Transfer to **Glenostictia**, which follows.

callista Parker. Prey: Adult Noctuidae and Lycaenidae.

corniculata Mickel. Nev., Calif.

Taxonomy: Gillaspy, 1963. Ent. News 74: 251-252.

divergens Parker. Transfer to **Microstictia**, which follows.

emarginata (Cresson). Prey: Adult Noctuidae.

exigua (Fox). Transfer to **Microstictia**, which follows.

femorata (Fox). Transfer to **Microstictia**, which follows.

formosa (Cresson). Prey: Adult butterflies and skippers.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 560-561.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 260, figs. 37-41 (larva).

megacera Parker. Transfer to **Glenostictia**, which follows.

melanosterna Parker. Syn. of **pulchella** (Cresson).

***nubilosa** Gillaspy. Calif. (Los Angeles).

Stictiella nubilosa Gillaspy, 1963. Ent. News 74: 252. ♀.

pictifrons (Smith). Transfer to **Glenostictia**, which follows.

pulchella (Cresson). Remove **minutula** (Handlirsch) from synonymy and transfer it to **Xerostictia** Gillaspy. Prey: Adult Pyraustidae and Noctuidae.

Stictiella melanosterna Parker. Syn. by Gillaspy, 1963. Ent. News 74: 252.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 562-563.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 260-261, fig. 42 (larva).

pulla (Handlirsch). Transfer to **Glenostictia**, which follows.

scitula (Fox). Transfer to **Glenostictia**, which follows.

serrata (Handlirsch). Prey: Adult moths, Phycitidae, Olethreutidae, Pyraustidae, Crambidae, and Epipaschiidae.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 561-562, fig. 1.—Krombein, 1964. Amer. Mus. Novitates 2201: 19-20.

spinifera (Mickel). Transfer to **Glenostictia**, which follows.

tenuicornis (Fox). Transfer to **Glenostictia**, which follows.

terlinguae C. L. Fox. Transfer to *Glenostictia*, which follows.

*Genus *GLENOSTICTIA* Gillaspay

Glenostictia Gillaspay, 1962. In Gillaspay, Evans and Lin, C. S., Ent. Soc. Amer. Ann. 55: 563.

Type: *Monedula pulla* Handlirsch. Orig. desig.

Biology: Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 563-566.

Place after *Stictiella* Parker, p. 996. Some species practice progressive provisioning and prey on Diptera and occasionally Hymenoptera.

argentata (C. L. Fox). Transferred from *Stictiella*, p. 995 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

bituberculata (Parker). Transferred from *Stictiella*, p. 995 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

**clypeata* (Gillaspay). Western Tex. to southern Calif., south into Mex. (Chihuahua, Coahuila, Guerrero). Prey: *Tubifera latifrons* (Lw.) and Apiceratidae.

Stictiella clypeata Gillaspay, 1959. Pan-Pacific Ent. 35: 187. ♂, ♀.
(Transf. to *Glenostictia* by Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563.)

**gilva* Gillaspay. Ariz.

Glenostictia gilva Gillaspay, 1963. Ent. News 74: 198. ♂, ♀.

megacera (Parker). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

pictifrons (Smith). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Prey: *Villa* sp.

pulla (Handlirsch). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Prey: Adult Muscidae, Sarcophagidae, Tachinidae, Syrphidae, Therevidae and Bombyliidae.

Biology: Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 564.

scitula (Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Prey: Adult Asilidae, Scenopinidae (*Scenopinus*) and Andrenidae (*Perdita*).

Biology: Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 564-566.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 262, figs. 48-52 (larva).

spinifera (Mickel). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

tenuicornis (Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Calif., Nev.; Mexico (Baja California).

Taxonomy: Gillaspay, 1959. Pan-Pacific Ent. 35: 191.

terlinguae (C. L. Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspay, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

*Genus *XEROSTICTIA* Gillaspay

Xerostictia Gillaspay, 1963. Ent. News 74: 187.

Type: *Xerostictia longilabris* Gillaspay. By monotypy.

Place after *Glenostictia* Gillaspay.

**longilabris longilabris* Gillaspay. Ariz., Calif. Another subspecies occurs in Baja California.

Xerostictia longilabris longilabris Gillaspay, 1963. Ent. News 74: 187, figs. 1-7. ♀, ♂.

*Genus *MICROSTICTIA* Gillaspay

Microstictia Gillaspay, 1963. Ent. News 74: 196.

Type: *Monedula femorata* Fox. Orig. desig.

Place after *Xerostictia* Gillaspy.

- divergens** (Parker). Transferred from *Stictiella*, p. 995 (*teste* Gillaspy, 1963. Ent. News 74: 198).
- exigua** (Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspy, 1963. Ent. News 74: 198).
- femorata** (Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspy, 1963. Ent. News 74: 198).
- minutula** (Handlirsch), changed status. Tex.
Stictiella pulchella (Cresson) of Catalog, in part; **minutula** removed from synonymy and transferred to *Microstictia* (*teste* Gillaspy, 1963. Ent. News 74: 198).

Genus **BICYRTE** Lepeletier, pp. 996-997

- capnoptera** (Handlirsch).
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 157-158, fig. 5.
- quadrifasciata** (Say). Prey: Nymphs of Pentatomidae and Coreidae.
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 105-106.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 196.
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 265 (larva).
- variegata** (Olivier). Transf. from **Bembix**, p. 1000.

Genus **MICROBEMBEX** Patton, pp. 997-998

- aurata** Parker. Southern Calif. to western Tex. A valid sp., removed from syn. of **nigrifrons** (Provancher) [see Sup. 1, p. 196]. (*Teste* Gillaspy, 1963. Proc. Ent. Soc. Wash. 65: 230.)
- monodonta** (Say).
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 266 (larva).

Genus **STICTIA** Illiger, p. 998

(= *Bembix* Latreille, of Catalog)

- carolina** (Fabricius). Prey: Adult Tabanidae, Calliphoridae, Muscidae, Tachinidae and Sarcophagidae.
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 106-107.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 196-197.
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 268, fig. 55 (larva).
- vidua** (Handlirsch). Prey: *Tabanus texanus* Hine.
 Biology: Evans, 1957c. Ent. News 68: 76-77.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 153 (larva).—Evans, 1964, pp. 268-269 (larva).

Genus **BEMBIX** Fabricius, pp. 998-1000

(= *Epibembex* Minkiewicz, of Catalog)

- Biology: Evans, 1957b. Studies in Compar. Ethology *Bembix*, 248 pp., 52 figs., 29 tables.
- amoena** Handlirsch. Nests in rather loose sand not subject to blowing.
 Prey: a variety of Brachycera and calyptrate Muscoidea.
 Biology: Evans, 1957b, *loc. cit. supra*, p. 59.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 270-271, fig. 53 (larva).
- arcuata** Parker. Possibly a syn. of **u-scripta** Fox.
 Taxonomy: Evans, 1961. Psyche 67: 45-61.
- belfragei** Cresson. Nests in very dry, rather firm, coarse, sandy soil. Prey: a variety of Diptera, principally calyptrate Muscoidea.
 Biology: Evans, 1957b, *loc. cit. supra*, pp. 59-78.
- cameroni** Rohwer.
 Bembix rohweri* Maidl and Klima, 1948 (1944). N. syn. (Proposed unnecessarily in Lohrmann, München. Ent. Gesell. Mitt. 34: 424 as a replacement name for **cameroni Rohwer, not *Cameronis*

Handlirsch.)

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 272-273, figs. 43, 44 (larva).

cinerea Handlirsch. Nests in very moist, firm soil on coastal salt flats. Prey: a variety of Brachycera and calyptrate Muscoidea, but principally Tabanidae.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 78-94.

***citripes** Taschenberg.

Bembex citripes Taschenberg, 1870. Gesell. Naturw.-Halle Ztschr. 36: 19. ♀, ♂.

Bembex multipicta Smith (syn. by Fritz, 1963. Neotropica 8: 62).

***Bembex inops** Handlirsch, 1893. Akad. der Wiss. Wien, Math.-Nat. Kl. Sitzber. 102: 833, pl. 2, fig. 32, pl. 7, fig. 23. ♂, ♀.

***Bembex inopides** Strand, 1910. Zool. Jahrb., Abt. Syst. 29: 150. ♀, ♂.

***Bembex gradilis** Parker, 1929. U. S. Natl. Mus. Proc. 75 (5): 122. ♂.

***Bembex bahiae** Parker, 1929. U. S. Natl. Mus. Proc. 75 (5): 138, fig. 90. ♂.

***Bembex subcitripes** Willink, 1947. Acta Zool. Lilloana 4: 588, fig. 172. ♂.

comata Parker. Nests in loose to relatively firm, rather dry sandy soil.

Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 36-48.

helianthopolis Parker. Syn. of **troglodytes** Handlirsch.

hinei Parker. Nests in very moist, firm sand on beaches just above high tide mark. Prey: Tabanidae, rarely Stratiomyidae and Syrphidae.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 94-104.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 156 (larva).

multipicta Smith. Syn. of **citripes** Taschenberg.

nubilipennis Cresson. Nests in hard-packed soil. Prey: Principally calyptrate Muscoidea.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 155, fig. 42 (larva).

occidentalis Fox. Nests in relatively dry sand subject to blowing, mostly in dunes. Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 167-181 (account considers both typical *occidentalis* and *o. beutenmuelleri* Fox).

pruinosa Fox. U. and L. Austr. Zones, east of Rockies. Nests in relatively dry sand subject to blowing, mostly in dunes. Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 142-167.

***rohweri** Maidl and Klima. N. name proposed unnecessarily for **cameroni** Rohwer.

sayi Cresson. Nests in relatively dry, loose sand not subject to blowing. Prey: a variety of Brachycera and calyptrate Muscoidea, but chiefly Tabanidae and Bombyliidae.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 48-59.

spinolae Lepeletier. Nests in loose to relatively firm, rather dry sandy soil. Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 17-36.

texana Cresson. Nests in loose to very firm, relatively dry sandy soil. Prey: a variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 135-141.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 107-110.

troglodytes Handlirsch. Nests in loose, relatively dry sandy soil not subject to blowing. Prey: A variety of Brachycera and calyptrate Muscoidea, principally the latter.

Bembex helianthopolis Parker (syn. by Evans, 1957b, *loc. cit. supra*, p. 116).

Biology: Evans, 1957b, *loc. cit. supra*, pp. 116-135.

- u-scripta** Fox. Tex.; Mexico (Guerrero). Nests in heavy clay. Prey: A wide variety of flies, but principally Brachycera.
 Biology: Evans, 1957b, *loc. cit. supra*, pp. 104-108.—Evans, 1961. *Psyche* 67: 45-61.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 155, figs. 41, 63. (larva).
variegata Olivier. Transf. to *Bicyrtes*, p. 997.

Subfamily PHILANTHINAE

Taxonomy: Evans, 1957a. *Amer Ent. Soc. Trans.* 83: 79-89, figs. 1-35 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 156-157.

Genus PHILANTHUS Fabricius, pp. 1000-1003

- albopilosus** Cresson. Prey: Halictidae, Anthophoridae.
 Biology: Evans and Lin, C. S., 1959. *Wasmann Jour. Biol.* 17: 128.
- bicinctus** (Mickel).
Philanthus hirticulus (Mickel), n. syn. (*teste* Evans, *in litt.*, based on biol. observations).
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 275-276, figs. 65-67 (larva).
- bilunatus** Cresson. Prey: Principally spp. of Halictidae, occasionally Colletidae (*Hylaenus*).
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 83, fig. 19 (larva).
 Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 126-127, figs. 4, 5, 9.
- eurynome** Fox. Prey: *Apis mellifera* L.
 Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 128-129.
- gibbosus** (Fabricius). Prey: Principally spp. of Halictidae, occasionally Sphecidae (*Crossocerus*).
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 82, figs. 11-15 (larva).
 Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 124-125, fig. 3.
- hirticulus** (Mickel). Syn. of *bicinctus* (Mickel).
- lepidus** Cresson. Prey: Usually spp. of Halictidae, occasionally Andrenidae.
 Biology: Evans, 1964. *Psyche* 71: 142-149, 4 figs.
- politus pacificus** Cresson. Prey: Principally halictid bees, but occasional specimens of Andrenidae, Sphecidae, Vespidae and Ichneumonoidea are used.
 Biology: Powell and Chemsak, 1959. *Kans. Ent. Soc. Jour.* 32: 115-120.
- politus politus** Say. Prey: Usually spp. of Halictidae, occasionally spp. of Colletidae (*Hylaenus*) and Andrenidae (*Calliopsis*).
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 84, fig. 20 (larva).
 Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 116-120, figs. 1, 2.
- solivagus** Say. Prey: Principally spp. of Halictidae, occasionally Sphecidae (Crabroninae), Vespidae (*Ancistrocerus*), Colletidae (*Colletes*) and Andrenidae (*Andrena*).
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 83, figs. 16-18 (larva).
 Biology: Evans, and Lin, C. S., 1959, *loc. cit. supra*, pp. 120-124, figs. 6-8.
- ventilabris** Fabricius. Prey: Halictidae, Andrenidae.
 Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, p. 127.

APHILANTHOPS subgenus APHILANTHOPS Patton, p. 1003

- frigidus** (Smith).
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 81, figs. 1-10 (larva).
 Biology: Evans, 1962. *Behavior* 19: 240-245, fig. 1a.
- subfrigidus** Dunning. Prey: Queen in *Formica fusca* group.

APHILANTHOPS subgenus CLYPEADON Patton, pp. 1003-1004

Nests are provisioned with workers of *Pogonomyrmex*.

***californica** Bohart. Calif.

Aphilanthops (Clypeadon) californica Bohart, 1959. Ent. Soc. Amer. Ann. 52: 108. ♂, ♀.

concinulus Cockerell. Prey: Worker ant, *Pogonomyrmex barbatus* (Sm.).

***dreisbachi** Bohart. Tex., Okla., Colo.; Mexico (Zacatecas, Jalisco, Nayarit, Queretaro, San Luis Potosi). Prey: Worker ants, *Pogonomyrmex barbatus rugosus* Em.

Aphilanthops (Clypeadon) dreisbachi Bohart, 1959. Ent. Soc. Amer. Ann. 52: 107. ♂, ♀.

Biology: Evans, 1962. Behavior 19: 249.

***haigi** Bohart. Ariz. to western Tex. Prey: Worker ants, *Pogonomyrmex barbatus rugosus* Em.

Aphilanthops (Clypeadon) haigi Bohart, 1959. Ent. Soc. Amer. Ann. 52: 106. ♂, ♀.

Biology: Evans, 1962. Behavior 19: 245-248, figs. 1b, 2, 3, 4b.

laticinctus (Cresson). Prey: Worker ants, *Pogonomyrmex occidentalis* Cr.

Biology: Evans, 1962. Behavior 19: 250-253.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 274-275, figs. 63-64 (larva).

***sculleni** Bohart. Ariz., Colo., N. Mex., Tex.; Mexico (Chihuahua). Prey: Worker ants, *Pogonomyrmex maricopa barnesi* M. R. Sm.

Aphilanthops (Clypeadon) sculleni Bohart, 1959. Ent. Soc. Amer. Ann. 52: 107. ♂, ♀.

***APHILANTHOPS** subgenus **LISTROPYGIA** Bohart

Aphilanthops subg. *Listropygia* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 106.

Type: *Aphilanthops (Listropygia) bechteli* Bohart. By orig. desig. and monotypy.

Place after *Aphilanthops* subg. *Clypeadon*, p. 1004.

***bechteli** Bohart. Southern Calif. Prey: Workers of *Pogonomyrmex californicus* Buck.

Aphilanthops (Listropygia) bechteli Bohart, 1959. Ent. Soc. Amer. Ann. 52: 106. ♂, ♀.

Genus *Trachypus* Klug, p. 1004

Delete this heading and all entries under it. *Trachypus annulitarsis* Cameron is from Nicaragua, not ? Southwest. States (*teste* K. V. Krombein who examined labels on type specimen).

Genus **CERCERIS** Latreille, pp. 1004-1011

acanthophila Cockerell.

Cerceris minax Mickel (syn. by Scullen, 1960. Pan-Pacific Ent. 36: 75).

Cerceris huachuca Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

archit Mickel. Syn. of **halone** Banks.

argyrot Rohwer. Syn. of **californica** Cresson.

arno Banks. Syn. of **californica** Cresson.

athene Banks. Syn. of **femurrubrum** Viereck and Cockerell.

***azteca** Saussure. Ariz.; Mexico.

Cerceris azteca Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 97.

♀.

Cerceris seminigra Banks (syn. by Scullen, 1961. Pan-Pacific Ent. 37: 45).

belfragei Banks. Syn. of **compacta** Cresson.

bicornuta **bicornuta** Guérin. Mexico. In citation of Cartwright article under Biology, change p. 35 to p. 31.

**Cerceris curvicornis* Cameron, 1890. Biol. Cent.-Amer., Hym., v. 2, p. 124, pl. 8, fig. 3. ♂. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 45.)

- bicornuta fidelis** Viereck and Cockerell. Prey: *Eupagoderes* sp.
Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 75-76.
- biungulata** Cresson. Syn. of **sexta** Say.
- blakei** Cresson. Nests in vertical burrows in sand. Prey: Principally adult Curculionidae, especially *Derclomus basalis* LeC., and occasionally Chrysomelidae and Tenebrionidae.
Cerceris elegantissima Schletterer (syn. by Scullen, 1961. Pan-Pacific Ent. 37: 45).
Biology: Krombein, 1963. Brooklyn Ent. Soc. Bul. 58: 72-79.
- californica** Cresson.
Cerceris ferruginior Viereck and Cockerell (syn. by Scullen, 1960. Pan-Pacific Ent. 36: 75).
Cerceris garciana Viereck and Cockerell (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris populorum Viereck and Cockerell (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris argyrotricha Rohwer (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris cognata Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris denticularis Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris arno Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris illota Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris isolde Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).
Cerceris calodera Banks (syn. by Scullen, 1961. Pan-Pacific Ent. 37: 46).
- calodera** Banks. Syn. of **californica** Cresson.
- catawba** Banks. Syn. of **compar** Cresson.
- clypeata** Dahlbom.
Cerceris imitatoria Schletterer (syn. by Scullen, 1960. Pan-Pacific Ent. 36: 77).
Cerceris zobeide Brimley (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).
Cerceris zosma Brimley (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).
Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 86, fig. 31 (larva).
- cognata** Mickel. Syn. of **californica** Cresson.
- compacta** Cresson.
Cerceris solidaginis Rohwer (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).
Cerceris belfragei Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).
- compar compar** Cresson, changed status.
Cerceris zelica Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).
Cerceris catawba Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).
Cerceris compar Cresson. Reduced to subsp. rank by Scullen, 1962 (Pan-Pacific Ent. 38: 57).
- compar orestes** Banks, changed status.
Cerceris orestes Banks. Reduced to subsp. rank (*teste* Scullen, 1962, *loc. cit. supra*, p. 57).
- complanata** Mickel. Syn. of **vanduzeei** Banks.
- denticularis** Banks. Syn. of **californica** Cresson.
- deserta** Say. Add Preoc. after citation for **fulvipes**, and add N. name after citation for **fulvipediculata**.
- ***dilatata** Spinola. Ariz. to French Guiana.
Cerceris dilatata Spinola, 1841. Soc. Ent. France Ann. 10: 118. ♂.
**Cerceris maximiliani* Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 94. ♀. (Syn. by Scullen, 1961. Pan-Pacific Ent. 37: 46).
Cerceris semiatra Banks (syn. by Scullen, 1961, *loc. cit. supra*, p. 46).
- elegantissima** Schletterer. Syn. of **blakei** Cresson.
- femurrubrum** Viereck and Cockerell. Prey: *Eurymetopon rufipes* Esch.

Cerceris athene Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 78).

Biology: Wasbauer, 1957. Pan-Pacific Ent. 33: 131.

ferruginior Viereck and Cockerell. Syn. of *californica* Cresson.

finitima finitima Cresson, changed status.

Cerceris finitima Cresson. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

finitima vierecki Banks, changed status.

Cerceris vierecki Banks. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

firma Cresson. Syn. of *verticalis* Smith.

flavofasciata flavofasciata H. S. Smith, changed status. Reduced to subsp. (*teste* H. A. Scullen, *in litt.*). Insert H. S. before Smith in specific heading and in orig. cit. Nests in vertical sand banks. Prey: *Chlamisus* sp., *Cryptocephalus mutabilis* Melsh., *C. guttulatus* Oliv., *Bassareus clathratus* Melsh.

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 197-198.

flavofasciata floridensis Banks, changed status. Subsp. of *flavofasciata* (*teste* H. A. Scullen, *in litt.*). Nests in vertical sand banks. Prey: *Cryptotocephalus* spp., *Coscinoptera dominicana* (F.), *Chlamisus* sp.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 276, figs. 68-70 (larva).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 20-22.

floridensis Banks. Subsp. of *flavofasciata* H. S. Smith.

frontata frontata Say, changed status. Prey: *Eupagoderes* sp., *Cleonus pulvereus* (Lec.).

Cerceris frontata Say. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

Cerceris occidentalis Saussure (syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

Cerceris texensis Saussure (syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 76-77.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 277-278 (larva).

frontata raii Rohwer, changed status.

Cerceris raii Rohwer. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

fugatrix Mickel. Syn. of *stigmatosalis* Banks.

fumipennis Say. Prey: Adults of *Chrysobothris femorata* (Oliv.) and *Dicerca lurida* (F.).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 84, figs. 21-26 (larva).—
Evans, 1959a, *loc. cit. supra*, p. 156 (larva).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 110.

garciana Viereck and Cockerell. Syn. of *californica* Cresson.

gnara Cresson. Syn. of *verticalis* Smith.

halone Banks.

Cerceris architis Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 78).

Biology: Byers, 1962. Kans. Ent. Soc. Jour. 35: 317-321.

huachuca Banks. Syn. of *acanthophila* Cockerell.

illota Banks. Syn. of *californica* Cresson.

imitatoria Schletterer. Syn. of *clypeata* Dahlbom.

insolita Cresson. Nests in sand. Prey: *Rhabdopterus praetextus* (Say).

Cerceris intractibilis Mickel (syn. by Scullen, 1962. Pan-Pacific Ent. 38: 58).

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 119.

intractibilis Mickel. Syn. of *insolita* Cresson.

isolde Banks. Syn. of *californica* Cresson.

mimica Cresson. Mexico.

**Cerceris esau* Schletterer, 1887. Zool. Jahrb., Ztschr. f. System. 2: 458. ♀. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

minax Mickel. Syn. of *acanthophila* Cockerell.

munda Mickel. Syn. of *nigrescens* Smith.

nebrascensis H. S. Smith. Insert H. S. before Smith in specific heading and in original citation.

nigrescens Smith.

Cerceris munda Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 79).

occidentalis Saussure. Syn. of *frontata frontata* Say.

orestes Banks. A subsp. of *compar* Cresson.

orphne Banks. Syn. of *sexta* Say.

populorum Viereck and Cockerell. Syn. of *californica* Cresson.

raui Rohwer. A subsp. of *frontata* Say.

**robertsonii emmiltosus* Scullen. Fla., Ga. Prey: *Colaspis favosa* Say, *Paria* sp.

Cerceris robertsonii emmiltosus Scullen, 1964. Ent. News 75: 144. ♀.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 277 (larva).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 22-23.

robertsonii robertsonii Fox, changed status. Insert H. S. before Smith in original citation of *pleuralis*. Reduced to subsp. rank (*teste* Scullen, 1964, *loc. cit. supra*, p. 144).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 86, figs. 27-30 (larva).—
Evans, 1959a, *loc. cit. supra*, pp. 156-157 (larva).

semiatra Banks. Syn. of *dilatata* Spinola.

seminigra Banks. Syn. of *azteca* Saussure.

sexta Say.

Cerceris biungulata Cresson (syn. by Scullen, 1960, *loc. cit. supra*, p. 79).

Cerceris orphne Banks (syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

sextoides Banks. Syn. of *tepaneca* Saussure.

solidaginis Rohwer. Syn. of *compacta* Cresson.

stigmatialis Banks.

Cerceris fugatrix Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 79).

**tepaneca* Saussure. Western U. S. to Mexico.

Cerceris tepaneca Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 90. ♂.

Cerceris sextoides Banks (syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

texensis Saussure. Syn. of *frontata frontata* Say.

**tolteca* Saussure. Ga., Fla., La., Tex.; Mexico, Honduras.

**Cerceris Tolteca* Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 94. ♀, ♂.

**Cerceris cosmiocephala* Cameron, 1904. Invert. Pacifica 1: 67. ♂. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

**truncata* Cameron. Tex., Ariz.; Mexico. Prey: Bruchid beetles, principally *Algarobius prosopis* (Lec.), *Mimosestes protractus* (Horn), *M. amicus* (Horn) and *Neltumius arizonensis* (Schffr.).

Cerceris truncata Cameron, 1890. Biol. Cent.-Amer., Hym., v. 2, p. 121, pl. 7, figs. 19, 20. ♀, ♂.

Biology: Werner, 1960. Psyche 67: 43-44.

vanduzeei Banks.

Cerceris complanata Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 80).

verticalis Smith.

Cerceris gnara Cresson (syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

Cerceris firma Cresson (syn. under *gnara* Cresson by Scullen, 1960, *loc. cit. supra*, p. 78).

vierecki Banks. A subsp. of *finitima* Cresson.

zelica Banks. Syn. of *compar* Cresson.

zobeide Brimley. Syn. of *clypeata* Dahlbom.

zosma Brimley. Syn. of *clypeata* Dahlbom.

Genus *EUCERCERIS* Cresson, pp. 1011-1013

apicata Banks, changed status. Ariz., western Tex., western Nebr.

Eucerceris elegans Cresson of Catalog, in part. *E. apicata* is a valid sp. (*teste* H. A. Scullen, *in litt.*).

Eucerceris conata Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

Eucerceris hespera Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

arizonensis Scullen. Syn. of *lacunosa* Scullen.

bitruncata Scullen. Syn. of *pimarum* Rohwer.

conata Scullen. Syn. of *apicata* Banks.

elegans Cresson. Delete Ariz. and Nebr. from range. Add Preocc. in *Cerceris* after citation for *elegans*, and add N. name after citation for *nevadensis*. Remove *pimarum* Rohwer and *apicata* Banks, both valid spp., from syn.

flavocincta Cresson.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 88, figs. 32-35 (larva).

hespera Scullen. Syn. of *apicata* Banks.

lacunosa Scullen.

Eucerceris arizonensis Scullen (syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

montana Cresson. Mexico.

**Cerceris sonorensis* Cameron, 1891. Biol. Cent.-Amer., Hym., v. 2, p. 129, pl. 8, fig. 10. ♂. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 49.)

pimarum Rohwer, changed status. Southern Ariz. to western Tex. Prey: *Minyomerus languidus* Horn.

Eucerceris elegans Cresson of Catalog, in part. *E. pimarum* is a valid sp. (*teste* H. A. Scullen, *in litt.*).

Eucerceris bitruncata Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

Eucerceris triciliata Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 77-79.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 278-279, figs. 71-73 (larva).

triciliata Scullen. Syn. of *pimarum* Rohwer.

Subfamily CRABRONINAE

Taxonomy: Evans, 1957a, *loc. cit. supra*, pp. 99-113, figs. 69-115 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 163-165, figs. 43-50, 61 (larvae).

Genus *ANACRABRO* Packard, p. 1013

ocellatus ocellatus Packard.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 102, figs. 75-84 (larva).

ENTOMOGNATHUS subgenus TONCAHUA Pate, pp. 1013-1014

Taxonomy: Krombein, 1963. Biol. Soc. Wash. Proc. 76: 247-254 (spp. of eastern U. S.).

**arenivagus* Krombein. Fla. (Arcadia), N. C. (?). Nests in sand.

Entomognathus (Toncahua) arenivaga Krombein, 1963. Biol. Soc. Wash. Proc. 76: 249. ♂, ♀.

lenapeorum Viereck. N. J. to Va., Kans. Nests in open wooded areas.

- memoralis* Banks. Conn. to Va., Kans. Nests in open wooded areas.
mexicana Cameron. Delete from catalog; U. S. record based on misident.
panurgoides (Viereck). Syn. of *texanus* Cresson.
texanus Cresson. Pa., Kans. to Tex.; Mexico (Tamaulipas).
Entomognathus (Toncahua) panurgoides (Viereck) (syn. by Krombein,
 1963. Biol. Soc. Wash. Proc. 76: 253).

LINDENIUS subgenus TRACHELOSIMUS Morawitz, p. 1015

- buccadentis* Mickel. Pa.
 **californicus* Court and Bohart. Calif.
Lindenius californicus Court and Bohart, 1958. Pan-Pacific Ent. 34: 161,
 figs. 1, 8, 11. ♂, ♀.
dugesianus Leclercq. Tex., N. Mex., Calif.
 **inyoensis* Court and Bohart. Calif. (Inyo Co.).
Lindenius inyoensis Court and Bohart, 1958. Pan-Pacific Ent. 34: 164,
 figs. 3, 5, 14. ♀, ♂.
 **neomexicanus* Court and Bohart. N. Mex., Colo. (Possibly belongs in a
 different subgenus.)
Lindenius neomexicanus Court and Bohart, 1958. Pan-Pacific Ent. 34:
 166, figs. 2, 4, 6, 13. ♀, ♂.
 **tylotis* Court and Bohart. Calif.
Lindenius tylotis Court and Bohart, 1958. Pan-Pacific Ent. 34: 164, figs.
 9, 10, 12. ♂, ♀.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 162-163, figs. 51-53 (larva).

Genus TRACHELIODES Morawitz, p. 1015

- amu* Pate.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 290-291, figs. 104-109
 (larva).
 CRABRO subgenus SYNOTHYREOPUS Ashmead, pp. 1016-1017
adventus Smith. Prey: Principally muscoid flies, occasionally Rhagionidae
 and Tabanidae.
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 104, figs. 95-96 (larva).—
 Evans, 1959a, *loc. cit. supra*, p. 164, figs. 47, 48 (larva).
 Biology: Evans, 1960. N. Y. Ent. Soc. Jour. 68: 123-127, fig. 1.
thyreophorus Kohl. Oreg.
virgatus Fox. Oreg.

CRABRO subgenus CRABRO Fabricius, pp. 1017-1018

- discretus* Fox. W. Va. Prey: *Achaetoncura* sp.
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53.
monticola (Packard). Prey: Principally Tabanidae.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 163, figs. 43-46 (larva).
 Biology: Evans, 1960. N. Y. Ent. Soc. Jour. 68: 127-129, fig. 1.—Pechu-
 man, 1963. N. Y. Ent. Soc. Jour. 71: 218-219.
pleuralis Fox. Oreg.

CRABRO subgenus NORUMBEGA Pate, p. 1018

- argus* (Packard). Prey: Principally Dolichopodidae, occasionally Ephydridae
 and Muscidae.
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 164, figs. 49, 50 (larva).
 Biology: Evans, 1960. N. Y. Ent. Soc. Jour. 68: 129-132, fig. 1.

EUPLILIS subgenus EUPLILIS Risso, p. 1018

- clavipes* (Linnaeus).
 Taxonomy: Maréchal, 1929. Soc. Ent. France Ann. 98: 115-116 (larva).

EUPILIS subgenus CORYNOPUS Lepeletier and Brullé, p. 1019

arapaho Pate.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 104, figs. 99-103 (larva).

coarctata modesta (Rohwer). Nests in dead hibiscus stems. Prey: Adult Chironomidae and Ceratopogonidae.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 90-92.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 292-293, figs. 111-112 (larva).

pedicellatus (Packard).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 105, fig. 104 (larva).

rufigaster (Packard). Nests in green and dead hibiscus stems, and in deserted anobiid beetle borings in wood. Prey: Adult Chironomidae.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 26.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 92-98, figs. 12-14.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 291-292, fig. 110 (larva).

MONIAECERA subgenus MONIAECERA Ashmead, p. 1019

asperata (Fox). Nests in soil with communal entrance. Prey: Principally adult Psyllidae, but also Chironomidae, Cicadellidae and Miridae.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 293-294, figs. 74-77 (larva).

Biology: Evans, 1964. Ins. Sociaux 11: 71-78, 3 figs.—Cazier and Mortenson, 1964. Pan-Pacific Ent. 40: 111-114, 1 fig.

CROSSOCERUS subgenus HOPLOCABRO Thomson, p. 1020

angelicus (Kincaid). Prey: Muscoid Diptera.

*CROSSOCERUS subgenus MICROCRABRO Saussure

(=Crossocerus subg. Yuchiha Pate, p. 1020)

Crabro subg. *Microcrabro* Saussure, 1892. In Grandidier, Hist. Nat. Madagascar 20: 574.

Type: *Crabro (Microcrabro) micromegas* Saussure. By monotypy.

Syn. by Leclercq, 1963. Soc. Roy. Ent. Belg. Bul. Ann. 99: 13.

CROSSOCERUS subgenus CROSSOCERUS Lepeletier and Brullé, pp. 1020-1021

planifemur Krombein. Md. (Plummers Is.).

planipes (Fox). Pa., Md. Nests in ground. Prey: Empididae (*Drapetis* sp., *Chersodromia* sp.)

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 119-120.

*spangleri Krombein. Md. (Plummers Island).

Crossocerus (Crossocerus) spangleri Krombein, 1962. Biol. Soc. Wash. Proc. 75: 16. ♂, ♀.

CROSSOCERUS subgenus BLEPHARIPUS Lepeletier and Brullé, pp. 1021-1023

ambiguus (Dahlbom). Oreg.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 106, figs. 69-74 (larva).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 26.

fergusoni Pate. Nev., Calif.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 107, figs. 97-98 (larva).—Evans, 1959a, *loc. cit. supra*, p. 165, fig. 61 (larva).

stictochilos Pate. Md. Nests in green hibiscus stems.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 90.

CROSSOCERUS subgenus NOTHOCABRO Pate, p. 1023

nitidiventris (Fox). Prey: *Nephrotoma virescens* Lw.

CROSSOCERUS subgenus STICTOPTILA Pate, p. 1023

confertus (Fox). N. Mex.

ECTEMNIUS subgenus METACRABRO Ashmead, p. 1025

- cephalotes** (Olivier). Replaces *quadricinctus* Auctt., nec Fabricius. Delete orig. ref. for *quadricinctus*.
 Taxonomy: van der Vecht, 1961. Zool. Verhandl. Rijksmus. Natuurlijke Hist. Leiden, No. 48, pp. 70-71.

ECTEMNIUS subgenus LOPHOCRABRO Rohwer, p. 1025

- singularis** (Smith). Md.

ECTEMNIUS subgenus HYPOCRABRO Ashmead, pp. 1025-1027

- continuus** (Fabricius). Nests in rotten pear limb. Prey: Muscoid flies.
 Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 120.
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 295, fig. 114 (larva).
- dives** (Lepeletier and Brullé). Md.
- paucimaculatus** (Packard). Mo. Nests in green hibiscus stems along river banks. Prey: Principally Ephydriidae and Agromyzidae.
 Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 73-88, figs. 1-11.
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 294-295, fig. 113 (larva).
- spiniferus** (Fox). Prey: Principally *Ogcodes eugonatus* Lw.
 Biology: Bechtel and Schlinger, 1957. Ent. News 68: 225-232.
- stirpicola** (Packard). Nests in borings in sumac pith. Prey: Small Diptera, principally acalyptrate muscoids.
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 109, figs. 85-90 (larva).—
 Evans, 1959a, *loc. cit. supra*, p. 165 (larva).
 Biology: Krombein, 1960. Ent. News 71: 63-68.

ECTEMNIUS subgenus APOCTEMNIUS Leclercq, Sup. 1, p. 199

- texanus** ais Pate. Nests in rose canes. Prey: Acalyptrate Diptera.
 Biology: Morse and Kerr, 1957. Fla. Ent. 40: 77-80, 1 fig.

ECTEMNIUS subgenus ECTEMNIUS Dahlbom, pp. 1027-1028

- atriceps** (Cresson). Oreg.
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 109, figs. 91-94 (larva).

LESTICA subgenus SOLENIUS Lepeletier and Brullé, pp. 1028-1029

- cinctella** (Fox). Oreg.

Genus OXYBELUS Latreille, pp. 1030-1034

- Taxonomy: Bohart and Schlinger, 1957. Calif. Ins. Survey Bul. 4: 103-142, 23 maps, 93 figs. (descr. of Calif. spp. and key to N. Amer. spp.).
 Change endings to masculine gender (*teste* Internatl. Code Zool. Nomencl., Art. 30 (a) (3), 1961).
- bipunctatus** Olivier. Pa., Md.
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 111, figs. 107-115 (larva).
- cressonii** Robertson. Pa., Md.
- emarginatum** Say. Prey: *Anarete buscki* (Felt), *Atherigona orientalis* Schin., *Gymnopternus* sp., *Chironomus* sp., *Chaoborus punctipennis* Say.
 Biology: Krombein and Kurczewski, 1963. Biol. Soc. Wash. Proc. 76: 150-151.—Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 120.—
 Krombein, 1964. Amer. Mus. Novitates 2201: 24-26.
- sericeus sericeus** Robertson. Prey: *Ephydra riparia* Fall.
 Biology: Bohart and Marsh, 1960. Pan-Pacific Ent. 36: 115-118.
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 112, figs. 105-106 (larva).
- uniglumis quadrinotatus** Say.

Superfamily APOIDEA

Taxonomy: Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 1-538, 134 figs., 16 tables (manual of spp. of eastern U. S. in Colletidae, Andrenidae, Halictidae and Melittidae.—Mitchell, 1962. N. C. Agr. Expt. Sta. Bull. 152: 1-557, 134 figs., 18 tables (Part II of manual of eastern bees, containing Megachilidae, Anthophoridae, Xylocopidae, and Apidae).

Ecology: Linsley, 1958. Hilgardia 27: 543-599 (solitary bees).

Morphology: Wille, 1959. Ent. Soc. Amer. Ann. 51: 538-546, 24 figs. (dorsal vessel).

Evolution: Linsley, 1961. XI Internatl. Kongr. Ent. Wien 1960, Verhandl. 1: 593-596 (role of flower specificity).

Biology: Linsley, MacSwain, and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 1-58 (comparative behavior of bees and Onagraceae).

Family COLLETIDAE

Subfamily COLLETINAE

Tribe CAUPOLICANINI

Genus CAUPOLICANA Spinola, p. 1044

yarrowi (Cresson).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 158-159.

Nomen Nudum in *Caupolicana* Spinola

**Megacilissa monticola* Ashmead in Cockerell, 1889. Colo. Biol. Assn., 10th Rept., [p. 2] (probably published originally in Custer County Courant newspaper).

Genus PTILOGLOSSA Smith, p. 1044

arizonensis Timberlake. Visiting flowers of *Solanum elaeagnifolium* and a species of Liliaceae.

Biology: Linsley, 1962. Pan-Pacific Ent. 38: 75-82.

*Tribe PARACOLLETINI

Place after *Ptiloglossa* Smith, p. 1044.

*Genus EULONCHOPRIA Brèthes

Eulonchopria Brèthes, 1909. Mus. Nac. Buenos Aires An. 19: 247.

Type: *Eulonchopria psauenyithioides* Brèthes. By monotypy.

**punctatissima* Michener. Southern Ariz.; Mexico (Guerrero). On flowers of *Acacia*, and collecting pollen of *Baccharis* (?).

Eulonchopria punctatissima Michener, 1963. Ent. Soc. Amer. Ann. 56: 847, figs. 1, 2, 7, 8, 9. ♀, ♂.

Tribe COLLETINI

Genus COLLETES Latreille, pp. 1044-1049

**stephni* Timberlake. Visiting flowers of *Cercidium*, *Geraea*, and *Larrea*.

Colletes stephni Timberlake, 1958. Pan-Pacific Ent. 34: 143. ♂, ♀.

Biology: Hurd and Powell, 1958. Pan-Pacific Ent. 34: 147-153, 1 fig.

Subfamily HYLAEINAE

Genus HYLAEUS Fabricius, pp. 1049-1052

affinis (Smith). Eastern U. S. and Canada west to Utah and Alta., south to Ga. and Miss. Visits many flowers. (*Prosopis*)

- Hylaues ziziae* (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 63).
Hylaues albertensis Cockerell, n. syn. (*teste* R. R. Snelling, personal communication).
Hylaues dunningi (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- albertensis* Cockerell. Syn. of *affinis* (Smith).
 **aztecus* (Cresson). Ariz.; Mexico (Baja Calif., Veracruz).
Prosopis azteca Cresson, 1869. Boston Soc. Nat. Hist. Proc. 12: 272. ♀.
binghami (Lovell). Syn. of *modestus modestus* Say.
calvus (Metz). Oreg. and Calif., east to Nev. and Ariz.; Mexico (Baja Calif.). (*Paraprosopis*)
coloradensis (Cockerell). N. Mex. and Wyo. west to Calif. and B. C. (*Paraprosopis*)
confluens (Smith). N. J. to Fla. Visits many flowers. (*Prosopis*)
cookii (Metz). Colo., N. Mex., Nev., Calif. Change ♂ ♀ in orig. cit. to ♂ (♀ misdet.). (*Paraprosopis*)
cressoni cressoni (Cockerell). Visits a great variety of flowers. (*Hylaues*)
Hylaues cressoni pasadenae (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
cressoni mesillae (Cockerell), new status. (*Hylaues*)
Hylaues mesillae (Cockerell). Reduced to subsp. rank (*teste* R. R. Snelling, personal communication).
Hylaues magniclavis (Swenk and Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
cressoni pasadenae (Cockerell). Syn. of *cressoni cressoni* (Cockerell).
divergens (Cockerell). Syn. of *wootoni* (Cockerell).
dunningi (Cockerell). Syn. of *affinis* (Smith).
ellipticus (Kirby). Widespread in North America. Visits a number of flowers. (*Hylaues*)
episcopalis (Cockerell). A subsp. of *rugulosus* (Cockerell). N. B., *coquillettii* (Cockerell) is removed from syn. of *episcopalis* and assigned as a valid subsp. of *rugulosus*.
flammipes (Robertson). Fla. (Citrus Co.). (*Prosopis*)
floridanus (Robertson). Minn., Mich., Ill., Ky., N. C., Ga., Fla. On flowers of *Erigeron*, *Ilex*, *Polygonella*, *Pyracantha*, *Aster*, *Solidago*, *Cornus* and *Eulophus*. (*Paraprosopis*).
Hylaues modestus modestus Say, in part. *Prosopis floridanus* is a valid sp. and *eulophi* Robertson is a syn. of it (*teste* Mitchell, 1960, *loc. cit. supra*, p. 77).
 **formosus* Krombein. Fla. (Key Largo, Stock Is.); West Indies (Bahamas). On flowers of *Metopium toxiferum*.
Hylaues formosus Krombein, 1953. Amer. Mus. Novitates 1633, p. 19. ♀.
 **Hylaues metopii* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 80. ♀. N. syn. (based on comparison of type material by K. V. Krombein).
georgicus (Cockerell). N. Y., N. C. On flowers of *Pyracantha* and *Crataegus*. (*Paraprosopis*)
giffardiellus Cockerell. A subsp. of *rugulosus* (Cockerell).
graenicheri Mitchell. On flowers of *Flaveria* and *Metopium*.
grossicornis (Swenk and Cockerell). Tex. east to N. C. and north to Minn., Wis., Mich. Visits flowers of *Crataegus*, *Daucus* and *Pyracantha*. (*Hylaues*)
illinoisensis (Robertson). Ill. and W. Va. to N. Y., Mass., Maine. Visits many flowers. (*Prosopis*)

- magniclavis* (Swenk and Cockerell). Syn. of *ressoni mesillae* (Cockerell).
- mesillae* (Cockerell). A subsp. of *ressoni* (Cockerell).
- **metopii* Mitchell. Syn. of *formosus* Krombein.
- modestus modestus* Say. Delete *floridanus* (Robertson), a valid sp., from synonymy, and its synonym *eulophi* (Robertson). Visits many flowers. (*Prosopis*)
- Hylaeus binghami* (Lovell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 66).
- nelumbonis* (Robertson). S. C., Ga., Fla. Visits flowers of *Castalia* and *Nelumbo*. (*Prosopis*)
- nevadensis* (Cockerell). Calif., Nev., Oreg., Wash., Idaho, B. C. (*Paraprosopis*)
- Hylaeus oregonensis* Bridwell, n. syn. (*teste* R. R. Snelling, personal communication).
- oregonensis* Bridwell. Syn. of *nevadensis* (Cockerell).
- ornatus* Mitchell. N. C. to Fla. On flowers of *Cephalanthus*, *Hypericum*, *Melilotus* and *Parthenocissus*. (*Prosopis*)
- potens* (Metz). Syn. of *sparsus* (Cresson).
- repolitus* Cockerell and Sumner. Probably a syn. of *ressoni ressoni* (Cockerell). Change (? *Paraprosopis*) to (*Hylaeus*)
- rudbeckiae* (Cockerell and Casad). Minn., Wis., Ont., Conn., N. J. (?), Ala. (?). (*Hylaeus*)
- rugulosus coquillettii* (Cockerell), new status. In desert areas, western Tex., Nev. and Idaho to eastern Oreg. and Calif.; Mexico (Baja California, Sonora). (*Prosopis*)
- Hylaeus episcopalis* (Cockerell) of Catalog, in part. *H. coquillettii* (Cockerell) removed from syn. and placed as valid subsp. of *rugulosus* (*teste* R. R. Snelling, personal communication).
- rugulosus episcopalis* (Cockerell), new status. Transition and Sonoran faunas, N. Mex., Colo. and Alta. west to Pacific coast. (*Prosopis*)
- Hylaeus episcopalis* (Cockerell) of Catalog, in part. *H. episcopalis* reduced to subsp. rank (*teste* R. R. Snelling, personal communication), but *coquillettii* removed from syn. and made a valid subsp. of *rugulosus*.
- rugulosus giffardiellus* Cockerell, new status. Central Calif. (Sacramento and San Joaquin Valleys). (*Prosopis*)
- Hylaeus giffardiellus* Cockerell, reduced to subsp. rank (*teste* R. R. Snelling, personal communication).
- rugulosus rugulosus* (Cockerell), new status. Colo., Mont., Alta., west to Pacific coast, north to Alaska. (*Prosopis*)
- Hylaeus rugulosus* (Cockerell), reduced to subsp. rank (*teste* R. R. Snelling, personal communication).
- Hylaeus universitatis* (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- saniculae* (Robertson). Mass., Ont., Minn. south to Ga. and Tenn. Visits a number of flowers. (*Hylaeus*)
- schwarzii* (Cockerell). Mass. to Fla. Visits flowers of *Hydrocotyle*, *Medicago*, *Melilotus*, *Sagittaria* and *Salix*. (*Prosopis*)
- sparsus* (Cresson). Que., Mich., Ill., N. Y., Pa., N. C., Tex. On flowers of *Eulophus*, *Osmorrhiza* and *Thaspium*. (*Metziella*)
- Hylaeus potens* (Metz), n. syn. (*teste* R. R. Snelling, personal communication).
- stevensi* (Crawford). Que. south to Ga., west to Idaho, Calif. On flowers of *Vigna sinensis*. (*Hylaeus*)
- subtristis* (Swenk and Cockerell). Syn. of *verticalis* (Cresson).

- teleporus** (Lovell). Ont., N. J., Va., N. C., Ind., Mich. On flowers of *Rubus* and *Salvia*. (*Hylaeus*)
- ***transvittatus** (Cockerell). Southern Ariz. (mts.) to Mexico (D. F.). (*Prosopis*)
Prosopis transvittata Cockerell, 1917. Ann. Mag. Nat. Hist. (8) 20: 437.
 ♀, ♂.
- universitatis** (Cockerell). Syn. of **rugulosus rugulosus** (Cockerell).
- verticalis** (Cresson), new status. Northeastern U. S. and southeastern Canada. On flowers of *Apocynum* and *Geranium*. (*Hylaeus*)
Hylaeus verticallis (!) Cresson (occasionally misspelled in Mitchell, 1960, *loc. cit. supra*, pp. 60, 61, 76, 82, 83).
Hylaeus verticalis verticalis (Cresson), raised to sp. rank (*teste* R. R. Snelling, personal communication).
Hylaeus verticalis tridentulus (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
Hylaeus subtristis (Swenk and Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- verticalis tridentulus** (Cockerell). Syn. of **verticalis** (Cresson).
- wootoni** (Cockerell). Nebr. and Wyo., west to B. C. and Calif., south to Mexico (Chihuahua). (*Paraprosopis*)
Hylaeus divergens (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- ziziae** (Robertson). Syn. of **affinis** (Smith).

Family ANDRENIDAE

Genus ANDRENA Fabricius, pp. 1053-1086

- ablegata** (Cockerell). (*Diandrena*)
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 32-33.
- accepta** Viereck. On flowers of *Aster*, *Bidens*, *Coreopsis*, *Helianthus* and *Silphium*. (*Pterandrena*)
- ***acra** Mitchell. Ont., Ohio, Mich., Wis., Minn. On flowers of *Crataegus* and *Spiraea*. (*Bythandrena*)
Andrena (Bythandrena) acra Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 111, figs. 18, 19, 21. ♂.
- albisigna** Viereck. N. H., Conn., N. Y., Tenn. (*Leucandrena*)
- albofoveata** (Graenicher). Syn. of **imitatrix** Cresson.
- algida** Smith. Hudson's Bay and N. S. south to Minn., Mich., N. Y. and New England States. Visiting flowers of *Fragaria*. (*Thysandrena*)
Andrena (Thysandrena) fuscisignata Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 218).
- aliena** Smith. Delete from Catalog; the type is an Australian species of *Paracolletes* in the broad sense (*teste* C. D. Michener, who has examined the type).
- alleghaniensis** Viereck. Minn. to N. H., south to N. C. On flowers of *Viburnum*. (*Trachandrena*)
 Taxonomy: Knerer and Atwood, 1963. Canad. Ent. 95: 583, figs. 1, 3 (♂).
- ***anatolis anatolis** Linsley and MacSwain. Calif. (southern). Visiting flowers of *Calandrinia*, *Ceanothus*, *Cryptantha*, and *Oenothera*. (*Dian-drena*)
Andrena (Diandrena) anatolis Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 36. ♀, ♂.
- ***anatolis matutina** Linsley and MacSwain. Calif. (Tulare, Kern, and Merced Counties). Visiting flowers of *Calandrinia* and *Oenothera*. (*Dian-drena*)

- Andrena (Diandrena) anatolis matutina* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 38. ♀, ♂.
- andrenoides* (Cresson). Southern Canada and northern U. S., in the East, south to Ga. Visiting a number of flowers. (*Parandrena*)
- angustella angustella* Cockerell, changed status.
Andrena angustella Cockerell of Catalog.
- **angustella quercina* Cockerell. Calif. (Live Oak Canyon, Redlands). On flowers of *Ceanothus*.
Andrena angustella quercina Cockerell, 1939. Ann. and Mag. Nat. Hist. (11) 3: 183. ♂.
- anograe anograe* Cockerell, changed status. (*Onagrarendra*)
Andrena (Onagrarendra) anograe Cockerell. Reduced to subsp. rank (teste Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 126).
- **anograe knowltoni* Linsley and MacSwain. Utah. Visiting flowers of *Stanleya* and *Oenothera*. (*Onagrarendra*)
Andrena (Onagrarendra) anograe knowltoni Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 126. ♀.
- **apasta* Linsley and MacSwain. Calif. (southern). Visiting flowers of *Oenothera*. (*Diandrena*)
Andrena (Diandrena) apasta Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 34. ♀.
- arabis* Robertson. Ill. and Mich. to Conn., south to N. C. Visits flowers of *Arabis*, *Brassica*, *Capsella*, *Cardamine*, *Claytonia*, *Dentaria*, *Prunus* and *Stellaria*. (*Scaphandrena*)
- **arenakensis* Mitchell. Mich. (Arenak Co.). (*Trachandrena*)
Andrena (Trachandrena) arenakensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 177, fig. 35. ♀.
- asteris* Robertson. Minn. to New England States, south to Miss. and Ga. On flowers of *Aster*, *Eupatorium*, *Polygonum*, and *Solidago*. (*Pterandrena*)
- **asteroides* Mitchell. N. J., N. C., Miss. On flowers of *Aster*, *Chrysopsis*, and *Haplopappus*. (*Pterandrena*)
Andrena (Pterandrena) asteroides Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 140, figs. 24, 25. ♀, ♂.
- **atlantica* Mitchell. N. Y. to Fla., Mich., Tex. Visiting a number of flowers. (*Trachandrena*)
Andrena (Trachandrena) atlantica Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 178, figs. 35-37. ♀, ♂.
- australifornica* Viereck. Syn. of *cyanosoma* (Cockerell).
- banksi* Malloch. N. J. to Fla., west to Tex. Taken on flowers of *Prunus angustifolia*.
- barbarica* Viereck. Syn. of *platyparia* Robertson.
- bernardina* Linsley, changed status. (*Onagrarendra*)
Andrena (Onagrarendra) grundeli bernardina Linsley of Sup. 1. Restored to sp. rank (teste Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 128).
- beutenmuelleri* Viereck. N. C., Ohio, Mich., Minn. On flowers of *Prunus angustifolia*. (*Gymnandrena*)
- **bifurcata* Mitchell. Mich., Ohio. (*Leucandrena*)
Andrena (Leucandrena) bifurcata Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 211, figs. 40-42. ♂.
- bisalicis* Viereck. N. Dak. to New England states, south to Ga. Visiting flowers of *Amelanchier*, *Aronia*, *Brassica*, *Crataegus*, *Ilex*, *Prunus* and *Salix*. (*Thysandrena*)
- **bisignata* Mitchell. Mass. to N. C., west to Minn. On flowers of *Erythronium*, *Ilex*, *Prunus*, *Pyrus*, *Salix* and *Viburnum*. (*Gymnandrena*)

- Andrena (Gymnandrena) bisignata* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 122, figs. 20, 22, 23. ♀, ♂.
- **boronensis* Linsley and MacSwain. Calif. (Mojave Desert). On flowers of *Coreopsis*, *Layia* and *Oenothera*. (*Onagrandra*)
- Andrena (Onagrandra) boronensis* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 49. ♀, ♂.
- braccata* Viereck. New England States to Md., west to Colo. On flowers of *Solidago*. (*Pterandrena*)
- bradleyi* Viereck. Colo. to N. S., south to Ga. Taken on flowers of *Prunus*, *Pyrus*, *Rhododendron*, *Ribes*, and *Vaccinium*. (*Conandrena*)
- **brassicae* Mitchell. N. Y., Va. On flowers of *Brassica*. (*Pterandrena*)
- Andrena (Pterandrena) brassicae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 142, figs. 24, 25, 28. ♂.
- carlini carlini* Cockerell, changed status. N. S. to Ga., west to Minn. and Mo. Visiting many flowers. (*Bythandrena*)
- Andrena carlini* Cockerell. Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 111, figs. 17, 19).
- **carlini neorhodura* Mitchell. Mass., Pa., Mich. (*Bythandrena*)
- Andrena (Bythandrena) carlini neorhodura* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 113. ♂.
- carliniformis* Viereck and Cockerell. B. C. (*Gymnandrena*)
- carolina* Viereck. Minn. to N. S., south to Tenn. and Ga. Visiting flowers of *Azalea*, *Claytonia*, *Dentaria*, *Ledum*, *Pyrus*, *Rhodora*, and *Vaccinium*. (*Conandrena*)
- **carolinensis* Mitchell. N. C. (Raleigh). On flowers of *Vicia caroliniana*. (*Gymnandrena*)
- Andrena (Gymnandrena) carolinensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 123, fig. 20. ♀.
- ceanothi* Viereck. Minn. to N. S., south to Ga. Visiting a number of flowers. (*Trachandrena*)
- **cerebrata* Mitchell. N. C. (Waynesville). Taken on flowers of *Malus*.
- Andrena cerebrata* Mitchell, 1960. N. C. Dept. Agr. Tech. Bull. 141: 255, figs. 51, 56, 57. ♂.
- chalybioides* (Viereck). (*Diandrena*)
- Andrena (Parandrena) perchalybea* Viereck (syn. by Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 31).
- **chippewaensis* Mitchell. Mich., N. B. (? *Leucandrena*)
- Andrena (? Leucandrena) chippewaensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 212, fig. 43. ♀.
- Taxonomy: Knerer and Atwood, 1963. Canad. Ent. 95: 584, figs. 2, 4 (♂).
- **chylismiae* Linsley and MacSwain. Nev. Visiting flowers of *Oenothera* principally, but also of *Sisymbrium*, *Stanleya* and *Haplopappus*. (*Onagrandra*)
- Andrena (Onagrandra) chylismiae* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 121. ♀, ♂.
- Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 37-38.
- commoda* Smith. N. Dak. to Vt. south to Ga. On flowers of *Cornus*. (*Gymnandrena*)
- **compacta* Mitchell. Mich. (Roscommon Co.). (*Trachandrena*)
- Andrena (Trachandrena) compacta* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 181. ♂.
- compactisopa* Viereck. B. C.

complexa (Viereck). Collects pollen of *Ranunculus*. (*Ptilandrena*)

Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 5-13, text figs. 1-5, plate figs. 1b, 3c and d.

confederata Viereck. Ohio to N. J., south to Fla. Visiting a number of flowers. (*Gynnaudrena*)***convallaria convallaria** Linsley and MacSwain. Calif. (San Joaquin Valley and western Mojave Desert). Collects pollen of *Oenothera campestris*. (*Onagrاندrena*)

Andrena (Onagrاندrena) convallaria convallaria Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 193. ♀, ♂.

***convallaria subhyalina** Linsley and MacSwain. Calif. (Kern Co.). Collects pollen of *Oenothera campestris*. (*Onagrاندrena*)

Andrena (Onagrاندrena) convallaria subhyalina Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 193. ♀, ♂.

crataegi Robertson. Transcont. in southern Canada and northern U. S., south to Ga., Colo. and Oreg. Visits a number of flowers. (*Schizandrena*)

Andrena (Schizandrena) subcommoda Cockerell (syn. by Mitchell, 1960, loc. cit. supra, p. 206).

***crenata** Mitchell. Mich. (*Thysandrena*)

Andrena (Thysandrena) crenata Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 221, figs. 44, 51. ♂.

ressonii **ressonii** Robertson, changed status. U. S. and southern Canada. Visits a large number of flowers. (*Opandrena*)

Andrena cressonii Robertson. Reduced to subsp. rank (teste Lanham, 1949. Pan-Pacific Ent. 25: 147).

***ressonii infasciata** Lanham. Calif., Wash. On flowers of *Brassica*, *Pyranantha*, *Ranunculus* and *Salix*. (*Opandrena*)

Andrena cressonii infasciata Lanham, 1949. Pan-Pacific Ent. 25: 147. ♀, ♂.

***ressonii ivanensis** Mitchell. Va., N. C. Taken on flowers of *Brassica* and *Padus*. (*Opandrena*)

Andrena (Opandrena) cressonii ivanensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 249, fig. 52. ♂.

***ressonii tallahasensis** Mitchell, emended. Fla., N. C. (*Opandrena*)

Andrena (Opandrena) cressonii tallahasensis (!) Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 249, figs. 50, 53. ♂.

***critica** Mitchell. N. Y. (Catskill Mts.). (*Bythandrena*)

Andrena (Bythandrena) critica Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 113. ♀.

cuneilabris Viereck. Collects pollen of *Ranunculus*. (*Diandrena*)

Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 17-18, pl. 4.

cyanosoma (Cockerell). Visits flowers of *Oenothera*. (*Diandrena*)

Andrena (Diandrena) austrocalifornica Viereck (syn. by Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 36).

davisi Viereck. Syn. of *violae* Robertson.***dimorpha** Mitchell. N. J., N. C., Fla. (*Pterandrena*)

Andrena (Pterandrena) dimorpha Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 143, figs. 24-26, 28. ♀, ♂.

distans Provancher. Minn. to New England, south to N. C. On flowers of *Geranium*, *Heracleum* and *Polymonium*. (*Ptilandrena*)

Andrena (Ptilandrena) geraniimaculati Viereck (syn. by Mitchell, 1960, loc. cit. supra, p. 154).

***dreisbachi** Mitchell. Mich. (*Gonandrena*)

Andrena (Gonandrena) dreisbachi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 230. ♀.

- Taxonomy: Knerer and Atwood, 1963, *Canad. Ent.* 95: 586, figs. 6, 8 (♂).
- dunningi** Cockerell. Minn. to Que., south to N. C. Visiting a number of flowers. (*Bythandrena*)
- ***duplicata** Mitchell. N. C., Ohio. (*Pterandrena*)
Andrena (Pterandrena) duplicata Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 144, figs. 24-26, 28. ♀, ♂.
- durangoensis** Viereck and Cockerell. Colo. to N. S., south to W. Va. Visiting flowers of *Ilex* and *Rubus*. (*Conandrena*)
Andrena media Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 229).
- ***eoithina** Linsley and MacSwain. Calif. (Kern Co.). Visiting flowers of *Oenothera*. (*Diandrena*)
Andrena (Diandrena) eoithina Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 39. ♀, ♂.
- erigeniae** Robertson. Minn. to N. Y., south to Ga. On flowers of *Claytonia* and *Erigenia*. (*Ptilandrena*)
- erythrogaster erythrogaster** (Ashmead). Visits a number of flowers. (*Bythandrena*)
- erythrogaster subaustralis** Cockerell. On flowers of *Aronia*, *Brassica*, *Crataegus*, *Prunus*, *Salix* and *Stellaria*. (*Bythandrena*)
- erythronii** Robertson. Ill. and Mich. to Que., Maine and Mass. (*Leucandrena*)
- ***evoluta** Linsley and MacSwain. Calif. (Lassen Co.), Nev. (?). Visiting flowers of *Agoseris*, *Oenothera* and *Taraxacum*. (*Diandrena*)
Andrena (Diandrena) evoluta Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 33. ♀.
- fenningeri** Viereck. Mich. to N. Y., south to Ga. On flowers of *Acer*, *Ame-lanchier*, *Aronia*, *Malus*, *Prunus*, *Salix* and *Taraxacum*. (*Trachandrena*)
Andrena (Trachandrena) indianensis Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 182).
- forbesii** Robertson. Colo. and Nebr. east to N. S., south to Ga. Visits a number of flowers. (*Trachandrena*)
- foxii** Cockerell. Transfer from (*Onagrandrena*) to (*Diandrena*).
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 130.
- fragilis** Smith. Eastern Canada and U. S. except Fla., west to Colo. and N. Mex. Visits a number of flowers. Remove *lineata* Provancher from syn. and transfer to syn. of *integra* Smith. Remove *platyparia* Robertson, a valid sp., from syn.
- frigida** Smith. On flowers of *Cornus*, *Prunus*, and *Salix*. (*Andrena*)
Andrena hirticeps Smith (syn. by Mitchell, 1960, *loc. cit. supra*, p. 105).
Andrena hirtignatha Linsley (n. name for *hirticeps* Smith).
- fulvipennis** Smith. N. J. to Fla. on coastal plain. On flowers of *Aster*, *Chrysopsis*, *Coreopsis* and *Haplopappus*. (*Pterandrena*)
- ***furva** Linsley and MacSwain. Calif. On flowers of *Oenothera*. (*Onagrandrena*)
Andrena (Onagrandrena) furva Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 117. ♀.
- fuscisignata** Viereck. Syn. of *algida* Smith.
- ***gabrielsoni** Mitchell. Maine, Conn., N. C., Mich. (*Bythandrena*)
Andrena (Bythandrena) gabrielsoni Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 115. ♀.
- gardineri** Cockerell. Colo. and Tex. to Va. and Ga. On flowers of *Pentstemon*, *Rubus* and *Senecio*. (*Pterandrena*)

- geranii** Robertson. Colo. and Minn. to New England states and Va. Visiting flowers of *Arabis*, *Blephilia*, *Geranium*, *Hydrophyllum*, *Osmorhiza*, and *Polemonium*. (*Thysandrena*)
- geraniimaculati** Viereck. Syn. of *distans* Provancher.
- grundeli bernardina** Linsley. Restored to sp. rank.
- grundeli grundeli** Linsley. Syn. of *ominigra omninigra* Viereck.
- helianthi** Robertson. Minn. to Conn., south to Ill. and Ind., west to Utah and N. Mex. On flowers of *Aster*, *Bidens* and *Helianthus*. (*Pterandrena*)
- heraclei** Robertson. Kans. to Ill., Va., N. C. Visiting flowers of *Crataegus*, *Cornus*, *Heracleum*, *Ptelea*, *Salix* and *Taenidia*. (*Trachandrena*)
- hilaris** Smith. Mich. and Ohio to eastern Canada and New England States, south to Ga. and Ala. Visiting a number of flowers. (*Gymnandrena*)
- hippotes** Robertson. Transcanadian and northern U. S., in East, south to Ga. Visiting a number of flowers. (*Trachandrena*)
Andrena miranda Smith, in part (*hippotes* a valid sp., *teste* Mitchell, 1960, *loc. cit. supra*, p. 184).
Andrena perforatella Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 184).
- hirticincta** Provancher. Alta. to N. S., south to Ga. On flowers of *Aster*, *Epilobium* and *Solidago*. (*Cnemidandrena*)
- hirtignatha** Linsley. Syn. of *frigida* Smith.
- ***ilicis** Mitchell. Md. to Fla., Ohio. On flowers of *Batodendron*, *Castanea*, *Crataegus*, *Ilex* and *Prunus*. (*Trachandrena*)
Andrena (Trachandrena) ilicis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 186, fig. 35. ♀.
- illinoienseis** Robertson. Transcont. in southern Canada and northern U. S., south to S. C. On flowers of *Prunus*, *Salix*, *Taraxacum*, *Antennaria*, *Geranium*, *Stellaria* and *Zizia*. (*Micrandrena*)
- imitatrix** Cresson. Colo., Minn., Ont., and New England States, south to Tex. and Fla. Visits a number of flowers. (*Mimandrena*)
Andrena (Mimandrena) albofoveata (Graenicher) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 205).
- indianenseis** Cockerell. Syn. of *fenningeri* Viereck.
- integra** Smith. Minn. to Que. and New England States, south to Ga. Visiting flowers of *Ceanothus* and *Cornus*. (*Gonandrena*)
Andrena lineata Provancher not a syn. of *fragilis* Smith but of *integra* (*teste* Mitchell, 1960, *loc. cit. supra*, p. 232).
- kalmiae** Atwood. N. S. to N. C. On flowers of *Kalmia*, *Ledum* and *Vaccinium*. (*Trachandrena*)
- krigiana** Robertson. Ill. to Conn., south to Tex. and Ga. On flowers of *Krigia amplexicaulis*. (*Ptilandrena*)
- lata** Viereck. Minn. to N. S. south to Ga. Visiting flowers of *Brassica*, *Hydrangea*, *Potentilla*, *Prunus*, *Pyrus* and *Rubus*. (*Thysandrena*)
Andrena vulgaris Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 223).
- lauracea** Robertson. Ill. On flowers of *Sassafras variifolium*. (*Pterandrena*)
- linsleyi** Timberlake. (*Onagrandrena*)
 Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 11-16.
- macoupinenseis** Robertson. Ill., Mass., N. C. On flowers of *Prunus*, *Salix*, and *Vicia*. (*Andrena*)
- ***macswaini** Linsley. Calif. (San Joaquin valley). Visiting flowers of *Oenothera dentata*. (*Diandrena*)

Andrena (Diandrena) macswaini Linsley, 1960. Pan-Pacific Ent. 36: 97.
♀, ♂.

Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 36.

mandibularis Robertson. Minn. and Ont., east to N. S., south to Ga. On many flowers. (*Andrena*)

mariae Robertson. Colo. and Minn. to N. S., south to Ga. Visiting many flowers. (*Trachandrena*)

media Viereck. Syn. of *durangoensis* Viereck and Cockerell.

melanochroa fragariana Graenicher. Minn. to N. S., south to Ga. On flowers of *Fragaria*, *Potentilla* and *Rubus*. (*Micrandrena*)

**mendica* Mitchell. Va., N. C., Tenn., Ohio. On flowers of *Aruncus* and *Ceanothus*. (*Trachandrena*)

Andrena (Trachandrena) mendica Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 189, figs. 35-37, 40. ♀, ♂.

milwaukeeensis Graenicher. Minn. to N. S., south to Ga. On flowers of *Aruncus*, *Cornus*, *Ilex*, *Pyrus*, *Rubus* and *Viburnum*. (*Andrena*)

miranda Smith. Transcont. in southern Canada and northern U. S., south to N. Mex. and Ga. Visiting flowers of *Ceanothus*, *Prunus*, *Rosa*, *Rubus* and *Zizia*. (*Trachandrena*)

Andrena miranda Smith, in part (delete *hippotes* Robertson, a valid sp., and its syn. *perforatella* Cockerell from syn. of *miranda*, *teste* Mitchell, 1960, *loc. cit. supra*, p. 190).

miserabilis bipunctata Cresson, changed status. Eastern Canada to Ga., west to Calif., Colo., and Tex. Visiting a number of flowers. (? *Micrandrena*)

Andrena bipunctata Cresson (made a subsp. by Mitchell, 1960, *loc. cit. supra*, p. 195. N. B., *miserabilis* Cresson and *scutellata* Dalla Torre removed from syn. and made separate subsp.).

Andrena (Micrandrena) salicinellina Viereck and Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 159).

miserabilis miserabilis Cresson, changed status. N. C. to Tex. On flowers of *Amelanchier*, *Aronia*, *Crataegus*, and *Prunus*. (? *Micrandrena*)

Andrena miserabilis Cresson reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 160).

miserabilis scutellata Dalla Torre. Coastal belt of N. C. to Fla., Miss. On flowers of *Prunus angustifolia*. (? *Micrandrena*)

Andrena scutellata Dalla Torre (removed from syn. of *miserabilis* and raised to subsp. rank, *teste* Mitchell, 1960, *loc. cit. supra*, p. 160).

**monroensis* Mitchell. Mich. (*Gonandrena*)

Andrena (Gonandrena) monroensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 233. ♀.

**montensis* Mitchell. Vt. to N. C., Mich., Wis., Ohio. On flowers of *Hydrangea*, *Rhus* and *Zizia*. (*Trachandrena*)

Andrena (Trachandrena) montensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 191, fig. 35. ♀.

morrisonella Viereck. Minn. to New England States, south to Ga. Visiting flowers of *Crataegus*, *Gypsophila*, *Ilex*, *Malus*, *Prunus*, *Rubus*, and *Salix*. (*Trachandrena*)

nasonii Robertson. Eastern Canada and Minn., south to Ga. and Tex., Colo. Visits a number of flowers. (*Simandrena*)

neonana Viereck. Ind. and Ohio south to La. and Fla. On flowers of *Ilex* and *Malus*. (*Micrandrena*)

**nevadae* Linsley and MacSwain. Nev. Visiting flowers of *Oenothera* for pollen, and of *Stanleya*. (*Onagrاندrena*)

Andrena (Onagrاندrena) nevadae Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 125. ♀.

- **nida* Mitchell. Md. to N. C., Mich., Miss. Taken on flowers of *Amelanchier*, *Prunus* and *Salix*. (*Parandrena*)
Andrena (Parandrena) nida Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 240, fig. 49, 50, 52, 55. ♀, ♂.
- nigrae* Robertson. Ill., Minn. On flowers of *Salix* and *Antennaria*. (*Micrandrena*)
- navalis* Smith. Que. to Ga., west to B. C., Oreg. and N. Mex. On flowers of *Hydrangea*, *Rhododendron*, *Rubus* and *Vagnera*. (*Gymnandrena*)
Andrena (Gymnandrena) semirufa Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 128, figs. 22, 23).
- nivaloides* Graenicher. Syn. of *novaeangliae* Viereck.
- nothocalaidis* (Cockerell). Remove *perchalybea* Viereck from syn., and transfer to syn. of *chalybioides*. (*Diandrena*)
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 33.
- novaeangliae* Viereck. Alta., Minn. and Ill. east to N. S. and N. Y. Visiting flowers of *Angelica*. (*Thysandrena*)
Andrena nivaloides Graenicher (syn. by Mitchell, 1960, *loc. cit. supra*, p. 224).
- nubecula* Smith. B. C. to eastern Canada, south to Ga. On flowers of *Aster*, *Euthamia* and *Solidago*. (*Cnemidandrena*)
- nuda* Robertson. Colo. to N. Y., south to Ga. Visiting a number of flowers. (*Trachandrena*)
- obscura* (Robertson). Ill. and Mich. to N. B., south to N. C. Visiting flowers of *Ceanothus* and *Pycnanthemum*. (*Trachandrena*)
- obscuripennis* Smith. N. J. (?), N. C., Ga., La. (?). On flowers of *Batodendron*, *Crataegus*, *Ilex* and *Padus*. (*Gymnandrena*)
- oenotherae* Timberlake. Calif. (Coastal Santa Barbara Co. east to Colorado Desert); Mexico (Baja California). Collects pollen of *Oenothera cheiranthifolia suffruticosa*. (*Onagrاندrena*)
 Taxonomy: Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 189-190.
- olivacea* Viereck. Visiting flowers of *Oenothera*, *Malacothrix* and *Coreopsis*. (*Diandrena*)
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 35.
- **omninigra clarkiae* Linsley and MacSwain. Calif. (Monterey Co.). On flowers of *Clarkia*. (*Onagrاندrena*)
Andrena (Onagrاندrena) omninigra clarkiae Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 127. ♀, ♂.
- omninigra omninigra* Viereck, changed status. (*Onagrاندrena*)
Andrena omninigra Viereck. Reduced to subsp. rank (*teste* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 127).
Andrena grundeli grundeli Linsley. Syn. by Linsley and MacSwain, 1961, *loc. cit. supra*, p. 127.
- **oraria actitis* Linsley and MacSwain. Calif. (San Francisco). Collects pollen of *Oenothera c. cheiranthifolia*. (*Onagrاندrena*)
Andrena (Onagrاندrena) oraria actitis Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 196. ♀, ♂.
- **oraria oraria* Linsley and MacSwain. Calif. (Marin Co.). Collects pollen of *Oenothera c. cheiranthifolia* and *Oe. ovata*. (*Onagrاندrena*)
Andrena (Onagrاندrena) oraria oraria Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 196. ♀, ♂.
- **osmioides benitonis* Lanham. Northern Calif. On flowers of *Cryptantha*. (*Scoliandrena*)
Andrena osmioides benitonis Lanham, 1949. Pan-Pacific Ent. 25: 148. ♀, ♂.
- osmioides osmioides* Cockerell, changed status. (*Scoliandrena*)

- Andrena osmioides* Cockerell. Reduced to subsp. rank (*teste* Lanham, 1949. Pan-Pacific Ent. 25: 149).
- paenerugosa* Viereck. Syn. of *rugosa* Robertson. Correct spelling of specific heading and in citation for *paenerugosa*.
- **parakrigiana* Mitchell. Ga. (Butler). (*Ptilandrena*)
Andrena (Ptilandrena) parakrigiana Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 157. ♂.
- parnassiae* Cockerell. Mich., Wis., Vt. (*Leucandrena*)
- peckhami* Cockerell. Minn. to Vt., south to N. C. Taken on flowers of *Baptisia* and *Solidago*. (*Gonandrena*)
- perplexa* Smith. Minn., Mich. and N. Y. south to Tex. and Ga. Visiting a number of flowers. (*Bythandrena*)
- persimulata* Viereck. N. S. to Alta. south to N. Y. and Minn. Visiting flowers of *Cornus* and *Viburnum*. (*Gonandrena*)
- personata* Robertson. Minn. to Conn., south to Ga. Visiting a number of flowers. (*Micrandrena*)
- **phaceliae* Mitchell. Md., Va., Ill. Visiting flowers of *Alsine* and *Phacelia*. (*Thysandrena*)
Andrena (Thysandrena) phaceliae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 224, figs. 44, 45. ♀, ♂.
- phenax* Cockerell. Remove from (? *Onagrandrena*).
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 129.
- **picta* Mitchell. N. Y. (Ithaca). (*Leucandrena*)
Andrena (Leucandrena) picta Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 214. ♀.
- **placata* Mitchell. Mass., Conn., Va., Mich., Minn. (*Pterandrena*)
Andrena (Pterandrena) placata Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 148, figs. 24, 25. ♂.
- placida placida* Smith. Visiting flowers of *Acer*, *Amelanchier*, *Fragaria*, *Prunus*, *Pyrus*, *Taraxacum* and *Viburnum*. (*Leucandrena*)
- platyparia* Robertson. New England and Ont. south to N. C. and Tex. Visiting flowers of *Cornus* and *Viburnum*. (*Gonandrena*)
Andrena (Gonandrena) fragilis Smith, in part, of Catalog. A. *platyparia* Robertson is a valid sp., not a syn. (*teste* Mitchell, 1960 *loc. cit. supra*, p. 236).
Andrena (Gonandrena) barbarica Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 236).
- polemonii* Robertson. Ill., Mich. On flowers of *Geranium*, *Polemonium* and *Ranunculus*. (*Ptilandrena*)
- prima* Casad. Transfer from (*Onagrandrena*) to (*Melandrena*).
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 129.
- pruni* Robertson. Minn. and Ill. to Mass., south to Ga. Visiting a number of flowers. (*Bythandrena*)
- **pseudobscura* Mitchell. Maine to N. C., Mich., Ind. Visiting a number of flowers. (*Trachandrena*)
Andrena (Trachandrena) pseudobscura Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 193, fig. 36. ♂.
- **pyracanthae* Mitchell. N. C. On flowers of *Crataegus*, *Pyracantha* and *Rubus*. (*Trachandrena*)
Andrena (Trachandrena) pyracanthae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 194, fig. 35. ♀.
- **raveni* Linsley and MacSwain. Oreg., Calif., Nev., Utah. Visiting flowers of *Oenothera* for pollen, and of *Agoseris* and *Madia* for nectar. (*Onagrandrena*)

- Andrena (Onagrarena) raveni* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 118. ♀, ♂.
Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 31-36.
- **recta* Mitchell. Minn. to N. Y. south to N. C. (*Leucandrena*)
Andrena (Leucandrena) recta Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 217, fig. 43. ♀.
- regularis* Malloch. B. C. to N. S., in eastern U. S. from Minn. to New England States, south to Ga. On flowers of *Aster*, *Brassica*, *Pyrus*, *Rubus*, *Syringa*, and *Vaccinium*. (*Bythandrena*)
- rehni* Viereck. New England to Ga. Visiting flowers of *Aruncus*, *Castanea*, *Ceanothus*, *Chrysanthemum*, and *Hydrangea*. (*Trachandrena*)
- robertsonii* Dalla Torre. Colo. and Minn. to N. S., south to Ark. and Ga. Visiting a number of flowers. (*Conandrena*)
Change *robertsoni* to *robertsonii* in specific heading and in original citation.
- **robervalensis* Mitchell. Que., Mich., Minn. On flowers of *Melilotus alba*. (?*Cnemidandrena*)
Andrena (? Cnemidandrena) robervalensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 175. ♀.
- rozeni* Linsley and MacSwain. (*Onagrarena*)
Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 6-11, 36-37.
- **rubi* Mitchell. N. C., Ga. Visiting flowers of *Aronia* and *Rubus*. (*Trachandrena*)
Andrena (Trachandrena) rubi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 198, fig. 35. ♀.
- rubrotincta* Linsley. (*Onagrarena*)
Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 16-18.
- rudbeckiae* Robertson. Ill. to Kans., south to Tex. and N. C. On flowers of *Coreopsis*, *Lepachys*, *Rudbeckia* and *Verbesina*. (*Pterandrena*)
- rufosignata* Cockerell. Minn. to N. B. and New England states. (? *Conandrena*)
Taxonomy: Knerer and Atwood, 1963. Canad. Ent. 95: 585, figs. 5, 7 (♂).
- rugosa* Robertson. Minn. to N. S., south to Ga. Visiting a number of flowers. (*Trachandrena*)
Andrena (Trachandrena) paenerugosa Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 198).
- salicinellina* Viereck and Cockerell. Syn. of *miserabilis bipunctata* Cresson.
- salictaria* Robertson. Colo. to N. S., south to Ga. and Miss. On a number of flowers. (*Micrandrena*)
- sayi* Robertson. Tenn. and N. C. north to Minn. and N. B. Visiting many flowers. (*Gynnandrena*)
- **seavillensis* Mitchell. N. J. (South Seaville). (? *Leucandrena*)
Andrena (? Leucandrena) seavillensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 217, fig. 43. ♀.
- semirufa* Cockerell. Syn. of *nivalis* Smith.
- **sevierensis* Mitchell, emended. Tenn. (Sevier Co.). (? *Gynnandrena*)
Andrena (? Gynnandrena) seviensis (!) Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 132, fig. 20. ♀.
- sigmundi* Cockerell. Sask. and Minn. to N. B., south to Ga. Visiting flowers of *Amelanchier*, *Prunus*, *Rubus* and *Salix*. (*Trachandrena*)
Andrena (Trachandrena) weedi Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 202).

- simplex** Smith. "United States." (*Pterandrena*)
- solidaginis** Robertson. Nebr. and Minn. to New England States, south to Ga. On flowers of *Aster*, *Boltonia*, *Gnaphalium*, *Polygonum*, and *Solidago*. (*Pterandrena*)
- sperryi** (Cockerell). Calif. (Mojave Desert, San Joaquin Valley). Visiting flowers of *Oenothera*. (*Diandrena*)
- spiraecana** Robertson. Colo. and Minn. to New England States, south to Tenn. and S. C. Visiting flowers of *Aruncus*, *Azalea*, *Cryptotaenia*, *Heracleum*, *Hydrangea*, *Ptelea*, and *Rhus*. (*Trachandrena*)
- ***stagei** Linsley and MacSwain. Wyo. (Sweetwater Co.). On flowers of *Oenothera trichocalyx*. (*Onagrاندrena*)
Andrena (Onagrاندrena) stagei Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 52. ♀.
- stictigastra** Viereck. Remove from (? *Onagrاندrena*).
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 129.
- suavis** Timberlake. Collects pollen of *Ranunculus*. (*Ptilandrena*)
 Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 13-16, plate 3, figs. a and b.
- ***subchalybea chlorosoma** Linsley and MacSwain. Calif. (Berkeley). Visiting flowers of *Ranunculus*. (*Diandrena*)
Andrena (Diandrena) subchalybea chlorosoma Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 32. ♀, ♂.
- subchalybea subchalybea** Viereck, changed status. (*Diandrena*)
Andrena (Diandrena) subchalybea Viereck. Reduced to subsp. rank (teste Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 32).
- subcommoda** Cockerell. Syn. of *crataegi* Robertson.
- ***thorpi** Linsley and MacSwain. Nev. (Humboldt Co.). On flowers of *Oenothera deltooides*. (*Onagrاندrena*)
Andrena (Onagrاندrena) thorpi Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 51. ♀.
- tridens** Robertson. Ill. and Mich. to New England States, south to Tenn. and Ga. On flowers of *Azalea*, *Dentaria*, *Hepatica*, *Hydrangea*, *Rhododendron*, and *Rhus*. (*Andrena*)
- ***unica** Mitchell. N. Y. (Ithaca). (*Trachandrena*)
Andrena (Trachandrena) unica Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 203, fig. 36. ♂.
- ***uvulariae** Mitchell. Md. (Beltsville). On flowers of *Uvularia sessilifolia*. (? *Simandrena*)
Andrena (? Simandrena) uvulariae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 245, fig. 54. ♀.
- ***verna** Mitchell. Md., N. C., Ind., Miss. Visiting flowers of *Prunus* and *Salix*. (? *Mimandrena*)
Andrena (? Mimandrena) verna Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 206, figs. 37, 38. ♂.
- ***vernalis** Mitchell. Conn., N. Y., Ohio (*Micrandrena*)
Andrena (Micrandrena) vernalis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 168, fig. 29. ♀.
- ***vespertina** Linsley and MacSwain. Calif. (Kern Co.). Visiting flowers of *Oenothera*. (*Onagrاندrena*)
Andrena (Onagrاندrena) vespertina Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 123. ♀, ♂.
- viburnella** Graenicher. Ga. Visiting many flowers. (*Bythandrena*)
- vicina** Smith. Oreg. and B. C. to N.S., south to Ga. Visiting a number of flowers. (*Gymnandrena*)

- victima* Smith. Possibly a syn. of *vicina* (*teste* Mitchell, 1960, *loc. cit. supra*, p. 134). (? *Gymnandrena*)
- violae* Robertson. N. Y. to N. C., west to Ill. and Colo. Taken on flowers of *Cardamine*, *Ellisia*, *Oxalis*, *Potentilla*, and *Viola*. (*Iomelissa*)
Andrena davisii Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 252).
- **virginiana* Mitchell. Va. (Barcroft). On flowers of *Ceanothus americanus*. (*Trachandrena*)
Andrena (Trachandrena) virginiana Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 203. ♀.
- **votula* Mitchell. Wis., Mich. (*Trachandrena*)
Andrena (Trachandrena) votula Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 204. ♀.
- vulgaris* Viereck. Syn. of *lata* Viereck.
- weedi* Viereck. Syn. of *sigmundi* Cockerell.
- wellesleyana* Robertson. Minn. and Ill. to New England States. (*Parandrena*)
- wilkella* (Kirby). Holarctic; N. S. to Wis., south to Va. and Ohio. Visits a number of flowers. (*Taeniandrena*)
- yumorum* Viereck. (? *Onagrandrena*)
Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 128.
- ziziae* Robertson. Minn. to New England States, south to Ga. On flowers of *Aruncus*, *Chaerophyllum*, *Polytaenia*, *Sanicula*, *Taenidia*, *Thaspium*, and *Zizia*. (*Micrandrena*)
- ziziaeformis* Cockerell. Mass. to Ga., Tenn. On flowers of *Potentilla*. (*Micrandrena*)

Genus PROTOXAEA Cockerell and Porter, p. 1086

- gloriosa gloriosa* (Fox). Visits *Kallstroemia* and *Solanum* for pollen, a variety of flowers for nectar.
Biology: Linsley and Michener, 1962. Kans. Ent. Soc. Jour. 35: 385-389.
—Cazier and Linsley, 1963. Canad. Ent. 95: 547-556, 2 figs. (male territorial behavior).
- nigerrima nigerrima* (Friese). Delete from Catalog.

PSAENYTHIA subgenus PROTANDRENA Cockerell, p. 1087

- bancrofti* (Dunning). Ind., Wis.
Biology: Chandler, 1962. Kans. Ent. Soc. Jour. 35: 314.
- mexicanorum cockerelli* (Dunning). Ind.

Genus PERDITA Smith, pp. 1087-1097

- **Perdita* subg. *Allomacrotera* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 131.

Type: *Perdita stephanomeriae* Timberlake. By monotypy and by orig. desig.

Revision: Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 303-410, figs. 368-521 (treats *zonalis* and *halictoides* groups of subgenus *Perdita*).—Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 1-156, figs. 522-732 (treats *octomaculata* group of subgenus *Perdita*).—Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 1-124, figs. 733-904, 2 text figs. (treats *ventralis* group of subg. *Perdita*, and suppl. to Parts I-IV).—Timberlake, 1964. Calif. Univ. Pubs. Ent. 28: 125-388, figs. 905-1190, 77 text figs. (treats *sphaeralceae* group of subgenus *Perdita*).

Part VI of the revision of this genus (Timberlake, 1964) was received too late for inclusion.

- **abdominalis* Timberlake. Southern Calif.; Baja Calif. On flowers of *Pectis papposa*. (*Perdita*)

- Perdita abdominalis* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 38, figs. 550, 551, 667. ♀, ♂.
- **acaciae* Timberlake. Southern Calif. On flowers of *Acacia* and *Agave*. (*Perdita*)
Perdita acaciae Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 61, figs. 799, 800, 878. ♀, ♂.
- **accepta* Timberlake. Oreg. (Crook Co.). (*Perdita*)
Perdita accepta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 340. ♀.
- **adjuncta* Timberlake. Nev., Calif., Oreg., Idaho. On flowers of *Chrysothamnus*. (*Perdita*)
Perdita adjuncta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 327, figs. 390, 391, 479. ♀, ♂.
- **aemula* Timberlake. Oreg., Utah. On flowers of *Chrysothamnus*, *Solidago*. (*Perdita*)
Perdita aemula Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 330, figs. 396, 397, 482. ♂, ♀.
- affinis* Cresson. Colo., N. Mex., Ariz. On flowers of *Aplopappus*, *Grindelia*, *Helianthus* and *Solidago*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 108, figs. 636, 637, 720. ♀, ♂.
- **agasta* Timberlake. Tex. (Hidalgo Co.). (*Hexaperdita*)
Perdita agasta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 389. ♀.
- ainsliei* Crawford. N. Mex. (Bernalillo Co.). (*Epimacrotera*)
- albipennis* Cresson. (*Cockerellia*)
Perdita albipennis hyalina Cresson (syn. by Timberlake, 1960, *loc. cit. supra*, p. 130).
Perdita albipennis var. *lingualis* Cockerell. A valid sp. (*teste* Timberlake, 1960, *loc. cit. supra*, p. 131).
- albipennis hyalina* Cresson. Syn. of *albipennis* Cresson.
- **albipes* Timberlake. Tex. (Big Bend National Park). (*Perdita*)
Perdita albipes Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 102, figs. 837, 838, 897. ♂.
- **albocincta* Timberlake. N. Mex. (Laguna). On flowers of *Aplopappus heterophyllus* (*Perdita*)
Perdita albocincta Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 78. ♀.
- **albopicta* Timberlake. Utah (Millard Co.). On flowers of *Chrysothamnus*. (*Perdita*)
Perdita albopicta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 341. ♀.
- amoena* Timberlake. Mexico (Sonora). (*Pentaperdita*)
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 386. ♀.
- **amplipennis* Timberlake. Calif. mts. (Inyo and Mono Counties). On flowers of *Eriogonum* and *Stanleya*. (*Perdita*)
Perdita amplipennis Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 30, figs. 751, 752, 854. ♀, ♂.
- **annexa* Timberlake. N. Mex. (Pecos). On flowers of *Hymenoxys richardsoni*. (*Pentaperdita*)
Perdita annexa Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 133. ♂.
- **apacheorum* Timberlake. Ariz. On flowers of *Gutierrezia* and *Euphorbia*. (*Perdita*)
Perdita apacheorum Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 99. ♀.
- **aplopappi* Timberlake. Ariz., Utah. On flowers of *Aplopappus*, *Eriogonum* and *Gutierrezia*. (*Perdita*)
Perdita aplopappi Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 98, figs. 626, 627, 715. ♀, ♂.

- ***aridella** Timberlake. Utah, Ariz. On flowers of *Gutierrezia* and *Helianthus*. (*Perdita*)
Perdita aridella Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 81, figs. 600, 601, 702. ♀, ♂.
- ***atriventris** Timberlake. Tex. (Calvert). On flowers of *Heterotheca subaxillaris*. (*Perdita*)
Perdita atriventris Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 111, figs. 640, 641, 722. ♂.
- austini** Cockerell. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 40. ♂.
- bacharidis** Cockerell. Calif. (Riverside and Imperial Counties). (*Perdita*)
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 352, figs. 428, 429, 498. ♀, ♂.
- beata beata** Cockerell, changed status. Another subspecies occurs in Mexico. (*Cockerellia*)
Perdita beata Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 130).
- ***beatula** Timberlake. Nev. (Humboldt Co.). (*Perdita*)
Perdita beatula Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 22, figs. 522, 523, 662. ♂.
- bequaertiana** Cockerell. N. Mex. (Albuquerque). (*Xerophasma*)
- ***bicuspidariae** Timberlake. Southern Calif. (deserts). Collects pollen of *Mentzelia involucrata* (*Perdita*)
Perdita bicuspidariae Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 20, figs. 741, 742, 849. ♂, ♀.
- bigeloviae** Cockerell. N. Mex., Tex., Colo. On flowers of *Aplopappus heterophyllus*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 71, figs. 588, 589, 696. ♀, ♂.
- ***biguttata** Timberlake. Ariz. (Douglas in Cochise Co.). On flowers of *Eriogonum*. (*Epimacrotera*)
Perdita biguttata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 95. ♀.
- biparticeps** Cockerell. (*Perdita*)
- ***blanda** Timberlake. N. Mex. (Albuquerque). (*Perdita*)
Perdita blanda Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 358. ♀.
- ***brevihirta** Timberlake. Ariz. (Maricopa Co.). On flowers of *Pectis papposa*. (*Perdita*)
Perdita brevihirta Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 41, figs. 771, 772, 864. ♀, ♂.
- ***bridwelli** Timberlake. Ariz., Calif. On flowers of *Sphaeralcea*. (*Perdita*)
Perdita bridwelli Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 34, figs. 542, 543, 673. ♀, ♂.
- bruneri** Cockerell. Tex. to Man. and Alta. east of Rocky Mts. On flowers of *Grindelia* and other Compositae. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 101, figs. 628, 629, 716. ♀, ♂.
- ***butleri** Timberlake. Ariz. On flowers of *Hymenothrix* and *Pectis*. (*Perdita*)
Perdita butleri Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 96, figs. 624, 625, 714. ♀, ♂.
- ***cara** Timberlake. Tex. (Reeves Co.). On flowers of *Prosopis*. (*Hexaperdita*)
Perdita cara Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 388, figs. 466, 467, 518. ♂.
- carolina** Timberlake. Syn. of **obscurata** Cresson.

- chamacsarachae** Cockerell. Mexico (Durango). (*Perdita*)
Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 371, figs. 450, 451, 509.
♀, ♂.
- ***chloris** Timberlake. Calif., Nev., Ariz. On flowers of *Dalea polyadenia*.
(*Perdita*)
Perdita chloris Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 64, figs. 576, 577, 690. ♀, ♂.
- ***chrysothamni** Timberlake. Calif. (Mohave Desert). On flowers of *Chrysothamnus*. (*Perdita*)
Perdita chrysothamni Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 319, figs. 374, 375, 473. ♀, ♂.
- ***claypolei australior** Timberlake. Calif. (San Diego and Los Angeles Counties). On flowers of *Eriogonum*. (*Perdita*)
Perdita claypolei australior Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 68. ♀, ♂.
- claypolei claypolei** Cockerell, changed status. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)
Perdita claypolei Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1962, *loc. cit. supra*, p. 66, figs. 805, 806, 881. ♀, ♂.
- ***claypolei limatula** Timberlake. Calif. (Kern Co.) to Oreg. Collects pollen of *Eriogonum*. (*Perdita*)
Perdita claypolei limatula Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 68. ♀, ♂.
- cleomellae** Cockerell. Calif. (San Bernardino, Inyo, and Kern Counties). On flowers of *Cleomella*. (*Perdita*)
Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 353, figs. 430, 431, 499.
♀, ♂.
- ***clypeata clypeata** Timberlake. Southern Calif. On flowers of *Eriogonum inflatum*. (*Perdita*)
Perdita clypeata clypeata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 79, figs. 817, 818, 887. ♀, ♂.
- ***clypeata immaculata** Timberlake. Ariz., southern Calif. On flowers of *Eriogonum inflatum*. (*Perdita*)
Perdita clypeata immaculata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 80. ♀, ♂.
- ***cognata** Timberlake. Wyo. (Sweetwater Co.). (*Perdita*)
Perdita cognata Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 93, figs. 616, 617, 710. ♂.
- ***colei** Timberlake. Calif. (San Bernardino Co.). On flowers of *Chrysothamnus*, *Gutierrezia*, *Lepidospartum*, and *Solidago*. (*Perdita*)
Perdita colei Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 48, figs. 783, 784, 870. ♀, ♂.
- consobrina consobrina** Timberlake. (*Perdita*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 109, figs. 638, 639, 721.
♀, ♂.
- consobrina lepida** Timberlake. (*Perdita*)
- ***covilleae** Timberlake. Southern Calif., Nev., Ariz.; Mexico (Baja California). On flowers of *Baeria*, *Heliotropium*, *Larrea*. (*Perdita*)
Perdita covilleae Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 361, figs. 438, 439, 503. ♀, ♂.
- ***crandalli** Timberlake. Ariz. (Pima and Pinal Counties). On flowers of *Petalonyx thurberi*. (*Perdita*)
Perdita crandalli Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 38. ♀.
- ***crassa** Timberlake. Tex. (Sutton and Gillespie Counties). On flowers of *Opuntia*. (*Macrotera*)
Perdita crassa Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 376, figs. 456, 457, 512. ♀, ♂.

- **crassula* Timberlake. N. Mex. (Las Cruces). (*Epimacrotera*)
Perdita crassula Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 381, figs. 462, 463, 516. ♂.
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 93. ♀.
- **croceipes* Timberlake. Ariz. (Yavapai Co.). On flowers of *Gutierrezia microcephala*. (*Perdita*)
Perdita croceipes Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 72, figs. 590, 591, 697. ♂.
- **crotonis caerulea* Timberlake. Utah, Nev. On flowers of *Croton longipes*. (*Perdita*)
Perdita crotonis caerulea Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 47. ♂.
- crotonis crotonis* Cockerell. N. Mex., Ariz.; Mexico (Chihuahua). (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 44, figs. 558, 559, 681. ♀, ♂.
- **crotonis cucullata* Timberlake. Calif. (Anza). On flowers of *Croton californicus*. (*Perdita*)
Perdita crotonis cucullata Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 46. ♀, ♂.
- **crotonis decipiens* Timberlake. Tex. (Victoria). (*Perdita*)
Perdita crotonis decipiens Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 48. ♀, ♂.
- **crotonis dilucida* Timberlake. Ariz., possibly Kans. and Nebr. On flowers of *Euphorbia*. (*Perdita*)
Perdita crotonis dilucida Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 47. ♀, ♂.
- **crotonis juabensis* Timberlake. Utah (Juab Co.). On flowers of *Croton texensis*. (*Perdita*)
Perdita crotonis juabensis Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 103. ♀, ♂.
- **crotonis leucoptera* Timberlake. Southern Calif. On flowers of *Croton* and *Hoffmanseggia*. (*Perdita*)
Perdita crotonis leucoptera Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 45. ♀, ♂.
- **crotonis subnitens* Timberlake. Kans. On flowers of *Croton monanthogynus*. (*Perdita*)
Perdita crotonis subnitens Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 48. ♀.
- **crotonis titusi* Timberlake. Calif. (Chino). (*Perdita*)
Perdita crotonis titusi Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 46. ♀, ♂.
- crotonis undecimalis* Cockerell. N. Mex. On *Croton*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 45. ♀.
- dallasiana* Cockerell. A subsp. of *gerhardi* Viereck.
- **dalyi* Timberlake. Tex. (El Paso). On flowers of *Aplopappus*. (*Perdita*)
Perdita dalyi Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 119. ♀.
- dasyliirii* Cockerell. Western Tex. to Ariz. On many flowers. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 55, figs. 793, 794, 875, ♀, ♂.
- **dicksoni* Timberlake. Calif. (Inyo Co.). On flowers of *Chrysothamnus albidus*. (*Perdita*)
Perdita dicksoni Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 328, figs. 392, 393, 480. ♀, ♂.
- **dilecta* Timberlake. Utah, Tex. (*Perdita*)
Perdita dilecta Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 40, figs. 554, 555, 679. ♀, ♂.

- **dimidiata* Timberlake. Ariz. (Pinal Co.); Mexico (Baja California). On flowers of *Sesuvium verrucosum*. (*Perdita*)
Perdita dimidiata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 39, figs. 767, 768, 862. ♂.
- discreta* Timberlake. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 115, figs. 646, 647, 725. ♂.
- **distans* Timberlake. Southern Calif. On flowers of *Eriogonum*. (*Perdita*)
Perdita distans Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 73, figs. 811, 812, 884. ♀, ♂.
- dolichocephala* Swenk and Cockerell. Nebr., Kans., Colo. On flowers of *Amorpha*, *Boltonia*, *Euphorbia*, *Helianthus*, and *Heterotheca*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 116, figs. 648, 649, 726.
- **drymariae* Timberlake. N. Mex. (Dona Ana Co.); Mexico (San Luis Potosi). Taken on flowers of *Drymaria holsteoides*.
Perdita drymariae Timberlake, 1960. In Mitchell, N. C. Agr. Expt. Sta. Tech. Bull. 141: 324. ♀, ♂.
- **electa* Timberlake. Wyo. (Sweetwater Co.). On flowers of *Chrysothamnus nauseosus*. (*Perdita*)
Perdita electa Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 86. ♀.
- **elegans* Timberlake. Calif. (Colorado Desert), Ariz. On flowers of *Abronia*, *Larrea*, *Palafolia*, and *Pectis*. (*Perdita*)
Perdita elegans Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 55, figs. 568, 569, 686, ♀, ♂.
- **ericameriae* Timberlake. Southern Calif. On flowers of *Aplopappus*, *Gutierrezia*, *Lepidospartum*. (*Perdita*)
Perdita ericameriae Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 317, figs. 372, 373, 472. ♀, ♂.
- **erythropyga* Timberlake. Calif. (Riverside Co.). Collects pollen of *Dalea*. (*Perdita*)
Perdita erythropyga Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 42, figs. 773, 774, 865. ♀, ♂.
- euphorbiae* Timberlake. Mexico (Sonora). On flowers of *Euphorbia* and *Kallstroemia*. (*Epimacrotera*)
- **excellens* Timberlake. Utah (Grand and Washington Counties). (*Procockrellia*)
Perdita excellens Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 384. ♀.
- **exilis* Timberlake. Southern Calif. (deserts). Collects pollen of *Petalonyx thurberi*. (*Perdita*)
Perdita exilis Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 36, figs. 763, 764, 860. ♂, ♀.
- fallax* Cockerell, changed status. Tex. to Ariz., north to Nebr. and Mont. Visits *Helianthus* and other Compositae. (*Perdita*)
Perdita fallax fallax Cockerell. Raised to sp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 106, figs. 634, 635, 719).
Perdita fallax fontis Cockerell. Syn. of *fallax* (*teste* Timberlake 1960, *loc. cit. supra*, p. 106).
- fallax fontis* Cockerell. Syn. of *fallax* Cockerell.
- **fasciata* Timberlake. Colo. (Crook). (*Perdita*)
Perdita fasciata Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 57. ♀.
- **festiva* Timberlake. Utah (Emery Co.). (*Perdita*)
Perdita festiva Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 321. ♀.
- **flavicauda flavicauda* Timberlake. Calif. (Indio). On flowers of *Melilotus*. (*Perdita*)

- Perdita flavicauda flavicauda* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 39. ♀. (Misspelled *flavicauda flavicauda* in key, p. 4.)
- **flavicauda formosa* Timberlake. Calif. (near Blythe). On flowers of *Nama hispídum*. (*Perdita*)
- Perdita flavicauda formosa* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 40. ♀. (Misspelled *flavicauda formosa* in key, p. 4.)
- **foleyi* Timberlake. Nev. (Las Vegas). (*Perdita*)
- Perdita foleys* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 37, figs. 548, 549, 676. ♂.
- **foleyi* Timberlake. Calif. (Tulare Co.). (*Perdita*)
- Perdita foleyi* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 347, figs. 418, 419, 493. ♀, ♂.
- foveata foveata* Timberlake. Tex., Fla. On flowers of *Coreopsis*, *Hymenopappus*. (*Hexaperdita*)
- fraterna* Timberlake. Ariz. On flowers of *Gutierrezia microcephala*. (*Perdita*)
- Taxonomy: Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 329, figs. 394, 395, 481. ♀, ♂.
- **fulvicauda* Timberlake. Southern Calif.; Mexico (Baja California). On flowers of *Baileya*, *Dalea*, *Coldenia*, *Larrea*, *Melilotus*, *Nama*, *Phacelia* and *Prosopis*. (*Perdita*)
- Perdita fulvicauda* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 43, figs. 775, 776, 866. ♀, ♂.
- **gentilis* Timberlake. Nev. (Churchill and Washoe Counties). (*Perdita*)
- Perdita gentilis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 78. ♀.
- gerardiae* Crawford. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 68, figs. 582, 583, 693. ♀, ♂.
- gerhardi arenicola* Timberlake. Syn. of *gerhardi gerhardi* Viereck.
- gerhardi dallasiana* Cockerell, changed status. On flowers of *Aster*, *Dalea*, *Helianthus*, and *Monarda*. (*Perdita*)
- Perdita dallasiana* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 28, figs. 534, 535, 668).
- gerhardi gerhardi* Viereck. Wis., Ill., Ind. (*Perdita*)
- Perdita gerhardi arenicola* Timberlake (syn. by Timberlake, 1960, *loc. cit. supra*, p. 27).
- gerhardi monardae* Viereck. N. J., Va., Fla. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 28. ♀, ♂.
- **glabrescens* Timberlake. Calif. (Inyo Co.). (*Perdita*)
- Perdita glabrescens* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 38, figs. 765, 766, 861. ♀, ♂.
- grandiceps* Cockerell. (*Perdita*)
- Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 32, figs. 757, 758, 857. ♀, ♂.
- gutierreziae* Cockerell. Nebr., Colo., Tex., N. Mex., Ariz. On flowers of *Chrysothamnus*, *Gutierrezia*, and *Solidago*. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 74, figs. 594, 595, 699. ♀, ♂.
- **haigi* Timberlake. Nev. (Churchill Co.). (*Perdita*)
- Perdita haigi* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 100, figs. 833, 834, 895. ♀, ♂.
- halictoides* Smith. Mich. and Ind., west to N. Dak., Colo., and Tex.; Fla. (*Perdita*)
- Perdita punctata* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 135).

- Perdita maura* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 135).
- **halli* Timberlake. Calif. (Palm Springs). (*Perdita*)
Perdita halli Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 89, figs. 612, 613, 708. ♀, ♂.
- haplura* Cockerell. (*Macroteropsis*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 124. ♀.—Timberlake, 1962, *loc. cit. supra*, p. 87, text fig. A. ♂.
- heliotropii heliotropii* Cockerell, changed status. Southern Calif., Nev., Ariz., N. Mex., Tex.; Mexico (Baja California, Sonora, Chihuahua). On flowers of *Larrea*, *Tamarix*. (*Perdita*)
Perdita heliotropii Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 364, figs. 442, 443, 505, 521).
- **heliotropii perducta* Timberlake. Central Calif. On flowers of *Heliotropium*, *Stanleya*. (*Perdita*)
Perdita heliotropii perducta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 365. ♀, ♂.
- **heterothecae trizonata* Timberlake. Ariz. (Willcox). On flowers of *Aster* and *Euphorbia*. (*Hexaperdita*)
Perdita heterothecae trizonata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 96. ♀, ♂.
- hirsuta* Cockerell. N. Mex., Ariz. On flowers of *Dalea*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 66, figs. 580, 581, 692. ♀, ♂.
- **hirticeps apicata* Timberlake. Calif. (Mohave Desert). On flowers of *Stephanomeria* and *Malacothrix*. (*Perdita*)
Perdita hirticeps apicata Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 59. ♀, ♂.
- **hirticeps candidipennis* Timberlake. Utah (Oak City). On flowers of *Helianthus*. (*Perdita*)
Perdita hirticeps candidipennis Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 60. ♀.
- **hirticeps hirticeps* Timberlake. Calif. (cismontane). On flowers of *Coreopsis*, *Hemizonia* and *Stephanomeria*. (*Perdita*)
Perdita hirticeps hirticeps Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 58, figs. 570, 571, 687. ♀, ♂.
- **hirticeps luteocincta* Timberlake. Calif. (Antioch). On flowers of *Gutierrezia californica*. (*Perdita*)
Perdita hirticeps luteocincta Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 60. ♀.
- **holoxantha* Timberlake. Utah (Washington Co.). (*Perdita*)
Perdita holoxantha Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 17, figs. 737, 738, 847. ♂.
- hurdi* Timberlake. Mexico (Sonora). On flowers of *Proboscidea*. (*Glossoperdita*)
 Biology: Hurd and Linsley, 1963. Kans. Ent. Soc. Jour. 36: 248-252, 5 figs.
- hyalina* Cresson. Syn. of *albibennis* Cresson.
- **idahoensis* Timberlake. Idaho (Cassia Co.). On flowers of *Chrysothamnus*. (*Pentaperdita*)
Perdita idahoensis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 385, figs. 464, 465, 517. ♂, ♀.
- **ignota basalis* Timberlake. Tex. (Hidalgo Co.); Mexico (Tamaulipas). (*Hexaperdita*)
Perdita ignota basalis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 391. ♀, ♂.

- **impunctifrons* Timberlake. Calif. (Inyo Co.). (*Perdita*)
Perdita impunctifrons Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 355.
 ♀.
- **incana* Timberlake. Tex., N. Mex. (*Cockerellia*)
Perdita incana Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 383. ♀, ♂.
- **indioensis* Timberlake. Calif. (Indio). On flowers of *Aplopappus acradenus*. (*Perdita*)
Perdita indioensis Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 54, figs.
 566, 567, 685. ♀, ♂.
- **inornata* Timberlake. Calif., Nev., Ariz. On flowers of *Agave*, *Cowania*, and
Eriodictyon. (*Perdita*)
Perdita inornata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 49, figs.
 787, 788, 872. ♀, ♂.
- **interserta ciliata* Timberlake. Northern Calif., Oreg., Idaho. On flowers of
Eriogonum, *Gutierrezia*, *Heterotheca*, *Lessingia*, *Senecio*, *Solidago*. (*Perdita*)
Perdita interserta ciliata Timberlake, 1958. Calif. Univ. Pubs. Ent. 14:
 334, figs. 404, 405, 486. ♀, ♂.
- interserta interserta* Cockerell, changed status. Southern Calif. On flowers of
Aplopappus, *Baccharis*, *Chrysothamnus*, *Lepidospartum*, *Solidago*,
Polygonum. (*Perdita*)
Perdita interserta Cockerell. Reduced to subsp. rank (*teste* Timberlake,
 1958, *loc. cit. supra*, p. 333, figs. 402, 403, 485).
- **isocomae* Timberlake. Calif. (Riverside). On flowers of *Aplopappus*, *Bac-*
charis, *Polygonum*, *Solidago*. (*Perdita*)
Perdita isocomae Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 335, figs.
 408, 409, 488. ♂, ♀.
- jonesi* Cockerell. Tex., Kans. On flowers of *Dalea*, *Monarda*, and *Petalostem-*
um. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 114, figs. 644, 645, 724.
 ♀, ♂.
- **jucunda* Timberlake. Calif., Nev., Ariz. Collects pollen of *Eriogonum*.
 (*Perdita*)
Perdita jucunda Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 64, figs.
 803, 804, 880. ♀, ♂.
- **knowltoni* Timberlake. Utah (Moab). (*Perdita*)
Perdita knowltoni Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 51, figs.
 562, 563, 683. ♀, ♂.
- **knulli* Timberlake. Tex. (Davis Mts.). (*Cockerellula*)
Perdita knulli Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 123, figs.
 652, 653, 728. ♂, ♀.
- **krombeini* Timberlake. Fla. (Lee Co.).
Perdita krombeini Timberlake, 1960. *In* Mitchell, N. C. Agr. Expt. Sta.
 Tech. Bull. 141: 327. ♂.
- **labergei* Timberlake. Kans. (Hutchinson). On flowers of *Euphorbia*. (*Per-*
dita)
Perdita labergei Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 41, figs.
 556, 557, 680. ♀, ♂.
- **labrata* Timberlake. Southern Calif. Collects pollen of *Eriogonum*. (*Per-*
dita)
Perdita labrata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 81, figs.
 821, 822, 889, 901. ♀, ♂.
- lasiogastra* Timberlake. Tex., N. Mex., Colo. On flowers of *Pectis papposa*.
 (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 84, figs. 606, 607, 705. ♀,
 ♂.

- ***lateralis daleae** Timberlake. Calif. (mts., Inyo Co.). On flowers of *Chaenactis*, *Dalea*, and *Erigeronum*. (*Perdita*)
Perdita lateralis daleae Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 29.
 ♀, ♂.
- ***lateralis lateralis** Timberlake. Calif. (Colorado desert), Ariz. On flowers of *Larrea* and *Prosopis*. (*Perdita*)
Perdita lateralis lateralis Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 27, figs. 749, 750, 853. ♀, ♂.
- laticincta** Swenk and Cockerell. N. Dak., Nebr., Kans., Wyo., N. Mex. On flowers of *Amorpha*, *Aplopappus*, *Helianthus* and *Melilotus*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 76, figs. 596, 597, 700. ♀, ♂.
- ***lenis** Timberlake. Tex., N. Mex., Ariz. On flowers of *Baileya*, *Chamaes-racha*, *Physalis*, *Verbesina*. (*Perdita*)
Perdita lenis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 372, figs. 452, 453, 510. ♀, ♂.
- ***lepidosparti lepidosparti** Timberlake. Calif., Nev., Idaho. On flowers of flowers of *Amorpha*, *Aplopappus*, *Helianthus* and *Melilotus*. (*Perdita*)
Perdita lepidosparti lepidosparti Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 325, figs. 386, 387, 478. ♂, ♀.
- ***lepidosparti novella** Timberlake. Southern Calif. (*Perdita*)
Perdita lepidosparti novella Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 326, figs. 388, 389. ♀, ♂.
- lingualis** Cockerell. Nebr., Kans., Tex., N. Mex., Colo., Utah; Mexico (Tamaulipas). (*Cockerellia*)
Perdita albipennis var. *lingualis* Cockerell, formerly a syn. of *albipennis*, raised to sp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 131).
 Biology: Michener, 1963. Kans. Ent. Soc. Jour. 36: 114-118, 6 figs.
- lobata** Timberlake. (*Cockerellula*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 122. ♀.
- ***lompocensis** Timberlake. Calif. (Lompoc). (*Perdita*)
Perdita lompocensis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 337, figs. 410, 411, 489. ♂, ♀.
- ***lucens** Timberlake. Southern Calif., Nev. On flowers of *Eriogonum*. (*Perdita*)
Perdita lucens Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 71, figs. 809, 810, 883. ♀, ♂.
- ***lunulata** Timberlake. Ariz. (Apache Co.). On flowers of *Eriogonum aureum*. (*Perdita*)
Perdita lunulata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 22. ♀.
- luteiceps** Cockerell. Colo. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 36, figs. 544, 545, 674. ♀, ♂.
- luteola** Cockerell. Nebr., Colo., N. Mex., Ariz. At flowers of *Aplopappus*, *Gutierrezia*, and other Compositae. (*Perdita*)
- maculigera maculigera** Cockerell. On flowers of *Salix*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 32. ♀, ♂.
- maculigera maculipennis** Graenicher. Wis., Ill., Iowa, Kans., Tex. At flowers of *Erigeron*, *Melilotus* and *Salix*. Nests in sand. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 33, figs. 540, 541, 671, 672. ♀, ♂.
 Biology: Michener and Ordway, 1963. Kans. Ent. Soc. Jour. 36: 34-45, 10 figs.

- maculigera** var. **bilineata** Timberlake, changed status. Ill., Mo., Kans., Nebr., S. Dak. (*Perdita*)
Perdita maculigera bilineata Timberlake. Changed to varietal status (*teste* Timberlake, 1960, *loc. cit. supra*, p. 33).
- maculipes** Cockerell. (*Perdita*)
- ***maculosa** Timberlake. Calif. (Riverside Co.). On flowers of *Coldenia*. (*Heteroperdita*)
Perdita maculosa Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 378, fig. 514. ♀, ♂.
- ***magniceps** Timberlake. N. Mex. (Luna Co.). On flowers of *Sphaeralcea*. (*Macroteropsis*)
Perdita magniceps Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 124, figs. 654, 655, 729. ♂.
- ***malacothricis** var. **unica** Timberlake. Calif. (Riverside Co.). (*Pygoperdita*)
Perdita malacothricis var. *unica* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 96. ♀.
- marcialis** Cockerell. (*Perditella*)
Perdita phaceliae Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 134).
- maura** Cockerell. Syn. of *halictoides* Smith.
- ***media** Timberlake. Calif. deserts. On flowers of *Aplopappus*, *Gutierrezia*, and *Solidago*. (*Perdita*)
Perdita media Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 73, figs. 592, 593, 698. ♀, ♂.
- melanostoma** Swenk and Cockerell. Nebr., N. Mex., Ariz. On flowers of *Gutierrezia*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 78. ♀.
- ***melanura** Timberlake. Ariz. (Grand Canyon). (*Perdita*)
Perdita melanura Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 52. ♀.
- mellina** Cockerell. (*Hexaperdita*)
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 390. ♀.
- mentzeliae** Cockerell. Colo., N. Mex., Ariz. On flowers of *Mentzelia pumila*. (*Perdita*)
Perdita pallidior Cockerell (syn. by Timberlake, 1962, *loc. cit. supra*, p. 24, figs. 745, 746, 851. ♀, ♂).
- mentzeliarum** Cockerell. Western Tex. to Ariz.; Mexico (Chihuahua). On flowers of *Mentzelia pumila*. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 23, figs. 743, 744, 850. ♀, ♂.
- ***michelbacheri** Timberlake. Ariz.; Mexico (Baja California). On flowers of *Acacia* and *Carnegiea*. (*Perdita*)
Perdita michelbacheri Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 60, figs. 797, 798, 877. ♀, ♂.
- ***microsticta** Timberlake. Kans. (Scott Co.). (*Perdita*)
Perdita microsticta Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 89. ♀.
- ***mimula** Timberlake. Calif. (Colorado Desert). On flowers of *Aplopappus acradenius*. (*Perdita*)
Perdita mimula Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 53. ♀.
- uiricornis** Cockerell. A subsp. of *wilmattae* Cockerell.
- ***missionis** Timberlake. Tex.; Mexico (Tamaulipas, San Luis Potosi). On flowers of *Chamaesaracha*, *Lesquerella*, *Physalis*. (*Perdita*)
Perdita missionis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 369, figs. 446, 447, 507. ♂, ♀.
- ***munda** Timberlake. Utah, Ariz. (*Perdita*)
Perdita munda Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 340. ♀.

- ***nanula** Timberlake. Ariz. (Douglas). On flowers of *Euphorbia albomarginata*. (*Epimacrotera*)
Perdita nanula Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 129. ♀.
- ***nasuta galacticoptera** Timberlake. Calif. (Inyo Co.). On flowers of *Eriogonum inflatum*. (*Perdita*)
Perdita nasuta galacticoptera Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 76. ♀, ♂.
- ***nasuta nasuta** Timberlake. Southern Calif., Nev., Ariz. On flowers of *Eriogonum trichopes*. (*Perdita*)
Perdita nasuta nasuta Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 74, figs. 813, 814, 885. ♀, ♂.
- ***nasuta obscuresscens** Timberlake. Ariz., N. Mex. On flowers of *Eriogonum*. (*Perdita*)
Perdita nasuta obscuresscens Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 76. ♀, ♂.
- ***navarretiae angusticeps** Timberlake. Calif. (Tuolumne Co.). (*Glossoperdita*)
Perdita navarretiae angusticeps Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 128. ♂, ♀.
- ***navarretiae navarretiae** Timberlake. Calif. (Mariposa Co.). On flowers of *Navarretia*. (*Glossoperdita*)
Perdita navarretiae Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 379, figs. 460, 461, 515. ♂. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 128).
- ***navarretiae powelli** Timberlake. Calif. (Nevada Co.). (*Glossoperdita*)
Perdita navarretiae powelli Timberlake, 1962. Calif. Univ. Pubs. Ent. 91. ♂, ♀.
- nebrascensis** Swenk and Cockerell. (*Pygoperdita*)
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 395.
- ***nigridia** Timberlake. Calif. (Colorado desert). Collects pollen of *Mentzelia involucreta*. (*Perdita*)
Perdita nigridia Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 18, figs. 777, 778, 867. ♂, ♀.
- nigrifacies** Timberlake. Mexico (San Luis Potosi, Zacatecas). (*Pentaperdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 95.
- ***nigrocincta** Timberlake. Calif. (Mono Co.). (*Perdita*)
Perdita nigrocincta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 351. ♀.
- nitidella** Cockerell. N. Mex., Ariz. On flowers of *Aplopappus* and *Gutierrezia*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 70, figs. 586, 587, 695. ♂.
- ***nubila** Timberlake. Fla., Ark. On flowers of *Erigeron*. (*Hexaperdita*)
Perdita nubila Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 392. ♀, ♂.
- nuda** Cockerell. N. Mex., Ariz. On flowers of *Erigeron*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 119. ♀.—Timberlake, 1962, *loc. cit. supra*, p. 104, figs. 839, 840, 898. ♂.
- ***numerata hesperia** Timberlake. Southern Calif.; Mexico (Baja California). On flowers of *Geraea*, *Larrea*, *Melilotus*, and *Prosopis*. (*Perdita*)
Perdita numerata hesperia Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 62. ♀, ♂.
- numerata numerata** Cockerell, changed status. Tex., N. Mex., Ariz. On flowers of *Actinca* and *Salix*. (*Perdita*)
Perdita numerata Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 60, figs. 572, 573, 688).

- ***obispoensis** Timberlake. Calif. (San Luis Obispo Co.). (*Perdita*)
Perdita obispoensis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 335, figs. 406, 407, 487. ♂.
- obscurata** Cresson. (*Alloperdita*)
Perdita carolina Timberlake (syn. by Timberlake, 1960, *loc. cit. supra*, p. 134).
- ***occidua** Timberlake. Ariz. (Oak Creek Canyon). (*Perdita*)
Perdita occidua Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 120. ♀.
- octomaculata terminata** Cockerell. N. Dak., Nebr., Kans., Iowa, Ill., Ark., Miss. On flowers of *Aster* and *Solidago*. (*Perdita*)
- octomaculata octomaculata** (Say). (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 111, figs. 642, 643, 723. ♀, ♂.
- opuntiae** Cockerell. Wyo.
- ***ordinata** Timberlake. Ariz. (Cochise and Navajo Counties). (*Perdita*)
Perdita ordinata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 105, figs. 841, 842, 899. ♂.
- ***oregonensis expleta** Timberlake. Calif. (Sierra Co.). On flowers of *Chrysothamnus*. (*Perdita*)
Perdita oregonensis expleta Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 99. ♀.
- oregonensis oregonensis** Timberlake, changed status. Nev., Wash. On flowers of *Chrysothamnus*, *Gutierrezia*. (*Perdita*)
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 320, figs. 378, 379, 475. ♀, ♂.—Timberlake, 1962, *loc. cit. supra*, p. 98 (reduced to subsp. rank).
- pallidior** Cockerell. Syn. of *mentzeliae* Cockerell.
- ***pallidiventris** Timberlake. Calif. (Fresno Co.). On flowers of *Eriogonum fasciculatum*. (*Perdita*)
Perdita pallidiventris Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 99. ♀.
- ***parilis** Timberlake. Utah. On flowers of *Chrysothamnus*, *Gutierrezia*. (*Perdita*)
Perdita parilis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 342, figs. 414, 415, 491. ♀, ♂.
- ***paroselae** Timberlake. Southern Calif. On flowers of *Dalea*. (*Perdita*)
Perdita paroselae Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 65, figs. 578, 579, 691. ♀, ♂.
- pectidis** Cockerell. N. Mex., Ariz. On flowers of *Kallstroemia*, *Pectis*, and *Sesuvium*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 91, figs. 614, 615, 709. ♀, ♂.
- pellucida** Cockerell. (*Perdita*)
- ***perixantha** Timberlake. Ariz. (Navajo Co.). (*Perdita*)
Perdita perixantha Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 23, figs. 524, 525, 663. ♂.
- perpallida citrinella** Graenicher. Wis., Minn., Nebr. On flowers of *Petalostemum*. (*Perdita*)
- perpallida perpallida** Cockerell. Minn., N. Dak., Nebr., Kans., N. Mex. At flowers of *Amorpha*, *Helenium*, *Petalostemum*, and *Solidago*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 25, figs. 532, 533, 667. ♀, ♂.
- ***perplexa** Timberlake. N. Mex. (Catron Co.). On flowers of *Mentzelia*. (*Perdita*)

- Perdita perplexa* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 19, figs. 739, 740, 848. ♀, ♂.
- phaceliae* Cockerell. Syn. of *marcialis* Cockerell.
- phymatae* Cockerell. N. Mex., Ariz. On flowers of *Aplopappus* and *Gutierrezia*. (*Perdita*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 92. ♀.
- **physalidis* Timberlake. Calif. (Riverside Co.). On flowers of *Physalis*. (*Perdita*)
Perdita physalidis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 374, figs. 454, 455, 511. ♀, ♂.
- **picturata* Timberlake. Tex. (Victoria and Aransas Counties). (*Perdita*)
Perdita picturata Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 50, figs. 560, 561, 682. ♀, ♂.
- **placida* Timberlake. Calif. (Inyo Co.). (*Perdita*)
Perdita placida Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 339. ♀.
- **plucheae* Timberlake. Calif. (Colorado Desert), Ariz. On flowers of *Pluchea* and *Tamarix*. (*Perdita*)
Perdita plucheae Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 69, figs. 584, 585, 694. ♀, ♂.
- **polita* Timberlake. Calif. On flowers of *Hemizonia pungens*. (*Perdita*)
Perdita polita Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 332, figs. 400, 401, 484. ♀, ♂.
- polygonellae* Timberlake. (*Perdita*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 40, figs. 552, 553, 678. ♂.
- **polytropica obsoleta* Timberlake. Ariz. On flowers of *Carnegiea* and *Echinocactus*. (*Perdita*)
Perdita polytropica obsoleta Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 59. ♀, ♂.
- **polytropica polytropica* Timberlake. Southern Calif., Ariz.; Mexico (Baja California). Visits many flowers. (*Perdita*)
Perdita polytropica polytropica Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 57, figs. 795, 796, 876. ♀, ♂.
- portalis* Timberlake. N. Mex. (*Macroteropsis*).
- **primula* Timberlake. Calif. (Indio). On flowers of *Melilotus*. (*Perdita*)
Perdita primula Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 347, figs. 420, 421, 494. ♂.
- **prionopsidis* Timberlake. Kans. (Reno and Montgomery Counties). On flowers of *Aplopappus* (*Prionopsis*), *Boltonia*, *Helianthus*, *Heterotheca* and *Isopappus*. (*Perdita*)
Perdita prionopsidis Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 104, figs. 632, 633, 718. ♀, ♂.
- **proxima* Timberlake. Calif. (Mohave Desert). On flowers of *Aplopappus*, *Chrysothamnus*, *Cleomella*, *Solidago*. (*Perdita*)
Perdita proxima Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 322, figs. 380, 381, 476. ♀, ♂.
- punctata* Cockerell. Syn. of *halictoides* Smith.
- punctifera* Cockerell. Ariz., southern Calif. Uses pollen of *Mentzelia pumila*. (*Perdita*)
Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 26, figs. 747, 748, 852. ♀, ♂.
- **punctifrons* Timberlake. Calif. (Los Angeles and San Bernardino Counties). On flowers of *Lessingia*. (*Perdita*)
Perdita punctifrons Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 350, figs. 426, 427, 497. ♀, ♂.

- **punctulata* Timberlake. Southern Calif., Ariz.; Mexico (Baja California, Sonora). On flowers of *Baccharis*, *Larrea*, *Melilotus*, *Prosopis*. (*Perdita*)
Perdita punctulata Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 362, figs. 440, 441, 504. ♂, ♀.
- purpurascens* Timberlake. On flowers of *Aster*, *Brazoria*, *Gaillardia*, *Monarda*. (*Cockerellia*)
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 382. ♀.
- rectangulata* Cockerell. Colo., Idaho. On flowers of *Gutierrezia* and *Solidago*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 82, figs. 602, 603, 703. ♀, ♂.
- rehni rehni* Cockerell, changed status. N. Mex., western Tex.; Mexico (Chihuahua). On flowers of *Nolina*. (*Perdita*)
Perdita rehni Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1962, *loc. cit. supra*, p. 50, figs. 789, 790, 873. ♀, ♂. Another subsp. occurs in Coahuila, Mexico.
- **retusa* Timberlake. Ariz., Calif. On flowers of *Chrysothamnus*. (*Perdita*)
Perdita retusa Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 86, figs. 608, 609, 706. ♀, ♂.
- rhodura* Cockerell. Ariz., N. Mex., Nebr. On flowers of *Aplopappus* (?), *Gutierrezia*, *Zinnia*. (*Perdita*)
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 52, figs. 564, 565, 684. ♀, ♂.
- rhois reducta* Cockerell. Calif. On many flowers. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 54. ♀, ♂.
- rhois rhois* Cockerell. Southern Calif.; Mexico (Baja California). Visits many flowers. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 53, figs. 791, 792, 874. ♀, ♂.
- **rivalis* Timberlake. Calif. On flowers of *Aster*, *Erigeron*. (*Perdita*)
Perdita rivalis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 349, figs. 424, 425, 496. ♀, ♂.
- ruficauda ornata* Timberlake. A subsp. of *tresignata* Cockerell.
- ruficauda ruficauda* Cockerell. Syn. of *tresignata trisignata* Cockerell.
- **scitula antiochensis* Timberlake. Calif. (Antioch, Oakley). On flowers of *Eriogonum*, *Gutierrezia*, *Heterotheca*, and *Lessingia*. (*Perdita*)
Perdita scitula antiochensis Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 80, figs. 598, 599, 701. ♀, ♂.
- **scitula scitula* Timberlake. Calif. (Inyo Co.). On flowers of *Chrysothamnus nauseosus*. (*Perdita*)
Perdita scitula scitula Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 79. ♀, ♂.
- **scotti* Timberlake. Calif. (Kern Co.). (*Perdita*)
Perdita scotti Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 338, figs. 412, 413, 490. ♀, ♂.
- **scutellaris* Timberlake. Southern Calif. On flowers of *Coldenia* and *Eriogonum*. (*Heteroperdita*)
Perdita scutellaris Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 89, figs. 829, 830, 893, text fig. B. ♀, ♂.
- semicrocea* Cockerell. Ariz. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 35, figs. 761, 762, 859. ♀, ♂.
- **semilutea* Timberlake. Calif. (Riverside Co.). On flowers of *Eriogonum thomasii*. (*Perdita*)
Perdita semilutea Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 81, figs. 819, 820, 888. ♂.

- senecionis** Cockerell. N. Mex. (Las Cruces). On flowers of *Senecio*. (*Perdita*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 100. ♀.
- ***separata** Timberlake. Tex. (Zapata Co.). (*Perdita*)
Perdita separata Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 106. ♀.
- sexmaculata sexmaculata** Cockerell, changed status. Ariz., N. Mex., Tex., Kans., Colo.; Mexico (Chihuahua, Durango, Hidalgo). Visiting many flowers. (*Perdita*)
Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 367, figs. 444, 445, 506. ♀, ♂.—Timberlake, 1962, *loc. cit. supra*, p. 101 (reduced to subsp. rank; another subsp. occurs in Baja California).
- ***similis pascoensis** Timberlake. Wash. (Pasco). (*Perdita*)
Perdita similis pascoensis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 324, figs. 384, 385. ♂, ♀.
- ***similis similis** Timberlake. N. Mex. and Ariz. to Utah, Wyo. and Idaho. On flowers of *Aplopappus*, *Chrysothamnus*, *Erigeron*, *Gutierrezia*. (*Perdita*)
Perdita similis similis Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 323, figs. 382, 383, 477. ♀, ♂.
- ***snellingi** Timberlake. Calif. (Kern and Inyo Counties). On flowers of *Chrysothamnus*, *Euphorbia*, *Gutierrezia*. (*Perdita*)
Perdita snellingi Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 46, figs. 781, 782, 869. ♀, ♂.
- snowii** Cockerell. Colo. On flowers of *Grindelia* and *Aster*. (*Perdita*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 83, figs. 604, 605, 704. ♀, ♂.
- ***soluta** Timberlake. Calif. (Los Angeles Co.). On flowers of *Malacothrix*. (*Pygoperdita*)
Perdita soluta Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 394, fig. 520. ♂.
- stephanomeriae** Timberlake. On flowers of *Dalea*. (*Allomacrotera*, transf. from *Procockerellia*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 131, figs. 658, 659, 731. ♂.
- ***stephensi** Timberlake. On flowers of *Monarda*. (*Perdita*)
Perdita stephensi Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 29, figs. 536, 537, 669. ♂.
- stottleri flavida** Swenk and Cockerell. Nebr. to Oreg., Colo. On flowers of *Chrysothamnus*. (*Perdita*)
- stottleri stottleri** Cockerell. Delete Colo. from range. (*Perdita*)
- subfasciata** Cockerell. Ariz., Nev., Utah. On flowers of *Gutierrezia*. (*Perdita*)
Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 45, figs. 779, 780, 868. ♀, ♂.
- swenki** Crawford. Mich., Ill., Wis., Minn., N. Dak., Nebr. On flowers of *Grindelia*, *Helianthus*, *Liatris*, and *Solidago*. (*Perdita*)
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 104, figs. 630, 631, 717. ♀, ♂.
- ***swezeyi** Timberlake. Calif., Nev. On flowers of *Erigeron*. (*Perdita*)
Perdita swezeyi Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 348, figs. 422, 423, 495. ♀, ♂.
- ***texana ablusa** Timberlake. N. Mex., Tex. On flowers of *Opuntia*. (*Macrotera*)
Perdita texana ablusa Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 376. ♀, ♂.
- texana texana** (Cresson), changed status. Delete N. Mex. from range (Sup. 1). (*Macrotera*)

- Perdita texana* (Cresson). Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 376).
- **thelypodii* Timberlake. Calif. (Inyo and Los Angeles Counties). On flowers of *Cleomella*, *Thelypodium*. (*Perdita*)
- Perdita thelypodii* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 354, figs. 432, 433, 500. ♀, ♂.
- **thermophila thermophila* Timberlake. Southern Calif. On flowers of *Eriogonum*. (*Perdita*)
- Perdita thermophila thermophila* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 77, figs. 815, 816, 886. ♀, ♂.
- **thermophila trilobata* Timberlake. Ariz., southern Calif. On flowers of *Eriogonum*. (*Perdita*)
- Perdita thermophila trilobata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 78. ♀, ♂.
- timberlakei* Cockerell. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)
- Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 70, figs. 807, 808, 882. ♀.
- townsendi* Cockerell. (*Perdita*)
- Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 320, figs. 376, 377, 474. ♂.
- **translineata* Timberlake. Tex. (Van Zandt Co.). On flowers of *Eriogonum multiflorum*. (*Perdita*)
- Perdita translineata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 93, figs. 618, 619, 711. ♂.
- tridentata* Stevens. N. Dak., Nebr., Kans. On flowers of *Aplopappus* and *Helianthus*. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 118, figs. 650, 651, 727. ♀, ♂.
- **trifida* Timberlake. Calif. (Mohave Desert). On flowers of *Aplopappus acadeniensis*. (*Perdita*)
- Perdita trifida* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 37, figs. 546, 547, 675. ♂.
- **trimaculata* Timberlake. Southern Calif., Ariz. On flowers of *Chrysothamnus* and *Gutierrezia*. (*Perdita*)
- Perdita trimaculata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 62, figs. 574, 575, 689. ♀, ♂.
- trisignata ornata* Timberlake. (*Hesperoperdita*)
- Perdita ruficauda ornata* Timberlake. Changed to a subspecies of *trisignata* by Timberlake's synonymy of *ruficauda ruficauda* under *trisignata trisignata* (1960, *loc. cit. supra*, p. 127).
- trisignata trisignata* Cockerell, changed status. (*Hesperoperdita*)
- Perdita trisignata* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 127).
- Perdita ruficauda ruficauda* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 127).
- **valida* Timberlake. N. Mex. (Mesilla). (*Perdita*)
- Perdita valida* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 106. ♀.
- **variegata pura* Timberlake. Tex., Kans. At flowers of *Monarda*. (*Perdita*)
- Perdita variegata pura* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 31. ♀, ♂.
- **variegata variegata* Timberlake. Kans. On flowers of *Monarda*. (*Perdita*)
- Perdita variegata variegata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 30, figs. 538, 539, 670. ♀, ♂.
- **varleyi niveipennis* Timberlake. Calif. (San Benito Co.). Collects pollen of *Eriogonum*. (*Perdita*)
- Perdita varleyi niveipennis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 86. ♀, ♂.

- **varleyi varleyi* Timberlake. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)
Perdita varleyi varleyi Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 85, figs. 825, 826, 891, 904. ♂, ♀.
- **versuta* Timberlake. Tex. (Kingsville). (*Perdita*)
Perdita versuta Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 105, figs. 843, 844, 900. ♂.
- **vestita* Timberlake. Utah (Arches Natl. Mon.). (*Perdita*)
Perdita vestita Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 316, figs. 370, 371, 471. ♀, ♂.
- **vicina* Timberlake. Nev. (Charleston Mts., Clark Co.). On flowers of *Fallugia paradoxa*. (*Perdita*)
Perdita vicina Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 31, figs. 753, 754, 855. ♂.
- **viridinotata* Timberlake. N. Mex. (Alamogordo). (*Perdita*)
Perdita viridinotata Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 16, figs. 735, 736, 846. ♀, ♂.
- **wasbaueri* Timberlake. Calif. (Colorado Desert). On flowers of *Coldenia*. (*Heteroperdita*)
Perdita wasbaueri Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 126, figs. 656, 657, 730. ♀, ♂.
- wheeleri* Timberlake. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 32, figs. 755, 756, 856. ♂.
- wilmattae miricornis* Cockerell, changed status. Colo., Wyo., Utah, Ariz. On flowers of *Engelmannia*, *Stanleya*. (*Perdita*)
Perdita miricornis Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 360).
- wilmattae wilmattae* Cockerell, changed status. Colo., Utah, Nev. On flowers of *Cleome*. (*Perdita*)
Perdita wilmattae Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 359, figs. 436, 437, 502).
- wootonae* Cockerell. N. Mex., Colo., Kans., Nebr. Visits flowers of *Mentzelia*. (*Perdita*)
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 15, figs. 733, 734, 845. ♀, ♂.
- **xanthochroa* Timberlake. Colo., Utah, Idaho. At flowers of *Sphaeralcea* and *Stanleya*. (*Perdita*)
Perdita xanthochroa Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 24, figs. 530, 531, 666. ♀, ♂.
- **xanthodes* Timberlake. Calif. (Mohave Desert). At flowers of *Aplopappus cooperi*. (*Perdita*)
Perdita xanthodes Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 24, figs. 528, 529, 665. ♀, ♂.
- **xerophila discrepans* Timberlake. Nev. Collects pollen of *Eriogonum*. (*Perdita*)
Perdita xerophila discrepans Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 84, figs. 823, 824, 890. ♀, ♂.
- **xerophila fuscicornis* Timberlake. Calif. (Inyo Co.). Collects pollen of *Eriogonum*. (*Perdita*)
Perdita xerophila fuscicornis Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 84, fig. 903. ♀, ♂.
- **xerophila xerophila* Timberlake. Southern Calif., Ariz. Collects pollen of *Eriogonum*. (*Perdita*)
Perdita xerophila xerophila Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 82, fig. 902. ♀, ♂.
- **yosemitensis* Timberlake. Calif. (Mariposa, Tulare, Fresno, and ? Placer Counties). On flowers of *Eriogonum*. (*Perdita*)

- Perdita yosemitensis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 63, figs. 801, 802, 879. ♂, ♀.
- **zebrata flavens* Timberlake. Nev., Oreg., Idaho, Wyo., Utah, Colo. On flowers of *Cleome*, *Engelmannia*, *Phacelia*, *Salsola*. (*Perdita*)
- Perdita zebrata flavens* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 357. ♀, ♂.
- zebrata zebrata* Cresson, changed status. N. Mex., Colo., Nebr., Mont., Utah. Taken on flowers of *Aplopappus*, *Cleome*, *Helianthus*, *Nolina*. (*Perdita*)
- Perdita zebrata* Cresson. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 356, figs. 434, 435, 501).
- **zonalis aequalis* Timberlake. Oreg., northern Calif., ? Nev., ? Mont. On flowers of *Chrysothamnus*, *Solidago*. (*Perdita*)
- Perdita zonalis aequalis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 344. ♀, ♂.
- **zonalis bernardina* Timberlake. Calif. (Bear Valley and Santa Ana Canyon in San Bernardino Mts.). On flowers of *Aster*, *Chrysothamnus*, *Eriogonum*, *Gutierrezia*, *Solidago*. (*Perdita*)
- Perdita zonalis bernardina* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 345, figs. 416, 417, 492. ♀, ♂.
- **zonalis monticola* Timberlake. Calif. (Sierra, Shasta, Nevada, Plumas and Placer Counties). On flowers of *Chrysothamnus*, *Solidago*. (*Perdita*)
- Perdita zonalis monticola* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 345. ♀, ♂.
- **zonalis pallescens* Timberlake. Calif. (Morongo in San Bernardino Co.). On flowers of *Aplopappus*, *Gutierrezia*. (*Perdita*)
- Perdita zonalis pallescens* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 344. ♀, ♂.
- zonalis zonalis* Cresson, changed status. Calif. (Riverside and Kern Counties). On flowers of *Eriogonum*, *Gutierrezia*, *Lepidospartum*. (*Perdita*)
- Perdita zonalis* Cresson. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 343).

Genus PANURGINUS Nylander, pp. 1097-1098

- atramontensis* Crawford. Md. to Ga., Miss. Taken on flowers of *Polycodium*.
- melanocephalus* (Cockerell). Collects pollen of *Ranunculus*.
Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 20-21, pl. 6.
- PSEUDOPANURGUS subgenus PSEUDOPANURGUS Cockerell, p. 1098
- albitarsis* (Cresson). Ill. to Conn., south to Tex. and Ga. Visits a number of flowers. Transf. from subg. *Heterosarus*, p. 1099 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 266).
- Pseudopanurgus (Heterosarus) picipes* (Cresson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 266).
- andrenoides* (Smith). Transf. to subg. *Heterosarus*, p. 1099.
- **helianthi* Mitchell. Ind. (Tippecanoe Co.). Taken on flowers of *Helianthus annuus*.
Pseudopanurgus (Pseudopanurgus) helianthi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 267. ♀.
- labrosus* (Robertson). Transf. from subg. *Heterosarus*, p. 1100 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 268).
- rugosus* (Robertson). Md. to Ga., west to Ill., Kans., Tex. Taken on flowers of *Bidens*, *Helianthus*, *Rudbeckia* and *Silphium*.

PSEUDOPANURGUS subgenus HETEROSARUS Robertson, pp. 1098-1101

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 2-5 (key to spp.).

abdominalis tricolor (Cockerell). N. J. and Pa. to Ga. Taken on flowers of *Monarda punctata*.

albitarsis (Cresson). Transf. to subg. **Pseudopanurgus**, p. 1098.

andrenoides (Smith). Minn. to N. B., south to N. C. Taken on flowers of *Aster*, *Rudbeckia*, and *Solidago*. Transf. from subg. **Pseudopanurgus**, p. 1098 (teste Mitchell, 1960, *loc. cit. supra*, p. 272).

Pseudopanurgus (Heterosarus) asteris (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 272).

***arizonicus** Timberlake. Ariz., N. Mex. On flowers of *Eriogonum*.

Pseudopanurgus arizonicus Timberlake, 1964. Amer. Mus. Novitates 2185, p. 23. ♂, ♀.

borealis (Cockerell). Syn. of **stevensi** Crawford.

compositarum (Robertson). Md. to Ga., west to Ill. Taken on flowers of *Aster*, *Bidens*, *Boltonia*, *Polygonum*, *Rudbeckia*, and *Solidago*.

Pseudopanurgus (Heterosarus) illinoiensis (Cresson) of Catalog, in part. **P. compositarum** not a syn. (teste Mitchell, 1960, *loc. cit. supra*, p. 273).

***dawsoni** Timberlake. Colo., N. Mex. On flowers of cruciferous plant.

Pseudopanurgus dawsoni Timberlake, 1964. Amer. Mus. Novitates 2185, p. 10. ♀, ♂.

flavotinctus (Cockerell). Ariz. On flowers of *Bigelovia* and *Sphaeralcea*.

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 20-23 (♂, ♀).

gerardiae Crawford. Syn. of **parvus** (Robertson).

illinoiensis (Cresson). Que. to Ill., south to Fla. and Tex. Taken on flowers of *Chrysanthemum leucanthemum*. Remove **compositarum** (Robertson) from syn. (a valid sp.).

labrosiformis labrosiformis (Robertson). N. C., Ga., Ill. Taken on a number of flowers.

labrosus (Robertson). Transf. to subg. **Pseudopanurgus**, p. 1098.

***nanulus** Timberlake. N. Mex., Ariz.; Mexico (Chihuahua, Sonora, Baja California). On flowers of *Euphorbia*, *Physalis*, and *Wislizenia*.

Pseudopanurgus nanulus Timberlake, 1964. Amer. Mus. Novitates 2185, p. 5. ♀, ♂.

nebrascensis muesebecki Michener. N. C. to Fla., Miss. Taken on flowers of *Aster*, *Chrysopsis*, and *Haplopappus*.

nebrascensis nebrascensis (Crawford). Colo. and Alta., east to Maine and N. J. Taken on flowers of *Aster* and *Solidago*.

neomexicanus (Cockerell). Ariz. On many flowers.

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 8-10 (♀, ♂).

***opacicollis** Timberlake. Ariz. (Prescott). On flowers of *Eriogonum*.

Pseudopanurgus opacicollis Timberlake, 1964. Amer. Mus. Novitates 2185, p. 15. ♀.

opaculus (Cockerell).

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 18-20 (♀, ♂).

parvus (Robertson). N. C. to Ga., Miss., Mo., Ill. Taken on a number of flowers.

Pseudopanurgus (Heterosarus) pauper (Cresson) of Catalog, in part. **P. parvus** not a syn. (teste Mitchell, 1960, *loc. cit. supra*, p. 278).

- Pseudopanurgus (Heterosarus) gerardiae* Crawford (syn. by Mitchell, 1960, *loc. cit. supra*, p. 278).
- pauper** (Cresson). Mo. to New England States, south to Ga. Taken on flowers of *Ceanothus* and *Rubus*. Remove **parvus** (Robertson) from syn. (a valid sp.).
- pernitens** (Cockerell).
Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 14-15. (♀).
- picipes** (Cresson). Transf. to subg. *Pseudopanurgus*, p. 1098 as a syn. of **albitarsis** (Cresson).
- solidaginis** (Robertson). N. H., Ill., Miss.
- stevensi** Crawford. Colo.
- Pseudopanurgus (Heterosarus) borealis* (Cockerell) (syn. by Timberlake, 1964, Amer. Mus. Novitates 2185, p. 25).
- virginicus** (Cockerell). Ga. to Md., W. Va. Taken on flowers of *Ceanothus* and *Houstonia*.

Genus **NOMADOPSIS** Ashmead, pp. 1101-1102

- Nomadopsis* subg. **Macronomadopsis** Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 93.
Type: *Nomadopsis micheneri* Rozen. Orig. desig.
- Nomadopsis* subg. **Micronomadopsis** Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 107.
Type: *Nomadopsis fracta* Rozen. Orig. desig.
- Revision: Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 1-202, 218 figs., 17 maps.
- anthidia anthidia** (Fowler), changed status. Calif. (west slope of Sierra Nevada, northern Coast Ranges, Sacramento Valley, part of San Joaquin Valley). On flowers of *Trifolium*. (**Macronomadopsis**)
- Nomadopsis anthidius* (Fowler). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 101, figs. 8, 9, 56, 63, 119-123).
- ***anthidia lutea** Rozen. Calif. (east of Sierra and southern Calif.), Oreg., Idaho, Utah. On flowers of *Trifolium*. (**Macronomadopsis**)
- Nomadopsis anthidius lutea* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 102, figs. 2, 3, 10, 11, 34, 35, 57, 124-128. ♂, ♀.
- australior** (Cockerell). S. Dak., Nebr., Colo., Utah, N. Mex., Tex., Ariz.; Mexico (Chihuahua). On flowers of *Dithyrea*, *Lepidium*. (**Micronomadopsis**)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 149, figs. 71, 182-185, map 15. ♂, ♀.
- barbata** Timberlake. (**Micronomadopsis**)
- ***barri** Rozen. Idaho, Oreg. Taken on flowers of *Melilotus*. (**Macronomadopsis**)
Nomadopsis (Macronomadopsis) barri Rozen, 1959. Ent. Soc. Wash. Proc. 61: 256, figs. 1, 4. ♂, ♀.
- ***beamerorum** Rozen. Tex. (Reeves and Pecos Counties). On flowers of *Prosopis*. (**Micronomadopsis**)
Nomadopsis (Micronomadopsis) beamerorum Rozen, 1963. Amer. Mus. Novitates 2142: 13, figs. 12-15. ♂, ♀.
- ***boharti** Rozen. Calif. (Napa Co.). (*subgenus uncertain*)
Nomadopsis boharti Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 171, figs. 204-208, map 7. ♂, ♀.
- callosa** Timberlake. Mexico (Baja California). (**Micronomadopsis**)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 140, figs. 174-177, map 8. ♂, ♀.
- ***cazieri** Rozen. Calif. (San Jacinto Mts. and San Diego County). (**Micronomadopsis**)

- Nomadopsis cazieri* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 135, figs. 165-169, map 14. ♂, ♀.
- cincta cincta* (Cresson), changed status. Calif. (east side of Sierra Nevada, Tulare and Trinity Counties). On flowers of *Calochortus*. (*Nomadopsis*)
- Nomadopsis cincta* (Cresson). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 83).
- **cincta hurdi* Rozen. Calif. (Sacramento Co.). On flowers of *Calochortus*. (*Nomadopsis*)
- Nomadopsis cincta hurdi* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 85. ♂, ♀.
- comptula* (Cockerell). Calif. (Tulare, Inyo, and San Bernardino Counties). On flowers of *Potentilla*. (*Nomadopsis*)
- Nomadopsis edwardsii bernardina* (Michener) (syn. by Rozen, 1958, *loc. cit. supra*, p. 75).
- Nomadopsis edwardsii media* (Michener) (syn. by Rozen, 1958, *loc. cit. supra*, p. 75).
- edwardsii* (Cresson), changed status. Calif., Oreg., Wash., Idaho. On flowers of *Calochortus*, *Potentilla*. (*Nomadopsis*)
- Nomadopsis edwardsii edwardsii* (Cresson). Raised to sp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 79).
- Nomadopsis triangulifera* (Cockerell) (syn. by Rozen, 1958, *loc. cit. supra*, p. 79).
- edwardsii bernardina* (Michener). Syn. of *comptula* (Cockerell).
- edwardsii media* (Michener). Syn. of *comptula* (Cockerell).
- euphorbiae* (Cockerell). Syn. of *helianthi* (Swenk and Cockerell).
- **filiorum* Rozen. Calif. (Mono Co.). (*Macronomadopsis*)
- Nomadopsis (Macronomadopsis) filiorum* Rozen, 1963. Amer. Mus. Novitates 2142: 6, figs. 3-6. ♂, ♀.
- Biology: Rozen, 1963, *loc. cit. supra*, pp. 3-6.
- foleyi* Timberlake. (*Micronomadopsis*)
- fracta* Rozen. Calif. (widely distributed at lower altitudes). (*Micronomadopsis*)
- helianthi* (Swenk and Cockerell). Calif., Ariz., N. Mex., Nebr.; Mexico (Baja California). (*Micronomadopsis*)
- Nomadopsis euphorbiae* (Cockerell) (syn. by Rozen, 1963. N. Y. Ent. Soc. Jour. 71: 142).
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 129, figs. 16, 17, 40, 41, 61, 65, 157-160, map 13. ♂, ♀.
- hesperia equina* (Cockerell). Calif. (Great Valley), Nev. (Va. City). (*Micronomadopsis*)
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 148. ♂, ♀.
- hesperia hesperia* (Swenk and Cockerell). (*Micronomadopsis*)
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 147. ♂, ♀.
- larreae* Timberlake. (*Micronomadopsis*)
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 126, figs. 153-156, map 12. ♂, ♀.
- lawae* (Michener). A subsp. of *scitula* (Cresson).
- **linsleyi* Rozen. Calif. On flowers of *Eriodictyon*. (*Nomadopsis*)
- Nomadopsis linsleyi* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 85, figs. 6, 7, 30, 31, 53, 99-103, map 5. ♂, ♀.
- **macswaini* Rozen. Ariz. (Cochise Co.). On flowers of *Wislizenia*. (*Micronomadopsis*)
- Nomadopsis macswaini* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 152, figs. 195-198, map 16. ♂, ♀.

- meliloti** (Cockerell). Tex., Ariz. On flowers of *Parosela*. (*Micronomadopsis*)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 138, figs. 170-173, map 14. ♂, ♀.
- mellipes** Timberlake. (*Micronomadopsis*)
- ***micheneri** Rozen. Calif. east of Sierra. On flowers of *Trifolium*. (*Macronomadopsis*)
Nomadopsis micheneri Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 95, figs. 12, 13, 32, 33, 55, 67, 109-113, map 8. ♂, ♀.
- nigromaculata** Timberlake. (*Micronomadopsis*)
- obscorella** (Cresson). Calif., Oreg., Ariz. Visiting many flowers, but *Eschscholtzia* only for pollen. (*Nomadopsis*)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 91, figs. 104-108, map 7. ♂, ♀.
- personata** (Cockerell). Wash., Oreg., Idaho, Wyo. On flowers of *Cleome*. (*Micronomadopsis*)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 165, figs. 186-189, map 15. ♂, ♀.
- phaceliae** Timberlake. Calif. (east side of Sierra Nevada and Mojave Desert). (*Micronomadopsis*)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 117, figs. 137-140, map 11. ♂, ♀.
- puellae** (Cockerell). Tex., N. Mex., Ariz., Calif., Idaho. On flowers of *Mala-cothrix*. (*Nomadopsis*)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 89, figs. 89-93, map 6. ♂, ♀.
- scitula lawae** (Michener), changed status. On flowers of *Cleomella*, *Thelypodium*. (*Micronomadopsis*)
Nomadopsis lawae (Michener). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 159).
- scitula scitula** (Cresson), changed status. Wyo., Idaho, Utah, Colo., N. Mex. On flowers of *Cleome*, *Sisymbrium*. (*Micronomadopsis*)
Nomadopsis scitula (Cresson). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 157).
- scutellaris scutellaris** (Fowler). Wyo., Idaho, Utah, Nev., Wash., Oreg., Calif.; Mexico (northern Baja California). *N. scutellaris peninsularis* (Cockerell) occurs in southern Baja California. (*Micronomadopsis*)
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 160, figs. 24, 25, 47, 48, 62, 73, 190-194, map 17. ♂, ♀.
- ***smithi** Rozen. Calif. (San Benito Co.). On flowers of *Cryptantha*. (*subgenus uncertain*)
Nomadopsis smithi Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 169, figs. 214-218, map 7. ♂, ♀.
- ***snellingi** Rozen. Calif. (Fresno Co.). On flowers of *Salvia*. (*Micronomadopsis*)
Nomadopsis (Micronomadopsis) snellingi Rozen, 1963. Amer. Mus. Novitates 2142: 9, figs. 7-11. ♂, ♀.
- ***solitaria** Rozen. Calif. (Lassen Co.).
Nomadopsis solitaria Rozen, 1963. Amer. Mus. Novitates 2142: 15, figs. 16-20. ♂.
- ***timberlakei** Rozen. Calif. (Los Angeles Co.). On flowers of *Monardella*. (*Nomadopsis*)
Nomadopsis timberlakei Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 73, map 2. ♂, ♀.
- triangulifera** (Cockerell). Syn. of *edwardsii* (Cresson).
- trifolii** Timberlake. (*Micronomadopsis*)
- ***xenus** Rozen. Wash., Calif. On flowers of *Phacelia*. (*subgenus uncertain*)

Nomadopsis xenus Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 209, map 7.
♂, ♀.

**zebrata bobbae* Rozen. Ariz. (Navajo and Coconino Counties). (*Macronomadopsis*)

Nomadopsis zebrata bobbae Rozen, 1958. Calif. Univ. Pubs. Ent. 15:
107. ♂, ♀.

zebrata zebrata (Cresson), changed status. Colo., Wyo., N. Mex. On flowers
of *Astragalus*. (*Macronomadopsis*)

Nomadopsis zebrata (Cresson). Reduced to subsp. rank (*teste* Rozen,
1958, *loc. cit. supra*, p. 106).

**zonalis sierrae* Rozen. Calif. (Eldorado Co.). On flowers of *Monardella*,
Solidago. (*Nomadopsis*)

Nomadopsis zonalis sierrae Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 71.
♂, ♀.

Biology: Rozen, 1963, *loc. cit. supra*, pp. 2-6.

zonalis zonalis (Cresson), changed status. Calif., central and south coasts.
On flowers of *Monardella*. (*Nomadopsis*)

Nomadopsis zonalis (Cresson). Reduced to subsp. rank (*teste* Rozen,
1958, *loc. cit. supra*, p. 71).

CALLIOPSIS subgenus CALLIOPSIS Smith, p. 1103

andreniformis Smith. Visits a great number of flowers.

Calliopsis lepida Cresson (syn. by Mitchell, 1960, *loc. cit. supra*, p. 288).

coloradensis Cresson. Alta. to N. Mex., east to Ill. and Ga., N. C. Visits a
number of flowers.

lepida Cresson. Syn. of *andreniformis* Smith.

maculata Smith. Delete from Catalog; apparently it is a South American
species of *Acamptopoeum* (?).

CALLIOPSIS subgenus PERISSANDER Michener, p. 1104

anomoptera Michener. On flowers of *Euphorbia albomarginata*.

Biology: Krombein, 1961. Ent. News 72: 82-83.

Genus XENOPANURGUS Michener, Sup. 1, p. 229

readioi Michener. Mexico (Dist. Fed.).

Taxonomy: Shinn, 1964. Ent. News 75: 74 (♀, ♂).

Family HALICTIDAE

Biology: Sakagami and Michener, 1962. The Nest Architecture of the
Sweat Bees, 135 pp., 181 figs.

Taxonomy: Eickwort and Fischer, 1963. Ent. Soc. Amer. Ann. 56:
348-354 (value of hind tibial spur).

HALICTUS subgenus HALICTUS Latreille, pp. 1104-1105

ligatus Say. Visits a number of flowers.

Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 160.

parallelus Say. On flowers of *Mclilotus*, *Potentilla*, *Rhus*, *Rubus* and *Soli-*
dago.

rubicundus (Christ). Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 162.

HALICTUS subgenus SELADONIA Robertson, p. 1105

confusus confusus Smith. Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 161.

LASIOGLOSSUM subgenus LASIOGLOSSUM Curtis, pp. 1106-1107

athabascense (Sandhouse). B. C. to N. S., south to Wis., Mich., Ohio and in the east to N. C. Visits flowers of *Cornus*, *Epilobium*, *Pyrus*, *Ranunculus*, *Rubus*, *Taraxacum* and *Veronica*.

capitulatum (Vachal). Syn. of **fuscipenne** (Smith).

coriaceum (Smith). Visits a number of flowers.

forbesii (Robertson). Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 163.

fuscipenne (Smith). N. S. to Ont., south to Fla. and Tex. Taken on a number of flowers.

Lasioglossum (Lasioglossum) capitulatum (Vachal) (syn. by Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 343).

leucozonium (Schrank). Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 163.

sisymbrii (Cockerell).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 159.

zonulum (Smith). Holarctic; N. S. to Minn., south to N. Y., Mich., Wis. Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 163.

LASIOGLOSSUM subgenus ECVYLAEUS Robertson, pp. 1107-1110

aberrans (Crawford). Transferred from subg. **Sphecodogastra** (*teste* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 45).

adelipus (Vachal). Syn. of **cinctipes** (Provancher).

***adsurdiceps** (Timberlake), n. comb. Calif. (Merced).

Halictus (Ecvylaeus) adsurdiceps Timberlake, 1962. Ent. Soc. Wash. Proc. 62: 105. ♂.

arcuatum arcuatum (Robertson). Syn. of **cinctipes** (Provancher).

arcuatum parisum (Lovell). Syn. of **cinctipes** (Provancher).

***bradleyi** (Mitchell), n. comb. N. J. (Pitman).

Ecvylaeus bradleyi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 356, figs. 88, 91. ♂.

cinctipes (Provancher). N. S. to Fla., west to N. Dak. and Colo. Visits a great number of flowers. Transf. from Species of Lasioglossum, Subgenus Doubtful, p. 1119 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 350).

Lasioglossum (Ecvylaeus) adelipus (Vachal) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 350).

Lasioglossum (Ecvylaeus) arcuatum parisum (Lovell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 350).

Lasioglossum (Ecvylaeus) arcuatum arcuatum (Robertson) (syn. by Knerer and Atwood, 1962, *loc. cit. supra*, p. 164).

Lasioglossum (Ecvylaeus) gulosum (Cockerell) (syn. under typical **arcuatum** by Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 547).

Biology and Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 960-962, fig. 1.

***comagenensis** (Knerer and Atwood), n. comb. Ont., Alaska. On many flowers.

Ecvylaeus comagenensis Knerer and Atwood, 1964. Canad. Ent. 96: 959, fig. 1. ♀, ♂.

***divergenoides** (Mitchell), n. comb. Mich., Ind.

Ecvylaeus divergenoides Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 351, fig. 91. ♂.

divergens (Lovell). Minn. to N. S., south to Ga. Taken on a number of flowers.

Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 958, fig. 1.

foxii (Robertson). Man. and Minn. to N. S., south to Ga. Taken on a large number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 164.

gulosum (Cockerell). Syn. of *arcuatum* (Robertson).

lusorium (Cresson). Transferred from subg. *Sphécodogastra* (*teste* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 45).

macoupinense (Robertson). Minn. to N. B., south to Ga. and Ala. Visits a number of flowers.

nelumbonis (Robertson). Maine to Minn., south to Fla. and Tex. Visits a number of flowers.

oenotherae (Stevens). N. Dak. and Kans. to N. S., south to Ga. Transferred from subg. *Sphécodogastra* (*teste* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 45).

Lasioglossum (Evylaeus) ralenci (Crawford) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 365).

Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 958-959, fig. 1.

**pineolensis* (Mitchell), n. comb. N. C. (Pineola).

Evylaeus pineolensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 358. ♂.

quebecense (Crawford). Minn. to Newfoundland, south to Ga. Taken on a number of flowers.

ralenci (Crawford). Syn. of *oenotherae* (Stevens).

rufitarse (Zetterstedt). Holarctic; N. S., N. B., Ont., Mich. Taken on many flowers.

sopinci (Crawford). N. J., N. C., Ga.

truncatum (Robertson). Maine and Que. to Wash., south to Ga. Visits a number of flowers.

Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 962, fig. 1.

LASIOGLOSSUM subgenus HEMIHALICTUS Cockerell, p. 1110

lustrans (Cockerell). Va. to Fla., Ind. and Mich. to Miss. and Tex. Oligoleptic on *Pyrrhophappus*, but occasionally visits other flowers.

Biology and Taxonomy: Daly, 1961. Kans. Ent. Soc. Jour. 34: 134-140, 13 figs.

LASIOGLOSSUM subgenus SPHECODOGAстра Ashmead, p. 1111

aberrans (Crawford). Transfer to subg. *Evylaeus*, p. 1107.

lusorium (Cresson). Transfer to subg. *Evylaeus*, p. 1108.

**noctivaga* Linsley and MacSwain. Utah, N. Mex., west. Tex. On flowers of *Oenothera hartwegii*.

Lasioglossum (Sphécodogastra) noctivaga Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 46. ♀.

oenotherae (Stevens). Transfer to subg. *Evylaeus*, p. 1109.

texanum (Cresson). Ind.

Biology: Chandler, 1962. Ind. Acad. Sci. Proc. for 1961, 71: 124-129, 2 figs., 2 tables.

LASIOGLOSSUM subgenus CHLORALICTUS Robertson, pp. 1111-1119

Synonymized under *Dialictus* Robertson, p. 1119, and component species transferred to that subgenus.

LASIOGLOSSUM subgenus DIALICTUS Robertson, p. 1119

Chloralictus synonymized under *Dialictus* by Mitchell (1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 368). Mitchell considered *Dialictus* to be of generic rank, but usage in the Catalog is continued here.

- abanci** (Crawford). Minn. to N. B., south to Ga. Taken on flowers of *Aruncus*, *Houstonia*, *Krigia*, *Melilotus*, *Rubus*, and *Rudbeckia*.
- ***achilleae** (Mitchell), n. comb. Mass. to N. C., Mich. Taken on flowers of *Achillea*, *Ceanothus*, and *Hydrangea*.
Dialictus achilleae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 377. ♀.
- admirandum** (Sandhouse). Minn. to N. S., south to La. and Fla. Visits a large number of flowers.
- ***advertum** (Mitchell), n. comb. Mass. (Reading).
Dialictus advertum Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 433, fig. 102. ♂.
- ***alachuense** (Mitchell), n. comb. Ga., Fla.
Dialictus alachuensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 378. ♀.
- albipenne** (Robertson). N. S. to Oreg., south to N. C., Ill. and Colo. Visits a number of flowers.
- ***alternatum** (Mitchell), n. comb. Mass. to Va., Ohio, Mich.
Dialictus alternatus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 433. ♂.
- anomalum** (Robertson). Alta. and Colo. east to N. S., south to Ala. and Ga. Visits flowers of *Aster*, *Capsellum*, *Ceanothus*, *Houstonia*, *Hyposis*, and *Solidago*.
- apertum** (Sandhouse). Minn. to Maine, south to La. and Ga. Visits a number of flowers.
- ***apocyni** (Mitchell), n. comb. W. Va., Ohio, Ind., Tenn. Taken on flowers of *Apocynum cannabinum*.
Dialictus apocyni Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 381. ♀.
- apopkense** (Robertson). N. C. to Fla., Miss. Visits a number of flowers.
- ashmeadii** (Robertson). Syn. of **creberrimum** (Smith).
- ***atlanticum** (Mitchell), n. comb. Mass., N. Y., W. Va., N. C. Taken on flowers of *Apocynum*, *Barbarea*, *Melilotus*, and *Vernonia*.
Dialictus atlanticus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 383, fig. 99. ♀.
- ***banksi** (Mitchell), n. comb. Mich. to N. S., south to N. C. and Tenn. Taken on flowers of *Apocynum*, *Melilotus*, and *Solidago*.
Dialictus banksi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 434, fig. 102. ♂.
- basilicum** (Sandhouse). Minn. to Conn.
- ***brassicae** (Mitchell), n. comb. N. C., Fla. Taken on flowers of *Brassica* and *Stachys*.
Dialictus brassicae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 384. ♀.
- bruneri** (Crawford). Nebr. to N. Y., south to Fla. Visits a number of flowers.
- brynci** (Crawford). Syn. of **perpunctatum** (Ellis).
- californiae** (Ellis). Change spelling in sp. heading from *californiae* to *californiae*. Change author's name in sp. heading from Sandhouse to Ellis; in cit. of orig. descr., change author from Sandhouse to Ellis in Sandhouse.
- callidum** (Sandhouse). Ill. and Mich. to New England, south to N. C. Taken on flowers of *Celeri*, *Fagopyrum*, *Melilotus*, and *Solidago*.
- cattellae** (Ellis). Ohio, Que., New England, south to Ga. Taken on flowers of *Aruncus*, *Chrysanthemum*, *Houstonia*, *Malus*, *Rubus*, *Rudbeckia*, and *Viburnum*.

- ***ceanothi** (Mitchell), n. comb. N. C., Mich., Mo. Taken on flowers of *Ceanothus americanus*.
Dialictus ceanothi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 386, fig. 99. ♀.
- coeruleum** (Robertson). Minn. to Mass., south to Ga. Visits a number of flowers. Nests in abandoned beetle burrows in fallen trees.
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 167.
- consonum** (Sandhouse). Syn. of *versans* (Lovell).
- coreopsis** (Robertson). Ill. and Mich. to Mass., south to Fla. Taken on a great number of flowers.
Lasioglossum (Chloralictus) robertsonellum Michener (syn. by Mitchell, 1960, *loc. cit. supra*, p. 388).
- creberrimum** (Smith). N. C. to Fla., La. Taken on flowers of *Aronia*, *Eryngium*, *Hypericum*, *Kalmia*, and *Oenothera*.
Lasioglossum (Chloralictus) ashmeadii (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 390).
- cressonii** (Robertson). Nests in rotten wood above ground. Visits a great number of flowers.
- ***delectatum** (Mitchell), n. comb. N. B. to N. C., W. Va., Ohio, Ont. Taken on flowers of *Daucus carota*.
Dialictus delectatus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 435. ♂.
- ***dreisbachi** (Mitchell), n. comb. N. Y., Md., Mich., Minn.
Dialictus dreisbachi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 391, fig. 101. ♀, ♂.
- ***dubitatum** (Mitchell), n. comb. N. Y. (Cortland Co.).
Dialictus dubitalus (!) Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 436. ♂. Spelled *dubitatus* in key (p. 376) and in index (p. 533).
- ellisiae** (Sandhouse). Syn. of *tegulare* (Robertson).
- euryceps** (Ellis). Syn. of *laevissimum* (Smith).
- ***fattigi** (Mitchell), n. comb. N. C., Ga. Taken on flowers of *Aruncus*, *Ceanothus* and *Hydrangea*.
Dialictus fattigi Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 392. ♀.
- ***flaveriae** (Mitchell), n. comb. Fla. Taken on flowers of *Achyranthes*, *Flaveria*, *Lyonia* and *Mikinia*.
Dialictus flaveriae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 393, figs. 101, 102. ♀, ♂.
- floridanum caesareum** (Cockerell). Syn. of **pilosum pilosum** (Smith).
- floridanum floridanum** (Robertson). A subsp. of **pilosum** (Smith).
- foveolatum** (Robertson). Ill., Mich. Taken on flowers of *Aster* and *Rhus*.
- genuinum** (Sandhouse). Ont. to N. C. Taken on flowers of *Daucus* and *Hydrangea*.
- graenicheri** (Ellis). Syn. of **pictum** (Crawford).
- halophitum** (Graenicher). N. C. to Fla., La. Taken on a number of flowers.
- hartii** (Robertson). Nebr., Minn. and Ill. to La. and N. C. Taken on flowers of *Anthemis*, *Erigeron*, *Hypericum*, *Rorippa*, *Rubus*, and *Vicia*.
Lasioglossum (Chloralictus) rugosum (Crawford) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 396).
- ***heterognathus** (Mitchell), n. comb. N. B. to Minn., south to N. C. and Tenn. Taken on a number of flowers.
Dialictus heterognathus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 397, figs. 95, 99. ♀.
 Taxonomy: Knerer and Atwood, 1963. Ent. Soc. Wash. Proc. 65: 167. ♂.

- ***highlandicum** (Mitchell), n. comb. N. C., Ont. Taken on flowers of *Rudbeckia*.
Dialictus highlandicus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 398. ♀.
- illinoense** (Robertson). Nebr. and Minn. to N. S., south to Tex. and Ga. Visits a number of flowers.
Lasioglossum (Chloralictus) politissimum (Cockerell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 399).
- imitatum** (Smith). New England and Que. west to Minn., south to Fla. and N. Mex. Visits a number of flowers.
Lasioglossum (Chloralictus) inconspicuum (Smith) (syn. by Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 168).
 Biology: Michener and Wille, 1961. Kans. Univ. Sci. Bull. 42: 1123-1202, 44 figs., 11 tables.
- inconspicuum** (Smith). Syn. of **imitatum** (Smith).
- ***intrepidum** (Mitchell), n. comb. Ga. (Stone Mt.).
Dialictus intrepidus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 437. ♂.
- ***junaluskense** (Mitchell), n. comb. N. C., N. Y., Mich., Minn. Taken on flowers of *Fagopyrum esculentum*.
Dialictus junaluskensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 437. ♂.
- laevissimum** (Smith). N. S. to Alta., south to Ga. and Calif. Visits a number of flowers.
Lasioglossum (Chloralictus) smilacinae (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 401).
Lasioglossum (Chloralictus) euryceps (Ellis) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 401).
 Taxonomy: Knerer and Atwood, 1962. Canad. Ent. 94: 1228. ♂.
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 168.
- ***lectum** (Mitchell), n. comb. Ga., D. C., N. J., Ind.
Dialictus lectus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 438. ♂.
- lepidii** (Graenicher). Syn. of **tegulare** (Robertson).
- ***lepidum** (Mitchell). Syn. of **viridatum** (Lovell).
- ***leviense** (Mitchell), n. comb. N. C. to Fla. Taken on flowers of *Polygonum* and *Zizia*.
Dialictus leviensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 403. ♀.
- lineatulum** (Crawford). Minn. to Newfoundland, south to Tex. and Ga. Taken on a number of flowers. Remove **unicum** (Sandhouse), a valid sp., from syn.
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 169.
- marinum** (Crawford). Mass. to Fla. Taken on flowers of *Alternanthera*, *Bidens*, *Helianthus*, and *Parthenocissus*.
- ***miniaturum** (Mitchell), n. comb. Fla. Taken on flowers of *Flaveria linearis*.
Dialictus miniaturus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 405. ♀.
- ***muskegonense** (Mitchell). Syn. of **pictum** (Crawford).
- nigroviride** (Graenicher). B. C. to N. B., south to Ga. Taken on many flowers.
- ***novascotiae** (Mitchell), n. comb. N. S., Ont. On flowers of *Fragaria* and *Salix*.
Dialictus novascotiae Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 407. ♀.
 Taxonomy: Knerer and Atwood, 1964. Ent. News 75: 5, fig. 1 (♂).

- nymphaeorum** (Robertson). Minn. and Kans. to N. S., south to Ga. Visits a number of flowers.
- nymphale** (Smith). Minn. to Mass., south to Tex. and Fla. Visits a number of flowers.
- oblongum** (Lovell). Colo., Minn., and N. S., south to N. Mex., La., and Ga. Nests in rotten wood above ground. Visits a number of flowers.
- obscurum** (Robertson). Minn. and Ill. to Conn., south to Ga. Taken on a large number of flowers.
- *orbitatum** (Mitchell), n. comb. Minn. to Conn., south to N. C. and W. Va. Taken on flowers of *Rhus* and *Rudbeckia*.
Dialictus orbitatus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 440, fig. 101. ♂.
- *otsegoense** (Mitchell), n. comb. Mich. (Otsego Co.).
Dialictus otsegoensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 440. ♂.
- perpunctatum** (Ellis). Minn. to N. B., south to N. Mex. and Ga. Taken on a number of flowers.
Lasioglossum (Chloralictus) brycinci (Crawford) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 411).
- *philanthanum** (Mitchell), n. comb. N. C., N. Y., Mich. On flowers of *Solidago*.
Dialictus philanthanus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 441. ♂.
- pictum** (Crawford). Nebr., Minn., Wis., Mich., Ill. On flowers of *Lepidium Melilotus*, *Salix*, and *Solidago*.
Lasioglossum (Chloralictus) graenicheri (Ellis) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 412).
***Dialictus muskegonensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 439. ♂. (Syn. by Mitchell, 1962, *op. cit.*, Bull. 152: 547.)
Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 170.
- pilosum floridanum** (Robertson). N. C. to Fla. Taken on a number of flowers.
Lasioglossum (Chloralictus) floridanum floridanum (Robertson). A subsp. of **pilosum** (Smith) (*teste* Mitchell, 1960, *loc. cit. supra*, p. 414).
- pilosum pilosum** (Smith), changed status. Colo. and Minn. to N. S., south to Ga. Taken on a great number of flowers.
Lasioglossum (Chloralictus) pilosum (Smith). Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 413).
Lasioglossum (Chloralictus) floridanum caesareum (Cockerell). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 547.
Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 170.
- *placidense** (Mitchell), n. comb. Fla.
Dialictus placidensis Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 441. ♂.
- politissimum** (Cockerell). Syn. of **illinoense** (Robertson).
- pruinatum** (Robertson). Alta. to New England states, south to Ariz. and N. J. Taken on a number of flowers.
- raleighense** (Crawford). N. C. to Fla. Taken on flowers of *Galactia*, *Polygonum* and *Tephrosia*.
- reticulatum** (Robertson). Ill. and Mich. to Maine, south to Fla. Taken on flowers of *Aronia*, *Bidens*, *Crataegus*, *Melilotus*, *Prunus*, *Rhus*, *Rubus*, *Solidago*, and *Vaccinium*.
- robertsonellum** Michener. Syn. of **coreopsis** (Robertson).

- rohweri** (Ellis). Minn. to Maine, south to Ga. Taken on a number of flowers.
 Taxonomy: Knerer and Atwood, 1962. *Canad. Ent.* 94: 1230. ♂.
 Biology: Knerer and Atwood, 1962. *Ent. Soc. Ontario Proc.* 92: 171.
- rugosum** (Crawford). Syn. of **hartii** (Robertson).
- sandhouseae** Michener. Colo., Minn., Ont. On flowers of *Anaphalis*, *Epilobium*, *Prunus*, *Salix*, and *Solidago*.
 Taxonomy: Knerer and Atwood, 1964. *Ent. News* 75: 7 (♀).
- smilacinae** (Robertson). Syn. of **laevissimum** (Smith).
- *solidaginis** (Mitchell), n. comb. Mich. to Maine, south to Ind., W. Va., and N. Y. Taken on flowers of *Solidago*.
Dialictus solidaginis Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 443, fig. 102. ♂.
- *stuartense** (Mitchell), n. comb. Fla. (Stuart). Taken on flowers of *Chrysopsis*.
Dialictus stuartensis Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 419. ♀.
- *subversans** (Mitchell), n. comb. Mich., N. Y.
Dialictus subversans Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 419. ♀.
- supraclypeatum** (Mitchell), n. comb. Va., Mich., Tenn., Mo.
Dialictus supraclypeatus Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 420, fig. 99. ♀.
- *surianae** (Mitchell), n. comb. Fla. Taken on flowers of *Bidens* and *Suriana*.
Dialictus surianae Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 420. ♀.
- *tahitense** (Mitchell), n. comb. Fla. (Tahiti Beach).
Dialictus tahitensis Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 421. ♀.
- *tamiamense** (Mitchell), n. comb. Fla. Taken on a number of flowers.
Dialictus tamiamensis Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 421, figs. 98, 101, 102. ♀, ♂.
- *tarponense** (Mitchell), n. comb. Fla., Ga. Taken on flowers of *Prunus angustifolia*.
Dialictus tarponensis Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 423. ♀.
- tegulare** (Robertson). Minn. to N. H., south to Tex. and Fla. Visits a great number of flowers.
Lasioglossum (Chloralictus) ellisiae (Sandhouse) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 424).
Lasioglossum (Chloralictus) lepidii (Graenicher) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 424).
- unicum** (Sandhouse). Minn., Mich., N. H., Va., N. C. Taken on flowers of *Apocynum*, *Ceanothus*, and *Melilotus*.
Lasioglossum (Chloralictus) lineatulum (Crawford) of Catalog, in part.
L. unicum not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 424).
- versans** (Lovell). Minn. to Newfoundland, south to Ga. Visits many flowers.
Lasioglossum (Chloralictus) consonum (Sandhouse) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 427).
- versatum** (Robertson). Minn. to Md., south to La. and Ga. Visits a large number of flowers.
- vierecki** (Crawford). Minn. to New England States, south to Tex., La., and Ga. Taken on flowers of *Ceanothus*, *Helianthus*, *Hydrangea*, *Monarda*, *Rubus*, *Solidago*, and *Specularia*.
- viridatum** (Lovell). Minn. to N. S., south to La. and Ga. Taken on a number of flowers.

- **Dialictus lepidus* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 438. ♂. (Syn. by Mitchell, 1962, N. C. Agr. Expt. Sta. Tech. Bull. 152: 547.)
- **weemsi* (Mitchell), n. comb. N. C., Ga. Taken on flowers of *Melilotus officinalis*.
- Dialictus weemsi* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 431, fig. 99. ♀.
- **wheeleri* (Mitchell), n. comb. Mass. (Forest Hills).
- Dialictus wheeleri* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 445. ♂.
- zephyrum* (Smith). Maine to Ga., west to Minn., Colo. and Tex., Utah, Oreg. Visits a great number of flowers.
- Biology: LaBerge and Isakson, 1963. Ent. News 74: 113-116.—Lin, N., 1964. Ins. Sociaux 11: 187-192 (reaction to mutillid parasitism).—Batra, 1964. Ins. Sociaux 11: 159-186, 20 figs.

LASIOGLOSSUM subgenus PARALICTUS Robertson, p. 1119

- **asteris* (Mitchell), n. comb. N. Y. to N. C., west to Mich., Ind. and Tenn. Taken on flowers of *Aster* and *Robinia*.
- Paralictus asteris* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 446. ♀, ♂.
- cephalotes* (Dalla Torre). Minn. to Conn., south to N. C. Taken on flowers of *Gonolobus*, *Lycanthemum*, and *Salix*. Host: *Lasioglossum (Dialictus) inconspicuum* (Sm.) and other spp. of this subgenus.
- **michiganense* (Mitchell), n. comb. Mich. (Wayne Co.).
- Paralictus michiganensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 448. ♀.
- platyparium* (Robertson). Minn., Mich., and Md. south to Tenn. and Ga. Taken on a number of flowers.
- simplex* (Robertson). Mich. to Mass., south to N. C. Taken on flowers of *Achillea*, *Ranunculus*, *Rubus*, *Solidago* and *Zizia*.

Species of *Lasioglossum*, Subgenus Doubtful, p. 1119

- cinctipes* (Provancher). Transf. to *Lasioglossum* subg. *Evylaeus*, p. 1106.

Genus SPHECODES Latreille, pp. 1120-1123

- antennariae* Robertson. Wis. and Mich. to N. C. Taken on flowers of *Antennaria*, *Aster* and *Pycnanthemum*.
- **aroniae* Mitchell. Va., N. C. Taken on flowers of *Aronia* and *Ilex*.
- Sphcodes aroniae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 474. ♀, ♂.
- banksii* Lovell. Minn. to N. Y., south to Fla. Taken on flowers of *Euphorbia* and *Melilotus*.
- canadensis* Mitchell. Syn. of *coronus* Mitchell.
- **castaneae* Mitchell. Va. (Falls Church).
- Sphcodes castaneae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 480. ♀.
- clematidis* Robertson. Man. and Kans. to N. S., south to N. C. Taken on flowers of *Aruncus*, *Ceanothus*, *Clematis*, *Daucus*, *Pastinaca*, and *Solidago*.
- Sphcodes obscurans* Lovell and Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 481).
- confertus* Say. Minn. and Colo. to N. S., Tex. and Ga. Visits flowers of *Asclepias*, *Cicuta*, *Ptelea*, *Pycnanthemum*, *Rhus*, and *Salix*.
- Sphcodes pithanus* Lovell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 482).

coronus Mitchell.

Sphecodes canadensis Mitchell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 483).

cressonii Robertson. Minn. and Ont. to New England States, south to Mo. and N. C. Visits a number of flowers.

Sphecodes mandibularis Cresson of Catalog and Sup. 1, in part. **S. cressonii**, with syns. *heterus* Lovell and *nephelotus* Lovell and Cockerell, is a valid sp. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 484).

davisii Robertson. Minn. and Ont. to N. Y. and New England.

dichrous Smith. Minn. to N. S., south to Mo. and Ga. Visits a large number of flowers.

galerus Lovell and Cockerell. N. H. and Vt. to Va.

heraclei heraclei Robertson, changed status. Ill. to New England States, south to Ala. and Fla. Taken on a number of flowers.

Sphecodes heraclei Robertson. Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 489).

heraclei ignitus Cockerell, changed status. Ala., Fla. Taken on a number of flowers.

Sphecodes ignitus Cockerell. Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 490).

ignitus Cockerell. A subsp. of **heraclei** Robertson.

illinoensis (Robertson). Minn. and Ont. to New England, south to N. C. Taken on flowers of *Angelica* and *Heracleum*.

johnsonii Lovell. Que. and N. B. south to N. C. Taken on flowers of *Aster*.

knetschi Cockerell. Ill. to New England States, south to N. C. Taken on flowers of *Ceanothus*.

levis Lovell and Cockerell. Minn. and Ont. to Maine, south to Tenn. and N. C. Taken on flowers of *Daucus* and *Trifolium*.

mandibularis Cresson. Delete **cressonii** Robertson, a valid sp., and its syns. *heterus* Lovell and *nephelotus* Lovell and Cockerell from syn.

minor Robertson. Alta. to Maine, south to N. C. and Miss. Taken on a number of flowers.

morsei Mitchell. Syn. of **solonis** Graenicher.

obscurans Lovell and Cockerell. Syn. of **elematidis** Robertson.

packardi Mitchell. Syn. of **solonis** Graenicher.

persimilis Lovell and Cockerell. Mich. to N. Y., R. I., Maine. Taken on flowers of *Rubus*.

pimpinellae Robertson. Ill. to Va., N. C. Taken on flowers of *Eupatorium* and *Taenidia*. Hosts: *Augochlorella striata* (Prov.), *A. persimilis* (Vier.).

Biology: Ordway, 1964. Kans. Ent. Soc. Jour. 37: 140-147.

pithanus Lovell. Syn. of **confertus** Say.

prosporus Lovell and Cockerell. Minn. to N. S., south to N. C. Taken on flowers of *Barbarea*, *Chrysanthemum*, *Fagopyrum*, and *Rubus*.

***prostygus** Mitchell. N. H., Fla. Taken on flowers of *Solidago*.

Sphecodes prostygus Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 499. ♀.

ranunculi Robertson. Minn. to Maine, south to N. C. Taken on a number of flowers.

smilacinae Robertson. Minn., Ill. Taken on flowers of *Smilacina* and *Solidago*.

solonis Graenicher. Minn., Ont., and New England.

Sphcodes morsei Mitchell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 495).

Sphcodes packardi Mitchell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 495).

stygius Robertson. Minn. to Que. and New England States, south to Fla. Taken on a number of flowers.

wheeleri Mitchell. Probable male of *pimpinellae* Robertson.

Genus **AGAPOSTEMON** Guérin-Ménéville, pp. 1123-1125

angelicus angelicus Cockerell.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 159, fig. 5.

**nasutus* Smith. Tex. (Brownsville) south to Panama.

Agapostemon nasutus Smith, 1853. Cat. Hym. Brit. Mus. 1: 87. ♂.

Taxonomy: Chandler, 1962. Ent. Soc. Amer. Ann. 55: 481.

**sericeus* (Forster). Amer. septentrionale. Possibly an earlier name for *virescens* (Fabricius).

Apis sericea Forster, 1771. Novae Species Insectorum, Centuria I, p. 91.

♂.

Taxonomy: van der Vecht, 1959. Ent. Ber. 19: 69.

virescens (Fabricius). Visits a number of flowers.

Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 173.

Genus **AUGOCHLORA** Smith, p. 1125

pura mosieri Cockerell. Southern Fla. Visits a number of flowers.

Augochlora pura (Say) of Catalog, in part. *A. mosieri* removed from syn. and raised to subsp. rank (*teste* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 458).

pura pura (Say), changed status. Nests in rotten wood. Visits many flowers.

Augochlora pura (Say) of Catalog, in part. *A. mosieri* is a subsp. not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 456).

Halictus asaphes Vachal. Transf. from syn. of *Augochlorella striata* Provancher (*teste* Mitchell, 1960, *loc. cit. supra*, p. 456).

Biology: Stockhammer, 1961. North Central Branch, Ent. Soc. Amer. Proc. 16: 17-18.

Genus **AUGOCHLORELLA** Sandhouse, pp. 1125-1126

Biology: Ordway, 1961. North Central Branch, Ent. Soc. Amer. Proc. 16: 17.—Ordway, 1964. Kans. Ent. Soc. Jour. 37: 139-140.

striata (Provancher). Visits many flowers. Delete *asaphes* (Vachal) from syn. and transf. to *Augochlora* as a syn. of *pura pura* (Say).

*Genus **TEMNOSOMA** Smith

Temnosoma Smith, 1853. Cat. Hym. Brit. Mus., v. 1, p. 238.

Type: *Temnosoma metallicum* Smith. By monotypy.

Insert above *Augochloropsis* Cockerell, p. 1126.

**smaragdinum* Smith. Ariz. (Tucson); Mexico.

Temnosoma smaragdinum Smith, 1879. Descr. New Species Hym. Brit. Mus., p. 29. ♂.

Genus **AUGOCHLOROPSIS** Cockerell, p. 1126

anonyma (Cockerell), changed status. Coastal Plain, N. C. to Fla. Visits a number of flowers.

Augochloropsis cuprea (Smith) of Catalog, in part. *A. anonyma* a valid sp. not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 464).

humeralis humeralis (Patton). Syn. of *sumptuosa* (Smith).

humeralis lacustris (Cockerell). Syn. of *sumptuosa* (Smith).

metallica fulgida (Smith), changed status. Mich. to New England, south to La. and Fla. Visits a number of flowers.

Augochloropsis cuprea (Smith) of Catalog, in part. **A. fulgida**, with syn. **A. lucidula** (Smith), is a subsp. of **metallica** (Fabricius) (*teste* Mitchell, 1960, *loc. cit. supra*, p. 465).

***metallica metallica** (Fabricius). New England and Ont., south to Fla. and Ariz.; Mexico to Panama. Visits a great number of flowers.

Andrena metallica Fabricius, 1793. Ent. syst. 2: 309.

Augochloropsis cuprea (Smith) of Catalog, in part. **A. cuprea** (Smith), **viridula** (Smith), **fervida** (Smith), **cleomis** (Titus), **chorisis** (Vachal), **viridissimus** (Viereck), **fulvofimbriata** (Friese) become synonyms of **metallica metallica** (syn. by Mitchell, 1960, *loc. cit. supra*, p. 465).

sumptuosa (Smith). Maine to Fla., west to S. Dak., Colo., and Tex. Visits a number of flowers.

Augochloropsis cuprea (Smith) of Catalog, in part. **A. sumptuosa** (Smith) a valid sp., not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 466).

Augochloropsis humeralis humeralis (Patton) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 466).

Augochloropsis humeralis lacustris (Cockerell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 466).

***NOMIA** subgenus **PARANOMIA** Michener

(= *Nomia* subg. *Curvinomia* Michener of Catalog, p. 1127)

***Paranomia** Friese, 1897. Festschr. fünfzig. bestehene Ver. Schles. Insektenk. Breslau, p. 48. Preocc.

Type: *Nomia chalybeata* Smith. Desig. by Cockerell, 1910.

***Paranomia** Michener, 1944. Amer. Mus. Nat. Hist. Bull. 82: 251. N. name.

fedorensis Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1127, *teste* Cross, 1958. Kans. Univ. Sci. Bul. 38: 1266.

foxii Dalla Torre. Transf. from subg. **Acunomia** Cockerell, p. 1127, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

maneci Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

mesillensis Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

parksii Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

tetrazonata Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

universitatis Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

uvaldensis Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

zabriskii Cockerell and Blair. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

NOMIA subgenus **EPINOMIA** Ashmead, p. 1127

Revision: Cross, 1958. Kans. Univ. Sci. Bul. 38: 1261-1301, 4 figs.

bakeri bakeri Cockerell. A subsp. of **nevadensis** Cresson.

bakeri pattoni Cockerell. Syn. of **nevadensis bakeri** Cockerell.

***micheneri** Cross. South. Ariz. and Tex., south to Jalisco and Guanajuato, Mexico. On flowers of *Helianthus*, *Guardiola*, and *Eysenhardtia*

Nomia (Epinomia) micheneri Cross, 1958. Kans. Univ. Sci. Bull. 38: 1273. ♂, ♀.

- nevadensis angelesia** Cockerell. Oreg., Calif., Nev.; Mexico (Baja California). On many flowers.
- nevadensis arizonensis** Cockerell. Utah, Ariz., N. Mex., south to Jalisco, Mexico. On many flowers.
- nevadensis bakeri** Cockerell, changed status. Fla. west to Wyo., Colo., N. Mex.; Mexico (Tamaulipas). On many flowers.
- Nomia bakeri bakeri** Cockerell. A subspecies of **nevadensis** (*teste* Cross, 1958, *loc. cit. supra*, p. 1294).
- Nomia bakeri pattoni** Cockerell. (Syn. by Cross, 1958, *loc. cit. supra*, p. 1294).
- Biology: Kerfoot, 1964. *Kans. Ent. Soc. Jour.* 37: 152-157, 1 fig.
- nevadensis nevadensis** Cresson. Nev. only; delete other States.
- triangulifera** Vachal. Minn. and Ill. west to Utah and N. Mex. On flowers of *Bidens*, *Cleome*, *Gilia*, *Grindelia*, *Helianthus*, *Medicago*, *Polygonum*, *Rudbeckia*, *Silphium*, *Solidago* and *Vernonia*.

NOMIA subgenus ACUNOMIA Cockerell, pp. 1127-1128

- fedorensis** Cockerell. Transf. to subgenus **Paranomina** Michener.
- foxii** Dalla Torre. Transf. to subgenus **Paranomina** Michener.
- maneei** Cockerell. Transf. to subgenus **Paranomina** Michener.
- melanderi melanderi** Cockerell.
- Biology: Stephen and Evans, 1960. *Oreg. Agr. Expt. Sta. Tech. Bul.* 52: 1-39, 5 figs., 2 tables.—Frick, 1962. *Ent. Soc. Amer. Ann.* 55: 5-15.
- mesillensis** Cockerell. Transf. to subgenus **Paranomina** Michener.
- parksii** Cockerell. Transf. to subgenus **Paranomina** Michener.
- tetrazonata** Cockerell. Transf. to subgenus **Paranomina** Michener.
- universitatis** Cockerell. Transf. to subgenus **Paranomina** Michener.
- uvaldensis** Cockerell. Transf. to subgenus **Paranomina** Michener.
- zabriskii** Cockerell and Blair. Transf. to subgenus **Paranomina** Michener.

NOMIA subgenus DIEUNOMIA Cockerell, pp. 1128-1129

- heteropoda heteropoda** (Say). Man.

Subgenus Unknown

- compacta** Provancher. Transf. to **Epeoloides**, p. 1218, as a synonym of **pilosula** (Cresson).

Genus CONANTHALICTUS Cockerell, pp. 1129-1130

Revision: Timberlake, 1961. *Pan-Pacific Ent.* 37: 145-160.

CONANTHALICTUS subgenus CONANTHALICTUS Cockerell, p. 1129

- conanthi** (Cockerell). On flowers of *Nama hispidum*.

CONANTHALICTUS subgenus PHACELIAPIS Michener, pp. 1129-1130

- ***caerulescens** Timberlake. Calif. (Riverside Co.). On flowers of *Phacelia crenulata*.
- Conanthalictus caerulescens** Timberlake, 1961. *Pan-Pacific Ent.* 37: 148. ♂, ♀.
- ***cockerelli** Timberlake. Calif. (San Bernardino Co.). On flowers of *Phacelia*.
- Conanthalictus cockerelli** Timberlake, 1961. *Pan-Pacific Ent.* 37: 155. ♂, ♀.
- ***deserticola** Timberlake. Southern Calif. On flowers of *Nama* and *Oenothera*.

Conanthalictus deserticola Timberlake, 1961. Pan-Pacific Ent. 37: 152. ♂. (Described under heading *Conanthalictus namatophilus* Timberlake, new species.)

**mentzeliae* Timberlake. Southern Calif. On flowers of *Mentzelia*, *Malacothrix* and *Phacelia*.

Conanthalictus mentzeliae Timberlake, 1961. Pan-Pacific Ent. 37: 156. ♂, ♀.

**minor* Timberlake. Southern Calif. On flowers of *Nama*, *Oenothera*, and *Phacelia*

Conanthalictus minor Timberlake, 1961. Pan-Pacific Ent. 37: 151. ♂, ♀. (Described under heading *Conanthalictus deserticola* Timberlake, new species.)

**namatophilus* Timberlake. Calif. (Riverside Co.). On flowers of *Nama* and *Oenothera*.

Conanthalictus namatophilus Timberlake, 1961. Pan-Pacific Ent. 37: 153. ♂, ♀. (Described under heading *Conanthalictus minor* Timberlake, new species.)

**nigricans* Timberlake. Southern Calif. On flowers of *Phacelia* and *Cryptantha*.

Conanthalictus nigricans Timberlake, 1961. Pan-Pacific Ent. 37: 149. ♂, ♀.

CONANTHALICTUS subgenus SPHECODOSOMA Crawford, p. 1130

**dicksoni* Timberlake. South. Calif., Tex. (Davis Mts.); Mexico (Durango). On flowers of *Nama* and *Coldenia*.

Conanthalictus dicksoni Timberlake, 1961. Pan-Pacific Ent. 37: 158. ♀, ♂.

pratti (Crawford). On flowers of *Lesquerella*.

DUFOUREA subgenus HALICTOIDES Nylander, pp. 1130-1134

monardae (Viereck). Tenn.

novaeangliae (Robertson). Mo. and Mich. to N. J. and Maine. Taken on flowers of *Fagopyrum* and *Pontederia*.

Family MELITTIDAE

MELITTA subgenus MELITTA Kirby, p. 1134

americana (Smith). Maine to Ga., Miss. Taken on flowers of *Polycodium* and *Rubus*.

MELITTA subgenus DOLICHOCHILE Viereck, p. 1134

melittoides (Viereck). Conn. to Ga., Tenn. Taken on flowers of *Polycodium*, *Xolisma* and *Zenobia*.

HESPERAPIS subgenus PANURGOMIA Viereck, p. 1135

fulvipes Crawford.

Biology: Hurd, 1957. Kans. Ent. Soc. Jour. 30: 10.

regularis (Cresson). Visiting *Chorizantha douglasi* for nectar, and *Clarkia unguiculata* for pollen.

Biology: Burdick and Torchio, 1959. Kans. Ent. Soc. Jour. 32: 83-87, 7 figs.

MACROPIS subgenus MACROPIS Panzer, p. 1136

ciliata Patton. Wis. to Que. and Maine, south to Ga. Taken on flowers of *Apocynum*, *Houstonia*, and *Hydrangea*. Remove *nuda* (Provancher) from syn. (a valid sp.).

morsei Robertson. Syn. of *nuda* (Provancher).

nuda (Provancher). Colo., Mont., and south. Canada to N. Y., New England States, and N. S. Taken on flowers of *Apocynum*, *Geranium*, *Rubus*, and *Vaccinium*.

Macropis (Macropis) ciliata Patton of Catalog, in part. **M. nuda** not a syn. (teste Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 527).

Macropis (Macropis) morsei Robertson (syn. by Mitchell, 1960, *loc. cit. supra*, p. 527).

patellata Patton. Vt. to N. C., west to Nebr. and Mo. Taken on flowers of *Steironema*.

steironematis steironematis Robertson. Iowa and Mo. to Va., N. C., and Ga. Taken on flowers of *Apocynum*, *Ceanothus*, *Melilotus*, *Serjocarpus*, and *Steironema*.

Family MEGACHILIDAE

LITHURGE subgenus LITHURGOPSIS Fox, pp. 1136-1137

bruesi Mitchell. Ill. to Tex.; Mexico.

echinocacti Cockerell. Mexico (Sonora, Baja California).

*Genus TRACHUSOMIMUS Popov

(= *Trachusa* Panzer, of Catalog, p. 1137)

Trachusomimus Popov, 1964. Rev. Ent. URSS 43: 406.

Type: **Trachusa perdita** Cockerell. Orig. desig.

Revision: Thorp, 1963. Pan-Pacific Ent. 39: 56-58.

Trachusa Panzer does not occur in North America. The species listed in the Catalog were transferred to *Trachusomimus* Popov by Popov (*loc. cit. supra*). Change specific endings to masculine.

***gummifer** (Thorp), n. comb. Calif. (Marin and San Francisco Counties).

Trachusa gummifera Thorp, 1963. Pan-Pacific Ent. 39: 56. ♀, ♂.

Genus HETERANTHIDIUM Cockerell, pp. 1137-1138

dorsale (Lepelletier). On flowers of *Strophostyles*.

fontemvitae Schwarz. N. C. to Fla. On flowers of *Chrysopsis* and *Kuhnis-tera*.

ridingsii (Cresson). On flowers of *Crotalaria*, *Galactia*, *Hypericum*, *Melilotus* and *Rhus*.

zebratum chippewaense (Graenicher). Minn. (Pine Co.).

Taxonomy: Schwarz, 1957. Kans. Ent. Soc. Jour. 30: 135.

zebratum zebratum (Cresson). Oreg.

Taxonomy: Stephen and Torchio, 1961. Pan-Pacific Ent. 37: 41-43.

PARANTHIDIUM subgenus PARANTHIDIUM Cockerell and Cockerell, p. 1138

***jugatorium butleri** Snelling. Ariz. On flowers of *Erigeron* and *Helianthus*.

Paranthidium jugatorium butleri Snelling, 1962. Pan-Pacific Ent. 38: 225. ♀, ♂.

jugatorium jugatorium (Say). On flowers of *Helianthus*.

jugatorium lepidum (Cresson). Ky. On flowers of *Helenium*, *Helianthus*, *Rudbeckia* and *Silphium*.

ANTHIDIUM subgenus ANTHIDIUM Fabricius, pp. 1139-1143

maculifrons Smith. On flowers of *Azalia*, *Asclepias*, *Bidens*, *Coreopsis*, *Cracca*, *Crotalaria*, *Galactia*, *Galax*, *Phaseolus*, and *Psoralea*.

***pallidiclypeum** Jaycox. Southern Calif. On flowers of *Ceanothus*, *Collinsia*, *Lotus*, and *Salazaria*.

Anthidium pallidiclypeum Jaycox, 1963. Pan-Pacific Ent. 39: 267, 5 figs.
♂, ♀.

**palmarum micheneri* Schwarz. Tex., Ariz. On flowers of *Phacelia* and *Sphaeralcea*.

Anthidium palmarum micheneri Schwarz, 1957. Kans. Ent. Soc. Jour. 30: 132. ♂, ♀.

palmarum palmarum Cockerell, changed status.

Anthidium palmarum Cockerell. Reduced to subsp. rank (*teste* Schwarz, 1957, *loc. cit. supra*, p. 132).

porterae Cockerell. Ariz. On flowers of *Asclepias*, *Erigeron*, *Pentstemon*, *Phacelia*, and *Psilostrophe*.

psoraleae Robertson. Kans. On flowers of *Astragalus*, *Lobelia*, *Psoralea*, *Trifolium*, and *Verbena*.

Genus **CALLANTHIDIUM** Cockerell, p. 1143

formosum (Cresson). Ariz. (Oak Creek Canyon).

Genus **DIANTHIDIUM** Cockerell, pp. 1143-1145

cressonii (Dalla Torre). Nev., Ariz., N. Mex.

curvatum curvatum (Smith). Fla. On flowers of *Aster*, *Chrysopsis*, *Helenium*, *Koellia* and *Psoralea*.

curvatum floridiense Schwarz. Raised to specific rank.

curvatum xerophilum (Cockerell). Ariz. (Apache Pass).

discors Timberlake. Ariz.

floridiense Schwarz, changed status. On flowers of *Bidens* and *Sabal*.

Dianthidium curvatum floridense Schwarz. Raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 16). Change spelling from *floridense* to *floridiense*.

heterulkei fraternum Timberlake. Tex., Nev.

heterulkei heterulkei Schwarz. Utah.

implicatum Timberlake. Nev., Ariz., N. Mex., Tex.; Mexico (Chihuahua). On flowers of *Cerialia* and *Gutierrezia*.

Taxonomy: Grigarick and Stange, 1964. Pan-Pacific Ent. 40: 152 (♂).

**marshi* Grigarick and Stange. Calif. (Inyo Co.). On flowers of *Eriastrum densifolium*.

Dianthidium marshi Grigarick and Stange, 1964. Pan-Pacific Ent. 40: 149, figs. 1, 2, 3, 10, 11. ♂, ♀.

**parkeri* Grigarick and Stange. Ariz., Tex.; Mexico (Sonora, Sinaloa, Durango). On flowers of *Verbesina encelioides*.

Dianthidium parkeri Grigarick and Stange, 1964. Pan-Pacific Ent. 40: 150, figs. 4, 5, 6, 12. ♂, ♀.

parvum parvum (Cresson). Nev.

platyurum baculifrons Cockerell. South. Calif. (cismontane area).

platyurum mohavense Timberlake. Calif. (Mojave Desert).

platyurum platyurum Cockerell. Reinstate in Catalog (*teste* P. H. Timberlake *in litt.*). Ariz., Nev., south. Calif. (Colorado Desert); Baja California.

plenum plenum Timberlake. Nev.

pudicum decorum Timberlake. Change 1934 to 1943 in bibliographic citation.

simile (Cresson). Minn. to Ont. and Maine, south to Ga. On flowers of *Aster*.

subparvum subparvum Swenk. Nev.

subrifulum Timberlake. Tex.

ulkei perterritum Cockerell. Ariz., Nebr.

Genus **ANTHIDIELLUM** Cockerell, p. 1146

Taxonomy: Schwarz, 1957. Kans. Ent. Soc. Jour. 30: 137 (key to spp. of *notatum* complex).

notatum boreale (Robertson). On flowers of *Verbena*.

notatum notatum (Latreille). Mass. to Ill., south to Fla. and Miss. Visits many flowers, almost entirely Compositae and Leguminosae.

notatum robertsoni (Cockerell).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 159-160, figs. 6-7.

notatum rufimaculatum Schwarz. On flowers of *Rhus*.

perplexum (Smith). Visits many flowers, principally Compositae and Leguminosae, but a scattering also in other families.

Genus **HETEROSTELIS** Timberlake, p. 1146

australis australis (Cresson), changed status. N. J. to Ga. On flowers of *Helenium*.

Heterostelis australis (Cresson). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 33).

***australis floridensis** Mitchell. Fla. On flowers of *Eriogonum* and *Rhus*.

Heterostelis australis floridensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 33, fig. 11. ♀, ♂.

***grossa** Mitchell. Fla. (Gainesville).

Heterostelis grossa Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 35. ♀.

STELIS subgenus **PROTOSTELIS** Friese, p. 1147

costalis costalis Cresson, changed status. Va. and Ky., south to Fla. and Tex. On many flowers, chiefly Compositae.

Stelis (Protostelis) costalis Cresson. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 37).

Stelis (Protostelis) louisae Cockerell (syn. by Mitchell, 1962, *loc. cit. supra*, p. 37).

costalis floridana Graenicher, changed status. On flowers of *Bidens* and *Melilotus*.

Stelis (Protostelis) floridana Graenicher. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 38).

floridana Graenicher. A subsp. of **costalis** Cresson.

louisae Cockerell. Syn. of **costalis** Cresson.

STELIS subgenus **MICROSTELIS** Robertson, p. 1147

birkmanni Cockerell. Transfer to *Stelis* subg. *Chelynia* Provancher, p. 1148, as a questionable syn. of **labiata** (Provancher).

lateralis Cresson. Maine and Ont. to N. Dak., south to Ga. and Tex. On many flowers, principally Compositae. Remove **plena** (Provancher), a valid sp., from syn.

plena (Provancher). Ont. (Ottawa).

Stelis (Microstelis) lateralis Cresson of Catalog, in part. **S. plenum** not a syn. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 43).

sexmaculata Ashmead. Hosts: *Hoplitis (Alcidamea) brachyodonta* (Ckl.), *H. (A.) colei* (Cwfd.).

***vernalis** Mitchell. Pa., N. C., Mich., Minn.

Stelis (Microstelis) vernalis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 43. ♀, ♂.

STELIS subgenus **PAVOSTELIS** Sladen, pp. 1147-1148

***ater** Mitchell. Fla. On flowers of *Cirsium*.

Stelis (Pavostelis) ater Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 39. ♀.

diversicolor Crawford. Tenn. On flowers of *Rubus*.

STELIS subgenus CHELYNIA Provancher, pp. 1148-1149

(= *Chelynia* subgenus *Chelynia* Provancher of Catalog)

This taxon and the subgenera included under it in the Catalog are considered to be subgenera of *Stelis* (teste Mitchell, 1962, *loc. cit. supra*, p. 36).

birkmanni Cockerell. Possibly a syn. of *labiata* (Provancher).

foederalis Smith. N. B. to Minn., south to Ga. and Colo. On flowers of *Chrysanthemum*.

labiata (Provancher). Que. to Wis., south to N. C. On flowers of *Ranunculus* and *Rubus*. Hosts: *Hoplitis (Alcidamea) producta producta* (Cr.), *H. (A.) pilosifrons* (Cr.) and *Robertsonella simplex* (Cr.).

?*Stelis (Microstelis) birkmanni* Cockerell (syn. questionably by Mitchell, 1962, *loc. cit. supra*, p. 40).

**michiganensis* Mitchell. Mich. (Luce Co.).

Stelis michiganensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 45. ♀.

nitida Cresson. On flowers of *Chrysanthemum*.

**semirubra reducta* Snelling. Calif. (Tuolumne and Mariposa counties). On flowers of *Cryptantha*.

Stelis (Chelynia) semirubra reducta Snelling, 1962. Pan-Pacific Ent. 38: 227. ♀, ♂.

STELIS subgenus MELANOSTELIS Ashmead, p. 1149

rubi Cockerell. B. C.

STELIS subgenus STELIDIUM Robertson, pp. 1149-1150

trypetina (Robertson). Va. On flowers of *Aster*, *Erigeron*, *Pycnanthemum*, *Rudbeckia* and *Solidago*.

Unrecognized Species of *Stelis* not Placed as to Subgenus

**nigrita* (Fabricius). "Habitat in America."

Andrena nigrita Fabricius, 1775. Systema Ent., p. 377.

Genus DIOXYS Lepeletier and Serville, pp. 1150-1151

Revision: Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 275-302, 28 figs., 4 maps.

aurifuscus (Titus). Colo., Calif., Oreg. Hosts: ? *Anthidium* sp., ? *Callanthidium illustre* (Cr.).

Biology: Cockerell, 1909. Canad. Ent. 41: 334.—Hicks, 1929. Canad. Ent. 61: 8.

catalinensis Cockerell. Syn. of *pomonae pomonae* Cockerell.

martii Cockerell. Syn. of *productus subrubus* Cockerell.

**pacificus melanogaster* Hurd. Mts. of southern Calif.

Dioxys pacificus melanogaster Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 296. ♀, ♂.

pacificus pacificus Cockerell, changed status. Calif. (except mts. of southern Calif.), Oreg., Nev., Utah, Wyo.

Dioxys pacificus Cockerell (reduced to subsp. rank, teste Hurd, 1958, *loc. cit. supra*, p. 295).

phaceliae Cockerell. Syn. of *pomonae pomonae* Cockerell.

pomonae pomonae Cockerell, changed status. N. Mex., Colo., Idaho, Utah, Ariz., Calif. (except deserts), Oreg. Hosts: *Anthidium collectum* Hurd, *Megachile subexilis* Kll., *Osmia nifoata* Kll.

- Dioxys pomonae* Cockerell (reduced to subsp. rank, *teste* Hurd, 1958, *loc. cit. supra*, p. 283).
- Dioxys phaceliae* Cockerell (syn. by Hurd, *loc. cit. supra*, p. 283).
- Dioxys catalinensis* Cockerell (syn. by Hurd, *loc. cit. supra*, p. 283).
- **pomonae timberlakei* Hurd. Southern Calif., deserts.
Dioxys pomonae timberlakei Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 285. ♀, ♂.
- **productus cismontanicus* Hurd. Pacific slope of Calif.; Mexico (Baja Calif.). Host: *Anthidium c. collectum* Huard.
Dioxys productus cismontanicus Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 290. ♀, ♂.
- productus productus* (Cresson), changed status. Great Basin of Calif., Nev., Oreg., Utah.
Dioxys producta (Cresson) of Catalog, in part (*producta* reduced to subsp. rank and *productus* var. *subruber* Cockerell deleted from syn. and made a valid subsp., *teste* Hurd, 1958, *loc. cit. supra*, p. 287).
- productus subruber* (Cockerell), changed status. Calif. deserts, Ariz., N. Mex., western Tex. Host: ? *Anthidium paroselae* Ckll.
Dioxys producta (Cresson) of Catalog, in part (*subruber* removed from syn. and made a valid subsp., *teste* Hurd, 1958, *loc. cit. supra*, p. 289).
- Dioxys martii* Cockerell (syn. by Hurd, 1958, *loc. cit. supra*, p. 289).
 Biology: Newberry, 1900. Psyche 9: 94.

Tribe MEGACHILINI

Taxonomy: Michener and Sokal, 1957. Evolution 11: 130-162, 15 figs., 4 tables (genera of *Hoplitis* complex).

Genus PROCHELOSTOMA Robertson, p. 1152

- philadelphia* (Robertson). Conn. Nests in deserted anobiid borings. Visits a number of flowers in different families.
 Biology: Krombein, 1959. Ent. News 70: 135-136.

HERIADES subgenus NEOTRYPETES Robertson, p. 1152

- leavitti* Crawford, changed status. N. B. to Wyo., south to Fla. and Tex. On many flowers, mainly Compositae.
Heriades (Neotrypetes) leavitti crawfordi Graenicher (syn. by Mitchell, 1962, *loc. cit. supra*, p. 50).

leavitti crawfordi Graenicher. Syn. of typical *leavitti* Crawford.

- variolosa variolosa* (Cresson). Maine to B. C., south to Fla. and Tex. Visits flowers of many families, but principally Compositae.

HERIADES subgenus PHYSOSTETHA Michener, pp. 1152-1153

- carinata* Cresson. Maine, Fla. On flowers of many families.

ASHMEADIELLA subgenus ASHMEADIELLA Cockerell, pp. 1153-1155

- Ashmeadiella* subg. *Titusella* Cockerell syn. under subg. *Ashmeadiella* by Michener and Sokal, 1957, Evolution 11: 159, and component spp. transf.
- aridula astragali* Michener.
 Morphology: Snelling, 1962. Pan-Pacific Ent. 38: 229-230, fig. 1 (intersex).
- biscopula* Michener. Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- bucconis bucconis* (Say). Ga., Ill. On flowers of *Brauneria*, *Coreopsis*, *Helianthus*, *Solidago*, *Verbena* and *Verbesina*.

- cubiceps clypeata** (Michener). Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- cubiceps cubiceps** (Cresson). Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- difugita emarginatula** Michener. Calif. (Kern Co.). On flowers of *Clarkia*.
- floridana** (Robertson). On flowers of *Lupinus*.
- pronitens** (Cockerell). Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- titusi** Michener. Calif. (Sierra Nevada Mts.).

Ashmeadiella subgenus *Titusella* Cockerell, p. 1155

Syn. under subg. *Ashmeadiella* Cockerell, p. 1153, and component forms transferred to that subgenus.

ASHMEADIELLA subgenus AROGOCHILA Michener, pp. 1155-1156

Ashmeadiella subg. *Corythochila* Michener syn. under subg. *Arogochila* by Michener and Sokal, 1957. Evolution 11: 159 and component spp. transf. (*Rhamphorhina*, pp. 135 and 159, is a lapsus for *Corythochila*; prior usage was in Michener, 1939. Amer. Midland Nat. 22: 8.)

- australis** (Cockerell). Calif. (Stanislaus Co.).
- breviceps** Michener. Transf. from *Ashmeadiella* subg. *Corythochila* Michener, p. 1156.
- inyoensis** Michener. Transf. from *Ashmeadiella* subg. *Corythochila* Michener, p. 1156.
- ***micheneri** Snelling. Calif. (Stanislaus and Mariposa counties). On flowers of *Phacelia*.
- Ashmeadiella* (*Arogochila*) **micheneri** Snelling, 1962. Pan-Pacific Ent. 38: 231, fig. 2. ♂, ♀.

Ashmeadiella subgenus *Corythochila* Michener, p. 1156

Syn. under *Ashmeadiella* subg. *Arogochila* Michener, p. 1155, and component forms transferred to that subgenus.

HOPLITIS subgenus FORMICAPIS Sladen, p. 1156

- clypeata** (Sladen). Que.

HOPLITIS subgenus ROBERTSONELLA Titus, p. 1157

- gleasoni** (Titus). Tex. to Ill. and N. J. On flowers of *Geranium*, *Phacelia*, and *Rubus*.
- Robertsonella simplex simplex* (Cresson) of Catalog, in part. *R. gleasoni* not a syn. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 65).
- Robertsonella simplex crataegina* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 65.
- ***micheneri** Mitchell. Kans., Ga. On flowers of *Amorpha*.
- Hoplitis* (*Robertsonella*) **micheneri** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 64, fig. 25. ♀, ♂.
- simplex** (Cresson), changed status. Tex. to Conn. On flowers of *Phacelia* and *Salix*.
- Robertsonella simplex simplex* Cresson. *R. gleasoni* removed from syn. and *R. simplex* raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 66).
- simplex crataegina** Cockerell. Syn. of **gleasoni** (Titus).

HOPLITIS subgenus HOPLITINA Cockerell, p. 1157

Transf. with component forms to *Proterciades* Titus, p. 1160, as a valid subgenus (*teste* Michener and Sokal, 1957. Evolution 11: 158).

HOPLITIS subgenus ALCIDAMEA Cresson, pp. 1157-1158

pilosifrons (Cresson). On flowers of many families, but principally Leguminosae, Compositae, Labiatae, and Scrophulariaceae.

producta producta (Cresson). Nests in sumac borings. On a number of flowers, but principally Leguminosae.

Biology: Medler, 1961. *Canad. Ent.* 93: 571-573.

truncata truncata (Cresson). On flowers of several families, principally Leguminosae.

HOPLITIS subgenus ACROSMIA Michener, p. 1159

Transf. with component forms to **Proteriades** Titus, p. 1160, as a valid subgenus (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

HOPLITIS subgenus MONUMETHA Cresson, p. 1159

albifrons albifrons (Kirby). On flowers of *Phacelia*.

HOPLITIS subgenus CHLOROSMIA Sladen, p. 1159

fulgida fulgida (Cresson). B. C.

HOPLITIS subgenus ANDRONICUS Cresson, p. 1159

cylindrica (Cresson). Fla. On flowers of many families, principally Leguminosae, Compositae, and Labiatae.

Genus PROTERIADES Titus, p. 1160**PROTERIADES subgenus CEPHALAPIS Cockerell**

(= *Proteriades* Titus, in part, of *Catalog*, p. 1160)

Restored to subgeneric rank (*teste* Michener and Sokal, 1957. *Evolution* 11: 158); includes only the genotype, **jacintana** (Cockerell).

PROTERIADES subgenus PROTERIADES Titus

(= *Proteriades* Titus, in part, of *Catalog*, p. 1160)

Reduced to subgeneric rank (*teste* Michener and Sokal, 1957. *Evolution* 11: 158); includes only the genotype, **jacintana** (Cockerell) except for those listed below.

incanescens (Cockerell). Transf. to **Proteriades** subg. **Penteriades** Michener and Sokal (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

jacintana (Cockerell). Transf. to **Proteriades** subg. **Cephalapis** Cockerell (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

remotula (Cockerell). Transf. to **Proteriades** subg. **Penteriades** Michener and Sokal (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

xerophila (Cockerell). Transf. to **Proteriades** subg. **Xerosmia** Michener (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

PROTERIADES subgenus XEROSMIA Michener

Restored to subgeneric rank (*teste* Michener and Sokal, 1957. *Evolution* 11: 158); includes only the genotype, **xerophila** (Cockerell).

***PROTERIADES subgenus PENTERIADES Michener and Sokal**

Proteriades subg. **Penteriades** Michener and Sokal, 1957. *Evolution* 11: 158.

Type: **Osmia remotula** Cockerell. Orig. desig.

Insert following **Proteriades** Titus, p. 1160.

incanescens (Cockerell). Transf. from **Proteriades** Titus, *sens. lat.*

remotula (Cockerell). Transf. from **Proteriades** Titus, *sens. lat.*

PROTERIADES subgenus ACROSMIA Michener

Transferred with component forms from genus *Hoplitis* Klug, Catalog, p. 1159 and Sup. 1, p. 238.

PROTERIADES subgenus HOPLITINA Cockerell

Transferred with component forms from genus *Hoplitis* Klug, Catalog, p. 1157 and Sup. 1, p. 238.

ANTHOCOPA subgenus EREMOSMIA Michener, p. 116¹

hurdiana Michener. Transf. to subg. *Isosmia* Michener and Sokal (*teste* Michener and Sokal, 1957. Evolution 11: 159).

rubrella Michener. Transf. to subg. *Isosmia* Michener and Sokal (*teste* Michener and Sokal, 1957. Evolution 11: 159).

*ANTHOCOPA subgenus ISOSMIA Michener and Sokal

Anthocopa subg. *Isosmia* Michener and Sokal, 1957. Evolution 11: 159.

Type: *Anthocopa (Phaeosmia) rubrella* Michener. Orig. design.

Insert after subg. *Eremosmia*, p. 1161.

hurdiana Michener. Transf. from subg. *Eremosmia* Michener.

rubrella Michener. Transf. from subg. *Eremosmia* Michener.

Genus DICERATOSMIA Robertson, p. 1162

Transfer to genus *Osmia* Panzer as a subgenus (*teste* Sinha, 1958. Kans. Univ. Sci. Bul. 39: 212). In citation of original description of *Diceratomia* change Ent. Soc. Amer. Trans. to Amer. Ent. Soc. Trans.

Genus OSMIA Panzer, pp. 1163-1172

Taxonomy: Sinha, 1958. Kans. Univ. Sci. Bul. 39: 211-261, 151 figs. (reclassification of New World subgenera).

OSMIA subgenus OSMIA Panzer, p. 1163

lignaria lignaria Say. Nests in abandoned mud-dauber cells, carpenter bee tunnels and borings in wood. Visits vernal flowers of a number of families.

Biology: Rau, 1937. Ent. Soc. Amer. Ann. 30: 324-342, 1 pl.—Chandler, 1959 (1958). Ind. Acad. Sci. Proc. 68: 199-204.—Balduf, 1961. Brooklyn Ent. Soc. Bul. 56: 83-84.—Krombein, 1962. Biol. Soc. Wash. Proc. 75: 239-242, pl. 1.—Chandler, 1962. Ent. Soc. Amer., North Central Branch Proc. 16: 18-19.

OSMIA subg. CHALCOSMIA Schmiedeknecht, pp. 1163-1164

chalybea Smith. On flowers of *Ceanothus*, *Cirsium* and *Vaccinium*.

coerulescens (Linnaeus). N. S. to Minn. south to N. C. and Ill. On flowers of *Philadelphus*, *Salvia*, *Trifolium* and *Vicia*.

georgia Cresson. Mass. to Mich., south to Ga. and Tex. On flowers of many families, principally Compositae and Rosaceae.

texana Cresson. Mich., N. Y., Fla. Nests in abandoned cells of *Anthophora occidentalis* Cr. in clay bank.

Biology: Hobbs, Nummi and Virostek, 1961. Canad. Ent. 93: 143.

OSMIA subgenus CEPHALOSMIA Sladen, p. 1164

subaustralis subaustralis Cockerell. ? Mich.

OSMIA subgenus CENTROSMIA Robertson

(= *Osmia* subg. *Melanosmia* Schmiedeknecht, pp. 1164-1165)

Revision: Sinha and Michener, 1958. Kans. Univ. Sci. Bul. 39: 275-303.

The subgenus *Melanosmia* does not occur in North America (*teste* Sinha, 1958, *loc. cit. supra*, p. 212).

austromaritima Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 243).

bakeri Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

bucephala Cresson, changed status. Visits vernal flowers of many families. Delete *tarsata* Prov., a valid sp., from syn.

Osmia (*Melanosmia*) *bucephala bucephala* Cresson. Raised to sp. rank (*teste* Sinha and Michener, 1958, *loc. cit. supra*, p. 278).

Osmia (*Melanosmia*) *bucephala subornata* Cockerell. (Syn. by Sinha and Michener, 1958. *loc. cit. supra*, p. 278).

bucephala subornata Cockerell. Syn. of *bucephala* Cresson.

inermis (Zetterstedt). Transf. to subg. *Chenosmia* Sinha.

nigriventris (Zetterstedt). Minn. Delete *xanthomelaena* Smith, a valid Palaearctic sp., from syn.

pikei Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

Osmia (*Nothosmia*) *integrella* Cockerell (syn. by Sinha and Michener, 1958, *loc. cit. supra*, p. 294).

Osmia (*Nothosmia*) *universitatis* Cockerell (syn. by Sinha and Michener, 1958, *loc. cit. supra*, p. 294).

**raritatis* Michener. Colo., Wash., Calif.

Osmia raritatis Michener, 1957. Kans. Ent. Soc. Jour. 30: 40, figs. 1, 3, 5. ♂.

tanneri Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

tarsata Provancher, changed status. Que.

Osmia (*Melanosmia*) *bucephala bucephala* Cresson of Catalog, in part. *O. tarsata* Prov. is a valid sp. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 78).

**thyanisca* Michener. Oreg., Wyo. On flowers of *Trifolium*.

Osmia thyanisca Michener, 1957. Kans. Ent. Soc. Jour. 30: 39, fig. 2. ♂.

vandykei Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

OSMIA subgenus ACANTHOSMIOIDES Ashmead, pp. 1165-1166

hendersoni Cockerell. Cancel transfer to subg. *Melanosmia* Schmiedeknecht (Sup. 1, p. 242) and transf. to subg. *Monilosmia* Robertson (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).

integra integra Cresson. ? Mich.

kenoyeri Cockerell. Cancel transfer to subg. *Melanosmia* Schmiedeknecht, (Sup. 1, p. 243) (*teste* Sinha, 1958, *loc. cit. supra*, p. 239).

liogastra Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1169.

lupinicola Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1169.

morongana Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1169.

prunorum Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1170.

OSMIA subgenus NOTHOSMIA Ashmead, pp. 1167-1171

Delete *Monilosmia* Robertson from synonymy and place it as a valid subgenus after subgenus *Nothosmia* Ashmead, p. 1171.

albiventris Cresson. Ga. On flowers of several families, mainly Leguminosae and Rosaceae.

albolateralis albolateralis Cockerell. Transf. to subg. *Monilosmia* Robertson.

- albolateralis visenda* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- atriventris* Cresson. Transf. to subg. **Chenosmia** Sinha.
- atrocyanea atrocyanea* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- atrocyanea putata* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- austromaritima* Michener. Transf. to subg. **Centrosmia** Robertson.
- bakeri* Sandhouse. Transf. to subg. **Centrosmia** Robertson.
- brevis brevis* Cresson. Transf. to subg. **Monilosmia** Robertson.
- brevis peridonea* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- bridwelli* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- bruneri* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- calla* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- cara* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- caulicola* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- cerasi* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- claremontensis* Michener. Transf. to subg. **Euthosmia** Sinha.
- clarescens* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- cobaltina* Cresson. Transf. to subg. **Chenosmia** Sinha.
- cockerelli* Sandhouse. (? **Chenosmia**)
- collinsiae* Robertson. Transf. to subg. **Chenosmia** Sinha.
- cordata* Robertson. Ohio, Ind. Nests in abandoned mud-dauber cells, and in borings in wood. On flowers of several families.
Biology: Chandler, 1959 (1958). Indiana Acad. Sci. Proc. 68: 199-204.—Chandler, 1962. Ent. Soc. Amer., North Central Branch Proc. 16: 18-19.
- cyanella* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- cyaneonitens* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- cyanopoda* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- densa densa* Cresson. Transf. to subg. **Monilosmia** Robertson.
- densa pogonigera* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- distincta* Cresson. Visits vernal flowers of several families.
- dolorosa* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- exigua* Cresson. Transf. to subg. **Chenosmia** Sinha.
- felti* Cockerell. (? **Monilosmia**)
- gabrielis* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- gaudiosa* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- glauca* (Fowler). Transf. to subg. **Euthosmia** Sinha.
- hemera* Sandhouse. (? **Chenosmia**)
- hesperos* Sandhouse. (? **Monilosmia**)
- illinoensis* Robertson. Transf. to subg. **Chenosmia** Sinha.
- indeprensa* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- inspergens* Lovell and Cockerell. Ga. On flowers of *Baptisia*, *Polycodium*, *Trifolium* and *Vaccinium*.
- integrella* Cockerell. Transf. to subg. **Centrosmia** Robertson as a syn. of *pikei* Cockerell.
- inurbana* Cresson. (? **Chenosmia**)
- iridis* Cockerell and Titus. (? **Monilosmia**)

- juxta juxta* Cresson. Transf. to subg. **Monilosmia** Robertson.
- juxta subpurpurea* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- kincaidii* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- lacus* Sandhouse. (? **Chenosmia**)
- laeta* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- latisulcata* Michener. Transf. to subg. **Trichinosmia** Sinha.
- liogastra* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, *loc. cit. supra*, p. 232).
- lupinicola* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, *loc. cit. supra*, p. 232).
- malina* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- mertensiae* Cockerell. (? **Chenosmia**)
- **michiganensis* Mitchell. Mich. (Grand Traverse Co.).
Osmia (**Nothosmia**) *michiganensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 92. ♂.
- morongana* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, *loc. cit. supra*, p. 232).
- nanula* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- nemoris* Sandhouse. Transf. to subg. **Euthosmia** Sinha.
- pagosa* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- paradisica* Sandhouse. (? **Monilosmia**)
- pentstemonis* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- pikoi* Cockerell. Transf. to subg. **Centrosmia** Robertson.
- pingreeana* Michener. Transf. to subg. **Chenosmia** Sinha.
- potentillae* Michener. Transf. to subg. **Chenosmia** Sinha.
- proxima* Cresson. Transf. to subg. **Chenosmia** Sinha.
- prunorum* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, *loc. cit. supra*, p. 232).
- pulsatillae* Cockerell. (? **Chenosmia**)
- pumila* Cresson. Ga. On vernal flowers of many families, principally Rosaceae, Leguminosae, and Cruciferae.
- pusilla* Cresson. (? **Chenosmia**)
- raelinsi* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- regulina* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- rostrata* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- sanctaerosae* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- sandhouseae* Mitchell. On vernal flowers of many families, principally Leguminosae, Ericaceae, Rosaceae, and Scrophulariaceae.
- sculleni* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- seclusa* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- sequoiae* Michener. Transf. to subg. **Chenosmia** Sinha.
- simillima* Smith. Transf. to subg. **Monilosmia** Robertson.
- tanneri* Sandhouse. Transf. to subg. **Centrosmia** Robertson.
- tersula* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- titusi* Cockerell. Cancel transfer to subg. **Acanthosmioides** Ashmead (Sup. 1, p. 244) (teste Sinha, 1958, *loc. cit. supra*, p. 232).
- tokopahensis* Michener. Transf. to subg. **Chenosmia** Sinha.

- trevoris* Cockerell. Transf. to subg. **Chenosmia** Sinha.
tristella cyanosoma Cockerell. Transf. to subg. **Chenosmia** Sinha.
tristella tristella Cockerell. Transf. to subg. **Chenosmia** Sinha.
universitatis Cockerell. Transf. to subg. **Centrosmia** Robertson as a syn. of *piki* Cockerell.
vandykei Sandhouse. Transf. to subg. **Centrosmia** Robertson.
virga Sandhouse. Transf. to **Chenosmia** Sinha.
zephyros Sandhouse. Transf. to subg. **Chenosmia** Sinha.

***OSMIA** subgenus **CHENOSMIA** Sinha

Osmia subg. **Chenosmia** Sinha, 1958. Kans. Univ. Sci. Bul. 39: 233.

Type: *Osmia pentstemonis* Cockerell. Orig. desig.

Place after subgenus **Nothosmia** Ashmead, p. 1171.

- atriventris* Cresson. On vernal flowers of a number of families, especially Leguminosae, Cruciferae and Rosaceae. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
bruneri Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
calla Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
caulicola Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
cerasi Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167, (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
clarescens Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
cobaltina Cresson. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
collinsiae Robertson. Minn. On flowers of many families, particularly Leguminosae and Scrophulariaceae. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
cyanopoda Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
dolorosa Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
exigua Cresson. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
 Taxonomy: Michener, 1962. Kans. Ent. Soc. Jour. 35: 253-254.
gaudiosa Cockerell. Ariz. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
 Taxonomy: Michener, 1962, *loc. cit. supra*, pp. 253-254.
illinoensis Robertson. On flowers of *Astragalus*, *Fragaria*, *Hypoxis*, *Lithospermum* and *Ranunculus*. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
indeprensa Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
inermis (Zetterstedt). On flowers of *Rubus*, *Salix* and *Vaccinium*. Transf. from subg. **Melanosmia** Schmiedeknecht, p. 1165 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
kincaidii Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

- laeta** Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- malina** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- nanula** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- pagosa** Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- pentstemonis** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- pingreeana** Michener. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- potentillae** Michener. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- proxima** Cresson. Ga. On flowers of *Houstonia*, *Pentstemon*, *Rubus*, and *Trifolium*. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- regulina** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- sanctaerosae** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- sequoiae** Michener. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tersula** Cockerell. N. B., Wis., Mich. On flowers of *Rubus*. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tokopahensis** Michener. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- trevoris** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tristella cyanosoma** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tristella tristella** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- virga** Sandhouse. Wis. On flowers of *Salix*. Transf. questionably from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 253).
- zephyros** Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

***OSMIA** subgenus **EUTHOSMIA** Sinha

Osmia subg. **Euthosmia** Sinha, 1958. Kans. Univ. Sci. Bul. 39: 235.

Type: *Heriades glaucum* Fowler. Orig. desig.

Place after subgenus **Chenosmia** Sinha.

- claremontensis** Michener. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 237).
- glauca** (Fowler). Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 237).
- nemoris** Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 237).

OSMIA subgenus **MONILOSMIA** Robertson

Remove from synonymy of subg. **Nothosmia** Ashmead, p. 1167 and place as a valid subgenus after subg. **Euthosmia** Sinha (*teste* Sinha, 1958, *loc. cit. supra*, p. 239).

- albolateralis albolateralis** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- albolateralis visenda** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- atrocyanea atrocyanea** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- atrocyanea putata** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- brevis brevis** Cresson. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- brevis peridonea** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- bridwelli** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- cara** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- cyanella** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- cyaneonitens** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- densa densa** Cresson. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- densa pogonigera** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- felti** Cockerell. Minn. to New England states, south to W. Va. Transf. questionably from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 253).
- gabrielis** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- hendersoni** Cockerell. Transf. from subg. *Acanthosmioides* Ashmead, p. 1165 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- juxta juxta** Cresson. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- juxta subpurpurea** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- rawlinsi** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- rostrata** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- sculleni** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- seclusa** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- simillima** Smith. On flowers of *Althaea*, *Barbarea*, *Oxalis*, *Pentstemon*, *Ranunculus*, *Rubus*, *Vicia* and *Viola*. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).

**OSMIA* subgenus *TRICHINOSMIA* Sinha

Osmia subg. *Trichosmia* Sinha, 1958. Kans. Univ. Sci. Bul. 39: 244.

Type: *Osmia latisulcata* Michener. By monotypy and orig. desig.

Place after subg. *Monilosmia* Robertson.

latisulcata Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 245).

OSMIA subgenus **DICERATOSMIA** Robertson

Transfer from p. 1162, and place as a subgenus of *Osmia* after subg. *Trichinosmia* Sinha, p. 1171.

conjuncta (Cresson). Tex. On flowers of many families, especially Leguminosae and Scrophulariaceae. Nests in snail shells.

Biology: Rau, 1937. Ent. Soc. Amer. Ann. 30: 330.

***subfasciata miamiensis** Mitchell. Southern Fla. On flowers of *Crotalaria*.

Osmia (*Diceratosmia*) **subfasciata miamiensis** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 84. ♀, ♂.

subfasciata subfasciata (Cresson). N. J. to Kans., south to Fla. and Tex.; northern Mexico. On many flowers, chiefly Compositae, Leguminosae and Rosaceae. Nesting in abandoned beetle borings in structural timber.

Genus MEGACHILE Latreille, pp. 1172-1183

Taxonomy: Michener, 1962. N. Y. Ent. Soc. Jour. 70: 17-29.

In the publication noted above Michener divides the old genus *Megachile* into three genera, *Megachile*, *Chalicodoma* Lepeletier, and *Creightonella* Cockerell. The latter genus does not occur in North America. All of the subgenera occurring in North America belong to *Megachile* except *Chelostomoides* Robertson and *Archimegachile* Alfken, which belong in *Chalicodoma*.

MEGACHILE subgenus **LITOMEGACHILE** Mitchell, p. 1172

brevis brevis Say. On many flowers of a number of families, especially Compositae, Leguminosae, and Labiatae.

brevis pseudobrevis Mitchell, changed status. On a number of flowers, especially Compositae and Leguminosae.

Megachile (**Litomegachile**) **pseudobrevis** Mitchell. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 116).

gentilis Cresson. Nests in twigs of *Sambucus*.

Biology: Bechtel, 1958. Pan-Pacific Ent. 34: 12.

mendica Cresson. On flowers of many families, especially those of Compositae, Leguminosae, and Labiatae.

pseudobrevis Mitchell. A subsp. of **brevis** Say.

texana Cresson. On many flowers, especially Leguminosae, Compositae, and Labiatae.

MEGACHILE subgenus **MEGACHILE** Latreille, p. 1173

centuncularis (Linnaeus). Nests in borings in wood and carpet rolls. Visits many flowers, especially Leguminosae and Compositae.

Biology: Medler, 1959. Canad. Ent. 91: 113-115, 1 fig.

inermis Provancher. Visits many flowers, especially Compositae and Leguminosae. Nests in borings in wood.

Biology: Medler, 1958. Canad. Ent. 90: 325-327, 1 fig.

montivaga Cresson. Visiting flowers of many families, but particularly Compositae.

ivalis Friese. On flowers of *Elaeagnus* and *Taraxacum*.

relativa Cresson. Ga., Tenn. Nests in borings in wood. On flowers of several families, particularly Compositae and Leguminosae.

Biology: Medler and Koerber, 1958. Ent. Soc. Amer. Ann. 51: 337-344, 3 figs.

MEGACHILE subgenus **EUTRICHARAEA** Thomson, p. 1174

apicalis Spinola. On flowers of *Centaurea cyanus*.

argentata (Fabricius). Delete from Sup. 1, p. 244, a misident. of *concinna* Smith, *q. v.*

**concinna* Smith. Pa. and Ohio south to Fla. and Ala., Okla., Ariz., Calif.; presumably introduced from West Indies (recorded in error as *argentata* (Fabricius) in Sup. 1). On flowers of *Asclepias*, *Bidens*, *Melilotus* and *Polygonum*.

Megachile concinna Smith, 1879. Descr. n. spp. Hym., p. 79. ♀.

Biology: Butler and Wargo, 1963. Pan-Pacific Ent. 39: 201-206, 1 fig.

rotundata (Fabricius). Mass., Va., Oreg., Idaho. On flowers of *Asclepias*, *Medicago*, *Melilotus*, *Polygonum*, *Solidago*, and *Veronica*.

Biology: Stephen and Torchio, 1961. Pan-Pacific Ent. 37: 85-93.— Stephen, 1962. Oreg. Agr. Expt. Sta. Bul. 586, 16 pp., 9 figs.

MEGACHILE subgenus DELOMEGACHILE Viereck, pp. 1174-1175

addenda Cresson. Que. Visits flowers of several families, especially Leguminosae, Rosaceae, and Compositae.

frigida appalachensis Mitchell. N. Y. to Ga. in the Appalachian Mts. On flowers of *Apocynum*, *Baptisia*, *Coreopsis*, *Galax*, *Koellia*, *Pentstemon*, *Rhododendron*, and *Veronia*.

frigida frigida Smith. Visits a number of flowers, but principally Leguminosae.

gemula Cresson. Ga. Visiting flowers of several families, but particularly Compositae and Leguminosae.

ingenua Cresson. Ga. On flowers of *Lupinus*, *Tephrosia*, and *Vaccinium*.

melanophaea melanophaea Smith. Delete ? Ga. from range. Visits flowers of a number of families, especially Leguminosae.

melanophaea submelanophaea Mitchell. Maine, Mich. On flowers of *Dicentra* and *Lupinus*.

mucida Cresson. On flowers of *Lupinus*, *Polycodium*, *Rubus*, and *Tephrosia*.

MEGACHILE subgenus PHAENOSARUS Mitchell, p. 1175

fortis Cresson. Ill. On flowers of *Dicrophyllum*, *Helianthus*, *Silphium*, *Solidago*, and *Veronia*.

Morphology (musculature of male metasoma and genitalia): Fischer, 1957 (1956). Canad. Ent. 88: 657-673, 9 figs.

MEGACHILE subgenus MEGACHILOIDES Mitchell, p. 1175

oenotherae (Mitchell). Collects pollen of *Oenothera*, but also visits *Ceanothus* and *Pentstemon*.

MEGACHILE subgenus DEROTROPIS Mitchell, pp. 1175-1176

anograe Cockerell. Kans.

melanderi Mitchell. Calif. (Inyo Co.).

subanograe Mitchell. On flowers of *Sphaeralcea*.

MEGACHILE subgenus XEROMEGACHILE Mitchell, pp. 1176-1178

alata Mitchell. Ariz. On flowers of *Prosopis*.

bradleyi Mitchell. Calif. (Antioch).

brimleyi Mitchell. On flowers of *Galactia* primarily, but also on *Erigeron*.

casadae Cockerell. Calif., Ariz. On flowers of *Opuntia*.

dakotensis Mitchell. On flowers of *Amorpha*, *Cleome*, *Helianthus*, *Kuhnia-tera*, *Petalostemon*, and *Verbena*.

deflexa Cresson. On flowers of *Bidens*, *Clethra*, *Erigeron*, *Phaseolus*, and *Rhus*.

instita Mitchell. Calif., Ariz. On flowers of *Acacia*.

integra Cresson. On flowers of *Erigeron*, *Galactia*, *Glycina*, *Koellia*, *Phaseolus*, and *Strophostyles*.

integrella Mitchell. On flowers of *Hypericum* and *Oxydendrum*.

**macneilli* Mitchell. Calif. (Riverside Co.).

Megachile (Xeromegachile) macneilli Mitchell, 1957. Pan-Pacific Ent. 33: 24. ♂.

maurata Mitchell. On flowers of *Encelia*, *Sphaeralcea*.

mojavensis Mitchell. Ariz. On flowers of *Aster*.

mucronosa Cockerell. Ariz. On flowers of *Helianthus*.

nevadensis Cresson. La. (Winnfield).

palmensis Mitchell. Ariz.

**pararubi* Mitchell. Ariz. (Roosevelt Lake).

Megachile (Xeromegachile) pararubi Mitchell, 1957. Pan-Pacific Ent. 33: 21. ♀.

**pseudolegalis* Mitchell. Calif. (Riverside Co.).

Megachile (Xeromegachile) pseudolegalis Mitchell, 1957. Pan-Pacific Ent. 33: 22. ♂.

rubi Mitchell. Fla. On flowers of *Crataegus*, *Cuscuta*, *Ilex*, *Rubus*, and *Senecio*.

**stoddardensis* Mitchell. Calif. (San Bernardino Co.).

Megachile (Xeromegachile) stoddardensis Mitchell, 1957. Pan-Pacific Ent. 33: 25. ♂.

subnigra angelica Mitchell. Ariz. On flowers of *Aster*.

subnigra subnigra Cresson. Utah (Navajo Lake).

MEGACHILE subgenus ARGYROPILE Mitchell, p. 1179

parallela parallela Smith. On a number of flowers, principally Compositae, and Leguminosae.

townsendiana Cockerell. On flowers of *Actinella*, *Chrysopsis*, *Helianthus*, and *Melanthera*.

MEGACHILE subgenus XANTHOSARUS Robertson, pp. 1179-1180

armata Smith. Ariz., N. Mex., Mexico. Delete from synonymy of *comata* Cresson (Sup 1, p. 245); *armata* is a valid sp. (teste T. B. Mitchell, based on examination of type).

comata Cresson. Delete *armata* Smith, a valid sp., from synonymy (Sup. 1, p. 245).

latimanus Say. Visiting many flowers, particularly in Compositae, Leguminosae and Labiatae.

perihirta Cockerell. ? Mich. On flowers of *Aster*, *Cirsium*, *Cleome*, *Epilobium*, *Eriogonum*, *Helianthus*, *Melilotus*, and *Trifolium*.

Biology: Hobbs, 1957 (1956). Canad. Ent. 88: 625-631.

MEGACHILE subgenus LEPTORACHIS Mitchell, p. 1180

petulans Cresson. Visits numerous flowers, especially Compositae, Leguminosae, and Labiatae.

MEGACHILE subgenus PSEUDOCENTRON Mitchell, p. 1180

pruina pruina Smith. On flowers of *Aselepias*, *Crotalaria*, *Croton*, *Cuscuta*, *Dalbergia*, *Gaillardia*, *Galactia*, *Helianthus*, *Melanthera*, *Ocimum*, *Rhus*, *Strophostyles* and *Veronia*.

MEGACHILE subgenus ACENTRON Mitchell, p. 1180

albitarsis Cresson. Mich., Ind. Visits a number of flowers, principally in Compositae and Leguminosae.

MEGACHILE subgenus MELANOSARUS Mitchell, p. 1180

**bahamensis* Mitchell. Fla.; Bahamas. On flowers of *Flaveria*.

Megachile bahamensis Mitchell, 1927. Psyche 34: 47. ♀.

Megachile (Melanosarus) floridensis Mitchell (syn. by Krombein, 1953. Amer. Mus. Novitates 1633: 21).

floridensis Mitchell. Syn. of *bahamensis* Mitchell.

xylocopoides Smith. On a number of flowers, particularly Compositae.

MEGACHILE subgenus SAYAPIS Titus, pp. 1181-1182

frugalis frugalis Cresson. N. J., Calif. On flowers of *Croton*, *Erigeron*, *Eriogonum*, *Lotus*, *Opuntia*, and *Tephrosia*.

inimica inimica Cresson. Fla. to Tex., south to Guatemala. On flowers of *Achyranthes*, *Avicennia*, *Bidens*, *Borrighia*, *Coccoloba*, *Crotalaria*, *Laciniaria*, *Ocimum*, *Salvia*, *Vitex* and *Ximensia*.

inimica sayi Cresson. Calif. Visiting many flowers, especially Compositae and Leguminosae.

policaris Say. Ga. On flowers of *Amorpha*, *Brauneria*, *Coreopsis*, *Erigeron*, *Helianthus*, *Oenothera*, *Salvia*, *Senecio*, *Silphium*, *Verbena*, and *Verbesina*.

pugnata pugnata Say. Nests in borings in sumac twigs. Visits many flowers, particularly Compositae.

Biology: Medler, 1964. Canad. Ent. 96: 918-921, 1 fig.

*Genus CHALICODOMA Lepeletier

Place after *Megachile* subgenus *Sayapis* Titus, p. 1182.

*CHALICODOMA subgenus CHALICODOMA Lepeletier

Chalicodoma Lepeletier, 1841. Hist. Nat. Ins. Hym. 2: 309.

Type: *Apis muraria* Fabricius. Desig. by Girard, 1879.

The typical subgenus does not occur in North America.

CHALICODOMA subgenus CHELOSTOMOIDES Robertson

(= *Megachile* subgenus *Chelostomoides* Robertson, pp. 1182-1183)

This subgenus with component species was transferred to *Chalicodoma* Lepeletier by Michener, 1962. N. Y. Ent. Soc. Jour. 70: 20.

browni (Mitchell).

Megachile (Chelostomoides) felipiana Mitchell (syn. by Timberlake, 1957. Pan-Pacific Ent. 33: 132).

campanulae campanulae (Robertson). Fla., Minn. Visits many flowers, especially Leguminosae, Campanulaceae and Labiatae.

campanulae wilmingtoni (Mitchell). Fla. to Va., coastal. On flowers of *Galactia*, *Melilotus*, *Pontederia*, *Solidago* and *Strophostyles*.

exilis parexilis (Mitchell). Fla., Ariz. Visits a number of flowers, especially Leguminosae.

felipiana (Mitchell). Syn. of *browni* (Mitchell).

georgica (Cresson). N. J. Visits flowers of several families, particularly Leguminosae.

rugifrons (Smith). Tex. On flowers of *Apocynum*, *Blephilia*, *Coreopsis*, *Erigeron*, *Hypericum*, *Lobelia*, *Nepeta*, *Pontederia*, *Psoralea*, *Tephrosia*, *Vaccinium*, and *Verbena*.

CHALICODOMA subgenus ARCHIMEGACHILE Alfken

(= *Megachile* subgenus *Archimegachile* Alfken, Sup. 1, p. 246)

This subgenus with component species was transferred to *Chalicodoma* Lepeletier by Michener, 1962, *loc. cit. supra*, p. 20.

Genus *COELIOXYS* Latreille, pp. 1183-1186

Change *Liothyrapis* to *Liothyrapis* in generic synonymy.

- alternata alternata* Say, changed status. Mass. and Ont. to B. C., south to Fla. On flowers of *Helianthus*, *Lepachys*, *Melilotus*, *Petalostemum*, *Pycnanthemum*, *Rhus*, *Rudbeckia*, *Verbena*, and *Verbesina*. Host: *Megachile* (*Sayapis*) *p. pugnata* Say.
- Coelioxys alternata* Say. Reduced to subsp. rank (*teste* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 195).
- alternata wisconsinensis* Cockerell. Mich., Ont., N. Y. south to N. C. Host: *Megachile* (*Sayapis*) *p. pugnata* Say.
- Coelioxys wisconsinensis* Cockerell. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 196).
- asteris* Crawford. N. C. to Fla., west to Tex. On flowers of *Azalia*, *Bidens*, *Cephalanthus*, *Erigeron*, *Eryngium*, *Helenium*, *Heterotheca*, *Melilotus*, *Pycnanthemum*, and *Solidago*.
- **atlantica* Mitchell. Que., Mass. and Ont., south to Fla., west to Man. and Nebr.
- Coelioxys atlantica* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 198, fig. 65. ♀, ♂.
- banksi* Crawford. Syn. of *moesta* Cresson.
- **boharti* Mitchell. Fla. (Cocoa).
- Coelioxys boharti* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 206 ♀.
- deplanata* Cresson.
- Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 160-161, fig 7.
- dolichos* Fox. N. C. to Fla. On flowers of *Bidens*, *Borrichia*, *Flaveria*, *Gailardia*, *Ilex*, *Itea*, *Rhus*, *Senecio*, and *Solidago*. Host: *Megachile* (*Melanosarus*) *xylocopoides* Sm.
- dubitata* Smith. Syn. of *rufitarsis rufitarsis* Smith.
- floridana* Cresson. N. C. to Fla.
- funerarea* Smith. Yukon and B. C. east to N. S., south to Ill. and Pa., Ga. Hosts: *Megachile* (*M.*) *inermis* Prov., *M. (M.) relativa* Cr. and *M. (Delomegachile) f. frigida* Sm.
- Coelioxys lateralis* Cresson (syn. by Mitchell, 1962, *loc. cit. supra*, p. 203).
- Coelioxys lucrosa* Cresson (syn. by Mitchell, 1962, *loc. cit. supra*, p. 203).
- **galactiae* Mitchell. N. C., Fla., Ill. On flowers of *Amorpha*, *Asclepias*, *Eriogonum*, and *Galactia*.
- Coelioxys galactiae* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 204, figs. 65, 66. ♀, ♂.
- germana* Cresson. Ill. to N. J., south to Fla. On flowers of *Coreopsis*, *Flaveria*, *Helianthus*, *Heliopsis*, *Lespedeza*, *Lycopus*, *Petalostemum*, *Psoralea*, *Pycnanthemum*, *Silphium*, *Teucrium*, and *Verbena*.
- hunteri* Crawford. N. C. and Ind., south to Fla. and N. Mex. On flowers of *Bidens*, *Helenium*, and *Mentha*.
- immaculata* Cockerell. Ind. to New England States, south to Fla. On flowers of *Asclepias*, *Baptisia*, *Rubus*, and *Tephrosia*.
- Coelioxys sculptifrons* Crawford (syn. by Mitchell, 1962, *loc. cit. supra*, p. 210).
- lateralis* Cresson. Syn. of *funerarea* Smith.
- lucrosa* Cresson. Syn. of *funerarea* Smith.
- mendacina* Cockerell. Syn. of *sayi* Robertson.
- modesta* Smith. Que. and New England States, west to Nebr., south to Fla. and Tex. On flowers of *Aster*, *Campanula*, *Ceanothus*, *Chrysopsis*, *Helianthus*, *Lepachys*, *Lythrum*, *Melilotus*, *Psoralea*, *Pycnanthe-*

mum, *Rhus*, and *Verbena*. Hosts: ? *Megachile (M.) centuncularis* (L.) and *Chalicodoma (Chelostomoides) campanulae wilmingtoni* (Mitch.).

moesta Cresson. N. S. to Alaska, south to Va., Ind., Colo. On flowers of *Solidago*. Hosts: *Megachile (M.) centuncularis* (L.) and *M. (M.) relativa* Cr. Transfer *tristis* Provancher to syn. of *sodalis* Cresson.

Coelioxys banksi Crawford (syn. by Mitchell, 1962, *loc. cit. supra*, p. 213).

novomexicana Cockerell. Host: *Megachile gentilis* Cr.

octodentata Say. New England States and Que. to B. C., south to Fla. in the East, and to Calif. in West. Visits many flowers, particularly of Compositae and Leguminosae. Hosts: *Megachile (M.) centuncularis* (L.), *M. (Litomegachile) b. brevis* Say and *M. (L.) mendica* Cr.

piercei Crawford. N. C. to Fla., west to Tex. On flowers of *Oenothera*. Host: ? *Megachile (Megachiloides) oenotherae* (Mitch.).

porterae Cockerell. N. S. to N. C., west to Alta. and Wis. On flowers of *Baptisia*, *Coreopsis*, *Galax*, *Geranium*, *Houstonia*, *Hydrangea*, *Polygala*, *Pyncnanthemum*, *Rubus*, and *Vaccinium*. Host: *Megachile (M.) relativa* Cr.

ribis Cockerell. Syn. of *sodalis* Cresson.

rufitarsis rufitarsis Smith. N. S. south to Ga., west to B. C. and Calif. On flowers of *Asclepias*, *Aster*, *Baptisia*, *Blephilia*, *Helianthus*, *Lobelia*, *Melilotus*, *Monarda*, *Petalostemum*, *Rudbeckia*, *Solidago*, *Spiraea*, *Verbesina*, and *Vicia*. Hosts: *Megachile (Delomegachile) melanophaea* Sm., *M. (Xanthosarus) latimanus* Say and *M. (X.) perihirta* Ckll.

Coelioxys dubitata Smith (syn. by Mitchell, 1962, *loc. cit. supra*, p. 229).

salinaria Cockerell. Host: *Megachile (Litomegachile) brevis* Say.

sayi Robertson. Ont. south to Fla. and Tex., west to B. C. Visits many flowers, specially Compositae and Leguminosae. Host: *Megachile (Litomegachile) mendica* Cr.

Coelioxys mendacina Cockerell (syn. by Mitchell, 1962, *loc. cit. supra*, p. 222).

sculptifrons Crawford. Syn. of *immaculata* Cockerell.

slossoni arenicola Crawford. Tex. to Ga. and N. C. On flowers of *Helianthus*, *Phaseolus*, and *Strophostyles*.

slossoni slossoni Viereck. On flowers of *Bidens*.

sodalis Cresson. N. S. to N. W. T. and B. C., south to N. Y. and Wis. On flowers of *Rhodora* and *Rubus*. Host: *Megachile (Delomegachile) melanophaea wootoni* Ckll.

Coelioxys tristis Provancher. Transf. from syn. of *moesta* Cresson (*teste* Mitchell, 1962, *loc. cit. supra*, p. 226).

Coelioxys ribis Cockerell (syn. by Mitchell, 1962, *loc. cit. supra*, p. 226).

texana texana Cresson. Fla. and Minn. to Tex., Ariz.; Mexico. On a number of flowers, predominantly Compositae and Leguminosae.

wisconsinensis Cockerell. A subsp. of *alternata* Say.

Family APIDAE

Mitchell (1962. N. C. Agr. Expt. Sta. Tech. Bull. 152) raises the three subfamilies of the Catalog (Anthophorinae, Xylocopinae, and Apinae) to family rank.

Tribe EXOMALOPSINI

Taxonomy: Michener and Moure, 1957. Amer. Mus. Nat. Hist. Bul. 112: 395-452, 91 figs. (gen. reclass.).

EXOMALOPSIS subgenus EXOMALOPSIS Spinola, p. 1187

**pulchella* Cresson. Southern Fla.; Cuba.

Exomalopsis pulchella Cresson, 1865. Ent. Soc. Phila. Proc. 4: 191. ♀, ♂.

**similis* Cresson. Southern Fla.; Cuba, Costa Rica.

Exomalopsis similis Cresson, 1865. Ent. Soc. Phila. Proc. 4: 191. ♀.

snowi Cockerell. Transf. to *Exomalopsis* subg. *Phanomalopsis*.

solani Cockerell. Transf. to *Exomalopsis* subg. *Phanomalopsis*

solidaginis Cockerell. Transf. to *Exomalopsis* subg. *Phanomalopsis*.

*EXOMALOPSIS subgenus PHANOMALOPSIS Michener and Moure

Exomalopsis subg. *Phanomalopsis* Michener and Moure, 1957. Amer. Mus. Nat. Hist. Bul. 112: 430.

Type: *Exomalopsis jenseni* Friese. Orig. desig.

Place before *Exomalopsis* subg. *Anthophorula*, p. 1187.

snowi Cockerell. Transf. from *Exomalopsis* subg. *Exomalopsis*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 430).

solani Cockerell. Transf. from *Exomalopsis* subg. *Exomalopsis*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 430).

solidaginis Cockerell. Transf. from *Exomalopsis* subg. *Exomalopsis*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 430).

EXOMALOPSIS subgenus ANTHOPHORULA Cockerell, pp. 1187-1188

albicans (Provancher). Oreg.

chionura Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

chlorina Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

micheneri Timberlake. Transf. to *Exomalopsis* subg. *Anthophorisca*.

morgani (Cockerell). Transf. to *Exomalopsis* subg. *Anthophorisca*.

nitens Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

pygmaea (Cresson). Transf. to *Exomalopsis* subg. *Anthophorisca*.

sidae Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

texana Friese. Transf. to *Exomalopsis* subg. *Anthophorisca*.

*EXOMALOPSIS subgenus ANTHOPHORISCA Michener and Moure

Exomalopsis subg. *Anthophorisca* Michener and Moure, 1957. Amer. Mus. Nat. Hist. Bul. 112: 433.

Type: *Melissodes pygmaea* Cresson. Orig. desig.

Place after *Exomalopsis* subg. *Anthophorula*, p. 1188.

**asteris* Mitchell. Tex., Ind. On flowers of *Aster*.

Exomalopsis (Anthophorisca) asteris Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 236, fig. 68. ♀, ♂.

chionura Cockerell. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

Taxonomy: Rozen, 1957. Ent. Soc. Amer. Ann. 50: 469-475 (larva).

Biology: Rozen and MacNeill, 1957. Ent. Soc. Amer. Ann. 50: 522-529.

chlorina Cockerell. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

micheneri Timberlake. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

- morgani** (Cockerell). Transf. from **Exomalopsis** subg. **Anthophorula**, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).
- nitens** Cockerell. Transf. from **Exomalopsis** subg. **Anthophorula**, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).
- pygmaea** (Cresson). Transf. from **Exomalopsis** subg. **Anthophorula**, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).
- sidae** Cockerell. Transf. from **Exomalopsis** subg. **Anthophorula**, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).
- texana** Friese. Transf. from **Exomalopsis** subg. **Anthophorula**, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

NOMADA subgenus **NOMADA** Scopoli, pp. 1189-1194

- annulata** Smith. Transf. to **Nomada** subg. **Heminomada**, p. 1197.
- armatella** Cockerell. Mich. to New England States.
- ***augustiana** Mitchell. Ga. (Augusta). On flowers of *Salix*.
Nomada augustiana Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 402. ♀.
- ***azaleae** Mitchell. N. C. (Highlands). On flowers of *Azalea*.
Nomada azaleae Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 403, fig. 107. ♂.
- banksi** Cockerell. Ont. and N. Y., south to Ill. and N. C. On flowers of *Aster*, *Bidens*, *Eupatorium*, *Polygonum*, and *Solidago*.
- bethunei** Cockerell. Transf. to **Nomada** subg. **Heminomada**, p. 1197.
- bilobata** Swenk. Transf. to **Nomada** subg. **Nomadula**, p. 1205, as a syn. of **articulata** Smith.
- ***capillata** Mitchell. Mass. (Milton).
Nomada capillata Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 406. ♂.
- ceanothi** Cockerell. N. Y. to N. C. On flowers of *Amelanchier*, *Aruncus*, *Ceanothus*, and *Senecio*.
- ***composita** Mitchell. Conn., Mich.
Nomada composita Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 408. ♀.
- cressonii cressonii** Robertson. N. Dak. to N. S., south to Tenn. and N. C. Visits a number of flowers of several families.
Nomada (Nomada) mera Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 409.
- crudelis** Cresson. Host: ? *Andrena obscuripennis* Sm. Transf. from **Nomada** subg. **Heminomada**, p. 1198 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 410).
- ***decepta** Mitchell. N. Y., Mich.
Nomada decepta Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 411. ♀.
- denticulata** Robertson. Minn. to N. Y., south to Ga. On a number of flowers.
Nomada (Nomada) simplex Robertson. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 411.
- depressa** Cresson. Nebr., Mich. to Maine, south to N. C. On flowers of *Azalea* and *Rubus*.
Nomada (Nomada) depressicauda Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 413.
- depressicauda** Cockerell. Syn. of **depressa** Cresson.
- ***detrita** Mitchell. N. H. (Randolph).
Nomada detrita Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 414, figs. 106, 107. ♂.

- ***dreisbachi** Mitchell. Maine, Mass., Mich.
Nomada dreisbachi Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 414. ♂.
- electa** Cresson. Transf. to *Nomada* subg. *Heminomada*, p. 1198.
- florilega** Lovell and Cockerell. Mich. to Maine, south to N. C.
- gracilis** Cresson. N. Y. and New England States. On flowers of *Salix*.
- illinoensis** Robertson. Minn. to Mass., south to Ga. On many flowers of several families.
- imbricata** Smith. Transf. to *Nomada* subg. *Heminomada*, p. 1199.
- ***indusata** Mitchell. N. C., Ga. On flowers of *Amelanchier* and *Salix*.
Nomada indusata Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 418, fig. 107. ♂.
- ***inepta** Mitchell. Maine to N. C., Minn. On flowers of *Salix*.
Nomada inepta Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 419. ♀.
- infantula** Cockerell. Syn. of *parva* Robertson.
- ***kingstonensis** Mitchell. R. I. (Kingston).
Nomada kingstonensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 420. ♀.
- lehighensis** Cockerell. Mich. to N. S., south to Ga. On flowers of *Crataegus*.
- ***media** Mitchell. N. C., Tenn. On flowers of *Azalea*, *Rubus*, and *Vaccinium*.
Nomada media Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 421, fig. 107. ♀, ♂.
- ***mendica** Mitchell. Vt., N. H.
Nomada mendica Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 422, fig. 107. ♂.
- mera** Cockerell. Syn. of *cressonii cressonii* Robertson.
- ***minima** Mitchell. Md. to N. C.
Nomada minima Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 423. ♂.
- ***orba** Mitchell. N. Y. (Ithaca).
Nomada orba Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 424, fig. 107. ♂.
- parva** Robertson. Mich. to New England States, south to Miss. On flowers of *Capsella*, *Fragaria*, *Geum*, *Nothoscordum*, *Osmorrhiza*, *Potentilla*, *Ranunculus*, *Rubus*, *Senecio*, and *Smilax*.
Nomada (Nomada) infantula Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 425.
- pygmaea** Cresson. Minn. to Maine, south to Va. On flowers of *Euonymus*, *Rhus*, and *Rubus*.
- sayi** Robertson. Minn. to Que. and Maine, south to Ga. Visits many flowers belonging to various families.
- simplex** Robertson. Syn. of *denticulata* Robertson.
- skinneri** Cockerell. Conn. to N. C. On flowers of *Galax*.
- ***sobrina** Mitchell. Mich. (Macomb Co.).
Nomada sobrina Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 431, fig. 107. ♂.
- subnigrocincta** Swenk. Transf. to *Nomada* subg. *Gnathias*, p. 1196.
- ***townesi** Mitchell. Md. (Takoma Park).
Nomada townesi Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 432. ♂.
- ***tyrrellensis** Mitchell. N. C., Fla. On flowers of *Amelanchier* and *Erigeron*.
Nomada tyrrellensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 433. ♀.

**ulsterensis* Mitchell. N. Y., D. C.

Nomada ulsterensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 433, fig. 107. ♂.

valida Smith. N. S. and N. Y. to B. C.

vicina vicina Cresson. Mich. to Que., New England States, and N. J.

xanthura Cockerell. Transf. to *Nomada* subg. *Heminomada*, p. 1200.

NOMADA subgenus GNATHIAS Robertson, pp. 1194–1196

albofasciata Smith. Syn of *bella bella* Cresson.

bella bella Cresson. Maine and Que. to Minn., south to Fla.

Nomada (Gnathias) albofasciata Smith. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 346.

carolinae Cockerell. Syn. of *ovata* (Robertson).

cornelliana Cockerell. Syn. of *perplexa* Cresson.

cuneata (Robertson). Minn. to N. S., south to N. C. On a number of flowers of various families.

Nomada (Gnathias) lepida Cresson of Catalog, in part. *N. cuneata* (Robt.), with its forms, a valid sp. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 347).

hydrophylli Swenk. Md.

lepida Cresson. Minn. to Maine, south to Ga. On flowers of *Brassica*, *Fragaria*, *Geranium*, *Ilex*, *Prunus*, *Pyracantha*, *Pyrus*, and *Rubus*. Remove *cuneata*, a valid sp., and its forms from syn.

louisianae Cockerell. Nebr. and Minn. to N. Y. and S. C.

maculata Cresson. Minn. to Maine, south to Va.

ovata (Robertson). Minn. to Maine, south to S. C. On a number of flowers of various families.

Nomada (Gnathias) carolinae Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 351.

perplexa Cresson. Minn. to Mass., south to Tenn. and N. C. On flowers of *Ceanothus*, *Chrysanthemum*, and *Salix*.

Nomada (Gnathias) cornelliana Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 352.

subnigrocincta Swenk. Mass., N. C. Transf from *Nomada* subg. *Nomada*, p. 1193 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 353). Change ♀ ♂ to ♀ (♂ misdet.).

NOMADA subgenus PHOR Robertson, p. 1197

integerrima Dalla Torre. Minn. to Que. and New England States, south to La. and N. C. On flowers of *Rubus*.

NOMADA subgenus HEMINOMADA Cockerell and Atkins, pp. 1197–1200

annulata Smith. N. C. on flowers of *Claytonia*, *Rubus*, and *Senecio*. Host: *Andrena macra* Mitch. Transf. from *Nomada* subg. *Nomada*, p. 1189 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 380).

**autumnalis* Mitchell. Mich. (Oakland Co.).

Nomada (? Heminomada) autumnalis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 382. ♂.

bethunei Cockerell. Mich., Ohio. Transf. from *Nomada* subg. *Nomada*, p. 1190 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 382).

bishoppi Cockerell, changed status. Minn. to Maine, south to Miss. and Fla. On flowers of *Aronia*, *Brassica*, *Claytonia*, *Crataegus*, *Rubus*, *Senecio*, and *Viburnum*.

Nomada (Heminomada) luteoloides Robertson of Catalog, in part. N.

luteola bishoppi removed from syn. and raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 383). *N. B.*: This was described as **luteola bishoppi**, not **luteoloides bishoppi** as listed in Catalog; delete "*Fide* Swenk, 1915" at end of citation.

***capitalis** Mitchell. N. H., Mich., N. C., Tenn.

Nomada (Heminomada) capitalis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 385. ♀.

***colorata** Mitchell. N. Y., Mich.

Nomada (Heminomada) colorata Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 386. ♀.

crudelis Cresson. Transf. to *Nomada* subg. *Nomada*, p. 1190.

dentariae (Robertson). Ill. to N. Y., south to N. C. or Tenn.

electa Cresson. Transf. from *Nomada* subg. *Nomada*, p. 1190 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 388).

Nomada (Heminomada) mimula Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 388.

electella Cockerell. R. I. to Ga. On flowers of *Ceanothus*. Transf. from *Nomada* subg. *Nomadula*, p. 1205.

festiva Cresson. Mass. Transf. from *Nomada* subg. *Micronomada*, p. 1203 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 390).

***fragariae** Mitchell. Va., N. C., Fla. On flowers of *Fragaria* and *Prunus*.

Nomada (Heminomada) fragariae Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 391, fig. 105. ♂.

imbricata Smith. N. Y. to N. S. Transf. from *Nomada* subg. *Nomada*, p. 1191 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 392).

luteola Olivier. Ill. to Va., south to Fla. On many flowers.

luteoloides Robertson. Syn. of **sulphurata** Smith, except that **bishoppi** Cockerell is a valid sp.

mimula Cockerell. Syn. of **electa** Cresson.

obliterata Cresson. Minn. to N. Y., south to S. C. On flowers of *Antennaria*, *Chaerophyllum*, *Claytonia*, *Heracleum*, *Prunus*, *Salix*, *Stellaria*, *Taraxacum*, and *Viburnum*.

***och'lerata** Mitchell. Mich. (Ann Arbor).

Nomada (? Heminomada) ochlerata Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 396. ♂.

pseudops Cockerell. Mass. to Wis. On flowers of *Rubus*.

subrutula Lovell and Cockerell. New England States to Mich.

sulphurata Smith. Mass. to Minn., south to Ga. and Miss. On flowers of *Cercis*, *Claytonia*, *Erythronium*, *Nothoscordum*, *Prunus*, *Ribes*, *Salix*, *Stellaria*, and *Zanthoxylum*.

Nomada (Heminomada) luteoloides Robertson of Catalog, in part. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 398. *N. B.*, **bishoppi** removed from syn., and made a valid sp.

xanthura Cockerell. N. Y. to N. S. Transf. from *Nomada* subg. *Nomada*, p. 1194 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 400).

NOMADA subgenus **HOLONOMADA** Robertson, pp. 1200-1201

affabilis affabilis Cresson. Ill. to Mass., south to Fla. On a number of flowers of various families.

superba superba Cresson. Kans. and Minn., east to Ohio and Ga. On a number of flowers of various families.

NOMADA subgenus **PACHYNOMADA** Rodeck, pp. 1201-1202

vincta vincta Say. Kans. and Nebr., east to N. C. On flowers of *Bidens*.

NOMADA subgenus CALLINOMADA Rodeck, p. 1202

aquilarum Cockerell. Wis.

placida Cresson. Nebr. to N. Y., south to N. C.

**rodecki* Mitchell. N. C. (Southern Pines).

Nomada (Callinomada) rodecki Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 376. ♂.

NOMADA subgenus MICRONOMADA Cockerell and Atkins, pp. 1202-1204

fervida Smith. S. C. On flowers of *Bidens*, *Ceanothus*, *Melilotus*, and *Polygonum*.

festiva Cresson. Transf. to *Nomada* subg. *Heminomada*, p. 1198.

heiligbrodtii Cresson. Mich. to New England states, south to Fla. and Tex. On flowers of *Bidens*, *Chrysopsis*, *Haplopappus*, and *Solidago*.

Nomada (Micronomada) tiftonensis Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 355.

modesta Cresson. N. Y. to Ala. On flowers of *Cephalanthus*, *Cucurbita*, *Helenium*, *Rhus* and *Solidago*.

texana Cresson. Mass. to Mich., Ill. and Colo., south to Ala., Tex. and Ariz. On flowers of *Cephalanthus*, *Eryngium*, *Helianthus*, *Marilaunidium*, *Pycnanthemum*, *Verbena*, and *Verbesina*.

tiftonensis Cockerell. Syn. of *heiligbrodtii* Cresson.

wisconsinensis Graenicher. Mich.

NOMADA subgenus CENTRIAS Robertson, p. 1204

erigeronis Robertson. Mass.

NOMADA subgenus NOMADULA Cockerell, pp. 1205-1206

articulata Smith. N. Dak. to New England states, south to La. and Fla. Visits many flowers in a number of families.

Nomada (Nomadula) incerta Cresson. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 365.

Nomada (Nomada) bilobata Swenk. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 365.

**australis* Mitchell. Fla. to N. C., N. Y., Ind. On flowers of *Bidens*, *Erigeron*, *Fragaria*, *Gossypia*, *Ilex* and *Senecio*.

Nomada (Nomadula) australis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 367. ♀, ♂.

electella Cockerell. Transf. to *Nomada* subg. *Heminomada*, p. 1198.

incerta Cresson. Syn. of *articulata* Smith.

rubicunda Olivier. N. Y. to Mich., south to Fla. and Tex. On flowers of *Crataegus*, *Fragaria*, *Melilotus*, and *Rubus*.

**seneciophila* Mitchell. N. C., Fla. On flowers of *Rubus* and *Senecio*.

Nomada (Nomadula) seneciophila Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 370. ♀, ♂.

HOLCOPASITES subgenus HOLCOPASITES Ashmead, pp. 1207-1208

calliopsidis (Linsley). Minn. to Mich. south to Tenn.

heliopsis (Robertson). Colo. to N. Dak. and Ill. On flowers of *Grindelia*, *Heliopsis* and *Solidago*.

illinoensis (Robertson). Ill. to Mass. south to Ga. On flowers of *Ceanothus*, *Chrysanthemum*, *Coreopsis*, *Erigeron*, *Geum*, *Lespedeza*, *Oenothera*, and *Pycnanthemum*.

Holcopasites (Holcopasites) punctulatus (Linsley). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 488.

- **pseudocarinatus* Mitchell. Wis. (Madison). On flowers of *Melilotus*.
Holcospites pseudocarinatus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 489. ♀.
punctulatus (Linsley). Syn. of *illinoiensis* (Robertson).

NEOLARRA subgenus PHILEREMULUS Cockerell, p. 1210

- cockerelli* (Crawford). Ga. Host: ? *Perdita (Alloperdita) obscurata* Cr.

Genus PROTEPEOLUS Linsley and Michener, p. 1211

- integer* Linsley. South. Calif. to west. Tex.; Mexico (Durango, Jalisco).
 Taxonomy: Hurd and Linsley, 1963. Kans. Ent. Soc. Jour. 36: 253-255 (♀).

Genus EPEOLUS Latreille, pp. 1211-1213

- **australis* Mitchell. N. C., Ga. On flowers of *Ceanothus*, *Rubus*, *Senecio*, and *Specularia*.
Epeolus australis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 441, fig. 110. ♀, ♂.
autumnalis Robertson. Minn. to Maine, south to N. C. On flowers of *Aster*, *Bidens*, *Haplopappus*, *Helianthus*, *Rudbeckia*, and *Solidago*.
banksi (Cockerell). Minn. to N. J. and N. C. On flowers of *Fragaria*.
bifasciatus Cresson. New England to Fla., west to Minn., Colo. and northern Mexico. Visits flowers of several families, but especially Compositae.
**canadensis* Mitchell. N. S., Que., N. Y., Ont., Mich., Ind.
Epeolus canadensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 444, fig. 110. ♀, ♂.
**carolinus* Mitchell. N. C., Fla. On flowers of *Eupatorium*.
Epeolus carolinus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 445, fig. 110. ♀, ♂.
distinctus Cresson. Transf. to *Triepeolus*, p. 1214.
**erigeronis* Mitchell. N. C., Ga., Fla. On flowers of *Erigeron*, *Hypericum* and *Melilotus*.
Epeolus erigeronis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 445, fig. 110. ♀, ♂.
**floridensis* Mitchell. Fla. On flowers of *Eriogonum*.
Epeolus floridensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 446, fig. 110. ♀, ♂.
glabratus Cresson. On flowers of *Vicia*.
**howardi* Mitchell. N. C. (Southern Pines). Host: ? *Colletes howardi* Sw. On flowers of *Kuhnistera*.
Epeolus howardi Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 447, fig. 110. ♀, ♂.
**ilicis* Mitchell. R. I. and Mass. to Ga., Tenn. On flowers of *Amorpha*, *Batodendron*, *Ilex* and *Rhus*.
Epeolus ilicis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 448, fig. 110. ♀, ♂.
interruptus Robertson. N. J. to Ga., west to Mich. and Tex. On flowers of *Chrysanthemum*, *Coreopsis*, *Krigia*, *Psoralea*, *Rudbeckia*, and *Trifolium*.
**lanhami* Mitchell. Maine, Pa., Mich.
Epeolus lanhami Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 450, fig. 110. ♀, ♂.
lectoides Robertson. Ill. to New England, south to Ga. On flowers of *Ceanothus*, *Cephalanthus*, *Helenium*, *Hypericum*, *Pycnanthemum*, and *Rhus*.

- Epeolus semilectus* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 452.
- minimus* (Robertson). Minn., Mich.
- **oswegoensis* Mitchell. N. Y. (Oswego).
Epeolus oswegoensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 453. ♂.
- pusillus* Cresson. Maine and Fla., west to Wyo. and Tex. Visits chiefly flowers of Compositae.
- scutellaris* Say. N. S. to N. C., west to Minn. and Tex. On flowers of *Baccharis*, *Bidens*, and *Solidago*.
Epeolus vernoniae Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 454.
- semilectus* Cockerell. Syn. of *lectoides* Robertson.
- **vernalis* Mitchell. N. C. (Holly Shelter).
Epeolus vernalis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 455. ♀.
- vernoniae* Cockerell. Syn. of *scutellaris* Say.
- virginiensis* Cockerell. Transf. to *Triepeolus*, p. 1216, as a syn. of *pectoralis* (Robertson).
- **weemsi* Mitchell. Fla. (Alachua Co.). On flowers of *Prunus*.
Epeolus weemsi Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 455. ♂.
- zonatus* Smith. Ga., Fla. On flowers of *Crataegus* and *Prunus*.

Genus *TRIEPEOLUS* Robertson, pp. 1213-1218

- **alachuensis* Mitchell. Fla. (Alachua Co.). On flowers of *Melilotus*.
Triepeolus alachuensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 462. ♀.
- **charlottensis* Mitchell. N. B. (Charlotte Co.).
Triepeolus charlottensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 462, fig. 112. ♀.
- **cirsianus* Mitchell. Ind. (Warren Co.). On flowers of *Cirsium*.
Triepeolus cirsianus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 463. ♂.
- concauus* (Cresson). N. C. and Fla. to Wis. and Ill., Colo., Calif. On many flowers, especially Compositae and Labiatae.
- concolor* (Robertson). A subsp. of *lunatus* (Say).
- cressonii cressonii* (Robertson). Minn. and New England States, south to Tenn. and N. C. On many flowers, especially Compositae.
- distinctus* (Cresson). Ga., Fla. Transf. from *Epeolus*, p. 1212 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 467).
- donatus* (Smith). Wis. to New England states, south to Ga. Visits chiefly flowers of Compositae.
- **floridanus* Mitchell. Fla. (Gainesville).
Triepeolus floridanus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 468. ♂.
- **georgicus* Mitchell. Ga. (Fort Gordon).
Triepeolus georgicus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 469, fig. 112. ♀.
- helianthi helianthi* (Robertson). Wyo. to Wis., Ill., and Ind. On flowers of *Grindelia*, *Helianthus*, *Rudbeckia*, and *Verbena*.
- **junctus* Mitchell. N. Y., N. C.
Triepeolus junctus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 471. ♀, ♂.

- lunatus concolor** (Robertson), changed status. Minn. to Pa., south to Tex. and Fla. Visits chiefly Compositae and Leguminosae. Host: *Melissodes b. bimaculata* (Lep.).
Triepeolus concolor (Robertson). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 472).
- lunatus lunatus** (Say), changed status. Minn. to New England States, south to Tex. and Fla. Visits chiefly Compositae and Leguminosae.
Triepeolus lunatus (Say). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 472).
- ***michiganensis** Mitchell. Conn., N. Y., Mich.
Triepeolus michiganensis Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 473. ♀, ♂.
- ***micropygius atripes** Mitchell. Pa., N. C., Ga. On flowers of *Aster* and *Helianthus*.
Triepeolus micropygius atripes Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 474, fig. 112. ♀, ♂.
- micropygius micropygius** Robertson, changed status. On flowers of *Aster*.
Triepeolus micropygius Robertson. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 474).
- ***monardae** Mitchell. N. C. On flowers of *Monarda*.
Triepeolus monardae Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 475, fig. 112. ♂.
- nevadensis** (Cresson). Nebr. and Tex. to N. C. and Ga. On flowers of *Cirsium*, *Helianthus*, *Monarda*, *Pycnanthemum*, *Verbena*, and *Vernonia*.
- ***nigrihirtus** Mitchell. N. C. (Chatham Co.).
Triepeolus nigrihirtus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 476. ♂.
- norae** Cockerell.
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161.
- pectoralis** (Robertson). Minn. to New England States, south to Ga. Visits chiefly flowers of Compositae. Host: ? *Melissodes (Eumelissodes) rustica* (Say).
Epeolus virginienensis Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 478.
- ***quadrifasciatus atlanticus** Mitchell. Md. to Fla., Mo. On flowers of *Chrysopsis*, *Koellia*, *Kuhmistera*, and *Monarda*.
Triepeolus 4-fasciatus atlanticus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 479, figs. 112. ♀, ♂.
- quadrifasciatus quadrifasciatus** (Say), changed status. Ch. from sp. to subsp.
- remigatus** (Fabricius). N. J. to Fla., west to Minn. and Tex., N. Mex., Colo., Calif. Visits many flowers belonging to several families. Hosts: ? *Peponapis p. pruinosa* (Say) or ? *Xenoglossa strenua* (Cr.).
- rufithorax** Graenicher. On flowers of *Bidens*, *Borrichia*, and *Melilotus*. Host: *Svastra (Epimelissodes) o. obliqua* (Say).
 Biology: Rozen, 1964. Amer. Mus. Novitates 2170, p. 9.
- ***rugosus** Mitchell. Fla. On flowers of *Pontederia*.
Triepeolus rugosus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 482, fig. 112. ♀.
- simplex** Robertson. Wis., Ill. and Mich. to N. C. and Ga. On flowers of *Helenium*, *Helianthus*, *Lespedeza*, *Pycnanthemum*, *Silphium*, *Teucrium* and *Verbena*.
- ***sublunatus** Mitchell. N. C. (Marion). On flowers of *Coreopsis*.
Triepeolus sublunatus Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 483. ♂.

verbesinae (Cockerell).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161.

Genus **EPEOLOIDES** Giraud, p. 1218

pilosula (Cresson). New England States to Ga., west to Mich., Wis., N. Dak.
On flowers of *Apocynum*, *Galax*, *Houstonia*, and *Rubus*.

Nomia compacta Provancher. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 491.

Genus **PTILOTHRIX** Smith, Sup. 1, p. 248

bombiformis (Cresson), changed status. N. J. to Kans., south to Fla. and Tex. On flowers of *Cephalanthus*, *Cirsium*, *Hibiscus*, *Ipomoea*, *Verbena*, and *Vernonia*. Ch. from subsp. to sp. by Mitchell, 1962, *loc. cit. supra*, p. 240.

Emphor bombiformis fuscojubatus Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 240.

bombiformis fuscojubatus (Cockerell). Syn. of **bombiformis** (Cresson).

Genus **DIADASIA** Patton, pp. 1219-1220

angusticeps Timberlake. Collecting pollen of *Clarkia*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 201.

australis californica Timberlake. Collecting pollen from Cactaceae, principally *Opuntia*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 201-203.

consociata Timberlake.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 203, 205, pl. 1, fig. 1.

diminuta (Cresson). Collecting pollen of *Sphaeralcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 205-211, pl. 2.

enavata (Cresson). Collecting pollen of Compositae, principally *Helianthus*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 212, pl. 1, fig. 5.

lutzi lutzi Cockerell. Collecting pollen of *Sphaeralcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 212-213, pl. 1, fig. 3.

nigrifrons (Cresson). Collecting pollen of *Sidalcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 215.

nitidifrons Cockerell. Collecting pollen of *Sphaeralcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 215.

ochracea (Cockerell). Collecting pollen of *Sphaeralcea*. Delete ref. in syn. to ? *Dasiapis olivacea* Cockerell.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 215-217, pl. 1, fig. 4.

vallicola Timberlake.

Biology: Hall and Hurd in Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 217-218.

Genus **MELITOMA** Lepelletier and Serville, pp. 1220-1221

taurea (Say). Fla. Collects pollen of *Ipomoea*, but also visits *Asclepias*, *Cirsium*, *Clitoria*, *Convolvulus*, *Hibiscus*, and *Oenothera*.

Tribe **EUCERINI**

Taxonomy: LaBerge, 1957. Amer. Mus. Novitates 1837, pp. 1-44, 42 figs. (gen. reclassification).

Genus *PEPONAPIS* Robertson, p. 1221

Revision: Hurd and Linsley, 1964. *Hilgardia* 35: 425-472, figs. 1, 2, 12-18.

angelica (Cockerell). Syn. of *pruinosa* (Say).

**crassidentata* (Cockerell). Southern Tex.; Mexico to Costa Rica. Collects pollen of domestic species of *Cucurbita* principally.

Melissodes crassidentata Cockerell, 1949. U. S. Natl. Mus. Proc. 98: 466.

♂.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 431-437, fig. 13.

limitaris (Cockerell), changed status. Raised to sp. rank (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 468). Southern Tex.; Mexico (to Yucatan). Collects pollen of domestic *Cucurbita* and of *C. martin-ezi*.

**michelbacherorum* Hurd and Linsley. Ariz. (Nogales); Mexico (Sonora, Sinaloa). Collects pollen of native and domestic *Cucurbita*.

Peponapis michelbacherorum Hurd and Linsley, 1964. *Hilgardia* 35: 437, fig. 14. ♂, ♀.

pruinosa (Say), changed status. Raised to sp. rank (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 448). Remove *Macrocera Philadelphica* Lepelletier from syn. and transf. to *Nomina Dubia* in *Melissodes*, p. 1129 (*teste* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 654). Transcontinental, Maine to Ga., west to Idaho and Calif.; Mexico. Collects pollen of domestic *Cucurbita* and of *C. foetidissima*.

Peponapis angelica (Cockerell) (syn. by Hurd and Linsley, 1964. *Hilgardia* 35: 452).

pruinosa limitaris (Cockerell). Raised to sp. rank.

**timberlakei* Hurd and Linsley. Deserts, N. Mex. to Calif., Nev.; Mexico (Sonora). Collects pollen of *Cucurbita digitata* and *C. palmata*.

Peponapis timberlakei Hurd and Linsley, 1964. *Hilgardia* 35: 428, figs. 2, 12. ♂, ♀.

utahensis (Cockerell). Ariz., N. Mex., ? Utah; Mexico to El Salvador. Collects pollen of native and domestic *Cucurbita*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 440-448, fig. 15.

Genus *XENOGLOSSA* Smith, p. 1221

Revision: Hurd and Linsley, 1964. *Hilgardia* 35: 384-425, figs. 1-11.

angustior Cockerell, changed status. Remove from syn. of *patricia* Cockerell (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 386). Southwestern N. Mex. to central and southern Calif.; Mexico (Baja California, Sonora). Collects pollen of native and domestic *Cucurbita*.

**crawfordi* Cockerell. Ariz. (Nogales); Mexico (south to Morelos). Collects pollen of domestic *Cucurbita*.

Xenoglossa crawfordi Cockerell, 1910. Ann. and Mag. Nat. Hist. (8) 5: 367. ♂.

**Xenoglossa dugesi* Cockerell, 1919. U. S. Natl. Mus. Proc. 55: 194. ♀

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 408-411, fig. 8.

fulva Smith. Delete from Catalog and First Supplement; U. S. records apparently based on misidentification (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 408).

kansensis Cockerell, changed status. Raised to sp. rank. N. C. and Ga., west to Colo. and N. Mex. Collects pollen of domestic species of *Cucurbita* and of *C. foetidissima*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 421-425, figs. 9, 11.

patricia Cockerell. Remove *angustior* Cockerell, a valid sp., from syn. Tex., N. Mex.; Mexico (Chihuahua, Coahuila, Durango). Collects pollen of *Cucurbita foetidissima*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 396-401, fig. 5.

strenua (Cresson), changed status. Raised to sp. rank and **kansensis**, a valid sp., removed from syn. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 247). Transcontinental, Md. to Fla., west to southern Calif.; Mexico (Baja California east to Chihuahua, south to Durango). Collects pollen from domestic and native *Cucurbita*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 411-421, figs. 1, 9, 10, frontispiece.

Biology and Larval Morphology: Bohart, 1964. *Pan-Pacific Ent.* 40: 174-182, 17 figs.

Genus **MARTINAPIS** Cockerell, p. 1222

luteicornis (Cockerell). On flowers of *Cercidium*, *Dalea*, *Palafoxia*.

Biology: MacSwain, 1957. *Pan-Pacific Ent.* 33: 70.

*Genus **MELISSOPTILA** Holmberg

Place after *Martinapis* Cockerell, p. 1222.

***MELISSOPTILA** subgenus **MELISSOPTILA** Holmberg

Melissoptila Holmberg, 1884. *Cordoba. Acad. Nac. de Cien. Actas* 5: 119.

Type: *Melissoptila tandilensis* Holmberg. By monotypy.

Thyreotremata Holmberg, 1887. *Cordoba. Acad. Nac. de Cien. Bol.* 10: 225. *Nomen nudum*.

Thyreothremma Holmberg, 1903. *Mus. Nac. Buenos Aires An.* (3) 2: 391.

Type: *Thyreothremma rhopalocera* Holmberg (= *Melissoptila tandilensis* Holmberg). Desig. by Sandhouse, 1943.

The typical subgenus does not occur in North America.

***MELISSOPTILA** subgenus **PTILOMELISSA** Moure

Ptilomelissa Moure, 1943. *Rev. de Ent.* 14: 482.

Type: *Ptilomelissa ochromelaena* Moure. By monotypy.

**otomita* (Cresson). Tex. (Brownsville); Mexico, Guatemala, Honduras.

Melissodes otomita Cresson, 1878. *Acad. Nat. Sci. Phila. Proc.* 30: 209.

♂.

**Melissodes pinguis* Cresson, 1878. *Acad. Nat. Sci. Phila. Proc.* 30: 216. ♀,

♂.

Genus **FLORILEGUS** Robertson, p. 1222

condignus (Cresson). N. J., Fla. Visits several flowers, mostly in Labiatae, Leguminosae, and Verbenaceae.

Genus **MELISSODES** Latreille, pp. 1222-1229

**Melissodes* subg. *Callimelissodes* LaBerge, 1961. *Kans. Univ. Sci. Bul.* 42: 294.

Type: *Melissodes lupina* Cresson. Orig. desig.

Taxonomy: LaBerge, 1961. *Kans. Univ. Sci. Bul.* 42: 283-663, 125 figs. (Pt. III (final) of a gen. rev. treating the subgenera *Callimelissodes* and *Eumelissodes*.)

ablusa Cockerell, changed status. Calif. (Millbrae, Bolinas). (*Callimelissodes*)

Melissodes metenua ablusa Cockerell. Raised to sp. rank (*teste* LaBerge, 1961, *loc. cit. supra*, p. 320).

agilis Cresson. South. Canada, U. S., except Fla.; Mexico (Chihuahua, Coahuila, Durango). Has been recorded from a number of flowers, but apparently stores pollen of *Helianthus* almost entirely. Remove *subagilis*, a valid sp., from syn. (*Eumelissodes*)

**ambigua* Smith. Syn. of *rustica* (Say).

americana (Lepelletier). Transfer to *Nomina Dubia* in *Melissodes*, p. 1229 (*teste* LaBerge, 1961, *loc. cit. supra*, p. 654).

**appressa* LaBerge. Calif. Oligolectic on Compositae, preferably *Gutierrezia*, *Heterotheca*, and *Isocoma*. (*Eumelissodes*)

- Melissodes (Eumelissodes) appressa* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 616. ♀, ♂.
- **assimilis* Smith. Syn. of *rustica* (Say).
- asteris* Robertson. Syn. of *rustica* (Say).
- atricornis* Cockerell. Syn. of *confusa* Cresson.
- **atrifera* Cockerell. Syn. of *montana* Cresson.
- atrifera sandiarum* Cockerell. Syn. of *montana* Cresson.
- autumnalis* Robertson. Syn. of *dentiventris* Smith.
- **bicolorata* LaBerge. Northern Calif., Nev., Utah. On flowers of *Chrysothamnus*, *Melilotus*, and *Pentstemon*. (*Eumelissodes*)
- Melissodes (Eumelissodes) bicolorata* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 441. ♀, ♂.
- bidentis* Cockerell. N. Dak. and Minn. south to Tex., N. Y. Oligolectic on Compositae, principally Heliantheae. (*Eumelissodes*)
- **bimatrix* LaBerge. B. C. to Calif., east to Colo. and N. Mex. Probably oligolectic on Compositae, principally *Chrysothamnus*. (*Eumelissodes*)
- Melissodes (Eumelissodes) bimatrix* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 431. ♀, ♂.
- blakei* Cockerell. Syn. of *menuacha* Cresson.
- boltoniae* Robertson. Pa. to Minn. south to Fla. and Tex. Oligolectic on Compositae. (*Eumelissodes*)
- Melissodes melandri* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 482).
- **brevipyga* LaBerge. Ariz., Calif., Idaho. Oligolectic on Compositae, preferably *Aster* and *Isocoma*. (*Eumelissodes*)
- Melissodes (Eumelissodes) brevipyga* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 606, figs. 111-112. ♀, ♂.
- **cerussata* LaBerge. Calif. (San Bernardino Co.). On flowers of *Geraea*. (*Eumelissodes*)
- Melissodes (Eumelissodes) cerussata* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 436. ♀.
- chrysothamni* Cockerell. Syn. of *semilupina* Cockerell.
- **civica* Cockerell. Syn. of *confusa* Cresson.
- **clarkiae* LaBerge. Oreg., Calif. Taken on flowers of *Clarkia*. (*Callimelissodes*)
- Melissodes (Callimelissodes) clarkiae* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 315, figs. 50-53. ♀, ♂.
- **collicciata* Cockerell. Ariz., Mexico. (*Melissodes*)
- Melissodes collicciata* Cockerell, 1910. Ann. Mag. Nat. Hist. (8) 5: 257. ♂.
- Melissodes (Melissodes) elusa* LaBerge [recorded in Sup. 1, p. 251] (syn. by LaBerge, 1961, *loc. cit. supra*, p. 655).
- coloradensis* Cresson. N. C., Ohio, Ind., Ill., Wis., Mo., Nebr., Kans., Wyo., Colo., N. Mex., Ariz., Utah, north. Calif. Oligolectic on Compositae, principally *Helianthus*. (*Callimelissodes*)
- composita* Tucker. Mont. south to Ariz., N. Mex. On flowers of *Aster*, *Grindelia*, *Haplopappus* and *Thurberia*. Nests in ground individually, but many individuals use a communal entrance. (*Callimelissodes*)
- Biology: Hurd and Linsley, 1959. Ent. News 70: 141-146.
- confusa* Cresson. Alta., Man. and Sask. south through Calif., Ariz. and N. Mex. to southern Mexico (Veracruz and Oaxaca). Probably oligolectic on a wide range of Compositae. (*Eumelissodes*)
- Melissodes tenuitarsis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 462).

- **Melissodes civica* Cockerell, 1910. Ann. Mag. Nat. Hist. (8) 5: 258. ♀.
(Syn. by LaBerge, 1961, *loc. cit. supra*, p. 462.)
- Melissodes atricornis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 462).
- confusiformis confusiformis* Cockerell. Syn. of *coreopsis* Robertson.
- confusiformis incondita* Cockerell. Syn. of *vernoniae* Robertson.
- coreopsis* Robertson. Alta. east to Minn., south to Ill., Tex. and Ariz. Oligolectic on Compositae, principally on *Helianthus* and related genera. (*Eumelissodes*)
- Melissodes semiagilis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 448).
- Melissodes confusiformis confusiformis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 448).
- Melissodes helianthophila* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 448).
- denticulata* Smith. Que. west to N. Dak., south to Fla. and Tex. Oligolectic on *Vernonia*. (*Eumelissodes*)
- Melissodes rustica* Say of Catalog, in part. *M. denticulata* is a valid sp. not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 511).
- Melissodes senilis* Smith (syn. by LaBerge, 1961, *loc. cit. supra*, p. 511).
- Melissodes perplexa* Cresson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 511).
- dentiventris* Smith. Southeastern Canada, Mass. west to Kans., south to Ga. and Tex. Oligolectic on Compositae, principally *Aster*. (*Eumelissodes*)
- Melissodes autumnalis* Robertson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 403).
- Melissodes megacerata* Cockerell (syn. by LaBerge, 1961, *op. cit. supra*, p. 403).
- **elegans* LaBerge. Tex., Kans. Probably oligolectic on Compositae. (*Eumelissodes*)
- Melissodes (Eumelissodes) elegans* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 490. ♀, ♂.
- elusa* LaBerge. Syn. of **collicata* Cockerell.
- **exilis* LaBerge. Ariz. (Tucson). On flowers of *Aster* and *Viguiera*. (*Eumelissodes*)
- Melissodes (Eumelissodes) exilis* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 648. ♀, ♂.
- **expolita* LaBerge. Ariz., south. Calif.; Mexico (Sonora). On flowers of *Baileya*, *Chrysothamnus*, and *Encelia*. (*Eumelissodes*)
- Melissodes (Eumelissodes) expolita* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 505. ♀, ♂.
- **fasciatella* LaBerge. Ariz. On flowers of *Aplopappus*, *Erigeron*, *Gutierrezia* and *Viguiera*. (*Eumelissodes*)
- Melissodes (Eumelissodes) fasciatella* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 445. ♀.
- festinata* Provancher. Syn. of *rustica* (Say).
- fremontii* Cockerell. Syn. of *hymenoxidis* Cockerell.
- **fumosa* LaBerge. Md. to Nebr. south to S. C., Ala., Miss. Oligolectic on Compositae, preferably *Solidago*. (*Eumelissodes*)
- Melissodes (Eumelissodes) fumosa* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 486, figs. 90-91. ♀, ♂.
- **gelida* LaBerge. Mont. and N. Dak. south to N. Mex. and Tex. Oligolectic on Compositae, preferably on *Helianthus*. (*Eumelissodes*)
- Melissodes (Eumelissodes) gelida* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 575. ♀, ♂.

- glenwoodensis* Cockerell. N. Dak. south to N. Mex., west to Wash. and southern Calif. Apparently oligolectic on Compositae, principally on *Chrysothamnus*. (*Callimelissodes*)
- grindeliae* Cockerell. Minn. to Wash., south to southern Calif., Ariz., N. Mex. Oligolectic on various Compositae. (*Eumelissodes*)
- helianthophila* Cockerell. Syn. of *coreopsis* Robertson.
- herricki* Cockerell. Transf. to *Syntrichalonia* LaBerge, p. 1230 as a syn. of *exquisita* (Cresson).
- hewetti* Cockerell. Syn. of *submenuacha* Cockerell.
- **hirsuta* Smith. Syn. of *montana* Cresson.
- humilior* Cockerell. Ariz., N. Mex., west Tex.; Mexico (Chihuahua). Oligolectic on Compositae. (*Eumelissodes*)
Melissodes intermediella Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 592).
- **hurdi* LaBerge. Calif. (Antioch, Oakley, Rio Vista, Turlock). On flowers of *Artemisia*, *Centromadia*, *Eriogonum*, *Grindelia*, *Gutierrezia*, *Lessingia*, and *Solidago*. (*Eumelissodes*)
Melissodes (Eumelissodes) hurdi LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 526. ♀, ♂.
- hymenoxidis* Cockerell. Colo., Wyo., Utah, Mont., Calif. On flowers of *Chrysopsis*, *Grindelia*, and *Hymenoxys*. (*Eumelissodes*)
Melissodes fremontii Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 561).
Melissodes kelloggi Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 561).
- illata* Lovell and Cockerell. P. E. I. to Alta., south to N. C. in the mts. and Ill. Oligolectic on Compositae, especially *Aster* and *Solidago*. (*Eumelissodes*)
- intermedia* Cresson. Transfer to *Nomina Dubia* in *Melissodes*, p. 1229 (*teste* LaBerge, 1961, *loc. cit. supra*, p. 654).
- intermediella* Cockerell. Syn. of *humilior* Cockerell.
- kelloggi* Cockerell. Syn. of *hymenoxidis* Cockerell.
- lavata* Cockerell. Syn. of *menuacha* Cresson.
- **limbus* LaBerge. Ariz. and N. Mex. to central Mexico (Jalisco and Hidalgo). Oligolectic on Compositae, preferably *Aplopappus*, *Baileya*, and *Verbesina*. (*Eumelissodes*)
Melissodes (Eumelissodes) limbus LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 585. ♀, ♂.
- lupina* Cresson. Mont. to Wash., south to Colo., Utah, Nev., Calif.; Mexico (Baja Calif.). Apparently oligolectic on Compositae. (*Callimelissodes*)
**Melissodes catalinensis vanduzeei* Cockerell, 1923. Calif. Acad. Sci. Proc. (4) 12: 86. ♀. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 299.)
- **lustra* LaBerge. Idaho, Oreg., Nev., Calif.; Mexico (Baja Calif.). Oligolectic on Compositae, principally *Chrysothamnus*, *Gutierrezia* and *Isocoma*. (*Callimelissodes*)
Melissodes (Callimelissodes) lustra LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 334, fig. 59. ♀, ♂.
- **lutulenta* LaBerge. B. C. to Sask., south to Calif., Ariz. and Mexico (Guanajuato). Oligolectic on Compositae, principally *Chrysothamnus*, *Grindelia* and *Solidago*. (*Eumelissodes*)
Melissodes (Eumelissodes) lutulenta LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 599. ♀, ♂.
- manipularis* Smith. Fla. to N. C., Va (?). On flowers of *Chrysopsis* and *Petalostemum*. (*Eumelissodes*)

- megacerata* Cockerell. Syn. of *dentiventris* Smith.
- melandri* Cockerell. Syn. of *boltoniae* Robertson.
- melanura* (Cockerell). Calif., Nev. On flowers of *Aster*, *Corethrogyne*, *Eriogonum*, *Eriogonum*, *Gutierrezia*, *Lessingia* and *Solidago*. (*Eumelissodes*)
- menuacha* Cresson, changed status. B. C., Alta. and N. Dak., south to Calif., Tex., and Ill.; Mexico (Chihuahua, Zacatecas). Probably oligolectic on Compositae, principally *Grindelia* and *Solidago*. Ch. from subsp. to sp. by LaBerge, 1961, *loc. cit. supra*, p. 419. Remove *submenuachus*, a valid sp., from synonymy. (*Eumelissodes*)
- Melissodes pallida* Robertson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).
- Melissodes mizeae* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).
- Melissodes blakei* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).
- Melissodes lavata* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).
- Melissodes octobris* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).
- menuachus senilupina* Cockerell. Raised to sp. rank.
- menuachus vernonensis* Viereck. Syn. of *pallidisignata* Cockerell.
- metenua* Cockerell, changed status. Wash. to northern Calif., Idaho, Wyo., Utah. On flowers of *Cosmos*, *Eriogonum*, and *Melilotus*. (*Callimelissodes*)
- Melissodes metenua metenua* Cockerell. Raised to sp. rank (*teste* LaBerge, 1961, *loc. cit. supra*, p. 312, figs. 46-49).
- metenua ablusa* Cockerell. Raised to sp. rank.
- **micheneri* LaBerge. Southern and central Calif. Oligolectic on Compositae, preferably *Chrysothamnus* and *Chrysopsis*. (*Eumelissodes*)
- Melissodes (Eumelissodes) micheneri* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 642. ♀, ♂.
- microsticta* Cockerell. B. C. to Sask. south to southern Calif., Nev., Utah., Colo., and Tex. Oligolectic on Compositae. (*Eumelissodes*)
- **minuscula* LaBerge. Calif. Taken on flowers of *Cressa* and *Heliotropum*. (*Callimelissodes*)
- Melissodes (Callimelissodes) minuscula* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 323. ♀, ♂.
- mizeae* Cockerell. Syn. of *menuacha* Cresson.
- **monoensis* LaBerge. Calif. (Mono Co.). On flowers of *Chrysothamnus*. (*Eumelissodes*)
- Melissodes (Eumelissodes) monoensis* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 623. ♀, ♂.
- montana* Cresson. Colo. and Utah, south through Tex., N. Mex., and Ariz. to south. Mexico (Oaxaca). Oligolectic on Compositae. (*Eumelissodes*)
- **Melissodes hirsuta* Smith, 1879. Descr. n. spp. Hym. Brit. Mus., p. 116. ♂. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 469.)
- **Eucera oajacana* Dalla Torre, 1896. Cat. Hym. v. 10, p. 242. N. name for *hirsuta* Smith, a secondary homonym in *Eucera*.
- **Melissodes atrifera* Cockerell, 1910. Ann. and Mag. Nat. Hist (8) 5: 256. ♂. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 469).
- Melissodes atrifera sandiarum* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 469).
- moorei* Cockerell. Calif. Probably oligolectic on Compositae, principally *Grindelia* and *Hemizonia*. (*Eumelissodes*)
- **nigracauda* LaBerge. Calif. On flowers of *Erigeron*, *Senecio*, and *Stephanomeria*. (*Callimelissodes*)

- Melissodes (Callimelissodes) nigrauda* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 327, figs. 54-57. ♀, ♂.
- nigrosignata* Cockerell. (Synonymized under *rivalis* Cresson in Sup. 1, p. 252.) Remove *nigrosignata pallidisignata* Cockerell, a valid sp., from synonymy in Catalog, p. 1227.
- nivea* Robertson. N. Y. to Minn. and Kans., south to N. C., Ala., and Miss. Probably oligolectic on Compositae. (*Eumelissodes*)
- **oajacana* (Dalla Torre). Syn. of *montana* Cresson.
- **ochraea* LaBerge. South. Calif., Ariz. Taken on flowers of *Gutierrezia* and *Isocoma*. (*Eumelissodes*)
- Melissodes (Eumelissodes) ochraea* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 428. ♀, ♂.
- octobris* Cockerell. Syn. of *menuacha* Cresson.
- pallida* Robertson. Syn. of *menuacha* Cresson.
- pallidisignata* Cockerell, changed status. B. C. to Man., south through south. Calif. and N. Mex. to central Mexico (Aguascalientes). Oligolectic on Compositae, especially *Chrysothamnus*, *Erigeron*, *Grindelia*, *Isocoma*, and *Layia*. (*Eumelissodes*)
- Melissodes nigrosignata* Cockerell of Catalog, in part. *M. pallidisignata* is a valid sp., not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 529).
- Melissodes menuachus vernonensis* Viereck (syn. by LaBerge, 1961, *loc. cit. supra*, p. 529).
- Melissodes praelauta* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 529).
- Biology: Thorp and Chemsak, 1964. Pan-Pacific Ent. 40: 75-83, 2 figs.
- paroselae* Cockerell. (*Melissodes*)
- Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 8.—Butler, Todd, McGregor and Werner, 1962. Univ. Ariz. Agr. Expt. Sta. Tech. Bul. 139: 1-11.
- **paucipuncta* LaBerge. Ariz. Possibly oligolectic on *Opuntia*. (*Eumelissodes*)
- Melissodes (Eumelissodes) paucipuncta* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 650. ♀, ♂.
- **paulula* LaBerge. Wash. to southern Calif. Oligolectic on Compositae, preferably *Gutierrezia*, *Isocoma*, and *Solidago*. (*Eumelissodes*)
- Melissodes (Eumelissodes) paulula* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 631. ♀, ♂.
- pecosella* Cockerell. Syn. of *subagilis* Cockerell.
- pennsylvanica* (Lepeletier). Transfer to *Nomina Dubia* in *Melissodes*, p. 1229 (*teste* LaBerge, 1961, *loc. cit. supra*, p. 654).
- perlusa* Cockerell, changed status. Alta. and Man., south to Iowa and Ariz. Probably oligolectic on *Helianthus*. (*Eumelissodes*)
- Melissodes semiagilis* Cockerell, in part. *M. perlusa* is a valid sp. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 409).
- perplexa* Cresson. Syn. of *denticulata* Smith.
- **perpolita* LaBerge. Ariz., Colo., Utah (?). On flowers of *Aster*, *Chaemataxis* and *Grindelia*. (*Eumelissodes*)
- Melissodes (Eumelissodes) perpolita* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 443. ♀, ♂.
- personatella* Cockerell. Central and southern Calif. Oligolectic on Compositae, principally *Gutierrezia*. (*Eumelissodes*)
- **pexa* LaBerge. Ariz.; Mexico (Coahuila, Chihuahua). On flowers of *Lepidium*. (*Eumelissodes*)
- Melissodes (Eumelissodes) pexa* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 621. ♀, ♂.

- ***pilleata** LaBerge. N. C. On flowers of *Aster*, *Chrysopsis*, *Gerardia*, and *Kuhnistera*. (*Eumelissodes*)
Melissodes (Eumelissodes) pilleata LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 459. ♀, ♂.
- ***plumosa** LaBerge. Wash. to Calif., N. Dak. (?). Visits flowers of *Encelia* and *Helianthus*. (*Callimelissodes*)
Melissodes (Callimelissodes) plumosa LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 308, figs. 42-45. ♀, ♂.
- praelauta** Cockerell. Syn. of **pallidesignata** Cockerell.
- ***pullatella** LaBerge. Oreg. On flowers of *Grindelia*. (*Eumelissodes*)
Melissodes (Eumelissodes) pullatella LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 620. ♀.
- ***relucens** LaBerge. Tex. (El Paso and Big Bend Natl. Pk.). Taken on flowers of *Isocoma*. (*Eumelissodes*)
Melissodes (Eumelissodes) relucens LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 437. ♀, ♂.
- robustior** Cockerell. Wash., Oreg., Idaho, Nev., Calif. Oligolectic on Compositae, preferably *Helianthus*. (*Eumelissodes*)
 Biology: MacSwain, 1958. Pan-Pacific Ent. 34: 40.—Chemsak and Thorp, 1962. Pan-Pacific Ent. 38: 53-55.
- rustica** (Say). N. S. to Sask., south to Ga., La., N. Mex. and southern Mexico (Oaxaca), but not known in Tex. and Okla. Oligolectic on Compositae. Remove **denticulata** Smith, a valid sp., and its synonym **senilis** Smith, from synonymy. (*Eumelissodes*)
 **Melissodes assimilis* Smith, 1879. Descr. n. spp. Hym. Brit. Mus., p. 114. ♀. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 543.)
 **Melissodes ambigua* Smith, 1879. Descr. n. spp. Hym. Brit. Mus., p. 116. ♀. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 543.)
Melissodes festinata Provancher (syn. by LaBerge, 1961, *loc. cit. supra*, p. 543).
Melissodes asteris Robertson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 543).
- saponellus** Cockerell. Wash., Oreg., Utah, Colo. On flowers of *Bahia*, *Chaenactis*, *Sphaeralcea* and Alsike clover. (*Eumelissodes*)
- semiagilis** Cockerell. Syn. of **coreopsis** Robertson; transfer **perlusa**, a valid sp., from synonymy.
- semilupina** Cockerell, changed status. B. C. south to Calif., east to Colo. and N. Mex. Oligolectic on flowers of *Chrysothamnus*. (*Eumelissodes*)
Melissodes menuachus semilupina Cockerell. Raised to sp. rank (*teste* LaBerge, 1961, *loc. cit. supra*, p. 425).
Melissodes chrysothamni Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 425).
- semitristis** Cockerell. Syn. of **tristis** Cockerell.
- snowii** Cresson. Alta., Man., Colo., N. Mex., Nebr., N. Dak. Probably oligolectic on Compositae, principally *Helianthus*. (*Eumelissodes*)
- stearnsi** Cockerell. Wash., Oreg., Calif. Visiting many flowers. (*Callimelissodes*)
- subagilis** Cockerell. Minn., Alta. and Wash. south to northern Calif., Ariz. and Tex. Oligolectic on *Grindelia*. (*Eumelissodes*)
Melissodes agilis Cresson of Catalog, in part. **M. subagilis** is a valid sp. not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 579).
Melissodes pecosella Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 579).
Xenoglossodes excurrens melanaspis (Cockerell) (syn. by LaBerge, 1961, *loc. cit. supra*, p. 579).
Xenoglossodes albertensis Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 579).

- ***subillata** LaBerge. Que. to Sask., south to N. C. and Ill. Oligolectic on Compositae. (*Eumelissodes*)
Melissodes (*Eumelissodes*) subillata LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 568, figs. 99-101. ♀, ♂.
- submenuacha** Cockerell, changed status. Ariz., N. Mex., western Tex. On flowers of *Aplopappus*, *Bidens*, *Cleome*, *Helianthus*, *Hymenothrix*, *Isocoma*, *Medicago* and *Verbesina*; probably oligolectic on Compositae. (*Eumelissodes*)
Melissodes menuachus menuachus Cresson of Catalog, in part. **M. submenuacha** is a valid sp. not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 414).
Melissodes hewetti Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 414).
- tenuitarsis** Cockerell. Syn. of **confusa** Cresson.
- tepidum yumensis** LaBerge. (*Melissodes*)
 Biology: Butler, Todd, McGregor and Werner, 1962. Univ. Ariz. Agr. Expt. Sta. Tech. Bul. 139: 1-11.
- thelypodii thelypodii** Cockerell. (*Melissodes*)
 Biology: Butler, Todd, McGregor and Werner, 1962, Univ. Ariz. Agr. Expt. Sta. Tech. Bul. 139: 1-11.
- ***tincta** LaBerge. Minn. and Mich. south to Tex. and Fla. Oligolectic on Compositae, preferably *Aster* and *Chrysopsis*. (*Eumelissodes*)
Melissodes (*Eumelissodes*) tincta LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 493. ♀, ♂.
- ***tribas** LaBerge. Calif. (San Diego). (*Callimelissodes*)
Melissodes (*Callimelissodes*) tribas LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 326. ♀.
- trinodis** Robertson. Southeast. Canada, Kans. and N. Dak. east to Maine and Ga. Oligolectic on Compositae, principally *Helianthus*. (*Eumelissodes*)
- tristis** Cockerell. Nebr. to Calif., south through Tex. and Ariz. to southern Mexico (Puebla). Visits flowers of Leguminosae, Compositae and Malvaceae. (*Eumelissodes*)
Melissodes semitristis Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 473).
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 8.
- tuckeri** Cockerell. Mont., S. Dak., Nebr., Kans., Tex. On flowers of *Aster* and *Heterotheca*. (*Callimelissodes*)
- ***utahensis** LaBerge. Utah and Nev., south to south. Calif. and Ariz., Nebr. On flowers of *Chaemataxis*, *Chrysothamnus* and *Gutierrezia*. (*Eumelissodes*)
Melissodes (*Eumelissodes*) utahensis LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 602, figs. 109-110. ♀, ♂.
- ***vanduzeei** Cockerell. Syn. of **lupina** Cresson.
- velutina** (Cockerell). South. and cent. Calif. Oligolectic on Polemoniaceae, principally *Hugelia*. (*Eumelissodes*)
- verbesinarum** Cockerell, changed status. Transf. from **Xenoglossodes**, p. 1230. Wash. to southern Calif., east to Nev. and Tex.; Mexico (Chihuahua to Jalisco). Oligolectic on various Compositae. (*Eumelissodes*)
- ***vernalis** LaBerge. Wash. and Nev. to southern Calif. and Ariz.; Mexico (Baja California, Sonora, and Hidalgo). Oligolectic on Compositae, preferably *Encelia* and *Geraea*. (*Eumelissodes*)
Melissodes (*Eumelissodes*) vernalis LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 608, figs. 113-114. ♀, ♂.
- vernoniae** Robertson. Ind., Minn., and Idaho, south to N. Mex. and Tex. Oligolectic on *Vernonia*, and perhaps other Compositae. (*Eumelissodes*)

Melissodes confusiformis incondita Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 517).

wheeleri Cockerell. Mich. and N. Dak. south to La. and Ariz. Oligolectic on Compositae, preferably on *Gaillardia*, *Helianthus* and *Rudbeckia*. (*Eumelissodes*)

Nomina Dubia in *Melissodes* Latreille

Place after Genus *Melissodes*, p. 1229.

americana (Lepeletier). Transf. from p. 1223.

intermedia Cresson. Transf. from p. 1225.

pennsylvanica (Lepeletier). Transf. from p. 1227.

philadelphica (Lepeletier). Transf. from synonymy of *Peponapis pruinosa* (Say), p. 1221.

Genus *SVASTRA* Holmberg, Sup. 1, p. 253

SVASTRA subgenus *BRACHYMELISSODES* LaBerge, Sup. 1, p. 253

brevicornis (Cresson). Iowa.

SVASTRA subgenus *EPIMELISSODES* Ashmead, Sup. 1, p. 254

machaerantherae (Cockerell). N. Mex., Ariz., Calif. On flowers of *Asclepias*, *Baccharis*, *Cryptantha*, *Haplopappus*, *Helonium*, *Kallstroemia* and *Melilotus*.

obliqua obliqua (Say).

Biology: Rozen, 1964. Amer. Mus. Novitates no. 2170, pp. 1-13, 15 figs.

**pallidior* LaBerge. Calif. (Riverside Co.). On flowers of *Hoffmanseggia*.

Svastra (*Epimelissodes*) *pallidior* LaBerge, 1963. Kans. Ent. Soc. Jour. 36: 52. ♀, ♂.

sila (LaBerge). On flowers of *Heterotheca*. Mexico (Baja Calif.).

Genus *XENOGLOSSODES* Ashmead, pp. 1229-1230

albertensis Cockerell. Transf. to *Melissodes* as a syn. of *subagilis* Cockerell.

excurrens melanaspis (Cockerell). Transf. to *Melissodes* as a syn. of *subgailis* Cockerell.

excurrens verbosinarum (Cockerell). Transf. to *Melissodes* as a valid sp.

*Genus *SYNTRICHALONIA* LaBerge

Syntrichalonia LaBerge, 1957. Amer. Mus. Novitates 1837: 10.

Type: *Melissodes exquisita* Cresson. By monotypy and orig. desig.

Place before *Tetralonia* Spinola, p. 1230.

**exquisita* (Cresson). N. Mex.; Mexico.

Melissodes exquisita Cresson, 1878. Acad. Nat. Sci. Phila. Proc. 30: 213. ♀.

Melissodes herricki Cockerell (transf. from *Melissodes*, p. 1225, and syn. by LaBerge, 1957. Amer. Mus. Novitates 1837: 10).

Genus *TETRALONIA* Spinola, pp. 1230-1233

atriventris (Smith). Ga., Minn. On flowers of *Aesculus*, *Astragalus*, *Lupinus*, *Mertensia*, *Robinia*, and *Vicia*.

Tetralonia robertsoni Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 313.

belfragei (Cresson). Mich. Visits many flowers.

fulvohirta (Cresson). On flowers of *Elaeagnus* and *Vicia*.

hamata Bradley. Md. to Ga., west to Wis. and Miss. Visits a large number of flowers, particularly Leguminosae, Rosaceae, Labiatae, and Compositae.

dilecta (Cresson). Syn. of *speciosa* (Cresson).

robertsoni Cockerell. Syn. of *atriventris* (Smith).

rosae (Robertson). Va. Visits chiefly Labiatae, Leguminosae, Rosaceae, and Scrophulariaceae.

speciosa (Cresson).

Tetralonia dilecta (Cresson). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 321.

**venusta carinata* Timberlake. Calif. (San Benito and Tuolumne Counties).

Tetralonia venusta carinata Timberlake, 1961. Pan-Pacific Ent. 37: 212. ♂.

**venusta venusta* Timberlake. Calif., Nev. On flowers of *Oenothera* and *Larrea*.

Tetralonia venusta Timberlake, 1961. Pan-Pacific Ent. 37: 209. ♀, ♂.

ANTHOPHORA subgenus ANTHOPHORA Latreille, pp. 1233-1237

abrupta Say. Fla., La. On many flowers, especially Labiatae, Leguminosae and Rosaceae.

bomboides bomboides Kirby. Ga. On flowers of *Ceanothus* and *Pentstemon*

montana Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 9.

occidentalis Cresson. Nests in clay banks.

Biology: Hobbs, Nummi and Virostek, 1961. Canad. Ent. 93: 142-148.

raui Rohwer. Colo. to N. Y.

smithii Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161-162, fig. 9.

urbana urbana Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 9.

ursina ursina Cresson. New England states. On a number of flowers, particularly Leguminosae and Scrophulariaceae.

walshii Cresson. On flowers of *Abutilon*, *Baptisia*, *Blephila*, *Cassia*, *Chamaecrista*, *Cirsium*, *Helianthus*, *Lespedeza*, *Lobelia*, *Petalostemum*, *Ruellia* and *Teucrium*.

ANTHOPHORA subgenus CLISODON Patton, p. 1237

furcata terminalis Cresson. Maine, Wis. Nests in borings in wood. On flowers of *Blephilia*, *Medicago*, *Monarda*, *Pentstemon*, *Prunella*, *Rosa*, *Salvia*, and *Scutellaria*.

Biology: Medler, 1964. Canad. Ent. 96: 1332-1336, 4 figs.

Anthophora subgenus *Amegilla* Friese, p. 1237

Delete this heading and synonymy and transfer component species to *Anthophora* subg. *Anthophora*, pp. 1233-1237. *Amegilla* does not occur in North America (*teste* Michener, 1960. Queensland Nat. 16: 63).

Genus EMPHOROPSIS Ashmead, pp. 1239-1240

Psithyrus subg. *Laboriopsithyrus* Frison, p. 1254, was automatically synonymized under *Emphoropsis*, when Mitchell (1962, *loc. cit. supra*, p. 332) transferred its genotype to *Emphoropsis*.

**excellens* Timberlake. Calif. (Kern Co.).

Emphoropsis excellens Timberlake, 1962. Ent. News 73: 36. ♀, ♂.

floridana fedorensis Cockerell. Change to *laboriosa fedorensis*.

floridana floridana (Smith). Syn. of *laboriosa laboriosa* (Fabricius).

laboriosa fedorensis Cockerell. Replaces the heading *floridana fedorensis* Cockerell.

laboriosa laboriosa (Fabricius), new status. New England states to Ill., south to Fla. and Miss. On flowers of *Cercis*, *Cirsium*, *Dicentra*, *Lupinus*, *Malus*, *Melilotus*, *Prunus*, *Vaccinium*, and *Vicia*.

Psithyrus (Labiopsithyrus) laboriosus (Fabricius) of Catalog, in part. *P. laboriosus* transf. to *Emphoropsis*, p. 1239 (teste Mitchell, 1962, *loc. cit. supra*, p. 332).

Emphoropsis floridana floridana (Smith). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 332.

miserabilis (Cresson). Oreg. Stores pollen of *Lupinus*, *Convolvulus* and *Abronia*.

Taxonomy: Torchio and Stephen, 1961. Ent. Soc. Amer. Ann. 54: 683-687, 7 figs. (larva and pupa).

Biology: Stephen and Torchio, 1961. Ent. Soc. Amer. Ann. 54: 687-692, 2 figs.

murihirta Cockerell. B. C.

Genus **HEMISIA** Klug, pp. 1240-1241

lanosa lanosa Cresson. Okla., Fla.

versicolor (Fabricius). On flowers of *Borrchia*, *Byrsonima*, *Carymbola*, *Eugenia*, *Ocimum*, *Securidaca* and *Thryallis*.

MELECTA subgenus **MELECTA** Latreille, p. 1242

pacifica atlantica Linsley. N. J. to Ga., west to Kans. and Ala. On flowers of *Fragaria*, *Lithospermum* and *Pentstemon*. Host: ? *Anthophora* (A.) *u. ursina* Cr.

XEROMELECTA subgenus **MELECTOMORPHA** Linsley, *Sup. 1*, p. 258, p. 1243

californica (Cresson). Ill. Host: *Anthophora occidentalis* Cr.

Biology: Hobbs, Nummi and Virostek, 1961. Canad. Ent. 93: 146.—Linsley, 1962. Ent. Soc. Amer. Ann. 55: 162-163, fig. 8.

interrupta (Cresson). Ariz. and Colo. east to Minn., Wis. and Ill. On flowers of *Pycnanthemum*. Host: *Anthophora* (A.) *abrupta* Say.

Genus **ERICROCIS** Cresson, p. 1244

lata (Cresson). Fla. to southern Calif.

CERATINA subgenus **CERATINULA** Moure, *Sup. 1*, p. 259

cockerelli H. S. Smith. Ga. On flowers of *Bidens*, *Erigeron*, *Euphorbia*, and *Polygala*.

CERATINA subgenus **ZADONTOMERUS** Ashmead, pp. 1244-1245

calcarata Robertson. Visits flowers of many families. Nests in borings in sumac pith.

Biology: Krombein, 1960. Ent. News 71: 68.

dupla dupla Say, changed status. Visits a great many flowers in various families.

Ceratina (Zadontomerus) dupla Say. Reduced to subsp. rank (teste Mitchell, 1962, *loc. cit. supra*, p. 503).

***dupla floridana** Mitchell. N. C. to Fla., coastal. Visits a number of flowers.

Ceratina dupla floridana Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 505. ♂, ♀.

metallica H. S. Smith. N. Y. On flowers of *Asclepias*, *Chrysanthemum*, *Fragaria*, *Geranium*, *Helianthus*, *Oenothera*, *Prunus*, *Rubus*, *Senecio* and *Vaccinium*. Nests in borings in sumac pith.

Biology: Krombein, 1960. Ent. News 71: 68.

Tribe **XYLOCOPINI**

Revision: Hurd and Moure, 1963. Univ. Calif. Pubs. Ent. 29: 1-365, 244 figs. (reclassification of genera and subgenera of world).

Genus *XYLOCOPA* Latreille, pp. 1245-1246

**Xylocopa* subg. *Stenoxycopa* Hurd and Moure, 1960. Ent. Soc. Amer. Ann. 53: 809.

Type: *Xylocopa artifex* Smith. Orig. desig.

Revision: Hurd, 1961. Amer. Ent. Soc. Trans. 87: 247-257, 2 pls. (subg. *Xylocopoides* Michener).

artifex Smith. Nests in dead bamboo and other hollow stems. Transfer from (*Neoxycopa*) to (*Stenoxycopa*).

Taxonomy and Biology: Hurd and Moure, 1960. Ent. Soc. Amer. Ann. 53: 809.

brasilianorum varipuncta Patton. Nests in rotting wood. Delete Hawaii from distribution.

Biology: Hurd, 1958. Ent. Soc. Amer. Ann. 51: 369, fig. 1.

californica arizonensis Cresson. Nests in structural redwood; also in yucca and agave.

Biology: Hurd, 1958, *loc. cit. supra*, pp. 369-371.

micans Lepeletier. Va. Visits a number of flowers. Nests in sound, dead privet. Remove ? in front of *nasuta* citation, add Preocc. after *nasuta* citation, and add N. name after *ridua* citation.

Biology: Hurd, 1958, *loc. cit. supra*, p. 373, fig. 4.

tabaniformis androleuca Michener. Nests in structural Douglas fir wood.

Biology: Hurd, 1958, *loc. cit. supra*, p. 373.

**virginica krombeini* Hurd. Southern Fla. (*Xylocopoides*)

Xylocopa (*Xylocopoides*) *virginica krombeini* Hurd, 1961. Amer. Ent. Soc. Trans. 87: 251. ♂, ♀.

virginica virginica (Linnaeus). Visits a number of flowers. Nests in dead, sound wood of many trees, including structural timber.

Biology: Hurd, 1958, *loc. cit. supra*, pp. 373-374, fig. 5.—Balduf, 1962. Ent. Soc. Amer. Ann. 55: 263-271, 3 figs.—Sabrosky, 1962. Ent. Soc. Wash. Proc. 64: 184 (mating behavior).

Morphology: Milliron, 1958. Brooklyn Ent. Soc. Bull. 53: 66-68 (gynandromorph).

Tribe BOMBINI

Taxonomy: Stephen, 1957. Oreg. Agr. Expt. Sta. Tech. Bul. 40: 1-163, 31 figs., 18 maps (revision of western spp.).—Milliron, 1961. Kans. Ent. Soc. Jour. 34: 49-61 (generic reclassification).—Medler, 1962. Ent. Soc. Amer. Ann. 55: 212-218, 1 fig., 4 tables (morphometric studies).—Medler and Carney, 1963. Wis. Agr. Expt. Sta. Res. Bull. 240: 1-47 (Wisconsin spp.).—Hazeltine and Chandler, 1964. Kans. Ent. Soc. Jour. 37: 77-87, 6 pls. (queens).

Biology: Medler, 1962. Canad. Ent. 94: 825-833, 1 fig., 3 tables (egg development and absorption).—Hobbs, 1964. Canad. Ent. 96: 115-116 (brood-rearing behavior).

Section *Boopobombus* Frison, p. 1247

Delete this sectional heading; the component groups comprise subgenera belonging to two different genera (*teste* Milliron, 1961, *loc. cit. supra*, p. 53).

BOMBUS subgenus **FRATERNOBOMBUS** Skorikov, p. 1247

Transf. with component species to *Pyrobombus* subg. *Cullumanobombus* Vogt.

BOMBUS subgenus **BOMBIAE** Robertson, p. 1247

Transf. with component species to *Megabombus* subg. *Bombias* Robertson.

BOMBUS subgenus **SEPARATOBOMBUS** Frison, p. 1248

Transf. with component species to **Pyrobombus** subg. **Cullumanobombus** Vogt.

BOMBUS subgenus **CROTCHIBOMBUS** Franklin, Sup. 1, p. 260

Transf. with included species to **Pyrobombus** subg. **Cullumanobombus** Vogt.

Section **Odontobombus** Krueger, p. 1249

Delete this sectional heading; it is equivalent to **Megabombus** subg. **Megabombus** Dalla Torre (*teste* Milliron, 1961, *loc. cit. supra*, p. 53).

BOMBUS subgenus **SUBTERRANEOBOMBUS** Vogt, p. 1249

Transf. with included species to **Megabombus** subg. **Megabombus** Dalla Torre.

BOMBUS subgenus **FERVIDOBOMBUS** Skorikov, p. 1249

Transf. with component species to **Megabombus** subg. **Megabombus** Dalla Torre.

Section **Anodontobombus** Krueger, p. 1249

Delete this sectional heading: it is equivalent to **Pyrobombus** subg. **Pyrobombus** Dalla Torre (*teste* Milliron, 1961, *loc. cit. supra*, p. 53).

BOMBUS subgenus **ALPINOBOMBUS** Skorikov, pp. 1253-1254

Transf. with included species to **Megabombus** subg. **Megabombus** Dalla Torre.

Genus **BOMBUS** Latreille

(= **Bombus** subg. **Bombus** Latreille, p. 1250)

affinis Cresson.

Bombus (**Bombus**) **affinis** var. **novae-angliae** Bequaert. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 518.

affinis var. **novae-angliae** Bequaert. Syn. of **affinis** Cresson.

occidentalis nigroscutatus Franklin. Coastal north. Calif.

occidentalis occidentalis Greene. Western U. S. and Canada except coastal north. Calif.

Bombus occidentalis var. **proximus** Cresson (syn. by Stephen, 1957. Oreg. Agr. Expt. Sta. Tech. Bul. 40: 72).

occidentalis var. **proximus** Cresson. Syn. of **occidentalis occidentalis** Greene.

* Genus **MEGABOMBUS** Dalla Torre**MEGABOMBUS** subgenus **BOMBIAS** Robertson

(= **Bombus** subg. **Bombias** Robertson, p. 1247)

auricomus (Robertson). A subsp. of **nevadensis** Cresson.

nevadensis auricomus (Robertson), changed status.

Bombus (**Bombias**) **auricomus** (Robertson). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 520).

MEGABOMBUS subgenus **MEGABOMBUS** Dalla Torre

***Megabombus** Dalla Torre, 1880. Der Naturhist. 2: 40.

Type: (**Bombus ligusticus** Spinola) = **Apis argillacea** Scopoli.
By monotypy.

Bombus subg. **Subterraneobombus** Vogt (syn. by Milliron, 1961, *loc. cit. supra*, p. 56).

Bombus subg. **Fervidobombus** Skorikov (syn. by Milliron, 1961, *loc. cit. supra*, p. 56).

Bombus subg. **Alpinobombus** Skorikov (syn. by Milliron, 1961, *loc. cit. supra*, p. 56).

balteatus (Dahlbom). Calif.

Biology: Hobbs, 1964. *Canad. Ent.* 96: 1465-1470, 6 figs.

americanorum (Fabricius). Syn. of *pennsylvanicus* (Degeer).

pennsylvanicus (Degeer). Transf. from Unplaced Species in Genus *Bombus*, p. 1254.

Bombus (Ferridobombus) americanorum (Fabricius). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 524.

sonorus (Say), changed status.

Bombus sonorus sonorus Say. Raised to sp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 40).

Bombus sonorus flavodorsalis Franklin (syn. by Stephen, 1957, *loc. cit. supra*, p. 40).

sonorus flavodorsalis (Franklin). Syn. of *sonorus* (Say).

Genus PYROBOMBUS Dalla Torre

PYROBOMBUS subgenus CULLUMANOBOMBUS Vogt

Bombus subg. *Fraternobombus* Skorikov (syn. by Milliron, 1961, *loc. cit. supra*, p. 57).

Bombus subg. *Separatobombus* Frison (syn. by Milliron, 1961, *loc. cit. supra*, p. 57).

Bombus subg. *Crotchiiobombus* Franklin (syn. by Milliron, 1961, *loc. cit. supra*, p. 57).

crotchii crotchii (Cresson).

Bombus crotchii var. *nigricaudus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 57).

crotchii var. *nigricaudus* (Frison). Syn. of *crotchii crotchii* Cresson.

griseocollis (Degeer).

Bombus (Separatobombus) griseocollis var. *mormonorum* Franklin (syn. by Stephen, 1957, *loc. cit. supra*, p. 50).

Bombus (Separatobombus) griseocollis var. *nero* (Bequaert and Plath). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 527.

griseocollis var. *mormonorum* (Franklin). Syn. of *griseocollis* (Degeer).

griseocollis var. *nero* (Bequaert and Plath). Syn. of *griseocollis* (Degeer).

morrisoni var. *umbrosus* Friese. Change Canada to Colo.

rufocinctus (Cresson).

Bombus rufocinctus var. *albertensis* Cockerell (syn. by Stephen, 1957, *loc. cit. supra*, p. 62).

Bombus rufocinctus var. *iridis* Cockerell and Porter (syn. by Stephen, 1957, *loc. cit. supra*, p. 62).

Bombus rufocinctus var. *prunellae* Cockerell and Porter (syn. by Stephen, 1957, *loc. cit. supra*, p. 62).

rufocinctus var. *albertensis* (Cockerell). Syn. of *rufocinctus* (Cresson).

rufocinctus var. *iridis* (Cockerell and Porter). Syn. of *rufocinctus* (Cresson).

rufocinctus var. *prunellae* (Cockerell and Porter). Syn. of *rufocinctus* (Cresson).

PYROBOMBUS subgenus PYROBOMBUS Dalla Torre

(= *Bombus* subg. *Protobombus* Vogt, pp. 1250-1253)

bifarius bifarius (Cresson), changed status.

Bombus bifarius Cresson. Reduced to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 142).

Bombus bifarius var. *kenoyeri* Cockerell (syn. by Stephen, 1957, *loc. cit. supra*, p. 142).

Bombus bifarius var. *vancouverensis* Cresson (syn. by Stephen, 1957, *loc. cit. supra*, p. 142).

Bombus edwardsii var. *fuscifrons* Swenk (syn. by Stephen, *loc. cit. supra*, p. 142).

bifarius nearcticus (Handlirsch), changed status.

Bombus bifarius var. *nearcticus* Handlirsch. Raised to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 145).

bifarius var. *kenoyeri* (Cockerell). Syn. of *bifarius bifarius* (Cresson).

bifarius var. *nearcticus* (Handlirsch). Raised to subsp. rank.

bifarius var. *vancouverensis* (Cresson). Syn. of *bifarius bifarius* (Cresson).

caliginosus (Frison).

Bombus caliginosus var. *tardus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 100).

caliginosus var. *tardus* (Frison). Syn. of *caliginosus* (Frison).

centralis (Cresson).

Bombus centralis var. *fucatus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 95).

Bombus centralis var. *monardae* Cockerell and Porter (syn. by Stephen, 1957, *loc. cit. supra*, p. 95).

Bombus centralis var. *stolidus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 95).

centralis var. *fucatus* (Frison). Syn. of *centralis* (Cresson).

centralis var. *monardae* (Cockerell and Porter). Syn. of *centralis* (Cresson).

centralis var. *stolidus* (Frison). Syn. of *centralis* (Cresson).

edwardsii var. *fuscifrons* (Swenk). Syn. of *bifarius bifarius* (Cresson).

edwardsii var. *russulus* (Frison). Syn. of *mixtus* (Cresson).

flavifrons dimidiatus (Ashmead), changed status. Calif. to south. B. C.

Bombus flavifrons var. *dimidiatus* Ashmead. Raised to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 92).

Bombus flavifrons var. *ambiguus* Franklin (syn. by Stephen, 1957, *loc. cit. supra*, p. 92).

flavifrons flavifrons (Cresson), changed status.

Bombus flavifrons Cresson. Reduced to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 88).

Taxonomy: Milliron, 1962. Brooklyn Ent. Soc. Bul. 57: 45-46 (gynandromorph).

flavifrons var. *ambiguus* (Franklin). Syn. of *flavifrons dimidiatus* (Ashmead).

flavifrons var. *dimidiatus* (Ashmead). Raised to subsp. rank.

flavifrons var. *vandykei* (Frison). Raised to sp. rank.

frigidus (Smith).

Bombus frigidus var. *couperi* Cresson (syn. by Stephen, 1957, *loc. cit. supra*, p. 124).

frigidus var. *couperi* (Cresson). Syn. of *frigidus* (Smith).

frigidus var. *sandersoni* Franklin. Raised to sp. rank.

huntii (Greene).

Bombus huntii var. *rufosuffusus* Cockerell (syn. by Stephen, 1957, *loc. cit. supra*, p. 135).

Biology: Medler, 1959. Ent. News 70: 179-182.

huntii var. *rufosuffusus* (Cockerell). Syn. of *huntii* (Greene).

impatiens Cresson.

Bombus impatiens var. *deayi* Chandler. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 532.

impatiens var. *deayi* Chandler. Syn. of *impatiens* Cresson.

melanopygus (Nylander).

Bombus melanopygus var. *washingtonensis* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 132).

- melanopygus* var. *washingtonensis* (Frison). Syn. of *melanopygus* (Nylander).
- mixtus* (Cresson).
Bombus edwardsii var. *russulus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 113).
- perplexus* Cresson.
Apathus dorsalis Provancher. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 533. (This species listed under Unplaced Species in Genus Psithyrus, Sup. 1, p. 261.)
- sandersoni* Franklin, changed status. Ont. to Newfoundland, south to Tenn. and N. C. On flowers of *Epilobium*, *Malus*, *Pentstemon*, *Rhododendron* and *Rhus*.
Bombus (Pratobombus) frigidus var. *sandersoni* Franklin. Raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 534).
- sylvicola* (Kirby). Calif., Nev., N. Mex.
Bombus sylvicola var. *gelidus* Cresson (syn. by Stephen, 1957, *loc. cit. supra*, p. 126).
Bombus sylvicola var. *sculleni* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 126).
- sylvicola* var. *gelidus* (Cresson). Syn. of *sylvicola* (Kirby).
sylvicola var. *sculleni* (Frison). Syn. of *sylvicola* (Kirby).
- ternarius* Say.
Bombus (Pratobombus) ternarius var. *expallidus* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 536.
- ternarius* var. *expallidus* Cockerell. Syn. of *ternarius* Say.
- vagans vagans* (Smith).
Bombus (Pratobombus) vagans var. *coctus* (Bequaert and Plath). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 537.
Bombus (Pratobombus) vagans var. *helenae* (Frison). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 537.
- vagans* var. *coctus* (Bequaert and Plath). Syn. of *vagans vagans* (Smith).
vagans var. *helenae* (Frison). Syn. of *vagans vagans* (Smith).
- vandykei* (Frison).
Bombus flavifrons var. *vandykei* (Frison). Raised to sp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 106).

Unplaced Species in Genus *Bombus*, p. 1254

- Apis pennsylvanica* Degeer. Transf. to *Megabombus* subg. *Megabombus* where it replaces *americanorum* (Fabricius).
Bombus bruneri Swenk, 1938. Delete this entry from Catalog (*teste* Milliron, 1962. *Canad. Ent.* 94: 728). The type locality (Texas) is erroneous, and the species is a synonym of the Eurasian *muscorum* L.

Genus PSITHYRUS Lepeletier, pp. 1254-1255

Milliron (1961. *Kans. Ent. Soc. Jour.* 34: 59-60) does not recognize subgenera of *Psithyrus* in his generic reclassification. Transf. *Laboriopsithyrus* Frison to syn. of *Emphoropsis* Ashmead, p. 1239.

Taxonomy: Medler, 1962. *Canad. Ent.* 94: 444-447, 1 fig., 3 tables (morphometric study).

- ashtoni* (Cresson). Hosts: *Bombus affinis* Sm. and *B. terricola* Kby.
citrinus (Smith), changed status. Host: *Pyrobombus impatiens* (Cr.) and *P. vagans* (Sm.).
Psithyrus (Labiopsithyrus) laboriosus var. *citrinus* (Smith). Raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 540).
Psithyrus (Labiopsithyrus) laboriosus (Fabricius) of Catalog, in part.

Apathus contiguus transf. to syn. of *citrinus* (teste Mitchell, 1962, loc. cit. supra, p. 540).

fernaldae Franklin. Host: ? *Pyrobombus perplexus* (Cr.).

Morphology: Milliron, 1961. Brooklyn Ent. Soc. Bull. 55: 109-113, 2 figs. (gynandromorph).

insularis (Smith). Host: *Pyrobombus flavifrons* (Cr.).

laboriosus (Fabricius). *B. laboriosus* transf. to **Emphoropsis**, p. 1239, but *contiguus* Cresson is transf. to syn. of **Psithyrus citrinus** (Smith).

laboriosus var. *citrinus* (Smith). Raised to sp. rank.

variabilis (Cresson). Host: *Megabombus pennsylvanicus* (Deg.).

Biology: Webb, 1961. North Central Branch, Ent. Soc. Amer. Proc. 16: 16.

Unplaced Species in Genus *Psithyrus*, p. 1255

Apathus dorsalis Provancher. Listed first in Sup. 1, p. 261; transf. to **Pyrobombus** subg. **Pyrobombus** as a syn. of **perplexus** Cresson.

Genus *APIS* Linnaeus, p. 1255

Morphology: Daly, 1964. Univ. Calif. Pubs. Ent. 39: 1-77, 54 figs. (skeletal-muscular morphogenesis of thorax and wings).

In Rafinesque entry, change *Apairus* to *Apiarus*, and Palmero to Palermo.

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fasciatus (Sm.), Aporinellus	386	finitimus Cresson, Ichneumon	142
fasciatus (Thoms.), Trichomalus	263	fiorentinii D. T., Pompilus	382, 386
fasciatus Thoms., Trioryphus	256	firma Cress., Cerceris	416, 418
fasciatus (Tow.), Cryptus	111	fisheri DeBach, Aphytis	221
fasciipennis (Br.), Compsocryptus	115	fiskei Vier., Aternulax	130
fasciis (Cam.), Sphaerophthalma[s]	332	flagellator Heinr., Coelichneumon	165
fasciipennis (Cress.), Cephalcia	11	flagellatus Pratt, Cryptus[s]	111, 113
fasciipennis Evans, Allaporus	381	flammifera Schus., Sphaerophthalma[s]	332
fasciipennis (Haupt), Dipogon	379	flammipes (Robts.), Hylaeus	423
fasciventris Dasch, Tymnophorus	182	flavens Davis, Exyston	89, 91
fasciventris Schus., Sphaerophthalma[s]	330	flavens (Klug), Selandria	16
fastigata Tow., Aptes	103	flavens Timb., Perdita[s]	454
fastigatus Tow. & Tow., Exochus	199	flaveriae (Mitch.), Lasioglossum	463
fattigi (Mitch.), Lasioglossum	463	flavicarina Heinr., Melanichneumon	142
fattigi Tow., Joppidium[s]	122	flavicauda Timb., Perdita[s]	441
faustus Burks, Tetrastichus	226	flaviceps Ashm., Ascogaster	46
favosa Tow., Zatyota	73	flaviceps (Cush.), Temelucha	208
febriculosus Grlt., Merisus	260	flaviceps Gah., Opus	50
fedorensis Ckll., Emphoropsis[s]	513	flaviceps Timb., Perdita	442
fedorensis Ckll., Nomia	470, 471	flaviceinctus Riley, Cirrospilus	230
felipiana Mitch., Chalicodoma	490	flaviceinae Riley, Apanteles	42
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feltiae Mues., Microplitis	41	flavicornis Ashm., Leptacis	304
feltiae Vier., Apanteles	42	flavicornis Foerst., Idris	298
femoralis Brisch., Thaumatotypus	93	flavicornis Kief., Bakeriella	314
femorata (Fox), Microstictia	411	flavicornis Kief., Holeyris	318
femorata (Fox), Stictiella	409	flavicornis Kief., Miota	292
femorata Park., Astata	387	flavicornis Whit., Bethylus	321
femorata Tow., Aptes[s]	103	flavicornis (Wlkr.), Sphegigaster	258
femoratus Tow., Listrognaathus	125	flavicoxa (Osten Sacken), Torymus	249
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femurrubrum (Fox), Spheg	403	flavivorus (Kief.), Actista	293
fenellus (Vier.), Pimplopterus	171	flavivorus Kief., Pantoclis	294
Fenestula Tow.	124	flavivorus Tow. & Tow., Chorinaeus[s]	193
fennicus Graham, Lonchetrion	268	flavida Swenk & Ckll., Perdita[s]	451
fenningeri Vier., Andrena	429	flavidulus Beq., Ancistrocerus[s]	377
Fenusa Leach	16	flaviflagellatus DeSantis, Physcus	223
feralis Cress., Ichneumon	160	flavifrons (Ashm.), Tricex	193
fergusoni Pate, Crossocherus	420	flavifrons Cress., Pyrobombus[s]	518
fergusoni Tow., Odontocolon[s]	82	flavifrons Dasch, Diplazon	181
feriens Heinr., Ichneumon	160	flavifrons How., Coccophagus	225
fernaldae Franklin, Psithyrus	520	flavifrontalis Davis, Exochus	199
fernaldi (Lewis), Vespula[s]	375	flavinervis Fouts, Pseudisobranchium	318
fernaldi (Murr.), Spheg	403	flavipalpis (Cam.), Pimpla	73
Fernaldina Bohart & Menke	399	flavipectus (Prov.), Craticheumon	146, 147
ferrugata Tow., Lanugo	114	flavipennis Cress., Trogus	170
ferrugosus Heinr., Craticheumon	145	flavipennis End., Dihyoplax	74
ferruginea Cam., Jethrusa	131	flavipennis Tow., Lanugo	114
ferruginea (Cush.), Giraudia	107	flavipes (Ashm.), Pnigalia	218
ferruginea (Davis), Temelucha	208	flavipes (Hgtt.), Cubocephalus[s]	98
ferruginea Fox, Spheg	401	flavipes (Hgtt.), Parmortha[s]	97, 98
ferruginea (Nort.), Gravenhorstia	210	flavipes (Prov.), Coleoctenus	84
ferruginea Wlkl., Dusaona	203	flavipes (Prov.), Cryptoserphus	286
ferrugineus Ashm., Cryptus	104	flavipes Schus., Sphaerophthalma[s]	331
ferrugineus (Ashm.), Exochus	199	flavipes Tow., Cubocephalus	99
ferrugineus Cush., Calliephialtes	64	flavipes (Wlkr.), Amblymerus	262
ferrugineus Gah., Opus	50	flavitaris Clément, Taeniaspis	139
ferrugineus (Nort.), Erigorus	210	flavitaris (Fern.), Ambobia	399
ferrugineus (Say), Tachypompilus[s]	383	flaviventre (Kief.), Pseudisobranchium	318
ferruginior Vier. & Ckll., Cerceris	415, 416	flaviventris How., Physcus	223
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ferruginosus Baker, Aphidius	30	flaviventris Thoms., Cinetus	295
ferruginosus (Cress.), Spheg	403	flavocincta Cress., Eucerceris	418
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fervens (L.), Prionyx	401	flavofasciata H. S. Sm., Cerceris[s]	416
fervida Sm., Nomada	498	flavolineatus (Grav.), Syrphoctonus	187
Fervidobombus Skorikov	516	flavomaculata (Cam.), Solierella	389
festinata Prov., Melissodes	506, 510	flavomaculatus Cam., Alysson	406
festiva Cress., Nomada	497, 498	flavoorbitalis (Cam.), Trathala	207
festiva Evans, Tasiotenia	382	flavo-orbitalis (Cam.), Zaleptopogus	205
festiva Mues., Agathis	40	flavopalliatas (Ashm.), Thysanus	235
festiva Timb., Perdita	441	flavopieta (Ashm.), Polyeyrtidea	127
festivus Ckll., Parnopos	311	flavotinetus (Ckll.), Pseudopanurgus	455
festucae Phillips & Emery, Harmolita	271	flavoviridis Cwfd., Cirrospilus	230
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fletcheri Ckll., Solenotus	281	formosa Gah., Encarsia	223
fletcheri (Cwfd.), Asaphes	255	formosa (Say), Pepsis[s]	378
fletcheri MacG., Pamphilus	12	formosa Timb., Perdita[s]	442
fletcheri (Prov.), Comptosia	115	Formosanomalon Uchida	209
flexilis Tow., Dolichomitus	66	formosum (Cress.), Gallanthidium	474
Flockiella Timb.	232	formosum (Cress.), Spilopteron[s]	84
flora (Grlt.), Lamprotatus	256	formosus Cress., Arotes	84
flora Grlt., Miscogaster	256	formosus Krom., Hylaeus	423
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floridana Ashm., Baeconeura	299	fortituis MacG., Pamphilus	12, 13
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floridana Ashm., Leptacis	304	fossatus Dasch, Homotropus[s]	185
floridana (Ashm.), Metaclisis	300	fossor (Roh.), Solierella	389
floridana Ashm., Pantoelis	294	fossilana (F.), Campomeris[s]	342
floridana (Ashm.), Trichopria	290	foveata Sm., Leptothorax	359
floridana Brown & Kempf, Eurhopalothrix	362	foveata Timb., Perdita[s]	442
floridana Cress., Coelioxys	491	foveolatus (Robts.), Lasioglossum	463
floridana Cress., Leucospis[s]	281	foveolatus (Brown & Cheng), Dissomphalus	320
floridana Emery, Pheidole[s]	354	foveolatus Knw., Pachynematus	18
floridana Evans, Bakeriella	314	foutsii (Cush.), Campocraepedon	188
floridana Graen., Stelis[s]	475	foutsii Evans, Pseudisobranchium	319
floridana Mitch., Ceratina[s]	514	foutsii Cush., Syrphotonus	187
floridana (Robts.), Ashmeadiella	478	foutsii Fischer, Opus	50
floridana Schus., Ephuta[s]	340	foutsii Masner, Spilomeris	289
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floridanum (Ashm.), Xorides[s]	82	foxleei Heinr., Coelichneumon	165
floridanum Emery, Xenomyrmex[s]	357	foxleei Heinr., Ichneumon	160
floridanum Evans, Neseyprius	313	foxleei Heinr., Melanichneumon	142
floridanum Heinr., Tricypus[s]	169	foxleei Heinr., Obtusodonta	156
floridanum Mitch., Triepolus	500	foxleei Heinr., Platylabus	133
floridanum (Robts.), Hylaeus	423	foxleei Heinr., Tricholabus	158
floridanum Roth & Willis, Anastatus	246	foxleei Tow., Dolichomitus	66
floridanum Tow. & Tow., Metopiuss[s]	191	fracta Rozen, Nomadopsis	457
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floridensis Bks., Cerceris[s]	416	fragariae Mitch., Nomada	497
floridensis Krom., Mesitopteris	312	fragariana Graen., Andrena[s]	431
floridensis Mitch., Epeolus	499	fragilis Nixon, Cinelaptus	292
floridensis Mitch., Heterostelis[s]	475	fragilis Sm., Andrena	429
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floridensis (Schus.), Odontophotopsis	337	franclemonti Tow., Spilopteron	84, 85
floridensis (Schus.), Photomorphus[s]	328	frater (Cress.), Hidryta	117
floridense Schwarz, Dianthidium	474	fraterculus Heinr., Platylabops	139
florilega Lvl. & Ckll., Nomada	495	fraterculus (Prov.), Ischnus[s]	123
Florilegus Robts.	504	fraterna Evans, Prisocera	316
floripara Weld, Callirhytis	284	fraterna Sm., Ceropales[s]	381
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follicola Cush., Alophosternum	64	fremontii Ckll., Melissodes	506, 507
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forbesi (Weed), Temelucha	208	frigida Sm., Megachile[s]	488
forbesi Martin, Urosialphus	39	frigida (Sm.), Pseudomethoca[s]	339
forbesii Robts., Andrena	429	frigidum Sm., Trypoxylon	394
forbesii (Robts.), Lasioglossum	460	frigidus Cress., Euceros	173
forelius Emery	365	frigidus (Cress.), Xorides	81
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Formicapis Slad.	478	frigidus (Sm.), Pyrobombus	518
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frugalis Cress., Megachile[s]	490	fuscicornis Holmg., Tryphon	178
frustranae Cush., Campoplex	201	fuscicornis Timb., Perdita[s]	453
fuscatus (Fri.), Bombus[v]	518	fuscifemoratus Dasch, Diplazon[s]	181
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fulgida (Cress.), Hoplitis[s]	479	fuscipenne (Sm.), Lasioglossum	460
fulgida (Sm.), Augochloropsis[s]	470	fuscipennis Br., Chrysis	309
fulgifrons (Cress.), Ageniella	381	fuscipennis (Cress.), Cremastus	206
fuliginosa (Davis), Gravenhorstia	210	fuscipennis (Cress.), Zaleptopygus	205
fuliginosus (Davis), Erigorgus	210	fuscipennis (Grlt.), Coccophagoides	224
fuliginosus (Davis), Habronyx	211	fuscipennis Grlt., Prospaltella	223
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fulva Roger, Aphaenogaster	352	fuscipes (Prov.), Pteromalus	267
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fulvescens (Cress.), Polytribax	108	fuscitarsus Thoms., Metallon	244
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fulvicarpus Cam., Ancistrocerus[s]	377	fuscojubatus (Ckll.), Ptilothrix[s]	502
fulvicauda Cam., Tiphia	322	fuscosericea Schus., Ephuta[s]	340
fulvicauda Timb., Perdita	442	fuscus (How.), Encyrtus	238
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fulvipennis Sm., Andrena	429	Gahanula Burks	279
fulvipes (Cress.), Eocheus	196	gainesvillensis Fischer, Opus	50
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fulvipes Grlt., Xanthosomoides	252	galenensis Dasch, Diplazon	181
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fulviventris Guér., Spex[s]	399	galleriae Wilk., Apanteles	42
fulviventris Wilkr., Pteromalus	260	gallicola (Ashm.), Cephalonomia	313
fulvohirta (Cress.), Campomeris	342	Gambus Foerst.	119
fulvohirta (Cress.), Tetralonia	512	garciiana Vier. & Ckll., Cerceris	415, 416
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fulvus (Cress.), Pachysomoides	126	gargantua Grlt., Tridymus	259
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funestus (Cress.), Pterocormus	159	gelechiiae (Ashm.), Orgilus	38
furesterina Schus., Acanthophotopsis[s]	339	gelechiiae How., Copidosoma	238
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fuscata Tow., Trychosis	118	geminata (F.), Solenopsis[s]	357
fuscataella Schus., Sphaerophthalma[s]	329	geminatus (Sav), Netelia	87
fuscatus Emery, Pogonomyrmex[s]	351	gemma Grlt., Bercenvtus[v]	238
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fuscicornia (Ashm.), Oxylabis	291	gemma (Wilkr.), Kratochviliana	232
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georgica Cress., Osmia	480	Gnypetomorpha Foerst.	94
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georgicus Meg., Ichneumon	78	Gotocerus Nees	214
georgicus Mitch., Tripeolus	500	Gonatops Ljungh	321
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gerhardi Vier., Perdita[s]	442	gorskii Ratz., Tryphon	174
germana Cress., Coelioxys	491	gortynae Riley, Microplitis	44
germana (Cress.), Priocnemis	380	Gorytes Latr.	407
germana Christ, Vespa[s]	374	gossypii Mues., Bracon	56
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Giardinia Destef. P.	47	gracilior Soyka, Novikiella	215
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gibbosa (Prov.), Pseudochalcura	247	gracilis Cress., Nomada	495
gibbosa (Say), Agrathis	40	gracilis (Cush.), Temelucha	208
gibbosifrons Evans, Anisepyrus	315	gracilis Fouts, Prosynacra	291
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marginiventris (Cress.), Acantholyda	8	megacera (Park.), Glenostictia	410
marginiventris (Cress.), Apanteles	42	megacera Park., <i>Stictiella</i>	409
<i>marginiventris</i> Kinc., Acantholyda	9	<i>megacerrata</i> Ckll., Melissodes	506, 508
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mariae Forel, Aphacogaster	352	MEGACHILIDAE	473
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mariae (Riley), Spilochalcis	280	MEGACHILINI	477
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mariana (Ross), Phyllocolpa	22	<i>Megacolus</i> Priesner	298
<i>marianapolitanensis</i> Prov., Ichneumon	157	megadon Tow. & Tow., Exochus	199
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marianus (Ross), <i>Pontania</i>	21	megacranthos Schus., Sphaerophthalma[s]	332
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<i>Mariella</i> Soyka	214	<i>megalurus</i> Heinr., Aculichneumon[s]	149
Marietta Mots.	221	megaplasta (Ashm.), Trichopria	290
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mariposa Whlr., Leptothorax	359	Megarhysa Ashm.	78

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Megastigmus Dalm.	251	mendax Cress., Ichneumon	161
Megastylus Schädte	179	mendax Whlr., Myrmecocystus	369
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Megaxyela Ashm.	8	mendacina Ckll., Coelioxys	491, 492
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melanderi Mitch., Megachile	488	mentzeliarum Ckll., Perdita	446
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melanis Burks, Tetrastichus	227	merceti (Comp.), Comperia	237
melanisticus Heinr., Aoplus	149	merceti (Malen.), Thybanus	235
melanocephalum (F.), Tapinoma	365	mergus Fox, Tachytes	391
melanocephalus (Cam.), Triclistus	196	meridionale Sm., Stenamma	352
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microphyes (Foerst.), Amauronematus	24	mirabilis (Cress.), Campocineteta	172
Microplitis Foerst.	44	mirabilis Heinr., Planocryptus	97
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mixtus (Cress.), Pyrobombus	519	montensis Weld, Ceroptres	282
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modesta MacG., Acantholyda	8	monticola Ashm., Meraporus	282
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modestus How., Tetrastichus	227	monticola Timb., Perdita[s]	454
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monardae Vier., Perdita[s]	442	mormonus (Cress.), Thyrateles	158
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Moniaecera Ashm.	420	morrisoni Forel, Pheidole[s]	354
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Monodontomerus Westw.	250	mucida Cress., Megachile	488
monoensis LaBerge, Melissodes	508	mucrosa Ckll., Megachile	489
Monolexis Foerst.	60	mucronata Br., Chrysis	308
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<i>orias</i> Tow. & Tow., <i>Exochus</i> [s]	199	<i>Pachycydonia</i> Sm.	347
<i>orientalis</i> Blanch., <i>Neocryptopteryx</i>	110	<i>Pachycyrepoides</i> Ashm.	257
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<i>ormenus</i> (Cress.), <i>Pseudamblyteles</i>	154	<i>pachylobii</i> Mues., <i>Microctonus</i>	35
<i>ormsbuensis</i> Cam., <i>Paratiphia</i>	324	<i>Pachynematus</i> Knw.	18
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<i>ornata</i> Risbec, <i>Wania</i>	253	<i>pachypyllae</i> (Ashm.), <i>Torymus</i>	249
<i>ornata</i> Timb., <i>Perdita</i> [s]	452	<i>pachypysillae</i> (How.), <i>Psyllaephagus</i>	240
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<i>ornatus</i> (Cress.), <i>Thaumatoteles</i>	136	<i>paenerugosa</i> Vier., <i>Andrena</i>	433, 434
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<i>ornatus</i> Kief., <i>Platygaster</i>	302	<i>paute</i> Gregg, <i>Pheidole</i> [s]	353
<i>ornatus</i> Mitch., <i>Hylaeus</i>	424	<i>palachei</i> (Ashm.), <i>Pamphilus</i>	13
<i>ornatus</i> (Prov.), <i>Platylabus</i>	134	<i>palamedes</i> (Fox), <i>Photopsis</i>	334
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<i>Orona</i> Cam.	86	<i>pallens</i> (Cress.), <i>Crassomicrodus</i>	40
<i>orpheus</i> (Cress.), <i>Coelichneumon</i>	166	<i>pallens</i> Tow., <i>Compsocryptus</i>	115
<i>orphne</i> Bks., <i>Cerceris</i>	417	<i>pallentipes</i> Timb., <i>Anisotylus</i>	240
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<i>orthoneura</i> Kief., <i>Pantoclis</i>	295	<i>pallicornis</i> (Nort.), <i>Pentania</i>	21, 22
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<i>osmioides</i> Ckll., <i>Andrena</i> [s]	432	<i>pallidipes</i> Ashm., <i>Anagrus</i>	236
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<i>osentatus</i> Davis, <i>Exochus</i>	200	<i>pallidipes</i> Schus., <i>Sphaerophthalma</i> [s]	333
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<i>ovata</i> (Say), <i>Brachymeria</i>	279	<i>pallipes</i> Cam., <i>Pauroctonus</i>	88
<i>ovivora</i> (Boh.), <i>Tromatobia</i> [s]	68	<i>pallipes</i> Cress., <i>Exochus</i>	200
<i>ovivora</i> Gah., <i>Systellogaster</i>	268	<i>pallipes</i> (Curt.), <i>Leiothron</i>	36
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<i>Oxytaenia</i> Foerst.	102	<i>pallipes</i> Holmg., <i>Triclistus</i>	196
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<i>pacificus</i> Cress., <i>Cryptus</i>	112	<i>palmarum</i> Ckll., <i>Anthidium</i> [s]	474
<i>pacificus</i> (Cress.), <i>Homotropus</i>	185	<i>palmarum</i> Wms., <i>Plenoculus</i>	389
<i>pacificus</i> Cress., <i>Hoplismenus</i> [s]	139	<i>palmatum</i> Wly., <i>Petalodes</i>	58
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<i>paludatus</i> Cress., <i>Mesostenus</i>	125	<i>Parepypis</i> Bréth.	314
<i>paludatus</i> Wlkr., <i>Erieydnus</i>	236	<i>Parepypis</i> Kief.	314
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<i>Pantoclis</i> Foerst.	294	<i>parkererckensis</i> Fischer, <i>Opus</i>	53
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<i>Pantolispa</i> Foerst.	95	<i>parkeri</i> Grig. & Stange, <i>Dianthidium</i>	474
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<i>Parabatus</i> Thoms.	87	<i>parosclae</i> Timb., <i>Perdita</i>	448
<i>Paracalocerinus</i> Grit.	287, 244	<i>partita</i> Bks., <i>Ageniella</i>	381
<i>Paracania</i> Vier.	179	<i>parva</i> (Cress.), <i>Phyllocopa</i>	22
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<i>Parachrysocharis</i> Grit.	233	<i>parva</i> Robts., <i>Nomada</i>	495
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<i>Paracryptocerus</i> Emery	360	<i>parvula</i> Cam., <i>Paratiphia</i>	325
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<i>parakrigiana</i> Mitch., <i>Andrena</i>	433	<i>parvus</i> (Cress.), <i>Evagetes</i>	882
<i>paralechiae</i> Mues., <i>Apanteles</i>	43	<i>parvus</i> Cress., <i>Ichneumon</i>	162
<i>Paraleurocerus</i> Grit.	244	<i>parvus</i> (Cress.), <i>Pimplopterus</i>	172
<i>Paralictus</i> Robts.	467	<i>parvus</i> Cress., <i>Pontania</i>	21
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