Monograph

An annotated catalogue of the New World Therevidae
(Insecta: Diptera: Asiloidea)

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ABSTRACT

The genera and species of New World stiletto flies (Diptera: Therevidae) are listed, with annotated references to nomenclature, synonymies and generic combinations, type localities, the primary type depositories, distribution, and citations for the most recent revisions. The genus Cyclotetus Walker, 1850 (along with its synonyms Furcifera Kröber, 1911, and Epomyia Cole, 1923a) is synonymized under Cerocatus Rondani, 1848. Ectinorhynchus fascipennis Kröber, 1911 is given the new name Cerocatus rondani Gaimari, and Phycus ruffiventris Kröber, 1911 is given the new name Cerocatus raspii Hauser. Phycus analis Kröber, 1911 and Phycus bicolor Kröber, 1911, are placed as new combinations in Cerocatus Rondani, as are the following species that were previously in combination with Cyclotetus: Furcifera achaeta Malloch, 1932, Cyclotetus badicrusus Irwin and Webb, 1992, Phycus beckeri Kröber, 1911, Epomyia bella Cole, 1923a, Furcifera braziliiana Cole, 1960a, Cyclotetus colei Irwin and Lyneborg, 1981a, Thereva diversipes Kröber, 1911, Thereva fascipennis Macquart, 1846a, Psilocephala femorata Kröber, 1911, Furcifera flavipes Kröber, 1928b, Furcifera hardyi Cole, 1960a, Furcifera krobergeri Cole, 1960a, Cyclotetus laetus Walker, 1850, Furcifera longicornis Kröber, 1911, Cyclotetus nigroflaminus Walker, 1850, Psilocephala nigrifrons Kröber, 1914a, Thereva pictipes Wiedemann, 1821, Furcifera polita Kröber, 1911, Cyclotetus pruinosisus Walker, 1850, Thereva ruficornis Macquart, 1841a, Psilocephala ruffiventris Loew, 1869, Thereva scutellaris Walker, 1857, Cyclotetus silacrusus Irwin and Webb, 1992, Cyclotetus socius Walker, 1850 and Psilocephala sumichrasti Bellardi, 1861. Dialineura pallidiventris Malloch, 1932, Melanothereva blackmani Oldroyd, 1968, Thereva maculicornis Jaenicke, 1867 and Thereva notabilis Macquart, 1841a are placed as new combinations in Entesia Oldroyd. Henicomyia amazonica Irwin and Webb, 1992 is a new synonym of Henicomyia flava Lyneborg, 1972. Henicomyia varipes Kröber, 1912a is given revised species status from former synonymy with Henicomyia hubbardii Coquillett, 1898.

Key words: Asiloidea, distribution, generic combinations, nomenclature, primary type deposition, recent revisions, synonymy, type locality

INTRODUCTION

The family Therevidae, or stiletto flies, with over 1100 species, occurs on all continents except Antarctica. Irwin and Lyneborg (1981a, 1981b) and Gaimari and Webb (2009) provide a detailed overview of the morphological characters of the family, biology, classification and identification resources for New World taxa. It is hoped that the current catalogue, in combination with the key to all New World genera in Gaimari and Webb (2009), provides a resource for continued work on New World Therevidae.

In the New World, adult stiletto flies range in body length from 2.5–15 mm with the cuticle and macrosetae varying from pale yellow to black. Adults are also entirely or partially covered with pubescence, and macrosetae are usually prominent. Males are generally holoptic (exceptions include some genera of Phycinae), females are always dichoptic. Diagnostic characteristics in wing venation are as follows: R₁ sinuous, divergent from R₂; r; enclosing apex of wing; bm truncate apically; d; elongate from which arise veins M₁, M₂, and M₃; m-cu present with base of m truncate; r-m attached to basal half of d; cup; closed near wing margin. The abdomen has eight pregenital segments, often with silver or bronze pubescence dorsally in males. Tergite 8 in males is
usually broad and rectangular, with posterior margin broadly emarginate. The epandrium is rectangular to quadrate, wider than long in most species, and the cerci are one-segmented and usually free basally. The hypandrium is often reduced and strap-like, occasionally absent; the gonocoxites are bulbous, separated medially in most species (a notable exception is the Cyclotelini, all of which have gonocoxites that are medially fused), and have gonostyli present apically. The aedeagus is usually narrow and tapered posteriorly with an internal ejaculatory apodeme. Sternite 8 of the female terminalia is conspicuous; acanthophorite macrosetae are strongly reduced in Phycinae and Xestomyzinae, and are present and distinct postero-dorsally in Therevinae and Agapophytinae. Internally, female Phycinae have three spermathecae but lack a spermathecal sac, while all other therevids have a spermathecal sac in addition to spermathecae, with two spermathecae in Therevinae and Xestomyzinae, and three in Agapophytinae (although the Australian genus Bonjeania Irwin and Lyneborg has only one).

Larvae (Fig. 5) are long and slender with secondary abdominal segmentation. The posterior spiracle is positioned laterally on the fourth segment from the posterior end. The head capsule is heavily sclerotized, complete, and permanently exerted, with a narrow, internal spatula-shaped metacephalic rod and pair of elongate tentorial arms. Antennae are peg-like. Each thoracic segment has a pair of lateral setae, and the terminal abdominal segment has a pair of prolegs (Irwin 1972).

The pupal head segment has a prominent pair of antennal sheaths, a median labral sheath and a proboscial sheath ventrally. The wing sheaths in Therevinae have an alar process, and each abdominal segment bears a ring of spines posteriorly, and the terminal segment has a pair of caudal spines (Hauser and Irwin, 2003).

This catalogue began as a manuscript initiated by M.E. Irwin for the series "A catalogue of the Diptera of Americas south of the United States" but is greatly expanded here to include all species of stiletto flies in the New World, and to update the Nearctic catalogue published by Cole (1965). During the past twenty years, there have been many new Nearctic genera described (e.g., Irwin and Lyneborg 1981a) and numerous revisions of New World genera, many of which are treated only in part in the Diptera of the Nearctic (Poole 1996). Over 300 species names are currently valid for the New World, and more than 100 undescribed extant species are estimated from study of specimens in genera that have not been recently revised. Fossil therevids reported by Evenhuis (1990, 1994), and described from deposits in the New World since 1994, are included in this catalogue and are preceded with the symbol †.

CLASSIFICATION
The Therevidae belongs to the superfamily Asiloidea, forming a natural group with the Apsilocephalidae, Scenopinidae, and Evocoidae (Yeates et al. 2003, 2006; Woodley et al. 2009). The Scenopinidae (window flies) is generally considered the sister-group to the Therevidae, based on the secondary segmentation of the larval abdominal segments (except the apical segment), giving the appearance of 17 segments (Woodley 1989), the retracted lateral ejaculatory process in males (Sinclair et al. 1994) (although Yeates (2002) pointed out homoplasy relative to this character), and on molecular evidence (Yang et al. 2000; Yeates et al. 2003 [Evocoidae as Ocoidae]; Trautwein et al. 2010). Higher-level classification in the Therevidae includes four subfamilies and two tribes: Agapophytinae (Figs. 1, 2), Phycinae (Figs. 3, 4), Therevinae (Cyclotelini (Figs. 12-14), Therevini (Figs. 6-11, 15)), and Xestomyzinae (Fig. 16). The Agapophytinae is primarily Australian in distribution, with three genera endemic to the southern Neotropical Region. The Phycinae is Afrotropical, Nearctic, Neotropical, Oriental, and Palaearctic in distribution. The Therevinae is widespread over the Afrotropical, Australian, Nearctic, Neotropical, Oriental, and Palaearctic Regions, with the Cyclotelini known from the New World, and the Oriental and eastern Palaearctic regions (with one genus in the far western Palaearctic). The Therevini presently seems to be a catch-all group for all non-cycloteline Therevinae, until phylogenetic relationships are more thoroughly analyzed. The Xestomyzinae is primarily Afrotropical in distribution with one genus (Henicomyia Coquillett) in the Neotropical and Nearctic Region.

Across the family for the New World, there are three monotypic fossil genera representing three of the four subfamilies, 54 extant genera, and 298 extant species (two of which are incertae sedis). The New World Agapophytinae includes three extant genera and 11 extant species, all of which are in need of revision, in addition to one undescribed genus. The New World Phycinae includes one monotypic fossil genus, five extant genera, and
23 extant species. The genera *Ataenogera* Kröber (Hauser and Webb 2007) and *Phycus* Walker (Webb and Irwin 1988) have been recently revised, but no recent revisions are available for *Parapherocera* Irwin (one undescribed species) and *Pherocera* Cole (14 undescribed species). The New World Xestomyzinae includes one monotypic fossil genus, one extant genus, and seven extant species. The New World *Henicomyia* Coquillett has several undescribed species, and remains to be revised by Hauser.


**MATERIAL AND METHODS**

**Format of Catalogue**

The arrangement of the catalogue is an alphabetical hierarchy by subfamily, valid genus, and valid species. Under the valid genus or species, name usage is distributed chronologically for each name, nested with varying usage. For each entry, all nomenclatural details are given, including authorship, date and page, annotated subsequent references, synonymies, variant spellings, and various nomenclatural changes. For the family-group names, these details also include the type genus and method for designation. For the genus-group names, these details also include the type species and method for designation, and distribution. For the species-group names, these details also include type locality, type status, sex and depository, and species distribution. Where relevant, comments are cited at the end of an entry with reference to a note number that corresponds to an entry in the notes section.

The distribution list provided for each valid species is based on data from the most recent revisions, specimens examined by the author(s), older literature, and specimen records compiled in the Therevid Mandala database (http://www.inhs.illinois.edu/research/mandala/). Mandala is a relational database system developed by Kampmeier and Irwin (2009) wherein specimens are each identified by a unique code on a yellow label with the specimen. The format of these labels, “THEREVIDAE/M.E. Irwin/Specimen /000000”, is noted as [MEI 000000].

The transition zone between the Neotropical and Neartic Regions is not delineated along political boundaries in Mexico. So, in this catalog we follow as best as possible the line drawn according to Brown.
(2009) in defining the scope of the *Manual of Central American Diptera*, in an effort to make this work a closer companion to Gaimari and Webb (2009) with its key to all New World therevid genera. Even still, many states are bisected by this line, so only the most generalized method is used to differentiate these states as either Nearctic or Neotropical. Many states fall clearly within one or the other, but the following states have elements of each Region, with (1) referring to states with more than 50% in the Nearctic, and (2) referring to states with more than 50% Neotropical: (1) Baja California Sur, Chihuahua, Durango, Hidalgo, Jalisco, Michoacán, Nayarit, Puebla, San Luis Potosí, Sonora, Tamaulipas, Tlaxcala; (2) Colima, Guerrero, Oaxaca, Veracruz. In this catalogue, the Neotropical Region refers to Belize, the Caribbean Islands, Costa Rica, El Salvador, Guatemala, Mexico (Campeche, Chiapas, Quintana Roo, Sinaloa, Tabasco, Yucatán, and the transition states in (2) above), Nicaragua, Panama, and South America. The Nearctic Region refers to Canada, United States of America, and the remaining States/Districts of Mexico. The following list gives the primary subdivision for the various New World countries: Argentina (Provinces), Bolivia (Departments), Brazil (States), Canada (Provinces/Territories), Chile (Regions), Colombia (Departments), Costa Rica (Provinces), Cuba (Provinces), Dominican Republic (Provinces), Ecuador (Provinces), El Salvador (Departments), Guatemala (Departments), Guyana (Regions), Honduras (Departments), Jamaica (Parishes), Mexico (States/District), Netherlands Antilles (Islands), Nicaragua (Departments), Panama (Provinces), Paraguay (Departments/District), Peru (Regions/Province of Lima), The Bahamas (Islands/Cays), Uruguay (Departments), United States of America (States/District), Venezuela (States).

**Type Depositories**

The following museums and collections are depositories for the primary types of New World stiletto flies. Museum and collection acronyms follow Evenhuis (2012), and URL’s for several of their type and collection databases are given if they were consulted in this work [all accessed 2012.04.28].

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<th>Acronym</th>
<th>Description</th>
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<td>American Museum of Natural History, Department of Invertebrate Zoology, New York, New York, USA. [type database: <a href="http://research.amnh.org/iz/types_db/">http://research.amnh.org/iz/types_db/</a>]</td>
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<td>BYUC</td>
<td>Brigham Young University, Monte L. Bean Life Science Museum, Entomology Section, Provo, Utah, USA.</td>
</tr>
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<td>CAS</td>
<td>California Academy of Sciences, Department of Entomology, San Francisco, California, USA. [type database: <a href="http://researcharchive.calacademy.org/research/entomology/typesdb/default.asp">http://researcharchive.calacademy.org/research/entomology/typesdb/default.asp</a>]</td>
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<td>CMNH</td>
<td>Carnegie Museum of Natural History, Section of Invertebrate Zoology, Pittsburgh, Pennsylvania, USA.</td>
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<td>CNC</td>
<td>Canadian National Collection of Insects, Biological Research Division, Ottawa, Ontario, Canada.</td>
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<td>CSUC</td>
<td>Colorado State University, Department of Entomology, Fort Collins, Colorado, USA.</td>
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<td>CUIC</td>
<td>Cornell University, Department of Entomology, Ithaca, New York, USA.</td>
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<td>DEBU</td>
<td>University of Guelph, Department of Environmental Biology, Guelph, Ontario, Canada.</td>
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<td>DEI</td>
<td>Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.</td>
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<td>DZUP</td>
<td>Universidade Federal de Paraná, Curitiba, Paraná, Brazil.</td>
</tr>
<tr>
<td>EMEC</td>
<td>University of California, Essig Museum of Entomology, Berkeley, California, USA.</td>
</tr>
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<td>FMNH</td>
<td>Field Museum of Natural History, Division of Insects, Chicago, Illinois, USA.</td>
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<td>HNHM</td>
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<td>IEXA</td>
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<td>INBC</td>
<td>Instituto Nacional de Biodiversidad, Departamento de Entomología, Santo Domingo de Heredia, Costa Rica.</td>
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INHS Illinois Natural History Survey, Prairie Research Institute, University of Illinois, Champaign, Illinois, USA.
INPA Instituto Nacional de Pesquisas da Amazônia, Coleção Sistemática da Entomologia, Amazonas, Manaus, Brazil.
MCZ Harvard University, Museum of Comparative Zoology, Department of Entomology, Cambridge, Massachusetts, USA. [type database: http://insects.oeb.harvard.edu/mcz/index.htm]
MEIC M.E. Irwin personal collection, Vail, Arizona, USA. Future deposition CAS.
MLUH Martin-Luther-Universität, Wissenschaftsbereich Zoologie, Halle a.S, Germany.
MNNC Museo Nacional de Historia Natural, Colección Nacional de Insectos, Santiago, Chile.
MRSN Museo Regionale di Scienze Naturali, Spinola Collection, Torino (= Turin), Italy.
MZSP Universidade de São Paulo, Museu de Zoologia, São Paulo, Brazil.
MZUN Museo dell’ Istituto di Zoologia dell’ Universita di Napoli, Naples, Italy.
NHMW Naturhistorisches Museum, Zweite Zoologische Abteilung—Insekten, Vienna, Austria.
NHRS Naturhistoriska riksmuseet, Entomologi, Stockholm, Sweden.
OSUC Oregon State University, Department of Entomology, Corvallis, Oregon, USA.
PSUC Pennsylvania State University, Frost Entomological Museum, University Park, Pennsylvania, USA.
ROME Royal Ontario Museum, Department of Entomology, Toronto, Ontario, Canada.
SDMC San Diego Natural History Museum, Entomology Department, San Diego, California, USA.
SEMC University of Kansas, Snow Entomological Museum, Lawrence, Kansas, USA.
SMDV University of British Columbia, Spencer Museum, Vancouver, British Columbia, Canada.
SMFD Forschungsinstitut und Naturmuseum, Senckenberg, Frankfurt-am-Main, Germany.
SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany.
SMTD Staatliches Museum für Tierkunde, Dresden, Germany.
UCDC University of California, R.M. Bohart Museum of Entomology, Davis, California, USA.
UCMC University of Colorado, Museum of Natural History, Boulder, Colorado, USA.
UMMZ University of Michigan, Museum of Zoology, Ann Arbor, Michigan, USA.
UMRM University of Missouri, W.R. Enns Entomology Museum, Columbia, Missouri, USA.
UMSP University of Minnesota, Department of Entomology, St., Paul, Minnesota, USA.
UNAM Universidad Nacional Autonoma de México, Departamento de Zoología, México D. F., México.
USNM National Museum of Natural History, Department of Entomology, Washington, D.C., USA.
WSUC Washington State University, Maurice T. James Entomological Collection, Pullman, Washington, USA.
ZMAS Russian Academy of Sciences, Zoological Institute, St. Petersburg, Russia.
ZMHB Humboldt Universität, Zoologisches Museum und Institut für Spezielle Zoologie, Berlin, Germany.
ZMUC University of Copenhagen, Zoological Museum, Copenhagen, Denmark. [collection database: http://www.zmuc.dk/EnToWeb/collections-databaser/Diptera/dipterasites.htm]
ZMUH Universität Hamburg, Zoologisches Institut und Zoologische Museum, Hamburg, Germany.
ZSMC Zoologische Staatssammlung des Bayerischen Staates, Munich, Germany.

**Abbreviations**

biog. = biogeography; biol. = biology; cat. = catalogue; comb. = combination; desc. = description, redescription, or diagnosis; desig. = designation; dist. = distribution; HT = holotype; LT = lectotype; morph. = morphology; nom. = nomenclature; NT = neotype; orig. = original; pers. comm. = personal communication; phylog. = phylogeny; rep. = reproduce; rev. = revision; sp. = species; ST = syntype; syn. = synonym; trans. = translation.

Morphological terms: Abd. = abdomen; Ant. = antenna; Genit. = genitalia; Max. palp. = maxillary palpus.
SUMMARY OF TAXONOMIC CHANGES

NEW NAMES

New species-group names:
Cerocatus raspii Hauser, for Phycus rufiventris Kröber 1911
Cerocatus rondanii Gaimari, for Ectinorhynchus fascipennis Kröber 1911

NEW SYNONYMIES

Genus-group names:
Cyclotelus Walker 1850 = Cerocatus Rondani 1848

Species-group names:
Henicomyia amazonica Irwin and Webb 1992 = Henicomyia flava Lyneborg 1972

NEW COMBINATIONS

Entesia blackmani (Oldroyd 1968), from Melanothereva Malloch
Entesia maculicornis (Jaennicke 1867), from Thereva Latreille
Entesia notabilis (Macquart 1841a), from Thereva Latreille
Entesia pallidiventris (Malloch 1932), from Dialineura Rondani
Cerocatus achaetus (Malloch 1932), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus analis (Kröber 1911), from Phycus Walker
Cerocatus badicrusus (Irwin and Webb 1992), from Cyclotelus Walker
Cerocatus beckeri (Kröber 1911), from Cyclotelus Walker (originally Phycus Walker)
Cerocatus bellus (Cole 1923a), from Cyclotelus Walker (originally Epomyia Cole)
Cerocatus bicolor (Kröber 1911), from Phycus Walker
Cerocatus brazilianus (Cole 1960a), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus coleii (Irwin and Lyneborg 1981a), from Cyclotelus Walker
Cerocatus diversipes (Kröber 1911), from Cyclotelus Walker (originally Thereva Latreille)
Cerocatus fascipennis (Macquart 1846a), from Cyclotelus Walker (originally Thereva Latreille)
Cerocatus femoratus (Kröber 1911), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus flavipes (Kröber 1928b), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus hardyi (Cole 1960a), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus kroeberi (Cole 1960a), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus laetus (Walker 1850), from Cyclotelus Walker
Cerocatus longicornis (Kröber 1911), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus nigroflammus (Walker 1850), from Cyclotelus Walker
Cerocatus nigrifrons (Kröber 1911), from Cyclotelus Walker (originally Psilocephala Zetterstedt)
Cerocatus pictipennis (Wiedemann 1821), from Cyclotelus Walker (originally Thereva Latreille)
Cerocatus politus (Kröber 1911), from Cyclotelus Walker (originally Furcifera Kröber)
Cerocatus pruinosis (Walker 1850), from Cyclotelus Walker
Cerocatus ruficornis (Macquart 1841a), from Cyclotelus Walker (originally Thereva Latreille)
Cerocatus rufiventris (Loew 1869), from Cyclotelus Walker (originally Psilocephala Zetterstedt)
Cerocatus scutellaris (Walker 1857), from Cyclotelus Walker (originally Thereva Latreille)
Cerocatus silacrusus (Irwin and Webb 1992), from Cyclotelus Walker
Cerocatus socius (Walker 1850), from Cyclotelus Walker
Cerocatus sumichrasti (Bellardi 1861), from Cyclotelus Walker (originally Psilocephala Zetterstedt)

NEW CHANGES IN STATUS

Henicomyia varipes Kröber 1912a, resurrected from synonymy
Psilocephala antennata Kröber 1911, incertae sedis
Thereva luteiventris Philippi 1865, incertae sedis
TABLE OF GENERA

The following table lists the genera in their subfamilies as they are ordered in the catalogue. The table indicates the number of species in each genus for the Nearctic Region (NE), the Neotropical Region (NT), and for those that occur in both regions (Both). The far right column (Page) indicates the page number in the catalogue where the treatment for each genus begins. The total number of genera treated herein is 54 extant and three fossil, broken down as three extant in Agapophytinae, five extant and one fossil in Phycinae, 45 extant and one fossil in Therevinae, one extant and one fossil in Xestomyzinae, and four species are incertae sedis to subfamily and genus.

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Xestomyzinae Lyneborg 73

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THEREVIDAE Newman

(1989: 1386 phylog., Fig. 3 phylog. placement), Foote (1991: 773 larval desc., biol.), Sinclair et al. (1994: 419 phylog., Fig. 2 phylog. placement), Sabrosky (1999: 306 nom. cat.), Gaimari and Irwin (2000a phylog.), Holston (2004 nom. cat., systematic history), Hauser and Irwin (2005a fossil rev.), Holston et al. (2007 phylog.), Borkent and Rotheray (2009: 168 larval key to families), Buck et al. (2009: 107 adult key to families), Gaimari and Webb (2009 New World gen. key, Central America dist., biol.), Woodley et al. (2009 Fig. 4 phylog. placement), Lambkin et al. (2009 supertree), Trautwein et al. (2010 asiloid phylog.). Other forms or misspellings of Therevidae include:
Therevanidae. Burmeister (1835: 9).
Therevina. Perty (1841: 892).
Therevoidae. Agassiz (1846b: 368).
Thereuidae. Loew (1858: 342), Kowarz (1883: 242).
Thereviti. Liy (1864: 736).
Therevida. Marschall (1873: 320).
Tereoida. Marschall (1873: 340)
Therevedae. Walker (1874: 1).
Terevidae. Schoch (1890: 11).
Theriidae. Ôuchi (1943b: 477).

Subfamily AGAPOPHYTINAE Winterton


Genus ENTESIA Oldroyd


blackmani (Oldroyd). Neotropical: Argentina.

Melanothereva blackmani Oldroyd 1968: 379. Type locality Argentina, F. [Finca] Chacabuco. HT male BMNH (Type No. 241993). Oldroyd (1968: Figs. 5 forecoxae, 6 male genit., 7 male ant., 8 female genit., 15 pupa posterior process, 19 lateral thoracic spines, 20 ant. spine).

Entesia blackmani. NEW COMBINATION. Note 1.

fuzi (Kröber). Neotropical: Chile (Región Metropolitana de Santiago).

Psilocephala fuzi Kröber 1928c: 34. Type locality Chile, Perales. HT female (MEI 115972) DEI. Kröber (1928c: Fig. 3 female ant.), Stuardo-Ortiz (1946: 87 cat.), Metz et al. (2003: 254 trans. orig. desc.).


Note 2.


leptiformis (Kröber). Neotropical: Chile (Valparaiso (Aconcagua in Webb and Metz 2006)).

Psilocephala leptiformis Kröber 1928c: 33. Type locality Chile, Valparaiso. HT male (MEI 115971) DEI. Kröber (1928a: 6 dist., 8 male key; 1928c: Fig. 2 male ant.), Stuardo-Ortiz (1946: 87 cat.), Metz et al. (2003: 254 trans. orig. desc.).

Note 2.
**Entesia leptiformis.** Metz et al. (2003: 253 comb. change).

**maculicornis** (Jaenicke). **Neotropical:** Chile (Valparaiso (Aconcagua in Webb and Metz 2006)).

*Thereva maculicornis* Jaenicke 1867: 45. Type locality Chile, Valparaiso. LT male SMFD. Kertész (1909: 155 cat.), Kröber (1911: 491 male key, 492 nom., LT designation according to ICZN Article 74.5, desc.; 1913b: 44 male key, 58 sp. list), Stuardo-Ortiz (1946: 86 cat.), Holston (2004: 55 nom.). **Note 3.**

*Entesia maculicornis.* NEW COMBINATION. **Note 4.**

*Thereva maculipennis.* Published in synonymy, not subsequently validated. Kröber (1911: 492, 493). **Note 5.**

**notabilis** (Macquart). **Neotropical:** Chile.

*Thereva notabilis* Macquart 1841a: 302. Type locality Chile. ST female MNHN. Macquart (1841a: Plate 5, Fig. 4 wing; 1841b: 24 subsequent usage, Plate 5, Fig. 4 wing), Blanchard (1852: 416 desc.), Philippi (1865: 779 sp. list), Reed (1888: 294 cat.), Kertész (1909: 157 cat.), Kröber (1911: 491 female key, desc.; 1913b: 45 female key, 59 female key), Stuardo-Ortiz (1946: 86 cat.), Holston (2004: 58 nom.). **Note 6.**

*Entesia notabilis.* NEW COMBINATION. **Note 7.**

**pallidiventris** (Malloch). **Neotropical:** Chile (near Región Metropolitana de Santiago).

*Dialineura pallidiventris* Malloch 1932: 253. Type locality Chile, Santiago, Perales. HT male USNM. Lyneborg (1968b: 149 nom.). **Note 8.**

*Dialineura pallidinervis.* Misspelling of *pallidiventris.* Stuardo-Ortiz (1946: 86 cat.).

*Entesia pallidiventris.* NEW COMBINATION. **Note 9.**

**rubida** (Wulp). **Neotropical:** Argentina (Tucumán).


**tarsata** Oldroyd. **Neotropical:** Argentina.


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**Genus MELANOTHEREVA** Malloch


**lugubris** (Macquart). **Neotropical:** Chile (Araucanía, Coquimbo, Los Lagos, Magallanes, Región Metropolitana de Santiago, Valparaíso).

*Thereva lugubris* Macquart 1841a: 302. Type locality Chile. ST female MNHN. Macquart (1841a: Plate 5, Fig. 2 wing; 1841b: 24 subsequent usage, Plate 5, Fig. 2 wing), Blanchard (1852: 417 desc., Figs. 4a habitus, 4b ant.), Philippi (1865: 769 sp. list), Reed (1888: 294 cat.), Holston (2005: 55 nom.). **Note 11.**

*Psilocephala lugubris.* Kertész (1909: 163 cat., comb. change), Kröber (1911: 498 male key, 500 female key, 505 desc.; 1912a: 223 male key, 226 female key, 228 sp. list., 237 desc.; 1913b: 31 sp. list, 35 male key, 37 female key, 38 male key, 39 female key; 1914a: 39 male key, 41 female key; 1928a: 6 dist., 8 male key, 10 female key), Cole (1923a: 63 nom., note).


Melanotherea morio. Holston (2004: 56 nom.).


Note 13.

Genus PACHYRRHIZA Philippi


PACHYRRHIZA. Misspelling of Pachyrrhiza. Bigot (1890: 323 key).

PACHYRHIZA. Misspelling of Pachyrrhiza. Williston (1908: 207 note).


pictipennis Philippi. Neotropical: Chile (Región Metropolitana de Santiago).

Pachyrrhiza pictipennis Philippi 1865: 704. Type locality Chile, Santiago Province, near Santiago and in the Cordillere. ST female (3 specimens), depository unknown. Philippi (1865: Fig. 25 habitus), Reed (1888: 294 cat.), Malloch (1932: 248 desc.), Stuardo-Ortiz (1946: 86 cat.). Note 14.


Dialineura pictipennis. Kröber (1911: 489 desc., comb. change; 1913b: 24 sp. list; 1914a: 40 female key, 51 note).

Subfamily PHYCINAE Lyneborg


Genus ATAENOGERA Kröber

Argentina, Bolivia, Brazil, Costa Rica, El Salvador, Guyana, Mexico, Panama, Paraguay, Peru, Trinidad, and Venezuela.


**Note 16.**


**abdominalis** Kröber. **Neotropical:** Argentina (Catamarca, La Rioja, Mendoza, Salta, San Juan, San Luis, Santiago del Estero, Tucumán), Bolivia (El Beni, Santa Cruz), Brazil (Paraná), Paraguay (Cordillera, San Pedro).


**Note 18.**


**Note 19.**

**Ziehenimyia gracilis.** Misspelling of *Ziehenia*. Kröber (1929b: 172 desc.).

**argentifrons** Hauser and Webb. **Neotropical:** Argentina (Catamarca, Mendoza, Salta).

*Ataenogera argentifrons* Hauser and Webb 2007: 49. Type locality Argentina, Catamarca Province, 2 km N Belén, Quebrada Belén dam. HT male (MEI 107064) CAS (Type No. 18237). Hauser and Webb (2007: 45 key, 51 dist., Figs. 10 male frons, 11 female frons, 12–18 male genit., 19 female genit., 57 dist.).

**brevicornis** (Bromley). **Nearctic:** Mexico (Jalisco, Michoacán, Morelos, Puebla). **Neotropical:** Brazil (Amazonas, Mato Grosso do Sul, Pará, Rondônia, Santa Catarina), Colombia (Magdalena), Costa Rica (Alajuela, Guanacaste, Puntarenas), El Salvador (La Libertad), Guatemala (Zacapa), Guyana (Cuyuni-Mazaruni), Nicaragua (Rivas), Panama (Darién, Panamá (Canal Zone)), Peru (San Martin), Trinidad, Uruguay, Venezuela (Aragua, Barinas, Guárico).


**grandis** Lyneborg. **Neotropical:** Brazil (Amazonas, Rio de Janeiro, Rondônia, São Paulo).


**irwini** Hauser and Webb. **Neotropical:** Peru (Amazonas, Cajamarca).


**minuta** Lyneborg. **Neotropical:** Peru (Apurímac).

*Ataenogera minuta* Lyneborg 2002: 106. Type locality Peru, Apurímac, Cuzco-Abancay road, Apurímac crossing at Cuya. HT male (MEI 147915) BMNH. Lyneborg (2002: 104 key, 107 dist., Figs. 3 male ant., 4–7

†Genus PALAEOPHEROCERA Hauser and Irwin

†PALAEOPHEROCERA Hauser and Irwin 2005a: 398. Type species *Psilocephala scudderi* Cockerell, 1909a by original designation. This genus is known only from the fossil record, in Florissant Shale (USA, Colorado).

†scudderi (Cockerell). Nearctic: USA (Colorado).

*Psilocephala scudderi* Cockerell 1909a: 10. Type locality Miocene compression fossil from Florissant, Colorado. HT sex unknown (MEI 156281) AMNH (Type No. 18860). Cockerell (1909a: Fig. 3 fossil; 1916: 90 desc., misidentification, Plate 2—Fig. 5 fossil), Irwin and Lyneborg (1981b: 518 note).


Palaeopherocera scudderi. Hauser and Irwin (2005a: 399 comb. change, desc., Figs. 6 photograph of holotype, 7 drawing of holotype, 8 wing).

Genus PARAPHEROCERA Irwin


macswaini Irwin. Nearctic: USA (California).

*Parapherocera macswaini* Irwin 1977b: 448. Type locality USA, California, Kern County, Short Canyon, 9 km W Inyokern. HT female (MEI 001188) CAS (Type No. 10449). Irwin (1977b: 442 key, Figs. 14 female head, 26 male ant., 34 dist. map), Irwin and Lyneborg (1981a: 266 sp. list), Poole (1996: 309 sp. list).

montana Irwin. Nearctic: Mexico (Baja California Norte), USA (California).

*Parapherocera montana* Irwin 1977b: 442. Type locality Mexico, Baja California Norte, about 6 km S La Rumorosa. HT female (MEI 001116) CAS (Type No. 10450). Irwin (1977b: 442 key, Figs. 2 habitus, 8–9 wing, 10 male max. palp., 16, 18 female head, 17 male head, 20 female tergum 8, 24 male ant., 22, 30–32 female genit., 34 dist. map, 42–48 male genit.), Irwin and Lyneborg (1981a: 266 sp. list, Figs. 37 ant., 40 male head, 215–221 male genit.), Poole (1996: 309 sp. list).

wilcoxi Irwin. Nearctic: USA (California).

*Parapherocera wilcoxi* Irwin 1977b: 446. Type locality USA, California, San Bernardino County, Big Bear Lake. HT female (MEI 001180) CAS (Type No. 10451). Irwin (1977b: 442 key, Figs. 15 female head, 25 male ant., 34 dist. map.), Irwin and Lyneborg (1981a: 266 sp. list; 1981b: Fig. 3 male head), Poole (1996: 309 sp. list), Gaimari and Webb (2009: 638 Fig. 2 male head).

Genus PHEROCERA Cole


PHAEOCERA. Misspelling of *Pherocera*. Kimsey et al. (1981: 669 biol.).
*albihalteralis* Cole. **Nearctic:** USA (Arizona, New Mexico, Texas, Utah).

*Pherocera albihalteralis* Cole 1923a: 22. Type locality USA, New Mexico, Alamogordo. HT female ANSP (Type No. 6280). Cole (1923a: 20 key, Fig. 14 female head; 1965: 349 cat.), Irwin and Lyneborg (1981a: 268 sp. list), Poole (1996: 309 sp. list), Gaimari and Webb (2009: 646 dist.).

*Pherocera flavihalteralis.* Misspelling of *albihalteralis.* Cole (1923a: Fig. 14).

*biphensis* Irwin. **Nearctic:** USA (California).


*bishopensis* Irwin. **Nearctic:** USA (California).


*boharti* Irwin. **Nearctic:** USA (California).


*boydi* Irwin. **Nearctic:** USA (California), Mexico (Baja California Norte), USA (Arizona, California, Idaho, Nevada, New Mexico, Utah).


*flavipes* Cole. **Nearctic:** Mexico (Baja California Norte, Baja California Sur), USA (Arizona, California, Idaho, Nevada, New Mexico, Utah).

*Pherocera flavipes* Cole 1923a: 22. Type locality USA, Arizona, Pinal County, Highley [= Higley], Superstition Mountain. HT female USNM. Cole (1923a: 20 key, Fig. 15 female head; 1965: 349 cat.), Irwin and Lyneborg (1981a: 268 sp. list; 1981b: Fig. 21 female genit.), Irwin (1983: 125 key, 130 desc., 131 dist., Figs. 17 female head, 24 male ant., 32 male max. palp., 41, 48, 56 male genit.), Sinclair *et al.* (1994: 432 phylog. exemplar), Poole (1996: 309 sp. list), Gaimari and Webb (2009: 642 Fig. 18 lateral female abd. apex).

*nigragena* Irwin. **Nearctic:** USA (California, Nevada, Oregon).


*nigripes* Cole. **Nearctic:** Mexico (Baja California Norte, Baja California Sur), USA (Arizona, California, Idaho, Nevada, New Mexico, Utah).

*Pherocera nigripes* Cole 1923b: 459. Type locality Mexico, Sonora, San Pedro Nolasco Island. HT female CAS (Type No. 01336). Cole (1923b: Fig. 2 female frons), Arnaud (1979: 136 type data), Irwin and Lyneborg (1981a: 268 sp. list). **Note 22.**

*rufoabdominalis* Irwin. **Nearctic:** Mexico (Baja California Norte), USA (California).


*rupina* Irwin. **Nearctic:** Mexico (Baja California Norte, Baja California Sur), USA (California).


*signatifrons* Cole. **Nearctic:** USA (Arizona, California, New Mexico, Utah).

*Pherocera signatifrons* Cole 1923a: 21. Type locality USA, New Mexico, Alamogordo. HT female ANSP (Type No. 6281). Cole (1923a: 20 key, Figs. 11 female ant., 12 female habitus, 13 female frons; 1965: 349 cat.), Curran (1934: 187 Figs. 10 ant., 11 head, 12 habitus; 1965: 187 Figs. 10 ant., 11 head, 12 habitus), Cole and Schlinger (1969: 171 Fig. 103B ant., head, habitus), Irwin and Lyneborg (1981a: 268 sp. list), Poole (1996: 309 sp. list).

*tomentamala* Irwin. **Nearctic:** USA (Arizona, California, Texas).

Genus PHYCUS Walker


frommeri Webb and Irwin. Nearctic: Mexico (Baja California Norte, Baja California Sur, Chihuahua), USA (Arizona, California). Neotropical: Mexico (Colima, Sinaloa).

Phycus frommeri Webb and Irwin 1988: 43. Type locality USA, California, Riverside County, 5.6 km S Palm Desert, P.L. Boyd Deep Canyon Desert Research Center. HT male (MEI 005169) CAS (Type No. 15741). Webb and Irwin (1988: Figs. 16 ant., 17 male head, 18 max. palp., 19 wing, 20–23 male genit., 25–26 female genit., 27 flight periodicity, 28–31 larva, 32–34 pupa), Poole (1996: 309 sp. list), Gaimari and Webb (2009: 633 Fig. 1 female habitus, 646 dist.).

frontalis Webb and Irwin. Neotropical: Belize, Costa Rica (Cartago), Mexico (Yucatán).


Genus SCHLINGERIA Irwin


ammobata Irwin. Nearctic: Mexico (Sonora), USA (California).

Schlingeria ammobata Irwin 1977b: 427. Type locality USA, California, Imperial County, Algadones Dunes, 10 km N Glamis. HT female (MEI 002855) CAS (Type No. 10481). Irwin (1977b: Figs. 1 habitus, 3–4 female head, 5 male head, 6–7 wing, 11 male max. palp., 12 male ant., 19 female tergum 8, 23 male style, 27–28, 35–41 male genit., 21, 29 female genit., 33 dist. map), Irwin and Lyneborg (1981a: 269 sp. list, Fig. 39 ant.), Poole (1996: 309 sp. list).
Subfamily THEREVINAE Newman


THEREVINI Newman. Lambkin et al. (2009 phylog.).

Genus ACROSATHE Irwin and Lyneborg


*bimaculata* (Cole). *Nearctic*: USA (North Carolina).


*falcata* Webb. *Nearctic*: USA (California, Nevada, Utah).


*otiosa* (Coquillett). *Nearctic*: Canada (British Columbia), Mexico, (Baja California Norte), USA (California, Colorado, Idaho, Oregon, Utah, Washington, Wyoming).


* pacifica* (Cole). *Nearctic*: USA (California).

Thereva pacifica Cole 1923a: 103. Type locality USA, California, Pacific Grove. HT male USNM (Type No. 25938). Cole (1923a: 86 male key, 88 female key, Fig. 133 ant.; 1965: 354 cat.).


*vanduzeei* (Cole). *Nearctic*: USA (California).


Note 24.


Thereva novella Coquillett 1893a: 200. Type locality USA, California, Los Angeles County. ST male (5 specimens), ST female, depository not stated (USNM, lost?). Coquillett (1893a: 197 key), Aldrich (1905: 157 cat.), Kröber (1912a: 247 male key, 250 female key, 255 sp. list, 1913b: 44 female key, 59 sp. list; 1914a: 61 male key), Cole (1923a: 86 male key, 88 female key, 93 rep. orig. desc., Fig. 139 ant.; 1965: 354 cat.), Webb (2009: 26 nom., syn. desig. of vialis Osten Sacken). Note 25.


†Genus AMBRADOLON Metz and Irwin

†AMBRADOLON Metz and Irwin 2000: 990. Type species Ambradolon grimaldii Metz and Irwin, 2000 by original designation. Metz and Irwin (2000: 986 key). This genus is known only from the fossil record, in Dominican amber (Dominican Republic).

†grimaldii Metz and Irwin. Neotropical: Dominican Republic.

Ambradolon grimaldii Metz and Irwin 2000: 991. Type locality Oligocene-Miocene amber from the Dominican Republic. HT male (MEI 088366) AMNH. Metz and Irwin (2000: 979 phylog., Figs. 27–28 phylog., 42 habitus, 43, 45 male genit., 44 male head).

Genus AMMONAIOS Irwin and Lyneborg


confusus Hauser and Irwin. Nearctic: Mexico (Baja California Norte, Baja California Sur, Chihuahua, Sonora), USA (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah).

Ammonaios confusus Hauser and Irwin 2003: 744. Type locality USA, Utah, Emery County, San Rafael Desert, 22 km NE Hanksville, Flat Top Pass. HT male (MEI 122447) UCDC. Hauser and Irwin (2003: 739 phylog., 743 key, 750 dist., Figs. 1 habitus, 2 phylog., 3 female head, 7 ant., 11, 15–16, 23 male genit., 27, 31 female genit., 35–37, 40 pupa, 44 female hindtarsus, 46 wing, 50–51 pupa, 52 tentorial pit, 54 dist. map). Note 26.
**mexicanus** Hauser and Irwin. **Nearctic:** Mexico (Baja California Norte, Baja California Sur).

*Ammonaios mexicanus* Hauser and Irwin 2003: 759. Type locality Mexico, Baja California Norte, 8.1 km N San Felipe. HT male (MEI 109196) SDMC (Type No. 0116). Hauser and Irwin (2003: 739 phylog., 744 key, Figs. 2 phylog., 4 female head, 8 ant., 12, 17–18, 24 male genit., 28, 32 female genit., 47 wing, 55 dist. map).

**niveus** (Kröber). **Nearctic:** Mexico (Chihuahua, Coahuila, Durango), USA (New Mexico, Texas).

*Thereresa nivea* Kröber 1914a: 64. Type locality USA, New Mexico, Dona Ana County, Mesilla Valley. HT male (MEI 114075) USNM (Type No. 26028). Kröber (1914a: 60 male key), Cole (1923a: 130 desc.; 1965: 354 cat.).


**sabulosus** Hauser and Irwin. **Nearctic:** USA (California).

*Ammonaios sabulosus* Hauser and Irwin 2003: 762. Type locality USA, California, Imperial County, 27.4 km NW Glamis. HT male (MEI 114063) EMEC. Hauser and Irwin (2003: 739 phylog., 743 key, Figs. 2 phylog., 6 female head, 10 ant., 14, 21–22, 26 male genit., 30, 34 female genit., 39, 42 pupa, 45 female hindtarsus, 49 wing, 57 dist. map).

### Genus AMPLISEGMENTUM Webb


**ecuadorensis** Webb. **Neotropical:** Ecuador (Bolivar, Carchi, Pichincha).

*Amplisegmentum ecuadorensis* Webb 2005c: 4. Type locality Ecuador, Carchi, Bolivar, Chota River. HT male (MEI 083805) CNC. Webb (2005c: 7 dist., Figs. 1–8 male genit., 9 female genit.).

### Genus ANOLINGA Gaimari and Irwin


**longiventris** (Kröber). **Neotropical:** Paraguay (Cordillera).

*Psilocephala longiventris* Kröber 1911: 510. Type locality Paraguay, San Bernardino. LT male (MEI 113150) USNM. Kröber (1911: 499 male key, 500 female key, 510 desc.; 1913b: 31 sp. list, 37 male key, 38 female key; 1928a: 6 dist., 9 male key, 10 female key), Metz et al. (2003: 246 LT desig., trans. orig. desc.).

*Anolinga longiventris.* Metz et al. (2003: 246 comb. change).

*Psilocephala longa* Kröber 1929a: 425. Type locality Paraguay. HT male (MEI 134682) ZMHB. Kröber (1929a: Figs. 14a male ant., 14b male genit.), Metz et al. (2003: 246 nom., syn. desig. of *longiventris* Kröber, 247 trans. orig. desc.).

**melanothrix** Gaimari and Irwin. **Neotropical:** Brazil (Minas Gerais, São Paulo).

*Anolinga melanothrix* Gaimari and Irwin 2000a: 165. Type locality Brazil, Minas Gerais, Sapucai-mirim, Cidade Azul. HT male (MEI 100215) MZSP. Gaimari and Irwin (2000a: 137 phylog., 160 key, 168 dist., Figs. 1–2 phylog., 16 male head, 17 female head, 61, 83, 120–121 male genit.).

**psilofrons** Gaimari and Irwin. **Neotropical:** Brazil (Rio de Janeiro).

*Anolinga psilofrons* Gaimari and Irwin 2000a: 168. Type locality Brazil, Rio de Janeiro, Grajahu. HT male (MEI 077737) MZSP. Gaimari and Irwin (2000a: 137 phylog., 161 key, 170 dist., Figs. 1–2 phylog., 18 male head, 19 female head, 84, 122–123 male genit., 149 female genit.).
Genus APENNIVERPA Webb


Genus ARENIGENA Irwin and Lyneborg

ARENIGENA Irwin and Lyneborg 1981a: 238. Type species Thereva semitaria Coquillett, 1893a by original designation. Irwin and Lyneborg (1981a: 201 key, 240 sp. list; 1981b: 518 key, Fig. 19 male genit.), Poole (1996: 308 sp. list), Holston et al. (2007: 282 phylog., Figs. 2–4 phylog.), Webb (2009: 37 nom., desc., 38 key), Gaimari and Webb (2009: 641 key, 644 dist., biol., habitats). This genus is mainly Nearctic in distribution, occurring in Mexico and the USA.

albiseta Webb. Nearctic: USA (Arizona, California, Colorado, Nebraska, Nevada, New Mexico, North Dakota, Texas, Utah, Wyoming).
Arenigena albiseta Webb 2009: 39. Type locality USA, Arizona, Coconino County, 32 km NE Tuba City. HT male (MEI 119000) USNM. Webb (2009: 38 key, Figs. 55 dist. map, 56–62 male genit., 63 female genit.).

bajaensis Webb. Nearctic: Mexico (Baja California Norte, Baja California Sur).
Arenigena bajaensis Webb 2009: 41. Type locality Mexico, Baja California Norte, 4.8 km NW Camalú. HT male (MEI 109251) CAS (Type No. 18393). Webb (2009: 38 key, Figs. 64–70 male genit., 71 female genit., 96 dist. map).

floridensis Webb. Nearctic: USA (Florida).
Arenigena floridensis Webb 2009: 44. Type locality USA, Florida, Putnam County, Hollister-Roberts ranch [Hollister]. HT male (MEI 128566) FSCA. Webb (2009: 38 key, Figs. 50 dist. map, 72–78 male genit., 79 female genit.).

marcida (Coquillett). Nearctic: Mexico (Baja California Norte, Baja California Sur), USA (Arizona, California, Nevada, New Mexico, Texas). Neotropical: Mexico (Sinaloa).


Thereva semitaria Coquillett 1893a: 198. Type locality USA, California, Los Angeles County. LT male (MEI 114021) USNM (Type No. 10421). Coquillett (1893a: 197 key), Aldrich (1905: 250 cat.), Kertész (1909: 159 cat.), Kröber (1912a: 248 male key, 250 female key, 255 sp. list; 1913b: 43 male key, 44 female key; 61 sp. list; 1914a: 60 male key, 62 female key, 64 desc.), Woodworth (1913: 149 sp. list), Cole (1923a: 86 male key, 88 female key, 93 note, Figs. 128 female frons, 138 ant.; 1923b: 462 dist.; 1965: 354 cat.), Webb (2009: 55 LT desig.).

Genus ARGOLEPIDA Metz and Irwin

ARGOLEPIDA Metz and Irwin in Metz et al. 2003: 233. Type species Psilocephala rivulosa Kröber, 1928a by original designation. Metz et al. (2003: Fig. 5 male genit.), Holston et al. (2007: 282 phylog., Figs. 2–4 phylog.), Gaimari and Webb (2009: 643 key). This genus is Neotropical in distribution, occurring in Argentina.

rivulosa (Kröber). Neotropical: Argentina (Mendoza).
Psilocephala rivulosa Kröber 1928a: 21. Type locality Argentina, Mendoza. HT female (MEI 134205) MLUH. Kröber (1928a: 7 dist., 10 female key, Fig. 17 female frons, ant.), Metz et al. (2003: 235 trans. orig. desc., invalid LT desig.). Note 27.

Genus BRACHYLINGA Irwin and Lyneborg


albiseta (Malloch). Neotropical: Argentina (Río Negro).
Psilocephala albiseta Malloch 1932: 252. Type locality Argentina, Río Negro, eastern end of Lago Nahuel Huapi. HT male BMNH (Type No. 241969). Malloch (1932: 250 key).
baccata (Coquillett). Nearctic: Mexico (Baja California Norte, Baja California Sur, Jalisco, Sonora), USA (Arizona, California, Colorado, Nevada, New Mexico, Oregon, Utah, Washington).
Psilocephala baccata Coquillett 1893b: 226. Type locality USA, California, Los Angeles County. LT male (MEI 038548) USNM (Type No. 10411). Coquillett (1893b: 224 key), Aldrich (1905: 246 cat.), Kertész (1909:161 cat.), Kröber (1912a: 225 male key, 225 female key, 227 sp. list, 247 desc.; 1913b: 29 sp. list, 36 male key, 37 female key; 1914a: 39 male key, 40 female key, 47 desc.; 1928b: 120 dist.), Woodworth (1913: 149 sp. list), Cole (1923a: 34 male key, 37 female key, 64 note, 65 dist., Fig. 88 ant.; 1965: 350 cat.), Webb and Metz (2006: 39 LT desig.).
Caenotus thompsonii Evenhuis 1977: 122. Type locality USA, California, Los Angeles County, San Dimas Experimental Forest. HT male CAS. Arnaud (1979: 209 type data), Poole (1996: 584 sp. list), Metz (2003: 3 nom., syn. desig. of baccata Coquillett), Webb and Metz (2006: 36 nom.).

bicolor Webb. Nearctic: Mexico (Jalisco), Neotropical: Costa Rica (Guanacaste, Heredia, Puntarenas), Mexico (Sinaloa, Yucatán), Nicaragua (Masaya), Venezuela (Aragua, Carabobo, Mérida).

Brachylinga bicolor Webb in Webb and Metz 2006: 52. Type locality Costa Rica, Guanacaste Province, 10 km W San Miguel. HT male (MEI 007477) INHS. Webb and Metz (2006: 15 male key, 17 female key, Figs. 6, 29, 52, 75, 98, 121, 146, 167 male genit., 188 female genit., 217 dist. map).

chilensis (Macquart). Neotropical: Argentina (Neuquén, Río Negro), Chile (Araucanía, Atacama, Bío-Bío, Coquimbo, Libertador General Bernardo O’Higgins, Los Lagos, Magallanes, Región Metropolitana de Santiago, Valparaíso (Aconcagua in Webb and Metz 2006)).


Note 28.


Psilocephala interrupta Kröber 1911: 507. Type locality Chile, Concepción. LT female (MEI 113147) USNM (Type No. 24213). Kröber (1911: 498 male key, 500 female key; 1913b: 31 sp. list, 36 male key, 37 female key; 1928a: 6 dist., 8 male key, 11 female key), Malloch (1932: 250 key, 251 desc., Fig. 20b ant.), Stuardo-Ortiz (1946: 87 cat.), Metz et al. (2003: 248 LT desig., 249 trans. orig. desc.), Webb and Metz (2006: 58 nom., syn. desig. of chilensis Macquart).


cinerea (Cole). Nearctic: USA (Arizona, California, New Mexico, Texas, Utah).

Psilocephala cinerea Cole 1923a: 65. Type locality USA, New Mexico, Alamogordo. HT male ANSP (Type No. 6278). Cole (1923a: 35 male key, 37 female key, Figs. 60 female frons, 72 wing, 95 ant.; 1965: 351 cat.).


clausa (Kröber). Neotropical: Argentina (Salta, La Rioja, Catamarca, Mendoza, Neuquén, Tucumán), Bolivia (Santa Cruz, Tarija).

Psilocephala brunnipes clausa Kröber 1929b: 170. Type locality Bolivia, Samuhuate [Samayhuate]. HT female (MEI 121031) SMNS. Kröber (1929b: 172 Fig. 1 female ant., frons), Metz et al. (2003: 249 trans. orig. desc.).


concava Webb. Neotropical: Costa Rica (Guanacaste), Panama (Panamá (Canal Zone)).


curacaoensi (Webb). Neotropical: Netherlands Antilles (Bonaire, Curaçao).

Brachylinga curacaoensis Webb in Webb and Metz 2006: 74. Type locality Netherlands Antilles, Curaçao, Coral Specht, 3 km E Willemstad. HT male (MEI 048175) USNM. Webb and Metz (2006: 15 male key, 17 female key, Figs. 11, 34, 57, 80, 103, 126, 149, 172 male genit., 193 female genit., 214 dist. map).


*fraterna* (Kröber). **Neotropical**: Brazil (Ceara).

*Psilocephala fraterna* Kröber 1911: 521. Type locality Brazil, Soledade. HT male (MEI 147292) NHMW. Kröber (1911: 499 male key; 1913b: 30 sp. list, 37 male key; 1928a: 6 dist., 9 male key).


*laculata* Webb. **Neotropical**: Mexico (Baja California Sur).


*mexicana* Webb. **Nearctic**: Mexico (Baja California Norte, Baja California Sur, Sonora), USA (California).

*Brachylinga mexicana* Webb in Webb and Metz 2006: 81. Type locality Mexico, Baja California Sur, Las Barracas. HT male (MEI 076286) CAS (Type No. 18114). Webb and Metz (2006: 14 male key, 16 female key, Figs. 14, 37, 60, 82, 107, 130, 153, 176 male genit., 196 female genit., 216 dist. map).

*mimica* Webb. **Nearctic**: Mexico (Jalisco). **Neotropical**: Mexico (Sinaloa).


*morata* (Coquillett). **Neotropical**: USA (Alabama, Florida, Georgia, Illinois, Indiana, Maryland, Michigan, New Jersey, New York, North Carolina).


*ornata* (Kröber). **Neotropical**: Brazil (Ceara, Mato Grosso do Sul, Rio de Janeiro, Santa Catarina, Paraguay).


*Psilocephala ornatifrons* Kröber 1911: 519. Type locality Peru, Arequipa. HT male (MEI 134208) SMTD. Kröber (1911: 499 male key; 1913b: 33 sp. list, 37 male key; 1928a: 6 dist., 10 male key), Metz et al. (2003: 250 trans. orig. desc.).


*pavida* (Coquillett). **Nearctic**: Mexico (Baja California Norte, Baja California Sur, Durango, Jalisco, Morelos, Nayarit, Puebla, Sonora), USA (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, Washington). **Neotropical**: Costa Rica (Guanacaste), Guatemala (Zacapa), Honduras, Mexico (Chiapas, Colima, Sinaloa, Veracruz), Nicaragua (León).

*Psilocephala pavida* Coquillett 1893b: 226. Type locality USA, California, Los Angeles County. HT male USNM (Type No. 10412). Coquillett (1893b: 224 key), Aldrich (1905: 247 cat.), Kertész (1909: 164 cat.), Kröber (1912a: 223 male key, 230 sp. list; 1913b: 33 sp. list, 38 male key; 1914a: 39 male key, 40 female key, 46 desc.), Woodworth (1913: 149 sp. list), Cole (1923a: 36 male key, 37 female key, 66 note, dist., Figs. 51 female, 77, wing, 84 ant., 98 male genit.; 1965: 351 cat.), James (1936: 341 dist.).


**punctifrons** (Kröber). Neartic: Mexico (Jalisco, Nayarit, Puebla). Neotropical: Colombia (Bolivar), Costa Rica (Guanaaste, Puntarenas), El Salvador (Ahuachapán, La Libertad), Guatemala (Esquintla, Guatemala, Quetzaltenango), Mexico (Chiapas, Colima, Guerrero, Oaxaca, Sinaloa), Nicaragua (Masaya), Panama (Chiriquí, Panamá (Canal Zone)).

**Psilocephala punctifrons** Kröber 1914a: 58. Type locality Guatemala, Departamento Esquintla, Monterrico. NT male (MEI 108667) INBC. Kröber (1914a: 38 male key, 40 female key; 1928a: 7 dist., 11 female key, 16 desc., Figs. 11 female frons, ant., 11a male ant.), Metz *et al.* (2003: 248 NT desig., 250 trans. orig. desc.).


**sericeifrons** (Kröber). Neotropical: Argentina (Chubut, La Rioja, Neuquén, Rio Negro, Salta, Tucumán), Chile (Araucanía, Atacama, Bio-Bío, Coquimbo, Maule, Región Metropolitana de Santiago, Valparaiso (Aconcagua in Webb and Metz 2006)).

**Psilocephala sericeifrons** Kröber 1928c: 34. Type locality Chile, Olemué [=Olmué]. HT female (MEI 115973) DEI. Kröber (1928a: 7 dist., 11 female key; 1928c: Fig. 4 female ant.), Malloch (1932: 250 key), Webb and Metz (2006: 131 invalid LT desig.).


**tepocae** (Cole). Neotropical: Mexico (Sonora). Neotropical: Mexico (Chiapas, Oaxaca, Sinaloa).

**Psilocephala tepocae** Cole 1923b: 461. Type locality Mexico, Sonora, Tepoca Bay. HT female CAS (Type No. 01338). Cole (1923b: Fig. 3 female ant.), Arnaud (1979: 138 type data).


**tridentata** Webb. Neotropical: Costa Rica (Guanaaste).


**xanthoperna** Irwin and Webb. Neotropical: Brazil (Roraima), Colombia (Magdalena), Venezuela (Aragua, Guárico, Monagas, Nuevo Esparta, Zulia).


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**Genus BREVIPERNA** Irwin

placida (Coquillett). Nearctic: Mexico (Jalisco, Nayarit), USA (Arizona, New Mexico).

*Psilocephala placida* Coquillett 1894: 99. Type locality Flagstaff, Arizona. HT female USNM (Type No. 10420). Aldrich (1905: 247 cat.), Kertész (1909: 164 cat.), Kröber (1912a: 225 female key, 230 sp. list; 1913b: 33 sp. list, 39 female key; 1914a: 41 female key), Cole (1923a: 37 female key, 64 note, Fig. 45 female frons; 1965: 351 cat.). Note 30.


Genus *CEROCATUS* Rondani


*achaetus* (Malloch). Neotropical: Uruguay (Montevideo).

*Furcifera achaeta* Malloch 1932: 256. Type locality Uruguay, Montevideo. HT male BMNH (Type No. 241977). Cole (1960a: 164 male key, 165 female key, 169 note, Fig. 11 female head).


*Cerocatus achaetus*. New Combination.

*analis* (Kröber). Neotropical: Paraguay (Cordillera).

*Phycus analis* Kröber 1911: 480. Type locality Paraguay, San Bernardino. HT male HNHM (destroyed). Kröber (1911: 480 key; 1913b: 11 key, sp. list).

*Cerocatus analis*. New Combination.
badicrusus (Irwin and Webb). Neotropical: Brazil (Amazonas), Ecuador (Pichincha), Peru (Puno).


**Cerocatus badicrusus.** NEW COMBINATION.

**beckeri** (Kröber). Neotropical: Argentina, Brazil, Paraguay, Peru.

*Phycus beckeri* Kröber 1911: 481. Type locality Paraguay, San Bernardino. HT female (MEI 137408) HNHM. Kröber (1911: 480 key; 1913b: 11 key, sp. list, Fig. 1 habitus; 1914a: 35 dist.).

*Cyclotelus beckeri*. Irwin and Webb (1992: 87 checklist, comb. change), Gaimari and Irwin (2000a: 137 phylog., 189 sp. list, Figs. 1–2 phylog., 36 male head, 37 female head, 53, 55, 70, 103–104,142–143 male genit., 156 female genit.).

**Cerocatus beckeri.** NEW COMBINATION.

**bellus** (Cole). Nearctic: USA (Texas).

*Epomyia bella* Cole 1923a: 32. Type locality USA, Texas, Macdona. HT female ANSP (Type No. 6279). Cole (1923a: 26 female key, Figs. 21 female head, 27 female wing, 31 ant.; 1925: 85 dist.).

*Furcifera bella*. Cole (1960a: 165 female key, 167 note, comb. change, Figs. 4 female wing, 4a female head, 4b ant.; 1965: 350 cat.).


**Cerocatus bellus.** NEW COMBINATION.

**bicolor** (Kröber). Neotropical: Bolivia.

*Phycus bicolor* Kröber 1911: 482. Type locality Bolivia. HT female ZSMC. Kröber (1911: 480 female key; 1913b: 11 key, sp. list).

**Cerocatus bicolor.** NEW COMBINATION.

**brazilianus** (Cole). Neotropical: Brazil (Paraná).

*Furcifera braziliana* Cole 1960a: 166. Type locality Brazil, Paraná, Curitiba, Parolim. HT male USNM (Cole 1960a). Cole (1960a: 164 male key, 165 female key, Fig. 13 male genit.).


**Cerocatus brazilianus.** NEW COMBINATION.


**Cerocatus colei.** NEW COMBINATION.
Thereva diversipes (Kröber). Neotropical: Brazil (Bahia).

Thereva diversipes Kröber 1911: 493. Type locality Brazil, Alagoinas [Alagoinhas]. HT male (MEI 119875) NHMW. Kröber (1911: 491 male key; 1913b: 45 male key, 56 sp. list).


Cerocatus diversipes. NEW COMBINATION.

fascipennis (Macquart). Neotropical: South America.

Thereva fascipennis Macquart 1846a: 232. Type locality South America [Amerìque méridionale]. ST female MNHN ["Collection de M. Robyns, de Bruxelles"]. Macquart (1846a: Plate 9, Fig. 5 head; 1846b: 104 subsequent usage, Plate 9, Fig. 5 head), Kertész (1909: 153 cat.). Metz et al. (2003: 251 trans. orig. desc.).

Note 36.


Cerocatus fascipennis. NEW COMBINATION.

femoratus (Kröber). Neotropical: Paraguay.

Psilocephala femorata Kröber 1911: 522. Type locality Paraguay. HT male HNHM (destroyed). Kröber (1911: 499 male key; 1913b: 30 sp. list, 37 male key; 1928a: 6 dist., 9 male key), Metz et al. (2003: 252 trans. orig. desc.).


Cerocatus femoratus. NEW COMBINATION.

flavipes (Kröber). Neotropical: Brazil (Santa Catarina).

Furcifera flavipes Kröber 1928b: 113. Type locality Brazil, Rio de Janeiro, Neu Freiburg [= Nova Friburgo]. HT female (MEI 140305) MLUH. Kröber (1928b: Fig. 19 ant.), Cole (1960a: 165 female key, 166 note, Fig. 6 ant.).

Note 37.


Cerocatus flavipes. NEW COMBINATION.

Furcifera diversipes Kröber 1928b: 116. Type locality Brazil, Rio de Janeiro, Neu Freiburg [= Nova Friburgo]. HT male (MEI 140304) MLUH. Kröber (1928b: Fig. 21 male ant.), Cole (1960a: 164 male key, 166 note, Fig. 8 male ant.), Irwin and Webb (1992: 87 nom., syn. desig. of flavipes Kröber).

hardyi (Cole). Nearctic: USA (Texas).


Cerocatus hardyi. NEW COMBINATION.

kroeberi (Cole). Neotropical: Brazil (Mato Grosso), Costa Rica, Paraguay (Guairá), Uruguay (Montevideo).

Furcifera kroeberi Cole 1960a: 169 (as kroberi). Type locality Brazil, Mato Grosso, Salabra. HT female USNM. Cole (1960a: 164 female key, 169 desc., Fig. 12 female head). Note 38.


Cerocatus kroeberi. NEW COMBINATION.

laetus (Walker). Neotropical: South America.

Cyclotelus laetus Walker 1850: 6. Type locality South America. ST female BMNH (Type No. 241975). Kertész (1909: 170 cat.), Kröber (1911: 477 key, 478 desc.; 1913b: 9 key, sp. list), Gaimari and Irwin (2000a: 189 sp. list).

Cerocatus laetus. NEW COMBINATION.

longicornis (Kröber). Neotropical: Peru.

Furcifera longicornis Kröber 1911: 526. Type locality Peru, Vilcanota. HT female (MEI 085582) MNHN. Kröber (1911: 524 key; 1913b: 27 key, 28 sp. list), Cole (1960a: 165 female key, note). Note 39.


Cerocatus longicornis. NEW COMBINATION.

nigrifrons (Kröber). Neotropical: Costa Rica (Puntarenas).

Psilocephala nigrifrons Kröber 1914a: 57. Type locality Costa Rica, Puntarenas. HT female ZMUH (presumed destroyed). Kröber (1914a: 40 female key; 1928a: 6 dist., 12 female key, 15 desc., Fig. 10 female frons, ant.), Metz et al. (2003: 252 trans. orig. desc.). Note 40.


Cerocatus nigrifrons. NEW COMBINATION.

nigroflammus (Walker). Neotropical: Brazil (Rio de Janeiro, Santa Catarina).


Cerocatus nigroflammus. NEW COMBINATION.

Furcifera fulvipennis Kröber 1928b: 114. Type locality Brazil, Rio de Janeiro, Neu Freiburg [= Nova Friburgo]. HT female (MEI 140306) MLUH. Kröber (1928b: Fig. 20 female ant., frons), Cole (1960a: 165 female key, 166 note, Fig. 7 female ant., frons), Irwin and Webb (1992: 88 nom., syn. desig. of nigroflammus Walker), Gaimari and Irwin (2000a: 189 nom.).

pictipennis (Wiedemann). Nearctic: Canada (Ontario), USA (Alabama, Arizona, Colorado, Connecticut, Florida, Georgia, Illinois, Kansas, Maryland, Massachusetts, Michigan, Nebraska, New Jersey, New York, North Carolina, Ohio, Texas, Wisconsin).


Furcifera pictipennis. Cole (1960a: 164 key, 167 note, comb. change, Figs. 2 wing, 2a female head, 2b ant., 2c male genit., 2d fore- and midtarsi, 14 coxae; 1965: 350 cat.).


Cerocatus pictipennis. NEW COMBINATION.


politus (Kröber). Neotropical: Argentina, Bolivia, Brazil (Paraná), Paraguay (Cordillera).

Furcifera polita Kröber 1911: 524. Type locality Paraguay. ST female (MEI 085581) MNHN, ST female (MEI 140258), ST female (MEI 140263) USNM (Type No. 24190), ST sex unknown HNHM (destroyed). Kröber
(1911: 524 key, Fig. 2 male ant.; 1913b: 27 male key, 28 female key, sp. list; 1914a: 35 note; 1929a: 423 dist.), Cole (1960a: 164 female key, 166 note, Fig. 10 female head).


*Cerocatus politus*. NEW COMBINATION.

Cyclotelus *pruinosus* (Walker). *Neotropical*: South America.


*Agapophytus pruinosus*. Walker (1854: 107 cat., comb. change)

*Cerocatus pruinosus*. NEW COMBINATION.


*Cerocatus raspii* Hauser. NEW NAME for *Phycus rufiventris* Kröber, 1911. Note 42.

*Cerocatus rondanii* Gaimari. *Neotropical*: Brazil.


*Cerocatus rondanii* Gaimari. NEW NAME for *Ectinorrhynchus fascipennis* Kröber, 1911. Note 44.

*Cerocatus ruficornis*. NEW COMBINATION.

*Cerocatus rufiventris*. NEW COMBINATION.

*Psilocephala lacteipennis* Kröber 1914a: 53. Type locality USA, Florida. HT male USNM (Type No. 26024). Kröber (1914a: 39 male key), Cole (1923a: 77 trans. orig. desc.; 1960a: 168 nom., syn. desig. of *rufiventris*...

scutellaris (Walker). Neotropical: Brazil.

*Thereva scutellaris* Walker 1857: 133. Type locality Brazil, Valley of the Amazon. ST male BMNH (Type No. 242996). Kertész (1909: 159 cat.), Kröber (1911: 491 male key, 492 desc.; 1912a: 225 female key, 230 sp. list, 231 desc.; 1913b: 44 male key, 61 sp. list).


*Cerocatus scutellaris*. NEW COMBINATION.

silacrusus (Irwin and Webb). Neotropical: Brazil (São Paulo).


*Cyclotelus silacrasus*. Misspelling of *silacrusus*. Gaimari and Irwin (2000a: 189 sp. list).

*Cerocatus silacrusus*. NEW COMBINATION.

socius (Walker). Neotropical: Brazil.


*Cerocatus socius*. NEW COMBINATION.

Furcifera fascipennis Kröber 1911: 526. Type locality Brazil. HT female NHMW. Preoccupied by *Thereva fascipennis* Macquart (1846a: 232) if a valid species in this genus. Kröber (1911: 524 key; 1912a: 221 desc.; 1913b: 28 sp. list), Cole (1923a: 25 dist.;1960a: 164 male key, 165 female key, desc., Fig. 9 female head), Irwin and Webb (1992: 88 nom., syn. desig. of *socius* Walker), Gaimari and Irwin (2000a: 189 nom.).

Note 47.

sumichrasti (Bellardi). Nearctic: Mexico (Nuevo León). Neotropical: Mexico (Veracruz), Nicaragua (Granada).


Note 48.

Eponymia sumichrasti. Cole (1923a: 26 key, 31 note, comb. change, Figs. 23 female wing, 24 female frons, 32 ant., 33 male genit.), Curran (1934: 186 Fig. 9 wing; 1965: 186 Fig. 9 wing).

Furcifera sumichrasti. Cole (1960a: 164 key, 168 note, comb. change, Figs. 3 female wing, 3a female frons, ant., 3b ant., 3c male genit.).


*Cerocatus sumichrasti*. NEW COMBINATION.

tarsalis Rondani. Neotropical: Brazil.

*Cerocatus tarsalis* Rondani 1848: 99. Type locality: Brazil. ST female MZUN. Rondani (1848: Fig. 9 head, Fig. 10 wing), Kertész (1909: 171 cat.), Kröber (1913a: 175 rep. orig. desc.; 1914b: 4 cat.; 1937a: 213 cat.), Hardy (1966: 32.1 cat.), Kelsey (1969: 1 note), O’Hara et al. (2011: 215 sp. list).

Note 49.

Genus CHROMOLEPIDA Cole

(2009: 637 key, 645 dist., habitats). This genus is Nearctic and Neotropical in distribution, occurring in Colombia, Costa Rica, Guyana, Mexico, Nicaragua, USA, and Venezuela.


**bella** Cole. **Nearctic:** USA (Arizona, California, Idaho, Nevada, Oregon, Utah, Washington). **Neotropical:** Mexico (Sinaloa). *Chromolepida bella* Cole 1923a: 24. Type locality USA, California, San Francisco, Golden Gate Park. HT male (MEI 009177) USNM (Type No. 25929). Cole (1923a: 23 key, Figs. 16 female head, 17 male ant., 18 male genit.; 1965: 350 cat.), Curran (1934: 186 Fig. 4 antenna; 1965: 186 Fig. 4 antenna). Arnaud (1979: 136 paratypes), Irwin and Lyneborg (1981a: 260 sp. list, Figs. 31 male head, 194–199 male genit.), Poole (1996: 308 sp. list), Webb and Irwin (1995: 197 phylog. 204 key, nom., desc., 210 dist., Figs. 1 phylog., 2–8 male genit., 9–11 fem genit., 56 dist. map).

**Chromomolepida bella.** Misspelling of *Chromolepida*. Curran (1934: 186 Fig. 5 head; 1965: 186 Fig. 5 head).


**nigra** Webb and Irwin. **Nearctic:** Mexico (Hidalgo, Jalisco, Morelos, Puebla, Querétaro). **Neotropical:** Mexico (Guerrero, Oaxaca, Quintana Roo, Sinaloa, Veracruz, Yucatán), Nicaragua (León). *Chromolepida nigra* Webb and Irwin 1995: 218. Type locality Mexico, Sinaloa, 34 km E Villa Union. HT male (MEI 008815) INHS. Webb and Irwin (1995: 197 phylog. 204 key, Figs. 1 phylog., 32–38 male genit., 39–41 female genit., 57 dist. map).


**Genus CLIORISMIA** Enderlein


**CLIORISMA.** Misspelling of *Cliorismia*. Kröber (1937b: 275).

**bussi** (James). **Nearctic:** Canada (Northwest Territories, Yukon Territory), USA (Alaska). *Psilocephala bussi* James in James and Huckett 1952: 265. Type locality Canada, Yukon Territory, 8.1 km N Burwash Landing, Duke River Meadow. HT male (MEI 009360) WSUC (Type No. 172). James and Huckett (1952: 267 dist., Fig. 1 male genit.), Cole (1965: 351 cat.), Arnaud (1979: 137 paratype).

**Cliorismia bussi.** Webb and Metz (2003a: 377 comb. change), Webb (2003: 488 nom., desc., 489 dist., Figs. 1–8 male genit., 9 female genit., 19 dist. map; 2005a: 5 phylog., Fig. 1 phylog.).

**platyphallus** Webb. Nearctic: USA (California, Oregon, Washington).

**Cliorismia platyphallus** Webb 2003: 491. Type locality USA, Oregon, Baker County, Goose Creek, 55 km SE Union. HT male (MEI 008943) WSUC. Webb (2003: 493 dist., Figs. 10–17 male genit., 18 female genit., 20 dist. map), Webb (2005: 5 phylog., Fig. 1 phylog.). Note 50.

**Genus COLEIANA Gaimari and Irwin**


**nigricopis** Gaimari and Irwin. Neotropical: Brazil (Rio de Janeiro, Santa Catarina).

*Coleiana nigricopis* Gaimari and Irwin 2000a: 181. Type locality Brazil, Santa Catarina, Nova Teutonia. HT male (MEI 028449) CNC. Gaimari and Irwin (2000a: 137 phylog., 162 key, 181 desc., Figs. 1–2 phylog., 32 male head, 33 female head, 47 mid tarsus, 68, 99–100,107,138–139 male genit., 155 female genit.).

**Genus CREBRASETA Gaimari and Irwin**


**crassicornis** (Bellardi). Nearctic: Mexico (Federal District).


*Ozodiceromyia crassicornis*. Holston (2004: 49 nom.).


**Genus DIALINEURA Rondani**


Genus DICHOGLENA Irwin and Lyneborg


Dichoglena nigrina. Irwin and Lyneborg (1981a: 212 comb. change, sp. list), Webb (2003: 495 nom., desc., 497 dist., Figs. 21–28 male genit., 29 female genit., 30 dist. map; 2005: 5 phylog., Fig. 1 phylog.), Webb and Metz (2003a: 371 phylog., Figs. 1a, b phylog.).


Note 52.


Genus DISTOSTYLUS Webb


Genus ELCARIBE Webb

ELCARIBE Webb in Webb and Metz 2006: 146. Type species *Psilocephala obscura* Coquillett, 1893b by original designation. Webb and Metz (2006: 155 male key, 156 female key), Gaimari and Webb (2009: 643 key). This genus is Nearctic and Neotropical in distribution, occurring in the Florida Keys in the USA and on various Caribbean Islands.

*abdominalis* (Fabricius). Neotropical: British Virgin Islands (Anegada Island, Guana Island), Jamaica, Puerto Rico (including Mona Island, Vieques Island, Saint Croix Island), United States Virgin Islands (Saint Thomas Island), West Indies (Saint Martin Island).


*Thereva abdominalis*. Wiedemann (1821: 113 desc., comb. change; 1828: 236 desc.).

*Psilocephala abdominalis* Kröber (1911: 499 male key, 500 female key, 515 desc., comb. change; 1913b: 28 sp. list, 37 male key, 38 female key; 1928a: 5 dist., 10 male key, 12 female key).


*anguilla* Webb. Neotropical: British West Indies (Anguilla Island).


*bifidus* Webb. Neotropical: Dominican Republic (Barahona, Maria Trinidad Sanchez, Pedernales, Puerto Plata).


*elongatus* Webb. Neotropical: Dominican Republic (Monte Cristi, Pedernales), The Bahamas (Andros Island, Caico Islands, Plana Cays, Turks Islands).

**glabrus** Webb. **Neotropical**: Dominican Republic (Independencia, Pedernales).


**guanaensis** Webb. **Neotropical**: British Virgin Islands (Anegada Island, Guana Island), Puerto Rico, United States Virgin Islands (Saba Island).


**longicaudus** Webb. **Neotropical**: British West Indies (Antigua Island).


**obscurus** (Coquillett). **Nearctic**: USA (Florida). **Neotropical**: Bahamas, Cayman Islands, Dominican Republic (Independencia, Pedernales), Jamaica (Kingston), Netherlands Antilles.


**Note 53.**


**Note 54.**


**paniculus** Webb. **Neotropical**: West Indies (St. Kitts Island).


**platycera** Loew. **Neotropical**: Cuba (Ciudad de la Habana, Santiago de Cuba, Guantánamo), Dominican Republic (Pedernales, Puerto Plata, San Cristóbal), The Bahamas (Grand Turk Island).


**Note 54.**


**scarbroughi** Webb. **Neotropical**: The Bahamas (San Salvador Island).


**starki** Webb. **Neotropical**: Cuba (Santiago de Cuba).

Elcaribe *starki* Webb in Webb and Metz 2006: 194. Type locality Cuba, Province Santiago de Cuba, Parque Baconao, 5 km W Lagune Sigua, 0.5 km W Hotel "Los Caroles". HT male (MEI 081635) INHS. Webb and Metz (2006: 155 male key, 156 female key, Figs. 231, 245, 259, 273, 287, 301, 315, 329 male genit., 342, 354 female genit., 358 dist. map).
**stel/us** Webb. Neotropical: Dominican Republic (La Romana).


**Genus INCOXOVERPA Webb and Irwin**

_INCOXOVERPA_ Webb and Irwin 1999: 648. Type species _Tabuda borealis_ Cole, 1923a by original designation. Webb and Irwin (1999: 645 phylog., Fig. 1 phylog.), Gaimari and Webb (2009: 641 key). This genus is Nearctic in distribution, occurring in Canada and northwest USA.

_borealis_ (Cole). Nearctic: Canada (Saskatchewan), USA (Wyoming).


_Incoxoverpa borealis._ Webb and Irwin (1999: 645 phylog., 651 desc., comb. change, 656 male key, 657 female key, Figs. 1 phylog., 2 ant., 5 max. palp., 8 wing, 11, 19, 27, 35, 43, 51, 59 male genit., 67, 74 female genit.), Webb and Metz (2003a: 371 phylog., Figs. 1a, b phylog.), Webb (2005a: 8 phylog., Fig. 1 phylog.).

**Genus INSULATITAN Metz and Irwin**

_INSULATITAN_ Metz and Irwin 2000: 993. Type species _Insulatitan romaynae_ Metz and Irwin, 2000 [= _Psilocephala longipes_ Loew, 1869] by original designation. Metz and Irwin (2000: 979 phylog., 988 key, Fig. 28 phylog.), Gaimari and Webb (2009: 639 key). This genus is Neotropical in distribution, occurring Cuba, Dominican Republic, and The Bahamas.

_longipes_ (Loew). Neotropical: Cuba, The Bahamas (Man O War Cay, South Bimini Island).

_Psilocephala longipes_ Loew 1869: 8. Type locality Cuba. ST female (MEI 140580) MCZ (Type No. 10674). Loew (1872b: 122 subsequent usage), Osten Sacken (1878: 96 cat.), Aldrich (1905: 247 cat.), Kertész (1909: 163 cat.), Kröber (1911: 499 male key, 500 female key, 506 desc.; 1913b: 31 sp. list, 37 male key, female key; 1914a: 38 male key, 40 female key, 56 desc.; 1928a: 6 dist., 10 male key, 11 female key, 17 desc., Fig. 12 male ant.; 1929b: 170 dist.). _Note 56._


_trishae_ Metz and Irwin. Neotropical: Dominican Republic (Azua, Matanzas, Pedernales), Haiti.


_watsoni_ Metz and Irwin. Neotropical: Cuba (Ciudad de la Habana, Santiago de Cuba).

youngi Metz and Irwin. Neotropical: Dominican Republic (Azua, Independencia, Pedernales, Puerto Plata, Samaná).

Insulatitan youngi Metz and Irwin 2000: 1002. Type locality Dominican Republic, Azua, 8 km NE Padre Las Casas, Río Las Cuevas. HT male (MEI 030475) CMNH. Metz and Irwin (2000: 979 phylog., 990 key, Figs. 3, male ocellar tubercle, 8 female genit., 13 prosternum, 27–28 phylog., 33–34 male abd., 38 female abd., 52–53, 57, 61, 68–69 male genit.).

Genus LINDNERIA Kröber


browni Metz and Irwin. Neotropical: Brazil (Santa Catarina).


dicosta Metz and Irwin. Neotropical: Costa Rica (Puntarenas), Ecuador (Pichincha), Panama (Bocas del Toro).

Lindneria dicosta Metz and Irwin 2000: 1010. Type locality Ecuador, Pichincha, 47 km S Santo Domingo de los Cororados, Río Palenque Biological Station. HT male (MEI 089827) USNM. Metz and Irwin (2000: 979 phylog., 990 key, 1011 dist., Figs. 22 halter, 27–28 phylog., 40 wing, 80–81, 86, 93, 102–103 male genit.).

penelopae Metz and Irwin. Neotropical: Brazil (Minas Gerais, Rio de Janeiro).


platyptera (Kröber). Neotropical: Guyana (Upper Demerara-Berbice).


splendida Kröber. Neotropical: Argentina (Chaco), Bolivia (El Beni, Santa Cruz), Brazil (Rio de Janeiro), Peru (Madre de Dios).

Lindneria splendida Kröber 1929b: 171. Type locality Bolivia, Santa Cruz, San José de Chiquitos. HT male (MEI 109101) SMNS. Kröber (1929b: Figs. 2 male ant., genit., 3 wing), Metz and Irwin (2000: 979 phylog., 990 key, 1013 trans. orig. desc., 1014 desc., dist., Figs. 27–28 phylog., 41 wing, 72–73, 87, 95, 106–107 male genit.).

Note 58.

thompsoni Metz and Irwin. Neotropical: Peru (Pasco).

wintertoni Metz and Irwin. Neotropical: Brazil (Minas Gerais, Goiás, São Paulo).
Lindneria wintertoni Metz and Irwin 2000: 1015. Type locality Brazil, São Paulo, Serra de Mantiqueira, Campos do Jordão, Estação Eugênio Lefêvre. HT male (MEI 088384) MZSP. Metz and Irwin (2000: 979 phylog., 990 key, 1016 dist., Figs. 1 male habitus, 5 male flagellum, 9 male head, 10 female head, 12 head, 14 prosternum, 16 midcoxa, 18 male notum, 19 female notum, 27–28 phylog., 82–83, 90, 97, 110–111 male genit.).

Genus LITOLINGA Irwin and Lyneborg


acuta (Adams). Nearctic: Mexico (Tamaulipas), USA (Colorado, Kansas, Texas). Neotropical: Mexico (Veracruz).
Psilocephala acuta Adams 1903: 222. Type locality USA, Kansas, Clark County, Englewood. LT male (MEI 170185) SEMC. Aldrich (1905: 246 cat.), Kertész (1909: 160 cat.), Kröber (1912a: 224 male key, 225 female key, 227 sp. list; 1913b: 28 sp. list, 35 male key, 37 female key, 39 male key; 1914a: 40 male key, 41 female key), Cole (1923a: 34 male key, 37 female key, 70 note, Figs. 57 female frons, 67 wing, 87 ant.; 1965: 350 cat.), Arnaud (1979: 136 ST data), Webb (2009: 59 LT desig.).

Litolinga acuta. Irwin and Lyneborg (1981a: 236 sp. list, comb. change, Figs. 16–17 female head, 136–141 male genit., 1981b: Fig. 4 male head), Poole (1996: 308 sp. list), Gaimari and Webb (2009: 638 Fig. 3 male head), Webb (2009: 58 key, nom., desc., Figs. 97 dist. map, 98–104 male genit., 105 female genit.).
tergisa (Say). Nearctic: USA (Alabama, Florida, Georgia).
Genus LYSILINGA Irwin and Lyneborg


aurantiaca (Coquillett). Nearctic: Mexico (Baja California Norte, Sonora), USA (Arizona, California, Colorado, Nevada, New Mexico, Texas, Utah).

Psilocephala aurantiaca Coquillett 1904b: 177. Type locality USA, California, Claremont. HT male USNM (Type No. 8035). Kertész (1909:161 cat.), Kröber (1912a: 224 male key, 227 sp. list; 1913b: 29 sp. list, 35, 39 male key; 1914a: 40 male key), Cole (1923a: 35 male key, 37 female key, 67 desc., Figs. 52 female front, 70 wing, 91 ant., 104 male genit.; 1965: 350 cat.).


chamela Webb. Nearctic: Mexico (Jalisco, Morelos).


crassiseta Webb. Neotropical: Costa Rica (Guanacaste, Puntarenas).


Lysilinga digita Webb in Webb and Metz 2006: 220. Type locality Mexico, Jalisco, 9.7 km E Durazno. HT male (MEI 039772) SDMC. Webb and Metz (2006: 208 key, Figs. 364, 374, 384, 394, 404, 414, 424, 434 male genit.).


occipitalis (Adams). Nearctic: Mexico (Chihuahua), USA (Arizona, California, New Mexico, Texas, Utah).

Psilocephala occipitalis Adams 1904: 443. Type Locality USA, Arizona, Bill Williams Fork. HT male SEMC. Kertész (1909: 164 cat.), Kröber (1912a: 223 male key, 230 sp. list; 1913b: 33 sp. list, 35 male key; 1914a: 38 male key, 44 desc.), Cole (1923a: 35 male key, 69 note; 1965: 351 cat.).


**parkeri** Webb. **Nearctic:** Mexico (Jalisco).


**pilifrons** (Kröber). **Neotropical:** Costa Rica (Guanacaste, San José).

*Psilocephala pilifrons* Kröber 1928a: 18. Type locality Costa Rica, San Jose, Farm La Caja, 8 km W San José. HT male (MEI 115974) DEI. Kröber (1928a: 7 dist., 9 male key, Fig. 14 male head), Metz et al. (2003: 259 trans. orig. desc.).


**recta** Webb. **Nearctic:** Mexico (Sonora).


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**Genus MEGALINGA** Irwin and Lyneborg


**bolbocera** (Osten Sacken). **Nearctic:** Mexico (Jalisco, Nayarit). **Neotropical:** El Salvador (Ahuachapán), Guatemala (Esquintla, Quiché), Mexico (Guerrero, Oaxaca, Sinaloa).


**insignata** Irwin and Lyneborg. **Nearctic:** Mexico (Baja California Norte, Baja California Sur), USA (Arizona, California).

*Megalinga insignata* Irwin and Lyneborg 1981a: 244. Type locality USA, California, Inyo County, Bennetts Well. HT male (MEI 005144) CAS (Type No. 13670). Irwin and Lyneborg (1981a: Figs. 3 forecoxae, prosternum, cervical lobes, 162–168 male genit.; 1981b: 518 key, Figs. 12 anterior thorax (head removed), 13 wing, 18 male genit.), McAlpine (1981: 95 Fig. 33 wing), Poole (1996: 308 sp. list), Webb and Irwin (1991c: 916 key, 919 nom., desc., Figs. 3 forecoxae, prosternum, cervical lobes, 14 wing, 15–20 male genit., 21 female head, 22–24 female furca, 26 dist. map), Gaimari and Webb (2009: 640 Fig. 11 thorax, Fig. 16 wing, 645 dist., habitat).

Note 63.
Genus MICROTHEREA Malloch


argentiventris Malloch. Neotropical: Argentina (Neuquén, Río Negro), Chile (Araucanía, Bío-Bío).

Microthereva argentiventris Malloch 1932: 245. Type locality Argentina, Río Negro, Puerto Blest. HT male BMNH (Type No. 241998). Malloch (1932: 245 key, Fig. 20a ant.), Webb (2006: 6 key, desc., 9 dist., Figs. 1 ant., 2–9 male genit., 10 female genit., 30 dist. map).

variventris Malloch. Neotropical: Argentina (Río Negro).


Genus NEBRITUS Coquillett


pellucidus Coquillett. Nearctic: Mexico (Baja California Norte), USA (California).

Nebritus pellucidus Coquillett 1894: 98. Type locality USA, California, Los Angeles County. LT male (MEI 007041) USNM (Type No. 10424). Aldrich (1905: 246 cat.), Kertész (1909: 167 cat.), Kröber (1912a: 218 desc.; 1913b: 16 sp. list; 1914a: 32 desc.), Woodworth (1913: 149 sp. list), Cole (1923a: 18 desc., Figs. 8 ant., 9 female habitus, 10 male genit.; 1965: 349 cat.), Curran (1934: 187 Fig. 15 ant., Fig. 16 habitus, Fig. 17 male genit.; 1965: 187 Fig. 15 ant., Fig. 16 habitus, Fig. 17 male genit.), Cole and Schlinger (1969: 171 Figs. 103A ant., habitus, genit.), Irwin and Lyneborg (1981a: 251 sp. list, Figs. 2, male head, 176–181 male genit.; 1981b: Fig. 2 male head), Webb and Irwin (1991b: 901 nom., desc., key, 902 LT desig., dist., Figs. 1 male head, 2 male ant., 3 male max. palp., 4 male wing, 5–10 male genit., 11–12 female genit., 39 dist. map), Sinclair et al. (1994: 432 phylog. exemplar), Poole (1996: 308 sp. list), Holston et al. (2007: 282 phylog., Figs. 2–5 phylog.), Gaimari and Webb (2009: 638 Fig. 6 male head).

powelli Webb and Irwin. Nearctic: USA (California).


tanneri (Hardy). Nearctic: Mexico (Baja California Norte), USA (California, Nevada, Utah).

Zionea tanneri Hardy 1938: 144. Type locality USA, Utah, Zion National Park. HT female (MEI 007000) BYUC. Hardy (1938: Figs. 1–2 female head), Cole (1965: 349 cat.).

Genus NESONANA Gaimari and Irwin


Genus NIGRANITIDA Metz


Genus NOTIOTHEREVA Metz and Irwin

phylog.), Gaimari and Webb (2009: 643, 644 key). This genus is Neotropical in distribution, occurring in Argentina, Chile, and Peru.


**Notiothereva albiventris**. Metz et al. (2003: 243 comb. change), Webb (2005b: 5 key, 6 nom., 8 desc., dist., Figs. 1–7 male genit., 8 female genit., 44 dist. map), Holston et al. (2007: 282 phylog., Figs. 2–4 phylog.).

**Psilocephala ruficornis** Kröber 1911: 520. Type locality Chile, Concepción. HT male, depository unknown. Kröber (1911: 498 male key; 1913b: 33 sp. list, 37 male key; 1928a: 7 dist., male key), Stuardo-Ortiz (1946: 87 cat.), Metz et al. (2003: 245 trans. orig. desc.), Webb (2005b: 6 nom., syn. desig. of *albiventris* Philippi). **Note 68.**

**Notiothereva ruficornis**. Metz et al. (2003: 244 comb. change).

**argentina** Webb. **Neotropical**: Argentina (Catamarca, La Rioja, Salta, Tucumán).

**Notiothereva argentina** Webb 2005b: 15. Type locality Argentina, Tucumán Province, Quebrada Las Canas, near Ruinas de Quilmes. HT male (MEI 106083) CAS (Type No. 18060). Webb (2005b: 5 key, 17 dist., Figs. 9–14 male genit., 15 female genit., 44 dist. map), Holston et al. (2007: 282 phylog., Figs. 2–4 phylog.).

**aurea** Webb. **Neotropical**: Chile (Los Lagos).

**Notiothereva aurea** Webb 2005b: 19. Type locality Argentina, Tucumán Province, Quebrada Las Canas, near Ruinas de Quilmes. HT male (MEI 106083) CAS (Type No. 18060). Webb (2005b: 5 key, 17 dist., Figs. 9–14 male genit., 15 female genit., 44 dist. map), Holston et al. (2007: 282 phylog., Figs. 2–4 phylog.).

**bezzii** (Kröber). **Neotropical**: Peru (Ancash, Lambayeque, Lima, Piura).

**Psilocephala bezzii** Kröber 1911: 501. Type locality Peru, Piura, Samán. LT male (MEI 113148) USNM. Kröber (1911: 499 male key; 1913b: 30 sp. list, 37 male key; 1928a: 7 dist., male key), Stuardo-Ortiz (1946: 87 cat.), Metz et al. (2003: 244 LT desig., trans. orig. desc.).

**Psilocephala bezzii**. Misspelling of *bezzii*. Kröber (1913b: 37 male key).


**brunnipes** (Kröber). **Neotropical**: Chile (Tarapacá).

**Psilocephala brunnipes** Kröber 1911: 509. Type locality Chile, Arica. HT female SMTD. Kröber (1911: 499 male key, female key; 1913b: 29 sp. list, 37 male key as *bezzii*, 37 female key; 1928a: 6 dist., 9 male key, 10 female key), Metz et al. (2003: 244 LT desig., trans. orig. desc.).

**Psilocephala brunnipes**. Kröber (1913b: 37 male key).


**simulata** (Malloch). **Neotropical**: Argentina (Río Negro).


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**Genus OZODICEROMYIA** Bigot


Note 69.


Note 70.

anomala (Adams). Nearctic: Mexico (Chihuahua), USA (Arizona, Colorado, New Mexico, Texas).

Thereva anomala Adams 1904: 444. Type locality USA, Arizona, Oak Creek Canyon. ST male, ST female (MEI 084829) SEMC. Kertész (1909: 150 cat.), Kröber (1912a: 248 male key, 251 female key; 1913b: 43 male key, 44 female key, 53 sp. list), Cole (1923a: 86 male key, 91 note; 1965: 353 cat.).


argentata (Bellardi).


argentifera (Kröber). Nearctic: Mexico (Chihuahua, Durango, Jalisco, Michoacán, Morelos, Nayarit, Puebla, Zacatecas). Neotropical: Mexico (Oaxaca).

Phycus argentifer Kröber 1929a: 418. Type locality Mexico, Oaxaca, 16.1 km NE Haujuapan de Leon. NT male ZMHB. Kröber (1929a: Fig. 3 male ant.), Gaimari and Irwin (2000b: 567 NT desig.).
Ozodiceromyia argentifera. Cole (1965: 349 cat., comb. change), Gaimari and Irwin (2000a: 137 phylog., 191 sp. list, Figs. 1–2 phylog., 26 male head, 27 female head, 41 male lateral thorax, 49, 51 basal costal lobe, 52, 54, 65,93–94, 109, 132–133 male genit., 152 female genit.; 2000b: 562 phylog., 566 desc., 568 dist., 585 key, Figs. 1 dist. map, 5–6 cladogram, 7 male head, 8 female head, 14 male lateral thorax, 15 basal costal lobe, 17–19, 23, 26–27, 32–33 male genit., 39 female genit.), Gaimari and Webb (2009: 640 Fig. 10 lateral thorax, Fig. 15 basal costal lobe).


arizonensis (Cole). Nearctic: USA (Arizona, New Mexico, Utah).

Psilocephala arizonensis Cole 1923a: 45. Type locality USA, Arizona, Chiricahua Mountains. HT male USNM (Type No. 25932). Cole (1923a: 35 male key, 36 female key, Fig. 58 female frons; 1965: 350 cat.), Arnaud (1979: 136 paratypes).


breviventris (Kröber). Nearctic: Mexico (Jalisco, Morelos). Neotropical: Costa Rica (Guanacaste, San José), El Salvador (Santa Ana), Guatemala (Esquintla, Zacapa), Nicaragua (Estalí).

Psilocephala breviventris Kröber 1928a: 19. Type locality Costa Rica, 8km W San Jose, Farm La Caja. HT male DEI. Kröber (1928a: 6 dist., 10 male key, Fig. 15 male ant.).


californica (Kröber). Nearctic: USA (Arizona, California, Nevada, Utah).

Thereva californica Kröber 1912a: 259. Type locality USA, California. HT male USNM. Kröber (1912a: 248 male key, 252 sp. list; 1913b: 43 male key, 55 sp. list; 1914a: 61 male key), Cole (1923a: 86 male key, 95 trans. orig. desc.; 1965: 353 cat.).


costalis (Loew). Nearctic: Mexico (Baja California Norte), USA (California, Idaho, Nevada, Oregon, Utah).


Ozodiceromyia costalis. Gaimari and Irwin (2000a: 191 sp. list, Fig. 42 male ant.), Holston (2004: 47 nom.).

costalis (Loew). Nearctic: Mexico (Baja California Norte), USA (California, Idaho, Nevada, Oregon, Utah).


germana (Walker). Nearctic: USA (Alabama, Arkansas, Florida, Georgia, North Carolina, Oklahoma, South Carolina).
Thereva germana Walker 1848: 222. Type locality USA, Florida. ST male (2 specimens) BMNH. Osten Sacken (1858: 38 cat.; 1878: 97 cat.), Aldrich (1905: 248 cat.), Kertész (1909: 154 cat.), Kröber (1912a: 248 male key, 250 female key, 254 sp. list; 1913b: 43 male key, 44 female key, 57 sp. list).


Psilocephala lateralis Adams 1904: 444. Type locality USA, Arizona, Bill Williams Fork. HT male SEMC. Kertész (1909: 163 cat.), Kröber (1912a: 224 male key, 226 female key, 228 sp. list; 1913b: 31 sp. list, 35 male key; 1914a: 39 male key, 42 female key, 51 desc.), Cole (1923a: 35 male key, 36 female key, 53 desc., 54 dist., Fig. 62 female frons; 1923b: 461 dist.; 1965: 351 cat.), Irwin and Lyneborg (1981a: 257 desig. replacement name), Poole (1996: 308 nom.).


Psilocephala levigata Loew 1876: 319. Type locality USA, California, San Francisco. ST female MCZ (Type No. 10666). Cole (1965: 351 cat.).


Ozodiceromyia levigata. Gaimari and Irwin (2000a: 191 sp. list, nom.).


livdahli Gaimari and Irwin. Nearctic: Mexico (Chihuahua), USA (Arizona, New Mexico). Neotropical: Mexico (Sinaloa).
Ozodiceromyia livdahli Gaimari and Irwin 2000b: 570. Type locality USA, Arizona, 8.1 km E Fort Apache. HT male (MEI 038101) CAS. Gaimari and Irwin (2000b: 562 phylog., 572 dist., 581 key, Figs. 2 dist. map, 5–6 phylog., 24, 28 male genit.).

melanoneura (Loew). Nearctic: USA (California).
Thereva melanoneura Loew 1872a: 74. Type locality USA, California. ST male MCZ (Type No. 10678). Original misspelling of Thereva. Loew (1872b: 250 subsequent usage).
Thereva melanoneura. Misspelling of melanoneura. Woodworth (1913: 149 sp. list), Curran (1934: 186 Fig. 8 wing; 1965: 186 Fig. 8 wing).


milleri (Irwin). Nearctic: Mexico (Puebla). Neotropical: Mexico (Oaxaca).
Breviperna milleri Irwin 1977a: 294. Type locality Mexico, Puebla, 8 km S Tecomachalco. HT female (MEI 004055) MEIC. Note 77.


nanella (Cole). Neartic: Canada (British Columbia), Mexico (Baja California Norte), USA (Arizona, California, Colorado, Idaho, Nebraska, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming).


Ozodiceromyia nigrimana. Gaimari and Irwin (2000a: 192 sp. list, nom., Fig. 108 male genit.).

Psilocephala nigrimana Kröber 1912a: 238. Type locality USA, Colorado, Pueblo. HT female NHMW. Kröber (1912a: 226 female key, 229 sp. list; 1913b: 32 sp. list, 39 female key; 1914a: 42 female key), Cole (1923a: 51 note; 1965: 351 cat.).


nigrimana (Kröber). Neartic: Mexico (Chihuahua, Morelos, Nayarit, Sonora), USA (Arizona, California, Colorado, Idaho, Kansas, Nebraska, Nevada, New Mexico, Oklahoma, Texas, Utah, Wyoming). Neotropical: Mexico (Sinoloa).

Psilocephala nigrimana Kröber 1912a: 238. Type locality USA, Colorado, Pueblo. HT female NHMW. Kröber (1912a: 226 female key, 229 sp. list; 1913b: 32 sp. list, 39 female key; 1914a: 42 female key), Cole (1923a: 51 note; 1965: 351 cat.).


Thereva notata Wiedemann 1821: 114. Type locality USA, Georgia, Savannah. ST male NHMW. Wiedemann (1828: 236 desc.), Osten Sacken (1858: 38 cat.), Zimsen (1954: 11 type list).


Ozodiceromyia notata. Gaimari and Irwin (2000a: 137 phylog., 192 sp. list, nom., Figs. 1–2 phylog., 28 male head, 29 female head, 66, 95–96, 134–135 male genit., 153 female genit.), Holston (2004: 458 nom.), Gaimari and Webb (2009: 638 Fig. 8 male head, Fig. 9 female head).


Thereva hoemorrhoidalis Macquart 1841a: 304. Type locality "De la Caroline" [Carolina]. ST male MNHN (catalogue number 1120). Macquart (1841b: 26 subsequent usage), Gaimari and Irwin (2000a: 192 nom., syn. desig. of notata Wiedemann), Holston (2004: 53 nom.). Thereva haemorrhoidalis. Misspelling of hoemorrhoidalis. Osten Sacken (1858: 38 cat.). Psilocephala haemorrhoidalis. Misspelling of hoemorrhoidalis. Osten Sacken (1878: 96 nom., syn. of nigra Say), Coquillett (1893b: 225 key), Aldrich (1905: 247 cat.), Kertész (1909: 162 cat.), Johnson (1910: 748 cat.), Kröber (1912a: 224 male key, 227 female key, 228 sp. list, 241 desc.; 1913b: 30 sp. list, 35, 39 male key, 40 female key; 1914a: 40 male key, 42 female key, 53 note; 1928b: 121 desc., dist.), Malloch (1917: 397 larvae, Plate LVI Fig. 9 larval thoracic spiracle, Fig. 10 lateral larval habitus, Fig. 12 dorsal pupal habitus, Fig. 13 pupal apex, Plate XVII Fig. 1 ventral larval head), Cole (1923a: 35 male key, 36 female key, 38 desc., 40 dist., Figs. 2D–E male genit., 47 female habitus, 48 male habitus, 171, 172 pupa; 1965: 351 cat.), Johannsen (1928: 764 cat.), Brimley (1938: 340 cat.), Poole (1996: 308 nom.). Psilocephala hoemorrhoidalis. Cole (1965: 351 cat.).


Ozodiceromyia obliquefasciata (Kröber). Nearctic: Mexico (Chihuahua). Neotropical: Costa Rica (San José), Guatemala, Mexico (Chiapas).

Psilocephala obliquefasciata Kröber 1911: 504. Type locality Costa Rica. ST male (2 specimens), ST female (2 specimens) USNM, ST male MNHN. Kröber (1911: 498 male key, 499 female key; 1913b: 33 sp. list, 37 male key, female key; 1928a: 6 dist., 8 male key, 10 female key, 15 desc., Fig. 8 male ant.).


Ozodiceromyia parargentifera Gaimari and Irwin 2000b: 581. Type locality Mexico, Guerrero, 6.4 km W Chilpancingo. HT male (MEI 027017) CAS. Gaimari and Irwin (2000b: 584 dist., 586 key, Figs. 4 dist. map, 5–6 phylog., 36–37 male genit., 40 female genit.).

platancala (Loew). Nearctic: Canada (Alberta, Manitoba, Saskatchewan), USA (Colorado, Kansas, Montana, North Dakota, Oklahoma, Texas, Utah, Wyoming).


Psilocephala montiradicis James 1949: 10. Type locality USA, Colorado, Fort Collins. HT male CSUC. James (1949: 10 dist., Fig. 1 male genit.), Cole (1965: 351 cat.), Gaimari and Irwin 2000a: 192 nom., syn. desig. of platancala Loew).


proxima (Schiner). Neotropical: Costa Rica (Puntarenas, San José), Venezuela.

Psilocephala proxima Schiner 1868: 147. Type locality Venezuela. ST male (2 specimens) NHMW. Kertész (1909: 164 cat.), Kröber (1911: 499 male key, 513 desc.; 1913b: 33 sp. list, 37 male key; 1928a: 7 dist., 9 male key).


rugifrons (Kröber). Nearctic: Mexico (Chihuahua, Durango).

Psilocephala rugifrons Kröber 1914a: 54. Type locality Mexico, Chihuahua, Sierra Madre, head of Rio Piedras Verdes. HT female USNM (Type No. 26025). Kröber (1914a: 42 female key), Cole (1923a: 78 trans. orig. desc.).


schroederi (Kröber). Nearctic: Mexico (Puebla). Neotropical: Costa Rica (Guanacaste, Limón, Puntarenas, San José), Guatemala, Mexico (Chiapas).

Psilocephala Schroederi Kröber 1911: 503. Type locality Costa Rica. HT female USNM (Type No. 24280). Kröber (1911: 500 female key; 1913b: 34 sp. list, 37 female key; 1928a: 7 dist., 11 female key).


signatipennis (Cole). Nearctic: Canada (Alberta, British Columbia, Manitoba), Mexico (Aguascalientes, Baja California Norte, Baja California Sur, Chihuahua, Durango, Sonora), USA (Arizona, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Texas, Utah, Washington, Wyoming).


Ozodiceromyia signatipennis. Misspelling of Ozodiceromyia. Irwin and Lyneborg (1981a: 258 sp. list, comb. change, Fig. 29 ant.), Poole (1996: 309 sp. list).

Ozodiceromyia signatipennis. Misspelling of Ozodiceromyia. Irwin and Lyneborg (1981b: Fig. 14 wing), Gaimari and Irwin (2000a:192 sp. list; 2000b: 562 phylog., Figs. 5–6 phylog., 11 male head, 12 female flagellum, 20, 22, 29, 38 male genit.), Buck et al. (2009: 110 Fig. 65 wing), Gaimari and Webb (2009: 640 Fig. 17 wing).

subnotata (Johnson). Nearctic: USA (Florida, Georgia).

Psilocephala subnotata Johnson 1926: 299. Type location USA, Florida, St. Augustine. ST male (1 specimen), ST female (1 specimen), MCZ (Type No. 7564). Brimley (1938: 340 cat.), Cole (1965: 352 cat.).


Kertész (1909: 165 cat.), Kröber (1912a: 224 male key, 227 female key, 231 sp. list; 1913b: 34 sp. list, 39 male key, 40 female key; 1914a: 42 female key, 54 desc., 55 dist.), Cole (1923a: 46 trans. orig. desc., note). **Note 81.**

*Ozodiceromya univittata.* Misspelling of *Ozodiceromyia.* Irwin and Lyneborg (1981a: 258 sp. list, comb. change).

*Ozodiceromya univittata.* Gaimari and Irwin (2000a: 192 sp. list).

**xanthobasis** (James). **Nearctic:** USA (Colorado, New Mexico, Wyoming).

*Therева xanthobasis* James 1949: 12. Type locality USA, Colorado, Fort Collins. HT male CSUC. James (1949: Fig. 2 male genit.), Cole (1965: 354 cat.).


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**Genus PALLICEPHALA** Irwin and Lyneborg

**PALLICEPHALA** Irwin and Lyneborg 1981a: 206. Type species *Psilocephala variegata* Loew, 1870 by original designation. Irwin and Lyneborg (1981a: 201 key, 207 sp. list; 1981b: 519 key), Webb and Irwin (1991a: 870 phylog., 875 nom., desc., 876 sp. key, Fig. 1 phylog.), Poole (1996: 308 sp. list), Holston et al. (2007: 282 phylog., Figs. 2–5 phylog.), Gaimari and Webb (2009: 641, 643 key). This genus is Nearctic in distribution, occurring in Canada and USA.

**flavipilosa** (Cole). **Nearctic:** USA (California).

*Psilocephala variegata flavipilosa* Cole 1923a: 62. Type locality USA, California, Paso Robles. HT male (MEI 005960) CAS (Type No. 01485). Cole (1923a: 34 male key, 37 female key, Figs. 59 female frons, 80 ant.; 1965: 352 cat.), Arnaud (1979: 138 type data). **Note 82.**


**occidentalis** (Cole). **Nearctic:** Canada (British Columbia), USA (California, Oregon, Washington).

*Psilocephala variegata occidentalis* Cole 1923a: 61. Type locality USA, Oregon, Corvallis. HT male (MEI 005962) CAS (Type No. 01484). Cole (1923a: 34 male key, Figs. 78 wing, 102 male genit.; 1965: 352 cat.), Arnaud (1979: 138 type data).


**fuscipennis** (Cole). **Nearctic:** USA (Washington, Clallam County, Forks). HT female (MEI 005959) CAS (Type No. 01487). Cole (1923a: 37 female key, Fig. 65 female frons; 1965: 351 cat.), Arnaud (1979: 137 type data), Webb and Irwin (1991a: 879 nom., syn. desig. of *occidentalis* Cole), Poole (1996: 309 nom.).


**pachyceras** (Williston). **Nearctic:** Canada (British Columbia), USA (California, Oregon, Washington).


Pallicephala pachyceras. Gaimari and Irwin (2000a: 187 nom., clarified status), Webb and Metz (2003a: Figs. 1a, 1b phylog.), Webb (2005: 8 phylog.), Gaimari and Webb (2009: 638 Fig. 5 male ant.).


Pallicephala willistoni. Irwin and Lyneborg (1991a: 208 sp. list, comb. change; 1981b: Fig. 5 male ant.), Webb and Irwin (1991a: 870 phylog., 876 key, 893 nom., desc., Figs. 69 male ant., 70–76 male genit., 77 female head, 78–79 female genit., 81 dist. map), Poole (1996: 309 sp. list), Gaimari and Irwin (2000a: 187 nom.).

quebecensis Webb and Irwin. Nearctic: Canada (Quebec, Saskatchewan).


Psilocephalae variegatae. Misspelling of Psilocephala and variegata. Loew (1872a: 74 desc.).

Pallicephala variegata. Irwin and Lyneborg (1981a: 208 sp. list, comb. change, Fig. 4 midcoxa), Webb and Irwin (1991a: 870 phylog., 877 key, 885 nom., desc., comb. change, 887 dist., Figs. 1 phylog., 39–44 male genit., 45–46 female genit., 82 dist. map), Webb and Metz (2003a: 372 phylog.), Webb (2005a: 6 phylog., Fig. 1 phylog.).


westcotti Webb and Irwin. Nearctic: USA (Oregon).


Genus PANDIVIRILIA Irwin and Lyneborg

PANDIVIRILIA Irwin and Lyneborg 1981a: 212. Type species Psilocephala limata Coquillett, 1894 by original designation [= Pandivirilia conspicua (Walker, 1848)]. Irwin and Lyneborg (1981a: 202 key, 214 sp. list, Fig. 1 phylog.; 1981b: 519, 522 key), Poole (1996: 309 sp. list), Webb and Metz (2003a: 375 key, nom., desc.), Holston et
al. (2007: 282 phylog., Figs. 2–5 phylog.), Gaimari and Webb (2009: 641, 644 key). This genus is Holarctic in distribution, occurring in the Nearctic Region in Canada, Mexico, and the USA.


**albifrons** (Say). **Nearctic**: Canada (Ontario), USA (Connecticut, Florida, Georgia, Illinois, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Hampshire, New York, North Carolina, Ohio, Oklahoma, Rhode Island, South Carolina, Texas, Virginia, Wisconsin).


**Spiriverpa albifrons**. Irwin and Lyneborg (1981a: 216 sp. list, comb. change), Poole (1996: 309 sp. list), Holston (2004: 42 nom.).


**Dichoglena borealis**. Irwin and Lyneborg (1981a: 216 comb. change, sp. list), Poole (1996: 308 sp. list), Holston (2004: 46 nom.).


**Thereva conspicua** Walker 1848: 223. Type locality Canada, Nova Scotia. LT female BMNH (Type No. 241958). Osten Sacken (1858: 38 cat.; 1878: 97 cat.), Aldrich (1905: 248 cat.), Kertész (1909: 153 cat.), Kröber (1912a: 249 male key, 250 female key 253 sp. list; 1913b: 43 male key, 56 sp. list; 1914a: 61 male key), Cole (1923a: 75 LT designation according to ICZN Article 74.5), Webb and Metz (2003a: 384 invalid LT desig.).

**Note 86.**


**Pandivirilia conspicua**. Webb and Metz (2003a: 371 phylog., 377 key, 381 nom., 383 desc., comb. change, 384 dist., Figs. 1 phylog., 3, 10, 17, 24, 31, 38, 45, 52 male genit., 59 female genit., 65 dist. map), Webb (2005a: 5 phylog., Fig. 1 phylog.).


**Note 87.**


Psilocephala canadensis Cole 1923a: 57. Type locality Canada, Ontario, Trenton. HT female (MEI 009388) CNC (Type No. 1204). Cole (1923a: 37 female key, Fig. 53 female frons; 1965: 351 cat.), Arnaud (1979: 137 remark), Webb and Metz (2003a: 382 nom., syn. desig. of conspicua Walker). Note 88.


Psilocephala pollinosa Cole 1923a: 57. Type locality Canada, Ontario, Trenton. HT female (MEI 009388) CNC (Type No. 1204). Cole (1923a: 37 female key, Fig. 53 female frons; 1965: 351 cat.), Arnaud (1979: 137 type data), Webb and Metz (2003a: 382 nom., syn. desig. of conspicua Walker).


Genus PENNIVERPA Irwin and Lyneborg


chersonesa Webb. Nearctic: Mexico (Baja California Sur).


dives (Schiner). Neotropical: Brazil (Amapá), Guyana (Cuyuni-Mazaruni), Trinidad and Tobago, Venezuela (Aragua).


Psilocephala senilis. Kröber (1911: 499 male key, 501 female key, 516 desc., comb. change; 1912a: 224 male key, 226 female key, 230 sp. list, 245 desc.; 1913b: 34 sp. list, 37 male key, 38 female key, 39 male key; 1914a: 40 male key, 41 female key; 1928a: 7 dist., 10 male key, 12 female key), Cole (1923a: 36 male key, 37 female key, 72 nom., note; 1965: 351 cat.).


epidema Webb. Nearctic: Mexico (Jalisco, Morelos, Nayarit, Sonora, Tamaulipas). Neotropical: Belize, Costa Rica (Guanacaste, Puntarenas), Guatemala (Zacapa), Honduras (Isla de la Bahía), Mexico (Guerrero, Sinaloa, Veracruz), Nicaragua (Chinandega, Léon), Panama (Chiriquí, Panamá (Canal Zone)).


evani Webb. Neotropical: Ecuador (Guayas, Loja, Los Rios, Manabí, El Oro), El Salvador (La Libertad), Panama (Panamá (Canal Zone)).

Penniverpa evani Webb in Webb and Metz 2008: 18. Type locality Ecuador, Guayas, Boliche. HT male (MEI 088429) CAS (Type No. 18251). Webb and Metz (2008: 6 male key, 7 female key, 21 dist., Figs. 30–34 male genit. 35 female genit. 82 female abd., 89 dist. map), Gaimari and Webb (2009: 646 dist.).

festina (Coquillett). Nearctic: USA (Arizona, Florida, Georgia, South Carolina, Texas).


Psilocephala gracilis Kröber 1911: 507. Type locality Peru, Piura. LT male USNM. Kröber (1911: 498 male key, 500 female key; 1913b: 30 sp. list, 37 male key, female key; 1914a: 57 key; 1928a: 6 dist., 9 male key, 11 female key), Webb and Metz (2008: 32 LT desig.).


Penniverpa brunnipennis. Metz and Irwin (2000: 979 phylog. 1016 comb. change, 1017 dist., Fig. 27 phylog.).
**insular** Webb. Neotropical: Jamaica (Westmorland).


**megaplapx** Webb. Neotropical: Argentina (Catamarca, Jujuy, Salta), Bolivia (Santa Cruz), Paraguay (Asunción).

*Penniverpa megaplapx* Webb in Webb and Metz 2008: 34. Type locality Bolivia, Santa Cruz, 5 km N Camiri. HT male (MEI 110550) CAS (Type No. 18252). Webb and Metz (2008: 5 male key, 7 female key, 37 dist., Figs. 56–60 male genit., 61 female genit., 86 female abd., 89 dist. map).

**multisetosa** Webb. Neotropical: Mexico (Chihuahua, Jalisco), Guatemala (San Marcos, Zacapa), Honduras (Atlántica), Mexico (Veracruz).


**parvula** (Kröber). Neotropical: Brazil (Bahia).

*Psilocephala parvula* Kröber 1911: 520. Type locality Brazil, Bahia. HT male NHMW. Kröber (1911: 499 male key; 1913b: 37 sp. list, 37 male key; 1928a: 7 dist., 10 male key).


**unispinosa** Webb. Neotropical: Mexico (Quintana Roo).

*Penniverpa unispinosa* Webb in Webb and Metz 2008: 40. Type locality Mexico, Quintana Roo, Allen Point, Ascension Bay. HT male (MEI 088464) USNM. Webb and Metz (2008: 6 male key, 43 dist., 73–77 male genit., 88 dist. map).

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**Genus Peralia Malloch**


**hermanni** (Kröber). Neotropical: Argentina (Neuquén), Chile (Araucanía, Bío-Bío, Coquimbo, Los Lagos, Magallanes, Región Metropolitana de Santiago, Valparaíso (Aconcagua in Webb 2006)).

*Anabarrhynchus hermanni* Kröber 1911: 488. Type locality Chile, O’Higgins Region, Rancagua. HT female ZSMC. Misspelling of *Anabarhynchus*. Kröber (1911: 485 key; 1913b: 20 key, 22 sp. list; 1928b: 113 desc., Fig. 18 ant.), Stuardo-Ortiz (1946: 87 cat.).


**vittata** (Philippi). Neotropical: Argentina (Neuquén, Río Negro), Chile (Araucanía, Bío-Bío, Coquimbo, Libertador General Bernardo O’Higgins, Magallanes, Región Metropolitana de Santiago, Valparaíso (Aconcagua in Webb 2006)).

*Thereva vittata* Philippi 1865: 769. Type locality Chile, Curicó, Estero la Jaula. NT male (MEI 169897) CNC. Reed (1888: 294 cat.), Kertész (1909: 160 cat.), Kröber (1911: 491 female key, 493 desc.; 1913b: 45 female key, 62 sp. list, 2028b: 113 desc., Fig. 18 ant.), Stuardo-Ortiz (1946: 87 cat.).


Note 96.


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Anabarhynchus niger Bigot 1890: 325. Type locality Chile. HT male BMNH (Type No. 240479). Webb (2006: 19 nom., syn. desig. of vittata Philippi).


Genus PROTOTHEREVA Malloch


grisea Malloch. Neotropical: Argentina (Chaco).

Protothereva grisea Malloch 1932: 239. Type locality Argentina, Chubut, Valle del Lago Blanco. HT female BMNH (Type No. 242005). Webb and Metz (2003b: 4 key, desc., Fig. 19 dist. map).


Genus PSILOCEPHALA Zetterstedt


Genus PTILOTOPHALLOS Webb


megasathe Webb. Neotropical: Brazil (Rondônia).


Genus RHAGIOFORMA Irwin and Lyneborg

maculipennis (Kröber). **Nearctic**: Mexico (Baja California Norte, Baja California Sur).

*Psilocephala maculipennis* Kröber 1914a: 45. Type locality Mexico, Baja California Sur, San Jose del Cabo. HT male USNM (Type No. 26019). Kröber (1914a: 38 male key), Cole (1923a: 76 trans. orig. desc.). **Note 104**.

*Rhagioforma maculipennis*. Irwin and Lyneborg (1981a: 238 sp. list, comb. change, Figs. 23 ant., 142–147 male genit.; 1981b: 519 key, Fig. 8 male max. palp.), Gaimari and Webb (2009: 646 dist.).

schmidtii (Kröber). **Neotropical**: Costa Rica (San José), Guatemala, Honduras, Venezuela.

*Psilocephala schmidtii* Kröber 1928a: 12. Type locality Costa Rica, San Jose, 8 km W San Jose, Farm La Caja. LT female (MEI 115975) DEI. Kröber (1928a: 7 dist., 8 male key, 12 female key, Fig. 6 female ant., frons, 7 male ant.), Metz *et al.* (2003: 261 LT desig., trans. orig. desc.). **Note 105**.


Genus SPINALOBUS Webb


**rodmani** Webb. **Nearctic**: USA (New Mexico).

*Spinalobus rodmani* Webb 2007: 43. Type locality USA, New Mexico, Dona Ana County, 3.7 km N Mesquite exit, E side I-10. HT male (MEI 051228) INHS. Webb (2007: Figs. 1–6 male genit., 7 female genit.).

Genus SPIRACOLIS Webb


**curvipalpus** Webb. **Neotropical**: Brazil (Parana).


Genus SPIRIVERPA Irwin and Lyneborg


**Note 106**.

*Thereua albiceps* Loew 1870: 166. Type locality Canada, Manitoba, Red River. LT male MCZ (Type No. 10676). Original misspelling of *Thereva*. Loew (1872b: 204 subsequent usage).


bella (Kröber). Nearctic: Canada (Ontario), USA (Connecticut, Georgia, Iowa, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, West Virginia).

Thereva bella Kröber 1914a: 64. Type locality USA, Massachusetts, Riverside. ST male (Type No. 27051), ST female MCZ. Kröber (1914a: 61 male key, 62 female key), Cole (1923a: 86 male key, 88 female key, 101 desc., 102 dist., Fig. 137 ant.; 1965: 353 cat.), Brimley (1938: 340 cat.). Note 108.


Thereva bella nigrimana Kröber 1914a: 65 (as var.). Type locality USA, Massachusetts, Springfield. HT male MCZ (Type No. 27052). Kröber (1914a: 60 male key), Poole (1996: 309 nom., syn. desig. of bella Kröber), Webb (2005a: 20 nom.). Note 109.


cinerascens (Cole). Nearctic: Canada (British Columbia), USA (Alaska, Arizona, California, Idaho, Oregon, Utah, Washington).

Thereva cinerascens Cole 1923a: 97. Type locality USA, Oregon, Hood River. HT female USNM (Type No. 25936). Cole (1923a: 88 female key, 1925: 85 dist.; 1965: 353 cat.).


Thereva candidata Loew 1869: 8. Type locality USA, northern Wisconsin. ST male MCZ (Type No. 10679). Original misspelling of Thereva. Loew (1872b: 122 subsequent usage).

**Genus TABUDA Walker**


**planiceps** (Loew). **Nearctic:** Canada (British Columbia), USA (California, Colorado, Idaho, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming).

*Xestomyza planiceps* Loew 1872a: 75. Type locality USA, California. LT female (MEI 013394) MCZ (Type No. 10687). Loew (1872b: 251 subsequent usage), Osten Sacken (1878: 97 cat.), Aldrich (1905: 246 cat.), Woodworth (1913: 149 nom.), Webb and Irwin (1999: 662 LT designation according to ICZN Article 74.5). **Note 114.**

**Metaphragma planiceps**. Coquillett (1894: 97 comb. change), Woodworth (1913: 149 sp. list), Cole and Lovett (1921: 242 cat.), Curran (1934: 186 Fig. 6 habitus; 1965: 186 Fig. 6 habitus), Knowlton and Harmston (1937: 142 cat.).

**Tabunda planiceps**. Irwin and Lyneborg (1981a: 223 sp. list, comb. change), Webb and Irwin (1999: 661 nom., desc., Figs. 1 phylog., 3 ant., 6 max. palp., 9 wing, 14, 22, 30, 38, 46, 54, 62 male genit., 69, 76 female genit.), Poole (1996: 309 sp. list), Webb (2005: Fig. 1 phylog.), Webb and Metz (2003a: Figs. 1a, 1b, phylolg.), Holston et al. (2007: 282 phylog., Figs. 2–5 phylog.).

**varia** (Walker). **Nearctic:** USA (Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, South Carolina).

*Thereva varia* Walker 1848: 221. Type locality USA, Florida. LT male (MEI 013406) BMNH. Osten Sacken (1858: 38 cat.; 1878: 97 cat.), Aldrich (1905: 248 cat.), Kertész (1909: 160 cat.), Kröber (1912a: 250 female key, 255 sp. list; 1913b: 44 female key, 62 sp. list), Cole (1923a: 128 rep. desc., LT designation according to ICZN Article 74.5; 1965: 354 cat. as incertae sedis), Holston et al. (2007: 282 phylog., Figs. 2–5 phylog.). **Note 115.**

**Taba varia.** Irwin and Lyneborg (1981a: 223 sp. list, comb. change, Figs. 6–7 head, 94–100 male genit.), Poole (1996: 309 sp. list), Webb and Irwin (1999: 656 male key, 657 female key, 667 nom., desc., 668 dist., Figs. 1 phylog., 16, 24, 32, 40, 48, 56, 64 male genit., 71, 78 female genit.), Holston (2004: 64 nom.), Webb (2005: Fig. 1 phylog.), Webb and Metz (2003a: Figs. 1a, 1b, phylog.).


Tabuda fulvipes Walker 1852: 197. Type locality unknown. ST male (habitus figured in Walker, 1852: Plate 6, Figs. 4, 4a), depository unknown. Walker (1852: Plate 6, Fig. 4 male habitus, Fig. 4a male ant.), Evett (1862: 217 collection record), Osten Sacken (1878: 97 cat.), Aldrich (1905: 246 cat.), Johnson (1910: 748 cat.), Cole (1923a: 81 desc., 82 dist., Figs. 113 male head, 115 male genit., 117 wing; 1965: 352 cat.), Johannsen (1928: 764 cat.), Curran (1934: 186 Fig. 7 wing, 188 nom., syn. desig. of nervosa Walker; 1965: 186 Fig. 7 wing, 188 nom.), Brimley (1938: 340 cat.), Irwin and Lyneborg (1981a: 223 nom., syn. desig. of varia Walker), Lyneborg (1986a: 64 nom.), Poole (1996: 309 nom.), Webb and Irwin (1999: 667 nom.). Note 116.


Dialineura fulvipes. Kröber (1912a: 216 sp. list, nom., desc.).

Tabudamima fulviceps. Misspelling of fulvipes. Kröber (1928b: 120 dist.).

Genus TABUDAMIMA Irwin and Lyneborg


melanophleba (Loew). Nearctic: Mexico (Baja California Norte), USA (California, Nevada, Oregon, Washington).

Thereua melanophleba Loew 1876: 317. Type locality USA, California, San Francisco. LT male (MEI 013409) MCZ (Type No. 10686). Original misspelling of Thereva.


Thereva melanophleba. Misspelling of melanophleba. Williston (1908: 206 comment.).


Genus THEREVA Latreille


WEBB ET AL.

TPEREVA. Misspelling of Thereva. Eversmann (1834: 422).


Thereva bakeri Cole. Nearctic: USA (California). Thereva bakeri Cole 1923a: 124. Type locality USA, California, Los Angeles County, mountains near Claremont. HT male (MEI 119252) USNM (Type No. 25945). Cole (1923a: 87 male key, 89 female key, Fig. 163 wing; 1965: 353 cat.), Kröber (1928b: 120 desc., dist.), Irwin and Lyneborg (1981a: 219 sp. list), Poole (1996: 309 sp. list), Holston (2004: 45 nom.), Holston and Irwin (2005: 22 male key, 27 female key, 48 desc., 138 dist., Figs. 32–33 male genit., 96 female frons, map 7 dist.).


Thereva clamonae Holston and Irwin. Nearctic: USA (California, Idaho, Nevada, Oregon, Washington). Thereva clamonae Holston and Irwin 2005: 85. Type locality USA, Nevada, Washoe County, Mount Rose summit. HT male (MEI 083603) CAS (Type No. 18228). Holston and Irwin (2005: 25 male key, 28 female key, 144 dist., Figs. 62–63 male genit., 111 female frons, map 21 dist.).


Thereva cordata Holston and Irwin. Nearctic: USA (California). Thereva cordata Holston and Irwin 2005: 52. Type locality USA, California, Mono County, 4.8 km N Inyo County, White Mountains, near Naval Research station, N. fork of Crooked Creek. HT male (MEI 132403) CAS (Type No. 18229). Holston and Irwin (2005: 24 male key, 26 female key, 153 dist., Figs. 14 head, thorax, 34–35 male genit., 97 female frons, map 8 dist.).

Thereva diversa Coquillett. Nearctic: USA (Arizona, Colorado, Montana, Nebraska, New Mexico, Wyoming). Thereva diversa Coquillett 1894: 100. Type locality USA, Colorado. LT male (MEI 111120) USNM (Type No. 995). Aldrich (1905: 248 cat.), Kertész (1909: 153 cat.), Kröber (1912a: 249 male key, 251 female key, 253 sp. list, 262 desc.; 1913b: 43 male key, 44 female key, 56 sp. list; 1914a: 61 male key), Cole (1923a: 88 male key, 89

Note 124.


elizabethae Holston and Irwin. Nearctic: Canada (British Columbia), USA (California, Oregon, Washington).

Thereva elizabethae Holston and Irwin 2005: 56. Type locality USA, California, San Luis Obispo County, Grover City. HT male (MEI 088988) EMEC. Holston and Irwin (2005: 22 male key, 27 female key, 164 dist., Figs. 5 habitus, 38–39 male genit., 99 female frons, map 10 dist.), Holston (2005 biol.), Holston et al. (2007: 282 phylog., Figs. 2–5 phylog.).


**flavicincta** Loew. **Nearctic:** Canada (New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec), USA (Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Vermont, Wisconsin).

**Thereva flavicincta** Loew 1870: 168. Type locality USA, New Hampshire, White Mountains. LT male (MEI 104584) MCZ (Type No. 10680). Original misspelling of Thereva. Loew (1872b: 206 subsequent usage). **Note 126.**


**flavipilosa** Cole. **Nearctic:** Canada (British Columbia), USA (Arizona, California, Colorado, Montana, Nevada, Oregon, Utah, Wyoming).

**Thereva flavipilosa** Cole 1923a: 125. Type locality USA, California, Fresno County, Huntington Lake. HT male (MEI 134395) CAS (Type No. 01494). Cole (1923a: 87 male key, Fig. 136 ant.; 1965: 353 cat.), Arnaud (1979: 138 type data), Irwin and Lyneborg (1981a: 219 sp. list), Poole (1996: 309 sp. list), Holston (2004: 50 nom.), Holston and Irwin (2005: 22 male key, 27 female key, 58 nom., desc., 173 dist., Figs. 12 female genit., 18 dist. map, 40–41 male genit., 100 female frons, map 11 dist.).

**foxi** Cole. **Nearctic:** Canada (Alberta, British Columbia, Yukon Territory), USA (Colorado, Idaho, Montana, Oregon, Utah, Washington, Wyoming).


**Thereva ustulata** Kröber 1912a: 265. Type locality Canada, Quebec, Laval County. HT male (MEI 111166) USNM (Type No. 24194). Kröber (1912a: 248 male key, 255 sp. list; 1913b: 43 male key, 62 sp. list; 1914a: 62

**fucata** Loew. **Nearctic:** Canada (British Columbia), Mexico (Baja California Norte), USA (California, Idaho, Nevada, Oregon, Utah, Washington).

*Thereua fucata* Loew 1872a: 74. Type locality USA, California. LT male (MEI 104566) MCZ (Type No. 10685). Original misspelling of *Thereva.* Loew (1872b: 250 subsequent usage). **Note 130.**

*Thereva fucata*. Osten Sacken (1878: 96 cat.), Coquillett (1893a: 197 key), Aldrich (1905: 248 cat.), Kertész (1909: 154 cat.), Kröber (1912a: 247 male key, 251 female key, 254 sp. list, 260 desc.; 1913b: 43 male key, 56 sp. list, Fig. 44 female habitus; 1914a: 61 male key, 62 female key, 67 desc.; 1928b: 120 dist.), Cole and Lovett (1921: 242 cat.), Cole (1923a: 86 male key, 89 female key, 123 note, dist., Figs. 154 male genit., 162 wing; 1965: 353 cat.), Irwin and Lyneborg (1981a: 219 sp. list; 1981b: Figs. 1 female habitus, 23 larval habitus, 24, 26 larval head capsule, 25 larval anterior and posterior spiracles), Teskey (1991a: Fig. 21a larval head and thorax, 21b larval head capsule), Foote (1991: Fig. 191a larval habitus, 191b larval head capsule, 191c larval anterior and posterior spiracles), Poole (1996: 309 sp. list), Holston (2004: 51 nom.), Holston and Irwin (2005: 22 male key, 27 female key, 60 desc., LT desig., 186 dist., Fig. 15 head, thorax, 42–43 male genit., 101 female frons, map 13 dist.), Holston (2005 biol.), Borkent and Rotheray (2009: 167 Fig. 32 larval head capsule), Gaimari and Webb (2009: 642 Fig. 20 larva, Fig. 21 larval head capsule). **Note 131.**

*Thereva fucata*. Misspelling of *fucata*. Woodworth (1913: 149 sp. list), Knowlton and Harmston (1937: 142 cat.).

*Thereva fuctata*. Misspelling of *fucata*. Holston and Irwin (2005: Fig. 15 legend).

**fucatoides** Bromley. **Nearctic:** Canada (British Columbia), USA (California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming).


**hirticeps** Loew. **Nearctic:** USA (California, Oregon, Washington).

*Thereua hirticeps* Loew 1874b: 382. Type locality USA, California, San Francisco. LT female (MEI 081665) MCZ (Type No. 10682). Original misspelling of *Thereva.*


*Thereva johnsoni* Coquillett. **Nearctic:** Canada (British Columbia), Mexico (Baja California Norte), USA (California, Nevada, Oregon, Utah, Washington).


*Thereva johnsonii*. Original misspelling of *johnsoni*. Coquillett (1893a: 198 key).

**krafti** Holston and Irwin. **Nearctic:** Canada (Alberta, British Columbia), USA (California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming).
Thereva krafti Holston and Irwin 2005: 101. Type locality USA, Oregon, Baker County, 54.7 km SE Union, Upper Goose Creek. HT male (MEI 100503) WSUC. Holston and Irwin (2005: 26 male key, 28 female key, 205 dist., Figs. 78–79 male genit., 119 female frons, map 28 dist.).

*kristinae* Holston and Irwin. Nearctic: Canada (British Columbia), Mexico (Baja California Norte), USA (California, Idaho, Nevada, Oregon, Washington).

*Thereva kristinae* Holston and Irwin 2005: 65. Type locality Canada, British Columbia, Robson. HT male (MEI 076346) SMDV. Holston and Irwin (2005: 24 male key, 27 female key, 209 dist., Figs. 46–47 male genit., 103 female frons, map 14 dist.).


*Thereva leucosoma* Holston and Irwin 2005: 67. Type locality USA, Utah, Daggett County, Manila. HT male (MEI 080403) UMRM. Holston and Irwin (2005: 24 male key, 27 female key, 210 dist., Figs. 48–49 male genit., 104 female frons, map 15 dist.).

*macdunnoughi* Cole. Nearctic:


*nelsoni* Holston and Irwin. Nearctic: USA (California, Nevada, Utah).

*Thereva nelsoni* Holston and Irwin 2005: 69. Type locality USA, California, Mono County, 1.6 km W Tom's Place, Rock Creek. HT male (MEI 132527) CAS (Type No. 18230). Holston and Irwin (2005: 24 male key, 27 female key, 212 dist., Figs. 50–51 male genit., 105 female frons, map 15 dist.).

*niveipennis* Kröber. Nearctic: USA (California).


*Bibio nobilitata* Fabricius 1775: 757. Type locality Daniae nemoribus [= Denmark]. ST sex unknown, ZMUC (but see note).

Note 135.


*nudotermina* Holston and Irwin. Nearctic: USA (California).

*Thereva nudotermina* Holston and Irwin 2005: 103. Type locality USA, California, Plumas County, Chester. HT male (MEI 122872) OSUC. Holston and Irwin (2005: 26 male key, 29 female key, 213 dist., Figs. 80–81 male genit., 120 female frons, map 29 dist.).

*schlingeri* Holston and Irwin. Nearctic: USA (Arizona, New Mexico).

*Thereva schlingeri* Holston and Irwin 2005: 105. Type locality USA, Arizona, Coconino County, Snow Bowl. HT male (MEI 101876) UCDC. Holston and Irwin (2005: 26 male key, 29 female key, 213 dist., Figs. 82–83 male genit., 121 female frons, map 30 dist.).

*smithae* Holston and Irwin. Nearctic: USA (California).

*Thereva smithae* Holston and Irwin 2005: 107. Type locality USA, California, Ventura County, San Nicolas Island. HT male (MEI 118044) EMEC. Holston and Irwin (2005: 24 male key, 28 female key, 214 dist., Fig. 84–85 male genit., 122 female frons).


*Thereua strigipes* Loew 1870: 169. Type locality Canada, Manitoba, English River. ST female (MEI 111045) MCZ (Type No. 10683). Original misspelling of *Thereva.* Loew (1872b: 207 subsequent usage). Note 137.


*Thereva utahensis* Hardy 1938: 145. Type locality USA, Utah, North Fork Provo Canyon. HT female (MEI 081669) USNM. Hardy (1938: Fig. 3 female head), Cole (1965: 354 cat.), Irwin and Lyneborg (1981a: 219 sp. list), Poole (1996: 310 sp. list), Holston (2004: 64 nom.), Holston and Irwin (2005: 26 male key, 28 female key, 108 desc., 216 dist., Figs. 86–87 male genit., 123 female frons, map 31 dist.).


*Thereva webbi* Holston and Irwin 2005: 38. Type locality Canada, Yukon Territory, 16.1 km NW Teslin Lake, Alaska Highway, near Lone Tree Creek. HT male (MEI 087890) ROME. Holston and Irwin (2005: 25 male key, 28 female key, 217 dist., Figs. 26–27 male genit., 93 female frons, map 4 dist.).

**Genus WINTHEMMYIA** Webb


**angustata** (Kröber). Neotropical: Brazil (Bahia).

*Psilocephala angustata* Kröber 1913b: 29. Type locality Brazil, Bahia. HT female (MEI 147345) ZMHB. Kröber (1913b: 29 sp. list).


**Subfamily XESTOMYZINAE** Lyneborg


**Genus HENICOMYIA** Coquillett


**bicolor** Lyneborg. Neotropical: Brazil (Parana, Santa Catarina).

*Henicomyia bicolor* Lyneborg 1972: 367. Type locality Brazil, Santa Catarina, Nova Teutonia. HT male CNC. Lyneborg (1972: 364 key, 368 dist., Fig. 209 male head, 210 male ant., 222–230 male genit.), Irwin and Webb (1992: 87 sp. list, 103 desc., 105 dist., Figs. 67 male frons, 68–71 male genit., 72–73 female genit.). Note 140.
**diversicolor** Lyneborg. **Neotropical**: Brazil (Rio de Janeiro).


**flava** Lyneborg. **Neotropical**: Argentina (Jujuy), Bolivia (Beni), Brazil (Amazonas, Goiás, Mato Grosso, Rondónia, Roraima, São Paulo), Paraguay (Alto Parana).


**amazonica** Irwin and Webb 1992: 101. Type locality Brazil, Amazonas, Manaus. HT male (MEI 006829) INPA. **NEW SYNONYM**. Irwin and Webb (1992: 87 sp. list, 103 dist., Figs. 56 male frons, 57 male ant., 58 max. palp., 59 wing, 60–64 male genit., 65–66 female genit.). **Note 141.**

**hubbardii** Coquillett. **Nearctic**: USA (Arizona, California, New Mexico, Texas).


**nigra** Lyneborg. **Neotropical**: Peru (Huánuco).

_Henicomyia nigra_ Lyneborg 1972: 371. Type locality Peru, Huánuco, Cochicote. HT male USNM (Type No. 1223). Lyneborg (1972: 364 key, 371 dist., Fig. 211 male ant.).

**tomentosa** Lyneborg. **Neotropical**: Costa Rica (Alajuela).

_Henicomyia tomentosa_ Lyneborg 1972: 370. Type locality Costa Rica, Higuito, San Mateo. HT female USNM (Type No. 1221). Lyneborg (1972: 364 key, 370 dist., Fig. 206 female head).

**varipes** Kröber. **Nearctic**: Mexico (Federal District).


†Genus **PERATRIMERA** Hauser and Irwin

†**PERATRIMERA** Hauser and Irwin 2005b: 40. Type species _Peratrimera mexicana_ Hauser and Irwin, 2005b by original designation. This genus is known only from the fossil record, from Mexican amber (Chiapas).

†**mexicana** Hauser and Irwin. **Neotropical**: Mexico (Chiapas).

_Peratrimera mexicana_ Hauser and Irwin 2005b: 40. Type locality Oligocene–Miocene (20 million years old) amber from Chiapas, Mexico. HT female (MEI 164794) BMNH (Accession No. In. 2158(1)). Hauser and Irwin (2005b: Figs. 1a photograph of holotype, 1b habitus, 2a ant., 2b, c wing.).

**Incertae Sedis**

**antennata** Kröber. **Neotropical**: Chile (Bío-Bío).

_PSilocephala antennata_ Kröber 1911: 508. Type locality Chile, Concepción. ST male, ST female, depository unknown. Kröber (1911: 498 male key, 500 female key; 1913b: 29 sp. list, 37 male key, 38 female key; 1928a: 5 dist., 8 male key, 11 female key), Stuardo-Ortiz (1946: 87 cat.), Metz _et al._ (2003: 248 trans. orig. desc.), Webb and Metz (2006: 237 nom., _nomen dubium_). **Note 143.**

*luteiventris* Philippi. Neotropical: Chile (Región Metropolitana de Santiago).

*Thereva luteiventris* Philippi 1865: 769. Type locality Chile, near Santiago. ST sex unknown, MNHC (lost? but see note). Reed (1888: 294 cat.), Kertész (1909: 155 cat.), Kröber (1911: 491 female key, 494 reprod. orig. desc.; 1913b: 45 female key, 58 sp. list), Stuardo-Ortiz (1946: 86 cat.), Holston (2004: 55 nom.). **Note 144.**

*triangularis* Say. Neartic: USA (Missouri).

*Xylophagus triangularis* Say 1823: 30. Type locality USA, Missouri. ST sex unknown, ANSP (destroyed). Woodley (2011: 486 unrecognized, possibly Therevidae).

*vetustus* Walker. Neotropical: Brazil.


**New World Species Formerly Considered Therevidae**

†*Apsilocephala vagabunda* (Cockerell) [Apsilocephalidae]


*Atherimorpha macrochaeta* (Bigot) [Rhabionidae, currently a junior synonym]


*Atherimorpha macrochaeta*. Edwards in Malloch (1932: 236 comb. change), James (1975: 24.2 nom.). **Note 145.**

*Atherimorpha pilosula* (Bigot) [Rhabionidae, currently a junior synonym]


*Atherimorpha pilosula*. Edwards in Malloch (1932: 236 comb. change), James (1975: 24.2 nom.). **Note 146.**

†*"Nebritus" willistoni* Melander [unplaced Trichoptera]


*Scapsis appendiculata* (Macquart) [Tabanidae]

*Thereva appendiculata* Macquart 1841a: 301. Macquart (1841a: Plate 5, Fig. 3 wing; 1841b: 23 subsequent usage, Plate 5, Fig. 3 wing), Kertész (1909: 151 cat.).


†*Taracticus hypogaeus* (Cockerell) [Asilidae]


*Thereva plagiata* Walker [Asilidae, currently a junior synonym]


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LITERATURE CITED


Agassiz, J.M. (1846b) Nomenclatoris zoologi index universalis, continens nomina systematica classium, ordinarum, familiarum et generum animalium omnium, tam viventium quam fossilium, secundum ordinem alphabeticum unicum disposita, adjectis homonymiis plantarum, nec non variiis adnotationibus et emendationibus. (= Fasc. XII). Soloduri [Solothurn, Switzerland]: Jent and Gassman, 393 pp.


NOTES

Note 1. Shaun Winterton, who is a specialist on the agapophynte genera, examined the type of Melanothereva blackmani Oldroyd and identified it as a species of Entesia (pers. comm.).

Note 2. Although Kröber (1928a, 1928c) referred to this record as "n. sp.", the 1928c publication date is 5 January 1928, while the 1928a publication date is 20 March 1928 (Pape and Thompson, 2010), making the latter publication a subsequent reference.

Note 3. Kröber (1913b: 58) cited Jaennicke’s original description of Thereva maculicornis as page 353.

Note 4. Holston, Irwin and Webb examined the holotype of Thereva maculicornis Jaennicke and identified it as a species of Entesia.

Note 5. Kröber (1911) reported that the type specimen was labelled "Th. maculipennis Jaen.", and was in very bad condition. Kröber redescribed the specimen, noting the details of the damage, and that the wing was white with the veins blackish brown and yellowish brown, the membrane before and after each crossvein is dark brown, and that the upper part of the discal cell is surrounded by a dark brown bow-shaped smear ["Bogenwisch"]). Kröber pointed out that because Jaennicke stated in the original description that the wings were spotted, that the name should probably be maculipennis, but given that the entry was under the heading Thereva maculicornis Jaennicke, Kröber did not appear to be proposing a new name.

Note 6. The depository of syntype(s) of Thereva notabilis Macquart is not listed in any publication, but Holston examined a syntype from the MNHN.

Note 7. Holston examined a syntype female of Thereva notabilis Macquart and determined it belonged in Entesia.
Note 8. There is no Perales is the Santiago Region. Although this place name is present in several Regions, the closest is in Petorca Province in the bordering region of Valparaiso.

Note 9. Webb examined the holotype male of *Dialineura pallidiventris* Malloch and identified it as a species of *Entesia*.

Note 10. *Psilocephala nigra* Bellardi (1861) was recorded from “Messico” [Mexico], but we consider this an error in the original label data. Previous examinations and descriptions of the holotype by Malloch (1932) when he described the genus *Melanothereva*, and Lyneborg (1969) who provided figures of the genitalia, support the identification of numerous specimens collected in South America as *lugubris* Macquart. Distributions of the other two New World agapophytine genera also appear to be restricted to Argentina, Bolivia, and Chile (i.e., the *Nothofagus* zone). However, subsequent Neotropical collecting has not confirmed the presence of *Melanothereva*, or any members of the subfamily Agapophytinae, in Central America (Gaimari and Webb 2009).

Note 11. Blanchard 1852 cites the author as "Meig.", but the citation following this ("Dipt. exot., t. 11, part 1, p. 24") is referring to Macquart.

Note 12. It is unlikely that the LT of *Psilocephala nigra* Bellardi has the correct locality data, since the specimen has been verified as a junior synonym of *Melanothereva lugubris*, but this species has never been encountered north of Bolivia.

Note 13. Cole (1923a) cited *Psilocephala penthoptera* Schiner as 1868, but in the references on page 132 listed Schiner as 1867. Also note, the references cited for this name are in the synonymy list for *Psilocephala lugubris* (Macquart), except for Aldrich (1905) which lists it as an unnecessary replacement name for *Psilocephala nigra* Bellardi.

Note 14. Irwin was unable to locate any of the three syntypes of *Pachyrhiza pictipennis* Philippi while visiting the MNNC. A “cotype” male (MEI 113142) collected from Chile, Concepcion, 9.X.1908, and determined by Kröber (1911) as "*Dialineura pictipennis* Phil." is in the USNM (Type No. 24187), but cannot be a syntype because it was collected 43 years after *pictipennis* Philippi was described.

Note 15. This family-group name is preoccupied by Swainson (1838) for a group of fish, based on the genus *Physis* Walbaum [ex Artedi] (1792). An application to the ICZN has been submitted (Gaimari et al. 2012) to change the stem of the generic name *Phycus* Walker to "*Phycus*--", leaving the family-group name for the group of fish unmodified. Also note, a group of genera that included the "*Xestomyza*-group" were referred to as the "phycine-like genera" by Lyneborg (1972: 303). In the Irwin and Webb (1992: 86) treatment of *Henicomyia*, the genus was listed as belonging in Phycinae, although in the introduction discussed as *Xestomyzinae*. Also see Note 141 under *Xestomyzinae*.

Note 16. The replacement name *Ziehenia* Kröber was published in January 1929, prior to Richards (1929).

Note 17. The replacement name *Epileptocera* Richards was published in August 1929, after Kröber (1929a).

Note 18. In the description of *Ataenogera abdominalis* Kröber, he cites three males, but then uses the singular when referring to the type ("Drei m#. Paraguay.—Type: Kgl. Zoologisches Museum, Berlin"), which can only be interpreted as his having designated a holotype. However, a lectotype was unnecessarily designated (Webb and Irwin 1988: 41), followed by Hauser and Webb (2007: 47) reporting that the lectotype and one paralectotype were lost in transportation to the MLUH. Hauser and Webb (2007: 47) then made another unnecessary (and otherwise invalid in any case) lectotype designation using the remaining paralectotype. It is unknown (and likely unknowable) whether the single remaining specimen is in fact the holotype.

Note 19. *Leptocera gracilis* Kröber was described from one male and one female syntype. The male was designated as lectotype (Webb and Irwin 1988: 41), but Hauser and Webb (2007: 47) reported that it was lost in transportation to the MLUH.


Note 21. According to Hauser and Irwin (2005a: 400), Evenhuis (1990) placed *P. scudderi* Cockerell in the genus *Desmatomyia* Williston (Bombyliidae), having mistaken the specimen in the USNM (reported in Cockerell, 1916 as an additional specimen of the species) as the type. However, the holotype of this species was in the AMNH. Both the holotype and specimen examined by Evenhuis were examined by
Martin Hauser and found not to be conspecific, with the latter possibly being within the genus Desmatomyia.

Note 22. Although Cole (1923b) describes only the female, he cites the holotype as being male, and Arnaud (1979) reports only the data from the original description so assumes it is male. However, the holotype is a female specimen.

Note 23. Cole (1965: 353) lists Thereva bimaculata Cole from Virginia, although all examined specimens had been collected from North Carolina.

Note 24. Kröber's records of Thereva vialis Osten Sacken from Toronto, Ontario, Canada (Kröber 1914a: 67) and North Carolina (Kröber 1928b: 120) are based on misidentifications.

Note 25. The five male and one female syntypes of Thereva novella Coquillett have not been located, nor were any syntypes examined by Cole (1923a).

Note 26. Hauser and Irwin (2003: Figs. 50-51) incorrectly referred to Ammonaios confusus Hauser and Irwin as Ammonaios sabulosus in the figure legend.

Note 27. Kröber referred to the "Type" female of this species deposited in MLUH. In his description he also refers to a cotype, which in context of his having designated a singular "Type" is clearly not a primary type. Metz et al. (2003) studied a male and a female "syntype", designating the female as the lectotype. However, given that Kröber designated this same female as the holotype, the lectotype designation was unnecessary and invalid.

Note 28. As reported by Holston (2004), Edwards in Malloch (1932) (as Malloch (1932)) and Stuardo-Ortiz (1946) recorded "?Thereva chilensis" in the synonymy of Thereva albiventris Philippi, 1865. The latter work was probably referring to the former in this possible synonymy. The citation of Edwards in Malloch (1932) is a footnote by F.W. Edwards, which reads "A female in Bigot's collection determined as T. chilensis seems to belong to this species; it is probably not the type, but may be correctly named."

Note 29. Kröber (1928c) refers to two localities in Chile in his description of this species—Olemué [=Olmué] and Concepcion [=Concepción]. However, he then cites the singular "Typus" for one female specimen in DEL. Although it is unknown which locality represents this holotype designation, only one specimen (from Olmué) of this species is present in DEL, which is labeled as "det. Kröber 1927," "Type" and "Holotype." Given the limited evidence, this can be considered the holotype. This is the specimen that Webb and Metz (2006) unnecessarily and invalidly designated as lectotype.

Note 30. The locality information on the holotype label of Psilocephala placida Coquillett reads “Fla.” Irwin (1977a: 293) noted that Florida was likely incorrect since the species was found in mountain areas of Arizona. Gaimari and Irwin (2000a: 170) indicated that the type locality is probably Flagstaff, Arizona, given the abbreviation “Fla.”

Note 31. The genus Cerocatus Rondani has been unrecognized since originally described (also see Note 49 for the type species below), and none of the most recent uses of the name since that time (Hardy 1966; Kelsey 1969; O’Hara et al. 2011) was related to its recognition or description. Kröber (1913a) included Cerocatus in a key to genera of Scenopinidae, but likely did not see a specimen, given that he only reproduced Rondani's original description.


Note 33. Although Kröber (1911) states three different localities—Peru, Paraguay and Matto Grosso (Brazil)—in the description of this species, he refers to a singular female "Type" in the HNHM. Of the known specimens that Kröber studied, none one female (from San Bernardino, Paraguay) is present in that collection. The HNHM also houses a male paratype from the same locality, the USNM houses a female paratype from Matto Grosso, and the paratypes from Peru have not been located. Kröber (1914a) discusses an additional male from Paraguay, which he refers to as the Type, deposited in "Kgl. Zoologisches Museum, Berlin" (other specimens so deposited by Kröber are currently in ZMHB), but there is no evidence to suggest this was even one of the original paratypes, and is certainly not the holotype.

Note 34. Although the MCZ type database correctly lists a syntype for Psilocephala scutellaris Loew, Webb found that the specimen had been subsequently affixed with a holotype label. Also note, the South American specimens determined as this species by Kröber (1911: 502; 1912a: 231; 1913b: 34) are misidentifications of Cyclotetus kroebleri Cole (1960a: 169); and Osten Sacken (1878) and Aldrich (1905) cited Loew's description as page 74.
Note 35. Kröber (1914a: 56) listed *Psilocephala scutellaris* Loew from San Bernardino, Paraguay but Cole (1960a: 169) later described this material as *Furcifera kroeberi*.

Note 36. Kertész (1909) cited Macquart's 1846a description of *Thereva fascipennis* as page 104.

Note 37. Cole (1960a: 166) cited Kröber's 1928b description of *Furcifera flavipes* as page 112.

Note 38. *Furcifera kroeberi* Cole was described for the South American representatives of the material recorded by Kröber (1911: 502) as *Psilocephala scutellaris* Loew.

Note 39. The holotype of *Furcifera longicornis* Kröber was originally deposited in the Kröber collection but is currently in the MNHN.

Note 40. The holotype of this species is presumed destroyed, following Horn et al. (1990: 444) which states that the entire ZMUH collection was destroyed during a 1943 bombardment.

Note 41. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1870 description of *Psilocephala erythrura* as page 75.

Note 42. *Cerocatus raspii* Hauser is named for Alfio Raspi, in recognition of his facilitating our getting photographs of *Cerocatus tarsalis* Rondani, which allowed us to understand the identity of *Cerocatus* and to propose the synonymy of *Cyclotelus*.

Note 43. The holotype of *Ectinorhynchus fascipennis* Kröber was severely damaged while being mailed back to NHMW. Only the thorax remains of the specimen. Based on the description, and notes and illustrations made by Irwin prior to returning the holotype, we place this species in *Cerocatus*.

Note 44. *Cerocatus rondanii* Gaimari is named for Camillo Rondani, in recognition of the fact that he had to wait 164 years to have *Cerocatus* recognized as the valid name for a common, widespread New World genus.

Note 45. Although the MCZ type database correctly lists a syntype for *Psilocephala rufiventris* Loew, a holotype label was subsequently affixed to the specimen. Also note, Osten Sacken (1878) and Aldrich (1905) cited Loew's 1870 description of *Psilocephala erythrura* as page 75.

Note 46. Irwin and Lyneborg (1981a) cited Loew's 1869 description of *Psilocephala rufiventris* as page 126.

Note 47. In the original description of *Furcifera fascipennis*, Kröber (1911: 526) describes only the female, citing two localities, Brazil and Mexico, but he uses the singular "Type", and states it is deposited in the K.K. Hofmus. Wien (= NHMW). Peter Sehnal (NHMW) confirmed that the specimen labeled as the holotype of *Furcifera fascipennis* Kröber is present at that collection, and is from Brazil. The paratype, from Mexico, is in the USNM.

Note 48. Lyneborg (1969: 408) suggested that the concept of Cole (1960a) for *Psilocephala sumichrasti* Bellardi was likely incorrect, based upon comparison of Fig. 3c of Cole (male genitalia) with Fig. 31 of Lyneborg. Cole (1960a) had also expressed doubts of whether his concept of the species was correct, relative to other specimens he had studied. Lyneborg further noted that the concept of *sumichrasti* of Cole was likely closer to *Furcifera hardyi* Cole.

Note 49. *Cerocatus tarsalis* Rondani was originally described in the Scenopinidae, and was treated as such by Kertész (1909), Kröber (1913a, 1914b) and Hardy (1966), but therevid workers subsequently overlooked Kelsey (1969: 1), who stated that it should be moved "to Therevidae as indicated by Rondani’s plates”. The type specimen was located by Alfio Raspi and Nicola Maio, in the Museo dell’ Istituto di Zoologia dell’ Universita di Napoli and photographs were provided to Gaimari who determined the genus placement, and thus the genus synonymy. Although not mentioned in the original description, the specimen has a handwritten label "Cerocatus tarsalis, Rnd. Brasile", which indicates the type locality to that level. The top label reads "M. Zool. / N. 11,518", which according to Nicola Maio (MZUN, personal communication) is the number of the original catalog of Costa.

Note 50. Although the species-group name disagrees in gender with the genus-group name, Webb (2003: 491) specified the species-group name as a noun in apposition.

Note 51. *Dialineura gorodkovi* Zaitzev has been identified from Alaska (MEI 149680) since Webb and Irwin (1991a). This species is also Palaearctic.

Note 52. Cole (1925) stated that, agreeing with a personal communication from E. Bergroth, the character used to separate *Aristothereva* and *Psilocephala* (whether the eyes of the male are separated) was not sufficient to found a genus upon, and thus *Aristothereva latifrons* Frey and his species *Psilocephala latifrons* were congeneric, so his species name was preoccupied, with that of Frey having priority. So, Cole (1925) renamed his species *Psilocephala amplifrons*, although it is noteworthy that the combination of the species
of Frey with *Psilocephala* was never used after Cole (1925), and *Aristothereva* has since been considered a valid genus, including the concurrent paper of Kröber (1925: 56).

**Note 53.** Although the MCZ type database lists the type of *Psilocephala obscura* Coquillett as a syntype, Coquillett (1893b) had specified that there was only a single specimen, therefore it is the holotype.

**Note 54.** Webb and Metz (2006) incorrectly treated *Psilocephala laticornis* Loew (1869) as a valid name, in combination with the genus *Elcaribe* Webb. Schiner (1860: 167) treated *Thereva laticornis* Loew (1856) as *Psilocephala laticornis*, so when Loew (1869) described *Psilocephala laticornis* Loew, the name was preoccupied in that combination. Realizing this, Loew (1872a) gave the replacement name *Psilocephala platycera*, which has been used by all authors referring to this taxon since that time. Kertész (1897: 614) and Zaitzev (1975: 540) also treated *Thereva laticornis* Loew (1856) as *Psilocephala laticornis*, while Kröber (1937) and Lyneborg (1984) treated *Thereva laticornis* Loew (1856), respectively, as *Chiorismia laticornis* and *Ammothereva laticornis* (which is the current combination). There was no usage of *Psilocephala laticornis* Loew (1869), in any combination, since Loew (1872a) renamed the species, and the Zoological Record listed this change of name (Rye 1874: 384), citing the name being preoccupied at that time. As such, when Webb and Metz (2006) listed *Psilocephala platycera* as an unjustified replacement name, stating "In 1869, Loew described *Psilocephala laticornis*, then in 1872a he renamed this species *Psilocephala platycera* but gave no justification for this new name. An examination of the literature determined that *laticornis* was not a primary homonym within *Psilocephala*, therefore, *Psilocephala platycera* is considered an unjustified new name for *P. laticornis*," they were in error. Given the history of the usage of names, and the unequivocal and long standing secondary homonymy, the new name *Psilocephala platycera* was justified and is permanent, following ICZN Article 59.3, including it's conditional clause stating that replacement names of junior homonyms made before 1961 are permanent UNLESS "the substitute name is not in use and the relevant taxa are no longer considered congeneric, in which case the junior homonym is not to be rejected on grounds of that replacement." In this case, the replacement name was in use since its designation, and the replaced name had not been in use during that entire time, so *Psilocephala platycera* was and is the permanent name for this taxon, and stability of nomenclature would be threatened by reasserting usage of *Psilocephala laticornis* Loew (1869) which had not been used since it was originally described. In addition, the species-group name *platycera* is a noun in apposition, and so its gender remains unchanged.

**Note 55.** Webb and Metz (2006) incorrectly reported the USNM Type Number for the holotype of *Elcaribe stellus* Webb as 201406.

**Note 56.** Webb (2003: 43) incorrectly refers to the syntype of *Psilocephala longipes* Loew at MCZ as the holotype, which according ICZN Article 74.7 is not a valid lectotype designation. Also note, Osten Sacken (1878) and Aldrich (1905) cited Loew's 1869 description of *Psilocephala longipes* as page 11.

**Note 57.** In the original description of *Psilocephala platyptera* Kröber, the type locality was given as Guatemala, Rockstone Essequebo, but Cole (1925) noted that, as Cockerell pointed out to him, the type locality was actually in British Guiana (= Guyana). This was also noted by Metz and Irwin (2000).

**Note 58.** Metz and Irwin (2000: 1014) indicated that the type locality for *Lindneria splendida* Kröber is in Bolivia rather than Argentina, as was indicated by Kröber (1929b: 171).

**Note 59.** Irwin and Lyneborg (1981a: 236) attributed the misspelling *Thereva tergis* to LeConte (1859), referring to it as an unjustified emendation of *Thereva tergis* Say.

**Note 60.** Kertész (1909: 165) attributed the misspelling *Thereva tergis* to LeConte (1859: 57), likely in reference to LeConte's use of *tergis*[s]a.

**Note 61.** Aldrich (1905: 247) notes *Thereva corusca* Wiedemann was an unjustified replacement name by stating "no reason for change of name."

**Note 62.** A single specimen from Missouri (MEI 128575) is well outside the expected distribution of *Lysilinga occipitalis* (Adams), and may be a mislabeled specimen.

**Note 63.** The holotype of *Megalinga insignata* Irwin and Lyneborg is male, not female as reported by Webb and Irwin (1991c: 921).

**Note 64.** The holotype of *Zionea tanneri* Hardy was originally returned to V.M. Tanner, but now is deposited at the BYUC (Webb and Irwin 1991b).
Note 65. The neotype female of *Psilocephala costata* Wulp was designated by Metz et al. (2003: 241) utilizing the holotype female of *Psilocephala atra* Kröber, which is now an objective junior synonym of *Psilocephala costata*.

Note 66. The MEI number (MEI 018051) listed for the holotype of *Nigranitida margaretae* Webb in the "specimens examined" in Webb and Metz (2004: 15) is incorrect, but is correct on page 13.

Note 67. Although Kröber (1911), in his redescribing this species, indicates a "Type" female, he was not working with Philippi's specimens, so this cannot be considered a lectotype designation. Also see Note 27.

Note 68. According to the original description of *Psileocephala ruficornis* Kröber, the holotype was deposited in the Hermann Collection, but its current location is unknown. Metz et al. (2003: 18) considered it destroyed.

Note 69. Several of the species of *Ozodiceromyia* Bigot were referred to by Cole (1923a: 37) as the "*Psileocephala haemorrhoidalis*-group", and he correctly noted that certain species then in *Thereva* Latreille seemed closer to that group. Gaimari and Irwin (2000a: 190; 2000b: 563) noted this, and pointed out the synonymy with *Phycus* Walker proposed by Becker (1912).

Note 70. Irwin and Lyneborg (1981a) incorrectly attributed the misspelling *Ozodiceronyma* to Wulp (1898), a citation that does not contain anything about Therevidae. It was likely confusion regarding the authorship here attributed to Godman and Salvin (1901), the editors of the *Biologia Centrali Americana* in which Wulp was the author of Volume 2. The Godman and Salvin (1901) reference is at the very end of Volume 1.

Note 71. Aldrich (1905) refers to *Thereva argentata* Bellardi as *Psileocephala argentata* on page 246 and *Thereva argentata* on page 248.

Note 72. Kröber (1928b) reported *Psileocephala frontalis* Cole as "Ps. frontata Cole?". Attribution to Cole, reference to the correct spelling in the preceding annotation, and proposal of all new species in the same reference with the notation "n. spec." demonstrates that this name was an error for *Psileocephala frontalis*; the question mark indicates determination uncertainty and is used elsewhere in the same publication. This name is not a demonstrably intentional change, and is to be treated as an incorrect (unavailable) subsequent spelling of *Psileocephala frontalis* Cole 1923 according to the IZCN Articles 33.1 and 33.5. This name appears in an annotated inventory of North American species in the Halle Collection (MLUH).

Note 73. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1869 description of *Psileocephala costalis* as page 36. Also note, the Coquillett (1900) record from Alaska is a misidentification.

Note 74. Cole (1965: 350) stated that the N.J. paralectotype (then syntype) of *Psileocephala aldrichii* Coquillett "=flavipennis??".

Note 75. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1872a description of *Thereva melanoneura* as page 36. Also note, the Coquillett (1900) record from Alaska is a misidentification.

Note 76. Kröber (1912) noted the type locality of his species *Euphycus setosus* as Bilimek, Mexico but Bilimek refers to the collector D. Bilimek, former curator at the National Museum of Mexico.

Note 77. The holotype of *Breviperna milleri* Irwin was originally retained in the MEIC collection but will be deposited at CAS when a revision of *Ozodiceromyia* is completed by Gaimari.

Note 78. According to Gaimari & Irwin (2000: 191), the treatments of this species by Kröber (1914a) and Cole (1923a) were both based on misidentifications of *Ozodiceromyia germana* (Walker).

Note 79. Kröber records *Thereva nigra* Say from Mexico (Kröber 1912, 1913b) and from the southwestern United States (Kröber 1914a). The records from Mexico are likely following the misidentification by Wulp (1882), but those from the southwestern United States were based upon misidentification of what was then a new species, but is currently *Ozodiceromyia nanella* (Cole). Gaimari studied the relevant specimens for the latter at NHMW.

Note 80. Wulp (1882) lists *Psileocephala nigra* (Say) from Mexico, but this is a species misidentification, which was also followed by Osten Sacken (1887), and by Kröber (1912, 1913b) as *Thereva nigra*.

Note 81. Lyneborg (1969) reported that syntypes of *Psileocephala univittata* Bellardi were not present in the Bellardi collection (MRSN), but were located in the Bigot collection (BMNH), although he did not examine them. In subsequent visits by Gaimari, no syntypes of this species were found at BMNH. Also note, Kröber (1914a: 55) records this species from Victoria, Texas, which likely represents a misidentification.
Note 82. Webb and Irwin (1991a: 879) indicated the holotype number for *Psilocephala variegata flavipilosa* Cole as CAS 01486, but the specimen is labeled as CAS Type No. 1485, which is correct according to Arnaud (1979), with the allotype being CAS Type No. 1486.

Note 83. As discussed by Gaimari and Irwin (2000a), *Thereva crassicornis* Williston (1886) was preoccupied by Bellardi (1861). Cole (1965) erected the new name *Dialineura willistoni* Cole for the species of Williston, apparently not recognizing the fact that Williston himself (1908) had recognized his own error and erected the new name *Thereva pachyceras* Williston for his homonymous species. Therefore the name of Cole (1965) was an unjustified replacement name, and the name of Williston (1908) is the valid name.

Note 84. In the description of "Psilocephala slossoni", Coquillett (1893b: 227) stated "collected by Mrs. A. T. Slosson, after whom the species is named", but the species name given was slossoni, an incorrect original spelling, later emended to *slossonae* by Cole (1965).

Note 85. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1870 description of *Psilocephala variegata* as pages 73 and 90, respectively.

Note 86. Cole (1923a: 74) designated the lectotype of *Thereva conspicua* Walker according to ICZN Article 74.5. As noted by Cole (1923a), the lectotype is a female, not male as stated by Walker (1848).

Note 87. Aldrich (1905) and Kertész (1909) cited Coquillett's 1894 description of *Psilocephala limata* as page 99.

Note 88. Webb and Metz (2003a: 382) cited Cole's 1923a description of *Psilocephala canadensis* as page 53.

Note 89. Although an apparently originally affixed holotype label was on Loew's original specimen of *Psilocephala melampodia*, in the original description Loew does not indicate how many specimens were examined, so the specimen must be considered a syntype (ICZN Article 73). Webb and Metz (2003a) designated the MCZ specimen as lectotype. Also note, Osten Sacken (1878) and Aldrich (1905) cited Loew's description as page 12.

Note 90. The holotype of *Psilocephala argentifrons* Cole is not deposited in the Pennsylvania Department of Agriculture, Harrisburg as stated by Cole (1923a), but is in the collection of the CAS (Arnaud 1979).

Note 91. In designating the lectotype of *Psilocephala montivaga* Coquillett, Webb and Metz (2003a: 396) refer to the author of the species as Cole in the Type Material section.

Note 92. Kröber (1911) had selected one of the syntypes of *Psilocephala stigmaticalis* Schiner as the holotype of his new species *Psilocephala quadrimaculata*. Gaimari and Irwin (2000a) selected this specimen as the lectotype of *Psilocephala stigmaticalis*, making the species of Kröber a junior objective synonym of the Schiner species.

Note 93. Metz and Irwin (in Metz et al., 2003) had misinterpreted *Psilocephala senilis* Bromley as a junior secondary homonym, preoccupied by *Bibio senilis* Fabricius (1805), which was a congener, but had already been renamed *Penniverpa lyneborgi* Irwin and Webb due to its own homonymy with *Bibio senilis* Panzer (1798).

Note 94. Metz and Irwin (in Metz et al., 2003) renamed *Psilocephala senilis* Bromley, citing its being preoccupied by *Bibio senilis* Fabricius (1805). However, *Bibio senilis* Fabricius was preoccupied by *Bibio senilis* Panzer (1798), and had been renamed *Penniverpa lyneborgi* Irwin and Webb (1992). *Bibio senilis* Fabricius was permanently invalid due to its primary homonymy according to ICZN Article 57.2, and had already been given a replacement name, so was not eligible for further issues of Priority. So, the replacement name *Penniverpa bromleyi* Metz and Irwin was unjustified.

Note 95. Aldrich (1905) cited Coquillett's 1893b description of *Psilocephala festina* as page 22.

Note 96. The holotype of *Anabarhynchus hermanni* Kröber was originally deposited in the Hermann Collection (Kröber 1911) but is currently in the ZSMC (Webb 2006).

Note 97. The citation of Edwards in Malloch (1932) is in a footnote by F.W. Edwards, which reads "According to material in Bigot's collection the following belong to the genus *Peralia*: *Thereva vittata*, Phil.; *Dialineura costalis*, Bigot; *Anabarhynchus niger*, Bigot. Of these, *T. vittata* is probably an earlier name for *P. grisea*, and the type of *A. niger* may be a greasy specimen of the same species."

Note 98. Kertész (1909) cited Jaennicke's 1867 description of *Thereva schineri* as page 352.

Note 99. The Bigot syntypes of his species *Dialineura costalis* have not been located at Oxford or the BMNH (Adrian Pont, pers. comm.), although three males and two females of this species were on a purchase list in the G.H. Verrall archives.
Note 100. The holotype of *Anabarhynchus griseus* Kröber was originally deposited in the Hermann Collection (Kröber 1911) but is currently in the ZSMC (Webb 2006).

Note 101. The holotype of *Anabarhynchus maculifrons* Kröber was originally deposited in the Hermann Collection (Kröber 1911) but is currently in the ZSMC (Webb 2006).

Note 102. Because *Bibio imberbis* Fallén was designated the type species of *Paraclia* Enderlein, *Paraclia* immediately became a junior objective synonym of *Psilocephala* Zetterstedt.

Note 103. Kröber (1912: 240) comments that in his opinion *Psilocephala melanoprocta* Loew (1869) and *Psilocephala munda* Loew (1869) are synonyms. Irwin and Lyneborg (1981a) lists *P. munda* as the senior synonym of *P. melanoprocta*, citing Kröber (1912) as the source for the "subsequent synonymy". However, Kröber (1913b, 1914a) treats both species as valid. Also note, Osten Sacken (1878) and Aldrich (1905) cited Loew's 1869 description of *P. munda* as page 13 and *Psilocephala melanoprocta* as page 15.

Note 104. In his description of *Psilocephala maculipennis*, Kröber (1914a: 46) refers to two males, but then refers to the singular "Type" in the USNM. One of these two specimens, both from the same locality according to the description, is the holotype.

Note 105. In describing *Psilocephala schmidtii*, Kröber (1928a: 13) refers to male and female types deposited in ZMUH. Metz et al. (2003) presumed these to have been destroyed (also see Note 40), but found a female syntype that had been deposited in DEI, and designated it lectotype.

Note 106. Since Webb (2005a), specimens of *Spiriverpa albiceps* (Loew) have been identified from Canada (Saskatchewan) and the USA (Idaho, Nevada, New Mexico).

Note 107. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1869 description of *Thereva albiceps* as page 69.

Note 108. Webb (2005a: 20) incorrectly refers to the male syntype of *Thereva bella* Kröber as the holotype, but in the original description, Kröber indicates both a female type and a male type, which are both syntypes. The syntypes were deposited in the Johnson collection according to the original description, which was subsequently transferred to MCZ.

Note 109. The holotype of *Thereva bella nigrimana* Kröber was originally deposited in the Johnson collection according to the original description, which was subsequently transferred to MCZ. Also note, Webb (2005a) designated this as new synonym of *bella* Kröber, but had overlooked Poole (1996).

Note 110. The BMNH Diptera type database lists two specimen numbers (241986 and 253876) for the lectotype of *Thereva senex* Walker, which was designated by Cole (1923a) according to ICZN Article 74.5. Webb (2005a: 38) lists only 241986 as the Type Number in the BMNH, referring to the lectotype as the holotype.

Note 111. Webb (2005a: 36, 38) incorrectly refers to the syntype of *Thereva candidata* Loew at MCZ as the holotype, which according ICZN Article 74.7 is not a valid lectotype designation. Also note, Osten Sacken (1878) and Aldrich (1905) cited Loew's 1869 description of *Thereva candidata* as page 10.

Note 112. Aldrich (1905) cited Walker's 1852 description of the genus *Tabuda* as 1853.

Note 113. Aldrich (1905) cited Coquillett's 1894 description of the genus *Metaphragma* as page 98.

Note 114. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1872a description of *Xestomyza planiceps* as page 38.

Note 115. Cole (1923a: 128) designated the lectotype of *Thereva varia* Walker according to ICZN Article 74.5. The lectotype is a male, not female as stated by Walker (1848) and Cole (1923a).

Note 116. Lyneborg (1968b: 168) states that "though Walker did not make any comments on it, there can be little doubt that he created *Tabuda fulvipes* as a new name after discovering that *Thereva nervosa* was preoccupied by Loew (1847). Walker's two descriptions are practically identical and have surely been made from the same specimen," and treated this taxon as such. Although Cole (1923a: 128) had already called the syntype specimen of *Thereva nervosa" the type"—a lectotype designation according to ICZN Article 74.5—Lyneborg (1968b: 169) also refers to the specimen (but as *Tabuda fulvipes*) as the holotype. Irwin and Lyneborg (1981: 223) followed Lyneborg (1968b) in referring to *Tabuda fulvipes* as a "new name for *Thereva nervosa" Walker*. However, although Walker (1852) did not state any locality or collection information for his species *Tabuda fulvipes*, he also made no reference of any kind to use of the name *Thereva nervosa* by himself or by Loew. Additionally, Walker (1852) described *Tabuda* (and *Tabuda fulvipes*) in a different family (Leptidae), treating *Thereva* as belonging to the Xylotomae in the same paper (Walker, 1852) and the previous one (Walker, 1848) where he described *Thereva nervosa*. The descriptions are similar, as Lyneborg (1968b) noted, but were clearly made independently because the
characters used and the ways they were described are quite different, in addition to the clear discrepancy that the stated body and wing lengths are different between the two descriptions. Even if the description of *Tabuda fulvipes* was based on the same specimen as *Thereva nervosa* (for which there is no evidence), it would still be an independent new species description, and not a new name. However, since Curran (1934) synonymized *Tabuda fulvipes* under *Thereva nervosa*, and given that both are considered synonyms of *Thereva varia* Walker (1848), the end result is the same, with *Thereva varia* Walker as the valid name, with both *Thereva nervosa* Walker and *Tabuda fulvipes* as junior synonyms. The name *Thereva nervosa* Walker is permanently invalid according to ICZN Article 57.2, due to the primary homonymy with Loew's (1847) species. So unless a demonstrable type specimen of *Tabuda fulvipes* Walker is found, and is deemed to be a different species from *Thereva nervosa* Walker, we can follow the synonymy of Curran (1934) to apply ICZN Article 60.2 to use the name *Tabuda fulvipes* Walker in the event that the synonymy with *Tabuda varia* (Walker) is rejected. Also note, Aldrich (1905) cited Walker's publication date for *Tabuda fulvipes* as 1853.

**Note 117.** Although Bigot (1890) did not expressly cite the combination *Baryphora fulvipes* (Walker), the genus was monotypic when he proposed the synonymy of *Tabuda* Walker.

**Note 118.** Irwin and Lyneborg (1981a) cited Loew's 1876 description of *Thereva melanophleba* as page 112.

**Note 119.** Holston et al. (2003) petitioned the ICZN (Case 3251) to conserve the usage of *Thereva* Latreille by the designation of *Musca plebeja* Linnaeus, 1758 as the type species. The Commission in 2006 ruled (Opinion 2142) that usage of the name *Thereva* Latreille, 1797 is conserved by the designation of *Musca plebeja* Linnaeus, 1758 as the type species of the genus *Thereva*. Holston (2004: 25) provides an interesting synopsis, prior to the 2006 ICZN opinion, of the bifurcated history of the use of the name *Thereva* (viz. usage by Latreille versus Fabricius), which had stabilized by 1820, but had still remained unresolved in terms of a designated type species. Also note, Curran (1934: 188) mistakenly attributed authorship of the genus to Zetterstedt in his key to genera.

**Note 120.** The holotype of *Thereva albopilosa* Kröber was originally deposited in the Kröber collection but is currently in USNM.

**Note 121.** Holston and Irwin (2005: 79) incorrectly recorded MEI 118374 for the holotype male of *Thereva aurofasciata* Kröber, but it should be MEI 119840. MEI 118374 is the holotype of *Thereva niveipennis* Kröber.

**Note 122.** Osten Sacken (1878) and Aldrich (1905) cited Loew's 1869 description of *Thereva comata* as page 9.

**Note 123.** The holotype of *Thereva nebulosa* Kröber was originally deposited in the Kröber collection, but is currently in MNHN (Holston and Irwin 2005).

**Note 124.** Kröber (1912a: 253) and Cole (1923a: 116; 1965: 353) incorrectly recorded *Thereva diversa* Coquillett from Florida, following the original interpretation of "Fla." by Coquillett from the paralectotype (then syntype) label (MEI 111122) (Holston and Irwin 2005). Gaimari and Irwin (2000a: 170) interpreted this locality data as Flagstaff, Arizona, for the type of *Psilocephala placida* Coquillett (1894) (currently in *Breviperna*).

**Note 125.** Cole (1925) noted the following, regarding the locality record for a paratype of *Thereva neomexicana* Cole (1923a): "I am also indebted to Prof. Cockerell for correcting a locality record given on page 118 of my paper; *Thereva neomexicana* was taken at Arroyo Pecos (probably by Cockerell), and Arroyo Pecos has nothing to do with Pecos River; it is at Las Vegas."

**Note 126.** The collector of the lectotype of *Thereva flavicincta* Loew was S.H. Scudder, with the locality only listed as "White Mountains" by Loew. Scudder wrote numerous papers on the insect fauna of the White Mountains in central New Hampshire, so it seems likely that the locality referred to by Loew is the White Mountains of New Hampshire, USA.

**Note 127.** Kröber (1914a: 68) lists *Thereva flavicincta* Loew from Mexico, which represents a specimen misidentification. Also note, Osten Sacken (1878) and Aldrich (1905) cited Loew's 1870 description of *Thereva flavicincta* as page 70.

**Note 128.** In referring to the Harris collection, Johnson (1925: 73), stated that a specimen of *Thereva frontalis* Say is labeled as "No. 70", and that No. 170 has a label written in pencil "Thereva aurata Say ms.", and another in ink "frontalis Say. Append. Long, is probably the same as No. 70." So it seems very likely that the *nomen nudum* Thereva aurata Harris is attributable to *Thereva frontalis* according to Johnson (1925).
Note 129. The holotype of Thereva ustulata Kröber was originally deposited in the Kröber collection, but is currently at USNM (Holston and Irwin 2005).

Note 130. No locality is given on the type specimen of Thereva fucata Loew, but the locality is recorded as California (collected by H. Edwards) by Loew (1872a) in the original description of the species.

Note 131. Osten Sacken (1878) and Aldrich (1905) cited Loew's 1872a description of Thereva fucata as page 37.

Note 132. The holotype of Thereva fucatoides Bromley was originally returned to G. Knowlton, but is currently at USNM (Holston and Irwin 2005).

Note 133. In his description of Thereva hirticeps, Loew (1874b) did not refer to the number of specimens in the type series. Holston and Irwin (2005: 44) refer to the type specimen as the holotype, not recognizing that Cole (1923a: 121) had designated a lectotype according to ICZN Article 74.5.

Note 134. Coquillett did not state where the holotype of Thereva johnsoni Coquillett was deposited (presumably in the C.W. Johnson collection), but it is currently at the MCZ (Holston and Irwin 2005).

Note 135. The ZMUC collection database does not indicate the type status for the single species record for Bibio nobilitata Fabricius. Zimsen (1964: 454) reported a single type for Bibio nobilitata, consisting only of wings when this specimen was located in Kiel, Germany.

Note 136. Thereva nobilitata (Fabricius) is widespread throughout western Europe, the likely source of introduction to North America, where it is known from seven specimens collected from 1970–1999 in the Greater Vancouver Regional District, British Columbia, Canada (Holston and Irwin 2005). We are not providing the extensive bibliographic information or synonymies here for the Palaearctic literature on this common Palearctic species that was introduced into North America. For additional references, consult Kertész (1909), Kröber (1913b), Lyneborg (1989a) and Holston and Irwin (2005).

Note 137. Although the nebulose type locality “English River” (collected by Kennicott) is given for Thereua strigipes Loew in the original description and on the labeled syntype, according to Stearns (1866: 3), Robert Kennicott (the collector of the syntype) collected in this region from 1859-1862, specifically “the route traversed by Mr. Kennicott was [thence] nearly north to Fort Churchill, on English River, up the latter to Methy portage, at which point he first reached the head waters of the streams flowing into the Arctic ocean”, thus the type locality is surely in Manitoba, Canada. Also note, the syntype in the MCZ was subsequently affixed with a holotype label. Cole (1923a: 118) listed Lake Winnipeg, Canada as type locality, likely having followed the entries in Osten Sacken (1878: 96) and Aldrich (1905: 248), which apparently is an error (Holston and Irwin 2005: 36). According to Kennicott's journal (see Anonymous, 1869: 164), he had crossed Lake Winnipeg some weeks prior to reaching the English River.

Note 138. Johannsen (1903: 15) treated Thereva strigipes Loew as belonging to Thereva Latreille, but suggested that due to the open medial cell would be referable to Dialineura Rondani. Also note, Kröber (1912a: 255, 268) lists this species from Colorado which is apparently a misidentification, and Osten Sacken (1878) and Aldrich (1905) cited Loew's 1870 description of the species as page 72.

Note 139. The first treatments of xestomyzine genera as a modern higher-level taxonomic group referred to included genera under the informal names “Xestomyza-group” (Lyneborg 1972: 297) or “Xestomyzine-genera” (Lyneborg 1972: 303) whose circumscription differed significantly from the “Xestomyza-Gruppe” of Kröber (1924a: 2), which included Palearctic therevine stiletto fly genera with a swollen antennal scape (Holston 2004). Irwin and Lyneborg (1981a: 262; 1981b: 518) treat the genus Henicomyia as Phycinae, although in the latter reference as the Xestomyza-group of Phycinae. In Irwin and Webb (1992: 85), Xestomyziniae was discussed as a subfamily including Henicomyia, but this genus was later listed in Phycinae.

Note 140. Lyneborg (1972: 368) deposited the holotype of his species Henicomyia bicolor at the USNM, but it has since been transferred to the CNC, which is its correct depository (Irwin 1978: 74).

Note 141. Hauser compared the holotype and several paratypes of Henicomyia amazonica Irwin and Webb with the widespread Henicomyia flava Lyneborg and determined the species to be conspecific. Therefore H. amazonica is regarded as a junior synonym of H. flava.

Note 142. Lyneborg (1972: 364) placed Henicomyia variipes Kröber as a possible synonym of Henicomyia hubbardii Coquillett and assumed the type to be lost, and further speculated that although Kröber (1912a: 215) cites the type as being male that it is likely female based on the morphology described. The type was found at the MNHN, was female, and Hauser determined it to represent a distinct species distributed in

Note 143. According to the original description of Psilocephala antennata Kröber, the male and female syntypes were deposited in the Hermann Collection, but their current location is unknown.

Note 144. Philippi (1865) did not indicate the sex of the syntype(s) of Thereva luteiventris Philippi. Kröber (1911; 1913b) included this species in keys to females, although he recognized initially that the sex was not known from the original description and that the species was unknown to him (Kröber 1911). It is possible that a male specimen (MEI 141813) from the MNNC with a greyish blue handwritten label “Thereva leucogas [sic] tra Ph. n. sp.” is a syntype bearing an unpublished manuscript name.

Note 145. Psilocephala macrochaeta Bigot is currently considered a junior synonym of Atherimorpha praefica (Philippi).

Note 146. Psilocephala pilosula Bigot is currently considered a junior synonym of Atherimorpha praefica (Philippi).

Note 147. Thereva appendiculata Macquart was determined by K.C. Holston and J. Chainey (BMNH) to belonged in the genus Scepsis Walker (Tabanidae), and is currently considered the senior synonym of Scepsis nivalis Walker, 1850.

Note 148. In reference to the Harris collection, Johnson (1925) stated under the record for Neopogon trifasciatus (Say) the following "No. 248, Cambridge, July 18 and 20, 1836, 'on sand at the Port' (Cambridgeport was that part of the present Cambridge adjacent to the lower part of the Charles River). Listed as Thereva plagiata Say, ms. One specimen is marked with a u. It seems strange that Say should have applied the Thereva plagiata to this in 1833, when he described it in 1823 as Dasypogon trifasciatus." The nomen nudum Thereva plagiata Harris is surely referring to the manuscript name of Say.

Note 149. Osten Sacken (1878) and Williston (1886) recorded this species as "Thereva plagiata (Harris) Walker," and Back (1909) referred to the Harris name as a "ms. name", all of which referred to this species as a junior synonym of the asilid species Stichopogon trifasciatus (Say). Irwin and Lyneborg (1981a) made no reference to Walker, but repeated Osten Sacken's synonymy.

Note 150. For the chapter on Therevidae, Curran (1965) is identical in page numbering and content to Curran (1934).

Note 151. In the Biologica Centralia-Americana, authorship is not stated for the "List of species recorded from Mexico or Central America since 1887, not enumerated in the Supplement" at the end of volume 1, but it is clearly placed after, and separate from, the section (pp 366–376) on Empidae (sic) by Wheeler and Melander, so authorship is here attributed to the editors.

Note 152. Evenhuis (1997) gave the date of Latreille’s Précis as 1797, based primarily on the weekly minutes of the Académie [l’Académie des Sciences de Paris] that recorded the presentation of this work as 13 January 1797. The year 1797 will be used in reference to Latreille’s Précis; the date given in most catalogues of Diptera is 1796.

Note 153. The various parts of Macquart’s Diptères exotiques nouveaux ou peu connus were published in both a journal version and a separate version. The two parts where he described New World therevids are the Tome deuxième, 1.° partie (Volume 2, Part 1) and the Supplément. According to Evenhuis (1997: 513), for the former, both the journal and separate versions were published in 1841, with the journal version published first (7 April 1841) and the separate version published second (September 1841). Also according to Evenhuis (1997: 514), the Supplément was first published in the journal version (22 July 1846) and the separate version published second (7 November 1846). Therefore, for the two Macquart works cited herein, the journal versions were published first.
INDEX

The index only refers to names in the catalogue itself, not in other sections of this work. Obsolete combinations are not indexed, but instead can be found via the currently valid combination. The following conventions are followed:

**BOLDFACE**—valid name for family-group name

**Boldface** Author—Available generic name, valid

**Italics** Author—Available generic name, synonym or homonym

Normal Author—Unavailable generic name, not misspelling (e.g., *nomen nudum*)

Normal: Author—Unavailable generic name, original or subsequent misspelling

**bold italics** Author, valid genus—Available species name, valid, in original combination

**bold italics** (Author), valid genus—Available species name, valid, in subsequent combination

**italics** Author, valid genus of senior name—Available species name, synonym or homonym

Normal Author, valid genus—Unavailable species name, not misspelling (e.g., *nomen nudum*)

Normal: Author, valid genus—Unavailable species name, original or subsequent misspelling

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