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A REVIEW OF THE PLANTHOPPERS (HEMIPTERA: FULGOROIDEA) OF THE UNITED STATES

By

Charles R. Bartlett

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A Review of the Planthoppers (Hemiptera: Fulgoroidea) of the United States

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ABSTRACT—The systematics of planthoppers north of Mexico is reviewed with particular emphasis on the contiguous United States. This overview includes a synopsis of each family, a checklist of all species reported north of Mexico, synonymies since Metcalf's (1936–1958) catalog, summaries of distribution, keys to genera with photographs representing nearly all listed genera, and a bibliography of papers published since the Metcalf catalog. We report 12 families with 167 genera and 914 species occurring in the contiguous United States, with an additional 5 genera and 26 species occurring in Canada and Alaska (all but one of these are Delphacidae). There are 11 species known to be adventive and 2 others whose native status has been questioned. Generally, planthoppers are most species rich in the south, particularly the southwest, but species richness per unit area is higher for the northeast than the southeast or southwest. Species richness is lowest in the northwest U.S.

INTRODUCTION

Planthoppers (Hemiptera: Fulgoroidea) comprise a diverse group of phytophagous or fungivorous insects, exceeding 12,500 described species worldwide (Bourgoin 2012). At least 160 species in 16 families are recorded as pests (Wilson & O'Brien 1987), including some of major economic importance, such as the brown planthopper, *Nilaparvata lugens* (Stål, 1854), on rice. Planthoppers are vectors of viral and bacterial (including phytoplasma) diseases of plants. Here we provide an overview of planthopper systematics north of Mexico. Our intent has been to provide an updated integrative resource summarizing our current understanding of North American planthoppers to assist current and future researchers.

HIGHER CLASSIFICATION AND PHYLOGENETICS

Planthoppers are in the hemipteran suborder Auchenorrhyncha (e.g., Triplehorn & Johnson 2004), but the monophyly of Auchenorrhyncha has been questioned (e.g., Sorenson et al. 1995, Campbell et al. 1995, Bourgoin & Campbell 2002). When the monophyly of Auchenorrhyncha is not accepted, planthoppers are treated as a suborder (Fulgoromorpha) of uncertain relationship with the leafhoppers, treehoppers, spittlebugs and cicadas (the Cicadomorpha). However, recent evidence strongly supports auchenorrhynchan monophyly (Cryan 2005, Cryan & Urban 2012), relegating Fulgoromorpha and Cicadomorpha to infraorders of Auchenorrhyncha. In either case, Fulgoromorpha is divided into 3 superfamilies and 30 families. The superfamilies are the extinct Coleoscytoidea, with a single family (Coleoscytidae) from the late Permian; the extinct Surijokocixioidea, with a single family (Surijokocixiidae) from the late Permian and early Triassic; and the Fulgoroidea consisting of 7 extinct and 21 extant families dating from the Jurassic (O'Brien & Wilson 1985; Shcherbakov 2000, 2007; Szwedo et al. 2004, 2011; Szwedo 2007; Lin et al. 2010). Fossil planthoppers have most recently been reviewed by Szwedo et al. (2004).

While the monophyly of Fulgoroidea has seldom been questioned, the number and composition of planthopper families have varied greatly over time. The systematics of Auchenorrhyncha was summarized by Bourgoin & Campbell (2002) and Cryan & Urban (2012), but the most thorough phylogenetic analysis of planthopper families was that of Urban & Cryan (2007) (Fig. 93). Their work supports prior hypotheses (e.g., Asche 1988a) that Cixiidae and Delphacidae are the most anciently derived of extant planthopper families (potentially with the monophyletic Delphacidae arising from within a paraphyletic Cixiidae), followed by intermediately derived families of Meenoplidae, Kinnaridae, Achilidae, Derbidae and Achilixiidae. Dictyopharidae + Fulgoridae and Lophopidae + Eurybrachidae fall as sister groups that usually subtend the most recently derived families (Acanaloniidae, Caliscelidae, Flatidae, Issidae, Nogodinidae, Ricaniidae, Tettigometridae, Tropiduchidae, and presumably Gengidae and Hypochthonellidae).

The relative positions of families generally agree among phylogenetic analyses, but details remain inconsistent, with molecular rate variation and 'long-branches' contributing to analytical difficulties (Urban & Cryan 2007, 2009). It is clear that not all families as currently comprised are monophyletic, with the composition of the higher planthopper families particularly vexing. For example, Issidae is only monophyletic when treated in the strict sense (i.e., without Hemisphaeriinae, Tonginae, and Caliscelidae) (Yeh et al. 1998, Yeh & Yang 1999). Soulier-Perkins (2000, 2001) has shown that the Neotropical genus *Hesticus* Walker 1862 does not belong in Lophopidae, although it is not clear to which family it belongs. Nogodinidae as currently comprised is polyphyletic (Urban & Cryan 2007). Nogodinidae in the strict sense is Neotropical, with the placement of other lineages still to be determined. It is possible that family taxonomy has been misinformed by superficial morphological features, such as brachyptery and crypsis, which may have developed independently in several lineages. A recent hypothesis by Hamilton (2012), based on his interpretation of the morphology of antennal sensillae, proposed reducing the number of extant planthopper families to 6 broadly defined taxa (Cixiidae, Delphacidae, Eurybrachidae, Fulgoridae, Issidae and Tettigometridae). It is clear that a much more taxonomically comprehensive, data-intensive, integrative investigation is needed to develop a robust, stable family taxonomy for planthoppers. At present, we can anticipate more changes in higher planthopper systematics as our understanding improves.

MORPHOLOGY

Planthoppers (Fulgoromorpha) are relatively easily separated from Cicadomorpha by features of the head, but like all Hemiptera, the head is greatly modified so that the named functional regions may not closely correspond to their morphological origins. Fulgoromorpha can be diagnosed (from Cicadomorpha) by the conspicuous (2 segmented) antennae of planthoppers that are often proximally bulbous, arising beneath the eyes (except *Bothriocera*, Cixiidae), and bear sensory plaques (rhinaria) on the distal segment (Fig. 4D). The face bears 2 to 5 longitudinal ridges (carinae), consisting of lateral carinae dividing the functional frons (see below) from the genae, a median carina dividing the front longitudinally in half, and, less often, intermediate carinae dividing the front longitudinally into quarters (Fig. 4C). Lateral ocelli are positioned below, and slightly anterior to, the middle of the compound eyes on the functional genae (Fig. 4B). The median ocellus is usually absent, but when present (most Cixiidae, many Kinnaridae) is located just above the frontoclypeal suture (Fig. 4A). The clavus bears a pair of anal veins that fuse posteriorly, forming a characteristic Y-shaped anal vein (Fig. 4F). Also, the tegulae are usually present (sometimes hidden) on the mesothorax (Fig. 70G–I). Wing brachyptery and polymorphism are widespread among planthopper families.

Emeljanov (1996) provided an amended nomenclature for the vertex and frons of the planthopper head. 'Vertex' and 'frons' tend to be imprecise terms because they are commonly used to indicate relative position instead of morphological origin. For example, the morphological frons lies between the frontoclypeal and frontal sutures, and bears the median ocellus and origins of the labral muscles (Snodgrass 1935). In planthoppers, the median ocellus is near the frontoclypeal suture, and the presumptive location of the frontal sutures is just above it (e.g., Snodgrass 1935: 330, fig. 177F), circumscribing the morphological frons as an area just above the frontoclypeal suture, a different concept from that usually used in planthopper descriptive taxonomy. Instead, Emeljanov (1996) proposed corypha as the top of the head from the arms of the Y-shaped carina (approximately between the compound eyes) to the posterior margin of the head, which is complementary to the metope (between the frontoclypeal suture and arms of the Y-shaped carina); the macrocorypha is the corypha extended anteriorly to the fastigium (the inflection between the functional vertex and frons; complementary to the eumetopa), and the acrometopa is the region between the arms of the Y-shaped carina and the fastigium. This terminology, while increasingly used in descriptive taxonomy, has to date been infrequently followed by North American workers.

Recent reconsiderations of wing vein nomenclature (Dworakowska 1988, Bourgoin 1997) have altered traditional wing vein naming schemes (viz. Fennah 1944b). Following the generalized scheme initially proposed by Kukalová-Peck (1978, 1983), Dworakowska (1988) reinterpreted the wings of Auchenorrhyncha, with the primary difference that all principle longitudinal veins were interpreted as having an anterior and posterior branch, as opposed to the traditional scheme presented by Comstock (1918). The revised wing nomenclature is slowly being adopted by modern workers.

Overviews of planthopper morphology are provided by Kramer (1950), O'Brien & Wilson (1985) and Carver et al. (1991). Recent morphological investigations include those on the head (Bourgoin 1986), antennae (Bourgoin & Deiss 1994), male genitalia (Bourgoin & Huang 1990) and female genitalia (Bourgoin & Huang 1991, Bourgoin 1993, Gnezdilov 2003a). Kuznetsova et al. (1998) summarized testis structure, along with karyotype and sex-chromosome systems in planthoppers.

BIOLOGY

Host associations of planthoppers were summarized and discussed by Wilson et al. (1994), including a list of all planthopper-host associations known at that time. Immatures of Derbidae and Achilidae (and possibly Kinnaridae) appear to be fungus feeders, with the adults found on plants. The host-specificity of adult derbids and achilids is unclear. The remaining families of planthoppers in North America are plant feeders, understood to be phloem feeders, and associated with their hosts for all life stages. Plant hosts are important in planthopper life history as a food source, medium for egg deposition, and as a focus for mate finding, for which substrate-born vibration signals play an important role (e.g., Ossiannilsson

1949; Claridge 1985a, b; Drosopoulos & Claridge 2006; Hoch & Wessel 2006; Tishechkin 2008). Substrate-born vibration may be an important factor in planthopper speciation (Claridge 1993, 1995; Claridge & de Vrijer 1994; Hollander 1995). Life history has been studied in a variety of planthoppers, both pest and non-pest species (e.g., Wilson & McPherson 1981a, b, c, d, e; Giri & Freytag 1983; Wilson & Tsai 1984; Calvert & Wilson 1986; Calvert, Tsai & Wilson 1987; Ballou et al. 1987; Holder & Wilson 1992; Wilson & Wheeler 1992, 1984, 1987, 1988; McPherson & Wilson 1996; Wheeler 2003), although relatively few species have been thoroughly studied. Sexual reproduction occurs as a rule, but pseudogamy (e.g., Drosopoulos 1976, 1977) and true parthenogenesis (den Bieman & de Vrijer 1987) have been documented in some species of Delphacidae. Many species of planthoppers produce waxes as nymphs, adults or both (e.g., Liang & O'Brien 2002, Liang & Wilson 2002, Liang & Jiang 2003, Lucchi & Mazzon 2004, Emeljanov 2009), but the biological functions and taxonomic distribution of wax production remains poorly investigated. The waxes of three Fulgoridae were found to be chemically similar to that of the sternorrhynchan *Dactylopius coccus* (Costa) (Dactylopiidae) (Mason et al. 1989). Some planthoppers have high dispersal ability, with long-distance migration well-known for delphacid planthoppers (e.g., Kisimoto & Rosenberg 1994). Of 6,063 Hemiptera collected in transoceanic dispersal studies (of 13,000 arthropods), 1,491 were Fulgoroidea (compared to 1,404 Cicadellidae and 1,886 Aphididae) (Holzapfel & Harrell 1968).

Planthoppers are thought to be primitively subterranean, inserting eggs into host tissue, with epigean habits (having eggs deposited on the host surface and usually somehow covered) representing the derived condition (Asche 1988a, Wilson et al. 1994, Urban & Cryan 2007). Some Cixiidae and a few Meenoplidae are obligate hypogean specialists feeding on roots in caves and lava tubes (e.g., Howarth et al. 1990, Hoch 1991, Hoch & Asche 1993, Hoch & Howarth 1999). Adults and nymphs of most derived planthopper families are found on the above-ground portions of plants. Delphacids tend to be multivoltine, although most other planthoppers are more often univoltine (Nickel 2003, Bartlett et al. 2011). Planthopper communities of the coastal saltmarsh have been extensively studied from a variety of contexts (e.g., see Denno & Roderick 1990, Denno & Peterson 2000), in particular the interrelated influences of wing polymorphism (e.g., Denno 1975, McCoy & Rey 1981, Zera & Denno 1997), predation and parasitism (e.g., Finke & Denno 2002, 2003; Denno et al. 2003), and host plant nutrition (Denno et al. 1981, 1985, 1986; Cook & Denno 1994) on life history characteristics. Host plant specificity varies greatly among planthopper taxa. Most species are deemed host specific, found on one to a few plant species, and seldom encountered off-host (Wilson et al. 1994). Others are broadly polyphagous; for example *Metcalfa pruinosa* is known from 120 plant species in 50 families in its native range in the United States, and 330 species and 78 families in its adventive range in Europe (Wilson & Lucchi 2001). Host plant associations of many species remain at best incompletely known, and the reported hosts of many taxa require verification. Planthoppers of economic importance have been summarized by Wilson & O'Brien (1987), and those in the southeastern United States were examined by Wilson (2005).

TAXONOMY AND NOMENCLATURE

The seminal resource for information on Auchenorrhyncha systematics is the "Metcalf Catalog" (Metcalf 1936–1958, Wade 1960), although it is outdated due to nomenclatural changes, new distribution records (Fig. 109), many additional described taxa, and 50+ years of subsequent literature. For planthoppers north of Mexico, Cixiidae is the only significant family to be monographed since 1960 (Kramer 1977, 1979, 1981a, b; 1983; Mead & Kramer 1982), but generic level changes have since been proposed (Emeljanov 1978, 2001a; Holzinger et al. 2002). O'Brien (1971) treated Plectoderini of Achilidae, which includes most North American taxa. Most regional taxonomic resources for North American planthoppers (for regions larger than states) are dated, and there are no taxonomic resources for any western state. The best general resource for eastern taxa is Metcalf (1923). The best state resources are for Illinois (Wilson & McPherson 1980a), Alaska (Wilson 1988), the Yukon Territory (Wilson 1992) and Delaware (Bartlett et al. 2011). The only integrative update on planthopper distributions is for the eastern United States (Wilson & McPherson 1980b). Works presenting the taxonomy or distri-

bution of planthoppers of the western United States are generally lacking. O'Brien et al. (1991) present keys to families for immature planthoppers north of Mexico.

Here we review the planthoppers found north of Mexico. Our intent is to provide the current taxonomic status of planthoppers from the study area, with summary distributions, and to provide a base for future revisionary studies. We include artificial keys to genera for all families with photos of representative species of most genera. The systematics and biology of all included families are briefly discussed. References to species-level keys are provided. A checklist of all planthopper species north of Mexico reported in the literature or found in collections is provided with updated nomenclature and summarized distribution. The checklist is intended to include all planthoppers reported north of Mexico, including those given in error. The biogeography of each planthopper family is examined for the contiguous United States based on state-level distribution records.

METHODS

The family-level classification adopted follows recent authorities as noted within the synopsis of each family. Keys to higher level planthopper taxa have been adapted from published sources, or composed where none had existed, and the original source should also be consulted. These keys are devised to work for taxa north of Mexico and may not account for taxa outside the study area. References to planthopper species keys compiled by Wilson (2005) are updated (Table 1). Morphology in the keys follows O'Brien & Wilson (1985) or is updated from the original key. Wing vein nomenclature follows Dworakowska (1988).

The species checklist (Appendix 1) is updated from an unpublished work (by O'Brien & Wilson) that compiled planthopper species reported north of Mexico from the Metcalf catalog and subsequent literature to the end of 2012. All species purported to occur north of Mexico are included in the checklist. The arrangement of taxa is alphabetical by family, subfamily, tribe, and genus. Only names used as valid (including synonyms, new taxa, misspellings and new combinations) since the Metcalf catalog are included in the checklist, except where additional synonymy is deemed helpful to clarify subsequent nomenclatural history. The Metcalf catalog should be consulted for a full listing of older synonymies. For all valid species included in the Metcalf catalog, the page number of the Metcalf entry is provided in square brackets following the valid name, followed by the original genus when not provided in the synonymy list. Author and year for all North American taxa are reported in the checklist and are not repeated in the text, except for clarity or when taxa are discussed that are not listed. In the checklist, the valid name is the first listed, and subsequent names (proceeded by "=") are junior synonyms. Synonyms are listed in chronological sequence. Taxonomic changes proposed here are limited since our main purpose was to review, not revise, the fauna north of Mexico. New combinations presented here (Table 8) are those needed to consistently define genera, and species synonymies are based on examination of type material. Gender agreements for new combinations were based on the gender traditionally applied to the genus (i.e., genera derived from the term *Delphax* Fabricius 1798 are conventionally treated as feminine, even though ICZN 1961 stated *Delphax* was masculine). We have also synonymized color varieties with nominotypical species when the varieties do not appear to represent biologically or geographically distinct populations. With respect to the native status of taxa, we apply the terminology of Frank (2007) in defining 'adventive' as the antonym of 'native' and restricting 'introduced' to deliberate introduction.

The synopsis of each family emphasizes current systematic status, as well as taxonomic and biological notes. Important changes in systematics since the Metcalf catalog are discussed, along with comments on the composition of the fauna, particularly as it relates to the contiguous 48 U.S. states. For convenience, the U.S. states were arbitrarily divided into 5 regions (Fig. 94), which are used in discussions of species distributions. For our current purposes, we have used these regions to describe patterns of planthopper distributions, although we made no attempt to subject these to statistical analyses, nor examine patterns below the state level. We recognize that political boundaries have no biological meaning. Wherever counts of species are provided, subspecies are included within these tallies (although species reported in error are excluded as appropriate). Scientific names of plants follow the USDA PLANTS database (USDA, NRCS 2012).

Species distribution records were compiled from the literature and specimens with emphasis on records north of Mexico. Literature distribution records indicated in the checklist are from the Metcalf catalog as updated by subsequent literature, emphasizing taxonomic and species survey literature, and observed specimens. Sources of literature records are provided for each species. U.S. states are represented by their United States Post Service abbreviations. Canadian provinces are given two letter abbreviations following Maw et al. (2000). Records from other countries or faunistic zones are listed but further subdivisions are not given, except states for Mexico. Mexican states are compiled from specimens and as provided in the cited literature. For species occurring outside of the New World, country-level geographic records are provided, but these may not be exhaustive. Early species distribution records, prior to genitalic-based taxonomic revisions, are included in the checklist, but are treated as questionable unless subsequently verified.

Specimen records were compiled from the following collections (codens follow Arnett et al. 1993 for collections included in this work):

AMNH	American Museum of Natural History, New York, NY.
BYUC	Monte L. Bean Life Science Museum, Brigham Young University, Provo, UT.
CASC	California Academy of Sciences, San Francisco, CA.
DENH	University of New Hampshire Insect Collection, Department of Zoology, University of New Hampshire, Durham, NH.
FSCA	Florida State Collection of Arthropods, Division of Plant Industry, Gainesville, FL.
INHS	Illinois Natural History Survey, University of Illinois, Champaign, IL.
LBOB	Lois B. O'Brien Collection (associated with CASC), Green Valley, AZ.
LSAM	Louisiana State Arthropod Museum, Louisiana State University, Baton Rouge, LA.
NCSU	Department of Entomology, North Carolina State University, Raleigh, NC.
OSEC	K. C. Emerson Museum, Department of Entomology, Oklahoma State University, Stillwater, OK.
SEMC	Snow Entomological Museum, University of Kansas Biodiversity Institute, Lawrence, KS.
SWWC	Collection of S. W. Wilson, University of Central Missouri, Warrensburg, MO.
TAMU	Department of Entomology, Texas A&M University, College Station, TX.
UDCC	Department of Entomology and Wildlife Ecology, University of Delaware, Newark, DE.
URIC	Department of Plant Sciences and Entomology, University of Rhode Island, Kingston, RI.
USNM	National Museum of Natural History, Smithsonian Institution, Washington, DC.
WFBC	William F. Barr Entomology Museum, Department of Plant, Soil and Entomological Sciences, University of Idaho, Moscow, ID.

All available North American genera were photographed, representing all genera found north of Mexico, excluding those reported in error or whose presence could not be verified. When a figure represents a species not from the United States, the caption indicates where the specimen was collected and author and year of description. Gender is indicated for species that have substantive sexual dimorphism, but males were the preferred photographic subject, particularly for delphacids. Photographs were taken using a digital imagery system consisting of a Nikon SMZ1500 microscope, Nikon Digital Sight DS-U1 camera and NIS Elements Imaging software (version 3.0). Line art was digitally traced from photographs or redrawn from cited sources.

RESULTS

In this survey (Appendix 1), 12 families, representing 167 genera and 914 species are here recorded as occurring in the contiguous 48 United States (Table 2). The families Achilixiidae, Eurybrachidae, Gengidae, Hypochthonellidae, Lophopidae, Meenoplidae, Nogodinidae (as currently defined), Ricaniidae, and Tettigometridae do not occur in the U.S. or Canada. Inclusion of Canada and Alaska adds 5 genera and 26 species

to these totals, including 25 delphacids and 1 caliscelid. The greatest diversity of planthoppers is found in southwestern North America, with 144 genera and 647 species (Table 5). Eleven species in 6 families are adventive into the U.S. fauna, with 2 additional species reported as potential invasives, although it is unclear whether they are adventive or native (but not reported in early literature) (Table 6).

Taxonomic Treatment

Keys to the families of planthoppers are presented by O'Brien & Wilson (1985) and Wilson (2005). Those of Wilson (2005) are also recommended since the familial level taxonomy has been updated and all of the world's families are included. Here we include only families found north of Mexico.

KEY TO FAMILIES OF PLANTHOPPERS NORTH OF MEXICO

1. Hind tibiae with large, apical movable spur (calcar, Fig. 22), spur usually foliaceous and tectiform, bearing a row of black-tipped teeth on the posterior margin, rarely (Fig. 22A, *Pentagramma, Copicerus*) spine-like; insects mostly less than 4.0 mm. ..... Delphacidae
1′. Hind tibiae without apical movable spur 2
2. Second hind tarsomere with two apical spines (1 on each side, Fig. 1A) and with tarsomere apex truncate or conical 3
2′. Second hind tarsomere with row of apical spines (Fig. 1B) and with apex truncate or emarginate. 8
3. Clavus with numerous small, pustule-like tubercles (e.g., Figs. 2C–D); front wings longer than body, with submarginal costal vein and numerous parallel crossveins in 'precostal' area (Fig. 2C, i.e., on leading margin of wing), at rest held almost vertical at sides of body (except in the Flatoidinae, Figs. 79H–L); wings usually waxy ..... Flatidae
3′. Clavus without pustule-like tubercles (except along claval vein in some Derbidae); front wings without numerous costal crossveins; wing position at rest variable 4
4. Front wings with a series of crossveins between costal margin and apex of clavus setting off a distinct nodal line and a differentiated apical reticulate area (Fig. 4G); wings macropterous and longer than abdomen (all recorded U.S. species in southeast) ..... Tropiduchidae (Tangiini & Remosini)
4′. Front wings without differentiated apical portion; wings variable in length 5
5. Front wings broad, longer than body, held almost vertically at sides of body, venation irregularly reticulate (Fig. 6); hind tibiae without spines except at apex (Fig. 1D); usually green (rarely pink, yellow to brown in *Philatis*, Fig. 6D); pronotum not extending anteriorly much beyond posterior aspect of eyes; ovipositor laterally compressed, gonapophyses of abdominal segment 8 bearing fine apical teeth (Fig. 3E) ..... Acanaloniidae
5′. Front wings variable, may be shorter than abdomen; hind tibiae usually with 1– 4 subapical spines (Figs. 1E–G); ovipositor not laterally compressed, not bearing teeth on gonapophyses of segment 8 (if so, pronotum will extend anteriorly beyond middle of eyes) 6
6. Usually brachypterous, wings much shorter than abdomen (Figs. 13–14), venation not reticulate; hind tibiae with single lateral spine (Fig. 1E); front tibiae sometimes greatly expanded (Fig. 1J), face sometimes projecting as "weevil-like" snout (Figs. 14C, E); small insects, mostly grass feeders ..... Caliscelidae
6′. Wings usually extending to or beyond apex of abdomen, including brachypters (except *Osbornia*, Figs. 89J, 90J); venation often reticulate (e.g., Fig. 90); hind tibiae with 1–4 lateral spines (Figs. 1E–G); front tibiae never greatly expanded, face not projecting, size variable 7
7. Forewings reticulate (Fig. 90), with some cells clear and membranous; pronotum often projecting forward beyond middle of eyes; clypeus usually strongly carinate ..... Tropiduchidae (Gaetuliini)
7′. Forewings rarely reticulate (Fig. 87), if reticulate (Figs. 87F, J), without clear membranous cells; pronotum usually not projecting anteriorly beyond middle of eyes; clypeus often not carinate ..... Issidae
8. Large species (>10mm), forewing usually colored (Fig. 2A), opaque and slightly thickened, held slightly tectiform; venation usually reticulate; anal area of hind wing with crossveins ..... Fulgoridae
8′. Usually smaller species, if >10mm then forewing usually clear, membranous; hind wing not reticulate (Fig. 2B, without crossveins), but if reticulate only at apical area beyond clavus 9

9. Terminal segments of the beak short, subequal in length and width (Fig. 1H); often with pustules along claval vein of wing (e.g., Fig. 2E); frons often narrowed with median carina absent or obscured (Fig. 65F–J); males with parameres exceeding abdomen in ventral view (Fig. 3B), many forms fragile with wings greatly surpassing end of the abdomen ..... Derbidae
9′. Terminal segment of beak much longer than wide (Fig. 1I); clavus without pustules, male parameres not exceeding abdomen (e.g., Fig. 3A) 10
10. Front wings distinctly overlapping at apex (Figs. 11E–H, 12E–H), and concave on commissural (trailing) margin in most taxa (e.g., Fig. 4F); clavus closed, with united claval veins entering apex; body somewhat flattened ..... Achilidae
10.′ Front wings not overlapping at apex (or only slightly) (e.g., Figs. 17F–J, 71A–C, 72A–C); claval vein not reaching apex of clavus; not particularly flattened 11
11. Head prolonged in front (e.g., Figs. 71A–C, 72B, C; 73E–H), or frons with 2–3 median carinae (e.g., Figs. 72D, 74A–D; 4–5 total carinae on face); or (in brachypterous forms, particularly Orgeriinae, e.g., Figs. 74E–H) tegulae are hidden and claval suture obscure; median ocellus absent ..... Dictyopharidae
11′. Head not prolonged in front (e.g., Figs. 19F–J, 91E), frons with single median carinae (rarely none); tegulae present; claval suture distinct; median ocellus often present just above frontoclypeal suture (e.g., Fig. 4A) 12
12. Abdominal terga 6–8 chevron-shaped (at least in females, Fig. 4E), sometimes sunk below rest of terga; females with reduced ovipositor (Fig. 3H); 3–4 mm; forewing veins usually without pustules or setae; usually only 2 rows of crossveins, southwestern U.S. only ..... Kinnaridae (*Oeclidius*)
12′. Abdominal terga normal, females with distinct, elongate ovipositor (Figs. 3F, G); variable in size, often larger than 4 mm (Figs. 17–19); forewing veins usually pustulate and/or setigerous; common and widely distributed ..... Cixiidae

Acanaloniidae
(Figs. 5–6)

Acanaloniidae north of Mexico consist of 2 genera (*Acanalonia* and *Philatis*) and 20 species. Acanaloniidae are most diverse in the southwest, with a few widespread species distributed elsewhere (Fig. 95). The family is apparently absent from the northwest. Acanaloniidae are a small family, consisting at the time of Metcalf (1954b) of 13 genera and 81 species, all but 9 of which were New World. Fennah (1954) subsumed Acanaloniidae into Issidae, and moved *Euthiscia* into Acanaloniinae from Issidae. Recently Emeljanov (1999) re-established the familial status of Acanaloniidae, but included the Old World Trienopinae and Tonginae formerly in Issidae. Since that time, Tonginae has been transferred to Nogodinidae and Trienopinae to Tropiduchidae (Gnezdilov 2007, 2008), giving Acanaloniidae once again a composition similar to that at the time of Metcalf (1954b). Subsequently, Gnezdilov (2012) subsumed *Euthiscia* under *Philatis*, a genus previously considered restricted to the Galapagos. Worldwide, Acanaloniidae consist of 12 genera and 82 species (Bourgoin 2012).

Acanaloniidae in North America can be recognized by having broad wings with irregular reticulate venation, carried parallel to the body in repose, and lacking the parallel crossveins in the costal area and claval wax pustules of flatids. The second hind tarsomere bears a pair of spines (Fig. 1A), a feature of all higher Fulgoroidea, including Flatidae and Issidae, the families most similar to Acanaloniidae. Acanaloniids lack the lateral spines on the hind tibiae (Fig. 1D) found in Issidae and Gaetuliini (Tropiduchidae).

Keys to species for *Acanalonia* can be found in Doering (1932) and Freund & Wilson (1995). *Acanalonia* is widely distributed, with 19 species north of Mexico, and 71 species (and subspecies) distributed throughout the Nearctic and Neotropical regions. We have found specimens of a potentially new species in this genus from the southwest. *Acanalonia* species are usually uniformly green (rarely pink) in life. *Acanalonia bivittata* var. *rubescens* Melichar, 1901 is here made a junior synonym of *Acanalonia bivittata* (Say, 1825) because it is just a pink color variant of the nominotypical species.

Philatis tuberculata in contrast is yellowish to deep brown, and limited in the U.S. to southern

California and Arizona. The only other *Philatis* in North America is *Philatis signata* (Van Duzee, 1923) (the type species of *Euthiscia*), described from Espiritu Santo Island, Mexico, off the coast of southern Baja California (*Euthiscia crockeri* Van Duzee, 1937, from Santa Cruz (Indefatigable) Island, Galapagos, was previously moved into *Philatis* by Fennah (1967a)).

Acanalonia conica recently expanded its range northward in the U.S. (Pechuman & Wheeler 1981) and is adventive in Europe (D'Urso & Uliana 2004, 2006). *Acanalonia excavata* was recently adventive into southern Florida, evidently from Nicaragua (Halbert 1997, 2000; Halbert et al. 2007). The life history of *Acanalonia conica* and *A. bivittata* were described by Wilson & McPherson (1981b), and host plants and immatures of *A. pumila* were described by Wheeler & Hoebeke (1982). Acanaloniids are feeders on woody and semi-woody plants, with both adults and nymphs on above-ground portions of plants and a single generation per year in the studied species. The male and female anatomy of U.S. species was described by Freund & Wilson (1995).

KEY TO GENERA OF ACANALONIIDAE NORTH OF MEXICO (MODIFIED FROM FENNAH 1954).

1. Brown to yellow; vertex strongly anteriorly projecting (Fig. 5H); claval suture reaching to apical margin (Fig. 6D); uncommon, southwestern ..... *Philatis* Stål
1'. Green (rarely pink); vertex usually truncate or rounded (Figs. 5E, G; except *A. conica*, Fig. 5F); claval suture usually not reaching apical margin (Figs. 6A–C); common and widespread ..... *Acanalonia* Spinola

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Achilidae
(Figs. 7–12)

Achilidae are represented north of Mexico by 55 species in 8 genera. Achilidae are a moderate-sized group that at the time of Metcalf (1948) consisted of 77 genera and 224 species, and currently consist of 158 genera and 509 species (Bourgoin 2012). The achilids are of worldwide distribution, but are most diverse in the tropical and south temperate regions (Metcalf 1948). The higher taxonomy of Achilidae is currently problematic, but North American achilids are all in the subfamily Achilinae (Metcalf 1948, Emeljanov 1993). Metcalf (1948) recognized 2 subfamilies in Achilidae, the Apatesoninae and the Achilinae. Apatesoninae consisted at that time of 2 genera and 5 species restricted to the Neotropics. Fennah (1950a) revised the genera of Achilidae of the world, recognizing 7 tribes, but no explicit subfamilies. Emeljanov (1992, 1993) subsumed Achilixiidae into Achilidae, and recognized 3 subfamilies, 2 of which (Achilixiinae and Bebaiotinae) were subdivisions of Achilixiidae. All Achilidae proper were retained in Achilinae, which were divided into 3 supertribes and 12 tribes. However, Liang (2001) moved Achilixiidae to Cixiidae, but did not address the question of the higher taxonomy of Achilidae. Achilixiidae appear to be sister to Achilidae (Urban & Cryan 2007). North of Mexico, Achilinae consists of the tribes Achilini, Myconini, and Plectoderini (Fennah 1950a, O'Brien 1971, Emeljanov 1993).

Achilidae are most easily recognized as being dorsoventrally flattened with the forewings apically overlapping when at rest. When the wings are outstretched, the trailing margins of the forewings are concave because the distal portion of the wing is expanded. *Uniptera ampliata* (Fig. 12G) departs somewhat from this general appearance. The second hind tarsomere bears a row of spines (Fig. 1C), a feature shared with Cixiidae and Kinnaridae, which are the most similar families. Of achilid genera found north of Mexico, *Catonia* is the most species-rich with 41 species, most of them Neotropical. Here *Catonia nava bifasciata* Metcalf, 1948 (a replacement name for *Flata nava* var. *a* Say, 1830) is made a junior synonym of *Catonia nava* (Say, 1830) since it is just a color variant of the nominotypical species. *Cixidia* includes 40 species, all but 14 of these Palearctic. All species of 4 genera (*Juniperthia, Synecdoche, Uniptera* and *Xerbus*) occur north of Mexico, except a species of *Synecdoche* described from Vietnam (Fennah 1978a). *Opsiplanon*

(3 species) and *Momar* (3 species) include species from Central America or the Caribbean in addition to those north of Mexico.

Among the North American taxa, 6 of 8 genera are in the tribe Plectoderini, which were revised north of Mexico by O'Brien (1971). One species, *Uniptera ampliata*, is in Achilini. The remaining genus, *Cixidia*, is in Myconini and can be identified to species using Beirne (1950b) (as *Epiptera*) for the Canadian fauna, which includes 11 of the 14 species north of Mexico. *Epiptera* was made a subgenus of *Cixidia* by Anufriev (1969). We have seen specimens of 3 putative new species of Achilidae, 2 of these in *Cixidia*. California includes a disproportionally high percentage of the U.S. fauna with 28 species in 5 genera, of which 1 genus (*Uniptera*) and 13 species are endemic to the state. The genera *Momar*, *Juniperthia*, *Uniptera* and *Xerbus* are found only in the west, while *Opsiplanon* is only in the southeast. *Catonia*, *Cixidia* and *Synecdoche* are generally distributed. Achilids are generally more abundant in the southern U.S., although many species are widespread, particularly in the east (Fig. 96).

Immatures are fungus feeders and are most easily found under the bark of dead logs (O'Brien 1971). Immatures are coated with a waxy material that apparently serves as protection from predators (Hepburn 1967, Liang & O'Brien 2002). *Cixidia* are evidently associated with pines (Hepburn 1967, Wilson 1983). Adults feed on woody plants, and are more often associated with gymnosperms than other planthopper families (Wilson et al. 1994). Achilids have not been reported as economic pests (Wilson & O'Brien 1987). The degree of host specificity of adults is not clear (O'Brien 1971), although species are most often reported as polyphagous (Wilson et al. 1994). Achilids may exhibit a single generation per year (Bartlett et al. 2011), but adults are not closely synchronous (O'Brien 1971). Achilids are most readily collected at lights or in canopy traps (Wilson pers. obs.).

KEY TO GENERA OF ACHILIDAE NORTH OF MEXICO (MODIFIED FROM O'BRIEN, 1971)

1. Costal cell broad, at its widest point 1/3 as wide as forewing; wings rather sinuate along costal margin (Fig. 12G); California ..... *Uniptera* Ball
1′. Costal cell narrow, never more than 1/4 as wide as forewing; wings not sinuate along costal margin 2
2. Head, including eyes, less than 2/3 as wide as pronotum (Fig. 11F) ..... *Cixidia* Fieber
2′. Head, including eyes, at least 2/3 as wide as pronotum (e.g., Figs. 11E, G, H) 3
3. Hind tibiae with spine on basal half (Fig. 8A); medioventral lobe of male pygofer present (Fig. 7); frons less than 1.5x as long medially as broad (e.g., Figs. 11A, D) 4
3′. Hind tibiae without spine in basal half (Fig. 8B); medioventral lobe of male pygofer reduced or absent; frons 1.5–2x (usually 2x, Fig. 11C) as long as broad; southwestern ..... *Juniperthia* O'Brien
4. Fork of RP from Sc+RA in forewing near level of union of claval veins, subcostal cell about 1/3 length of forewing or longer (Figs. 9A, B); medioventral lobe of male pygofer entire or bifurcate (Figs. 7D, E) 5
4′. Fork of RP from Sc+RA in forewing near stigma (Fig. 9C), subcostal cell 1/6 length of forewing, widest medially; medioventral lobe of male pygofer trilobed at apex (Fig. 7F) ..... *Opsiplanon* Fennah
5. Subcostal cell of forewing longer than 1/3 length of wing, narrow throughout (Fig. 9B); medioventral lobe of male pygofer entire (Figs. 7B, E) 6
5′. Subcostal cell of forewing about 1/3 length of wing, wider before its apex (Fig. 9A); medioventral lobe of male pygofer bifurcate (Fig. 7A, D) ..... *Catonia* Uhler
6. Rostrum longer than clypeus, reaching base of hind coxae; pronotum medially shorter than tegulae (Fig. 10A), or if not, then mesonotum with lateral carinae straight 7
6′. Rostrum as long as clypeus; pronotum medially longer than tegulae (Fig. 10B), and mesonotum with lateral carinae bent or rounded; southwestern ..... *Xerbus* O'Brien
7. Lateral lobe of phallobase broadened dorsoventrally, dorsal lobe reduced; frons with three pairs of dark spots (Fig. 11D), sometimes fused, on basal half; southwestern ..... *Momar* Fennah
7′. Lateral lobe of phallobase not as above, dorsal lobe present; frons not so marked (e.g., Fig. 12B); widespread ..... *Synecdoche* O'Brien

Caliscelidae
(Figs. 13–15)

Caliscelidae, sometimes called 'piglet bugs', are a relatively small family, consisting of 28 genera and 139 species at the time of Metcalf (1958, included within Issidae), and 64 genera and 195 species today (Bourgoin 2012). Caliscelidae north of Mexico consists of 6 genera and 54 species (53 in U.S. plus *Bruchomorpha keidensia* in western Canada), with most of these in the central and southwestern states. Caliscelids were elevated from a subfamily of Issidae to a family by Emeljanov (1999), partly in response to his disagreement with Fennah's (1987) treatment of the group. Subsequently, an expanded family diagnosis, and elaboration of tribal features, were provided by Gnezdilov & Wilson (2006), although family level features remain incompletely elaborated. Phylogenetic analyses support Caliscelidae as an independent family (e.g., Yang & Chang 2000, Yeh et al. 2005, Urban & Cryan 2007). The composition and higher taxonomy of Caliscelidae has been under active scrutiny in recent years. At present, Caliscelidae are separated into 2 subfamilies, Caliscelinae with 2 tribes (Caliscelini and Peltonotellini) and Ommatidiotinae with 3 tribes (Ommatidiotini, Augilini and Adenissini) (Gnezdilov & Wilson 2006, Gnezdilov 2011). In the Nearctic, most taxa are in Caliscelini (Caliscelinae), except the adventive *Asarcopus palmarum* (the date bug) and *Papagona* in Ommatidiotini (Ommatidiotinae). The placement of *Papagona* in Ommatidiotinae may require re-evaluation, as Gnezdilov (2011: 239) has observed that " . . . the subfamily Ommatidiotinae seems to be limited to the Old World . . . " Classification of Caliscelidae here follows Emeljanov (1999) as updated by Gnezdilov & Wilson (2006) and Gnezdilov (2011).

Caliscelids are small, cryptic in habits, easily mistaken for nymphs (or beetles), and the most commonly encountered genera (*Bruchomorpha* and *Aphelonema*) are diverse, leading caliscelids to be undercollected and probably underreported in the planthopper literature. Caliscelids are distinctive among the North American fauna by being cylindrical planthoppers that are brachypterous (rarely macropterous), with the wings much shorter than the abdomen. Among the North American Issidae and Gaetuliini (Tropiduchidae), only *Osbornia* may also have wings much shorter than the abdomen, but it has partially reticulated wings (*Osbornia* is included in the caliscelid key). Two genera of Caliscelidae have greatly expanded tibiae (front only in *Caliscelis*, front and middle in *Fitchiella*), and two genera (*Fitchiella* and *Bruchomorpha*) have the head projected similar to a weevil. Some caliscelids (e.g., *Asarcopus*, some *Aphelonema*) have evident sexual dimorphism, but in *Caliscelis* sexual dimorphism is very striking. Caliscelids also have a single lateral spine on each hind tibia, whereas Issidae and Gaetuliini usually have more. Other morphological features of caliscelids overlap to some degree with Issidae and Gaetuliini.

The genera north of Mexico were revised by Doering (1939, 1941) (as part of Issidae) and this work should be consulted for species identification. We have seen specimens of at least one new species of *Bruchomorpha* (as noted in Bartlett et al. 2011) north of Mexico, and several putatively new species from Mexico. *Fitchiella* should be revised since Doering (1941) did not have access to 3 of 8 described species. Emeljanov (1996c) divided *Aphelonema* into subgenera, followed here. Maw et al. (2000) and Hamilton (2002b, 2004) recognized *Peltonotellus* Puton in error as a valid North American genus. *Peltonotellus* was subsumed under *Aphelonema* by Melichar (1906), and Emeljanov (1996c) redefined *Peltonotellus* (type species, *Peltonotellus raniformis* Mulsant & Rey, 1855) as a Palearctic subgenus of *Aphelonema*.

Caliscelidae are species-rich throughout most of the United States (Fig. 97), with highest richness in the southwest and Great Plains. Three genera, *Papagona* and the adventive *Caliscelis* and *Asarcopus* (Quayle 1938, O'Brien 1967), are found only in the west. Of the 4 native genera, *Papagona* is known only north of Mexico. *Fitchiella* is found in the U.S. and Mexico (including an apparently undescribed Mexican species), and *Bruchomorpha* includes 6 additional taxa from Mexico (Caldwell 1945) and one from Costa Rica (Schmidt 1927). *Aphelonema* includes 16 species north of Mexico plus 4 Mexican species and 7 Palearctic species.

Caliscelidae mostly feed on grasses. The biology of *Bruchomorpha oculata* was described by Wilson & McPherson (1981d). For this species, development from egg to adult averaged 68 days in a laboratory study, but the number of generations per year was unclear. Bess (2005) reported that adult *Fitchiella robertsonii* ("Fitch's elephanthop-

per") are found in late summer (mid-August to September) in Indiana. They overwinter as adults and are associated with *Orbexilum* (Fabaceae) (possibly also *Aristida*, Poaceae). This species is associated with "dry gravel hill prairie, sand dunes on dry bedrock alvar and oak-pine barrens" (Bess 2005: 4) and is considered to be of conservation concern.

KEY TO GENERA OF CALISCELIDAE NORTH OF MEXICO

Note: This key includes *Osbornia* (Tropiduchidae: Gaetuliini), since this genus can easily be mistaken for a caliscelid. Parenthetical numbers refer to Doering's (1939, 1941) "A contribution to the taxonomy of the subfamily Issinae" part and page number (i.e., 4: 209 refers to Doering, 1941, part 4, page 209).

1. Front tibiae expanded, foliaceous (Fig. 1J) 2
1′. Front tibiae not expanded or foliaceous 3
2. Front and middle tibiae expanded (only slightly in *F. robertsonii*); head produced into weevil-like snout (Fig. 14E); frons, vertex, or pronotum pustulate (Fig. 15E); widespread ..... *Fitchiella* Van Duzee (4: 209)
2′. Front tibiae and femora greatly expanded (Fig. 14D); head not produced into weevil-like snout; no pustules on head or thorax (Fig. 15D); color sexually dimorphic, males black and yellow, females all tan; adventive in California ..... *Caliscelis* Laporte de Castelnau
3. Frons, vertex, or pronotum with distinct sensory pustules, usually in two or more rows (e.g., Figs. 15A, C, F); widespread distribution 4
3′. Pustules absent or indistinct (Figs. 15B, 89J); southwestern 6
4. Vertex longer than broad (Fig. 13F), southwestern ..... *Papagona* Ball (3: 146)
4′. Vertex broader than long (e.g., Figs. 13A, C), widespread 5
5. Head usually produced and snout-like (Fig. 14C); vertex crescent shaped, 5–6 times as broad as long (Fig. 13C) ..... *Bruchomorpha* Newman (3: 102)
5′. Head not produced snout-like (Fig. 14A); vertex usually less than 4 times as broad as long (*A. decorata, simplex*, and *obscura* excepted; these with median tablet of frons circular) ..... *Aphelonema* Uhler (4: 187)
6. Forewings touching medially, tightly fitted to body (Fig. 13B), venation not reticulate; frons slightly anteriorly projected (Fig. 14B); anterior margin of vertex rounded in dorsal view; usually orangish; adventive, on date palms in California ..... *Asarcopus* Horvath
6′. Forewings slightly separated medially, not touching body along all margins (Fig. 89J), venation often reticulate, especially distally (Fig. 90J); vertex varied, either lateral margins dorsally projected (*O. cornuta*) or medially angular in dorsal view (*O. arborea*); color dark with pale markings to mostly pale ..... *Osbornia* Ball (3: 96)

Cixiidae
(Figs. 16–21)

Cixiidae north of Mexico are a large group, represented by 15 genera and 180 species (excluding taxa reported in error). Worldwide Cixiidae consist of 84 genera and 786 species at the time of Metcalf (1936) and approximately 192 genera and 2220 species now (Holzinger et al. 2002, Bourgoin 2012), making them the largest family of planthoppers. The higher taxonomy of Cixiidae has been examined by Emeljanov (1989, 2002), Holzinger et al. (2002), Ceotto et al. (2008), and Ceotto & Bourgoin (2008), but has not yet been firmly established. The monophyly of Cixiidae with respect to Delphacidae is unclear (Asche 1988a, Urban & Cryan 2007, Ceotto et al. 2008, Urban et al. 2010).

Cixiidae are defined primarily by plesiomorphic features (i.e., they lack the derived features found in other planthopper families). They are the earliest derived extant family of planthoppers, originating at least 130 mya, and possibly up to 200 mya, depending on whether particular fossils are included within Cixiidae (Szwedo et al. 2004, Bourgoin & Szwedo 2008). Cixiids and kinnarids are the only families that have a median ocellus, which is located just above the frontoclypeal su-

ture (Fig. 4A). Cixiids have a row of spines on the second hind tarsomere (Fig. 1B), and females have a well-developed 'orthopteroid-type' ovipositor (Figs. 3F, G; Asche 1988a), a feature shared (in Fulgoroidea) only with Delphacidae.

Kramer (1977; 1979; 1981a, b; 1983) and Mead & Kramer (1982) revised the family for the U.S., and these sources should be consulted for keys to species, although subsequently, 2 additional species of *Oecleus* were described by O'Brien (1982a) from Arizona and Texas, and 3 additional species of *Cixius* from California described by Tsaur (1990, 1993). The key to genera presented here is modified from Kramer (1983) with reference to Holzinger (2002) and Holzinger et al. (2003). Since the modern taxonomy of cixiids relies heavily on features of the male genitalia, early distribution records are here considered questionable.

Cixiidae are diverse throughout United States, with the southwest (particularly Arizona and California) having the most species and the northwest having the fewest (Fig. 98). Of the 15 cixiid genera found north of Mexico, 5 are monotypic (*Asotocixius*, *Platycixius*, *Stegocixius*, *Oliaronus* and *Nymphocixia*) with all but the last of these occurring only in the southwest. *Nymphocixia* is southeastern and Neotropical and has been reported on mangrove (*Rhizophora* spp.). *Monorachis* is found primarily in the southeast, plus 2 additional species in Mexico (Emeljanov 2001b). *Microledrida* includes 3 species in the southwest and an additional 3 in Central America. *Pintalia* includes 3 eastern species and an additional 77 in the Neotropics. *Bothriocera* has 10 species in the U.S., 8 of which are eastern, and an additional 37 species in the Neotropics. *Oecleus* is widespread, but nearly all of the 43 U.S. species are southwestern, and 11 additional species are known in Central America.

Cixius, *Myndus* and *Oliarus*, as historically defined, are virtually worldwide in distribution, although recent workers have placed the Nearctic *Myndus* into *Haplaxius* (Holzinger et al. 2002) and Nearctic *Oliarus* primarily into *Melanoliarus* (Emeljanov 2001a), with limited discussion on the morphological basis for these changes. Emeljanov (2001a) also moved some New World "*Oliarus*" into *Reptalus* and *Pentastiridius* (these changes have been adopted in the checklist and key). Additional modifications to the North American generic nomenclature appear very likely in the future, particularly since the features that purport to separate *Melanoliarus* and *Reptalus* have yet to be defined and the monophyly of *Melanoliarus*, *Reptalus* and *Haplaxius* needs to be established. The placement of genera within higher taxa follows Emeljanov (2001a, 2002) and Holzinger et al. (2002).

Nymphs, and sometimes adults, are subterranean, feeding on plant roots and perhaps fungi (Wilson et al. 1994). Most nymphal host records are from grasses, whereas most adult host records are from woody dicots (Wilson et al. 1994). The subterranean nymphs of *Oecleus borealis* and *Haplaxius crudus* were described by Wilson et al. (1983) and Wilson & Tsai (1982), respectively. Maternal care (protection of eggs) was observed in *Oecleus nolinus* on *Yucca* and *Dasylirion* (Fowler & Whitford 1985). Cixiids in the east apparently have a single generation per year (Bartlett et al. 2011). Cixiids are known vectors of phytoplasmas (mycoplasma-like organisms), the cause of lethal yellowing of palms in Florida and the Caribbean, with *Haplaxius crudus* implicated as one of the more important vectors (e.g., Tsai & Kirsch 1978, Howard & Thomas 1980).

KEY TO GENERA OF CIXIIDAE NORTH OF MEXICO

1. Either antennae arising from elongated cup-like cavities anterior to eyes (Fig. 16F) or vertex much narrowed, almost slit-like (Fig. 16C), without strongly elevated lateral margins 2
1′. Without either of the above features 3
2. Vertex produced anteriorly with antennae arising in front of eyes (Fig. 16F), width of vertex on anterior margin greater than its median longitudinal length (Fig. 17G); mesonotum with 3 carinae ..... *Bothriocera* Burmeister
2′. Vertex narrowly produced with antennae arising below eyes (similar to Fig. 16E), width of vertex on anterior margin much less than its median longitudinal length (Fig. 16C); mesonotum usually with 5 carinae (Fig. 18I) ..... *Oecleus* Stål
3. With one or more spines on hind tibiae before apex (similar to Figs. 16G, H) 4
3′. Without spines on hind tibiae before apex 11
4. Posterior margin of vertex angularly incised (Fig. 16B); mesonotum with five longitudinal carinae, but intermediate pair sometimes obsolete (e.g. Figs. 19F, I) 5
4′. Posterior margin of vertex quadrately or roundly incised (Fig. 16A); mesonotum with three longitudinal carinae (Fig. 17H) 7
5. Middle portion of costal area of each forewing thickened, dark, and setaceous (Fig. 21B); southwestern ..... *Oliaronus* Ball
5′. Middle portion of costal area of each forewing hyaline or nearly so, without setaceous punctures (Figs. 20E; 21C, F) 6
6. 10 or more teeth at the apex of the first hind tarsomere (Fig. 16G) ..... *Pentastiridius* Kirschbaum
6′. 10 or fewer teeth at the apex of the first tarsomere (Fig. 16H) ..... *Melanoliarus* Fennah & *Reptalus* Emeljanov[1]
7. Eye elongate, about twice as long as wide; pronotum not strongly narrowed at middle (Fig. 18F); head porrect in lateral view (Fig. 20F) ..... *Microledrida* Fowler
7′. Without all of the above features 8
8. Submacropterous species, forewings just reaching or only slightly exceeding apex of abdomen (Fig. 20G), hindwings reduced to elongated scales ..... *Monorachis* Uhler (in part)
8′. Macropterous species, forewings extending much beyond apex of abdomen, hindwings fully developed 9
9. Forewings at rest roof-like in position with distal portions clearly separated (Fig. 17H); spines on hind tibiae conspicuous ..... *Cixius* Latreille
9′. Forewings at rest vertical in position with distal portions broadly appressed (Fig. 19G); spines on hind tibiae less conspicuous 10
10. Mesonotum convex in lateral view (Fig. 20G); apical cells of forewing comparatively broad; frons with midlength and greatest width subequal (Fig. 18B) ..... *Monorachis* Uhler (in part)
10′. Mesonotum flat in lateral view (Fig. 21D); apical cells of forewing almost uniformly slender; frons with midlength exceeding greatest width (Fig. 19B) ..... *Pintalia* Stål
11. Middle portion of pronotum concealed by basal portion of vertex (Fig. 18H); head in lateral view broadly rounded (Fig. 16D) ..... *Nymphocixia* Van Duzee
11′. Middle portion of pronotum exposed; head in lateral view not broadly rounded 12
12. Pronotum unusually large and concealing all but tips of tegulae (Fig. 19J) ..... *Stegocixius* Kramer.
12′. Pronotum not unusually large, most of tegulae exposed 13
13. Carina on longitudinal midline of frons absent (Fig. 19C) ..... *Platycixius* Van Duzee
13′. Carina on longitudinal midline of frons present (e.g., Figs. 17A, D) 14
14. Vertex with distinct carina on both longitudinal midline and between anterior portions of eyes; longitudinal midlength of mesonotum at least 3x longitudinal midlength of vertex (Fig. 17F); southwestern ..... *Asotocixius* Kramer
14′. Vertex without distinct carina on both longitudinal midline and between anterior portions of eyes; longitudinal midlength of mesonotum about 2x or less longitudinal midlength of vertex (Fig. 17I), widespread ..... *Haplaxius* Fowler

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[1] At present, it is not clear how Nearctic *Melanoliarus* and *Reptalus* are to be separated because the focus of Emeljanov (2001, 2002) and Holzinger et al. (2002), who placed Nearctic "*Oliarus*" into *Melanoliarus*, has largely been on the Palearctic fauna. The features of *Melanoliarus*, now expanded to include most Nearctic Pentastirini, need to be re-evaluated and the generic position of all New World Pentastirini requires reexamination.

Delphacidae
(Figs. 22–63)

Delphacidae are the most species-rich family of planthoppers north of Mexico. The delphacids are represented in the contiguous United States by 61 genera and 312 species, with an additional 5 genera (*Kusnezoviella*, *Megadelphax*, *Paradelphacodes*, *Scolopygos* and *Unkanodes*) and 26 species (excluding *Delphacodes uniformis*, see below) occurring in Canada and Alaska, for a total fauna of 66 genera and 338 species. Species diversity is highest in Florida, with 41 genera and 137 species reported (Kennedy et al. 2012). Worldwide, Delphacidae consist of approximately 398 genera and 2019 species (Bourgoin 2012), 45% of which have been described since Metcalf (1943), who listed 137 genera and 1114 species. Delphacidae are evidently the second largest family of planthoppers, with species totals closely similar to Cixiidae (Table 7).

The higher taxonomy of Delphacidae has been examined by Asche (1985, 1990), Emeljanov (1996b), Hamilton (2006), and Urban et al. (2010). Asche (1985, 1990) provided the first cladistic treatment of delphacids, resulting in a classification with 6 subfamilies including an admittedly paraphyletic Asiracinae with tribes Ugyopini and Asiracini. Emeljanov (1996) described a series of new delphacid tribes with reference to features of immatures and raised Asche's (1985, 1990) asiracine tribes to subfamily, although he subsumed all advanced subfamilies under Delphacinae as tribes. Hamilton (2006) discussed the higher delphacid phylogeny, suggesting a classification following Emeljanov (1996b), except that Asche's Kelisiinae were subsumed to a subtribe under Stenocranini within Delphacinae, and Saccharosydnini reduced to a subtribe of Tropidocephalini. Urban et al. (2010) provided the first combined molecular and morphological phylogeny with a large sample of taxa and all major lineages. The classification presented here follows Urban et al. (2010), which treats Ugyopinae as a tribe of Asiracinae, and Stenocraninae, Kelisiinae, and the tribes of Delphacinae at the same taxonomic levels proposed by Asche (1985, 1990).

Delphacidae are easily recognized by the movable spur, the calcar (Fig. 22), found at the apex of each hind tibia. Delphacids are most closely related to cixiids, and it is possible that they are derived from within Cixiidae (Asche 1985, Ceotto et al. 2008, Urban et al. 2010). They share with Cixiidae an 'orthopteroid' ovipositor. Unlike Cixiidae, a median ocellus is always absent. Delphacids are species-rich throughout the United States, with highest richness found in the south generally, and Florida specifically, and lowest evident richness in the Northwest (Fig. 99). Most North American genera have been revised or described since Metcalf (1943) (Table 1), including 8 monotypic genera (Beamer 1950c; Bartlett 2002, 2006). Hamilton (2006) revised Canadian *Stenocranus*, creating the subgenus *Codex* and redefining several species. Kennedy et al. (2012) reviewed the delphacid species of Florida, moved a number of species from *Delphacodes* to *Syndelphax* and *Euides* to *Pareuidella*, and described 3 new species and a new genus (*Meristopsis*).

Several genera require revision or reassessment, with *Delphacodes* representing the most acute problem. Beamer (1946d; 1947; 1948a, b, c; 1950a; 1951a; 1952a) described 58 species of *Delphacodes*. *Delphacodes* has since been redefined as a Palearctic genus (Wagner 1963, Asche & Remane 1983, Asche 1985), and all New World species of "*Delphacodes*" are misplaced. Here 16 "*Delphacodes*" are moved to 11 genera in which they are more appropriately placed (Table 8, Appendix 1), leaving 49 species in "*Delphacodes*" north of Mexico. Of the taxa remaining in *Delphacodes*, nearly half are the current target of two revisionary systematics projects of the first author, and will be placed at the completion of those studies. The remainder either require further study or may be best placed in new genera.

Similarly, New World members of *Euides*, *Eurysa*, and *Kormus* are likely not to be congeneric with their Old World counterparts. Many Delphacini have historically been placed in the genus *Liburnia* Stål, 1866 (type species, *Embolophora monoceros* Stål, 1855), but this genus is in Stenocraninae and a junior synonym of *Embolophora* Stål, 1853 (Bartlett 2008, ICZN 2010). Hamilton (2002a) redefined *Caenodelphax*, *Elachodelphax*, *Erybregma*, *Kosswigianella* and *Paraliburnia*, but incompletely considered the species that may belong in these genera (some of which we have moved here). Several significant genera lack keys to North American species, most notably *Javesella*, *Nothodelphax*, *Syndelphax* and "*Delphacodes*".

From examination of descriptions, detailed illustrations of male genitalia, and/or type specimens, the following new synonymies are designated (Table 8): *Delphacodes dentipennis* Beamer is

a synonym of *D. nigridorsum* (Crawford), *D. nigrigaster* (Crawford) is a synonym of *Ribautodelphax albostriata* (Fieber), *Pissonotus nigridorsum* Metcalf is a synonym of *Delphacodes nitens* Muir & Giffard (the junior name is here used as a valid replacement name to avoid homonymy with *Delphacodes nigridorsum* (Crawford)), *Criomorphus conspicuus* (Metcalf) and *C. wilhelmi* Anufriev & Averkin are synonyms of *Criomorphus inconspicuus* (Uhler), and *Delphacodes ardentis* Beamer is a synonym of *Tagosodes wallacei* (Muir & Giffard). *Delphacodes uniformis* Metcalf, 1943 (replacement name for *Delphax unicolor* Walker, 1851 nec Herrich-Schaffer, 1835), reported from Hudson Bay, Quebec (Walker 1851; Moore 1950a, b) is a nymph, and not a delphacid (Muir 1919a); it is listed below but not included in the count of species. The species reported as *Delphacodes montezumae* by Giri & Freytag (1983b) and Giri et al. (1985) is more plausibly *Delphacodes plenatra* (both species here moved to *Isodelphax*); however the reference specimen in the University of Kentucky collection is missing its genitalia, so its identity cannot be confirmed. Based on illustrations, these species may be synonyms. *Euides guaduae*, which was recently reported from Florida (Kennedy et al. 2012) is here moved to *Muellerianella*.

A few species included on this list are of uncertain status. The type specimens of *Delphacodes rivularis* (Germar) and *Delphacodes carinata* (Glover) are evidently lost; thus the identity of these taxa could not be established. *Delphacodes culta* (Van Duzee) and *Delphacodes furcata* (Provancher) were described from females, and we anticipate that they are not distinct from other described taxa. *Delphacodes hemiptera* (Germar) was reported from Alaska in error, but is a northern European species of uncertain identity.

Most delphacids are found on herbaceous monocots in wet habitats, although a few North American taxa (e.g., *Pissonotus, Stobaera*) are found on Asteraceae or other dicots (Kramer 1973, Wilson et al. 1994, Bartlett & Deitz 2000), and the majority of the diverse native Hawaiian fauna occur on woody dicots (Zimmerman 1948; Wilson et al. 1994; Roderick & Metz 1997; Asche 1997, 1998). The biology or host plant relationships of a variety of North American species has been described, including *Megamelus davisi* by (Au 1941, Wilson & McPherson 1981e), the corn planthopper *Peregrinus maidis* (Napompeth 1973, Wilson & Tsai, 1984b), *Kosswigianella lutulenta* (as *Delphacodes*, Giri & Freytag 1983a), *Stobaera* spp. (Goeden & Ricker 1974a, b; 1975; 1976a, b, c; Calvert, Wilson & Tsai 1987), *Stenocranus lautus* (Calvert & Wilson 1986), *Sogatella kolophon*, *Delphacodes nigrifacies* (Calvert, Tsai & Wilson 1987) and *Toya idonea* (as *Delphacodes*, Ballou et al. 1987). Wheeler (2003) recorded the life history of *Javesella opaca* on the moss *Polytrichum commune* Hedw. *Prokelisia* species have been extensively studied (e.g., Denno & Grissell 1979; Denno & McCloud 1985; Denno et al. 1985, 1990; Stiling & Strong 1982a, b; Stiling et al 1991; Heady & Denno 1991; Holder & Wilson 1992). Delphacids are frequently multivoltine, reaching the adult stage from eggs in about 30 days, and may overwinter as eggs, nymphs or (less often) adults.

Delphacidae are the most economically important group of planthoppers. The family includes at least 55 species that feed on economic plants, including major pests of agricultural crops (Hill 1983, 1987; Wilson & O'Brien 1987). Plants are damaged both from direct feeding and transmission of plant diseases, particularly viral diseases (e.g., Fiji disease of sugarcane by *Perkinsiella saccharicida*; rice grassy stunt and rice ragged stunt by *Nilaparvata* spp.; rice *hoja blanca* by *Tagosodes* spp.; rice yellows by *Sogatella furcifera*; cereal mosaic, Barley yellow striate mosaic virus, and oat rosette virus by *Laodelphax striatella* (Fallén, 1826); maize mosaic and maize stripe viruses by *Peregrinus maidis*; and "Mal de Rio Cuarto virus" in maize by *Delphacodes kuscheli* Fennah, 1955 (Atkins & Adair 1957; Atkins et al. 1958; Hill 1983, 1987; Conti 1985; Tsai & Wilson 1986; Wilson & O'Brien 1987; Ammar et al. 1987; Wilson & Claridge 1991; Nault 1994; Truol et al. 2000). In addition to viruses, Arocha et al. (2005) have shown transmission of sugarcane yellow leaf phytoplasma by *Saccharosydne saccharivora*. These listed vectors included five major world food crops (wheat, rice, corn, barley, and sugarcane). Additionally, at least three delphacid species are known to feed on sorghum (Wilson & O'Brien 1987).

Of the delphacid vectors in the U.S., *Perkinsiella saccharicida* is adventive (Sosa 1985, Sosa et al. 1986, Meagher et al. 1993, Emeljanov 1994), *Peregrinus maidis* is presumed native (but see Brewbaker 1979, Nault 1983), *Tagosodes* spp. and *Sogatella molina* are adventives, and it is unclear whether *Metadelphax propinqua* and *Sogatella kolophon* are native or adventive (Atkins & Adair

1957, Atkins et al. 1958, Cherry et al. 1986, Gonzon & Bartlett 2008, Hamilton 2010, Kennedy et al. 2012). *Conomelus anceps* and *Harmalia anacharsis* have also been adventive into North America (Wooten et al. 1993, Wheeler & Hoebeke 2008), and *Prokelisia marginata* has been adventive to Europe (Seljak 2004), and has been studied for biological control of *Spartina* in Washington (Grevstad et al. 2003, 2004).

KEY TO GENERA OF DELPHACIDAE NORTH OF MEXICO (MALES ONLY)

Note: The key presented here is the first modern key to North American genera. The key is designed for males only because male genitalic features (illustrated in Fig. 24) are usually needed to recognize the higher taxa and many genera. In addition, delphacids are frequently sexually dimorphic, with color or structural details varying between genders. *Delphacodes* is polyphyletic and will key out in several places, but all *Delphacodes* species (particularly rare taxa) may not have been accounted for in the current key. Other genera may not be uniform in some features.

1. Post tibial spur (calcar) spine-like (Fig. 22A), circular or quadrate in cross-section, not bearing teeth on the posterior margin; aedeagus bearing a well-developed apical flagellum (Fig. 49F); larger species, over 4 mm . . . . . (Asiracinae) 2
1′. Post tibial spur flattened, usually tectiform or foliaceous and usually bearing black-tipped teeth on posterior margin (Figs. 22B–G); aedeagus with flagellum lacking or vestigial 3
2. Antennae long and strongly flattened (Fig. 41A); color earth-toned (Fig. 25E) . . . . . *Copicerus irroratus* Swartz
2′. Antennae short, terete (Fig. 25B); green (Fig. 25F) . . . . . *Pentagramma* Van Duzee
3. Aedeagus with sperm-conducting tube strongly sclerotized and clearly evident, vestigial aedeagal flagellum may be present; aedeagus either with well developed phallotheca incompletely surrounding the aedeagus (Figs. 23F; 49I, J) (aedeagus movable within phallobase, which usually bears a ventrally directed apical process), OR having 1–2 elongate subanal processes (Figs. 23E, 49H) derived from link between base of aedeagus and anal segment (abdominal segment 10, dorsad of genital opening in caudal view); frons generally narrow (length > 2.5x width) or lateral margins convex; pronotal lateral carinae straight, reaching posterior margin . . . . . (Stenocraninae and Kelisiinae) 4
3′. Aedeagus with sperm conducting tube not conspicuous (aedeagus fused with phallobase to form theca); aedeagal flagellum absent; processes never present from link between aedeagus and anal segment; frons generally wider (length < 2.5x width); lateral margins usually parallel; pronotal lateral carinae usually curved, often not reaching posterior margin. . . . . (Delphacinae) 7
4. Calcar solid, slightly concave on inner surface, with large distinct conical teeth on posterior margin (Fig. 22B); male genitalia having 1–2 elongate subanal processes (Fig. 23E) derived from link between base of aedeagus and anal segment; anal segment without paired processes (Fig. 49H); gonoplacs of female never greatly enlarged . . . . . (Kelisiinae) *Kelisia* Fieber
4′. Calcar foliate, tectiform, with numerous small teeth on the posterior margin (Fig. 22C); aedeagus with well developed phallotheca incompletely surrounding the aedeagus, usually bearing a ventrally directed apical process (Fig. 23F); processes absent on link between aedeagus and anal segment; anal segment with paired processes (Figs. 23F; 49I, J); gonoplacs of female often greatly enlarged (Fig. 3D), frequently wax-bearing . . . . . (Stenocraninae) 5
5. Median carina of frons paired (Figs. 26B); anal segment with 2 paired processes (Fig. 49J) . . . . . *Obtusicranus bicarinus* Bartlett
5′. Frons with single median carina (Fig. 26A, C, D); anal segment usually with 1 pair of processes (Fig. 49I; except *Stenocranus arundineus*) 6
6. Angle between vertex and frons acute in lateral view, vertex projected in front of eye for nearly width of eye (Fig. 41E); gonoplacs of female not greatly expanded (similar to Fig. 3C) . . . . . *Kelisicranus arundiniphagus* Bartlett
6′. Angle between vertex and frons rounded in lateral view (somewhat acute in *S. acutus*), vertex only slightly projected in front of eye (Figs. 41G, H); gonoplacs of female greatly expanded (Fig. 3D, except *S. similis*, Fig. 3C) . . . . . *Stenocranus* Fieber
7. Fragile forms, usually green or yellowish green (Fig. 26J; ours with acutely pointed head in lateral view, Fig. 41I); distal spines of posterior tibiae with 2 inner and 5 outer spines (Fig. 22D); aedeagus elastic, strongly elongate, in repose curled within membranous bag comprised of diaphragm; one species in the U.S.; on sugarcane and *Andropogon* grasses . . . . . (Saccharosydnini) *Saccharosydne saccharivora* (Westwood)

7′. Form various, usually stout, lacking the above features (most similar taxa, *Neomegamelanus* and *Tumidagena*, are not green; Figs. 35G, 40H); distal spines of posterior tibiae with 2 inner and 3 outer spines; aedeagus not as above (most delphacids) .....(Delphacini) 8
8. Antennal segments (at least basal segment) flattened in cross-section (e.g., Figs. 27E, 37B, 39C) 9
8′. Antennal segments terete in cross section 13
9. Frons very broad dorsally, rather peltate (Fig. 27E); median carina of frons strongly forked ¾ distance between vertex and frontoclypeal suture ..... *Bostaera* Ball
9′. Frons not peltate and not as broad dorsally (e.g., Fig. 39C), median carina of frons not forked or forked less than ¼ distance between vertex and frons 10
10. Larger species, ca. 4.5 mm; dark colored with broad pale dorsal median vitta on thorax (Fig. 37G), macropterous; frons strongly bicolored (Fig. 37B), dorsally dark and pale ventrally; pygofer opening with 2 processes on ventral margin (Fig. 23G); adventive on sugarcane .....*Perkinsiella saccharicida* Kirkaldy
10′. Smaller species, less than 3.5 mm; without pale median vitta on thorax (if present frons not as above); frons varied; pygofer opening usually without processes 11
11. Frons brownish, without spotting, with dark band along frontoclypeal margin (Fig. 28C); usually brachypters with conspicuous setal bases (Fig. 28H); adventive on *Juncus;* known from southeastern Canada ..... *Conomelus anceps* (Germar)
11′. Frons varied, usually pale and maculated (Fig. 39C); widespread 12
12. Male pygofer without median processes on ventral margin of opening; segment 10 with one process, originating from middle of ventrocaudal margin (Fig. 62B); usually macropterous with cream, yellow and orange themes (Figs. 39C, H; 48C); mostly *Ambrosia* feeders, widespread ..... *Stobaera* Stål
12′. Male pygofer with median processes on ventral margin of opening (similar to Fig. 23G); segment 10 with two processes, originating from lateral portion of ventrocaudal margin (Fig. 60E); usually brachypterous .....(few) *Pissonotus* Van Duzee[2]
13. Frons and vertex with distinct pits (Figs. 27A, 32E, 33A) 14
13′. Frons and vertex without distinct pits (may have spots) 15
14. Median carina of frons single (Fig. 27A) ..... *Laccocera* Van Duzee
14′. Median carina of frons paired (Fig. 32E, 33A) ..... *Achorotile* Fieber
15. Frons with 2 median carinae (Figs. 28D, 33C, 38E), or with median carinae forked near frontoclypeal margin (length of stem less than length of paired carinae) 16
15′. Median carina of frons single, or forked closer to fastigium (e.g., Fig. 37A) 19
16. Frons broad, uniformly colored, lateral margins strongly rounded, median carinae weak (Fig. 38E); head in lateral view obtusely rounded from vertex and declinate; very small species (less than 2.6 mm); body uniformly light brown (Fig. 38J); Florida only (rare) .....*Rotundifronta lutea* Beamer
16′. Frons not as above (Figs. 28D, 33C) and usually larger species; if small then frons spotted (similar to Fig. 27D); frons with parallel sides or weakly convex, head not obtusely rounded in lateral view, median carinae strong or weak; body not uniformly colored 17
17. Frons spotted (Fig. 27D), median carinae joined to single stem near frontoclypeal suture, very small species (less than 2.0 mm); antennae very short .....(few) *Bakerella* Crawford (e.g., *B. pediforma*)
17′. Frons not spotted (Figs. 28D, 33C), median carinae not joined to single stem; larger species (more than 2.5 mm); antennae longer 18
18. Frons uniformly colored (Fig. 28D); carinae inconspicuous on frons and thoracic nota (Fig. 28I); frons of head rounded in lateral view; male parameres strongly diverging; brachypterous forewing apically pale contrasting with reddish-castaneous forewing and abdomen; northern species ..... *Criomorphus* Curtis
18′. Frons pale, darkened along carinae (Fig. 33C); carinae conspicuous on frons and thoracic nota (Fig. 33H); head in lateral view somewhat angled apically; male parameres parallel; southeast and Neotropics ..... *Macrotomella carinata* Van Duzee
19. Male pygofer with elongate processes or distinct median projection on (or near) ventral opening (in front of parameres in caudal view) (similar to Figs. 23G; 55E, J) 20
19′. Male pygofer without median processes or pronounced median tooth on ventral margin (lateral projections may be present) 28
20. Slightly flattened, pale delphacids, with a median thoracic vitta (Figs. 37H, 38H); segment 10 of male genitalia with single median process (Figs. 60C, 61C); pygofer with lateral processes in addition to a pronounced median projection on the ventral margin (which may be forked) (southern species) 21
20′. Not as above 22

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[2] *Pissonotus quadripustulatus* and *P. tessellatus* from Southeastern US and Gulf Coast.

21. Pygofer process apically forked (Fig. 60C), originating directly on midventral rim; in lateral view, pygofer (in our species) broadly dentate (Fig. 60H), posterior most extension about at midlength, lacking posterior directed processes ..... *Phrictopyga* Caldwell
21′. Pygofer processes not forked (Fig. 61C), originating somewhat ventrad of rim; pygofer more rounded in lateral view (Fig. 61H), bearing (in our species) a pair of elongate posteriorly directed processes ..... *Pygospina* Caldwell
22. Male genitalia in caudal view expanded (Fig. 57B), with inflated or folded appearance; processes of pygofer stout ..... *Megamelus* Fieber
22′. Male genitalia without inflated appearance; processes of pygofer slender 23
23. Pygofer with paired processes on ventral margin (Figs. 59D, 60E), which may be closely approximated ... 24
23′. Pygofer with single median process or tooth on ventral margin (Figs. 51A, 55E, 57A) 26
24. Processes of ventral margin of opening of male pygofer strongly asymmetrical, left process curved and twice length of right (Fig. 59D); pygofer in lateral view expanded on dorsolateral margins of pygofer opening; western ..... *Parkana alata* Beamer
24′. Processes of ventral margin of opening of male pygofer symmetrical (Fig. 60E), or weakly asymmetrical; pygofer in lateral view not excavated 25
25. Processes of ventral margin of opening of male pygofer separated at base (Fig. 60E); most taxa reddish-brown to dark-chestnut brown, often brachypterous (Figs. 37J); clypeus deep chestnut brown (Figs. 37E), usually with a contrasting pale band along frontoclypeal suture of frons; widespread. ..... (most) *Pissonotus* Van Duzee
25′. Processes of ventral margin of opening of male pygofer closely approximated, slightly asymmetrical; body uniformly brownish orange (Figs. 39A, F); Alberta ..... *Scolopygos pallida* Bartlett
26. Head and thorax straw-colored (including forewing; females entirely stramineous), abdomen dark; body somewhat flattened (Fig. 33J); frons acutely pointed dorsally (Fig. 45D) ..... *Megamelanus bicolor* Ball
26′. Color not as above; frons not acutely pointed dorsally 27
27. Color shiny castaneous to deep reddish brown (Fig. 27H); frons wide, lateral margins convex (Fig. 27C), usually with median carina reduced; head slightly flattened and projecting in lateral view (Fig. 42B), fastigium carinate (*A. inornatum*) or not (*A. ainigma*); aedeagus with lateral rows of teeth, parameres forceps-like (Figs. 51A, F) ..... *Akemetopon* Weglarz & Bartlett
27′. Color dull brown, abdomen contrastingly dark (Fig. 32H); frons parallel-sided (Fig. 32C), median carina distinct; body not flattened, fastigium rounded in lateral view; aedeagus with pair of large apical dorsal processes (Fig. 55J) ..... *Kosswigianella* (*Acanthodelphax* LeQuesne)
28. Fore and middle tibiae distinctly expanded; robust, chestnut colored species with white spots on frons (Figs. 37D, I); northern ..... *Phyllodinus nervatus* Van Duzee
28′. Fore and middle tibiae not expanded 29
29. Frons spotted and distinctly rounded on lateral margins (Fig. 27D); clypeus at distinct angle relative to frons in lateral view (Fig. 42C); small species (usually less than 2.5 mm), antennae very short; wings with conspicuous setal bases, usually brachypterous; calcar short with teeth vestigial ..... *Bakerella* Crawford
29′. Not as above 30
30. Body somewhat (Fig. 47G) to decidedly (Fig. 46B) compressed, usually with head projected in front of eye or head angulate in lateral view (Figs. 23A, C, D); some forms decidedly slender (Fig. 35G); most forms from coastal marshes 31
30′. Body not compressed, head in lateral view with fastigium rounded (Fig. 23B), head not projected in front of eye; form not slender 35
31. Vertex conspicuously projected in front of eyes (Figs. 46B, 48H); in dorsal view, acute to obtusely pointed (Figs. 35G, 40H); in lateral view head projected in front of eyes for half width of eyes or more; often with a carina from compound eyes to frons (Fig. 23A); head often acutely pointed in lateral view (Figs. 23A, D); narrow-bodied, fragile forms. 32
31′. Vertex not conspicuously projected in front of eyes; head in lateral view seldom projected more than ¼ width of eyes; carina from compound eyes to vertex always absent; form various but usually more robust ... 33
32. Head in lateral view with anteriorly directed carinae from compound eye toward apex of head (Fig. 23A), head acutely pointed in dorsal view; pronotum flared at lower margin (Fig. 23A); brachypters and macropters with wings as long as abdomen (Fig. 35G) ..... *Neomegamelanus* McDermott
32′. Head without anteriorly directed carinae from compound eye (Fig. 23D); head swollen in appearance from dorsal view, vertex rather rounded laterally, widest just anterior to eyes; in two of three species, head is considerably forward projecting, about width of eyes; brachypters with wings half-length of abdomen with conspicuous dark area on apex of forewing males (Fig. 40H) ..... *Tumidagena* McDermott

33. Wing of brachypters truncate, leaving several segments of abdomen visible from above (Fig. 32F) (macropters unknown); body decidedly flattened (Fig. 44E) and uniformly stramineous; east coast on blackrush ..... *Keyflana hasta* Beamer
33′. Wings of brachypters and macropters reaching or exceeding tip of abdomen; body slightly compressed . . . 34
34. In dorsal view, body with median pale vitta accented by lateral dark markings on thorax, abdomen, and middle of forewing (Fig. 31J); head slightly pointed in lateral and dorsal views (Figs. 31E, 44D); frons subparallel; southern Florida, rarely encountered ..... *Kelisoidea versa* Beamer
34′. In dorsal view, body without lateral dark markings and usually without pale median vitta (Fig. 38G); head more rounded; frons widest near frontoclypeal suture (Fig. 38B) or subparallel (Fig. 38A), usually margined with fuscous markings; abundant on *Spartina* ..... *Prokelisia* Osborn
35. Calcar lacking black-tipped teeth on posterior margin, often short and thickened (Fig. 22E); stout forms (e.g., Figs. 30I, J), except *Liburniella* (if calcar large and foliaceous go to 39 even if teeth apparently absent—some *Nothodelphax*) 36
35′. Calcar with black-tipped teeth on posterior margin, usually foliaceous (Figs. 22F, G) 39
36. Wings distinctly patterned in both macropters and brachypters (Fig. 45A), with distinct dark setal bases; usually macropterous, brachypters with wings reaching apex of abdomen; body not particularly robust, with conspicuous median dorsal vitta (Fig. 33G); carinae of frons conspicuous; areolet of vertex rounded (arms of Y-shaped suture absent); abundant and widespread, especially eastern ..... *Liburniella ornata* (Stål)
36′. Wings not particularly patterned, setal bases not conspicuous; usually brachypters, wings leaving several abdominal tergites exposed from above (Figs. 30I, J); body stout, color varied; carinae of frons reduced or inconspicuous; arms of Y-shaped suture present; relatively uncommon, mostly western 37
37. Frons bicolored, dark brown ventrally (Fig. 32B), pale dorsally; brachypter rather uniformly colored, with abdomen stramineous medially, dark laterally (Fig. 32G); known from holotype female only; California ..... *Kormus californicus* Crawford
37′. Frons not distinctly bicolored (Figs. 30D, E); body either uniformly pale or rather distinctly patterned 38
38. Male paramere with finger-like projection on inner margin; aedeagus upturned . . *Eurysa kormusi* (Crawford)
38′. Male paramere without finger-like projection on inner margin; aedeagus downturned ..... *Eurybregma* Scott
39. Male parameres distinctly branched, either Y-shaped with distinct inner and outer branches, or multiply branched (e.g., Figs. 58D, 59C, 62A); most often macropterous, and most taxa relatively large and uniformly colored (except *Sogatella*) 40
39′. Male parameres not branched, may be toothed or apically bilobed, or have extended basal angle; form variable (if dark with frons strongly contrasting with clypeus—e.g., Fig. 29A—go to 43) 43
40. Thorax with distinct pale median vitta (Fig. 39G); median carina of frons forked below fastigium (arms narrowly diverging); parameres asymmetrically Y-shaped; medioventral portion of genital diaphragm forming broad U-shape (Fig. 62A); basitarsis of hind leg without teeth ..... *Sogatella* Fennah
40′. Thorax without distinct pale median vitta (Figs. 35H, 36H); median carina of frons forked at fastigium; parameres multiply branched or Y-shaped; genital diaphragm not as above (Figs. 58D, 59C); some taxa with teeth on hind basitarsus 41
41. Basitarsus of hind leg with 1–4 teeth (Fig. 22H); parameres Y-shaped (Fig. 58D) ..... *Nilaparvata* Distant
41′. Basitarsus of hind leg without teeth; parameres usually complexly branched (Fig. 59C) 42
42. Armature of the genital diaphragm avicephaliform with pair of elongate, greatly projecting dorsocaudal processes; parameres complexly branched ..... *Pareuidella* Beamer
42′. Armature of the diaphragm not as above; parameres asymmetrically Y-shaped or few-branched ..... *Delphacodes indentistyla* Dozier, *D. lappae* Beamer
43. Segment 10 (anal segment) with strongly cruciate (Fig. 61D, E) or distinctly asymmetrical processes; parameres usually apically narrowed and distinctly curved laterally 44
43′. Segment 10 with processes symmetrical or absent 45
44. Segment 10 with processes asymmetrical, although not cruciate; apex of paramere not hooked; wing with spot at apex of clavus ..... *Delphacodes penepuella* Beamer
44′. Segment 10 with processes cruciate (Figs. 61D, E); apex of paramere with inner angle narrowed and hooked laterally; wing without spot at apex on clavus ..... *Ribautodelphax* Wagner
45. Median carinae of frons forked approximately at ventral margin of eyes, arms of fork distinct and well separated; frons rather two-toned, pale dorsally, darker ventrally (Fig. 37A); parameres apically strongly incurved (Fig. 60A); rather large species, macropters with infuscations at apical peripheral veins (Fig. 47A) ..... *Peregrinus maidis* (Ashmead)
45′. Median carinae of frons forked closer to fastigium; if more ventral fork evident, arms of fork closely approximate; other features variable 46

46. Body bicolored, posteriorly uniformly yellowish brown, head and usually anterior portion of thorax dark brown (Fig. 36J); carinae of head and thorax concolorous with body, evident, but not conspicuous (Fig. 36E); segment 10 bearing a pair of stout widely separated processes from ventrocaudal (not dorsocaudal) angle (Fig. 59E, J) ..... *Penepissonotus bicolor* Beamer
46′. Body coloration varied, not as above; processes of segment 10, if present, usually derived from dorsocaudal portion 47
47. Male pygofer in lateral view strongly and conspicuously expanded on dorsocaudal angles (e.g., Figs. 54A, F; 57D, I; 58A, F; 63B, G), or with strong and conspicuous expansions of lateral portion of pygofer opening (Figs. 63D, I) 48
47′. Male pygofer in lateral view not expanded, or only weakly expanded on dorsocaudal angle 55
48. Male pygofer with strong caudally projected expansion of lateral portions of pygofer opening (Fig. 63D, I); mesonotum with pale median vitta (Fig. 40I); northern, circumboreal taxon ..... *Unkanodes excisa* (Melichar)
48′. Male pygofer with expansion on dorsolateral margin 49
49. Segment 10 without processes (Figs. 57E, 58A); parameres flattened and black, somewhat quadrate apically; aedeagus downcurved bearing stout dorsal apical retrose process and 1–2 dorsal processes near midlength; relatively stout delphacids with a pale median vitta on thorax (Figs. 34I, J); frons infuscate, flecked with pale, between paler carinae (Figs. 34D, E) ..... *Muellerianella* Wagner
49′. Segment 10 with processes, parameres and aedeagus varied, not as above 50
50. Dorsocaudal expansions of pygofer strongly inflected medially at apex (e.g., Figs. 54A, 57D, 63B); body usually pale 51
50′. Dorsocaudal expansions of pygofer not strongly bent medially, either straight or gently arched 54
51. Dorsocaudal expansions of pygofer bent medially into a pair of lobes (Fig. 54A); parameres usually rather short; carinae of head and thorax concolorous with foveae, not conspicuous; medial portion of the genital diaphragm with rather U-shaped excavation (may be caudally projected in lateral view); body mostly stramineous broadly marked with dark brown (Fig. 30B, G), with mostly stramineous frons contrasting with dark genae and a pale median vitta on the mesothorax; mostly northern or northwestern taxa ..... *Elachodelphax* Vilbaste
51′. Dorsocaudal expansions of pygofer not forming a pair of lobes (Figs. 54E, 57D, 63B), if similar, diaphragm and coloration different from above and parameres elongate; carinae of head usually conspicuous, often pale margined with fuscous (Fig. 34C); genital diaphragm not broadly U-shaped, usually with dorsally directed median armature; body pale 52
52. Armature of diaphragm wider than tall, usually forming wide U-shape (Fig. 63B); aedeagus of most species slightly upcurved with rows lateral teeth; stramineous, frons with carinae margined with fuscous or frons fuscous with pale carinae (Fig. 40B) ..... *Toya* Distant
52′. Armature of diaphragm taller than wide, forming median projection on dorsal margin of diaphragm (Figs. 54E, 57D) 53
53. Genital diaphragm apically bilobed or trilobed (Fig. 57D); parameres weakly concave apically; body stramineous, frons relatively broad with conspicuous carinae, margined with fuscous (Fig. 34C); common and widespread ..... *Metadelphax* Wagner
53′. Genital diaphragm rhomboid (Fig. 54E); parameres strongly bilobed apically; frons relatively narrow, dark between pale carinae (Fig. 31B); adventive to Florida ..... *Harmalia anacharsis* Fennah
54. Body stramineous, carinae of head conspicuous, brachypterous males yellowish usually with strongly contrasting fuscous forewing (Fig. 39I); aedeagus relatively straight; armature of diaphragm much taller than wide, often narrowly spoon shaped ..... *Syndelphax* Fennah
54′. Body usually dark, if pale (e.g., Fig. 28J) then carinae of head not conspicuous or aedeagus downcurved; armature of diaphragm varied ..... *Delphacodes* Fieber[3]
55. Parameres widely diverging, rather narrow and sinuate, following lateral margin of pygofer, basal angles weakly developed (Figs. 55B, 59B); processes of segment 10 present and closely approximated; genital diaphragm usually deeply excavated and U-shaped; body usually dark with pale carinae (Fig. 31D, I) 56
55′. Parameres variable, but if strongly diverging (Fig. 55A) then basal angles of parameres developed into projection and processes on segment 10 more separated 57

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[3] The species that should key here are *Delphacodes balli*, *Delphacodes livida*, *Delphacodes caerulata*, *Delphacodes acuministyla*, *Delphacodes turgida*, *Delphacodes nicateei*, and possibly *Delphacodes recurvata*.

56. Aedeagus broad, flattened and upcurved (Fig. 59G); body stramineous with darker lateral portions of the thorax and abdomen (Fig. 36G); carinae of head evident but concolorous with foveae; brachypterous forewing contrastingly dark; calcar large and foliaceous ..... *Paraliburnia kilmani* (Van Duzee)
56′. Aedeagus varied, but not as above (Fig. 55G); body most frequently dark with pale carinae (Figs. 31D, I); brachypterous forewing not contrastingly dark; calcar smaller ..... *Javesella* Fennah
57. Aedeagus strongly curved downward (Fig. 54I); dark species (Figs. 31A, F), wings clear or infuscate, dark spot at apex of clavus sometimes present, but often weak; uncommon species ..... *Falcotoya* Fennah
57′. Aedeagus not strongly curved downward (e.g., Fig. 53H) 58
58. Wings clear with dark marking at apex of clavus (both macropters and brachypters) (Figs. 42F, 43D); species usually dark in coloration, with conspicuous pale carinae; median carina of frons forked near fastigium (Figs. 28B, 29E); pronotum usually pale posteriorly (Figs. 28G, 29J) 59
58′. Wings variable but usually without marking at apex of clavus, if present (some *Tagosodes*, Fig. 48E) than paler taxa with strong median mesonotal vitta (Fig. 39J) and carina of frons forked near middle of eye 60
59. Segment 10 with 2 processes (sometimes short); parameres narrowing toward apex, inner angle vestigial (Fig. 58E); dorsal surface of genital diaphragm often rather U-shaped, armature usually wider than long in caudal view and caudally projecting in lateral view; antennae may have first segment dark; aedeagus usually thickened basally, somewhat upcurved with subapical lateral or dorsal rows of teeth (Fig. 58J) ..... (some) *Nothodelphax* Fennah
59′. Segment 10 with 0, 2 or 4 processes; parameres broad toward apex (apex often concave), inner angle well developed (Fig. 51E); armature of diaphragm dorsocaudally directed, usually about as tall as wide; antennae stramineous; aedeagus varied ..... *Chionomus* Fennah[4]
60. Processes on segment 10 absent, or represented by mere lobes or small teeth 61
60′. Processes on segment 10 present 63
61. Armature of diaphragm rather scoop-shaped, strongly projecting caudally or ventrocaudally in lateral view (Fig. 58G); aedeagus usually downturned; parameres usually apically quadrate (Fig. 58B) or narrowed (Fig. 55E) 62
61′. Armature of diaphragm varied, but not scoop shaped and caudally or ventrocaudally directed (e.g., Fig. 53E); aedeagus varied; parameres usually apically rhomboid (Fig. 53E) ..... *Delphacodes* Fieber[5]
62. Parameres relatively broad, often dark and contrasting with paler body (Fig. 58B); body color stramineous with or without dark brown markings of lateral portions of mesothorax and on coxae (Fig. 35F) ..... *Muirodelphax* Wagner
62′. Parameres very narrow, rather linear; body color brownish, usually with abdomen contrastingly darker (Fig. 32H) ..... *Kosswigianella* (*Kosswigianella*) Wagner
63. Mesonotum with strongly developed median vitta (Fig. 39J); median carina of frons forked below fastigium, about at middle of eye; processes on segment 10 somewhat approximated (Fig. 63A); armature generally a T-shaped, rectangular, or bifid protrusion; aedeagus tubular with rows of teeth .*Tagosodes* Asche & Wilson
63′. Mesonotum without median vitta, or vitta not well developed; carina of frons forked near fastigium; other features variable 64
64. Parameres simple and narrowing in apical third, inner angle obsolete, basal angle not strongly projecting (Fig. 58E); aedeagus tubular, widest near base and tapering distally (base sometimes very broad, abruptly narrowed beyond), aedeagus upcurved or straight with subapical lateral or dorsal rows of teeth (Fig. 58J); dorsal surface of genital diaphragm often rather U-shaped, armature usually wider than long in caudal view, caudally projected in lateral view; color variable, although most taxa dark ....(part) *Nothodelphax* Fennah
64′. Parameres broader apically (e.g., Fig. 50E), if narrowed apically than either basal angle of parameres well developed and projecting (*Isodelphax*, Fig. 55A), and/or aedeagus downcurved (*Isodelphax* Fig. 55F, *Yukanodelphax kendallae*); other features variable 65
65. Parameres narrow, diverging, basal angle usually strongly projecting (if not, aedeagus bifid); aedeagus downcurved; dark colored species (Fig. 31H), carinae of frons weakly contrasting with foveae; first antennal segment usually dark (Fig. 31C) ..... *Isodelphax* Fennah
65′. Parameres varied, but not as above; other features varied 66

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[4] Several common *Delphacodes* species will key here, e.g., *Delphacodes puella* (Fig. 29J) and *D. pacifica*. This group currently under revision.

[5] Species that should key out here are *Delphacodes truncata*, *D. trimaculata*, *D. waldeni*, and *D. succinea*.

66. Armature of diaphragm strongly caudally projecting (Fig. 54G), conspicuous in lateral view of pygofer, with dorsally and ventrally directed projections; parameres abruptly curved laterally near apex (Fig. 54B); Florida and Neotropics ..... *Euides fasciatella* (Osborn)
66′. Armature of diaphragm not as above, parameres varied 67
67. Carinae of frons concolorous with foveae and frons and usually inconspicuous (Figs. 27B, 28A, 29A, 38A) 68
67′. Carinae of frons pale and strongly contrasting with frons (e.g., Figs. 29B, 32D, 33D) 74
68. Frons stramineous or stramineous with lateral orangish border, genae also pale (Figs. 27B, 38A) 69
68′. Frons brown to black or frons stramineous with conspicuously dark genae (Figs. 28A, 29A) 72
69. Frons with lateral orangish border (Fig. 38A); aedeagus slightly upcurved (Fig. 61F); parameres avicephaliform; coastal and inland on *Spartina pectinata* ..... *Prokelisia crocea* (Van Duzee)
69′. Frons without lateral orangish border; other features varied 70
70. Parameres broad apically with distinctive inner and usually outer angles and well-developed projecting basal angle (Figs. 50E, J), parameres in lateral view laterally concave between projecting basal angle and paramere apex; body mostly or completely stramineous (Fig. 27G); armature of diaphragm strongly developed and dorsocaudally projecting (Fig. 50J) ..... *Aethodelphax* Bartlett & Hamilton
70′. Parameres either not as broad apically or with basal angle not so developed 71
71. Armature of genital diaphragm strongly posteriorly directed, processes of segment 10 from dorsocaudal margin, long, strongly posteriorly projecting before curving ventrad (Fig. 63J); aedeagus downcurved; northern ..... *Yukonodelphax* Wilson
71′. Not as above ..... *Delphacodes recurva*, other *Delphacodes*
72. Frons shiny black (Fig. 28A), or stramineous with black genae (Fig. 29A), most species with contrasting pale clypeus; antennae and usually legs stramineous; segment 10 sometimes with 4 processes, but may have either pair obsolete; parameres usually broad, flattened with well-developed inner and outer angles ..... *Caenodelphax* Fennah *sensu* Hamilton 2002a and allied *Delphacodes*[6]
72′. Frons not shiny black, but brown and sometimes darker near fastigium (Fig. 34B), clypeus not contrastingly pale; other features variable 73
73. Frons shiny brown, darker near fastigium (Fig. 34B); body uniformly brownish (Fig. 34G); segment 10 with pair of stout processes, arising in lateral view near middle of caudal margin (Fig. 57H); Florida and tropics ..... *Meristopsis* Kennedy et al.
73′. Not as above ..... *Delphacodes* Fieber
74. Parameres forceps-like (Fig. 56A), narrowed and incurved in dorsal third; processes on segment 10 short; northern species ..... *Kusnezoviella* Vilbaste
74′. Parameres not forceps-like (e.g., Fig. 52E); diverging or broad apically 75
75. Aedeagus broad at base, abruptly narrowed and decidedly downcurved in apical half (Fig. 52J); parameres broad, flattened and diverging (Fig. 52E); processes on segment 10 long and weakly approximated; color stramineous with dark markings laterally on abdomen and contrasting dark pygofer (Fig. 29G), frons with conspicuous carinae bordered with fuscous (Fig. 29B); abundant in coastal marshes on *Spartina* ..... *Delphacodes detecta* (Van Duzee), *D. penedetecta* Beamer
75′. Aedeagus not as above; parameres often narrowed apically (e.g., Figs. 56E, 59A); processes on segment 10 well separated; color usually dark with pale markings 76
76. Parameres abruptly narrowed near apex to laterally curved inner angles (Fig. 56E); aedeagus slightly downcurved bearing large apical retrose tooth; northern species ..... *Megadelphax bidentatus* (Anufriev)
76′. Not as above 77
77. Aedeagus slightly curved dorsally, tubular, bearing rows of teeth (Fig. 59F); far northern species (circumboreal), evidently coastal ..... *Paradelphacodes litoralis* (Reuter)
77′ Not as above ..... *Delphacodes* Fieber

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[6] Hamilton (2002a) broadened the definition of *Caenodelphax* to include a series of unspecified *Delphacodes* species. *Caenodelphax* in the strict sense includes *C. teapae*, a very common 'weedy' species found throughout the Neotropics, including southern Florida. This group is currently under revision.

Derbidae
(Figs. 64–69)

Derbidae are represented north of Mexico by 14 genera and 71 species. Derbidae are most diverse in the east, particularly the southeast with 13 genera and 56 species (Fig. 100), but this family is irregularly reported in the literature. In the Metcalf catalog, Derbidae included 111 genera and 733 species, with 157 genera and 1700 species currently known (Bourgoin 2012), making this the third most species-rich family of planthoppers. All genera of Derbidae north of Mexico, except *Apache*, have additional species found in the Neotropics. Like most other planthopper taxa, Derbidae tend to have the highest species richness in the tropics, although tropical forms are very poorly studied. The higher taxonomy of Derbidae was revised by Fennah (1952), and more recently by Emeljanov (1996a). The family composition of Derbidae has seldom been questioned.

Many derbids have distinctive appearances, thus are easily identified to family and below. In contrast, Cenchreini and Cedusinae are much less unusual appearing, and can be very challenging to identify beyond genus level. Derbids generally can be recognized by having a row of spines on the second hind tarsal segment and having the apical segment of the beak short (Fig. 1H). The head is compressed, slightly or greatly, with the median carina obsolete (Figs. 65F–J) and the male parameres elongate, projecting beyond the anal segment (Fig. 3B). Otiocerinae are very unusual appearing with greatly compressed heads and wings much longer than, and usually held parallel to, the body (e.g., Figs. 67E–H). Derbini (viz. *Paramysidia* and *Dysimia*, Figs. 68E, F) hold their wings outstretched in a moth-like pose and often rest on the underside of leaves. Cenchreini and Cedusinae have their heads less compressed and wings shorter (although still exceeding the abdomen). Some derbid taxa (e.g., *Patara*) have marked sexual dimorphism.

O'Brien (1982b) revised Fennah's (1952) key to Cedusini (as Cenchreini) to include New World genera only, and provided a checklist of New World species of this tribe excluding *Cedusa*. Mysidiini were revised by Broomfield (1985), but this group includes only 2 North American species and Emeljanov (1996a) considered Mysidiini as part of Derbini. The large genus *Cedusa* was revised by Flynn & Kramer (1983) and Kramer (1986). Species of *Cedusa* are very similar externally and require examination of male genitalia for identification. *Omolicna* consists of 19 mostly Neotropical species, which are very similar externally and also require examination of male genitalia. Caldwell (1944b) considered *Omolicna* of Mexico (as *Phaciocephalus*), but species north of Mexico have not been treated consistently among authors. Bartlett et al. (2001) found 2 *Omolicna* in Delaware, but it was unclear which species they represented. The species and geographic limits of *Omolicna* need review, particularly for *O. mcateei*, *O. uhleri*, and *O. fulva*. Aside from *Cedusa* and *Omolicna*, many eastern species can be identified using Metcalf (1923) or Bartlett et al. (2011).

Patara albida is adventive, reported from Florida by Halbert (2005) as "*Patara albida* Caldwell nec Westwood". This species was described from St. Vincent (Westwood 1840) and subsequently reported from Puerto Rico (e.g., Osborn 1935). Caldwell & Martorell (1951) illustrated the species, but questioned the identity of Puerto Rican specimens. We found that there are differences among putative *Patara albida* specimens, within and between localities, that require further investigation. *Otiocerus signoretii* Fitch is a new synonym of *Otiocerus stollii* Kirby; they are male (*O. stollii*) and female (O. *signoretii*) of the same species. While Fitch (1856) reported the type specimen of *Otiocerus signoretii* as a male, the type (at the USNM) is in very poor condition, and its gender cannot be confirmed.

Immature derbids are fungus feeders and have been reared from logs (Willis 1982, O'Brien & Wilson 1985, Wheeler & Wilson 1996) and decaying organic debris (Howard et al. 2001). Adults are sometimes found in logs or are associated with monocots, presumably near their larval habitat (Wilson et al. 1994, Howard et al. 2001). Adults of most species have been reported on only a single host (Wilson et al. 1994), but the significance of adult host affinities is not clear. Adults often gather under broad leaves, presumably a behavior to protect their fragile wings. There are no well documented pests, but 20 species have been recorded as potentially injurious to economic plants (Wilson & O'Brien 1987). *Cedusa* has been documented as carrying phytoplasmas (Brown et al. 2006).

KEY TO GENERA OF DERBIDAE NORTH OF MEXICO (MODIFIED FROM METCALF 1923).

1. Fragile forms (e.g., Figs. 66E–H, 67), pronotum not modified into cup-like structure behind antennae; frons greatly compressed (Fig. 65J), and often anteriorly projecting (Figs. 65A–E); clavus usually open (combined CuP + 2A vein curving to follow wing margin, not reaching margin within claval area) (Figs. 64B, C, I) 5
1′. More robust forms (Figs. 66A–D), pronotum modified into cuplike structure, often anteriorly projecting beneath antennae (Figs. 64F,G; 65K–M); frons moderately compressed (Figs. 65F–I); clavus closed (combined CuP + 2A vein not curving to follow wing margin, but reaching wing margin within claval area) (Fig. 64A) 2
2. Subantennal process large, extending laterally from gena, completely subtending antennae as a shelf (Figs. 64F, 65K); no sensory pits on head (Fig. 65F) or wings; color uniformly near black, dark blue, or deep grey (Fig. 66A), infrequently near white with yellowish-brown patches ..... *Cedusa* Fowler
2′. Subantennal process extending from pronotum smaller (e.g., Figs. 64G; 65L, M); sides of vertex and second claval vein (Fig. 2E) with sensory pits; color usually orange to pale (Figs. 66B–D) 3
3. Media with more than two branches, connected to cubitus by crossvein; size less than 6 mm, usually distinctly orangish (Fig. 66C); projections of pronotum partially subtending antennae (Figs. 64G, 65L) ..... *Omolicna* Fennah
3′. Media and cubitus each with two branches, not connected by crossveins; size over 7 mm (Figs. 66B, D); pronotum not subtending antennae (Fig. 65M) 4
4. Lateral margins of pronotum strongly foliate posterior to antennae (Figs. 65M, 66B); pygofer without medioventral process; eastern ..... *Neocenchrea* Metcalf
4′. Lateral margins of pronotum not or weakly foliate (Fig. 66D); pygofer with medioventral process; southwestern ..... *Persis* Stål
5. Antennae with appendages (Figs. 64E, 65C–E) 6
5′. Antennae lacking appendages (Figs. 65A, B, N) 8
6. General color rose or reddish, wings entirely rose (Fig. 67E); in lateral view, dorsum of head rather sinuate (Fig. 65C) and dorsal margin of wings in repose sharply angled dorsally in apical third; forewings with dusky spots in most cells ..... *Apache* Kirkaldy
6′. General color usually white or yellow (e.g., Figs. 67F, H), rarely predominately reddish (Fig. 67G); in lateral view, dorsum of head flat or rounded Figs. 64E; 65D, E), dorsal margin of wings nearly straight; forewings usually without dusky spots in most cells (although some dark spots may be present) 7
7. In lateral view, demarcation between vertex and frons obtusely angular (Fig. 65D) ..... *Otiocerus* Kirby
7′. In lateral view, demarcation between vertex and head smoothly rounded (Figs. 64E, 65E) ..... *Shellenius* Ball
8. In lateral view, head projecting in front of eyes for a distance subequal to width of eyes (Figs. 65A, B; 67A–C) 9
8′. In lateral view, head projecting in front of eyes for a distance of less than half width of eyes (Figs. 66E–H; 67D) 10
9. Costal margin at base slightly expanded, at most into triangle longer (along length of wing) than wide (Figs. 64C, 67A); antennae with second segment constricted on one side apically. ..... *Anotia* Kirby
9′. Costal margin expanded to a free appendage half as wide as wing at that point (Figs. 64J; in 67C projection is just in front of scale bar); second segment of antennae strongly flattened, as wide as width of eye ..... *Sayiana* Ball
10. Clavus open (Fig. 64I) 11
10′. Clavus closed (Figs. 64D, H) 12
11. First cell of forewing distinctly triangular, widest at midlength, narrowed both anteriorly and posteriorly; dark markings on wing mostly along veins (Figs. 66G, 68I); hindwings narrow, strap-shaped, with two longitudinal veins ..... *Mula* Ball
11′. First cell of forewing distinctly elongate, widest near apex; dark markings on wing in cells and along veins (Figs. 66H, 68J); hindwings wider ..... *Sikaiana* Distant
12. Second antennal segment flattened, longer than width of head across eyes (Fig. 65J), male antennae longer than those of female; size small, 5 mm or less; wings usually tectiform (Fig. 67D) ..... *Patara* Westwood
12′. Second antennal segment globular, shorter than width of head across eyes; often larger than 5 mm; wings often held outstretched (Figs. 68E, F) 13

13. Cubital vein of forewing three branched (CuA and M4 fused basally; Fig. 64D); smaller, near 5 mm (Fig. 68F) ..... *Dysimia* Muir

13′. Cubital vein of forewing four branched (CuA and M4 basally connected by crossvein; Fig. 64H); larger, near 7 mm (Fig. 68E) ..... *Paramysidia* Broomfield

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Dictyopharidae (Figs. 70–76)

Dictyopharidae are represented north of Mexico by 14 genera and 85 species. The southwest includes nearly all species known from the contiguous United States (14 genera, 81 species), with the rest of the regional fauna consisting mostly of widespread taxa (Fig. 101). Nine genera and 39 species are Orgeriinae (Figs. 73–76), an unusual, brachypterous, arid-adapted subfamily, all of which are endemic to the southwest U.S. and adjacent Mexico. Among Dictyopharinae, *Scolops* is the most species-rich genus, including 36 taxa found in nearly all U.S. states and Mexico; *Phylloscelis* (4 species) is found only north of Mexico, whereas *Mitrops* (3 species), *Nersia* (12 species) and *Rhynchomitra* (5 species) are also found elsewhere in the Neotropics. Dictyopharidae are the 6th largest family of planthoppers worldwide, with 119 genera and 489 species at the time of Metcalf (1946) and 164 genera and 730 species at present (Bourgoin 2012). The placement of genera within higher taxa here follows Metcalf (1946), as modified by Emeljanov (1979, 1983, 2011).

Dictyopharidae and Fulgoridae are sister groups, with problematic family-level delineation, although the enigmatic taxa are mostly Old World (Urban & Cryan 2009). The families are similar in several respects, including the tendency to have an elongated head, and both having a row of teeth on the apex of the second hind tarsomere. North of Mexico, the families can be separated by Dictyopharidae lacking reticulate venation in the hind wing (Fig. 2B). North American dictyopharids are usually smaller than fulgorids, but there is overlap. U.S. fulgorids always have opaque or patterned forewings whereas the macropterous U.S. dictyopharids have clear wings. Many dictyopharids have 3 carinae on the frons in addition to the lateral carinae. Orgeriinae are brachypterous, as are most *Scolops* and *Phylloscelis*, although the brachypterous wings of the latter 2 genera cover the abdomen, whereas in Orgeriinae the forewings leave several tergites exposed. Dictyopharidae are characteristically long-legged and have a long beak, and stand in a curious upright position to feed.

Since Metcalf (1946), *Phylloscelis* has been revised (McPherson 1994, McPherson & Wilson 1995), and Doering (1955) revised *Acinaca* and *Deserta*, providing a key to genera of North American Orgeriinae. Since few species of Dictyopharidae have been described from North America since Metcalf (1946), earlier taxonomic works are still useful, including Doering & Darby (1943) for *Orgerius*. Breakey (1929) provided a key to *Scolops*, but 12 taxa have been described since that time, and a synthetic work is badly needed. Fennah (1944) presented keys to most of the New World dictyopharid genera. Keys presented here are revised from Doering & Darby (1943) and Fennah (1944a), with *Timodema* treated as a subgenus of *Ticida* following Emeljanov (2006a).

Dictyopharids feed on a variety of plants with adults and nymphs both found on above-ground portions of plants. Most species are associated with dicots in a variety of plant families, and are most often reported as monophagous (Wilson et al. 1994). The biology of *Nersia florens* was described by Wilson & McPherson (1981a). This species (in Illinois) is apparently univoltine, and found feeding on *Rumex crispus* L. (Polygonaceae) and *Ageratina altissima* (L.) King & H. Rob. (as *Eupatorium rugosum* Houtt.) (Asteraceae), with adults emerging in August and September. The biology of *Phylloscelis* was examined by McPherson (1994) and McPherson & Wilson (1995, 1996). *Phylloscelis* is also univoltine (except Florida populations of *P. atra*), and overwinters as eggs. *Phylloscelis pallescens* was found to feed exclusively on *Pycnanthemum tenuifolium* Schrad. (Lamiacae) with nymphs producing abundant wax. *Phylloscelis rubra* (the 'cranberry toad bug') is reported only from cranberry (*Vaccinium macrocarpon* Aiton; Ericaceae) and has been implicated in wilting and dieback (Sirrine & Fulton 1914, Wilson & O'Brien 1987). *Taosa inexacta* (Walker, 1858) is being considered as a biological control for water hyacinth (*Eichhornia crassipes* (Mart.) Solms, Pon-

tederiaceae; e.g., Cordo 1999). *Rhynchomitra microrhina* was recently reported from the exotic grass *Eragrostis curvata* (Schrad.) Nees and appears to be bivoltine (Wilson & Wheeler 2005).

KEY TO GENERA OF DICTYOPHARIDAE NORTH OF MEXICO

1. Wings as long as abdomen in dorsal view in both macropters and brachypters, often transparent (Figs. 71A–C,72A–C) (except *Phylloscelis* and *Scolops*); claval fold present; tegulae present (Figs. 70H–I) ..... (Dictyopharinae) 2
1′. Wings always brachypterous, shorter than abdomen, leaving several segments exposed when viewed from above (Figs. 73E–H, 74E–H); claval fold absent; forewing opaque; tegulae hidden (Fig. 70G) ..... (Orgeriinae) 6
2. Tibiae and femora of forelegs greatly foliaceous; vertex not produced anteriorly (Figs. 72A, D, G) ..... *Phylloscelis* Germar
2′. Tibiae and femora of forelegs not greatly foliaceous (if tibiae flattened, Fig. 1K, then head produced); vertex produced anteriorly (Figs. 71A–C; 72H, I) 3
3. Forewings leathery, opaque, brownish or grayish, brachypterous or macropterous (Figs. 72B, H); body brown, head projection long and thin ..... *Scolops* Schaum
3′. Forewings membranous, translucent, greenish, macropterous; body green (Figs. 71A–C) 4
4. Tegulae distinctly carinate (Fig. 70I); vertex short-triangular (Figs. 71B, H) ..... *Nersia* Stål
4′. Tegulae not carinate (Fig. 70H); vertex elongate-triangular 5
5. Six or seven areoles adjoining nodal line, latter distinct; pronotum notched, but shallowly (similar to Fig. 70C) ..... *Mitrops* Fennah
5′. No regular areoles on nodal line, latter distorted by distal reticulation (Fig. 70B); pronotum with a deep narrow notch on hind margin basally (Fig. 70D) ..... *Rhynchomitra* Fennah
6. Callosity behind eye evident from lateral view (Fig. 70E); vertex elongate or angulate (Figs. 75I, 76C–F) 7
6′. No callosity behind eye (Fig. 70F); vertex rounded (Figs. 75G, H; 76G, H) or, if elongate, broad if seen from side (Figs. 76A, B) 10
7. Vertex short, less than twice the length of the eyes (Figs. 74E, F) ..... *Orgerius* Stål
7′. Vertex elongate, more than twice the length of the eyes (Figs. 75I; 76C, D) 8
8. Cephalic process, as seen from side (Fig. 76C), beak-like, the apex obliquely rounded from above, the lower angle slightly produced ..... *Deserta* Ball
8′. Cephalic process, as seen from the side (Figs. 75I, 76D), truncate at the extremity, five angled 9
9. Cephalic process gradually tapering, as seen from top and side (Figs. 73H, 76D) ..... *Orgamara* Ball
9′. Cephalic process parallel margined; apex, as seen from the side, slightly enlarged, projecting at an angle with the vertex (Figs. 75C, F, I) ..... *Yucanda* Ball & Hartzell
10. Head angulate in lateral view, produced in front of eyes for distance greater than 2/3 width of eyes (Fig. 76A); head widening toward apex (Fig. 76A) ..... *Acinaca* Ball & Hartzell
10′. Head rounded or angulate, produced in front of eyes for distance less than 2/3 width of eyes (Figs. 75G–H; 76B, G–H) 11
11. Vertex broad and short (Figs. 74G–H, 75D), apical cell of vertex (areolet) absent (Figs. 70L–M); front usually with horizontal black band above frontoclypeal suture (Figs. 74C, D), except *Ticrania* (Fig. 75A); fore and middle tibiae sometimes foliaceous 12
11′. Vertex longer, apical cell of vertex (areolet) present (Figs. 70J–K); front without horizontal black band above frontoclypeal suture; tibiae not foliaceous 13
12. Front with horizontal black band above frontoclypeal suture (Figs. 74C, D); pronotum without lateral carinae (Figs. 76G–H); forewing with median and claval veins formed as evident carinae ..... *Ticida* Uhler
12′. Front without horizontal black band above frontoclypeal suture (Fig. 75A); pronotum with lateral carinae (Figs. 75D, G); forewing with uniform net of veins ..... *Ticrania* Emeljanov
13. Areolet well defined, pentagonal, enclosed by sharp carinae (Fig. 70K) ..... *Aridia* Ball & Hartzell
13′. Areolet poorly defined, oval, enclosed by swollen carinae (Fig. 70J) ..... *Timonidia* Ball & Hartzell

Flatidae
(Figs. 77–81)

The described U.S. flatid fauna consists of 13 genera and 27 species. Flatidae are most diverse in the south, with only a few widely distributed species in northern states (Fig. 102). Flatidae are the 4th largest family of planthoppers, consisting of 212 genera and 981 species at the time of Metcalf (1957), and 299 genera and 1446 species at present (Bourgoin 2012). All genera of flatids north of Mexico have additional species found in the Neotropics, except *Ormenaria* and the adventive *Siphanta*. We have seen specimens of *Mistharnophantia* as far south as Oaxaca, Mexico. The higher taxonomy of Flatidae has not been recently examined and this treatment follows Metcalf (1957).

Flatidae are most readily recognized by the presence of a 'submarginal vein', paralleling the wing margin, defining a series of marginal cells in the apical and leading portion of the front wings (Fig. 2C), and the presence of wax bearing pustules in the claval region (Fig. 2D). In the leading portion of the wing (the pronating complex of Dworakowska 1988), the costal vein subtends a 'precostal area' containing the marginal cells, a feature most evident in flatids (among families north of Mexico), although a 'precostal area' is found in other higher planthopper families (e.g., Fulgoridae, Fennah 1944b). Therefore, the costal vein is not the leading margin of the wing, but the first longitudinal vein following. Like other higher planthoppers, this family has 2 spines on the second tarsomere of the hind legs. The most common flatids have broad wings, held parallel to the body in repose, resembling acanaloniids; although Selizini (*Cyarda, Mistharnophantia* and *Paradascalia*) have the wings narrowed apically, and Flatoidinae (*Flataloides, Flatoides, Flatoidinus, Metcracis* and *Pseudoflatoides*) are dorsoventrally flattened.

Keys to genera that include western taxa are lacking, and only *Mistharnophantia* has been treated at the generic level (Doering & Shephard 1946), although *Cyarda* is being revised (S. W. Wilson, pers. comm.) and most other genera have few North American species. Species records of *Cyarda* should be treated with caution since early workers may not have used genitalia and some species limits remain in doubt. Some tropical species of *Cyarda* appear to approach *Paradascalia* in general appearance, and there may be overlap of features among these genera. Records of *Metcalfa pruinosa* from the western U.S. and Neotropics will require verification because this species can be confused with a variety of flatids, including other *Metcalfa* species, and most authors did not use genitalic features for species verification.

Nine species have been previously reported from the U.S. in error, including *Antillormenis contaminata, Flatoidinus acutus, Flatoidinus occidentis, Hesperophantia ricanoides, Leptormenis relicta, Melormenis conformis* (a synonym of *Ketumala bisecta*), *Melormenis infuscata, Pseudoflatoides tortrix* and *Pseudoflatoides insularis*. Photographs of the type specimen of *Leptormenis relicta* from the Fabricius collection (Fig. 80D) show a distinctive species with strikingly sinuate veins in the distal portion of the wing, and it appears that this species was incorrectly attributed to the North American fauna by Fabricius (1803). Medler (2003: 594) reports that the type material of *Ormenis conformis* is from Sri Lanka, not North America as attributed by Melichar (1902), and this species is a synonym of *Ketumala bisecta*. *Hesperophantia ricanioides* was reported from "Mexique septentrional, ou California" by Spinola (1839: 442), but has not since been found and verified as this species. This species may actually be a *Paradascalia*.

Other species found in collections but not reported north of Mexico, include *Flatormenis inferior* and *F. squamulosa* (determinations by Medler). *Siphanta acuta* is adventive into North America and Hawaii from Australia or New Zealand (Fletcher 1985, Asche 1997), and *Melormenis basalis* from the Neotropics (Halbert 1998). *Metcalfa pruinosa*, a widely polyphagous species, has been adventive into Europe and South Korea where it has become widely distributed and a pest, especially of grape (Dlabola 1981, della Giustina 1986, Wilson & Lucchi 2001, Gnezdilov & Sugonyaev 2009, Lee & Wilson 2010). Some species are apparently known only from the type material (viz. *Leptormenis relicta, Flatoidinus occidentalis*, and *Hesperophantia ricanoides*). We are aware of several putative undescribed flatid species from the southern U.S.

There is considerable confusion about the generic placement of many flatid species, particularly among Flatoidinae, which are uncommon in collections and have phonetically similar generic names. The types of many species were examined by the late John Medler (e.g., Medler 1986, 1990, 1993, 1994, 1996, 2003), with many generic rearrangements, but not all taxa were reviewed and

an integrative work was never completed. Medler's unpublished notes suggest that some external features, such as color and details in wing venation, vary substantively among specimens and may not be fully satisfactory for species determination. Within Flatoidinae, several putative generic features showed substantive variation among species, or even specimens (in the case of lateral spines of the hind tibiae for *Metcracis*). We have attempted to place taxa north of Mexico into Medler's generic concepts, but it is clear that essentially all genera of North American flatids need revision, particularly Nephesini (Flatinae) and Flatoidinae, probably in combination with molecular studies to assist in the formulation of both generic and species concepts.

Medler (1993) examined the type of *Flatoides scabrosus* from Brazil and concluded that this species belonged to the genus *Flataloides*. He reported that specimens from North Carolina were correctly identified as this species (but not the specimen illustrated in Metcalf, 1923). Medler (1993) also described the genus *Metcracis* for 11 Neotropical species formerly placed in the Old World genus *Atracis* Stål, 1866, which are species similar to *Flataloides*, but with one lateral spine on each hind tibia. Here we include *Flatoidinus fuscus* in *Metcracis* because it usually bears a single metatibial spine (although some specimens bear 2 and others vary in count on each leg) (Table 8). We also place *Flatoides fecalfuscus* in synonymy with *Metcracis fuscus*, and *Flatoides concisa* and *Flatoidinus acutus* var. *maculosus* in synonymy with *Flatoidinus punctatus*. We move *Flatoidinus signatus* to *Flataloides*. *Anormenis septentrionalis* was subsumed under *A. chloris* by O'Brien (1985), and subsequently moved to *Flatormenis* by Medler (2003: 593). Here we find that *Ormenis proxima* belongs in *Flatormenis* as *F. proxima* and that *F. chloris* is a junior synonym of *F. proxima*. We also find that *Ormenis saucia* belongs in *Flatormenis* as *F. saucia* and that *Ormenis yumana* is a synonym of this common western species as *F. saucia*. *Ormenis barberi* is also placed in *Ormenaria* as *Ormenaria barberi*.

Adults and immatures of flatids are found on the above-ground portions of a wide variety of woody and semi-woody plants. The life history of 3 flatid species (*Ormenoides venusta*, *Metcalfa pruinosa*, *Flatormenis proxima*) are described in Wilson & McPherson (1981c). All three species were univoltine, overwintering as eggs and polyphagous. The biology of *Ormenaria rufifascia* was discussed in Wilson & Tsai (1984a). *Ormenaria rufifascia* is univoltine and feeds on palms, *Sabal palmetto* (Walter) Lodd. ex Schult. & Schult. f., and the exotic *Latania lontaroides* (Gaertn.) H.E. Moore. Clausen (1978) reviewed the parasites and predators of flatids.

KEY TO GENERA OF FLATIDAE NORTH OF MEXICO

Note: Genera reported from the U.S. in error are included in this key except *Hesperophantia*, which does not appear to be correctly placed to genus, and *Ketumala*, which is not a New World genus.

1. Wings narrowed distally in lateral view (Figs. 80J; 81A, B) ..... (Selizini) 2
1′. Wings broad distally (e.g., Figs. 80A–I, 81C–G) 4
2. Wings strongly narrowed to acute apices (Figs. 80J, 81A) 3
2′. Wings weakly narrowed, weakly bilobed on apical margin (Fig. 81B) ..... *Paradascalia* Metcalf
3. Wings elongate, 3–4x as long as broad, apical margin obliquely truncate (Fig. 80J), mostly southeastern ..... *Cyarda* Walker
3′. Wings not elongate, slightly longer than broad, produced into an acute point (Fig. 81A), southwestern ..... *Mistharnophantia* Kirkaldy
4. Wings at rest held parallel to body (Figs. 80A–I) .....(Siphantini and Nephesini) 5
4′. Wings at rest held tent-like; having appearance of being dorsoventrally flattened (Figs. 81C–G) ..... (Flatoidinae) 13
5. Vertex conical, anteriorly pointed (Figs. 78H, 80I); adventive into California (Siphantini) .....*Siphanta* Stål
5′. Vertex short, nearly linear anteriorly (e.g., Figs. 78F–G; 80A–B) ..... (Nephesini) 6
6. Distal veins of forewing in repose strongly arched ventrad (Fig. 80D) ..... *Leptormenis* Melichar
6′. Distal veins of forewings not strongly arched ventrad (e.g., Figs. 80A–B) 7

7. Body predominately green (Figs. 80B, G, H) 8
7′. Body predominately brown, grey or red (Figs. 80A, C, E–F) 10
8. Body marked with red; either head and thorax with parallel red lines (*O. rufifascia*, Figs. 78A, F; southeastern); or front and middle tibiae marked with red (*O. barberi*, western) ..... *Ormenaria* Fennah
8′. Body not marked with red 9
9. With 1 subapical vein on forewings (e.g., Fig. 80H); wings rounded apically; frons about as tall as wide (h:w ratio ca. 0.9:1) ..... *Ormenoides* Melichar
9′. With 2 subapical veins on forewings (e.g., Figs. 80B); wings truncate apically; frons much wider than tall (h:w ratio ca. 0.5–0.7:1) ..... *Flatormenis* Melichar
10. With 1 subapical vein on forewing (Figs. 80E–F) 11
10′. With 2 subapical veins on forewing (Figs. 80A–C) 12
11. Wings slightly tectiform (Fig. 77I), in lateral view dorsal and ventral wing margins subparallel (Fig. 80E); usually brownish, sometimes with contrasting costal area; southern, adventive in Florida .*Melormenis* Metcalf
11′. Wings held parallel to sides of body (Fig. 77J), wings in lateral view widest subapically (Fig. 80F); grayish to blackish species without contrasting costal area; abundant powdery wax on wings and body; common and widespread ..... *Metcalfa* Caldwell
12. Frons truncate at frontoclypeal suture (Fig. 77A), frons slightly wider than long (h:w ratio 0.7–0.8:1); mesonotum brownish; wings often extensively pale, with white costal area; Caribbean taxa, reported, but not confirmed from U.S. ..... *Antillormenis* Fennah
12′. Frons concave at frontoclypeal suture (Fig. 77C), frons wider than long (h:w ratio 0.5–0.7:1); mesonotum often orangish, contrasting with body (body color variable); usually without contrasting costal area ..... *Flatormenis* Melichar
13. Vertex distinctly longer than broad (Figs. 79I, L) 14
13′. Vertex broader than long (Figs. 79H, J–K) 15
14. In lateral view, thorax distinctly raised relative to head (Fig. 81D); vertex smoothly rounded to apex (Fig. 79J); southwestern U.S. ..... *Flatoides* Guérin-Méneville
14′. In lateral view, thorax only slightly raised relative to head (Fig. 81G); vertex with sides parallel in part; Caribbean taxa, reported but not confirmed in U.S. ..... *Pseudoflatoides* Metcalf
15. In dorsal view, front of head rather pointed, projected in front of eyes (Fig. 79J); frons without median trough (Fig. 79D) ..... *Flatoidinus* Melichar
15′. In dorsal view, front of head truncate or weakly rounded (Figs. 79H, K); frons with weak median trough with bordering carinae (becoming obsolete ventrally) (Figs. 79B, E) 16
16. Frons with a dark band on anterior third (Fig. 79E); often only 1 lateral spine on hind tibiae (sometimes 2, check both legs); many longitudinal veins forked at subapical vein; dark brown; Texas and west ..... *Metcracis* Medler
16′. Frons without dark band; 2 lateral spines on hind tibiae; longitudinal veins not forked at subapical vein; dark or pale species; Texas and east ..... *Flataloides* Metcalf

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Fulgoridae
(Figs. 82–84)

Fulgoridae are represented north of Mexico by 9 genera and 17 species, all of which occur in the southwest with fewer species in other regions (Fig. 103). Fulgoridae, often called lanternflies, consisted of 108 genera and 543 species at the time of Metcalf (1947) and now consist of approximately 129 genera and 696 species (Bourgoin 2012). The higher classification of Fulgoridae has not been recently revised, although Emeljanov (1979) has reviewed the relationship between the Fulgoridae and Dictyopharidae, and Urban & Cryan (2009) showed that these taxa were sister groups and that the assignment of some basal genera to family was problematic. The arrangement here follows Metcalf (1947a). Urban & Cryan (2009) provided the first molecular phylogeny of Fulgoridae, demonstrating that head processes are repeatedly gained and lost over evolutionary time. Since the higher classification of Fulgoridae is partly based on the presence and nature of these head processes, a reassessment of the higher categories is needed.

Fulgorids are large, mostly tropical planthoppers. In North America, they mostly exceed 7 mm, although tropical forms can reach 95 mm.

Aside from size, they can be recognized by the reticulate venation of the hindwings (Fig. 2A), and usually the forewings, which are often opaque and held tectiform. Some genera (*Amycle*, *Rhabdocephala* and *Scolopsella*) have an elongate head process. The second tarsomere of the hind leg bears a row of teeth, a feature shared with Dictyopharidae and basal planthoppers, but in contrast to the derived families.

Kramer (1978) revised *Cyrpoptus* and O'Brien (1988b) provided a key to New World genera and species with head processes. The species *Alphina glauca* and *Calyptoproctus marmoratus* are similar and belong in the same genus, however neither appear to belong to *Alphina* or *Calyptoproctus*. Resolution of the generic placement for these species will require revision of these genera, and possibly additional related genera. Unfortunately, the type specimen of *Alphina glauca* (from Brownsville, Texas) has been lost, thus, it is not possible to determine with certainty if these represent two distinct species. Similar, and possibly undescribed, forms are known from extreme southern U.S. and Mexico as far south as Chiapas. In light of this, we have attributed all distribution records to *Calyptoproctus marmoratus* except for the type series of *Alphina glauca*.

Of the 9 genera of Fulgoridae found north of Mexico, most have congeners in Central America, except *Rhabdocephala* (which is monotypic), few have South American representatives, and none has Old World representatives. Total valid species are *Alphina* 3, *Alaruasa* 7, *Amycle* 9, *Calyptoproctus* 10, *Cyrpoptus* 11, *Itzalana* 3, *Poblicia* 3, and *Scolopsella* 2. *Calyptoproctus* is primarily South American (7 of 10 species).

The majority of Fulgoridae feed on trees and woody shrubs through the bark, but a few taxa are grass feeding. Most fulgorids have been reported from a single host species (Wilson et al. 1994). We have observed *Poblicia fuliginosa* feeding on winged sumac (*Rhus copallinum* L., Anacardiaceae) in the east and reared nymphs on *Baccharis sarothroides* A. Gray (Asteraceae) in Arizona, where it may also be found on *Brickellia* (Asteraceae). Adults of *Itzalana submaculata* were found on *Baccharis* in Texas (in September, October, and May), but nymphs were only found sweeping mixed vegetation (in September) at the same location (O'Brien, pers. obs.). *Calyptoproctus* has been observed on the trunks of cottonwood (*Populus*, Salicaceae) in Arizona. The biology of *Rhabdocephala brunnea* has been described by Wilson & Wheeler (1992). The nymphs of this species feed on *Muhlenbergia porteri* Scribn. ex Beal (Poaceae); it may be bivoltine. The biology and immature forms of the eastern species *Amycle vernalis*, *Cyrpoptus belfragei*, and *C. reineckei* have been described from the exotic *Eragrostis curvula* (Schrad.) Nees (Poaceae) and other grasses, and these species appear to be bivoltine (Wilson & Wheeler 2005).

KEY TO GENERA OF FULGORIDAE NORTH OF MEXICO

1 Head strongly anteriorly produced (Figs. 82E, F, I) 2
1′. Head not strongly produced (Figs. 82G, H; 83D–F) 4
2. Cephalic process narrowed apically (Fig. 82E), flattened dorsoventrally; vertex elongate triangular, base nearly twice as wide as apex ..... *Amycle* Stål
2′. Cephalic process expanded apically (Figs. 82F, I), cross section nearly circular or square; head elongate, rectangular, base and apex subequal 3
3. Vertex smooth in lateral view (Fig. 84B), rounded, pointed anteriorly, carinae not foliaceous; sides of head visible throughout ..... *Rhabdocephala* Van Duzee
3′. Vertex scalloped in lateral view (Fig. 84C), convex anteriorly, carinae foliaceous, crenulated; sides of head partly obscured by carina in dorsal view ..... *Scolopsella* Ball
4. Head with eyes narrower than pronotum (Figs. 82G, 83D) 5
4′. Head with eyes equal to or broader than pronotum (e.g., Figs. 83E, F) 6
5. Transverse carina at posterior margin of pronotum (Fig. 82G); sides of frons not parallel, widened in distinct lobe just above clypeal suture (Fig. 82C); ninth abdominal tergite of female elongate, medially carinate, usually hiding tenth and eleventh; forewings almost translucent, mottled with dark and clear areas ..... *Calyptoproctus* and *Alphina* of authors

5′. No transverse carina on pronotum (Fig. 83D), although may have transverse striae; sides of frons subparallel (Fig. 83A); forewings mostly opaque ..... *Alaruasa* Distant
6. Head including eyes the widest part of insect (Fig. 83B, E); frons shorter than length of frontoclypeal suture, dorsal margin at least 2x length frontoclypeal suture ..... *Itzalana* Distant
6′. Head including eyes not exceeding width of closed forewings (Figs. 82H, 83F); frons not as above 7
7. Flange on posterior margin of head behind eye not obscuring lateral edge of pronotum; anterior abdominal tergites black, caudal ones red in U.S. species (Fig. 83F) ..... *Poblicia* Stål
7′. Blunt spur on posterior margin of head behind eye overlapping margin of pronotum; tergites not as above (Fig. 82H) ..... *Cyrpoptus* Stål

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Issidae
(Figs. 85–87)

Issidae north of Mexico consist of 12 genera and 25 species. Issidae is the 5th largest family of planthoppers, consisting of 178 genera and 842 species at the time of Metcalf (1958, excluding Caliscelinae), and presently including 229 genera and 1168 species (Bourgoin 2012). The higher classification of Issidae has been the subject of recent investigation. Fennah (1954) revised the classification of Issidae, including Acanaloniidae as a subfamily, and in 1984, moving a series of North American genera (Bladinini subtribe Gaetuliina) to Nogodinidae. These were subsequently moved to Tropiduchidae (as tribe Gaetuliini) (Gnezdilov 2007). Several authors have since provided evidence that Issidae as defined by Fennah (1954, 1984) is not monophyletic (e.g., Emeljanov 1991, Yeh & Yang 1999). Emeljanov (1999) recognized Caliscelidae as a family, and revived Acanaloniidae (subsumed under Issidae by Fennah 1954), which was defined to include *Euthiscia*, and 2 Old World subfamilies (Trienopinae and Tonginae), which were subsequently moved to Nogodinidae and Tropiduchidae (Gnezdilov 2007, 2008). A series of additional changes to the higher taxonomy have been proposed, but most do not impact North American taxa, except tribal and subtribal definitions proposed by Gnezdilov (2003b), and subsuming Thioniini under Issini by Gnezdilov (2009). Here we treat Thioniini as a subtribe of Issini, since Gnezdilov (2009) did not explicitly address the placement of Thioniini within his subtribes.

North American issids, as currently defined, can be recognized by the hind tibiae bearing 1–4 lateral spines (Acanaloniidae have none), forewings covering the abdomen and usually not reticulate (if reticulate then uniformly so, without patches of clear cells), and pronotum usually not extending anteriorly beyond the middle of the eyes. Like all higher planthoppers, Issidae have a pair of spines on the second tarsomere of the hind leg. *Misodema* (Tropiduchidae: Gaetuliini) is easily mistaken for an issid and is included in the key below.

North American Issidae, including Caliscelidae and Gaetuliini, were revised by Doering (1936, 1938, 1939, 1941, 1958), and these works should be consulted for species identification. O'Brien (1988a) reviewed the North American Issidae and provided a revised key to genera based on Doering (1938), which was updated by Gnezdilov & O'Brien (2006b). Gnezdilov (2003a, 2004) noted that North American *Hysteropterum* Amyot & Serville, 1843 are not congeneric with the European species and 5 genera (*Abolloptera*, *Balduza*, *Exortus*, *Kathleenum*, *Stilbometopius*) were subsequently erected for the North American *Hysteropterum* (Gnezdilov 2004, Gnezdilov & O'Brien 2006b). Gnezdilov & O'Brien (2006a) report *Hysteropterum severini* and *H. beameri* as synonyms of *Agalmatium bilobum* (Fieber), a European species. *Tylana ustulata* was transferred to *Hysteropterum* by O'Brien (1988a), subsequently to *Tylanira* by Gnezdilov & O'Brien (2006b), who also raised *Paralixes* from subgenus to genus status out of *Ulixes* Stål, 1861. *Paralixes* and *Ulixes* are rare in collections. We have observed specimens of *Paralixes* from New Mexico that appear to be a new species; however, a review of available U.S. and Mexican specimens suggests that color varies among individuals and there is substantial variation in size between sexes. Male genitalia may be the best feature for species verification, but genitalia are not described for all species. An undetermined adventive *Colpoptera* species, possibly from Mexico, was reported from Florida by Halbert (2010). *Thionia bullata conspersa* (Walker, 1851) is

here placed as a junior synonym of *Thionia bullata* (Say, 1830) because it is a color variant of the nominotypical species.

Issidae are most species-rich in the southern United States (Fig. 104), with a few taxa (particularly *Thionia*) more widespread. *Thionia* as currently defined includes 70 species, a few of which are Old World. Of the remaining genera, all except the adventive *Agalmatium* are limited to North and Central America. The genera *Paralixes* (4 species), *Picumna* (10 species) and *Traxus* (2 species) include Central American species not found in the U.S.

Three issids were excluded from Appendix 1 because they were reported only from 'North America' in their original description (and subsequently) and not confirmed north of Mexico (*Issus servillei* Spinola, 1839; *Thionia ocellata* Melichar, 1906; and *Thionia transversalis* Melichar, 1906). Each of these species was illustrated and included in the key to planthoppers of eastern North America by Metcalf (1923) and subsequently included in Poole & Gentili (1997). Metcalf's (1923) *Issus servillei* record was evidently based on 2 unlabelled specimens in the NCSU collection (with Metcalf determination labels), but this species was not included in Doering's (1936, 1938, 1939, 1941) revisions. Unfortunately, we cannot verify that these specimens are this species (since we were unable to locate the type specimen) or that they were taken in North America. *Issus* Fabricius, 1803 in the strict sense is unlikely to occur in the New World, so we consider this species *incertae sedis*. The two *Thionia* species were noted by Doering (1938: 457) as not found in the U.S., and specimens found bearing these names appear to be misidentifications.

Issidae are usually associated with woody plants both as adults and nymphs, and are found on the above-ground portion of plants. Most species are reported as monophagous (Wilson et al. 1994). Wheeler & Wilson (1987, 1988) describe the life history of *Thionia elliptica*, *T. bullata*, and *T. simplex*. *Thionia elliptica* feeds on *Quercus* (in Pennsylvania mostly on *Quercus ilicifolia* Wangenh.), with a single generation per year, adults emerging in July and August, and overwintering as eggs (Wheeler & Wilson 1987). *Thionia bullata* is univoltine on pines (including the introduced *Pinus sylvestris* L.), overwintering as eggs, with development requiring about 10 weeks (Wheeler & Wilson 1988, Wheeler 1996). *Thionia simplex* is polyphagous on a variety of herbaceous and woody plants (Wheeler & Wilson 1988). Schlinger (1958) describes the biology of the adventive *Agalmatium bilobum* (as *Hysteropterum beameri*) in California, which creates 'mud cases' for its eggs and evidently feeds on oats (*Avena sativa* L.) (see also Boulard 1987).

KEY TO GENERA OF ISSIDAE NORTH OF MEXICO

Note: Parenthetical numbers following genera in the key refer to the part number and page of Doering's revision of the Issinae (1936, 1938, 1939, 1941), i.e., 2: 458 refers to part 2 (1938), page 458). *Misodema* (Tropiduchidae: Gaetuliini) is included in this key since it is easily mistaken for an issid.

1. Hind wings present, entire, with strongly marked notches at the joints of the folds, anal area large (wings usually visible from ventral view of insect); vein Sc1 absent; larger issids varying from 5.5 to 8.1 mm (Thioniina & Colpopterini) 2
1′. Hind wings absent or rudimentary 4
2. Posterior tibiae with 1 spine; narrow, elongate planthoppers; adventive, Florida ..... *Colpoptera* Burmeister
2′. Posterior tibiae with 2–4 spines (Figs. 1F–G); broad, stout planthoppers; widespread 3
3. Posterior tibiae with 2 (or 3) spines (Fig. 1F); cubital vein of forewing simple ..... *Thionia* Stål (2: 458)
3′. Posterior tibiae usually with 4 spines (Fig. 1G); cubital vein of forewing branched ..... *Picumna* Stål (2: 471)
4. Body broad, almost rounded in dorsal view (Figs. 86G, K); forewings strongly reticulate and parchment-like, held somewhat tectiform 5
4′. Body more elongate (Figs. 85F–J; 86I, L; 89H); forewings usually leathery, not reticulate, held more vertically [*Hysteropterum sensu* Doering 1938 (2: 481)] 6
5. Mesonotum with lateral carinae elevated on rounded peaks (evident in lateral view; Fig. 87J); clypeus receding with respect to frons ..... *Traxus* Metcalf (2: 449)

5′. Mesonotum with lateral carinae normal, not elevated; clypeus on same plane as frons (Fig. 87F) . . . . . *Paralixes* Caldwell (2: 452)

6. Intermediate carinae of front (between median and lateral carinae) obsolete, not raised 7

6′. Intermediate carinae of front present, raised 10

7. Forewing strongly reticulate (Fig. 90H); in lateral view, head projecting dorsally, front reclinate . . . . . *Misodema* Melichar (2: 534)

7′. Forewing not strongly reticulate (Figs. 87A, B, H); head not projecting, frons nearly truncate 8

8. Frons with longitudinal depression each side of median carina (Fig. 85A); anterior margin of vertex medially projecting, weakly bisinuate laterally (Fig. 85F) . . . . . *Abolloptera bistriata* (Caldwell)

8′. Frons flat or slightly convex; anterior margin of vertex not medially projecting, nearly truncate (Figs. 85G, 86I) 9

9. Dorsal margin of frons flat (Fig. 85B); cells in forewings without black dots; adventive in California . . . . . *Agalmatium bilobum* (Fieber)

9′. Dorsal margin of frons slightly convex; costal border cream colored, other cells in forewing with black dots . . . . . *Stilbometopius auroreus* (Uhler)(2: 482)

10. Vertex deeply emarginate at apex, thus forming lateral triangular projections inclined upward (Figs. 86F, L); frons emarginate at frontoclypeal margin; larger species usually 4.4 mm or over . . . . . *Tylanira* Ball (3: 144)

10′. Vertex not as above; smaller species usually 4.4 mm or smaller 11

11. Intermediate carinae of frons parallel or weakly converging dorsally (Fig. 85E); frons at dorsal margin wider than tall at median carina; dorsal margin of frons wider than frons at midline (about 1.25x) with wide straight median line and sides angled upward; vertex about 3x wider than long in middle (Fig, 85J) . . . . . *Kathleenum* Gnezdilov

11′. Intermediate carinae of frons converging dorsally (Figs. 85C–D); frons at dorsal margin about as wide as tall at median carina (about 1.05x) with dorsal margin v-shaped; vertex about 2x wider than long in middle (Figs. 85H, I) 12

12. Forewings uniformly speckled with fine dots, otherwise not strongly patterned (Fig. 87D); dorsoanterior portion of head rounded (not raised) in lateral view; dorsal margin of forewing straight in lateral view; southeastern . . . . . *Exortus* Gnezdilov

12′. Forewings patterned, irregularly speckled (Fig. 87C); dorsoanterior portion of head raised in lateral view; dorsal margin of forewing concave in lateral view; southwestern . . . . . *Balduza* Gnezdilov

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Kinnaridae
(Figs. 91A, E)

Kinnaridae are represented in America north of Mexico by 5 species in the genus *Oeclidius* found entirely in the southwest (Fig. 105), with 18 additional *Oeclidius* species found in Central America (one of these reported from South America). Kinnaridae are a small group of mostly tropical species, consisting at the time of Metcalf (1945) of 8 genera and 42 species, and currently of 21 genera and 104 species (Bourgoin 2012), of which 10 genera and 43 species are Caribbean (Fennah 1942, 1945, 1948, 1980; Ramos 1957). The higher classification follows Emeljanov (1985) as modified by Emeljanov (2006b), who defined Oeclidiini for the three New World kinnarid genera *Oeclidius*, *Southia* Kirkaldy, 1904b, and *Micrixia* Fowler, 1904. Kinnaridae are a relatively primitive taxon, derived near the base of the planthopper phylogeny, although fossils are known only since the Mid-Mesozoic (Bourgoin & Lefebvre 2002, Szwedo et al. 2004, Urban & Cryan 2007).

Kinnarids are similar to small Cixiidae in general appearance, and they share a row of spines on the second segment of the hind tarsomere and may have a median ocellus near the frontoclypeal suture. Unlike cixiids, females have a reduced ovipositor (Fig. 3H) and abdominal tergites 7–9 are chevron-shaped wax-producing plates (Fig. 4E). *Oeclidius* was revised by Ball (1934a). *Oeclidius nanus* and *O. brickellus* are here synonymized. The main feature used to separate these species by Ball (1934a; viz. 3 or 4 apical cells in the forewings) can vary on the left and right wings of the same individual and no other covarying feature could be found. We are aware of a putative new species that may not be *Oeclidius*. Kuznetsova and Maryańska-Nadachowska (2006) examined the male reproductive organs and karyotypy of *Oeclidius*.

The nymphal habits and host biology of Kinnaridae are largely unknown. There are few host records (most of these on Asteraceae or Lamiaceae), with most species reported as monophagous (Wilson et al. 1994). Nymphs are evidently subterranean, with adults found on above-ground portions of plants, although adults have also been found on roots (Fennah 1980, Wilson et al. 1994).

Tropiduchidae (Including Gaetuliini) (Figs. 88–91B–D, F–H)

Tropiduchidae are a relatively small planthopper family consisting at the time of Metcalf (1954a) of 106 genera and 280 mostly tropical species. As currently comprised, Tropiduchidae consist of 135 genera and 436 species (Bourgoin 2012). Tribes of Tropiduchidae were revised by Fennah (1982), but they were not explicitly placed into subfamilies, so the subfamily arrangement of Metcalf (1954a) is adopted here. Recent investigation of the relationships and composition of the higher planthoppers has resulted in the transfer of taxa into Tropiduchidae including Gaetuliina (from Nogodinidae, Bladinini; originally in Issidae) and Trienopinae (transferred from Acanaloniidae, originally in Issidae) (Gnezdilov 2007).

Similar to other derived families of planthoppers, Tropiduchidae have the teeth on the second tarsomere of the hind leg reduced to a lateral pair. Tangiini and Remosini tend to be rather flattened and have a distinct nodal line on the wing, with the wing venation rather reticulate distad of the nodal line (Fig. 4G). Some Tropiduchidae superficially resemble dictyopharids, but are readily separated by the distinct nodal line and the lack of intermediate carinae on the frons. Gaetuliini are similar to Issidae, and both have 1–4 lateral spines (usually 2–3, but 1 in *Osbornia cornuta* and some *Dictyssa*, and 4 in *Danepteryx* and *Misodema*) on the hind tibiae, and wings (usually) covering the abdomen. They can be separated by having reticulate venation (shared with the issids *Paralixes* and *Traxus*) with some cells membranous.

The North American Tropiduchidae as traditionally defined (i.e., Tangiini and Remosini among U.S. taxa) were reviewed by O'Brien (1992) and are represented in the United States by 2 species in 2 genera (*Pelitropis rotulata* and *Tangia breviceps*) from the southeast, with two other species (*Monopsis tabida* and *Neurotmeta sponsa*) reported but unverified by museum specimens (O'Brien 1992). Spinola (1839: 302–304) described *Monopsis tabida* from "Des États-Unis de l'Am.-Sept.", subsequently annotated as Florida (Uhler 1884, Swezey 1904, Van Duzee 1908), but this species was not confirmed from the United States (O'Brien 1992). *Neurotmeta sponsa*, described from Cuba, was reported from southern Florida by Uhler (1884) but also was not confirmed from the U.S. (O'Brien 1992). All 4 of these genera have additional species in the Neotropics.

Gaetuliini (sensu Gnezdilov 2007) include 10 genera and 62 species north of Mexico, all of which are southwestern, with 8 genera and 55 species from California (Fig. 106). Only 2 species in this tribe, *Misodema dubia* Caldwell, 1945 and *Dictyssa leonilae* O'Brien, 1986b, have not been reported north of Mexico. Gaetuliini were moved from Issidae to Nogodinidae by Fennah (1984, as a subtribe of Bladinini), following his review of nogodinid higher classification (Fennah 1978b). Emeljanov (1999) agreed with Fennah's (1984) placement of the tribe. However, Gaetuliini did not group with Nogodinidae in the molecular phylogeny of Urban & Cryan (2007). Subsequently Gaetuliini were transferred to Tropiduchidae by Gnezdilov (2007). *Dictyssonia beameri* was not treated by Fennah (1954), but appears to be closely allied with Gaetuliini, and is treated as such here. Therefore, as currently defined, Tropiduchidae north of Mexico consist of 12 genera and 64 species (excluding taxa reported in error).

Gaetuliini were included within Doering's revision of Issidae (Doering 1936, 1938, 1939, 1941), which should be consulted for the identification of these species. O'Brien (1988a) presented an updated version of Doering's (1938) key that includes Gaetuliini, Issidae, Caliscelidae, and *Philatis* (as *Euthiscia;* Acanaloniidae).

The majority of tropiduchids are found on above-ground portions of woody dicots (Wilson et al. 1994). Wilson & Wheeler (1984) recorded *Pelitropis rotulata* from 19 woody host plants and described immatures. This species appeared to be univoltine in North Carolina. *Tangia breviceps* has been recorded from *Cocoloba uvifera* (O'Brien 1992) and *Neurotmeta sponsa* from guava and coffee (Metcalf & Bruner 1930, Fennah 1982). Life histories have not been studied in detail for any Gaetuliini. They feed mostly on shrubs, particularly from the Asteraceae, Rosaceae, and Ericaceae (Wilson et al. 1994).

KEY TO GENERA OF TROPIDUCHIDAE (TANGIINI & REMOSINI) NORTH OF MEXICO (FROM O'BRIEN, 1992)

1. Median carina of frons absent; veins of forewings spotted with brown; lateral fields of pronotum narrower than medial fields (Fig. 91D) ..... *Pelitropis rotulata* Van Duzee
1′. Median carina of frons present; veins of forewings not spotted with brown; lateral fields of pronotum about as wide as median fields 2
2. Vertex longer than broad (Fig. 91G) 3
2′. Vertex broader than long (Fig. 91F) ..... *Tangia breviceps* (Metcalf & Bruner)
3. Forewings with M forking 1/3 from base (not verified in U.S.) ..... *Monopsis tabida* Spinola
3′. Forewings with M forking at level of or behind Cu fork (not verified in U.S.) (Fig. 91G) ..... *Neurotmeta sponsa* (Guérin-Méneville)

KEY TO GENERA OF TROPIDUCHIDAE (GAETULIINI) NORTH OF MEXICO

1. Forewing short (Fig. 90J), leaving several abdominal segments exposed from above ..... (in part) *Osbornia* Ball (3: 96)
1′. Forewing reaching or exceeding end of abdomen 2
2. Forewing strap-like, much longer than wide (Figs. 90A, G); ventral half of abdomen evident in lateral view 3
2′. Forewing wider (Figs. 90B–F, H–I); abdomen hidden, or mostly hidden, by wing in lateral view 4
3. Vertex much wider than long (Fig. 89G), head not projecting (Fig 90G); 1–3 lateral spines on hind tibiae ..... *Dyctidea* Uhler (3: 89)
3′. Vertex nearly as long as wide (Fig. 88F), head projecting anteriorly in lateral view (Fig. 90A); 4 lateral spines on hind tibiae ..... *Danepteryx* Uhler (3: 136)
4. Forewing nearly as wide as long and semicircular in shape, costal margin decidedly rounding (Figs. 90C, E); forewing partly opaque, usually with an oblique hyaline band across clavus and corium 5
4′. Forewing more elongate, costal margin nearly straight, or if rounding (Fig. 90F), with a distinct bulla present at base of each wing 6
5. Forewing semicircular in shape, not closely appressed to body, veins of corium forming small irregular cells, some of which usually (not always) are vitreous or light colored (Fig. 90E) ..... *Dictyssa* Melichar (1: 424)
5′. Forewing almost as broad as long, held almost vertically, cells of corium exceptionally few and large and distinctly angular (Fig. 90C) ..... *Dictyonia* Uhler (2: 496)
6. Vertex obtusely produced for distance nearly equal to width of eye (Figs. 90D, H) 7
6′. Vertex not obtusely produced, distance from eye to apex of head much less than width of eye (Figs. 90B, F, I) 8
7. Forewing opaque, with few setae (Fig. 90H); hind tibiae with 4 lateral spines ..... *Misodema* Melichar (2: 534)
7′. Forewing clear, hispid (Fig. 90D); hind tibiae with 3 lateral spines ..... *Dictyonissus* Uhler (2: 498)
8. Posterior tibiae with 2–3 lateral spines; forewing with distinct bulla at outer angles of the corium ..... *Dictyssonia* Ball (2: 536)
8′. Posterior tibiae with 1–2 lateral spines; forewing without bulla 9
9. Head including eyes narrower than pronotum; forewing twice longer than wide, more reticulate in apical half ..... (submacropters) *Osbornia* Ball (3: 96)
9′. Head including eyes wider than pronotum; forewing wider, reticulate throughout (Fig. 90B, I) 10
10. Forewing entirely clear (Fig. 90I), or nearly so; body pale ..... *Neaethus* Stål (2: 502)
10′. Forewing with extensive dark patches (Fig. 90B); body darker ..... *Dictyobia* Uhler (3: 84)

Summary of Nomenclatural Changes

Collectively, 41 nomenclatural changes (Table 8) are proposed in the species checklist (Appendix 1) and the family synopses. Of these, 22 species (17 in Delphacidae, 5 in Flatidae) were new combinations to correct erroneous generic placement, maintain current generic concepts, and ensure that these taxa trace properly in the presented keys. An additional 19 taxa, distributed among 7 families, are new species-level synonyms, usually based on comparison of primary type material. Additional synonyms are likely to be encountered with revisionary studies. Three were subspecific color variants synonymized with the nominotypical taxon. Color may be influenced by a wide variety of environmental and physiological influences, and should not be used alone to define specific or subspecific forms for planthoppers. More generally, we question the utility of subspecific designations for planthoppers and anticipate, when carefully evaluated, most will be subsumed under nominotypical taxa or merit species status. Further synonymy or nomenclatural changes will inevitably be needed as problematic taxa are revised, new taxa are described, and the biology (including molecular ecology) and biogeography of planthoppers become better understood.

DISTRIBUTION OF PLANTHOPPER TAXA IN THE CONTIGUOUS UNITED STATES

Overall, planthoppers are more species-rich in the south, and particularly the southwest (Fig. 107). A latitudinal gradient of species richness is a common pattern among many taxa (e.g., Willig et al. 2003), and was expected among planthoppers. Increasing species richness with decreasing latitude in North America corresponds to the pattern known for birds and mammals (Lomolino et al. 2010). The diversity of topography and plants may play a role in this observed pattern in planthoppers.

Within the contiguous U.S., planthopper families vary in the details and degree to which they exhibit this general pattern. Also, some families appear to be most species-rich in the southwest, as defined here. Acanaloniidae (Fig. 95), Caliscelidae (Fig. 97), Cixiidae (Fig. 98), Dictyopharidae (Fig. 101), Flatidae (Fig. 102), Fulgoridae (Fig. 103), Issidae (Fig. 104), Kinnaridae (Fig. 105) and Tropiduchidae (Gaetuliini) (Fig. 106) all appear to be most species-rich in the southwest. However, for some families, this pattern may be sensitive to how 'southwest' is defined, and in particular whether all or parts of Texas and California are included, but consideration of patterns below the state level was beyond both the current scope of this study and available data. Texas in particular may be especially diverse since it is a very large state and contains elements of the eastern, western and Mexican faunas.

Achilidae, Delphacidae, Derbidae and Tropiduchidae (Tangiini and Remosini) show contrasting biogeographic patterns. Tangiini and Remosini are found only in the southeast. The other three families are much more broadly distributed to the north, particularly in the east where their richness remains high in New England and states bordering the Great Lakes. Caliscelidae also exhibit relatively high species richness in the Great Plains and further north. Achilidae have high diversity in California (5 genera, 29 species), but also over most of the eastern U.S. The Canadian planthopper fauna consists of 67 genera and 247 species (Table 7) of which 39 genera and 146 species are delphacids. Delphacids are diverse in Alaska and the Yukon into the Arctic Circle (Wilson 1988, 1992, 1997; Maw et al. 2000).

The influence of uneven collecting effort and reporting of planthopper species is evident from Figures 95–107. Some states (Illinois, North Carolina) probably have a relatively complete fauna recorded, although it is unlikely that any state has its entire fauna recorded. Other states (Vermont, Rhode Island, West Virginia, Kentucky) clearly have an under-reported fauna, but would be expected to be species rich (100+ species). Incomplete information may create artifacts with respect to understanding planthopper species distributions. The average number of planthopper genera and species recorded for the contiguous 48 states and the District of Columbia is 42 genera and 102 species. We anticipate that nearly all states have a fauna of at least 100 species of planthoppers, possibly excepting the northwestern states, but here only 23 states have at least this total (Table 5), despite the nearly 800 new state records reported here.

We combined states into regions to compensate for the problem of incomplete reporting at the state level. With the contiguous states separated into 5 regions (Fig. 94), we find the highest species richness is in the southwest (142 genera, 647 species) and lowest in the northwest (45 genera,

128 species). This result is intuitive given increased richness with decreased latitude and the many unique species of the southwest. A differing possible explanation might be classic species-area relationships, with higher richness expected in larger geographic areas. If the number of species is standardized per unit area[7] (Table 4), the northwestern region remains the least species-rich (with 0.027 genera and 0.076 species per 1000 km^2), but both the southeast (0.086 genera and 0.324 species per 1000 km^2) and northeast (0.109 genera and 0.380 species per 1000 km^2) appear to have higher richness than the southwest (0.054 genera and 0.241 species per 1000 km^2) by that measure. With the current data, it is difficult to ascertain whether these observations reflect a true biological pattern or remain an artifact of incomplete sampling, with the fauna in the east being better collected and described than the west.

FINAL COMMENTS

The species totals provided here are not likely to represent a complete census of the planthopper fauna north of Mexico. Doubtless there remain unreported adventive species from Mexico or the Caribbean, and possibly unreported circumboreal taxa. Also, we are aware of apparently undescribed taxa in most families, and new species continue to be discovered and described (Fig. 109; e.g., Cronin & Wilson 2007, Bartlett 2010, Bartlett & Hamilton 2011, Weglarz & Bartlett 2012). In compiling this work, we did not attempt to census the potential new species that were encountered. We anticipate that the described fauna (Appendix 1) represents 90% or more of the true fauna north of Mexico, with the eastern U.S. better surveyed than the west. However, subsequent removal of synonyms and *nomen oblitum* from the list may make the species totals not much higher than those reported here.

While the taxonomy of many planthoppers north of Mexico seems established, problematic areas remain. In delphacids, the generic placement of approximately 50 *Delphacodes* species needs to be examined, and a series of genera require revision or the development of identification keys (e.g., *Eurysa*, *Eurybregma*, *Kormus*, *Javesella*, *Nothodelphax*, *Paraliburnia*, and *Syndelphax*). Similarly, most North American flatid genera require redefinition and revision, which would necessarily require consideration of the Central American fauna. In the Fulgoridae the conspicuous taxonomic and nomenclatural problem of *Alphina glauca* and *Calyptoproctus marmoratus* has yet to be resolved. Finally, the family-level taxonomy of several groups remains to be firmly established.

For future work, aside from revisionary systematics and new species descriptions, there are several areas that require investigation. Modern online taxonomic tools (including interactive keys) are needed for essentially all North American taxa so that species identification will not require specialized taxonomic expertise. Life history and host relations remain incompletely established for most taxa. Biogeographic patterns of species distributions, particularly with reference to host plants, are needed to evaluate or predict species distributions in changing environments. A serious data gap is that the planthopper fauna of Mexico (and much of the Neotropics) remains acutely underinvestigated, with integrative works approaching a century old. Many potential adventives from Mexico would be difficult to identify, assuming they were known to science, and any comprehensive understanding of planthopper biogeography, and possibly systematics, would require a better understanding of the Mexican fauna. It is our hope that this review will facilitate research in planthopper biology and systematics of North America. Given that much remains to be accomplished in "fulgorology" in the future, we hope that scientific advances will quickly render this review obsolete.

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[7] State areas compiled from Census State Area Measurements and Internal Point Coordinates. (http://www.census.gov/geo/www/2010census/statearea_intpt.html 2010 Census State Area Measurements and Internal Point Coordinates).

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Table 1. Selected identification references for North American planthoppers (revised from Wilson 2005)

Taxon	Region or Topic	Reference
Families	World	O'Brien & Wilson 1985
Families	World, immatures	O'Brien et al. 1991
Families, Genera, Species	Eastern U.S.	Metcalf 1923 (Also Crawford 1914, Muir & Giffard 1924)
Families, Genera, Species	Illinois	Wilson & McPherson 1980a
Families, Genera, Species	Delaware	Bartlett et al. 2011
Families, Genera, Species	Mississippi	Dozier 1928
Families, Genera, Species	Southeastern US (Economic species)	Wilson 2005
Acanaloniidae		
Acanalonia	U.S.	Doering 1932, Freund & Wilson 1995
Acanalonia	Florida	Halbert et al. 2007
Achilidae		
Tribes, Genera	World	Fennah 1950a
Plectoderini	U.S.	O'Brien 1971
Cixidia (as *Epiptera*)	Canada	Beirne 1950b
Caliscelidae		
Genera	U.S.	Doering 1938
Aphelonema	U.S.	Doering 1941
Bruchomorpha	U.S.	Doering 1939
Fitchiella	U.S.	Doering 1941
Papagonia	U.S.	Doering 1939
Cixiidae		
Genera	U.S.	Kramer 1983
Bothriocera	U.S.	Kramer 1983
Cixius	U.S.	Kramer 1981a
Haplaxius (as *Myndus*)	New World	Kramer 1979
Oecleus	U.S.	Kramer 1977
Melanoliarus, Reptalus, Pentastiridius (as *Oliarus*)	U.S.	Mead & Kramer 1982
Pintalia	U.S.	Kramer 1983
Delphacidae		
Genera	Mississippi	Coley 1970
Genera	Alaska	Wilson 1988
Genera	Yukon	Wilson 1992
Achorotile	U.S.	Beamer 1954, Scudder 1963
Aethodelphax	U.S.	Bartlett & Hamilton 2011
Akemetopon	U.S., Mexico	Weglarz & Bartlett 2011
Bakerella	U.S.	Beamer 1945b, 1946b, 1950b
Bostaera	U.S.	Penner 1952
Delphacodes	North Carolina	DuBose 1960
Delphacodes	U.S.	Beamer 1946d, 1947, 1948a, b, c; 1951a, 1952a
Eurysa	U.S.	Beamer 1952b
Kelisia	U.S.	Beamer 1945a, 1951c
Laccocera	Canada	Beirne 1950a, Scudder 1963
Laccocera	U.S.	Penner 1945
Megamelanus	U.S	McDermott 1952
Megamelus	U.S.	Beamer 1955
Megamelus	Canada	Scudder 1964
Metadelphax	New World	Gonzon & Bartlett 2008
Neomegamelanus	U.S.	McDermott 1952
Nilaparvata	New World	Bartlett 2007
Pareuidella	U.S.	Beamer 1951b

Pentagramma	U.S.	Hedrick-Zeller & Wilson 2010
Pentagramma	New World	Penner 1947
Phyllodinus	U.S.	Morgan & Beamer 1949
Pissonotus	U.S.	Morgan & Beamer 1949, Bartlett & Deitz 2000
Prokelisia	U.S.	Wilson 1982a, Heady& Wilson 1990
Sogatella	World	Asche & Wilson 1990
Stobaera	U.S.	Kramer 1973
Stenocraninae	New World	Bartlett 2010
Stenocranus	U.S.	Beamer 1946a, c
Stenocranus	Canada	Hamilton 2006
Tagosodes	World	Asche & Wilson 1990
Tumidagena	U.S.	McDermott 1952
Toya	New World	Gonzon & Bartlett 2008
Derbidae		
Subfamilies	World	Fennah 1952, Emeljanov 1996a
Cenchreini (genera)	New World	O'Brien 1982b
Cedusa	Americas	Flynn & Kramer 1983
Cedusa	Neotropics	Kramer 1986
Mysidiini (Derbini in part)	Neotropics	Broomfield 1985
Dictyopharidae		
Genera	New World	Fennah 1944a
Orgeriinae	U.S.	Doering 1955
Orgerius	U.S.	Doering & Darby 1943
Phylloscelis	U.S.	McPherson 1994, McPherson & Wilson 1995
Scolops	U.S.	Breakey 1929
Ticida	U.S.	Emeljanov 2006a
Flatidae		
Mistharnophantia	U.S.	Doering & Shephard 1946
Subfamilies, Tribes	Neotropical	Metcalf 1938
Species	U.S.	Shepard 1939
Fulgoridae		
Cyrpoptus	U.S.	Kramer 1978
Fulgoridae (with head projections)	New World	O'Brien 1988b
Issidae		
Subfamilies, Tribes	World	Fennah 1954, 1984; Gnezdilov 2007
Genera (inc. Gaetuliini)	U.S.	Doering 1938, O'Brien 1988a
Genera	U.S.	Gnezdilov & O'Brien 2006b
Hysteropterum species	U.S.	Doering 1938
Thionia species	U.S.	Doering 1938
Picumna	U.S.	Doering 1938
Kinnaridae		
Oeclidius	U.S.	Ball 1934a
Tropiduchidae (Tangiini and Remosini)		
Subfamilies, Tribes	World	Fennah 1982
Genera, Species	U.S.	O'Brien 1992
Tropiduchidae (Gaetuliini)		
Danepteryx	U.S.	Doering 1939
Dictyobia	U.S.	Doering 1939
Dictyonissus	U.S.	Doering 1938
Dictyssa	U.S.	Doering 1936, 1941
Dyctidea	U.S.	Doering 1939
Neaethus	U.S.	Doering 1938, 1941
Osbornia	U.S.	Doering 1939

Table 2. Number of subfamilies, tribes, genera and species of planthoppers in the contiguous United States (excluding those reported in error).

Family	Subfamilies	Tribes	Genera	Species[8]
Delphacidae	4	6	61	312
Cixiidae	2	5	15	180
Dictyopharidae	2	4	14	85
Derbidae	3	6	14	71
Tropiduchidae (Gaetuliini)	1[9]	1	10	62
Achilidae	1	3	8	55
Caliscelidae	1	2	6	5
Flatidae	2	5	13	27
Issidae	1	2	12	25
Acanaloniidae	1	1	2	20
Fulgoridae	2	2	9	17
Kinnaridae	1	1	1	5
Tropiduchidae (Tangiini & Remosini)	1	2	2	2
Totals	21	40	167	914

Table 3. Number of planthopper genera and species among regions of the contiguous United States. Regions are based on political boundaries as defined in Figure 94.

	Northwest		Southwest		Central and Northcentral		Southeast		Northeast	
Family	Genera	Species	Genera	Species	Genera	Species	Genera	Species	Genera	Species
Acanaloniidae	0	0	2	18	1	2	1	7	1	3
Achilidae	2	8	8	48	5	18	4	19	3	19
Caliscelidae	2	9	6	43	3	16	3	19	3	10
Cixiidae	5	19	13	144	7	39	9	52	7	39
Delphacidae	26	64	46	153	38	117	49	190	38	128
Derbidae	2	2	11	36	10	36	13	56	10	40
Dictyopharidae	3	20	14	80	5	17	5	14	4	10
Flatidae	0	0	13	19	4	4	9	12	4	4
Fulgoridae	2	2	9	17	2	2	4	7	3	3
Issidae	1	2	11	22	1	3	3	7	1	3
Kinnaridae	0	0	1	5	0	0	0	0	0	0
Tropiduchidae (Gaetuliini)	2	2	10	62	0	0	0	0	0	0
Tropiduchidae (Tangiini & Remosini)	0	0	0	0	0	0	2	2	0	0
Totals	45	128	144	647	76	254	102	385	74	259

[8] Count includes subspecies.

[9] The Gaetuliini of Tropiduchidae are currently placed in the Tambiniinae, although the subfamily placement of the Gaetuliini has not been directly addressed.

Table 4. Number of genera and species observed per unit area in the contiguous United States. Regions are based on U.S. state political boundaries as defined in figure 94. Land area compiled from U.S. Census Bureau (2011).

Region	Area (km^2)	Genera	Genera per 1000 km^2	Species	Species per 1000 km^2
NW	1,674,166	45	0.027	128	0.076
SW	2,687,945	144	0.054	647	0.241
C+NC	1,845,579	76	0.041	254	0.138
SE	1,189,492	102	0.086	385	0.324
NE	681,110	74	0.109	259	0.380
All	8,078,292	167	0.021	914	0.113

Table 5. Number of planthopper genera and species for regions within the contiguous United States.

NW	**ID**	**MT**	**ND**	**OR**	**SD**	**WA**	**WY**								**All**
Genera	30	23	15	26	18	25	19								45
Species	57	44	20	50	26	43	35								128
SW	**AZ**	**CA**	**CO**	**NM**	**NV**	**OK**	**TX**	**UT**							
Genera	83	83	44	50	36	48	91	49							144
Species	265	285	122	117	74	89	275	115							647
C+NC	**IA**	**IL**	**IN**	**KS**	**KY**	**MI**	**MN**	**MO**	**NE**	**OH**	**WI**				
Genera	30	66	32	51	28	31	25	56	28	48	30				76
Species	67	171	59	126	39	63	45	105	50	127	59				254
SE	**AL**	**AR**	**FL**	**GA**	**LA**	**MS**	**NC**	**SC**	**TN**						
Genera	48	35	88	64	55	63	70	51	49						102
Species	90	66	277	166	111	163	222	94	107						385
NE	**CT**	**DC**	**DE**	**MA**	**MD**	**ME**	**NH**	**NJ**	**NY**	**PA**	**RI**	**VA**	**VT**	**WV**	
Genera	41	32	54	31	61	29	42	50	53	41	15	50	17	16	74
Species	102	76	118	66	141	53	94	130	155	105	23	117	27	20	259

Table 6. Adventive planthopper species north of Mexico

Family	Species	Source	References (comments)
Acanaloniidae	*Acanalonia excavata* Van Duzee, 1933	Neotropics	Halbert et al. 2007
Caliscelidae	*Caliscelis bonellii* (Latreille, 1807)	Mediterranean	O'Brien 1988a
	Asarcopus palmarum Horváth, 1921	Middle East or North Africa	O'Brien 1988a
Delphacidae	*Conomelus anceps* (Germar, 1821)	Western Palearctic	Wheeler & Hoebeke 2008
	Harmalia anacharsis Fennah, 1969b	Indomalayan	Wooten et al. 1993
	Metadelphax propinqua (Fieber, 1866b)	?	Gonzon et al. 2008 (possible introduction discussed)
	Perkinsiella saccharicida Kirkaldy, 1903	Australian or Indomalayan	Meagher et al. 1991, 1993
	Sogatella kolophon (Kirkaldy, 1907a)	Asia	Hamilton 2010 (introduction suggested)
Derbidae	*Patara albida* Westwood, 1840	Caribbean	Halbert 2005
Flatidae	*Siphanta acuta* (Walker, 1851)	Australia	Fletcher 1985
	Melormenis basalis (Walker, 1851)	Neotropics	Wilson 2005
Issidae	*Agalmatium bilobum* (Fieber, 1877)	Western Palearctic	Gnezdilov & O'Brien 2006a
	Colpoptera sp.	Mexico?	Halbert 2010

Table 7. Total number of planthopper genera and species for families occurring in the varied regions.

	World Taxa (Metcalf catalog)		World Taxa (Bourgoin 2012)		U.S. Taxa		Canada Taxa	
Family	Genera	Species	Genera	Species	Genera	Species	Genera	Species
Acanaloniidae	13	81	12	82	2	20	1	2
Achilidae	77	224	158	509	8	55	3	19
Caliscelidae	28	139	64	195	6	53	3	11
Cixiidae	84	786	192	2220	15	180	6	33
Delphacidae	137	1114	398	2019	61	312	39	146
Derbidae	111	733	157	1700	14	71	7	21
Dictyopharidae	119	489	164	730	14	85	2	8
Flatidae	212	981	299	1446	13	27	3	3
Fulgoridae	108	543	129	696	9	17	0	0
Issidae	178	842	229	1168	12	25	1	2
Kinnaridae	8	42	21	104	1	5	1	1
Tropiduchidae	106	280	135	436	12	64	1	1
Totals	1181	6254	1958	11,305	167	914	67	247

Table 8. New combinations and synonymies.

Old Name	New name	Family
New Synonyms		
Acanalonia bivittata var. *rubescens* Melichar, 1901a	*Acanalonia bivittata* (Say, 1825)	Acanaloniidae
Catonia nava bifasciata Metcalf, 1948	*Catonia nava* (Say, 1830)	Achilidae
Criomorphus conspicuus Metcalf, 1923	*Criomorphus inconspicuus* (Uhler, 1877)	Delphacidae
Criomorphus wilhelmi Anufriev & Averkin, 1982b	*Criomorphus inconspicuus* (Uhler, 1877)	Delphacidae
Delphacodes ardentis Beamer, 1948c	*Tagosodes wallacei* (Muir & Giffard, 1924)	Delphacidae
Delphacodes dentipennis Beamer, 1948b	*Isodelphax nigridorsum* (Crawford, 1914)	Delphacidae
Delphacodes nigrigaster (Crawford, 1914)	*Ribautodelphax albostriatus* (Fieber, 1866b)	Delphacidae
Flatoides concisus Metcalf, 1923	*Flatoidinus punctatus* (Walker, 1851)	Flatidae
Flatoides fecalfusca Caldwell, 1938b	*Metcracis fusca* (Van Duzee, 1908)	Flatidae
Flatoidinus acutus var. *maculosus* Metcalf, 1923	*Flatoidinus punctatus* (Walker, 1851)	Flatidae
Flatormenis chloris (Melichar, 1902)	*Flatormenis proxima* (Walker, 1851)	Flatidae
Liburnia cubana pallida (Osborn, 1935)	*Tagosodes cubanus* (Crawford, 1914)	Delphacidae
Liburnia mexicana (Crawford, 1914)	*Tagosodes cubanus* (Crawford, 1914)	Delphacidae
Oeclidius brickellis Ball, 1934	*Oeclidius nanus* Van Duzee, 1914	Kinnaridae
Ormenis yumana Ball, 1933b	*Flatormenis saucia* (Van Duzee, 1912a)	Flatidae
Ormenoides pauperata (Melichar, 1902)	*Ormenoides venusta* (Melichar, 1902)	Flatidae
Otiocerus signoretii Fitch, 1856	*Otiocerus stollii* Kirby, 1821	Derbidae
Pissonotus nigridorsum Metcalf, 1923	*Delphacodes nitens* Muir & Giffard, 1924	Delphacidae
Thionia bullata conspersa (Walker, 1851)	*Thionia bullata* (Say, 1830)	Issidae
New combinations		
Delphacodes bifurca Beamer, 1946d	*Yukonodelphax bifurca* (Beamer, 1946d)	Delphacidae
Delphacodes compta Beamer, 1948c	*Akemetopon comptum* (Beamer, 1948c)	Delphacidae
Delphacodes emeljanovi Wilson, 1992	*Kosswigianella emeljanovi* (Wilson, 1992)	Delphacidae
Delphacodes incerta (Van Duzee, 1897)	*Javesella incerta* (Van Duzee, 1897)	Delphacidae
Delphacodes lutea Beamer, 1946d	*Muirodelphax luteus* (Beamer, 1946d)	Delphacidae
Delphacodes lutulentoides Beamer, 1948a	*Kosswigianella lutulentoides* (Beamer, 1948a)	Delphacidae
Delphacodes magna (Crawford, 1914)	*Ribautodelphax magna* (Crawford, 1914)	Delphacidae
Delphacodes montezumae Muir & Giffard, 1924	*Isodelphax montezumae* (Muir & Giffard, 1924)	Delphacidae
Delphacodes munda Beamer, 1948c	*Kusnezoviella munda* (Beamer, 1948c)	Delphacidae
Delphacodes nigridorsum (Crawford, 1914)	*Isodelphax nigridorsum* (Crawford, 1914)	Delphacidae
Delphacodes penelutea Beamer, 1948c	*Muirodelphax peneluteus* (Beamer, 1946d)	Delphacidae
Delphacodes peneparvula Beamer, 1947	*Elachodelphax peneparvula* (Beamer, 1947)	Delphacidae
Delphacodes perusta Beamer, 1947	*Kosswigianella perusta* (Beamer, 1947)	Delphacidae
Delphacodes plenatra Beamer, 1948c	*Isodelphax plenatra* (Beamer, 1948c)	Delphacidae
Delphacodes sagae Beamer, 1946d	*Falcotoya sagae* (Beamer, 1946d)	Delphacidae
Delphacodes serrata Beamer, 1948a	*Notchodelphax serrata* (Beamer, 1948a)	Delphacidae
Euides guaduae (Muir, 1926)	*Muellerianella guaduae* (Muir, 1926)	Delphacidae
Flatoidinus fuscus (Van Duzee, 1908)	*Metcracis fusca* (Van Duzee, 1908)	Flatidae
Flatoidinus signatus (Melichar, 1902)	*Flataloides signata* (Melichar, 1902)	Flatidae
Ormenis barberi Van Duzee, 1912a	*Ormenaria barberi* (Van Duzee, 1912a)	Flatidae
Ormenis proxima (Walker, 1851)	*Flatormenis proxima* (Walker, 1851)	Flatidae
Ormenis saucia Van Duzee, 1912a	*Flatormenis saucia* (Van Duzee, 1912a)	Flatidae

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Appendix: List of the Planthoppers of North America

This list includes all planthoppers reported from the continental United States and Canada, including those reported in error. All generic level synonymies are included, but species synonymies are only included since the Metcalf (1936–1958) catalogues, unless required for clarity of nomenclatural status. Generic type species are provided in original combination. For each species, the page number of the Metcalf catalog entry is provided in square brackets following the valid name. Taxa are listed alphabetically within higher categories. The classification adopted is the most recent available. US states are abbreviated following US postal abbreviations. The provinces of Canada are abbreviated following Maw et al. (2000). A question mark ("?") following a locality indicates the record requires verification.

Taxon	Range	References and comments
FAMILY ACANALONIIDAE		
Acanaloniinae Amyot & Serville, 1843		
Acanaloniini Amyot & Serville, 1843		
Acanalonia Spinola, 1839 (Type species *Acanalonia servillei* Spinola, 1839). = ***Acanonia*** Amyot & Serville, 1843 (Type species *Acanalonia servillei* Spinola, 1839); replacement name for *Acanalonia* Spinola, 1839. = ***Amphiscepa*** Glover, 1878 [nec Germar 1830] (Type species *Flata bivittata* Say, 1825); syn. by Stål 1862a: 311 (misattributed to Say, 1825 by Melichar 1906: 215; see e.g., Van Duzee 1917: 750). = ***Acalonia***, missp. Kramer 1950: 10, 80. = ***Chlorochara*** Stål, 1869a (Type species *Cicada vivida* Fabricius 1775); syn. by Caldwell & Martorell 1951: 261–262 (Type species moved to *Acanalonia*).		
bivittata (Say, 1825) [Metcalf 1954b: 11] = *Flata bivittata* Say, 1825: 335. = *Amphiscepa bivittata* (Say, 1825); comb. by Melichar 1901a: 183. = *Acanonia bivittata* (Say, 1825); comb. by Stål 1862a: 491. = *Acanalonia bivittata* (Say, 1825); comb. by Metcalf 1923: 151. = *Amphiscepa bivittata rubescens* Melichar, 1901a: 183. = *Acanalonia bivittata* var. *rubescens* (Melichar, 1901a); comb. by Van Duzee 1916a: 81. = *Acanalonia bivittata* var. *rubescens* (Melichar, 1901a); **new synonymy**.	USA: AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, WI, WV; CAN: ON; Mexico (Coahuila, Morelos, Sinaloa)	Doering 1932, Metcalf 1954b, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c, 1981b; Weber & Wilson 1981, Wilson et al. 1993, Freund & Wilson 1995, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Halbert et al. 2007, Bartlett et al. 2011
clypeata Van Duzee, 1908 [Metcalf 1954b: 19]	USA: AZ, CA, NV, UT	Doering 1932, Metcalf 1954b, Ward et al. 1977, Freund & Wilson 1995
concinnula Fowler, 1900 [Metcalf 1954b: 20]	USA: AZ, FL?, TX; Mexico (Guerrero, Jalisco, Puebla)	Doering 1932, Metcalf 1954b, Wilson & McPherson 1980b, Freund & Wilson 1995, Halbert et al. 2007

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conica (Say, 1830) [Metcalf 1954b: 21] = *Flata conica* Say, 1830: 238. = *Acanonia conica* (Say, 1830); comb. by Schaum 1850: 71. = *Poeciloptera* (?) *conica* (Say, 1830); comb. by Walker 1852: 1140. = *Chlorochara conica* (Say, 1830); comb. by Chittenden 1900: 98. = *Acanalonia conica* (Say, 1830); comb. by Melichar 1901a: 184, 189. = *Acanalonia panimae* Fowler, 1900: 47; syn. by Melichar 1901a: 189.	USA: AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NE, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA; CAN: ON (reported probably in error: Guatemala) Palearctic: Italy (adventive)	Doering 1932, Metcalf 1954b, Nixon & McPherson 1977, Wilson & McPherson 1980b, c, 1981a, b; Pechuman & Wheeler, 1981, Weber & Wilson 1981, Freund & Wilson 1995, Maw et al. 2000, D'Urso & Uliana 2004, 2006; Halbert et al. 2007, Benton & McCreadie 2009, Bartlett et al. 2011
excavata Van Duzee, 1933 [Metcalf 1954b: 24]	USA: FL (adventive); Nicaragua	Van Duzee 1933, Metcalf 1954b, Halbert et al. 2007
fasciata Metcalf, 1923 [Metcalf 1954b: 24]	USA: AZ, CO, NM, TX, UT; Mexico (Colima, Sinaloa)	Doering 1932, Metcalf 1954b, Freund & Wilson 1995
grandicella Doering, 1932 [Metcalf 1954b: 25]	USA: AZ, CA	Doering 1932, Metcalf 1954b, Freund & Wilson 1995
hadesensis Caldwell, 1938b [Metcalf 1954b: 25]	USA: TX	Caldwell 1938b, Metcalf 1954b, Ward et al. 1977, Freund & Wilson 1995
immaculata (Kirkaldy, 1907b) [Metcalf 1954b: 25, *Amphiscepa*]	USA: AZ; Mexico (Veracruz)	Doering 1932, Metcalf 1954b, Freund & Wilson 1995
invenusta Doering, 1932 [Metcalf 1954b: 26]	USA: NM, TX; Mexico (Chihuahua, Nuevo León)	Doering 1932, Metcalf 1954b, Ward et al. 1977, Freund & Wilson 1995
laticosta Doering, 1932 [Metcalf 1954b: 27]	USA: NM, TX	Doering 1932, Metcalf 1954b, Ward et al. 1977, Freund & Wilson 1995
mollicula Van Duzee, 1914 [Metcalf 1954b: 28]	USA: AZ, CA, NV, UT	Doering 1932, Metcalf 1954b, Freund & Wilson 1995
parva Doering, 1932 [Metcalf 1954b: 29]	USA: NM, TX	Doering 1932, Metcalf 1954b, Freund & Wilson 1995
planata Ball, 1933b [Metcalf 1954b: 29]	USA: TX	Metcalf 1954b, Freund & Wilson 1995
pumila (Van Duzee, 1908) [Metcalf 1954b: 30, *Amphiscepa*]	USA: FL, NC, TX; Bahama Islands (North Bimini, South Bimini); Belize, Bermuda; Cuba (inc. Isla de Pinos); Puerto Rico (Mona Island); Mexico (Quintana Roo); Dominican Republic	Doering 1932, Ramos 1947, Metcalf 1954b, Wilson & McPherson 1980b, Wheeler & Hoebeke 1982, Wilson & Hilburn 1991, Halbert et al. 2007, Freund & Wilson 1995
saltonia Ball, 1933b [Metcalf 1954b: 31]	USA: AZ, CA, NM, UT	Metcalf 1954b, Freund & Wilson 1995

servillei Spinola, 1839 [Metcalf 1954b: 31] = *Poeciloptera latifrons* Walker, 1851: 457. = *Acanalonia latifrons* (Walker, 1851); comb. by Dozier 1928: 108. = *Acanalonia latifrons* (Walker, 1851); syn. by Ball 1933b: 149; see also Fennah 1971a: 334–336. = *Acanalonia complanata* (Walker, 1851: 461); syn. by Fennah 1971a: 334–336.	USA: AL, FL, GA, LA, MD, MS, NC, NY, PA, SC, VA (doubtful records: Bahama, Brazil, Cuba, Haiti, Jamaica, St. Vincent)	Doering 1932, Metcalf 1954b, Fennah 1971a, Wilson & McPherson 1980b, Freund & Wilson 1995, Lago & Testa 2000, Halbert et al. 2007, Benton & McCreadie 2009, Bartlett et al. 2011 (Neotropical records in doubt)
similis Doering, 1932 [Metcalf 1954b: 34]	USA: AZ, NM, TX	Doering 1932, Metcalf 1954b, Freund & Wilson 1995
virescens Stål, 1864a [Metcalf 1954b: 37]	USA: FL, TX; Costa Rica; Guatemala; Mexico (Quintana Roo, Tamaulipas, Veracruz, Yucatán); Panama	Doering 1932, Metcalf 1954b, Wilson & McPherson 1980b, Freund & Wilson 1995, Halbert et al. 2007;
Philatis Stål, 1862c (Type species *Mycterodus productus* Stål, 1859). = ***Euthiscia*** Van Duzee, 1923 (Type species *Euthiscia signata* Van Duzee, 1923); syn. by Gnezdilov 2012: 645. = ***Galapagosana*** Distant, 1909 (Type species *Issus rostrifer* Butler, 1877); syn. by Gnezdilov 2012: 645.		
tuberculata (Van Duzee, 1923) [Metcalf 1958: 212] = *Euthiscia tuberculata* Van Duzee, 1923: 193–194. = *Philatis tuberculata* (Van Duzee, 1923); comb. by Gnezdilov 2012: 646.	USA: AZ, CA; Mexico (Baja California, Baja California Sur, Isla Monserrate)	Doering 1938, Metcalf 1958
FAMILY ACHILIDAE		
Achilinae Stål, 1866		
Achilini Stål, 1866 = **Elidipterini** Fennah 1950a; syn. by Emeljanov 1992: 53.		
Uniptera Ball, 1933a (Type species *Uniptera ampliata* Ball, 1933a).		
ampliata Ball, 1933a [Metcalf 1948: 45]	USA: CA	Metcalf 1948
Myconini Fennah, 1950a		
Cixidia Fieber, 1866a (Type species *Cicada confinis* Zetterstedt, 1828). = ***Epiptera*** Metcalf, 1922; status (subgenus) by Anufriev 1969: 173–174 (Type species *Flata opaca* Say, 1830).		
Subgenus Epiptera Metcalf, 1922		
brittoni (Metcalf, 1923) [Metcalf 1948: 48] = *Epiptera brittoni* Metcalf, 1923: 175. = *Cixidia (Epiptera) brittoni* (Metcalf, 1923); comb. by implication Anufriev 1969: 173–174.	USA: CT, NC, NY, PA, RI; CAN: BC, MB, NB, ON, QC, SK	Metcalf 1948, Beirne 1950b, Wilson & McPherson 1980b, Wheeler & Wilson 1996, Maw et al. 2000

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colorata (Van Duzee, 1908) [Metcalf 1948: 48] = *Helicoptera colorata* Van Duzee, 1908: 476. = *Elidiptera colorata* (Van Duzee, 1908); comb. by Van Duzee 1910b: 262. = *Epiptera colorata* (Van Duzee, 1908); comb. by Metcalf 1923: 264. = *Cixidia (Epiptera) colorata* (Van Duzee, 1908); comb. by implication Anufriev 1969: 173–174.	USA: ME, NY, VA, WI	Metcalf 1948, Wilson & McPherson 1980b
confusa (Beirne, 1950b) = *Helicoptera pallida* Van Duzee, 1908 (nec Say, 1830). = *Epiptera pallida* (Van Duzee, 1908) (nec Say, 1830); comb. by Metcalf 1923: 264. = *Epiptera confusa* Beirne, 1950b: 189; replacement name for *Helicoptera pallida* Van Duzee, 1908 (nec Say, 1830). = *Cixidia (Epiptera) confusa* (Beirne, 1950b); comb. by implication Anufriev 1969: 173–174.	USA: MA, ME, MN, MS; CAN: AB, BC, LB, MB, NB, ON, QC, SK, YK	Beirne 1950b, Kontkanen 1958, Maw et al. 2000
fusca (Walker, 1851) [Metcalf 1948: 44] = *Monopsis fusca* Walker, 1851: 326. = *Helicoptera fusca* (Walker, 1851); comb. by Van Duzee 1908: 476. = *Elidiptera fusca* (Walker, 1851); comb. by Metcalf 1948: 44. = *Epiptera fusca* (Walker, 1851); comb. by Fennah 1950a: 20. = *Epiptera floridae* (Walker, 1851); syn. by Fennah 1950a: 20. = *Cixidia (Epiptera) fusca* (Walker, 1851); comb. by implication Anufriev 1969: 173–174; also Bartlett et al. 2011: 5, 11.	USA: AL, CO, DC, DE, FL, GA, LA, MD, MN, MS, NC, NJ, NM, NY, PA, RI, TX, VA, WI; CAN: ON, QC; Puerto Rico?	Metcalf 1948, Beirne 1950b, Caldwell & Martorell 1951, Hepburn 1967, Wilson & McPherson 1980b, Maw et al. 2000, Bartlett et al. 2011
fusiformis (Van Duzee, 1910b) [Metcalf 1948: 49] = *Elidiptera fusiformis* Van Duzee, 1910b: 82. = *Epiptera fusiformis* (Van Duzee, 1910b); comb. by Metcalf 1948: 49. = *Cixidia (Epiptera) fusiformis* (Van Duzee, 1910b); comb. by implication Anufriev 1969: 173–174.	USA: CA, OR, WA; CAN: BC	Metcalf 1948, Beirne 1950b, Maw et al. 2000
henshawi (Van Duzee, 1910b) [Metcalf 1948: 50] = *Elidiptera henshawi* Van Duzee, 1910b: 83. = *Epiptera henshawi* (Van Duzee, 1910b); comb. by Downes 1927: 21. = *Cixidia (Epiptera) henshawi* (Van Duzee, 1910b); comb. by implication Anufriev 1969: 173–174.	USA: CA, CO, ID, MT, NV, OR, WA; CAN: AB, BC	Metcalf 1948, Beirne 1950b, Maw et al. 2000
manitobiana (Beirne, 1950b) = *Epiptera manitobiana* Beirne, 1950b: 187. = *Cixidia (Epiptera) manitobiana* (Beirne, 1950b); comb. by implication Anufriev 1969: 173–174.	USA: CA; CAN: AB, BC, MB, NB, QC, SK, YK	Beirne 1950b, Maw et al. 2000

opaca (Say, 1830) [Metcalf 1948: 53] = *Flata opaca* Say, 1830: 239. = *Elidiptera opaca* (Say, 1830); comb. by Glover 1878: 1; Moore 1950a: 255; b: 30. = *Helicoptera opaca* (Say, 1830); comb. by Uhler 1884: 239. = *Epiptera opaca* (Say, 1830); comb. by Metcalf 1922: 263. = *Cixidia (Epiptera) opaca* (Say, 1830); comb. by implication Anufriev 1969: 173–174; also Bartlett et al. 2011: 5, 11.	USA: DE, FL, GA, IL, IN, MA, MD, MN?, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, VA; CAN: BC, ON, QC	Metcalf 1948, Beirne 1950b, Moore 1950a, b; Wilson & McPherson 1980a, b, c; Wilson 1983, Maw et al. 2000, Bartlett et al. 2011
pallida (Say, 1830) [Metcalf 1948: 55] = *Flata pallida* Say, 1830: 240. = *Helicoptera pallida* (Say, 1830); comb. by Van Duzee 1890: 389. = *Elidiptera pallida* (Say, 1830); comb. by Smith 1910: 95; Moore 1950a: 255; b: 30. = *Epiptera pallida* (Say, 1830); comb. by Metcalf 1922: 263. = *Cixidia (Epiptera) pallida* (Say, 1830); comb. by implication Anufriev 1969: 173–174; also Bartlett et al. 2011: 11.	USA: CA, DC, FL, LA, MS, NC, NH, NJ, NY, PA; CAN: AB, BC, LB, MB, NT, ON, QC, SK, YK	Metcalf 1948, Beirne 1950b, Moore 1950a, b; Strickland 1953, Kontkanen 1958, Weber & Wilson 1981, Wilson & McPherson 1980a, b; Maw et al. 2000, Bartlett et al. 2011
septentrionalis (Provancher, 1889) [Metcalf 1948: 56] = *Helicoptera septentrionalis* Provancher, 1889: 220. = *Elidiptera septentrionalis* (Provancher, 1889); comb. by Smith 1910: 95; Moore 1950a: 255; b: 30. = *Epiptera septentrionalis* (Provancher, 1889); comb. by Metcalf 1922: 263. = *Cixidia (Epiptera) septentrionalis* (Provancher, 1889); comb. by implication Anufriev 1969: 173–174; also Bartlett et al. 2011: 11.	USA: DC, ME, MN, NH, NJ, NY, PA, WI; CAN: AB, BC, LB, MB, NB, ON, QC, SK	Metcalf 1948, Beirne 1950b, Moore 1950a, b; Strickland 1953, Wilson & McPherson 1980b, Maw et al. 2000, Bartlett et al. 2011
shoshone (Ball, 1933a) [Metcalf 1948: 57] = *Epiptera shoshone* Ball, 1933a: 133. = *Cixidia (Epiptera) shoshone* (Ball, 1933a); comb. by implication Anufriev 1969: 173–174.	USA: AZ, ID, NM, WY	Metcalf 1948
slossonae (Van Duzee, 1908) [Metcalf 1948: 57] = *Helicoptera slossoni* Van Duzee, 1908: 478. = *Elidiptera slossoni* (Van Duzee, 1908); comb. by Van Duzee 1910b: 262. = *Epiptera slossoni* (Van Duzee, 1908); comb. by Metcalf 1922: 263. = *Elidiptera slossini* (Van Duzee, 1908); comb. and missp. by Moore 1950a: 255; b: 30. = *Epiptera slossonae* (Van Duzee, 1908); emendation by Maw et al. 2000: 81. = *Cixidia (Epiptera) slossonae* (Van Duzee, 1908); comb. by implication Anufriev 1969: 173–174.	USA: AK, ME, MN, NH, NY; CAN: BC?, NT?, ON, QC	Osborn 1922, Metcalf 1948, Beirne 1950b, Moore 1950a, b; Hepburn 1967, Wilson & McPherson 1980b, Maw et al. 2000

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variegata (Van Duzee, 1908) [Metcalf 1948: 58] = *Helicoptera variegata* Van Duzee, 1908: 479. = *Elidiptera variegata* (Van Duzee, 1908); comb. by Smith 1910: 95. = *Epiptera variegata* (Van Duzee, 1908); comb. by Metcalf 1922: 263. = *Cixidia (Epiptera) variegata* (Van Duzee, 1908); comb. by implication Anufriev 1969: 173–174; also Bartlett et al. 2011: 5, 11.	USA: AL, AR, CT, DC, DE, IL, LA, MA, MD, ME, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA; CAN: NB, ON, QC	Proctor 1946, Metcalf 1948, Beirne 1950b, Wilson & McPherson 1980a, b, c; Wheeler & Wilson 1996, Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
woodworthi (Van Duzee, 1916b) [Metcalf 1948: 58] = *Elidiptera woodworthi* Van Duzee, 1916b: 245. = *Epiptera woodworthi* (Van Duzee, 1916b); comb. by Ball 1933: 133. = *Cixidia (Epiptera) woodworthi* (Van Duzee, 1916b); comb. by implication Anufriev 1969: 173–174.	USA: AK, CA, ID, OR, WY; CAN: YK	Metcalf 1948, Liang & O'Brien 2002
Plectoderini Fennah, 1950a		
Catonia Uhler, 1895 (Type species *Flata nava* Say 1830).		
arbutina Ball, 1933a [Metcalf 1948: 26]	USA: AZ	Metcalf 1948, O'Brien 1971
bicinctura Van Duzee, 1915 [Metcalf 1948: 26]	USA: AL, FL, GA, LA, MA, ME, MI, MO, MS, NC, NH, NJ, OH, SC, TN, TX	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980b, Weber & Wilson 1981, Benton & McCreadie 2009
carolina Metcalf, 1923 [Metcalf 1948: 26]	USA: AL, AR, DC, DE, FL, GA, IL, KS, LA, MD, MO, NC, NJ, OH, PA, SC, TN, TX, VA	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980a, b, c; Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
cinctifrons (Fitch, 1856) [Metcalf 1948: 27, *Cixius*]	USA: CT, DC, DE, FL, GA, IA, IL, IN, KS, MA, MD, NC, NH, NJ, NY, OH, PA, SC, TN, TX, VA, WV	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980a, b, c; Wheeler & Wilson 1996, Gonzon et al. 2006, Bartlett et al. 2011
lunata Metcalf, 1923 [Metcalf 1948: 31]	USA: AL, CT, DC, FL, GA, KS, IL, LA, MA, MD, MO, MS, NC, NH, NJ, NY, OH, SC, TX, VA; CAN: ON	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980b, Maw et al. 2000, Bartlett et al. 2011
nava (Say, 1830) [Metcalf 1948: 32, *Flata*] = *Catonia nava bifasciata* Metcalf, 1948: 33; **new synonymy.**	USA: AR, DC, DE, FL, GA, IA, IL, IN, KS, LA, MD, MO, MS, NC, NE, NY, OH, PA, TN, TX, VA; CAN: ON	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
picta Van Duzee, 1908 [Metcalf 1948: 34]	USA: AL, CT, DE, FL, GA, LA, MS, NC, NJ, NY, TX, VA	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980b, Weber & Wilson 1981, Wheeler & Wilson 1996, Bartlett et al. 2011
pini Metcalf, 1923 [Metcalf 1948: 34]	USA: FL, GA, LA, MS, NC, NJ	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980b

pumila Van Duzee, 1908 [Metcalf 1948: 34]	USA: AL, CT, DC, DE, GA, IA, IL, IN, KS, LA, MA, MD, MN, MO, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Wilson et al. 1993, Wheeler & Wilson 1996, Benton & McCreadie 2009, Bartlett et al. 2011
texana O'Brien, 1971	USA: TX	O'Brien 1971
Juniperthia O'Brien, 1985 (Type species *Catonia succinea* Van Duzee, 1916b); replacement name for preoccupied *Juniperia* O'Brien, 1971 (nec Linnavuori 1965). = ***Juniperia*** O'Brien, 1971 (nec Linnavuori 1965); syn. by O'Brien 1985.		
indella (Ball, 1933a) [Metcalf 1948: 31] = *Catonia indella* Ball, 1933a: 136. = *Juniperia indella* (Ball, 1933a); comb. by O'Brien 1971: 61–62. = *Juniperthia indella* (Ball, 1933a); comb. by implication O'Brien 1985: 657.	USA: CA, NV	Metcalf 1948, O'Brien 1971
majuscula (Van Duzee, 1912a) [Metcalf 1948: 32] = *Catonia majuscula* Van Duzee, 1912a: 492. = *Juniperia majuscula* (Van Duzee, 1912a); comb. by O'Brien 1971. = *Juniperthia majuscula* (Van Duzee, 1912a); comb. by implication O'Brien 1985: 657.	USA: AZ, CA	Metcalf 1948, O'Brien 1971
producta (Van Duzee, 1915) [Metcalf 1948: 34] = *Catonia producta* Van Duzee, 1915. = *Juniperia producta* (Van Duzee, 1915); comb. by O'Brien 1971: 58–59. = *Juniperthia producta* (Van Duzee, 1915); comb. by implication O'Brien 1985: 657.	USA: CA	Metcalf 1948, O'Brien 1971
succinea (Van Duzee, 1916b) [Metcalf 1948: 35] = *Catonia succinea* Van Duzee, 1916b: 247. = *Juniperia succinea* (Van Duzee, 1916b); comb. by O'Brien 1971: 59–60. = *Juniperthia succinea* (Van Duzee, 1916b); comb. by implication O'Brien 1985: 657.	USA: CA, NE	Metcalf 1948, O'Brien 1971
unimaculata (O'Brien, 1971) = *Juniperia unimaculata* O'Brien, 1971. = *Juniperthia unimaculata* (O'Brien, 1971); comb. by implication O'Brien 1985: 657.	USA: CA	O'Brien 1971
Momar Fennah, 1950a (Type species *Plectoderes lineatocollis* Fowler, 1904).		
fumidus (Ball, 1933a) [Metcalf 1948: 29] = *Catonia fumida* Ball, 1933a: 135. = *Momar fumidus* (Ball, 1933a); comb. by O'Brien 1971: 55–56.	USA: AZ, CA; Mexico (Sonora, Chihuahua)	Metcalf 1948, O'Brien 1971
maculifrons (Van Duzee, 1912a) [Metcalf 1948: 32] = *Catonia maculifrons* Van Duzee, 1912a: 491. = *Momar maculifrons* (Van Duzee, 1912a); comb. by O'Brien 1971: 53–55.	USA: AZ, NM, TX, UT; Mexico (Chihuahua)	Metcalf 1948, O'Brien 1971
Opsiplanon Fennah, 1945a (Type species *Opsiplanon ornatifrons* Fennah, 1945a).		

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luellus (Metcalf, 1923) [Metcalf 1948: 31] = *Catonia luella* Metcalf, 1923: 177. = *Opsiplanon luellus* (Metcalf, 1923); comb. by O'Brien 1971: 27–28.	USA: FL, GA, KS, MS, NC, SC, TX	Metcalf 1948, O'Brien 1971, Wilson & McPherson 1980b
Synecdoche O'Brien, 1971 (Type species *Catonia grisea* Van Duzee, 1908).		
albicosta (Van Duzee, 1917a) [Metcalf 1948: 25] = *Catonia albicosta* Van Duzee, 1917a: 306. = *Synecdoche albicosta* (Van Duzee, 1917a); comb. by O'Brien 1971: 30–31.	USA: CA	Metcalf 1948, O'Brien 1971
autumnalis O'Brien, 1971	USA: CA	O'Brien 1971
bifoveata O'Brien, 1971	USA: CA	O'Brien 1971
cara (Van Duzee, 1910a) [Metcalf 1948: 26] = *Catonia cara* Van Duzee, 1910a: 86. = *Synecdoche cara* (Van Duzee, 1910a); comb. by O'Brien 1971: 37–38.	USA: CA	Metcalf 1948, O'Brien 1971
clara (Van Duzee, 1917a) [Metcalf 1948: 28] = *Catonia clara* Van Duzee, 1917a: 306. = *Synecdoche clara* (Van Duzee, 1917a); comb. by O'Brien 1971: 44–45.	USA: CA	Metcalf 1948, O'Brien 1971
constellata (Ball, 1933a) [Metcalf 1948: 28] = *Catonia constellata* Ball, 1933a: 137. = *Synecdoche constellata* (Ball, 1933a); comb. by O'Brien 1971: 38–39.	USA: CA, WA; CAN: BC	Metcalf 1948, O'Brien 1971, Maw et al. 2000
costata (Van Duzee, 1910a) [Metcalf 1948: 28] = *Catonia costata* Van Duzee, 1910a: 86. = *Synecdoche costata* (Van Duzee, 1910a); comb. by O'Brien 1971: 31–32.	USA: CA; Mexico (Baja California)	Metcalf 1948, O'Brien 1971
dimidiata (Van Duzee, 1910a) [Metcalf 1948: 28] = *Catonia dimidiata* Van Duzee, 1910a: 46. = *Synecdoche dimidiata* (Van Duzee, 1910a); comb. by O'Brien 1971: 49.	USA: CT, FL, GA, MD, ME, NC, NH, NJ, NY, OH, PA, RI, VA, WV; CAN: ON, NS, QC	Proctor 1946, Metcalf 1948, Moore 1950a, b; O'Brien 1971, Wilson & McPherson 1980b, Wheeler & Wilson 1996, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
flavicosta O'Brien, 1971	USA: CA	O'Brien 1971
fusca (Van Duzee, 1908) [Metcalf 1948: 29] = *Catonia fusca* Van Duzee, 1908: 481. = *Synecdoche fusca* (Van Duzee, 1908); comb. by O'Brien 1971: 46–47.	USA: CA	Metcalf 1948, O'Brien 1971
grisea (Van Duzee, 1908) [Metcalf 1948: 29] = *Catonia grisea* Van Duzee, 1908: 482. = *Synecdoche grisea* (Van Duzee, 1908); comb. by O'Brien 1971: 43–44.	USA: CT, IA, IL, IN, KY, LA, MD, MI, NC, NY, OH, PA, TN, VA; CAN: ON, QC	Metcalf 1948, Moore 1950a, b; O'Brien 1971, Wilson & McPherson 1980a, b; Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Bartlett et al. 2011
helenae (Van Duzee, 1918) [Metcalf 1948: 29] = *Catonia helenae* Van Duzee, 1918: 306. = *Synecdoche helenae* (Van Duzee, 1918); comb. by O'Brien 1971: 50–51.	USA: CA	Metcalf 1948, O'Brien 1971

impunctata (Fitch, 1851) [Metcalf 1948: 30] = *Cixius impunctatus* Fitch, 1851: 46. = *Catonia impunctata* (Fitch, 1851); comb. by Van Duzee 1908: 480. = *Synecdoche impunctata* (Fitch, 1851); comb. by O'Brien 1971: 49–50. = *Synecdoche impunctatus* (Fitch, 1851); unjustified emendation by Poole & Gentili 1997: 260.	USA: CT, DC, DE, GA, IA, IL, IN, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, OK, PA, RI, TN, VA, WV; CAN: ON, QC	Metcalf 1948, Moore 1950a, b; O'Brien 1971, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Wheeler & Wilson 1996, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Bartlett et al. 2011
irrorata (Van Duzee, 1914) [Metcalf 1948: 31] = *Catonia irrorata* Van Duzee, 1914: 35. = *Synecdoche irrorata* (Van Duzee, 1914); comb. by O'Brien 1971: 47–48.	USA: CA; Mexico (Baja California)	Metcalf 1948, O'Brien 1971
necopina (Van Duzee, 1918) [Metcalf 1948: 33] = *Catonia necopina* Van Duzee, 1918: 307. = *Synecdoche necopina* (Van Duzee, 1918); comb. by O'Brien 1971: 32–33.	USA: CA; Mexico (Baja California)	Metcalf 1948, O'Brien 1971
nemoralis (Van Duzee, 1916b) [Metcalf 1948: 33] = *Catonia nemoralis* Van Duzee, 1916b: 246. = *Synecdoche nemoralis* (Van Duzee, 1916b); comb. by O'Brien 1971: 39–43.	USA: AZ, CA, CO, NV, OR, UT, WA; CAN: BC	Metcalf 1948, O'Brien 1971, Maw et al. 2000
nervata (Van Duzee, 1910b) [Metcalf 1948: 33] = *Catonia nervata* Van Duzee, 1910b: 265. = *Synecdoche nervata* (Van Duzee, 1910b); comb. by O'Brien 1971: 34.	USA: CA	Metcalf 1948, O'Brien 1971
ocellata O'Brien, 1971	USA: CA	O'Brien 1971
pseudonervata O'Brien, 1971	USA: CA; Mexico (Baja California)	O'Brien 1971
rubella (Van Duzee, 1910b) [Metcalf 1948: 35] = *Catonia rubella* Van Duzee, 1910b: 262. = *Synecdoche rubella* (Van Duzee, 1910b); comb. by O'Brien 1971: 35–37.	USA: CA, OR	Metcalf 1948, O'Brien 1971
tricolor O'Brien, 1971	USA: AZ	O'Brien 1971
Xerbus O'Brien, 1971 (Type species *Catonia brunnella* Ball, 1933a).		
brunnellus (Ball, 1933a) [Metcalf 1948: 26] = *Catonia brunnella* Ball, 1933a: 137. = *Xerbus brunnellus* (Ball, 1933a); comb. by O'Brien 1971: 52.	USA: AZ	Metcalf 1948, O'Brien 1971

FAMILY CALISCELIDAE

Caliscelinae Amyot & Serville, 1843

Caliscelini Amyot & Serville, 1843

Aphelonema Uhler, 1876 (Type species *Aphelonema simplex* Uhler, 1876).
= ***Peltonotus*** Mulsant & Rey 1855 (nec Burmeister 1847) (Type species *Peltonotus raniformis* Mulsant & Rey 1855).
= ***Peltonotellus*** Puton 1886; replacement name for unavailable *Peltonotus* Mulsant & Rey 1855 (nec Burmeister 1847); syn. by Melichar 1906: 36, 53; removed from syn. and redefined by Emeljanov 1996c: 994.
= ***Mushya*** Kato, 1933 (Type species *Mushya quadrivittata* Kato, 1933); syn. by Chan & Yang 1994: 8.

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Subgenus *Aphelonema* Uhler, 1876		
decorata (Van Duzee, 1908) [Metcalf 1958: 76, *Peltonotellus*]	USA: MS, NJ, SC, FL	Doering 1941, Metcalf 1958, Wilson & McPherson 1980b, Lago & Testa 2000, Bartlett et al. 2011
simplex Uhler, 1876 [Metcalf 1958: 86] = *Aphelonema simplex* var. *simplex* Uhler, 1876: 356; status by Ball 1926: 242. = *Aphelonema rosa* Metcalf, 1923: 188; syn. by Doering 1941: 190.	USA: AL, CO, CT, DE, FL, IA, IL, KS, MD, MI, MO, MS, NC, NE, NJ, OH, SD, TX, VA; CAN: MB, ON, SK	Doering 1941, Metcalf 1958, Davis & Gray 1966, Wilson & McPherson 1980a, b; Wilson et al. 1993, Lago & Testa 2000, Maw et al. 2000, Bartlett et al. 2011
simplex var. *dorsata* Ball, 1926 [Metcalf 1958: 87]	USA: FL	Doering 1941, Metcalf 1958
Subgenus *Nenema* Emeljanov 1996 (Type species *Peltonotellus bivittatus* Ball 1902b)		
bivittata (Ball, 1902b) [Metcalf 1958: 74] = *Peltonotellus bivittatus* Ball 1902b: 263; also Maw et al. 2000: 82. = *Aphelonema bivittata* (Ball, 1902b); comb. by Van Duzee 1916a: 80.	USA: AZ, CA, CO, IA, KS, ND, NE, NM, OK, TX; CAN: AB, SK; Mexico (Chihuahua, Coahuila, Federal District)	Doering 1941, Metcalf 1958, Maw et al. 2000
concinna Doering, 1941 [Metcalf 1958: 75]	USA: NV	Doering 1941, Metcalf 1958
confragosa Doering, 1941 [Metcalf 1958: 75]	USA: AZ, NM, NV, TX	Doering 1941, Metcalf 1958
convergens Bunn, 1930 [Metcalf 1958: 75]	USA: AZ, CO, NM	Doering 1941, Metcalf 1958
convergens var. *canyonensia* Bunn, 1930 [Metcalf 1958: 76]	USA: AZ	Doering 1941, Metcalf 1958
histrionica (Stål, 1862a) [Metcalf 1958: 77] = *Peltonotus histrionicus* Stål, 1862a: 310. = *Peltonotellus histrionicus* (Stål, 1862a); comb. by Ball 1902b: 263; also Maw et al. 2000: 82. = *Aphelonema histrionica* (Stål, 1862a); comb. by Van Duzee 1916a: 80.	USA: AZ, CA, CO, IA, IL, MA, MD, MI, MN, MO, MT, NH, NM, NV, NY, OR, PA, WI; CAN: AB, BC, MB, NB, NF, NS, ON, PE, QC, SK, YK	Doering 1941, Moore 1950a, b; Metcalf 1958, Kontkanen 1958, Wilson & McPherson 1980a, b; Wilson et al. 1993, Maw et al. 2000, Bartlett et al. 2011
histrionica var. *giffardi* Van Duzee, 1917a [Metcalf 1958: 79]	USA: CA, CO	Metcalf 1958
rugosa (Ball, 1902b) [Metcalf 1958: 84] = *Peltonotellus rugosus* Ball, 1902b: 263; Maw et al. 2000: 82. = *Aphelonema rugosa* (Ball, 1902b); comb. by Kirkaldy 1913: 25–26.	USA: AZ, CA, CO, IA, ID, KS, MN, MT, NE, NM, OK, OR, SD, TX, UT, WA, WY; CAN: AB, SK (MD record possibly in error); Belize	Doering 1941, Metcalf 1958, Wilson & McPherson 1980b, Maw et al. 2000, Bartlett et al. 2011
virgata Doering, 1941 [Metcalf 1958: 88]	USA: AZ, NM	Doering 1941, Metcalf 1958
Subgenus *Protrocha* Emeljanov 1996 (Type species *Aphelonema orbiculata* Ball, 1935a).		
impercepta Doering, 1941 [Metcalf 1958: 79]	USA: AZ	Doering 1941, Metcalf 1958
minuta Bunn, 1930 [Metcalf 1958: 80]	USA: AZ	Doering 1941, Metcalf 1958
nigriviridia Ball, 1926 [Metcalf 1958: 80]	USA: FL	Doering 1941, Metcalf 1958, Wilson & McPherson 1980b
obscura Van Duzee, 1912a [Metcalf 1958: 80]	USA: FL, GA, IA, KS, MS	Doering 1941, Metcalf 1958, Wilson & McPherson 1980b
orbiculata Ball, 1935a [Metcalf 1958: 81]	USA: NM, TX; Mexico (Federal District, Mexico, Puebla, Veracruz)	Doering 1941, Metcalf 1958

solitaria Ball, 1935a [Metcalf 1958: 88]	USA: AZ	Doering 1941, Metcalf 1958
viridis Dozier, 1928 [Metcalf 1958: 88]	USA: MS	Doering 1941, Metcalf 1958, Wilson & McPherson 1980b
Bruchomorpha Newman, 1838 (Type species *Bruchomorpha oculata* Newman, 1838). = ***Brucomorpha***, missp. by Wray 1967: 30. = ***Embolonia*** Provancher, 1889 (Type species *Embolonia tricarinata* Provancher, 1889: syn. by Van Duzee 1912b: 327 (*Embolonia tricarinata* jr. syn. of *Bruchomorpha oculata* Newman, 1838).		
abrupta Ball, 1935b [Metcalf 1958: 51]	USA: CO, FL, GA, NM, OK, TX	Doering 1939, Metcalf 1958, Wilson & McPherson 1980b, Wilson & Wheeler 2010
beameri Doering, 1939 [Metcalf 1958: 52]	USA: AZ, CA, CO, MT, ND, WA; CAN: AB, BC, MB, SK	Doering 1939, Metcalf 1958, Maw et al. 2000, Hamilton 2002b
bunni Doering, 1939 [Metcalf 1958: 52]	USA: AZ, NM	Doering 1939, Metcalf 1958, Wilson & Wheeler 2010
decorata Metcalf, 1923 [Metcalf 1958: 52] = *Bruchomorpha decorata decorata* Metcalf, 1923; status by Caldwell 1945: 94.	USA: AZ, TX: Mexico (Federal District, Morelia, Nuevo León, San Luis Potosí, Sonora, Tabasco, Tamaulipas)	Doering 1939, Caldwell 1945, Metcalf 1958
dorsata Fitch, 1856 [Metcalf 1958: 53]	USA: AR, CA, CO, CT, GA, IA, IL, KS, MO, MS, NC, NJ, NY, OH, OK, PA, SC, SD, TX, WI; CAN: BC, MB, ON, SK (also "Dakota")	Doering 1939, Metcalf 1958, Wilson & McPherson 1980a, b; Wilson et al. 1993, Maw et al. 2000, Bouchard et al. 2001, Wilson & Wheeler 2010, Bartlett et al. 2011
extensa Ball, 1935b [Metcalf 1958: 55]	USA: AZ, CA, ID, KS, NC?, NM, OK, TX, UT	Doering 1939, Metcalf 1958
jocosa Stål, 1862a [Metcalf 1958: 55]	USA: DC, FL, IA, IL, KS, KY, MO, MS, NC, NE, NJ, OK, SC, TX, VA, WI; CAN: MB, SK	Doering 1939, Metcalf 1958, Wilson & McPherson 1980a, b, c; Wilson et al. 1993, Maw et al. 2000, Wilson & Wheeler 2010, Bartlett et al. 2011
jocosa var. *craniata* Ball, 1935b [Metcalf 1958: 56]	USA: IA, KS, NE, WI	Doering 1939, Metcalf 1958
jocosa var. *obscura* Ball, 1935b [Metcalf 1958: 57]	USA: DC, FL, MS, NJ, VA	Doering 1939, Metcalf 1958
keidensia Doering, 1939 [Metcalf 1958: 57]	CAN: AB, MB, SK	Doering 1939, Metcalf 1958, Maw et al. 2000
minima Metcalf, 1923 [Metcalf 1958: 57]	USA: FL, GA, MS, NC	Doering 1939, Metcalf 1958, Wray 1967, Wilson & McPherson 1980b, Gonzon et al. 2006
mormo Kirkaldy, 1907b [Metcalf 1958: 58]	USA: AZ, TX (reported in error: USA: NC)	Doering 1939, Metcalf 1958, Wilson & McPherson 1980b
nodosa Doering, 1939 [Metcalf 1958: 58]	USA: AZ, KS, LA, NE, OK, TX	Doering 1939, Metcalf 1958, Wilson & McPherson 1980b, Wilson & Wheeler 2010

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oculata Newman, 1838 [Metcalf 1958: 59] = *Bruchomorpha oculata oculata* Newman, 1838: 399; status by Ball 1935b: 201. = *Bruchomorpha oculata nasuta* Stål, 1862a: 310; status by Ball 1935b: 201. = *Bruchomorpha nasuta* Stål, 1862a; syn. by Doering 1939: 113–115.	USA: AR, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI; CAN: ON, PE, QC	Doering 1939, Proctor 1946, Moore 1950a, b; Metcalf 1958, Kontkanen 1958,Wilson & McPherson 1980a, b, c, 1981c; Weber & Wilson 1981, Wilson et al. 1993, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Wilson & Wheeler 2010, Bartlett et al. 2011
oculata var. *nigrata* Ball, 1935b [Metcalf 1958: 63]	USA: FL	Metcalf 1958
pallidipes Stål, 1862a [Metcalf 1958: 63]	USA: AL, CO, DC, DE, FL, IL, KS, LA, MD, MO, MS, NJ, OH, NC, SC, VA	Doering 1939, Metcalf 1958, Wilson & McPherson 1980a, b, c; Wilson et al. 1993, Bartlett et al. 2011
rosea Doering, 1939 [Metcalf 1958: 64]	USA: AZ, NM, TX	Doering 1939, Metcalf 1958
rugosa Metcalf, 1923 [Metcalf 1958: 64]	USA: AZ, TX	Doering 1939, Metcalf 1958
suturalis Melichar, 1906 [Metcalf 1958: 64]	USA: AZ, CA, CO, NM, OK, TX (NC, FL, MS records in error)	Doering 1939, Metcalf 1958, Wilson & McPherson 1980b
tenebrosa Doering, 1939 [Metcalf 1958: 65]	USA: FL	Doering 1939, Metcalf 1958, Wilson & McPherson 1980b
tristis Stål, 1862a [Metcalf 1958: 65]	USA: AZ, CA, CO, CT, DC, FL, IA, IL, IN, KS, LA, MN, MT, NC, NE, NJ, NY, OH, OR, TX, WA, WI; CAN: AB, MB, ON, SK	Doering 1939, Metcalf 1958, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Maw et al. 2000, Bartlett et al. 2011
triunata Ball, 1935b [Metcalf 1958: 67]	USA: AZ	Doering 1939, Metcalf 1958
vittata Metcalf, 1923 [Metcalf 1958: 67]	USA: TX	Doering 1939, Metcalf 1958
Caliscelis Laporte de Castelnau, 1833 (Type species *Caliscelis heterodoxa* Laporte de Castelnau, 1833; jr. syn. of *Fulgora bonellii* Latreille, 1807). = ***Caloscelis*** Burmeister, 1835; replacement name for *Caliscelis* Laporte de Castelnau, 1833). = ***Phyllocnemis*** Schaum, 1850 (Type species *Caloscelis stemmalis* Burmeister, 1835); syn. with *Caloscelis* Burmeister 1835 by Marschall 1873: 377. = ***Mejonosoma*** Costa, 1834 (Type species *Mejonosoma grisea* Costa, 1834; jr. syn. of Fulgora *bonellii* Latreille, 1807); syn. by Puton 1883: 287.		
bonellii (Latreille, 1807) [Metcalf 1958: 29, *Fulgora*]	USA: CA (adventive); Palearctic (Mediterranean region; Austria, Croatia, France, Herzegovina, Hungary, Italy, Portugal, Russia, Sardinia, Serbia, Sicily, Spain)	Metcalf 1958, O'Brien 1967, 1988a, Holzinger et al. 2003, Wilson 2005

Fitchiella Van Duzee, 1917b (Type species *Naso robertsonii* Fitch, 1856) (replacement name for unavailable *Naso* Fitch 1856) = ***Naso*** Fitch, 1856 (nec La Cépède, 1801) (Type species *Naso robertsoni* Fitch, 1856)		
albifrons Lawson, 1933 [Metcalf 1958: 44]	USA: AZ, TX	Doering 1941, Metcalf 1958
fitchii (Melichar, 1906) [Metcalf 1958: 44, *Naso*]	USA: CO, KS	Doering 1941, Metcalf 1958
grandis Lawson, 1933 [Metcalf 1958: 45]	USA: AZ	Doering 1941, Metcalf 1958
mediana Lawson, 1933 [Metcalf 1958: 45]	USA: AZ, CA	Doering 1941, Metcalf 1958
melichari (Ball, 1910) [Metcalf 1958: 45, *Naso*]	USA: AZ	Doering 1941, Metcalf 1958
minor Lawson, 1933 [Metcalf 1958: 46]	USA: AZ	Doering 1941, Metcalf 1958
robertsonii (Fitch, 1856) [Metcalf 1958: 46, *Naso*]	USA: AR, FL, IL, IN, KS, MD, MN, MO, MS, NE, NY, OH, OK, PA, TX, WI; CAN: ON	Doering 1941, Metcalf 1958, Wilson & McPherson 1980a, b; Maw et al. 2000, Bess 2005, Bartlett et al. 2011
rufipes Lawson, 1933 [Metcalf 1958: 47]	USA: AZ, CA, NM, NV, TX, UT; Mexico (Chihuahua)	Doering 1941, Metcalf 1958, Wilson & Wheeler 2010
Ommatidiotini Fieber, 1875		
Asarcopus Horváth, 1921 (Type species *Asarcopus palmarum* Horváth, 1921).		
palmarum Horváth, 1921 [Metcalf 1958: 115]	USA: CA (adventive) Egypt, Ethiopia, India, Israel, Mali, Sudan	Metcalf 1958, Linnavuori 1973, O'Brien 1988a, Wilson 2005, Gnezdilov & Bourgoin 2009
Papagona Ball, 1935a (Type species *Papagona papoosa* Ball, 1935a).		
papoosa Ball, 1935a [Metcalf 1958: 116]	USA: AZ	Doering 1939, Metcalf 1958
succinea Ball, 1935a [Metcalf 1958: 116]	USA: AZ	Doering 1939, Metcalf 1958
FAMILY CIXIIDAE		
Bothriocerinae Muir, 1923		
Bothriocerini Muir, 1923		
Bothriocera Burmeister, 1835 (Type species *Bothriocera tinealis* Burmeister, 1835). =***Adana*** Stål, 1856 (Type *species Adana westwoodi* Stål, 1856); syn. by Stål 1864a: 50 (moved to *Bothriocera*); see Fowler 1904: 82 (conspecific with *Bothriocera tinealis*).		
bicornis (Fabricius, 1803) [Metcalf 1936: 246, *Issus*]	Brazil, Trinidad (reported in error: USA: MD, FL, MS, NC, NJ, TX, NC, MS, FL; Cuba, Puerto Rico, St. Vincent)	Metcalf 1936, Fennah 1971a, Wilson & McPherson 1980b, Kramer, 1983, Bartlett et al. 2011 (US records in error Kramer, 1983; West indies records in error Fennah 1971a)
cognita Caldwell, 1943	USA: AL, DE, FL, IL, MD, MO, MS, NJ, OK, PA, TX, VA	Caldwell 1943, Wilson & McPherson 1980b, Kramer 1983, Bartlett et al. 2011

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datuna Kramer, 1983	USA: AL, FL, LA, TX	Kramer 1983, Benton & McCreadie 2009,
drakei Metcalf, 1923 [Metcalf 1936: 247] = *Bothriocera tinealis floridana* Dozier, 1928: 56; syn. by Kramer 1983: 26 (not listed as new).	USA: DE, FL, IL, LA, MD, NC, NY, OH	Metcalf 1936, Caldwell 1943, Wilson & McPherson 1980b, Kramer 1983, Bartlett et al. 2011
furcata Caldwell, 1943	USA: FL, GA, MS, VA	Caldwell 1943, Wilson & McPherson 1980b, Kramer 1983
knulli Caldwell, 1943	USA: AZ, TX	Caldwell 1943, Kramer 1983
maculata Caldwell, 1943	USA: AL, DE, FL, LA, MD, MS, NC, NJ, SC, TX, VA	Caldwell 1943, Wilson & McPherson 1980b, Kramer 1983, Lago & Testa 2000, Benton & McCreadie 2009, Bartlett et al. 2011
omani Kramer, 1983	USA: FL, SC, VA	Kramer 1983
signoreti Stål, 1864a [Metcalf 1936: 247]	Mexico (Guerrero, Jalisco, Michoacán, Nayarit, Oaxaco, San Luis Potosí, Sinaloa, Sonora, Veracruz), Cuba, St. Vincent (reported in error: USA: FL, GA, IL, MD, TX)	Metcalf 1936, Wilson & McPherson 1980a, b, c; Kramer 1983, Bartlett et al. 2011) (US records in error Kramer, 1983)
tex Kramer, 1983	USA: TX; Belize	Kramer 1983 (Possibly = *B. westwoodi* (Stål, 1856), Kramer 1983)
tinealis Burmeister, 1835 [Metcalf 1936: 248]	Brazil, Colombia, Jamaica, Guatemala, Mexico (Baja California Sur, Chiapas, Oaxaca, Sinaloa, Tabasco, Veracruz) (reported in error USA: FL, NC, OH)	Metcalf 1936, Caldwell 1943, Kramer 1983 (US records in error Kramer, 1983)
transversa Caldwell, 1943	USA: FL	Caldwell 1943, Wilson & McPherson 1980b, Kramer 1983
turcafa Kramer, 1983	USA: FL	Kramer 1983
undata (Fabricius, 1803) [Metcalf 1936: 250, *Issus*]	Cuba, Jamaica, Puerto Rico (Inc. Vieques Island); Virgin Islands (St. Croix, St. Thomas, St. Vincent) (reported in error: USA: FL, NC)	Metcalf 1936, Caldwell 1943, Caldwell & Martorell 1951, Miskimen & Bond 1970, Fennah 1971a, Wilson & McPherson 1980b, Kramer 1983 (US records in error Kramer, 1983)
westwoodi (Stål, 1856) [Metcalf 1936: 249] = *Adana westwoodi* Stål, 1856: 163. = *Bothriocera westwoodi* (Stål, 1856); comb. by Stål 1864a: 50; also Caldwell 1943: 319. = *Bothriocera tinealis westwoodi* (Stål, 1856); comb. by Fowler 1904: 82; also Dozier 1928: 56; Metcalf 1936: 249.	Mexico (Chiapas, Guerrero, Morelos, Veracruz), Jamaica (reported in error: USA: FL)	Metcalf 1936, Caldwell 1943, Kramer, 1983 (US records in error Kramer, 1983)
Cixiinae Spinola, 1839		
Cixiini Spinola, 1839		
Asotocixius Kramer, 1983 (Type species *Asotocixius diopter* Kramer, 1983).		
diopter Kramer, 1983	USA: AZ, CA, NV	Kramer 1983

Cixius Latreille, 1804 (Type species *Cicada nervosa* Linnaeus, 1758).
= ***Vincentia*** Uhler, 1895 (nec Laporte de Castelnau, 1872; Type species *Vinceutia iuterrupta* Uhler, 1895); syn. by Muir 1925a: 104; removed from syn. by Fennah 1945b: 138 (replaced with ***Nivcentia*** by Holzinger 2004).
= ***Pseudocixius*** Caldwell, 1950a (Type species *Pseudocixius baudarus* Caldwell, 1950a); syn. by Kramer 1981a: 2.
= ***Psudoliarus,*** missp. and *lapsus* by Beirne 1950c: 93.

angustatus Caldwell, 1938a	USA: DE, GA, IL, MD, MO, NC, OH, SC, VA; CAN: ON, QC	Caldwell 1938a, Beirne 1950c, Wilson & McPherson 1980b, Kramer 1981a, Bartlett et al. 2011
apicalis Metcalf, 1923 [Metcalf 1936: 156]	USA: CT, IL, NY, OH, PA; CAN: MB, NB, ON	Metcalf 1936, Beirne 1950c, Wilson & McPherson 1980b, Kramer 1981a, Maw et al. 2000, Bartlett et al. 2011
balli Kramer, 1981a	USA: AZ	Kramer 1981a
caldwelli Kramer, 1981a	USA: OH, VA	Kramer 1981a
chisosus Caldwell, 1938b	USA: TX	Caldwell 1938b, Kramer 1981a
cinctus Ball, 1937	USA: AZ	Ball 1937, Kramer 1981a
clitellus Ball, 1937	USA: AZ	Ball 1937, Kramer 1981a
coloepeum Fitch, 1856 [Metcalf 1936: 159]	USA: AR, CO, IA, IL, KS, MD, ME, MO, NC, NJ, NY, OH, PA, TN, WI, WY; CAN: BC?, NB, ON, QC	Metcalf 1936, Proctor 1946, Moore 1950a, b; Beirne 1950c, Wilson & McPherson 1980a, b, c; Kramer 1981a, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
comptus Fowler, 1904 [Metcalf 1936: 160]	USA: AZ; Mexico	Metcalf 1936, Kramer 1981a
cultus Ball, 1902a [Metcalf 1936: 160] = *Cixius cultus* Ball, 1902a: 151. = *Pseudocixius cultus* (Ball 1902a); comb. by Caldwell 1950a: 290; restored to *Cixius* by Kramer 1981a: 25.	USA: AZ, CA, CO, ID, KS, MT, NM, NV, OR, UT, WY; CAN: AB, SK	Metcalf 1936, Beirne 1950c, Strickland 1953, Kramer 1981a, Maw et al. 2000
ephratus Ball, 1937	USA: NV, UT	Ball 1937, Kramer 1981a
evexus Kramer, 1981a	USA: CA	Kramer 1981a
knulli Caldwell, 1938b	USA: TX	Caldwell 1938b, Kramer 1981a
krameri Tsaur, 1990	USA: CA	Tsaur 1990
meridionalis Beirne, 1950c	USA: AK, MT; CAN: AB, BC, LB, MB, NT, QC, SK, YK	Beirne 1950c, Kramer 1981a, Maw et al. 2000

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misellus Van Duzee, 1916a [Metcalf 1936: 182]	USA: CT, GA, IA?, IL, KY, MA, ME, MI, MN, NC, NH, NJ, NY, OH, PA, RI, TN, VA, VT; CAN: AB, BC, MB, NB, NF, NS, ON, QC (reported in error: USA: CO, TX)	Metcalf 1936, Proctor 1946, Moore 1950a, b; Beirne 1950c, Strickland 1953, Wilson & McPherson 1980b, Kramer 1981a, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
narke Kramer, 1981a	USA: CA; CAN: BC?	Kramer 1981a, Maw et al. 2000
nervosus (Linnaeus, 1758) [Metcalf 1936: 184, *Cicada*] = *Cixius basalis* Van Duzee, 1908: 489; syn. by Beirne 1951: 315. = *Cixius umbrosus* Walley, 1932: 22; syn. by Kramer 1981a: 8, 10–11.	Widespread Holarctic Nearctic: USA: AK, AZ, CA, CO, CT, DE, GA, IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MT, NC, NH, NJ, NM, NY, OH, OR, PA, RI, SD, TN, UT, VA, VT, WA, WI; CAN: AB, BC, MB, NB, NF, NS, ON, QC, SK; Palearctic (Widespread Europe, N. Africa, W. Asia; e.g., Algeria, Austria, Belgium, China, "Czechoslovakia", Denmark, Finland, France, Germany, Great Britain, Hungary, Italy, Japan, Macedonia, Morocco, Netherlands, Norway, Romania, Russia, Serbia, Spain, Sweden, Switzerland, Tunisia, Turkestan)	Metcalf 1936, Proctor 1946, Moore 1950a, b; Beirne 1950c, 1951; Strickland 1953, Kontkanen 1958, Ossiannilsson 1978, Wilson & McPherson 1980a, b, c; Kramer 1981a, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
nike Kramer, 1981a	USA: CO, CT, GA, MA, ME, MI, MN, NE, NH, NY, OH, PA, VT, WI; CAN: MB, NB, NS, ON, QC	Kramer 1981a, Maw et al. 2000, Bartlett et al. 2011
pini Fitch, 1851 [Metcalf 1936: 206] = *Cixius guttulatus* Walley, 1932: 21; syn. by Kramer 1981a: 20, 22.	USA: CT, DC, IL, IN, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, TN, VA, WV; CAN: MB, ON, QC (reported in error: USA: CO)	Metcalf 1936, Proctor 1946, Moore 1950a, b; Beirne 1950c, Kontkanen 1958, Wilson & McPherson 1980a, b, c; Kramer 1981a, Wheeler & Wilson 1996, Gonzon et al. 2006, Maw et al. 2000, Bartlett et al. 2011
praecox Van Duzee, 1925 [Metcalf 1936: 207] = *Cixius praecox* Van Duzee, 1925: 405. = *Pseudocixius praecox* (Van Duzee, 1925); comb. by Caldwell 1950a: 290; restored to *Cixus* by Kramer 1981a: 24.	USA: CA, CO, ID, OR, UT, WA, WY; CAN: BC	Metcalf 1936, Beirne 1950c, Kramer 1981a, Maw et al. 2000
procrustes Kramer, 1981a	USA: AR, KS	Kramer 1981a
prodotes Kramer, 1981a	USA: NC, OH	Kramer 1981a
prominens Tsaur, 1990	USA: CA	Tsaur 1990
quebecensis Beirne, 1951 = *Cixius fulvus* Beirne, 1950c: 100 (nec Walker, 1858). = *Cixius quebecensis* Beirne, 1951: 316; replacement name for preoccupied *Cixius fulvus* Beirne, 1950c (nec Walker, 1858).	USA: ME, NY; CAN: NB, NS, ON, PE, QC	Beirne 1950c, 1951; Kramer 1981a, Wheeler & Wilson 1996, Maw et al. 2000

stigmatus (Say, 1825) [Metcalf 1936: 214] = *Flata stigmata* Say, 1825: 336. = *Cixius stigmatus* (Say, 1825); comb. by Fitch 1851: 45. = *Pseudocixius stigmatus* (Say, 1825); comb. by Caldwell, 1950a: 290. = *Cixius stigmata* (Say, 1825); restored combination and unjustified emendation by Wilson & McPherson 1980a: 8; 1980b: 27; 1980c: 27. = *Cixius lepidus* Van Duzee, 1910a: 87; syn. by Kramer 1981a: 18 (not listed as new).	USA: AR, AZ, CA, CO, GA, IA, ID, IL, IN, KS, MO, ND, NE, NH, NJ, NM, NY, OH, OK, PA, SD, TX, UT, VA, WI, WY; CAN: AB, SK, ON, QC	Metcalf 1936, Moore 1950a, b; Beirne 1950c, Wilson & McPherson 1980a, b, c; Kramer 1981a, Maw et al. 2000, Bartlett et al. 2011
vandykei Van Duzee, 1925 [Metcalf 1936: 220]	USA: CA, WA	Metcalf 1936, Kramer 1981a
yufengi Tsaur, 1993	USA: CA	Tsaur 1993
Microledrida Fowler, 1904 (Type species *Microledrida asperata* Fowler, 1904).		
flava Metcalf, 1923 [Metcalf 1936: 240] = *[Microledrida] fulva* Metcalf, 1923; *lapsus* by Caldwell 1944c: 252.	USA: TX; Mexico (Tamaulipas)	Metcalf 1936, Caldwell 1944c, Kramer 1983
fuscata Van Duzee, 1914 [Metcalf 1936: 240]	USA: AZ, CA, TX; Mexico (Baja California, Sonora)	Metcalf 1936, Caldwell 1944c, Kramer 1983
olor Kramer, 1983	USA: TX	Kramer 1983
Platycixius Van Duzee, 1914 (Type species *Platycixius calvus* Van Duzee, 1914).		
calvus Van Duzee, 1914 [Metcalf 1936: 242]	USA: AZ, CA	Metcalf 1936, Kramer 1983
Stegocixius Kramer, 1983 (Type species *Stegocixius lochites* Kramer, 1983).		
lochites Kramer, 1983	USA: CA	Kramer 1983
Pentastirini Emeljanov, 1971		
Melanoliarus Fennah, 1945b (Type species *Oliarus (Melanoliarus) maidis* Fennah, 1945b). = ***Oliarus*** Stål, 1862a in part (Type species *Cixius walkeri* Stål, 1859); Emeljanov 2001a (all Nearctic species moved to *Melanoliarus* by implication Emeljanov 2001a: 122).		
acicus (Caldwell, 1947a) = *Oliarus acicus* Caldwell, 1947a: 76. = *Melanoliarus acicus* (Caldwell, 1947a); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, TX; Mexico (Baja California, Sinaloa, Sonora)	Caldwell 1947a, Ward et al. 1977, Mead & Kramer 1982
altanatus (Caldwell, 1951) = *Oliarus altanatus* Caldwell, 1951: 35. = *Melanoliarus altanatus* (Caldwell, 1951); comb. by implication Emeljanov 2001a: 122.	USA: TX; Mexico (Chiapas, Jalapa, Federal District, Hidalgo, Morelos, Veracruz)	Caldwell 1951, Mead & Kramer 1982
altanus (Ball, 1934b) = *Oliarus altanus* Ball, 1934b: 276. = *Melanoliarus altanus* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ	Mead & Kramer 1982
apache (Ball, 1934b) = *Oliarus apache* Ball, 1934b: 275. = *Melanoliarus apache* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA; Mexico (Sonora)	Mead & Kramer 1982

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aridus (Ball, 1902a) [Metcalf 1936: 52] = *Oliarus aridus* Ball, 1902a: 151. = *Melanoliarus aridus* (Ball, 1902a); comb. by implication Emeljanov 2001a: 122.	USA: AL, AR, AZ, CA, CO, GA, ID, IL, IN, KS, LA, MO, MS, MT, NC, ND, NE, NM, OH, OK, OR, SC, SD, TN, TX, UT, VA, WY; CAN: ON; Mexico (Durango)	Metcalf 1936, Beirne 1951, Ward et al. 1977, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Mead & Kramer 1982, Wilson et al. 1993,Maw et al. 2000
arizonensis (Mead & Kramer, 1982) = *Oliarus arizonensis* Mead & Kramer, 1982: 428–432. = *Melanoliarus arizonensis* (Mead & Kramer, 1982); comb. by implication Emeljanov 2001a: 122.	USA: AZ	Mead & Kramer 1982
bispinus (Caldwell, 1947b) = *Oliarus bispinus* Caldwell, 1947b: 150–151. = *Melanoliarus bispinus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: OK, TX	Caldwell 1947b, Mead & Kramer 1982
caldwelli (Mead & Kramer, 1982) = *Oliarus caldwelli* Mead & Kramer, 1982: 523–527. = *Melanoliarus caldwelli* (Mead & Kramer, 1982); comb. by implication Emeljanov 2001a: 122.	USA: NM, TX	Mead & Kramer 1982
californicus (Van Duzee, 1914) [Metcalf 1936: 55] = *Oliarus californicus* Van Duzee, 1914: 36. = *Melanoliarus californicus* (Van Duzee, 1914); comb. by implication Emeljanov 2001a: 122.	USA: CA	Mead & Kramer 1982
canyonensis (Mead & Kramer, 1982) = *Oliarus canyonensis* Mead & Kramer, 1982: 535–537. = *Melanoliarus canyonensis* (Mead & Kramer, 1982); comb. by implication Emeljanov 2001a: 122.	USA: CA, NM	Mead & Kramer 1982
catus (Caldwell, 1947b) = *Oliarus catus* Caldwell, 1947b: 147. = *Melanoliarus catus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: AZ	Caldwell 1947b, Mead & Kramer 1982
chuliotus (Ball, 1934b) = *Oliarus chuliotus* Ball, 1934b: 271. = *Melanoliarus chuliotus* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122. = *Oliarus gladensis* Caldwell, 1951: 35; syn. by Mead & Kramer 1982: 478–480.	USA: AL, AR, DC, DE, FL, GA, IL, KS, MS, NC, OH, SC, TN	Caldwell 1951, Mead & Kramer 1982, Wilson & McPherson 1980a, b, c; Bartlett & Bowman 2004, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
coconinus (Ball, 1934b) = *Oliarus coconinus* Ball, 1934b: 274. = *Melanoliarus coconinus* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CO, NV, TX, UT; CAN: BC	Mead & Kramer 1982, Maw et al. 2000

complectus (Ball, 1902a) [Metcalf 1936: 61 as syn. of *Oliarus franciscanus* Stål, 1859: (error)] = *Oliarus complectus* Ball, 1902a: 152. = *Melanoliarus complectus* (Ball, 1902a); comb. by implication Emeljanov 2001a: 122. = *Oliarus (Melanoliarus) campestris* Fennah, 1945b: 141; syn. by Caldwell 1951 (in Caldwell & Martorell 1951): 138–141. = *Oliarus franciscanus* (Stål, 1859: 273); senior syn. by Van Duzee 1917a: 309 (error).	USA: FL; Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico (Inc. Caja de Muertos, Mona and Vieques Islands), Virgin Islands (Jost van Dyke, St. Croix, St. Thomas, St. Vincent) (reported in error: USA: AZ, Mexico)	Fennah 1949, Caldwell 1950b, Caldwell & Martorell 1951, Wilson & McPherson 1980b, Mead & Kramer 1982, Rodriguez-León et al. 1994a
concinnulus (Fowler, 1904) [Metcalf 1936: 56] = *Oliarus concinnulus* Fowler, 1904: 92. = *Melanoliarus concinnulus* (Fowler, 1904); comb. by implication Emeljanov 2001a: 122. = *Oliarus texanus* Metcalf, 1923: 181; syn. by Ball 1934: 275 (error, see Mead & Kramer 1982: 389, 436).	Mexico (Guerrero, Veracruz) (reported in error: USA: TX)	Fowler 1904, Ball 1934, Mead & Kramer 1982
corvinus (Ball, 1934b) = *Oliarus corvinus* Ball, 1934b: 273. = *Melanoliarus corvinus* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, TX	Mead & Kramer 1982
difficilis (Van Duzee, 1912) [Metcalf 1936: 58] = *Oliarus difficilis* Van Duzee, 1912a: 494. = *Melanoliarus difficilis* (Van Duzee, 1912a); comb. by implication Emeljanov 2001a: 122. = *Oliarus vittatus* Metcalf, 1923: 181; syn. by Mead & Kramer 1982: 408, 411.	USA: FL, TX	Metcalf 1936, Wilson & McPherson 1980b, Mead & Kramer 1982
dondonius (Ball, 1934b) = *Oliarus dondonius* Ball, 1934b: 276. = *Melanoliarus dondonius* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, CO, NM, NV, OR, TX, UT; CAN: AB, BC, SK; Mexico (Baja California; Mulge, San Francisco, San Lorenzo, and Santa Inez Islands, Gulf of California)	Mead & Kramer 1982, Maw et al. 2000
ecologus (Caldwell, 1947a) = *Oliarus ecologus* Caldwell, 1947a: 76. = *Melanoliarus ecologus* Caldwell, 1947a; comb. by implication Emeljanov 2001a: 122.	USA: AL, AR, CT, DC, DE, GA, IL, KS, KY, MD, MS, NC, NJ, OH, OK, PA, SC, TN, VA (reported in error: CAN: NS, ON)	Caldwell 1947a, Beirne 1950c, Wilson & McPherson 1980a,b, c; Weber & Wilson 1981, Mead & Kramer 1982, Bartlett et al. 2011 (Canadian records in error Mead & Kramer, 1982)
eximus (Caldwell, 1947b) = *Oliarus eximus* Caldwell, 1947b: 145. = *Melanoliarus eximus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: CA, NM	Caldwell 1947b, Mead & Kramer 1982
forcipatus (Caldwell, 1947b) = *Oliarus forcipatus* Caldwell, 1947b: 146. = *Melanoliarus forcipatus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, TX	Caldwell 1947b, Mead & Kramer 1982

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franciscanus (Stål, 1859) [Metcalf 1936: 61] = *Cixius franciscanus* Stål, 1859: 273. = *Oliarus franciscanus* (Stål, 1859); comb. by Stål 1862a: 306. = *Melanoliarus franciscanus* (Stål, 1859); comb. by implication Emeljanov 2001a: 122. = *Oliarus fransiscanus* (Stål, 1859); missp. by Strickland 1940: 87.	Puerto Rico, Haiti, Jamaica, Isle of Pines, Cuba, Mexico (Baja California) (reported in error: USA: AZ, CA, CO, CT, DC, FL, IA, MA, MD, KS, NC, NJ, NY, OH, PA, UT; CAN: AB, BC)	Strickland 1940, 1953; Metcalf 1943, Wolcott 1950, Beirne 1950c, Mead & Kramer 1982 Mead & Kramer (1982) noted that *O. franciscanus* is a South American species and implied that all US & Canada records were in error and the types were misreported from California.
hesperius (Van Duzee, 1917a) [Metcalf 1936: 65] = *Oliarus hesperius* Van Duzee, 1917a: 307. = *Melanoliarus hesperius* (Van Duzee, 1917a); comb. by implication Emeljanov 2001a: 122.	USA: CA, NV, OR	Mead & Kramer 1982
humilis (Say, 1830) [Metcalf 1936: 67] = *Flata humilis* Say, 1830: 241. = *Oliarus humilis* (Say, 1830); comb. by Van Duzee 1890: 389. = *Melanoliarus humilis* (Say, 1830); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CT, DC, DE, IA, IL, IN, KS, MA, MD, MI, MN, MS, MT, NC, NH, NJ, NM, NV, NY, OH, OR, PA, UT, WI; CAN: AB, BC, ON, QC, SK	Metcalf 1936, Beirne 1950c, Strickland 1953, Kontkanen 1958, Wilson & McPherson 1980a, b; Mead & Kramer 1982, Maw et al. 2000, Bartlett et al. 2011
kieferi (Mead & Kramer, 1982) = *Oliarus kieferi* Mead & Kramer, 1982: 559–561. = *Melanoliarus kieferi* (Mead & Kramer, 1982); comb. by implication Emeljanov 2001a: 122.	USA: AZ, UT	Mead & Kramer 1982
knullorum (Mead & Kramer, 1982) = *Oliarus knullorum* Mead & Kramer, 1982: 529–531. = *Melanoliarus knullorum* (Mead & Kramer, 1982); comb. by implication Emeljanov 2001a: 122.	USA: AZ, TX	Mead & Kramer 1982
littoralis (Ball, 1934b) = *Oliarus littoralis* Ball, 1934b: 274. = *Melanoliarus littoralis* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: FL; Dry Tortugas (Garden Key)	Wilson & McPherson 1980b, Mead & Kramer 1982
lobatus (Caldwell, 1938b) = *Oliarus lobatus* Caldwell, 1938b: 305. = *Melanoliarus lobatus* (Caldwell, 1938b); comb. by implication Emeljanov 2001a: 122.	USA: NM, TX	Caldwell 1938b, Mead & Kramer 1982
montanus (Metcalf, 1923) [Metcalf 1936: 83] = *Oliarus montanus* Metcalf, 1923: 179. = *Melanoliarus montanus* (Metcalf, 1923); comb. by implication Emeljanov 2001a: 122.	USA: DE, GA, IL, KS, MD, MO, MS, NC, NJ, NY, OH, PA, TN, VA	Metcalf 1936, Wilson & McPherson 1980b, Mead & Kramer 1982, Bartlett et al. 2011
papagonus (Ball, 1934b) = *Oliarus papagonus* Ball, 1934b: 272. = *Melanoliarus papagonus* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ	Mead & Kramer 1982
pima (Kirkaldy, 1907b) [Metcalf 1936: 95] = *Oliarus pima* Kirkaldy, 1907b: 62. = *Oliarus nogalanus* Ball, 1934b: 272 (syn. Mead & Kramer 1982: 390, 550–551, 554 (not listed as new); see Ball 1937: 180). = *Melanoliarus pima* (Kirkaldy, 1907b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, NM, UT	Metcalf 1936, Mead & Kramer 1982

placitus (Van Duzee, 1912a) [Metcalf 1936: 95] = *Oliarus placitus* Van Duzee, 1912a: 493. = *Melanoliarus placitus* (Van Duzee, 1912a); comb. by implication Emeljanov 2001a: 122.	USA: AL, AR, DC, DE, FL, GA, IL, KS, MD, MO, MS, NC, NJ, NY, OH, OK, PA, SC, TN, VA; CAN: ON	Metcalf 1936, Beirne 1950c, Wilson & McPherson 1980a, b, c; Mead & Kramer 1982, Maw et al. 2000, Benton & McCreadie 2009, Bartlett et al. 2011
pygmaeus (Ball, 1937) = *Oliarus pygmaeus* Ball, 1937: 180. = *Melanoliarus pygmaeus* (Ball, 1937); comb. by implication Emeljanov 2001a: 122.	USA: AZ	Mead & Kramer 1982
quinquelineatus (Say, 1830) [Metcalf 1936: 99] = *Flata quinquelineata* Say, 1830: 241. = *Oliarus quinquelineatus* (Say, 1830); comb. by Provancher 1889: 223. = *Oliarus quinquelineata* (Say, 1830);unjustified emendation by Smith 1900: 89. = *Melanoliarus quinquelineatus* (Say, 1830); comb. by implication Emeljanov 2001a: 122.	USA: AL, AR, CT, CO, DE, FL, GA, IA, IL, IN, LA, MA, MD, ME, MN, MS, NC, NJ, NY, OH, OK, PA, RI, SC, TN, VA, WI; CAN: NS, ON, QC	Metcalf 1936, Beirne 1950c, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Mead & Kramer 1982, Wheeler & Wilson 1996, Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
retentus (Caldwell, 1947b) = *Oliarus reteutus* Caldwell, 1947b: 148. = *Melanoliarus retentus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CO, UT	Caldwell 1947b, Mead & Kramer 1982
sablensis (Caldwell, 1951) = *Oliarus sablensis* Caldwell, 1951: 34. = *Melanoliarus sablensis* (Caldwell, 1951); comb. by implication Emeljanov 2001a: 122.	USA: CT, DC, DE, FL, GA, IA, IL, IN, KY, MA, MD, MN, MO, NC, NH, NJ, NY, OH, PA, SC, TN, WV; CAN: NB, NS, ON	Caldwell 1951, Wilson & McPherson 1980a, b, c; Mead & Kramer 1982, Wilson et al. 1993, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
sementinus (Ball, 1902a) [Metcalf 1936: 100] = *Oliarus sementiuus* Ball, 1902a: 152. = *Melanoliarus sementinus* (Ball, 1902a); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, CO, NM, UT	Mead & Kramer 1982
slossonae (Van Duzee, 1912a) [Metcalf 1936: 102] = *Oliarus hyalinus* Van Duzee, 1908: 487 (nec Fieber) (preoccupied). = *Oliarus slossoni* Van Duzee, 1912a: 494; replacement name for preoccupied *O. hyalinus* Van Duzee, 1908. = *Oliarus borinqueusis* Caldwell, 1951: 137 (in Caldwell & Martorell 1951); syn. by Mead & Kramer 1982: 424–426. = *Oliarus slossonae* Van Duzee, 1912a: 494; emendation by Mead & Kramer 1982: 424. = *Melanoliarus slossonae* (Van Duzee, 1912a); comb. by implication Emeljanov 2001a: 122.	USA: FL; Cuba; Puerto Rico; Virgin Islands (Great Camanoe, Guana, Jost Van Dyke, Little Thatch, St. John, St. Thomas, Tortola) (reported in error: USA: MS, TX)	Metcalf 1936, Wilson & McPherson 1980b, Mead & Kramer 1982, Bartlett 2000
sonoitus (Ball, 1937) = *Oliarus sonoitus* Ball, 1937: 179. = *Oliarus nigravittus* Caldwell, 1938b: 304; syn. by Mead & Kramer 1982: 554–556, 558. = *Melanoliarus sonoitus* (Ball, 1937); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, NM, TX; Mexico (Chihuahua, Tamaulipas)	Caldwell 1938b, Ward et al. 1977, Mead & Kramer 1982
sylvaticus (Caldwell, 1947b) = *Oliarus sylvaticus* Caldwell, 1947b: 151. = *Melanoliarus sylvaticus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: CA	Caldwell 1947b, Mead & Kramer 1982

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texanus (Metcalf, 1923) [Metcalf 1936: 106] = *Oliarus texanus* Metcalf, 1923: 181. = *Melanoliarus texanus* (Metcalf, 1923); comb. by implication Emeljanov 2001a: 122.	USA: OK, TX; Mexico (Chiapas, Michoacán, Veracruz)	Ward et al. 1977, Mead & Kramer 1982
teximus (Caldwell, 1947b) = *Oliarus eximus teximus* Caldwell, 1947b: 146. = *Oliarus teximus* Caldwell, 1947b; status by Mead & Kramer 1982: 517–518, 521. = *Melanoliarus teximus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: TX	Caldwell 1947b, Mead & Kramer 1982
truncatus (Van Duzee, 1929b) [Metcalf 1936: 106] = *Oliarus truncatus* Van Duzee, 1929b: 72. = *Melanoliarus truncatus* (Van Duzee, 1929b); comb. by implication Emeljanov 2001a: 122.	USA: CA; Mexico (Baja California)	Metcalf 1936, Mead & Kramer 1982
uncatus (Caldwell, 1947b) = *Oliarus uncatus* Caldwell, 1947b: 151. = *Melanoliarus uncatus* (Caldwell, 1947b); comb. by implication Emeljanov 2001a: 122.	USA: AZ	Caldwell 1947b, Mead & Kramer 1982
vicarius (Walker, 1851) [Metcalf 1936: 107] = *Cixius vicarius* Walker, 1851: 343. = *Oliarus vicarius* (Walker, 1851); comb. by Distant 1907a: 280. = *Oliarus vitreus* Metcalf, 1923: 180 [nec Melichar 1905]; syn. by Mead & Kramer 1982: 506, 509. = *Oliarus lucidus* Metcalf 1936: 79; replacement name for *Oliarus vitreus* Metcalf, 1923 [nec Melichar 1905] ; syn. by Mead & Kramer 1982: 390, 506, 509. = *Melanoliarus vicarius* (Walker, 1851); comb. by implication Emeljanov 2001a: 122.	USA: FL, GA, IL, MS, NC, SC (Reported in error: USA: CO, MA, MD, NJ, TX)	Metcalf 1936, Wilson & McPherson 1980b, Mead & Kramer 1982
viequensis (Caldwell, 1951) (in Caldwell & Martorell 1951) = *Oliarus viequensis* Caldwell, 1951: 141. = *Melanoliarus viequensis* (Caldwell, 1951); comb. by implication Emeljanov 2001a: 122.	USA: FL; Belize, Haiti, Puerto Rico (Vieques Island); Virgin Islands (Anegada, Antigua, Guana, St. John)	Caldwell & Martorell 1951, Wilson & McPherson 1980b, Mead & Kramer 1982, Bartlett 2000
yavapanus (Ball, 1934b) = *Oliarus yavapanus* Ball, 1934b: 274. = *Melanoliarus yavapanus* (Ball, 1934b); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, TX, UT	Mead & Kramer 1982
zyxus (Caldwell, 1947a) = *Oliarus zyxus* Caldwell, 1947a: 76–77. = *Melanoliarus zyxus* (Caldwell, 1947a); comb. by implication Emeljanov 2001a: 122.	USA: AZ, CA, CO, ID, NM, NV, OR, TX, UT; CAN: BC; Mexico (Coahuila, Nayarit, Nuevo León)	Caldwell 1947a, Ward et al. 1977, Mead & Kramer 1982, Maw et al. 2000
Oliaronus Ball, 1934b (Type species *Oliaronus tontonus* Ball, 1934b).		
tontonus Ball, 1934b	USA: AZ	Kramer 1983
Pentastiridius Kirschbaum, 1868 (Type species *Flata pallens* Germar, 1821).		
cinnamomeus (Provancher, 1889) [Metcalf 1936: 55] = *Oliarus cinnamomeus* Provancher, 1889: 223. = *Pentastiridius cinnamomeus* (Provancher, 1889); comb. by Emeljanov 2001a: 122.	USA: CT, DE, MA, ME, NH, NJ, NY, PA; CAN: BC, ON, QC, NB	Metcalf 1936, Beirne 1950c, Wilson & McPherson 1980b, Mead & Kramer 1982, Maw et al. 2000, Bartlett et al. 2011

habeckorum (Mead & Kramer, 1982) =*Oliarus habeckorum* Mead & Kramer, 1982: 443–446. = *Pentastiridius habeckorum* (Mead & Kramer, 1982); comb. by Emeljanov 2001a: 122.	USA: NC, SC, VA	Mead & Kramer 1982
Reptalus Emeljanov, 1971 (Type species *Cixius quinquecostatus* DuFour, 1833).		
beirnei Emeljanov, 1978 = *Oliarus artemesiae* Beirne, 1950c: 94–96 (preoccupied, nec Matsumura 1914). = *Reptalus beirnei* Emeljanov, 1978; replacement name for unavailable *Oliarus artemesiae* Beirne, 1950c by Emeljanov 1978: 223. = *Oliarus beirnei* Mead & Kramer, 1982: 499; replacement name for preoccupied *Oliarus artemesiae* Beirne, 1950c (nec Matsumura 1914); syn. by Emeljanov 2001a: 122.	USA: CA, OR, WA; CAN: BC	Mead & Kramer 1982, Maw et al. 2000
exoptatus (Van Duzee, 1917a) [Metcalf 1936: 60] = *Oliarus exoptatus* Van Duzee, 1917a: 308. = *Reptalus exoptatus* (Van Duzee, 1917a); comb. by Emeljanov 2001a: 122.	USA: CA, CO, ID, NV, UT, WY; CAN: BC	Metcalf 1936, Mead & Kramer 1982, Maw et al. 2000
fidus Van Duzee, 1914 [Metcalf 1936: 60] = *Oliarus fidus* Van Duzee, 1914: 37. = *Reptalus fidus* (Van Duzee, 1914); comb. by Emeljanov 2001a: 122.	USA: CA	Mead & Kramer 1982
Oecleini Muir, 1922 = **Myndini** Muir, 1923; syn. by Emeljanov 1989: 62; also Holzinger et al. 2002.		
Haplaxius Fowler, 1904 (Type species *Haplaxius laevis* Fowler, 1904) (listed as generic syn. of *Myndus* Stål 1862 by Kramer, 1979: 303–304). = ***Paramyndus*** Fennah, 1945a (Type species *Paramyndus cocois* Fennah, 1945a; junior syn. of *Myndus crudus* Van Duzee 1907); syn. with *Myndus* by Kramer, 1979: 303–304. = ***Myndus*** Stål, 1862a (Type species *Flata musiva* Germar 1825); syn. by Kramer 1979: 303; removed from syn. by Emeljanov 1989: 62–64; also Holzinger et al. 2002: 128.		
balli (Kramer, 1979) = *Myndus balli* Kramer, 1979: 325–326. = *Haplaxius balli* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: AZ	Kramer 1979
beameri (Ball, 1933c) = *Myndus beameri* Ball, 1933c: 480. = *Haplaxius beameri* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ	Kramer 1979
catalinus (Ball, 1933c) = *Myndus catalinus* Ball, 1933c: 481. = *Haplaxius catalinus* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ, NM, TX	Kramer 1979
collinus (Ball, 1933c) = *Myndus collinus* Ball, 1933c: 482. = *Haplaxius collinus* Ball, 1933c; comb. by implication Emeljanov 1989: 62.	USA: CO, MT; CAN: SK	Kramer 1979, Maw et al. 2000

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crena (Kramer, 1979) = *Myndus crena* Kramer, 1979: 318–320. = *Haplaxius crena* Kramer, 1979; comb. by implication Emeljanov 1989: 62.	USA: AZ, CO	Kramer 1979
crudus (Van Duzee, 1907) [Metcalf 1936: 138] = *Myndus crudus* Van Duzee, 1907: 33. = *Paramyndus crudus* (Van Duzee, 1907); comb. by implication Fennah 1945b: 142. = *Paramyndus cocois* Fennah, 1945a: 424–425. = *Haplaxius crudis* [sic] (Van Duzee, 1907); comb. by Caldwell 1946: 203. = *Haplaxius cocois* (Fennah, 1945a); comb. by Caldwell 1946: 203. = *Haplaxius pallidus* Caldwell, 1946: 204; syn. by Kramer 1979: 346–347. = *Haplaxius cocois* (Fennah, 1945a); syn. by Kramer 1979: 346; also Emeljanov 1989: 62. = *Haplaxius crudus* (Van Duzee, 1907); comb. by Emeljanov, 1989: 62.	USA: FL, TX; Belize, Cayman Islands (Grand Cayman), Colombia, Costa Rica, Cuba (inc. Isle of Pines), Dominican Republic, Jamaica, Mexico (Baja California Sur, Quintana Roo), Panama, Trinidad, Venezuela	Metcalf 1936, Fennah 1945a, b; 1971; Kramer 1979; Wilson & McPherson 1980b, Wilson & Tsai 1982, Tsai & Mead 1982, Howard et al. 1984, Rodriguez-León et al. 1994a, Wilson & Wheeler 2010, Ferreira et al. 2010
dozieri (Kramer, 1979) = *Myndus dozieri* Kramer, 1979: 340. = *Haplaxius dozieri* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: MS	Kramer 1979, Wilson & McPherson 1980b
enotatus (Van Duzee, 1909) [Metcalf 1936: 139] = *Myndus enotatus* Van Duzee, 1909: 188. = *Haplaxius enotatus* (Van Duzee, 1909); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: FL, GA, LA, MD, MS, NC, SC, VA; CAN: QC; Cuba	Metcalf 1936, Moore 1950a, b; Davis & Gray 1966, Kramer 1979, Wilson & McPherson 1980b, Lago & Testa 2000, Bartlett et al. 2011
flocki (Kramer, 1979) = *Myndus flocki* Kramer, 1979: 342–344. = *Haplaxius flocki* (Kramer, 1979); comb. by implication Emeljanov, 1989: 62.	USA: AZ, CA; Mexico (Baja California)	Kramer 1979
fulvus (Osborn, 1903a) [Metcalf 1936: 139] = *Myndus fulvus* Osborn, 1903a: 46. = *Haplaxius fulvus* (Osborn, 1903a); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: CT, IL, KS, KY, MA, NY, OH, TN; CAN: ON	Metcalf 1936, Kramer 1979, Wilson & McPherson 1980a, b, c; Maw et al. 2000, Gonzon et al. 2006
gabrielensis Flock, 1951 = *Haplaxius gabrielensis* Flock, 1951: 169. = *Myndus gabrielensis* (Flock, 1951); comb. by Kramer 1979: 328, 330; restored to *Haplaxius* by Emeljanov 1989: 62.	USA: CA	Kramer 1979
glyphis (Kramer, 1979) = *Myndus glyphis* Kramer, 1979: 311–312. = *Haplaxius glyphis* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: MA, NY, TN; CAN: NB, QC	Kramer 1979, Wilson & McPherson 1980b, Maw et al. 2000, Gonzon et al. 2006
impiger (Ball, 1902a) [Metcalf 1936: 140] = *Myndus impiger* Ball, 1902a: 153. = *Haplaxius impiger* (Ball, 1902a); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: CO, NM	Metcalf 1936, Kramer 1979
lophion lophion (Kramer, 1979) = *Myndus lophion lophion* Kramer, 1979: 349–350 (subspecific combination by implication). = *Haplaxius lophion lophion* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: AZ, CO	Kramer 1979

lophion alpha (Kramer, 1979) = *Myndus lophion alpha* Kramer, 1979: 350. = *Haplaxius lophion alpha* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: CO	Kramer 1979
luuatus (Van Duzee, 1909) [Metcalf 1936: 140] = *Myndus luuatus* Van Duzee, 1909: 189. = *Haplaxius luuatus* (Van Duzee, 1909); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: FL	Kramer 1979, Wilson & McPherson 1980b
mojavensis (Ball, 1933c) = *Myndus mojavensis* Ball, 1933c: 480. = *Haplaxius mojavensis* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ, CA, NV	Kramer 1979
neopusillus (Kramer, 1979) = *Myndus neopusillus* Kramer, 1979: 338–339. = *Haplaxius neopusillus* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: AL, FL	Kramer 1979, Wilson & McPherson 1980b, Benton & McCreadie 2009
nevadensis (Kramer, 1979) = *Myndus nevadensis* Kramer, 1979: 325. = *Haplaxius nevadensis* (Kramer, 1979); comb. by implication Emeljanov, 1989: 62.	USA: AZ, NV	Kramer 1979
nigrifrons (Ball, 1937) = *Myndus nigrifrons* Ball, 1937: 179. = *Haplaxius nigrifrons* (Ball, 1937); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: TX	Kramer 1979
nolinus (Ball, 1933c) = *Myndus nolinus* Ball, 1933c: 481. = *Haplaxius nolinus* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ, NM	Kramer 1979
occidentalis (Van Duzee, 1914) [Metcalf 1936: 142] = *Myndus occidentalis* Van Duzee, 1914: 39. = *Haplaxius occidentalis* (Van Duzee, 1914); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ, CA, ID, OR, UT	Metcalf 1936, Kramer 1979
ovatus (Ball, 1933c) = *Myndus ovatus* Ball, 1933c: 483. = *Haplaxius ovatus* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: DE, GA, IA, KS, MA, MD, NE, NJ, OK, VA	Kramer 1979, Wilson & McPherson 1980a, b; Bartlett et al. 2011
pictifrons (Stål, 1862a) [Metcalf 1936: 143] = *Myndus pictifrons* Stål, 1862a: 307. = *Haplaxius pictifrons* (Stål, 1862a); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62. = *Myndus sordipennis* Stål, 1862a: 308. = *Haplaxius sordipennis* (Stål, 1862a); comb. by Caldwell 1946: 203; syn. by Kramer 1979: 314, 316.	USA: CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, LA, MA, MD, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, TN, VA; CAN: ON, QC; Cuba	Metcalf 1936, Moore 1950a, b; Beirne 1950c, Wray 1967, Nixon & McPherson 1977, Kramer 1979, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Bartlett et al. 2011
pusillus (Van Duzee, 1909) [Metcalf 1936: 143] = *Myndus pusillus* Van Duzee, 1909: 190. = *Haplaxius pusillus* (Van Duzee, 1909); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62. = *Haplaxius perrinei* Caldwell, 1951: 34; syn. by Kramer 1979: 336, 338.	USA: CT, FL, GA, MA, NC, NH, NJ, VA	Metcalf 1936, Caldwell 1951, Wray 1967, Kramer 1979, Wilson & McPherson 1980b, Bartlett et al. 2011

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radicis (Osborn, 1903b) [Metcalf 1936: 143] = *Myndus radicis* Osborn, 1903b: 42. = *Haplaxius radicis* (Osborn, 1903b); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62. = *Myndus delicatus* Van Duzee, 1908: 492. = *Haplaxius delicatus* (Van Duzee 1908); comb. by Caldwell 1946: 203; syn. by Kramer 1979: 320–321.	USA: DC, DE, IL, IN, KS, MD, MS, NC, NY, OH, OK, TN, TX, VA	Metcalf 1936, Kramer 1979, Wilson & McPherson 1980a, b, c; Gonzon et al. 2006, Bartlett et al. 2011
rubidus (Ball, 1933c) = *Myndus rubidus* Ball, 1933c: 483. = *Haplaxius rubidus* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: TX	Kramer 1979
slossonae (Ball, 1902a) [Metcalf 1936: 144] = *Myndus slossoni* Ball, 1902a: 154. = *Haplaxius slossoni* (Ball, 1902a); comb. by Caldwell 1946: 203. = *Myndus slossonae* (Ball, 1902a); emendation by Kramer 1979: 334, 336. = *Haplaxius slossonae* (Ball, 1902a); comb. by implication Emeljanov 1989: 62.	USA: FL, GA, KS, MO, MS, OK, TX	Metcalf 1936, Kramer 1979, Wilson & McPherson 1980b, Wilson et al. 1993
texensis (Kramer, 1979) = *Myndus texensis* Kramer, 1979: 333. = *Haplaxius texensis* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: TX	Kramer 1979
truncatus (Metcalf, 1923) [Metcalf 1936: 145] = *Myndus truncatus* Metcalf, 1923: 184. = *Haplaxius truncatus* (Metcalf, 1923); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: IA, IL, WI	Metcalf 1936, Kramer 1979, Wilson & McPherson 1980a, b, c
viridicatus (Ball, 1933c) = *Myndus viridicatus* Ball, 1933: 483. = *Haplaxius viridicatus* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ, CA	Kramer 1979
viridis (Ball, 1902a) [Metcalf 1936: 146] = *Myndus viridis* Ball, 1902a: 153. = *Haplaxius viridis* (Ball, 1902a); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62. = *Myndus auratus* Ball, 1933c: 434; syn. by Caldwell 1946: 203. = *Haplaxius auratus* (Ball, 1933c); comb. by Kramer 1979: 340, 342.	USA: AZ, CA, CO (reported in error: USA: IA, NJ, OH)	Metcalf 1936, Kramer 1979
wheeleri (Wilson, 1996) (in Wheeler & Wilson 1996) = *Myndus wheeleri* Wilson, 1996: 103–104 (in Wheeler & Wilson 1996). = *Haplaxius wheeleri* (Wilson, 1996); comb. by Bartlett et al. 2011: 12.	USA: NJ, PA	Wheeler & Wilson 1996, Bartlett et al. 2011
xyron (Kramer, 1979) = *Myndus xyron* Kramer, 1979: 312–314. = *Haplaxius xyron* (Kramer, 1979); comb. by implication Emeljanov 1989: 62.	USA: MI, NY; CAN: ON, QC	Kramer 1979, Wilson & McPherson 1980b; Maw et al. 2000
yuccandus (Ball, 1933c) = *Myndus yuccandus* Ball, 1933c: 482. = *Haplaxius yuccandus* (Ball, 1933c); comb. by Caldwell 1946: 203; also Emeljanov 1989: 62.	USA: AZ	Kramer 1979

Myndus Stål, 1862a (Type species *Flata musiva* Germar, 1825). = ***Entithena*** Fieber, 1866a (Type species *Flata musiva* Germar, 1825); syn. by Puton 1875: 112.		
musivus (Germar, 1825) [Metcalf 1936: 140, *Flata*] = *[Myndus] musious* (Germar, 1825); missp. by Moore 1950a, b.	Reported in error CAN: QC Austria, Belgium, Bohemia, France, Germany, Great Britain, Hungary, Ireland, Italy, Netherlands, Romania, Russia, Serbia, Switzerland	Metcalf 1943, Moore 1950a, b; Holzinger et al. 2003
Nymphocixia Van Duzee, 1923a (Type species *Nymphocixia unipunctata* Van Duzee, 1923a).		
unipunctata Van Duzee, 1923a [Metcalf 1936: 240] = *Nymphocixia unipunctata* Van Duzee 1923: 189. = *Nymphocixia vanduzeei* Muir, 1930: 13. = *Nymphocixia vanduzeei* var. *floridensis* Caldwell, 1944c: 254. = *Nymphocixia vanduzeei* Muir, 1930; syn. by Kramer 1983: 45. = *Nymphocixia vanduzeei* var. *floridensis* Caldwell, 1944c: syn. by Kramer 1983: 45.	USA: SC, FL; Belize, Mexico (Isla Espíritu Santo, Baja California Sur; Nayarit), Colombia, Costa Rica, Nicaragua, Panama	Metcalf 1936, Wilson & McPherson 1980b, Kramer 1983
Oecleus Stål, 1862a (Type species *Oecleus seminiger* Stål, 1862a).		
arnellus Ball & Klingenberg, 1935	USA: AZ, NV, TX, UT	Kramer 1977
augur Kramer, 1977	USA: AZ, TX	Kramer 1977
balli Kramer, 1977	USA: AZ, CA, NV	Kramer 1977
biflagellatus O'Brien, 1982a	USA: AZ	O'Brien 1982a
borealis Van Duzee, 1912a [Metcalf 1936: 234] =*Oecleus bilineatus* Caldwell, 1938b: 305; syn. by Kramer 1977: 433–434.	USA: AL, AZ, CT, DC, FL, GA, IL, KS, MD, MI, MS, NC, NJ, NY, OH, OK, PA, SC, TX, UT, VA; CAN: ON	Metcalf 1936, Caldwell 1938b, Kramer 1977, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Wilson et al. 1983, Maw et al. 2000, Bartlett et al. 2011;
campestris Ball, 1902a [Metcalf 1936: 235]	USA: AZ, CA, CO, NM, TX (reported in error: USA: CT, MS)	Metcalf 1936, Kramer 1977
capitulatus Van Duzee, 1912a [Metcalf 1936: 235] = *Oecleus triplicatus* Ball & Klingenberg, 1935: 198; syn. by Kramer 1977: 420, 422.	USA: AZ	Metcalf 1936, Kramer 1977
centronus Ball & Klingenberg, 1935	USA: AZ	Kramer 1977
chrisjohni Kramer, 1977	USA: IL, MO, TX	Kramer 1977, Wilson & McPherson 1979d, 1980a, b; Wilson et al. 1993
cucullus Kramer, 1977	USA: AZ, CA, TX, UT	Kramer 1977
decens Stål, 1862a [Metcalf 1936: 236]	Mexico (Baja California, Jalisco, Morelos, Sonora) (reported in error: USA: CA, CT, DC, LA, NC, NJ, NM, TX)	Metcalf 1936, Caldwell 1944a, Kramer 1977 (US records in error Kramer, 1977)
epetrion Kramer, 1977	USA: IL, TX	Kramer 1977, Wilson & McPherson 1979d, 1980a, b, c
excavatus Ball, 1902a [Metcalf 1936: 236]	USA: AZ, CA, CO, NE, NM, OK	Metcalf 1936, Kramer 1977
fulvidorsum Ball, 1902a [Metcalf 1936: 236]	USA: AZ, CA, CO, TX, UT	Metcalf 1936, Kramer 1977

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glochin Kramer, 1977	USA: CA, NV, UT	Kramer 1977
jenniferae Kramer, 1977	USA: AZ	Kramer 1977
lineatus Ball, 1902a [Metcalf 1936: 237]	USA: AZ, CA, NV, TX	Metcalf 1936, Kramer 1977
lyra Kramer, 1977	USA: AZ	Kramer 1977
martharum Kramer, 1977	USA: AZ, CA, NV, UT	Kramer 1977
monilipennis Van Duzee, 1923a [Metcalf 1936: 237]	USA: CA, NM, NV, TX; Mexico (Baja California, Baja California Sur; Gulf of California: Ceralbo, Espiritu Santo, Mejia, San Esteban and Santa Cruz Islands)	Metcalf 1936, Kramer 1977
natatorius Ball, 1937	USA: AZ	Kramer 1977
netrion Kramer, 1977	USA: CA	Kramer 1977
netron Kramer, 1977	USA: AZ	Kramer 1977
nolinus Ball & Klingenberg, 1935 = *Oecleus texanus* Ball, 1937: 181; syn. by Kramer 1977: 408, 410.	USA: AZ, NM, TX	Kramer 1977
obrieni O'Brien, 1982a	USA: TX	O'Brien 1982a
obtusus Ball, 1902a [Metcalf 1936: 237]	USA: AZ, CA, CO, ID, KS?, NE?, NV, OR, TX, UT, WA; CAN: BC; Mexico (Baja California, Baja California Sur)	Metcalf 1936, Kramer 1977, Maw et al. 2000
palton Kramer, 1977	USA: AZ	Kramer 1977
patulus Kramer, 1977	USA: AZ	Kramer 1977
pellucens Fowler, 1904 [Metcalf 1936: 237]	USA: AZ; Mexico (Chiapas, Federal District, Guerrero, Jalisco, Mexico, Michoacán, Oaxaca, Puebla, Quintana Roo, San Luis Potosí, Tabasco, Veracruz); El Salvador, Guatemala	Van Duzee 1912a, Fowler 1904, Metcalf 1936, Caldwell 1944a
perpictus Van Duzee, 1929c [Metcalf 1936: 238]	USA: AZ, CA Mexico (Baja California, Sonora)	Kramer 1977
pigmy Ball & Klingenberg, 1935	USA: AZ, CA, ID, NM, NV, TX, UT	Kramer 1977
piperatus Ball & Klingenberg, 1935	USA: AZ, CA; Mexico (Baja California)	Kramer 1977
planus Ball & Klingenberg, 1935	USA: CA, NV	Kramer 1977
pontifex Kramer, 1977	USA: AZ	Kramer 1977
productus Metcalf, 1923 [Metcalf 1936: 238]	USA: AL, AZ, CA, DE, FL, GA, IL, MD, MO, MS, NC, NE, NM, NV, TX, UT; Mexico (Sonora)	Metcalf 1936, Kramer 1977, Wilson & McPherson 1980a, b, c; Benton & McCreadie 2009, Bartlett et al. 2011
quadrilineatus Van Duzee, 1912a [Metcalf 1936: 238]	USA: AZ	Kramer 1977
rhion Kramer, 1977	USA: AZ	Kramer 1977
sagittanus Ball & Klingenberg, 1935	USA: CA, NV, UT	Kramer 1977
snowi Ball, 1905 [Metcalf 1936: 238]	USA: AZ, CA, TX; Mexico (Baja California, Baja California Sur, Sonora)	Metcalf 1936, Kramer 1977
subreflexus Van Duzee, 1925 [Metcalf 1936: 238] = *Oecleus cabazonus* Ball & Klingenberg, 1935: 201; syn. by Kramer 1977: 404, 406. = *Oecleus pulchellatus* Ball & Klingenberg, 1935: 201; syn. by Kramer 1977: 404, 406.	USA: AZ, CA, NV, UT	Metcalf 1936, Kramer 1977

tamiamus Ball & Klingenberg, 1935	USA: FL, GA	Kramer 1977, Wilson & McPherson 1980b
troxanon Kramer, 1977	USA: UT	Kramer 1977
vates Kramer, 1977	USA: AZ	Kramer 1977
venosus Van Duzee, 1912a [Metcalf 1936: 238]	USA: CA, NV, OR, TX; CAN: BC	Metcalf 1936, Kramer 1977, Maw et al. 2000
Pintaliini Metcalf, 1938		
Monorachis Uhler 1901 (Type species *Monorachis sordulentus* Uhler, 1901).		
sordulentus Uhler, 1901 [Metcalf 1936: 132]	USA: FL, GA, IL, KS, LA, MS, MO, NC, OK, SC, TN; Mexico (Veracruz)	Van Duzee 1908, Metcalf 1936, Wilson & McPherson 1980a, b, c; Kramer 1983, Emeljanov 2001b , Gonzon et al. 2006
Pintalia Stål, 1862c (Type species *Pintalia lateralis* Stål, 1862b). = ***Ciocixius*** Metcalf, 1923 (Type species *Cixius dorsivittatus* Van Duzee, 1909); syn. by Muir 1925a: 100. = ***Cotyleceps*** Uhler, 1895 (Type species *Cotyleceps decorata* Uhler, 1895); syn. by Muir 1925a: 100. = ***Metabrixia*** Fowler, 1904 (Type species *Metabrixia delicata* Fowler, 1904); syn. by Muir 1925a: 103.		
delicata (Fowler, 1904) [Metcalf 1936: 29] = *Metabrixia delicata* Fowler 1904: 86. = *Pintalia delicata* (Fowler 1904); comb. by Muir 1925a: 102. = *Cixius dorsalis* Van Duzee, 1908: 491 (nec Stephens 1829). = *Cixius dorsivittatus* Van Duzee, 1909: 188; replacement name for *Cixius dorsalis* Van Duzee, 1908 (nec Stephens 1829: 356). = *Pintalia dorsovittatus* (Van Duzee, 1909); comb. by Metcalf 1936: 29. = *Pintalia dorsovittata* (Van Duzee, 1909); emendation by Caldwell 1944d: 154. = *Cixius dorsalis* Van Duzee, 1908 (nec Stephens 1829); syn. by Kramer 1983: 39. = *Pintalia dorsovittata* (Van Duzee, 1909); syn. by Kramer 1983: 39.	USA: AL, AZ, CA, FL, GA, IL, LA, MD, MS, NC, SC, TN, TX, VA; Cuba, Mexico (Chiapas, Jalisco, Guerrero, Michoacán, Morelos, Oaxaca, Quintana Roo, Sinaloa, Sonora, Tabasco, Veracruz), Guatemala, Nicaragua (reported in error: Ecuador)	Muir 1934, Metcalf 1936, Caldwell 1944e, Wilson & McPherson 1980a, b, c; Kramer 1983, Lago & Testa 2000, Benton & McCreadie 2009, Bartlett et al. 2011
gurneyi Kramer, 1983	USA: AL, FL, KY, LA, MS, VA	Kramer 1983, Benton & McCreadie 2009
vibex Kramer, 1983	USA: AL, AR, DE, FL, IL, IN, KS, LA, MD, MO, MS, NC, OK, SC, TN, TX, VA	Kramer 1983, Bartlett & Bowman 2004, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011

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FAMILY DELPHACIDAE

Asiracinae Fieber, 1872

Asiracini Fieber, 1872

Copicerus Swartz, 1802 (Type species *Copicerus irroratus* Swartz, 1802).
= ***Jerala*** Walker, 1858 (Type species *Jerala singula* Walker 1858); syn. by Stål 1862b: 488.
= ***Holotus*** Guérin-Méneville, 1856 (Type species *Holotus thoracicus* Guérin-Méneville, 1856); syn. by Dallas 1867: 559.

irroratus Swartz, 1802 [Metcalf 1943: 31]	USA: AZ, DE, FL, IL, MD, MO, MS, OH, PA, TX, VA, WV; Belize, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico (Baja California Sur, Guerrero, Mexico, Nayarit, Sonora, Tabasco, Veracruz), Nicaragua, Panama, Puerto Rico, Trinidad, Venezuela	Metcalf 1943, Wilson & McPherson 1980a, b; Caldwell & Martorell 1951

Idiosystanini Emeljanov, 1995

Pentagramma Van Duzee, 1897 (Type species *Liburnia vittatifrons* Uhler, 1876).
= ***Lepticus*** Crawford, 1914 (Type species *Lepticus oculatus* Crawford, 1914); syn. by Dozier 1928: 257; Muir 1926: 3.
= ***Bergia*** Scott, 1881 (Type species *Liburnia nimbata* Berg, 1879); syn. by Asche 1985: 283.
= ***Bergias*** Kirkaldy, 1904b (Type species *Liburnia nimbata* Berg, 1879); replacement name for *Bergia* Scott, 1881; syn. by Asche 1985: 283.

bivittata Crawford, 1914 [Metcalf 1943: 48]	USA: KS, NE, OH, TX; Costa Rica, Guyana, Netherland Antilles, Puerto Rico, Nicaragua, Trinidad	Metcalf 1943, Fennah 1945a, Penner 1947, Caldwell & Martorell 1951, Hedrick-Zeller & Wilson 2010
douglasensis Penner, 1947 = *Pentagramma variegata* Penner, 1947: 37–39; syn. by Hedrick-Zeller & Wilson 2010: 234.	USA: ID, IL, IN, KS, MI, MN, MO, MS, MT, ND, NM, NY, OR, SD, UT; CAN: MB, ON, SK (reported possibly in error: CAN: BC, NS)	Penner 1947, Wilson & McPherson 1980a, b; Maw et al. 2000, Paiero et al. 2003, Hedrick-Zeller & Wilson 2010
longistylata Penner, 1947	USA: OK, TX (reported possibly in error: USA: FL, MT)	Penner 1947, Wilson & McPherson 1980b, Wilson & Wheeler 1986, Hedrick-Zeller & Wilson 2010
vittatifrons (Uhler, 1876) [Metcalf 1943: 49, *Liburnia*]	USA: CO, DE, IA, ID, IL, IN, KS, MA, MD, MI, MS, MT, NC, ND, NE, NJ, NM, NY, OH, OK, SD, TX, UT, VA, WA, WY; CAN: AB, MB, SK	Metcalf 1943, Penner 1947, Davis & Gray 1966, Wilson & McPherson 1980b, Maw et al. 2000, Hedrick-Zeller & Wilson 2010

Kelisiinae Wagner, 1963

Kelisiini Wagner, 1963

Kelisia Fieber, 1866b (Type species *Delphax guttula* Germar, 1818).

axialis Van Duzee, 1897 [Metcalf 1943: 182]	USA: CT, IA, MD, ME, NC, NH, NJ, NY, OH, PA, VA, VT, WI; CAN: NS, ON, PE, QC	Metcalf 1943, Beamer 1945a, 1951c; Proctor 1946, Moore 1950a, b; Wilson & McPherson 1980b, Maw et al. 2000
bimaculata Beamer, 1945a	USA: NH, WI	Beamer 1945a, 1951c; Wilson & McPherson 1980b
curvata Beamer, 1945a	USA: DC, DE, FL, GA, IL, KS, MD, NC, NJ, OH, PA, TN, TX	Beamer 1945a,Wilson & McPherson 1980a, b, c; Bartlett & Bowman 2004, Gonzon et al. 2006
flagellata Beamer, 1945a	USA: KS	Beamer 1945a
flava Beamer, 1951c	USA: CT, DE, MD, MO, NC, NH, NY, PA; CAN: ON	Beamer 1951c, Wilson & McPherson 1980b, Denno et al. 1991, Maw et al. 2000, Bartlett & Wheeler 2007
hyalina Beamer, 1945a	USA: IL, KS; CAN: ON	Beamer 1945a, Wilson & McPherson 1980a, b; Maw et al. 2000
parvicurvata Beamer, 1951c	USA: FL, SC; CAN: NF	Beamer 1951c, Wilson & McPherson 1980b, Maw et al. 2000, Bartlett & Wheeler 2007
pectinata Beamer, 1945a	USA: DE, IL, KS, NJ; CAN: ON, QC	Beamer 1945a, 1951c; Wilson & McPherson 1980a, b; Maw et al. 2000
retrorsa Beamer, 1945a	USA: CT, IL, MI, MN, NH, PA, WI; CAN: ON	Beamer 1945a, 1951c; Wilson & McPherson 1980a, b; Maw et al. 2000
spinosa Beamer, 1945a	USA: CT, IL, MI, NC, NH, PA, SC, SD, TN, WI; CAN: MN, ON, PE	Beamer 1945a, 1951c; Wilson & McPherson 1980a, b, c; Maw et al. 2000, Gonzon et al. 2006
torquata Beamer, 1951c	USA: CT, NC	Beamer 1951c, Wilson & McPherson 1980b; Bartlett & Wheeler 2007
vesiculata Beamer, 1951c	USA: CT, NC; CAN: SK	Beamer 1951, Bartlett & Wheeler 2007; Maw et al. 2000; Wilson & McPherson 1980b
Stenocraninae Wagner, 1963		
Stenocranini Wagner, 1963		
Kelisicranus Bartlett, 2006 (Type species *Kelisicranus arundiniphagus* Bartlett, 2006).		
arundiniphagus Bartlett, 2006 = ***Terauchiana*** n. sp. Hamilton 2006; syn. by Bartlett 2010: 468.	USA: IL, MO, TN	Bartlett 2006, 2010; Gonzon et al. 2006
Obtusicranus Bartlett, 2006 (Type species *Obtusicranus bicarinus* Bartlett, 2006).		
bicarinus Bartlett, 2006	USA: AZ, CO, UT	Bartlett 2006, 2010
Stenocranus Fieber, 1866b (Type species *Fulgora minuta* Fabricius, 1787).		

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Subgenus *Stenocranus* Fieber, 1866b.		
felti Van Duzee, 1910a [Metcalf 1943: 165]	USA: ME, MN, NH, NY, WI; CAN: AB, BC, MB, NS, ON, PE, QC, SK	Metcalf 1943, Beamer 1946a, Strickland 1953, Wilson & McPherson 1980b, Maw et al. 2000, Hamilton 2006
sandersoni Beamer, 1946c	USA: IL, ME; CAN: BC, ON, PE, QC, SK	Beamer 1946c, Wilson & McPherson 1980a, b; Maw et al. 2000, Hamilton 2006
Subgenus *Codex* Hamilton, 2006 (Type species *Delphax vittata* Stål, 1862a).		
acutus Beamer, 1946a	USA: FL, GA, MS, NC, PA	Beamer 1946a, Wilson & McPherson 1980b, Hamilton 2006
angustus Crawford, 1914 [Metcalf 1943: 162]	USA: GA; Belize	Metcalf 1943, Bartlett 2010
arundineus Metcalf, 1923 [Metcalf 1943: 162] = *Stenocranus aurundineus* Metcalf, 1923: 197; missp. by Strickland 1953: 208.	USA: GA, NC; CAN: AB	Metcalf 1943, 1949, Beamer 1946a, Strickland 1953, Wilson & McPherson 1980b
brunneus Beamer, 1946a	USA: DE, IL, KS, NC, OK, SC, TN	Beamer 1946a, Wilson & McPherson 1980a, b, c; Gonzon et al. 2006, Bartlett & Wheeler 2007
delicatus Beamer, 1946a	USA: DE, IL, KS, NJ; CAN: ON	Beamer 1946a, Wilson & McPherson 1980a, b, c; Paiero et al. 2003, Hamilton 2006
dorsalis (Fitch, 1851) [Metcalf 1943: 163] = *Delphax dorsalis* Fitch, 1851: 46. = *Stenocranus dorsalis* (Fitch, 1851); comb. by Van Duzee 1890: 390. = *Delphax unipunctata* Provancher, 1872: 319; syn. by Van Duzee 1897: 227; 1912: 325 (error) removed from synonymy (as *Stenocranus unipunctatus* (Provancher, 1872)) by Beamer 1946a: 5. = *Stenocranus pallidus* Beamer, 1946a; syn. by Hamilton 2006: 498–499.	USA: CO, CT, DC, FL, IA, ID, IL, IN, LA, MA, MD, ME, MI, MO, NC, NE, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI; CAN: AB, BC, MB, NB, ON, PE, QC, SK; Cuba (Isla de la Juventud as Isla de Pinos)?	Metcalf 1943, Beamer 1946a, Proctor 1946, Moore 1950a, b; Strickland 1953, Kontkanen 1958, Wilson & McPherson 1980a, b, c; Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006; Hamilton 2006
lautus Van Duzee, 1897 [Metcalf 1943: 168]	USA: AL, CT, DC, DE, FL, IA, IL, KS, MD, MO, MS, NC, NH, NJ, NY, OH, PA, SC, TN, TX, VA; CAN: BC?, ON, QC; Cuba?	Osborn 1926, Metcalf 1943, Beamer 1946a, Wilson & McPherson 1980a, b, c; Calvert & Wilson 1986, Wilson et al. 1993, Lago & Testa 2000, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Hamilton 2006, Bartlett & Wheeler 2007
ramosus Beamer, 1946a	USA: AL, FL, GA, NC	Beamer 1946a, Wilson & McPherson 1980b, Benton & McCreadie 2009

simulis Crawford, 1914 [Metcalf 1943: 178]	USA: AL, IL, KY, MS, NC, SC, TN: CAN: QC?	Metcalf 1943, Beamer 1946a, Moore 1950a, b, c; Wilson & McPherson 1980a, b; Gonzon et al. 2006
unipunctatus (Provancher, 1872) (nec Beamer 1946a: 5) [Metcalf 1943: 163 as syn. of *Stenocranus dorsalis*]. = *Delphax unipunctata* Provancher, 1872: 319. = *Stenocranus dorsalis* (Fitch, 1851: 46); syn. by Van Duzee 1897: 227; 1912: 325; restored to species status by Beamer 1955: 5. = *Stenocranus unipunctatus* (Provancher, 1872); comb. by Van Duzee 1916a: 83. = *Stenocranus unipunctatus* (Provancher, 1872) (nec Beamer 1955); status by Hamilton 2006: 499. = *Stenocranus dorsalis* Beamer 1946: 2 (nec Fitch 1851); syn. by Hamilton 2006: 499.	USA: ME; CAN: BC, ON, QC	Beamer 1946a, Hamilton 2006
vittatus (Stål, 1862a) [Metcalf 1943: 168 as syn. of *Stenocranus lautus*] = *Delphax vittata* Stål, 1862a: 315 (nec Spinola 1852: 260). = *Stenocranus lautus* Van Duzee, 1897: 227, 231; syn. by Van Duzee 1914: 165; 1917: 763; removed from syn. by Hamilton 2006: 499. = *Stenocranus vittatus* (Stål, 1862a); comb. by Crawford 1914: 592. = *Stenocranus dorsalis vittatus* (Stål, 1862a); comb. by Van Duzee 1917b: 763; Moore 1950a, b. = *Stenocranus unipunctatus* Beamer, 1946a: 5 (nec Provancher 1872); syn. and status by Hamilton 2006: 499.	USA: ME, NC, NH; CAN: ON, QC (Reported possibly in error: USA: IL)	Beamer 1946a, Moore 1950a, b; Wilson & McPherson 1980a, b; Maw et al. 2000, Hamilton 2006, Bartlett & Wheeler 2007
Terauchiana Matsumura, 1915 (Type species *Terauchiana singularis* Matsumura, 1915).		
n. sp. Hamilton 2006: 502; see *Kelisicranus arundiniphagus* Bartlett, 2006.		
Delphacinae Leach, 1815		
Saccharosydnini Vilbaste, 1968		
Saccharosydne Kirkaldy, 1907a (Type species *Delphax saccharivora* Westwood, 1833).		
saccharivora (Westwood, 1833) [Metcalf 1943: 225] = *Delphax saccharivora* Westwood, 1833: 413. = *Stenocranus saccharivora* (Westwood, 1833); comb. by Kirkaldy 1906: 279, 409. = *Saccharosydne saccharivora* (Westwood, 1833); comb. by Kirkaldy 1907a: 139. = *Megamelanus rufivittatus* Ball, 1905: 119; syn. by Kennedy et al. 2012: 404–405.	USA: FL, GA, HI, LA, MD, MS, NC, TX; Bahamas (Great Abaco, Long, Mangrove Cay, New Providence); Barbados, Bermuda, Belize, Colombia, Costa Rica, Cuba, Dominican Republic, Guyana, Haiti, Jamaica, Mexico (Chiapas, Federal District, Morelos, Oaxaca, Veracruz); Puerto Rico (inc. Vieques Island), Trinidad, Venezuela; Virgin Islands (Guana), Lesser Antilles (Antigua, Grenada, Guadeloupe, St. Lucia)	Metcalf 1943, Fennah 1945a, 1959, Wolcott 1950, Caldwell & Martorell 1951, Metcalfe 1969, Wilson & McPherson 1980b, Wilson & Hilburn 1991, Meagher et al. 1993, Rodriguez-León et al. 1994a, Woodruff et al. 1998, Bartlett 2000, Bartlett & Bowman 2004, Wilson 2005, Gonzon et al. 2006, Batiz et al. 2009; Kennedy et al. 2012

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Delphacini Leach, 1815		
Achorotile Fieber, 1866b (Type species *Delphax albosignata* Dahlbom, 1850). = ***Achrotile***; missp. by Scudder, 1963; Maw et al. 2000: 83. = ***Archortile***, missp. by Strickland 1953: 209.		
Subgenus *Achorotile* Fieber, 1866b		
acuta Scudder, 1963 = *Achrotile acuta* Scudder, 1963; missp. by Scudder 1963: 167.	USA: UT; CAN: AB, QC, SK, YK	Scudder 1963, Maw et al. 2000, Wilson 1992, 1997
albosignata (Dahlbom 1850) [Metcalf 1943: 130, *Delphax*]	Reported in error USA: NY: CAN: AB Palearctic: Austria, Denmark?, England, Finland, France, Germany, Italy, Mongolia, Norway, Poland, Russia, Sweden	Kirkaldy 1901b, Strickland 1940, 1953; Metcalf 1943, Beamer 1954, Scudder 1963, Ossiannilsson 1978, Wilson & McPherson 1980, Anufriev & Emeljanov 1981
apicata Hamilton, 2002a	USA: UT	Hamilton 2002a, b
coloradensis Beamer, 1954	USA: CO	Beamer 1954
Subgenus *Criochora* Anufriev & Emeljanov 1980 (Type species *Achorotile caecianta* Emeljanov, 1976).		
angulata Beamer, 1954	USA: CO	Beamer 1954
curvata Beamer, 1954	USA: AZ	Beamer 1954
distincta Scudder, 1963	CAN: AB, BC, SK	Scudder 1963, Maw et al. 2000
foveata Spooner, 1912 [Metcalf 1943: 132]	USA: CA, WY	Metcalf 1943, Beamer 1954
pediforma Beamer, 1954	USA: WA	Beamer 1954
stylata Beamer, 1954	USA: CA, ID, MT, WY: CAN: AB, BC, YK	Beamer 1954, Scudder 1963, Wilson 1992, 1997; Maw et al. 2000
subarctica Scudder, 1963 = *Achrotile subarctica* Scudder, 1963; missp. by Scudder 1963: 169.	USA: AK; CAN: AB, BC, NT, YK Palearctic: Russia (Buryat Autonomous Region, Chita, Chukchi Autonomous District, Khabarovsk Territory, Taymyr Autonomous District, Yakut Autonomous Republic), Mongolia	Scudder 1963, Anufriev & Emeljanov 1981, Wilson 1988, 1992, 1997; Maw et al. 2000
transbaicalica Kusnezov, 1929 [Metcalf 1943: 133]	CAN: NT?; Russia, Mongolia, Turkestan	Metcalf 1943, Anufriev & Emeljanov 1981, Maw et al. 2000
Aethodelphax Bartlett & Hamilton, 2011 (Type species *Aethodelphax prairianus* Bartlett & Hamilton, 2011).		
aetocephalus (Beamer, 1948b) = *Delphacodes aetocephala* Beamer, 1948b: 97–98, 105. = *Aethodelphax aetocephalus* (Beamer, 1948b); comb. by Bartlett & Hamilton 2011: 54–55.	USA: FL, LA, MS, TX	Beamer 1948b, Wilson & McPherson 1980b, Bartlett & Hamilton 2011
alatus (Beamer, 1948c) = *Delphacodes alata* Beamer, 1948c: 118–119. = *Aethodelphax alatus* (Beamer, 1948c); comb. by Bartlett & Hamilton 2011: 55–56.	USA: FL	Beamer 1948c, Wilson & McPherson 1980b, Bartlett & Hamilton 2011

caninus (Beamer, 1947) = *Delphacodes canina* Beamer, 1947: 60, 69. = *Aethodelphax caninus* (Beamer, 1947); comb. by Bartlett & Hamilton 2011: 56–57.	USA: AZ; Mexico (Chihuahua).	Beamer 1947, Bartlett & Hamilton 2011
concavus (Beamer, 1948c) = *Delphacodes concava* Beamer, 1948c: 113, 117. = *Aethodelphax concavus* (Beamer, 1948c); comb. by Bartlett & Hamilton 2011: 57–59.	USA: FL, GA, TN	Beamer 1948c, Wilson & McPherson 1980b, Bartlett & Hamilton 2011
megadontus (Beamer, 1951a) = *Delphacodes megadonta* Beamer, 1951a: 11–12, 14. = *Aethodelphax megadontus* (Beamer, 1951a); comb. by Bartlett & Hamilton 2011: 59–60.	USA: KS, MN, MO, WI	Beamer 1951a, Wilson et al. 1993, Bartlett & Hamilton 2011
paraparvulus (Beamer, 1948c) = *Delphacodes paraparvula* Beamer, 1948c: 112–113, 117. = *Aethodelphax paraparvulus* (Beamer, 1948c); comb. by Bartlett & Hamilton 2011: 60–61.	USA: MS	Beamer 1948c, Wilson & McPherson 1980b, Bartlett & Hamilton 2011
prairianus Bartlett & Hamilton, 2011: 52–53.	USA: IL, MI, MO, NE, SD, WI; CAN: MB.	Bartlett & Hamilton 2011
sagittatus (Beamer, 1947) = *Delphacodes sagittata* Beamer 1947: 64, 71. = *Aethodelphax sagittatus* (Beamer, 1947); comb. by Bartlett & Hamilton 2011: 61–63.	USA: FL, GA, LA	Beamer 1947, Wilson & McPherson 1980b, Bartlett & Hamilton 2011
Akemetopon Weglarz & Bartlett, 2011 (Type species *Akemetopon inornatum* Weglarz & Bartlett, 2011).		
ainigma Weglarz & Bartlett, 2011	USA: AZ	Weglarz & Bartlett 2011
comptum (Beamer, 1948c) = *Delphacodes compta* Beamer, 1948c: 115–116. = *Akemetopon comptum* (Beamer, 1948c); **new combination.**	USA: CA	Beamer 1948c
inornatum Weglarz & Bartlett, 2011	USA: AZ	Weglarz & Bartlett 2011
Bakerella Crawford, 1914 (Type species *Bakerella maculata* Crawford, 1914).		
angulata Beamer, 1950b	USA: FL	Beamer 1950b, Wilson & McPherson 1980b
bideus Beamer, 1945b	USA: AZ, KS, NM	Beamer 1945b
bullata Beamer, 1950b	USA: FL, LA, MD, TX	Beamer 1950b, Wilson & McPherson 1980b
cinerea Beamer, 1945b	USA: AR, KS, MO, PA	Beamer 1945b, Wilson et al. 1993
cornigera Beamer, 1950b	USA: DE, PA, VA, WV	Beamer 1950b, Wilson & McPherson 1980b
fusca Beamer, 1945b	USA: AZ, NM, TX	Beamer 1945b
maculata Crawford, 1914 [Metcalf 1943: 220]	USA: TX?; Mexico (Chiapas, Guerrero) (reported in error: USA: MS, OH: CAN: QC)	Crawford 1914, Metcalf 1943, Moore 1950a, b (Described from Mexico with Texas specimen tentatively included)
minuta Beamer, 1950b	USA: FL, GA	Beamer 1950b, Wilson & McPherson 1980b

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muscotana Beamer, 1946b	USA: IL, KS, NC, NY; CAN: BC, MB	Beamer 1946b, c, Wilson & McPherson 1980a, b; Maw et al. 2000
pediforma Beamer, 1950b	USA: FL, LA, MS	Beamer 1950b, Wilson & McPherson 1980b
penefusca Beamer, 1950b	USA: CT, NC, NH, PA, VT; CAN: ON	Beamer 1950b, Wilson & McPherson 1980b, Maw et al. 2000
rotundifrons Beamer, 1945b	USA: IL, KS, TX	Beamer 1945b, Wilson & McPherson 1980a, b
spinifera Beamer, 1950b	USA: GA	Beamer 1950b, Wilson & McPherson 1980b
Bostaera Ball, 1902b (Type species *Bostaera nasuta* Ball, 1902b). = ***Cochise*** Kirkaldy, 1907b (type species *Cochise apacheanus* Kirkaldy, 1907b); syn. by Muir 1913: 239. = ***Tricranoneura*** Horváth, 1922 (Type species *Delphacodes bolivari* Melichar 1901b); syn. by Muir 1925b: 279.		
balli Penner, 1952	USA: FL, GA, NC	Penner 1952, Wilson & McPherson 1980b, Tsai & Mead 1982
nasuta Ball, 1902b [Metcalf 1943: 222]	USA: AZ, CA, CO, FL, GA, KS, NC, NM, OK, TX, UT; Mexico (Federal District, Quintana Roo), Honduras	Metcalf 1943, Penner 1952 (eastern records should be verified)
Caenodelphax Fennah, 1965a (Type species *Liburnia teapae* Fowler, 1905).		
atridorsum (Beamer, 1947) = *Delphacodes atridorsum* Beamer, 1947. = *Caenodelphax atridorsum* (Beamer, 1947); comb. by Hamilton 2002a: 17.	USA: OR, MT	Beamer 1947, Hamilton 2002a, b
nigriscutellata (Beamer, 1947) = *Delphacodes nigriscutellata* Beamer, 1947: 62–63. = *Caenodelphax nigriscutellata* (Beamer, 1947); comb. by Bouchard et al. 2001: 49. = *Caenodelphax nigriscutellatus* (Beamer, 1947); unjustified emendation by Hamilton 2002a: 17.	USA: IA, KS, MO, SD; CAN: AB, MB, ON	Beamer 1947, Wilson et al. 1993, Maw et al. 2000, Bouchard et al. 2001, Hamilton 2002a

teapae (Fowler, 1905) [Metcalf 1943: 519] = *Liburnia teapae* Fowler, 1905: 135. = *Delphacodes teapae* (Fowler, 1905); comb. by Wolcott 1923; 274. = *Caenodelphax teapae* (Fowler, 1905); comb. by Fennah 1965a: 96.	USA: FL, TX; Bahamas (New Providence), Barbados, Belize, Bolivia, Brazil, Cayman Islands (Cayman Brac), Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico (Chiapas, Federal District, Guerrero, Jalisco, Oaxaca, Puebla, San Luis Potosí, Tabasco, Tamaulipas, Veracruz), Montserrat, Nicaragua, Panama, Puerto Rico (inc. Mona Is.), St. Lucia, Tobago, Trinidad, Venezuela, Virgin Islands (St. Thomas, St. Vincent, St. Croix), Venezuela Also reported Galapagos (Santa Cruz; adventive?)	Fowler 1905, Metcalf 1943, Fennah 1945a, 1959, 1965a, 1967a; Wolcott 1950, Caldwell 1950a, Caldwell & Martorell 1951, Miskimen & Bond 1970, Wilson & McPherson 1980b
Chionomus Fennah, 1971a (Type species *Delphacodes havanae* Muir & Giffard, 1924).		
balboae (Muir & Giffard, 1924) [Metcalf 1943: 409] = *Delphacodes balboae* Muir & Giffard, 1924: 36. = *Chionomus balboae* (Muir & Giffard, 1924); comb. by Fennah 1971a: 324.	USA: FL; Argentina, Belize, Bolivia, Brazil, Cayman Islands (Grand Cayman, Cayman Brac), Costa Rica, Dominican Republic, Ecuador, French Guiana, Guatemala, Guyana, Honduras, Jamaica, Mexico (Campeche, Chiapas, Jalisco, Oaxaca, Sinaloa, Veracruz), Panama, Paraguay, Peru, Puerto Rico, St. Lucia, Venezuela	Metcalf 1943, Caldwell & Martorell 1951, Fennah 1959, Kennedy et al. 2012
havanae (Muir & Giffard, 1924) [Metcalf 1943: 452] = *Delphacodes havanae* Muir & Giffard, 1924: 37. = *Chionomus havanae* (Muir & Giffard, 1924); comb. by Fennah 1971a: 323–324.	USA: FL; Belize, Bolivia, Brazil, Cayman Is. (Grand Cayman, Cayman Brac), Colombia, Costa Rica, Cuba, Jamaica, Guadeloupe, Guatemala, Guyana, Honduras, Mexico (Chiapas, Sinaloa, Veracruz), Panama, Peru, Puerto Rico (inc. Mona Island), Trinidad, Venezuela	Metcalf 1943, Caldwell & Martorell 1951, Fennah 1959, 1971; Wilson 1983, Rodriguez-León et al. 1994a, Kennedy et al. 2012
Conomelus Fieber, 1866b (Type species *Delphax anceps* Germar, 1821).		
anceps (Germar, 1821) [Metcalf 1943: 259, *Delphax*]	CAN: NF (adventive) Palearctic: Austria, Belgium, "Czechoslovakia," Denmark, England, Estonia, Finland, France, Germany, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Romania, Scotland, Spain, Sweden, Switzerland, Ukraine, Wales (reported in error: Algeria, Bulgaria, Italy, Sardinia, "Yugoslavia")	Metcalf 1943, Hoch & Remane 1983, Wheeler & Hoebeke 2008
Criomorphus Curtis, 1833 (Type species *Criomorphus albomarginatus* Curtis, 1833).		
inconspicuus (Uhler, 1877) [Metcalf 1943: 343, *Stiroma*] = *Criomorphus conspicuus* Metcalf, 1923: 212; **new synonymy.** = *Criomorphus wilhelmi* Anufriev & Averkin, 1982b: 131; **new synonymy.**	USA: AK, CO, CT, IL, MA, NH, NJ, NY?; CAN: AB, NS, NT, ON, PE, QC, SK, YK; Mongolia, Russia (Amur, Kamchatka Magadan, Sakhalin, Primor'ye Territory and the Kurile Islands)	Metcalf 1943, 1949; Moore 1950a, b; Strickland 1953, Wilson & McPherson 1980b, Wilson 1988, 1992; Maw et al. 2000
Delphacodes Fieber, 1866b (Type species *Delphax mulsanti* Fieber, 1866b).		

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aculeata Beamer, 1948b	USA: FL	Beamer 1948b, Wilson & McPherson 1980b
acuministyla Dozier, 1926 [Metcalf 1943: 398]	USA: AL, AR, CT, DE, FL, GA, LA, MD, MO, MS, NH, NJ, TN, VA	Metcalf 1943, Beamer 1951a, Wilson & McPherson 1980b, Wilson et al. 1993, Gonzon et al. 2006
aduuca Beamer, 1948b	USA: FL, GA, NC	Beamer 1948b, Wilson & McPherson 1980b
andromeda (Van Duzee, 1907) [Metcalf 1943: 405, *Liburnia*] = *Pissonotus speciosus* Metcalf, 1923: 205; syn. by Morgan & Beamer 1949: 142.	USA: AR, CT, DC, DE, GA, KY, MA, MD, MO, MS, NC, NJ, OH, OK, PA, SC, TN, TX, VA; Belize, Cuba, Guyana, Jamaica, Puerto Rico	Metcalf 1943, 1949; Wolcott 1950, DuBose 1960, Wray 1967, Wilson & McPherson 1980a, b, c; Giri & Freytag 1983b, (FL, IL); Wilson et al. 1993, Lago & Testa 2000, Bartlett & Bowman 2004, Gonzon et al. 2006
angulata Beamer, 1947	USA:KS, MO, OK, TX	Beamer 1947, Wilson et al. 1993
anufrievi Wilson, 1992	CAN: BC, SK, YK	Wilson 1992, 1997; Maw et al. 2000
apicata Beamer, 1948b	USA: AZ, CO	Beamer 1948b
arcuata Beamer, 1948b = *Delphacodes albinotata* Muir & Giffard, 1924: 36 (nec Crawford, 1914). = *Delphacodes arcuata* Beamer, 1948b: 104, 106; replacement name for unavailable *D. albinotata* Muir & Giffard, 1924.	USA: FL; Belize, Cayman Islands (Cayman Brac), Cuba, Dominica, Guadeloupe, Jamaica, Martinique, Mexico (Tamaulipas, Veracruz), Panama, Peru, Puerto Rico (inc. Vieques Is.)	Metcalf 1943, Beamer 1948b, Caldwell 1950a, Caldwell & Martorell 1951, Fennah 1959, Wilson & McPherson 1980b,
balli Muir & Giffard, 1924 [Metcalf 1943: 409]	USA: NC, CT; CAN: ON	Metcalf 1943, Wilson & McPherson 1980b, Maw et al. 2000
bellicosa Muir & Giffard, 1924 [Metcalf 1943: 410]	USA: CA	Metcalf 1943, Wilson 1985
bocana Beamer, 1946d	USA: TX	Beamer 1946d
caerulata Beamer, 1947	USA: KS, MO	Beamer 1947, Wilson et al. 1993
carinata (Glover, 1877) (*incertae sedis*) [Metcalf 1943: 416] = *Delphax carinata* Glover, 1877: 27. = *Delphacodes carinata* (Glover, 1877); comb. by Metcalf 1943: 416.	USA	Metcalf 1943
culta (Van Duzee, 1907) (*incertae sedis*) [Metcalf 1943: 422, *Liburnia*]	USA: FL; Bermuda, Cuba, Jamaica.	Metcalf 1943, Wilson & McPherson 1980b
curvistyla Dozier, 1926 [Metcalf 1943: 422]	USA: LA, MS	Metcalf 1943
dentis Beamer, 1948b	USA: TX; CAN: NT	Beamer 1948b, Wilson 1992, 1997
detecta (Van Duzee, 1897) [Metcalf 1943: 425] = *Liburnia detecta* Van Duzee, 1897: 248. = *Delphacodes detecta* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 26. = *Megamelus vanduzeei* Crawford, 1914: 607, 622; syn. by Muir & Giffard 1924: 26. = *Liburnia vanduzeei* (Crawford 1914); comb. by Van Duzee 1916a: 84. = *Delphacodes vanduzeei* (Crawford 1914); comb. by Moore 1950a: 257; 1950b: 32.	USA: CT, DE, FL, GA, LA, MA, MD, ME, MS, NC, NJ, NY, RI, SC, TX, VA, VT; CAN: NS, PE, QC; Anguilla, Bahamas (Exuma, Berry); Bermuda, Jamaica, Mexico, Puerto Rico (inc. Vieques Is.), St. Thomas, Turks & Caicos	Metcalf 1943, Oman 1947, Wolcott 1950, Caldwell & Martorell 1951, DuBose 1960, Davis & Gray 1966, Bickley & Seek 1975, Wilson & McPherson 1980b, Wilson & Hilburn 1991, Denno et al. 1991, Lago & Testa 2000, Maw et al. 2000

furcata (Provancher, 1872) (*incertae sedis*) [Metcalf 1943: 449, *Delphax*]	USA: NH, NY; CAN: ON, QC	Metcalf 1943, Moore 1950a, b; Wilson & McPherson 1980b (Note: this species unlikely to be valid, evidently described from females; noted by Van Duzee 1894: 248 as a possible synonym of *Liburnia arvensis* (Fitch), but listed as a syn. of *Megamelus pellucidus* (Fabricius) by Crawford 1914: 615)
hemiptera (Germar, 1818) (*incertae sedis*) [Metcalf 1943: 452] = *Delphax hemiptera* Germar, 1818: 217. = *Liburnia hemiptera* (Germar, 1818); comb. by Fieber 1872: 5. = *Delphacodes hemiptera* (Germar, 1818); comb. by Metcalf 1943: 454.	Reported in error USA: AK Sweden, Ireland, England, Germany, Latvia, Netherlands	Metcalf 1943
incurva Beamer, 1948a	USA: CT, UT; CAN: BC	Beamer 1948a, Wilson & McPherson 1980b, Maw et al. 2000
indentistyla Dozier, 1926 [Metcalf 1943: 455] = *[Delphacodes] indentistytla* Dozier 1926: 261; missp. by Wilson & McPherson 1980b: 12.	USA: FL, MS, NC	Metcalf 1943, Wilson & McPherson 1980b
lappae Beamer, 1946d	USA: CA, TX	Beamer 1946d
latidens Beamer, 1948a	USA: AZ, KS, NM, OK, TX, UT; Mexico (Zacatecas)	Beamer 1948a, Wilson & Wheeler 2010
livida Beamer, 1948a	USA: CT	Beamer 1948a, Wilson & McPherson 1980b
luteivitta (Walker, 1851) [Metcalf 1943: 171] = *Delphax luteivitta* Walker, 1851: 354. = *Dicranotropis (?) luteivitta* (Walker, 1851); comb. by Van Duzee 1916a: 84. = *Stenocranus luteivitta* (Walker, 1851); comb. by Muir & Giffard 1924: 12. = *Delphacodes luteivitta* (Walker, 1851); comb. by Bartlett 2010: 472.	USA: FL ("United States")	Metcalf 1943, Bartlett 2010
mcateei Muir & Giffard, 1924 [Metcalf 1943: 468]	USA: AR, DE, FL, IL, KS, KY, MD, ME, MO, NC, NE, NJ, OK, TN	Metcalf 1943, Wilson & McPherson 1980a, b; Giri & Freytag 1983b, Wilson et al. 1993, Gonzon, et al. 2006
nigrifacies Muir, 1918a [Metcalf 1943: 472] = *Delphacodes xerosa* Caldwell, 1951 in Caldwell & Martorell 1951; syn. by Kennedy et al. 2012: 404–405.	USA: FL; Belize, Bolivia, Cayman Islands (Cayman Brac), Costa Rica, Cuba, Dominica, Grenada, Guyana, Honduras, Martinique, Mexico (Federal District, Tamaulipas, Veracruz); Montserrat, Panama, Puerto Rico, St. Lucia, St. Thomas, St. Vincent, Venezuela	Metcalf 1943, Caldwell & Martorell 1951, Fennah 1959, Calvert, Tsai & Wilson 1987
nigrinota Beamer, 1951a	USA: TX; Mexico (Veracruz); Ecuador, Nicaragua	Beamer 1951a
nigripennata Beamer, 1946d	USA: FL, KS, NC	Beamer 1946d, DuBose 1960, Wray 1967, Wilson & McPherson 1980b

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nitens Muir & Giffard, 1924 [Metcalf 1943: 473] = *Pissonotus nigridorsum* Metcalf, 1923: 206; **new synonymy** (*Delphacodes nitens* used as replacement name to avoid homonymy with *Delphacodes nigridorsum* (Crawford, 1914), here moved to *Isodelphax*).	USA: CO, DE, DC, IL, MD, MO, NC, NJ, NY, OH, PA, TN, TX	Metcalf 1943, 1949; Wilson & McPherson 1980b, c; Bartlett & Bowman 2004, Gonzon et al. 2006
pacifica (Crawford, 1914) [Metcalf 1943: 478, *Megamelus*]	USA: AZ, CA, CO, FL, GA, IL, KS, LA, MO, MS, NC, NM, OK, SC, TX, UT; Colombia, Guatemala, Mexico (Chihuahua, Durango, Federal District, Jalisco, Michoacán, Oaxaca, San Luis Potosí, Sonora), Panama, Venezuela	Metcalf 1943, Wilson & McPherson 1980a, b, c; Meagher et al. 1993, Gonzon et al. 2006
penedetecta Beamer, 1950a	USA: AL, FL, LA, MS, NJ, TX	Beamer 1950a, Wilson & McPherson 1980b, Denno et al. 1991, Lago & Testa 2000, Ferrenberg & Denno 2002
penepuella Beamer, 1948a	USA: FL, NY	Beamer 1948a, Wilson & McPherson 1980b
puella (Van Duzee, 1897) [Metcalf 1943: 499] = *Liburnia puella* Van Duzee 1897: 250, 227. = *Delphax puella* (Van Duzee 1897); comb. by Kirkaldy 1907a: 160–161. = *Megamelus puella* (Van Duzee 1897); comb. by Crawford 1914: 622, 625, 626. = *Delphacodes puella* (Van Duzee 1897); comb. by Muir 1917: 337; DuBose 1960: 51. = *Calligypona puella* (Van Duzee, 1897); comb. by Kontkanen 1958: 143.	USA: AL, AR, CA, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, TN, VA, VT, WA, WI, WV; CAN: ON, NS, QC; Bermuda, Cuba, Jamaica, Mexico (Veracruz), Puerto Rico, Venezuela (reported in error: Australia, Brazil and Hawaii)	Metcalf 1943, Proctor 1946, Oman 1947, Wolcott 1950, Moore 1950a, b, Caldwell & Martorell 1951, Kontkanen 1958, DuBose 1960, Bickley & Seek 1975, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Giri & Freytag 1983b, Giri et al. 1985, Wilson & Hilburn 1991, Denno et al. 1991,Wilson et al. 1993, Maw et al. 2000, Lago & Testa 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Benton & McCreadie 2009
quadridentis Beamer, 1948b	USA: FL, GA, MS	Beamer 1948b, Wilson & McPherson 1980b
quadrispinosa Muir & Giffard, 1924 [Metcalf 1943: 502]	USA: FL, LA; Cuba, Costa Rica, Guatemala, Honduras, Nicaragua	Metcalf 1943, Kennedy et al. 2012
recurvata Beamer, 1948a	USA: DC, DE, FL, MD, NC, NJ, PA	Beamer 1948a, DuBose 1960, Wray 1967, Wilson & McPherson 1980b, Weber & Wilson 1981
rivularis (Germar, 1830) (*incertae sedis*) [Metcalf 1943: 503, *Delphax*]	USA: GA	Metcalf 1943, Wilson & McPherson 1980b
scolochloa Cronin & Wilson 2007	USA: ND	Cronin & Wilson 2007
seminigra (Stål, 1854) [Metcalf 1943: 505] = *Delphax seminigra* Stål, 1854: 246. = *Liburnia seminigra* (Stål, 1854); comb. by Van Duzee 1907: 46. = *Megamelus seminigra* (Stål, 1854); comb. by Crawford 1914: 631; Barber 1914: 528. = *Delphacodes seminigra* (Stål, 1854); comb. by Muir & Giffard 1924: 38.	USA: CO?, FL?; Brazil, Jamaica (US records probably in error; Type locality Rio de Janeiro, Brazil)	Metcalf 1943, Wilson & McPherson 1980b

shermani (Metcalf, 1923) [Metcalf 1943: 505, *Liburnia*]	USA: KS, MD, MO, NC	Metcalf 1943, Beamer 1947, DuBose 1960, Wilson & McPherson 1980b, Denno et al. 1991
silvae Beamer, 1946d	USA: FL, TX	Beamer 1946d
staminata (Metcalf, 1923) [Metcalf 1943: 511, *Liburnia*]	USA: IL	Metcalf 1943, 1949; Wilson & McPherson 1980b
stricklandi Metcalf, 1946b	CAN: AB, MB, SK	Metcalf 1946b, Strickland 1953, Maw et al. 2000
sucinea Beamer, 1948c	USA: AL, FL, GA, MS, SC	Beamer 1948c, Wilson & McPherson 1980b, Wilson & Wheeler 2010
*trinacula*ta Beamer, 1948a	USA: AR, CT, DC, FL, IL, MD, TN, VA	Beamer 1948a, Wilson & McPherson 1980a, b, c; Gonzon et al. 2006, Wilson & Wheeler 2010
truncata Beamer, 1948b	USA: DE, FL, GA, LA, MD, MO, MS, TN, TX, VA	Beamer 1948b, Wilson & McPherson 1980b, Wilson et al. 1993, Gonzon et al. 2006
turgida Beamer, 1948b	USA: FL, GA	Beamer 1948b, Wilson & McPherson 1980b
uniformis Metcalf, 1943 (*incertae sedis*) [Metcalf 1943: 521] = *Delphax unicolor* Walker, 1851: 354. = *Liburnia unicolor* (Walker, 1851); Van Duzee, 1916: 84. = *Delphacodes uniformis* Metcalf, 1943: 521; replacement name for unavailable *Delphax unicolor* Walker, 1851 (nec Herrich-Schäffer 1835). = *Delphacodes unicolor* (Walker, 1851); comb. by Moore 1950a: 257; 1950b:32.	CAN: QC	Walker 1851, Van Duzee 1897, Metcalf 1923, 1943; Moore 1950a, b. The type of this species is a nymph that is not a delphacid (Muir 1919a: 8)
vaccina Caldwell, 1951 (in Caldwell & Martorell 1951)	USA: FL; Puerto Rico	Caldwell & Martorell 1951, Kennedy et al. 2012
waldeni (Metcalf, 1923) [Metcalf 1943: 522, *Liburnia*]	USA: CT, TN; CAN: ON	Metcalf 1943, Wilson & McPherson 1980b, Paiero et al. 2003, Gonzon et al. 2006
Elachodelphax Vilbaste, 1965 (Type species *Liburnia metcalfi* Kuznezov, 1929). = ***Aschedelphax*** Wilson, 1992 (Type species *Aschedelphax hochae* Wilson, 1992); status (subgenus) by Hamilton 2002a: 17.		
Subgenus *Aschedelphax* Wilson, 1992		
bifida (Beamer, 1948b) = *Delphacodes bifida* Beamer, 1948b: 99–100. = *D[elphacodes] bifidus* Beamer 1948b; unjustified emendation by Hamilton 2002a: 3. = *Elachodelphax (Aschedelphax) bifida* (Beamer, 1948b); comb. by Hamilton 2002a: 17.	USA: AZ, CO, NM, NY	Beamer 1948b, Hamilton 2002a
borealis Hamilton, 2002a	USA: NH, NY; CAN: AB, NF, NT, ON, QC	Hamilton 2002a

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coloradensis (Beamer, 1952a) = *Delphacodes coloradensis* Beamer, 1952a: 114. = *Aschedelphax coloradensis* (Beamer, 1952a); comb. by Wilson 1992: 89–90. = *Elachodelphax (Aschedelphax) coloradensis* (Beamer, 1952); comb. by Hamilton 2002a: 17.	USA: CA, CO	Beamer 1952a, Wilson 1992, Hamilton 2002a
hochae (Wilson, 1992) = *Aschedelphax hochae* Wilson, 1992: 89–90. = *Elachodelphax (Aschedelphax) hochae* (Wilson, 1992); comb. by Hamilton 2002a: 17.	CAN: AB, BC, SK, YK	Wilson 1992, 1997; Maw et al. 2000, Hamilton 2002a
mazama Hamilton, 2002a	USA: NM, WA	Hamilton 2002a, b
paransera (Beamer, 1948b) = *Delphacodes paransera* Beamer, 1948b: 101–102. = *Calligypona paransera* (Beamer, 1948b); comb. by Kontkanen 1958: 143. = *Elachodelphax (Aschedelphax) paransera* (Beamer, 1948b); comb. by Hamilton & Kwon 2010: 421.	USA: ND, NH, NY, SD, WI; CAN: AB, MB, ON, SK	Beamer 1948b, Kontkanen 1958, Wilson & McPherson 1980a, Maw et al. 2000, Hamilton & Kwon 2010
pediforma (Beamer, 1947) = *Delphacodes pediforma* Beamer, 1947: 70. = *Yukonodelphax pediforma* (Beamer, 1947); comb. by Wilson 1992: 92. = *D[elphacodes] pedaforma* (Beamer, 1947); missp. by Maw et al. 2000: 84; also Hamilton 2002a: 3. = *Elachodelphax (Aschedelphax) pedaforma* (Beamer, 1947); comb. and missp. by Hamilton 2002a: 17; also Hamilton & Kwon 2010: 17.	USA: ID, WA; CAN: AB, BC, YK	Beamer 1947, Wilson 1992, 1997; Maw et al. 2000, Hamilton 2002a, b
peneparvula (Beamer, 1947) = *Delphacodes peneparvula* Beamer, 1947: 61–62. = *Elachodelphax peneparvula* (Beamer, 1947); **new combination.**	USA: KS, KY, MS, OK, TX	Beamer 1947, Wilson & McPherson 1980b
unita Hamilton, 2002a	USA: UT	Hamilton 2002a, b
Subgenus *Elachodelphax* Vilbaste, 1965		
indistincta (Crawford, 1914) [Metcalf 1943: 455] = *Megamelus indistinctus* Crawford, 1914: 619. = *Liburnia indistincta* (Crawford, 1914); comb. by Van Duzee 1916a: 84. = *Delphacodes indistincta* (Crawford, 1914); comb. by Muir & Giffard 1924: 26. = *D[elphacodes] indistinctus* (Crawford, 1914); unjustified emendation by Hamilton 2002a: 3. = *Elachodelphax (Elachodelphax) indistinctus* (Crawford, 1914); comb. by Hamilton 2002a: 17.	USA: AZ, CO, NM; CAN: AB, SK	Metcalf 1943, Maw et al. 2000, Hamilton 2002a
Euides Fieber, 1866b (Type species *Delphax basilinea* Germar, 1821). = ***Euidella*** Puton, 1886 (Type species *Delphax basilinea* Germar, 1821) (Replacement name for *Euides* Fieber 1866b); syn. by Metcalf 1952: 230–231.		

fasciatella (Osborn, 1935) [Metcalf 1943: 109] = *Liburniella fasciatella* Osborn, 1935: 246–247. = *Pissonotus striolus* Osborn, 1935: 247; syn. by comb. by Caldwell & Martorell 1951: 190. = *Euidella fasciatella* (Osborn, 1935); comb. by Caldwell & Martorell 1951: 190. = *Euides fasciatella* (Osborn, 1935); comb. by implication Metcalf 1952: 230–231. = *Delphacodes cornuta* Beamer, 1948b: 96; syn. by Kennedy et al. 2012: 404–405.	USA: FL; Belize, Costa Rica, Mexico (Veracruz), Puerto Rico, Panama	Beamer 1948b, Caldwell & Martorell 1951, Wilson & McPherson 1980b, Kennedy et al. 2012
Eurybregma Scott, 1875 (Type species *Eurybregma nigrolineata* Scott, 1875).		
eurytion Hamilton, 2002a	USA: ID, MT: CAN: BC	Hamilton 2002a, b
magnifrons (Crawford, 1914) [Metcalf 1943: 117] = *Megamelus magnifrons* Crawford, 1914: 614. = *Liburnia magnifrons* (Crawford, 1914); comb. by Van Duzee 1916a: 84. = *Eurysa magnifrons* (Crawford, 1914); comb. by Muir & Giffard 1924: 8. = *Chlodelphax magnifrons* (Crawford, 1914); comb. by Wilson 1988: 337–338. = *Eurybregma magnifrons* (Crawford, 1914); comb. by Hamilton 2002a: 19.	USA: AK, CA, CO, ID, MT, NM, UT, WA, WY; CAN: AB, BC, NT, SK, YK	Metcalf 1943, Beamer 1952b, Wilson 1988, 1992, 1997; Maw et al. 2000, Hamilton 2002b
montana (Beamer, 1952b) = *Eurysa montana* Beamer, 1952b: 54–55. = *Eurybregma montana* (Beamer, 1952b); comb. by by Hamilton 2002a: 19.	USA: WY; CAN: AB	Baeamer 1952b, Maw et al. 2000, Hamilton 2002a
obesa (Beamer, 1952b) = *Eurysa obesa* Beamer, 1952b: 52–54. = *Eurybregma obesa* (Beamer, 1952b); comb. by by Hamilton 2002a: 19.	USA: MT, NV, OR, UT, WA, WY; CAN: BC	Baeamer 1952b, Maw et al. 2000, Hamilton 2002a
Eurysa Fieber, 1866b (Type species *Delphax lineata* Perris, 1857).		
kormusi (Crawford, 1914) [Metcalf 1943: 114, *Megamelus*]	USA: CA, NV, UT	Metcalf 1943, Beamer 1952b
Falcotoya Fennah, 1969b (Type species *Falcotoya aurinia* Fennah, 1969b)		
sagae Beamer, 1946d = *Delphacodes sagae* Beamer, 1946d: 141. = *Falcotoya sagae* (Beamer, 1946d); **new combination.**	USA: IL, MD, MO, NC, NY, TN; CAN: ON	Beamer 1946d, Wilson & McPherson 1980a, b, c; Wilson et al. 1993, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006
Harmalia Fennah, 1969b (Type species *Sogata thoracica* Distant, 1916). = ***Paracorbulo*** Tian & Ding, 1980 (in Tian et al. 1980) (Type species *Sogata sirokata* Matsumura & Ishihara 1945); syn. by Yang 1989: 198–199.		
anacharsis Fennah, 1969b = *Paracorbulo amplexicaulis* Tian & Ding, 1980: 316 (in Tian et al. 1980); syn. by Ding 2006: 549–550.	USA: FL (adventive); New Caledonia, India, Indonesia, Philippines, Sri Lanka, Vietnam, China	Fennah 1969b, 1975, 1978a; Wilson & Claridge 1991, Wooten et al. 1993, Wilson 2005
Isodelphax Fennah, 1963a (Type species *Liburnia basivitta* Van Duzee, 1909).		

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basivitta (Van Duzee, 1909) [Metcalf 1943: 409] = *Liburnia basivitta* Van Duzee, 1909: 202. = *Megamelus basivitta* (Van Duzee, 1909); comb. by Crawford 1914: 626. = *Delphacodes basivitta* (Van Duzee, 1909); comb. by Muir & Giffard 1924: 27. = *Isodelphax basivitta* (Van Duzee, 1909); comb. by Fennah 1963a: 16.	USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MO, MN, MS, NC, NE, NH, NJ, NV, NY, OH, OK, PA, SC, TN, TX, VA, WI; CAN: AB, MN, ON, QC	Metcalf 1943, Moore 1950a, b; DuBose 1960, Wilson & McPherson 1980a, b,c; Wilson et al. 1993, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006
montezumae (Muir & Giffard, 1924) [Metcalf 1943: 470] = *Delphacodes montezumae* Muir & Giffard, 1924: 27. = *Isodelphax montezumae* (Muir & Giffard, 1924); **new combination.**	USA: KY; Mexico (Federal District)	Muir & Giffard 1924, Metcalf 1943, Giri & Freytag 1983b, Giri et al. 1985
nigridorsum (Crawford, 1914) [Metcalf 1943: 471] = *Megamelus nigridorsum* Crawford, 1914: 620. = *Liburnia nigridorsum* (Crawford, 1914); comb. by Van Duzee, 1916: 84. = *Delphacodes nigridorsum* (Crawford, 1914); comb. by Metcalf, 1928: 182. = *Isodelphax nigridorsum* (Crawford, 1914); **new combination.** = *Delphacodes dentipennis* Beamer, 1948b; **new synonymy.**	USA: CO, CT, DC, MD, ME, MI, NC, NJ, NM, NY, OH, VA, WI; CAN: AB, LB, ON, QC, SK, YK	Metcalf 1943, Beamer 1948b, Moore 1950a, b; DuBose 1960, Wray 1967, Wilson & McPherson 1980b, Wilson 1992, 1997, Maw et al. 2000
plenatra Beamer, 1948c = *Delphacodes plenatra* Beamer, 1948c: 114–115. = *Isodelphax plenatra* (Beamer, 1948c); **new combination.**	USA: AZ, NM, UT	Beamer 1948c
Javesella Fennah, 1963a (Type species *Fulgora pellucida* Fabricius, 1794). = ***Weidnerianella*** Wagner, 1963 (Type species *Fulgora pellucida* Fabricius, 1794; syn. by Wagner 1966: 91; see also Le Quesne 1964: 57. = ***Javasella*** Fennah, 1963a; missp. by Maw et al. 2000: 84 and Hamilton 2002a: 17.		
arcanastyla (Beamer, 1948b) = *Delphacodes arcanastyla* Beamer, 1948b: 101. = *Javesella arcanastyla* (Beamer, 1948b); comb. by Wilson 1988: 341. = *Delphacodes arcanistyla* Beamer, 1948b; missp. by Maw et al. 2000: 83.	USA: AK, MI, WA, WI, WY; CAN: BC, LB, NF, ON, QC	Beamer 1948b, Wilson & McPherson 1980b, Wilson 1988, Maw et al. 2000
atrata (Osborn, 1938) [Metcalf 1943: 406] = *Delphacodes atrata* Osborn, 1938: 344. = *Javesella atrata* (Osborn, 1938); comb. by Wilson 1988: 341.	USA: AK, CT, DE, IL, NH, NY, OH, UT; CAN: AB, MB, ON, QC, YK	Metcalf 1943, Beamer 1951a, Wilson & McPherson 1980a, b; Wilson 1988, Maw et al. 2000
beringiaca Emeljanov, 1988	CAN: MB, SK, YK; Russia (Kamchatka, Magadan, Sakhalin Regions)	Wilson 1992, 1997; Maw et al. 2000

discolor (Boheman, 1847) [Metcalf 1943: 427] = *Delphax discolor* Boheman, 1847: 61. = *Liburnia discolor* (Boheman, 1847); comb. by Scott 1870b: 75. = *Delphacodes discolor* (Boheman, 1847); comb. by Le Quesne, 1964: 57. = *Javesella discolor* (Boheman, 1847); comb. by Le Quesne 1964: 57. = *Delphax fuscipennis* Kirschbaum 1868: 29; syn. by Wagner 1939: 125. = *Delphax nitidula* Kirschbaum 1868: 36; syn. by Wagner 1939: 125. = *Delphax patens* Kirschbaum 1868: 36; syn. by Wagner 1939: 125. = *Delphax simulis* Kirschbaum 1868: 30; syn. by Wagner 1939: 125.	USA: AK; CAN: NT, YK Widespread in Europe (including U.K.), eastern Russia, Asia, Northern Africa: Algeria, Austria, Belgium, "Czechoslovakia" (Bohemia, Moravia, Slovakia), Denmark, Estonia, Finland, France, Germany, Great Britain (England, Scotland, Wales), Ireland, Italy (including Sicily), Hungary, Latvia, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Sweden, Switzerland, Turkestan. Ukraine	Metcalf 1943, Wilson 1988, 1992, 1997; Maw et al. 2000
dolera (Spooner, 1912) [Metcalf 1943: 432] = *Liburnia dolera* Spooner, 1912: 240. = *Megamelus dolerus* (Spooner, 1912); comb. by Crawford 1914: 630. = *Delphacodes dolera* (Spooner, 1912); comb. by Metcalf 1928: 182. = *[Javesella] dolera* (Spooner, 1912); comb. by Maw et. al. 2000: 84.	USA: IL, NY, VA; CAN: AB, ON	Metcalf 1943, Beamer 1951a, Wilson & McPherson 1980a, b; Maw et al. 2000
incerta (Van Duzee, 1897) [Metcalf 1943: 238] = *Liburnia incerta* Van Duzee, 1897: 227, 258. = *Dicranotropis incerta* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 17. = *Delphacodes incerta* (Van Duzee, 1897); comb. by Metcalf 1928: 182; Oman 1947: 210–211. = *Javesella incerta* (Van Duzee, 1897); **new combination.**	USA: MI, NY, OH; CAN: QC	Metcalf 1943, Oman 1947, Wilson & McPherson 1980b, Maw et al. 2000
lla Wilson, 1992	USA: NH, WA; CAN: YK	Wilson 1992, 1997
lutulentella (Muir & Giffard, 1924) [Metcalf 1943: 466] = *Delphacodes lutulentella* Muir & Giffard, 1924: 24. = *Javesella lutulentella* (Muir & Giffard, 1924); comb. by Maw et. al. 2000: 84.	USA: CA; CAN: BC	Metcalf 1943, Maw et al. 2000
obscurella (Boheman, 1847) [Metcalf 1943: 474] = *Delphax obscurella* Boheman, 1847: 53. = *Liburnia obscurella* Boheman, 1847; comb. by Scott 1870a: 28. = *Delphacodes obscurella* (Boheman, 1847); comb. by China 1938b: 197. = *Javesella obscurella* (Boheman, 1847); comb. by Le Quesne 1964: 57.	USA: AK; CAN: NT, YK (reported in error: USA: NY) Palearctic: Austria, Belgium, Bulgaria, "Czechoslovakia", Denmark, Finland, France, Germany, Great Britain (Inc. Scotland, Wales), Hungary, Ireland, Italy, Mongolia, Netherlands, Norway, Poland, Portugal, Romania, Sweden, Switzerland, Turkey, Russia, "Yugoslavia"	Metcalf 1943, Wilson & McPherson 1980b, Wilson 1988, 1992, 1997; Maw et al. 2000
opaca (Beamer, 1948a) = *Delphacodes opaca* Beamer 1948a: 8, 10. = *Javesella opaca* (Beamer, 1948a); comb. by Maw et. al., 2000: 84.	USA: AL, CT, GA, MA, NC, NY, PA, SC, TN, VA; CAN: ON, QC	Beamer 1948a, Wilson & McPherson 1980b, Maw et al. 2000, Wheeler 2003

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pellucida (Fabricius 1794) [Metcalf 1943: 482] = *Fulgora pellucida* Fabricius, 1794: 7. = *Cicada pellucida* (Fabricius, 1794); comb. by Weber, 1795: 146. = *Delphax pellucida* (Fabricius, 1794); comb. by Fabricius, 1803: 84. = *Asiraca pellucida* (Fabricius, 1794); comb. by Latreille 1804: 318. = *Liburnia pellucida* (Fabricius, 1794); comb. by Stål 1869: 117. = *Achorotile pellucida* (Fabricius, 1794); comb. by Oshanin 1870: 48. = *Megamelus pellucidus* (Fabricius, 1794); comb. by Crawford 1914: 607, 615. = *Liburnia arvensis* (Fitch, 1856); syn. by Crawford 1914: 615 (error). = *Liburnia semicinctus* Van Duzee, 1917b: 315; syn. with *Delphacodes pellucida* by Muir & Giffard, 1924: 20. = *Delphacodes pellucida* (Fabricius, 1794); comb. by Muir & Giffard 1924: 20. = *Calligypona pellucida* (Fabricius 1794); comb. by Kontkanen 1958: 143. = *Javesella pellucida* (Fabricius, 1794); comb. by Fennah 1963a: 15. = *Delphacodes stejnegeri* (Ashmead, 1899: 340); syn. by Vilbaste 1980: 373.	USA: AK, AZ, CA, CO, CT, DE, ID, IL, MA, MD, ME, MI, MO, NC, ND, NH, NJ, NM, NV, NY, OH, OR, PA, TN, UT, VT, WA, WI, WY; CAN: AB, BC, LB, MB, NB, NF, NS, NT, NU, ON, QC, SK, YK; Cuba, Puerto Rico Palearctic: Algeria, Austria, Belgium, "Czechoslovakia", Denmark, Estonia, Finland, France, Germany (inc. Baltrum Island), Great Britain, Hungary, Iceland, Ireland, Italy, Japan, Libya, Mongolia, Morocco, Netherlands (inc. Nijmegen as "Batavia"), Norway, Poland, Romania, Russia (Caucasus, Kamchatka, Sakhalin Island, Siberia, Transcaucasia), Sardinia, Scandinavia, Scotland, Spain, Sweden, Switzerland, Turkey, Turkestan, Wales, "Yugoslavia".	Metcalf 1943, Proctor 1946, Moore 1950a, b; Wolcott 1950, Strickland 1953, Kontkanen 1958, DuBose 1960, Wilson & McPherson 1980a, b; Wilson 1988, 1992, 1997; Denno et al. 1991, Wilson et al. 1993, Maw et al. 2000, Gonzon et al. 2006
simillima (Linnavuori, 1948) = *Calligypona simillima* Linnavuori, 1948: 46. = *Javesella simillima* (Linnavuori, 1948); comb. by Nast 1972: 68. = *Delphacodes saileri* Beamer 1952: 114–115; syn. by Wilson 1988: 341.	USA: AK, MT; CAN: MB, NT, YK; Finland, Russia	Beamer 1952a, Denno et al. 1991, Wilson 1988, 1992, 1997; Maw et al. 2000
Kelisoidea Beamer, 1950c (Type species *Kelisoidea versa* Beamer, 1950c).		
versa Beamer, 1950c	USA: FL	Beamer 1950c, Wilson & McPherson 1980b
Keyflana Beamer, 1950c (Type species *Keyflana hasta* Beamer, 1950c).		
hasta Beamer, 1950c	USA: FL, NC, MD	Beamer 1950c, Davis & Gray 1966, Wilson & McPherson 1980b, Denno et al. 1991,
Kormus Fieber, 1866b (Type species *Kormus artemisiae* Fieber, 1866b).		
californicus Crawford, 1914 [Metcalf 1943: 293]	USA: CA	Metcalf 1943
Kosswigianella Wagner, 1963 (Type species *Delphax exigua* Boheman, 1847). = ***Acanthodelphax*** LeQuesne, 1964 (Type species *Delphax denticauda* Boheman, 1847); syn. by Hamilton 2002a: 20; status (subgenus) by Hamilton & Kwon (2010: 422). = ***Kosswigianell*** Wagner, 1963; missp. by Ding, 2006: 627. = ***Koswigianella*** Wagner, 1963; missp. by Dlabola 1966: 444.		
Subgenus *Acanthodelphax* LeQuesne, 1964		

analis (Crawford, 1914) [Metcalf 1943: 404] = *Megamelus analis* Crawford, 1914: 620. = *Liburnia analis* (Crawford, 1914); comb. by Van Duzee 1916a: 84. = *Delphacodes analis* (Crawford, 1914); comb. by Muir & Giffard 1924: 24. = *Calligypona analis* (Crawford, 1914); comb. by Kontkanen 1958: 143. = *Acanthodelphax analis* (Crawford, 1914); comb. by Wilson 1988: 338–339. = *Kosswigianella analis* (Crawford, 1914); comb. by Hamilton, 2002a: 20.	USA: AK, GA, IL, MI, MN, NC, NY, VT, WI; CAN: AB, BC, LB, MB, ON, QC, SK, YK	Metcalf 1943, Oman 1947, Moore 1950a, b; Strickland 1953, Kontkanen 1958, DuBose 1960, Wray 1967, Wilson & McPherson 1980a, b; Wilson 1988, 1992, 1997; Maw et al. 2000
wasatchi Hamilton, 2002a	USA: UT	Hamilton 2002a, b
Subgenus *Kosswigianella* Wagner, 1963		
emeljanovi Wilson, 1992 = *Delphacodes emeljanovi* Wilson, 1992: 95. = *Kosswigianella emeljanovi* (Wilson, 1992); **new combination.**	CAN: AB, BC, NT, YK	Wilson 1992, 1997, Maw et al. 2000
irrutilo Hamilton, 2002a	USA: CO	Hamilton 2002a, b
lutulenta (Van Duzee, 1897) [Metcalf 1943: 466] = *Liburnia lutulenta* Van Duzee, 1897: 252. = *Megamelus lutulentus* (Van Duzee, 1897); comb. by Crawford 1914: 606, 617. = *Delphacodes lutulenta* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 23. = *Calligypona lutulenta* (Van Duzee, 1897); comb. by Kontkanen 1958: 143. = *Kosswigianella lutulenta* (Van Duzee, 1897); comb. by Hamilton & Kwon 2010: 421–422.	USA: AZ, CA, CO, CT, DE, IL, IN, KS, KY, MA, MD, ME, MN, MO, NC, NH, NJ, NM, NY, OH, OK, PA, SD, TN, TX, UT, VA, VT, WI, WV; CAN: AB, BC, NS, ON, QC, SK; Puerto Rico	Metcalf 1943, Moore 1950a, b; Wolcott 1950, Kontkanen 1958, DuBose 1960, Wray 1967, Wilson & McPherson 1980a, b,c; Weber & Wilson 1981, Giri & Freytag 1983a, b; Giri et al. 1985, Wilson et al. 1993, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Wheeler & Bartlett 2006
lutulentoides Beamer, 1948a = *Delphacodes lutulentoides* Beamer, 1948a: 5. = *Kosswigianella lutulentoides* (Beamer, 1948a); **new combination.**	USA: MI, CA; CAN: AL, BC, SK	Beamer 1948a, Maw et al. 2000, Hamilton & Kwon 2010
perusta Beamer, 1947 = *Delphacodes perusta* Beamer, 1947: 62. = *Kosswigianella perusta* (Beamer, 1947); **new combination.**	USA: IL, IN, MD, NC, NY, OH, SC, TN, VA	Beamer 1947, Wilson & McPherson 1980a, b; Bartlett & Bowman 2004, Gonzon et al. 2006
Kusnezoviella Vilbaste, 1965 (Type species *Liburnia dimidiatifrons* Kusnezov, 1929).		
macleani Wilson, 1988 = *Kusnezoviella matisi* Anufriev & Emeljanov, 1988: 405; syn. by Wilson 1992: 94.	USA: AK; CAN: NT, QC, YK; Russia (Magadan Region and Khabarovsk Territory).	Wilson 1988, 1992, 1997; Maw et al. 2000
munda Beamer, 1948c = *Delphacodes munda* Beamer, 1948c: 116–117. = *Kusnezoviella munda* (Beamer, 1948c); **new combination.**	USA: CO; CAN: AB	Beamer 1948c, Maw et al. 2000
Laccocera Van Duzee, 1897 (Type species *Laccocera vittipennis* Van Duzee, 1897)		
bicornata Crawford, 1914 [Metcalf 1943: 127]	USA: CO	Metcalf 1943
canadensis Beirne, 1950a	USA: MT; CAN: AB, BC, SK	Beirne 1950a, Scudder 1963, Maw et al. 2000, Hamilton 2002b

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flava Crawford, 1914 [Metcalf 1943: 129] = *Laccocera zonata* var. *flava* Crawford, 1914: 581. = *Laccocera flava* Crawford, 1914; status by Penner 1945: 40.	USA: CA, CO, ID, MT, NV, OR, UT, WA, WY; CAN: AB, SK	Metcalf 1943, Penner 1945, Beirne 1950a, Scudder 1963, Maw et al. 2000, Hamilton 2002b, Strickland 1953
lineata Scudder, 1963	USA: WA; CAN: AB, BC, SK	Scudder 1963, Maw et al. 2000
minuta Penner, 1945	USA: AZ	Penner 1945
obesa Van Duzee, 1897 [Metcalf 1943: 127]	USA: AZ, CA, CO, IA, ID, KS, MT, NE, NM, NV, SD, TX, UT, WY; CAN: AB, SK	Metcalf 1943, Penner 1945, Oman 1947, Beirne 1950a, Scudder 1963, Maw et al. 2000
oregonensis Penner, 1945	USA: ID, MT, OR, WA; CAN: BC	Penner 1945, Beirne 1950a, Scudder 1963, Maw et al. 2000, Hamilton 2002b
vanduzeei Penner, 1945	USA: AZ, CA, CO, ID, MT, NM, UT; CAN: BC	Penner 1945, Scudder 1963, Maw et al. 2000, Hamilton 2002b, Wilson & Wheeler 2010
vittipennis Van Duzee, 1897 [Metcalf 1943: 128]	USA: CA, CO, IA, ID, ME, MI, MN, MT, ND, NH, NV, NY, OR, SD, UT, WA, WY; CAN: AB, BC, MB, ON, QC, SK	Metcalf 1943, Penner 1945, Proctor 1946, Oman 1947, Beirne 1950a, Moore 1950a, b, Strickland 1953, Kontkanen 1958, Scudder 1963, Wilson & McPherson 1980a, b; Maw et al. 2000, Hamilton 2002b,
zonata Van Duzee, 1897 [Metcalf 1943: 128] = *Laccocera zonatus* Van Duzee 1897: 243. = *Laccocera zonata* Van Duzee 1897; emendation by Crawford 1914: 521.	USA: AZ, CA, CO, NV, MT; CAN: AB	Metcalf 1943, Penner 1945, Oman 1947, Strickland 1953
Liburniella Crawford, 1914 (Type species *Delphax ornata* Stål, 1862a).		
ornata (Stål, 1862a) [Metcalf 1943: 109, *Delphax*]	USA: AL, AR, CA, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI, WV; CAN: BC, ON, QC; Bermuda (Reported in error: Ecuador)	Metcalf 1943, Proctor 1946, Moore 1950a, b; Bickley & Seek 1975, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Giri & Freytag 1983a, Wilson & Gill 1985, Giri et al. 1985, Wilson & Hilburn 1991, Wilson et al. 1993, Maw et al. 2000, Lago & Testa 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Benton & McCreadie 2009
Macrotomella Van Duzee, 1907 (Type species *Macrotomella carinata* Van Duzee, 1907).		
carinata Van Duzee, 1907 [Metcalf 1943: 337]	USA: FL, IL, MO, NJ; Bahamas (Great Inagua, New Providence), Belize, Cuba, Jamaica, Mexico (Jalisco)	Metcalf 1943, Wilson & McPherson 1980a, b

Megadelphax Wagner, 1963 (Type species *Delphax sordidula* Stål, 1853).		
bidentatus (Anufriev, 1970) = *Ribautodelphax bidentatus* Anufriev, 1970: 144. = *Megadelphax bidentatus* (Anufriev, 1970); comb. by Vilbaste 1980: 14. = *Ribautodelphax bidentata* Anufriev, 1970; unjustified emendation by Maw et al. 2000: 86. = *Megadelphax binotatus* (Anufriev, 1970); lapsus by Bartlett & Bowman 2004: 252.	CAN: LB, NF, ON, QC; Russia, Mongolia	Anufriev 1970, Anufriev & Emeljanov 1988, Maw et al. 2000
Megamelanus Ball, 1902b (Type species *Megamelanus bicolor* Ball, 1902b).		
bicolor Ball, 1902b [Metcalf 1943: 278]	USA: AZ, CA, CO, ID, KS, LA, NE, NM, NV, SD, UT	Metcalf 1943, McDermott 1952
Megamelus Fieber, 1866b (Type species *Delphax notula* Germar, 1830).		
aestus Metcalf, 1923 [Metcalf 1943: 206]	USA: FL, IL, NC, NH; CAN: ON, QC, SK	Metcalf 1943, 1949, Beamer 1955, Kontkanen 1958, Scudder 1964, Wilson & McPherson 1980b, Maw et al. 2000
bifidus Beamer, 1955	USA: KS, NY; CAN: ON	Beamer 1955, Scudder 1964, Wilson & McPherson 1980b, Maw et al. 2000
coronus Beamer, 1955	USA: TX	Beamer 1955
davisi Van Duzee, 1897 [Metcalf 1943: 207] = *Megamelus angulatus* Osborn, 1905: 374; syn. by Beamer 1955: 29 [listed as *Megamelus angulatus* Osborn, 1903].	USA: CA, DC, DE, FL, GA, HI, IL, KS, MD, MI, MO, NC, NJ, NY, OH, PA, TN; CAN: ON	Au 1941, Metcalf 1943, Oman 1947, Beamer 1955, Kontkanen 1958, Wilson & McPherson 1980a, b, c, 1981e; Denno et al. 1991, Asche 1997, Paiero et al. 2003
distinctus Metcalf, 1923 [Metcalf 1943: 207]	USA: CT, IL, KS, MI, NC, NY, OH; CAN: NB, NF, NS, ON, PE, QC, SK	Metcalf 1943, 1949, Beamer 1955, Scudder 1964, Wilson & McPherson 1980a, b; Maw et al. 2000
falcatus Beamer, 1955	USA: CT, NH, NY	Beamer 1955, Wilson & McPherson 1980b
flavus Crawford, 1914 [Metcalf 1943: 214] = *Megamelus notulus flavus* Crawford, 1914: 609. = *Megamelus flavus* Crawford, 1914; status by Beamer 1955: 31. = *Megamelus anticostus* Metcalf, 1923; syn. by Beamer 1955: 31. = *Megamelus uncus* Metcalf, 1923; syn. by Beamer 1955: 31.	USA: AK, CO, DC, WY; CAN: AB, BC, MB, NB, NF, NS, NT, ON, QC, SK, YK; Mongolia, Russia (Kamchatka Region, Khabarovsk Territory, Sakhalin Region, Kurile Islands); Sakha (Yukutia) Republic, Japan.	Metcalf 1943, 1949; Moore 1950a, b; Beamer 1955, Scudder 1964, Wilson 1988, 1992, 1997; Maw et al. 2000, Wheeler & Hoebeke 2008
gracilis Beamer, 1955	USA: FL	Beamer 1955, Wilson & McPherson 1980b, Tsai & Mead 1982
hamatus Beamer, 1955	USA: DE, FL, MD, VA	Beamer 1955, Wilson & McPherson 1980b
inflatus Metcalf, 1923 [Metcalf 1943: 208]	USA: NY; CAN: NS, QC	Metcalf 1943, 1949; Beamer 1955, Kontkanen 1958, Wilson & McPherson 1980b, Maw et al. 2000

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lobatus Beamer, 1955	USA: AL, CT, DE, FL, GA, LA, MD, MS, NC, NH, NJ, TX	Beamer 1955, Davis & Gray 1966, Wilson & McPherson 1980b, Denno et al. 1991, Lago & Testa 2000, Benton & McCreadie 2009
longicornis (Dozier, 1922) [Metcalf 1943: 209, *Stenocranus*]	USA: LA, MS, TX	Metcalf 1943, Beamer 1955, Wilson & McPherson 1980b
lunatus Beamer, 1955	USA: DE, IL, KS, NY; CAN: BC, ON, QC	Beamer 1955, Scudder 1964, Wilson & McPherson 1980a, b
metzaria Crawford, 1914 [Metcalf 1943: 209]	USA: IL, KS, MI, MO, NH, NC, NY, WI, WY; CAN: MB, NB, NS, ON, PE, QC, SK	Metcalf 1943, Beamer 1955, Scudder 1964, Wilson & McPherson 1980a, b; Wilson et al. 1993, Maw et al. 2000, Hamilton 2002c, Paiero et al. 2003
notula (Germar, 1830) [Metcalf 1943: 210, *Delphax*]	Reported in error USA: CO, MA, MS, NH, NY, OH; CAN: ON, QC Austria, Belgium, "Czechoslovakia", Denmark, England, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Netherlands, Romania, Russia, Scotland, Sweden, Wales, "Yugoslavia"	Metcalf 1943, Moore 1950a, b; Kontkanen 1958, Scudder 1964
palaetus (Van Duzee, 1897) [Metcalf 1943: 214, *Stenocranus*]	USA: DC, DE, FL, GA, IL, LA, MS, NC, NY, SC, TX	Metcalf 1943, Oman 1947, Beamer 1955, Wilson & McPherson 1979a, 1980a, b, c; Denno et al. 1991
recurvatus Beamer, 1955	USA: ME; CAN: MB, ON	Beamer 1955, Scudder 1964, Maw et al. 2000
toddi Beamer, 1955	USA: FL, LA	Beamer 1955, Wilson & McPherson 1980b
trifidus Beamer, 1955	USA: AL, FL	Beamer 1955, Wilson & McPherson 1980b, Denno et al. 1991, Benton & McCreadie 2009
ungulatus Beamer, 1955	USA: CT, DE, FL, GA, NC, NJ, NY	Beamer 1955, Wilson & McPherson 1980b, Weber & Wilson 1981
Meristopsis Kennedy et al. 2012 (Type species *Meristopsis rhamphis* Kennedy et al. 2012).		
melanosteptos Kennedy et al. 2012	USA: FL; Belize, Guatemala, Mexico (Oaxaca)	Kennedy et al. 2012
rhamphis Kennedy et al. 2012	USA: FL	Kennedy et al. 2012
Metadelphax Wagner, 1963 (Type species *Delphax propinqua* Fieber, 1866b). = ***Metadelphax*** Wagner, 1963; syn. with *Toya* by implication Fennah 1964: 142 (Type species moved to *Toya*); Nast 1972:65, Linnavuori 1973: 107 (generic synonymy listed). Name restored by Ding 2006: 511; see also Gonzon & Bartlett 2008. = ***Meadelphax*** Wagner, 1963: Missp. by Kuoh et al. 1983: 155.		

propinqua (Fieber, 1866b) [Metcalf 1943: 496]
= *Delphax propinqua* Fieber, 1866b: 525.
= *Delphax hamulata* Kirschbaum, 1868: 38; syn. by Fieber 1872: 5.
= *Liburnia propinqua* (Fieber, 1866b); comb. by Fieber 1872: 5.
= *Delphacodes propinqua* (Fieber, 1866b); comb. by Muir 1917: 335.
= *Liburnia terminalis* Van Duzee, 1907: 49; syn. by Muir & Giffard 1924: 31.
= *Liburnia tuckeri* Van Duzee, 1912a: 506; syn. by Muir & Giffard 1924: 31.
= *Delphacodes neopropinqua* Muir, 1917: 335; syn. by Muir & Giffard 1924: 31.
= *Delphacodes subfusca* Muir, 1919b: 38; syn. by Muir & Giffard 1924: 31.
= *Liburnia albicollis* Haupt, 1935 (nec Motschulsky 1863): 144; syn. by Metcalf 1943: 498; see also Wagner 1954: 217–8 (syn. with *Liburnia albicollis* Motschulsky 1863, e.g., Lindberg 1936: 18; China 1938a: 54, Linnavuori 1952: 191, in error).
= *Calligypona propinqua* (Fieber, 1866b); comb. by Dlabola 1954: 14, 64 (comb. by implication in China 1954: 165).
= *Delphacodes shirozui* Ishihara, 1949: 53–54; syn. by Fennah 1956b: 122.
= *Metadelphax propinqua* (Fieber, 1866b); comb. by Wagner 1963: 170.
= *Toya propinqua* (Fieber, 1866b); comb. by Fennah 1964: 142 (from *Delphacodes*); see also Fennah 1965b: 56 (syn. of *Metadelphax* by implication).
= *Calligypona (Metadelphax) propinqua* (Fieber, 1866b); comb. by Linnavuori 1964: 341–342.
= *Delphacodes proquiqua* (Fieber, 1866b); missp. by Wray 1967.
= *M[etadelphax] propingua* (Fieber, 1866b); missp. by Mitjaev 1971: 66.
= *Toya (Calligypona) propinqua* (Fieber, 1866b); comb. by Linnavuori 1973: 107.
= *Delphax cataniae* Matsumura, 1910: 35; syn. by Nast 1975: 4.
= *Toya propinqua neopropinqua* (Muir, 1917); status by Kuoh et al. 1983: 155.
= *Liburnia marshalli* Scott, 1873: 104; syn. by Webb & Wilson 1986: 286.
= *Delphax graminicola* Matsamura, 1910: 17; syn. by Yang 1989: 4.
= *Toya porpinqua* (Fieber, 1866b); missp. by Yang 1989: 219.
= *Toya propincua* (Fieber, 1866b); missp. by Rodriguez-León et al. 1994a: 19.
= *Metadelphax propinqua* (Fieber, 1866b); restored comb. by Ding 2006: 511, 513–514; Gonzon & Bartlett, 2008: 242–246.

USA: AL, AR, AZ, CA, DE, FL, GA, IL, KS, KY, LA, MD, MO, MS, NC, NM, NV, OH, OK, OR, SC, TN, TX, UT, WA, WI; CAN: BC

Antigua, Argentina, Bahamas (Berry, New Providence, Grand Bahamas), Barbados, Belize, Bermuda, Bolivia, Brazil, Cayman Islands (Cayman Brac), Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico (Baja California, Chiapas, Coahuila, Federal District, Jalisco, Mexico, Michoacán, Morelos, Nayarit, Nuevo León, Oaxaca, Puebla, San Luis Potosí, Sinaloa, Sonora, Veracruz, Yucatán, Zacatecas), Montserrat, Nevis, Nicaragua, Panama, Paraguay, Puerto Rico (inc. Vieques Is. & Caja de Muertos), Peru, St. Lucia, St. Vincent, Trinidad and Tobago, Venezuela, Virgin Islands (St. Croix, St. Thomas)

OLD WORLD: Widespread in Palearctic (e.g. Nast 1972, 1987; Holzinger et al. 2003); Afrotropics (e.g. Fennah 1969a, Asche 1988b), Australia (Fennah 1965b), and Indomalayan (e.g., Ishihara 1949, Lee 1979, Yang 1989, Ding 2006) regions.

Palearctic: Algeria, Austria, Bulgaria, Canary Islands, Cyprus, "Czechoslovakia", Egypt, Ethiopia, France, Germany, Greece, Hungary, Israel, Italy, Japan, Kyrgyzstan, Libya, Madeira, Morocco, Poland, Portugal, Russia, Spain, Tunisia, Turkestan, Turkey, United Arab Emirates, Uzbekistan, "Yugoslavia"

Indomalayan: China, India, Malaysia, Sri Lanka, Taiwan, Thailand, Vietnam

Pacific: Micronesia (Bonin Islands, N. & S. Mariana Islands, Palau, Yap), Philippines

Afrotropical: Cameroon, Cape Verde Is., Ivory Coast, Kenya, Lesotho, Madagascar, Niger, Nigeria, "Rhodesia", Senegal, South Africa, Sudan, Zambia, Zimbabwe

Atlantic: St. Helena Island

Australian: Australia

Metcalf 1943, Fennah 1945a, 1956b, 1958a, b, 1959, 1965c, 1971b, 1975, 1976, 1978a; Wolcott 1950, Caldwell & Martorell 1951, DuBose 1960, Wray 1967, Miskimen & Bond 1970, Linnavuori 1973, Wilson & McPherson 1980a, b; Tsai & Mead 1982, Asche 1988b, Denno et al. 1991, Wilson & Hilburn 1991, Meagher et al. 1993, Rodriguez-León et al. 1994a, Woodruff et al. 1998, Maw et al. 2000, Lago & Testa 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Gonzon & Bartlett 2008, Benton & McCreadie 2009, Wilson & Wheeler 2010

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wetmorei (Muir & Giffard, 1924) [Metcalf 1943: 523] = *Megamelus terminalis* Crawford, 1914: 623 [nec Van Duzee 1907]. = *Delphacodes wetmorei* Muir & Giffard, 1924: 30 (Replacement name for unavailable *Megamelus terminalis* Crawford, 1914). = *Metadelphax wetmorei* (Muir & Giffard, 1924); comb. by Gonzon & Bartlett 2008: 246–248.	USA: AL, FL, GA, LA, NC; Mexico? (Mexico needs verification; reported in error: Nicaragua)	Metcalf 1943, DuBose 1960, Wray 1967, Wilson & McPherson 1980b, Gonzon & Bartlett 2008
Muellerianella Wagner, 1963 (Type species *Delphax fairmairei* Perris, 1857).		
guaduae (Muir, 1926) [Metcalf 1943: 246] = *Euidella guaduae* Muir, 1926: 15. = *Euides guaduae* (Muir, 1926); comb. by implication Metcalf 1952: 230–231. = *Muellerianella guaduae* (Muir, 1926); **new combination.**	USA: FL; Ecuador	Metcalf 1943, Kennedy et al. 2012
laminalis (Van Duzee, 1897) [Metcalf 1943: 457] = *Liburnia laminalis* Van Duzee, 1897: 251. = *Liburnia lateralis* Van Duzee, 1897: 253 (nec *Liburnia striatella* var. *lateralis* Fieber 1879). = *Megamelus laminalis* (Van Duzee, 1897); comb. by Crawford 1914: 607, 624. = *Delphacodes laminalis* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 38. = *Delphacodes lateralis* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 25. = *Delphacodes laterana* Metcalf, 1943; replacement name for *Delphacodes lateralis* (Van Duzee, 1897) by Metcalf 1943: 458. = *Liburnia lateralis* Van Duzee, 1897; syn. by Oman 1947: 212–213. = *Calligypona laminalis* (Van Duzee, 1897); comb. by Kontkanen 1958: 143. = *Muellerianella laminalis* (Van Duzee, 1897); comb. by Maw et. al., 2000: 85.	USA: AR, CA?, CT, DC, DE, FL, IL, IN, KY, LA, MA, MD, ME, MO, MS, NC, ND, NE, NY, OH, OK, PA, SC, TN, TX, VT, WI; CAN: NF, ON, QC; Cuba?	Metcalf 1943, Oman 1947, Moore 1950a, b; Kontkanen 1958, DuBose 1960, Wilson & McPherson 1980a, b, c; Giri & Freytag 1983a, Giri et al. 1985, Rodriguez-León et al. 1994b, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Wheeler & Hoebeke 2008, Kennedy et al. 2012
meadi Kennedy et al. 2012	USA: FL; Cuba?	Kennedy et al. 2012
Muirodelphax Wagner, 1963 (Type species *Delphax aubei* Perris, 1857). = ***Delphacinoides*** Vilbaste, 1965 (Type species *Delphacinoides altaius* Vilbaste, 1965); syn. by Emeljanov 1977: 111. = ***Pinodoxa*** Anufriev, 1991 (Type species *Pinodoxa pinanorum* Anufriev, 1991); syn. by Hamilton & Kwon 2010: 422. = ***Kosswigianella*** Wagner, 1963 (Type species *Delphax exigua* Boheman, 1847); syn. by Ding, 2006: 627 (error).		

arvensis (Fitch, 1851) [Metcalf 1943: 406] = *Delphax arvensis* Fitch, 1856: 46. = *Liburnia arvensis* (Fitch, 1856); comb. by Van Duzee 1890: 390. = *Liburnia campestris* Van Duzee, 1897: 254. = *Liburnia osborni* Van Duzee, 1897: 250. = *Liburnia unda* Metcalf, 1923: 207. = *Delphacodes campestris* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 25. = *Delphacodes osborni* (Van Duzee, 1897); comb. by Metcalf 1928: 181. = *Delphacodes unda* (Metcalf, 1923); comb. by Brimley 1938: 103. = *Delphacodes arvensis* (Fitch, 1856); comb. by Metcalf 1943: 406. = *Delphacodes osborni* (Van Duzee, 1897); syn. with *Delphacodes campestris* by Oman 1947: 210–211. = *Delphacodes unda* (Metcalf, 1923); syn. by Metcalf 1949: 56; removed from syn. by Hamilton & Kwon 2010: 423. = *Delphacodes campestris* (Van Duzee, 1897); syn. by Hamilton & Kwon 2010: 423. = *Muirodelphax arvensis* (Fitch, 1856); comb. by Hamilton & Kwon 2010: 423.	USA: AR, AZ, CA, CT, CO, DC, DE, FL, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WY; CAN: AB, BC, MB, NB, NF, NS, ON, PE, QC, SK, YK	Metcalf 1943, Proctor 1946, Oman 1947, Moore 1950a, b; Strickland 1953, DuBose 1960, Wray 1967, Wilson & McPherson 1980a, b,c; Weber & Wilson 1981, Giri & Freytag 1983a, Giri et al. 1985, Wilson 1992, 1997; Wilson et al. 1993, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Wheeler & Bartlett 2006, Hamilton & Kwon 2010, Wilson & Wheeler 2010
atralabis (Beamer, 1948b) = *Delphacodes atralabis* Beamer, 1948b: 103–104. = *Muirodelphax atralabis* (Beamer, 1948b); comb. by Hamilton & Kwon 2010: 422.	USA: DE, MD, NC, NH, NJ, TN, VT	Beamer 1948b, Wilson & McPherson 1980b, Gonzon et al. 2006, Hamilton & Kwon 2010
luteus Beamer, 1946d = *Delphacodes lutea* Beamer, 1946d: 142. = *Muirodelphax luteus* (Beamer, 1946d); **new combination**.	USA: DE, IL, KS, NC, OK, VA	Beamer 1946d, Wilson & McPherson 1980a, b, Wilson & Wheeler 2010
parvulus (Ball, 1902b) [Metcalf 1943: 194] = *Kelisia parvula* Ball, 1902b: 264. = *Megamelus rotundata* Crawford, 1914: 618. = *Liburnia rotundata* (Crawford, 1914); comb. by Van Duzee 1916a: 84. = *Delphacodes rotundata* (Crawford, 1914); comb. by Brimley 1938: 103. = *Delphacodes parvula* (Ball, 1902b); comb. by Beamer 1946b: 86. = *Muirodelphax parvulus* (Ball, 1902b); comb. by Hamilton & Kwon 2010: 423. = *Delphacodes rotundata* Crawford, 1914: 618; syn. by Hamilton & Kwon 2010: 423.	USA: AL, AR, AZ, DC, DE, FL?, GA, IA, IL, KS, MD, MI, MO, NC, NH, NJ, NY, OH, OK, SC, TN; CAN: MB, ON	Metcalf 1943, Beamer 1946b, DuBose 1960, Wilson & McPherson 1980a, b; Weber & Wilson 1981, Wilson et al. 1993, Maw et al. 2000, Gonzon et al. 2006, Hamilton & Kwon 2010, Wilson & Wheeler 2010
peneluteus Beamer, 1948c = *Delphacodes penelutea* Beamer, 1948c: 112. = *Muirodelphax peneluteus* (Beamer, 1946d); **new combination**.	USA: FL, IN, MS, NC	Beamer 1948c, Wilson & McPherson 1980b
unda (Metcalf, 1923) [Metcalf 1943: 521] = *Liburnia unda* Metcalf, 1923: 207. = *Delphacodes unda* (Metcalf, 1923); comb. by Brimley 1938: 103. = *Muirodelphax unda* (Metcalf, 1923); comb. and removal from syn. with *Delphacodes campestris* (Van Duzee, 1897) by Hamilton & Kwon 2010: 423.	USA: NC, NH; CAN: NB, NS (Cape Breton Is.), QC (Îles de la Madeleine), PE	Metcalf 1943, 1949; Wilson & McPherson 1980b, Hamilton & Kwon 2010

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Neomegamelanus McDermott, 1952 (Type species *Megamelanus lautus* Metcalf, 1923).		
elongatus (Ball, 1905) [Metcalf 1943: 279] = *Megamelanus elongatus* Ball, 1905: 118. = *Neomegamelanus elongatus* (Ball, 1905); comb. by McDermott 1952: 50–51.	USA: CT, DE, FL, GA, LA, MA, MD, MS, NC, NJ, NY, SC, TX, VA; Anguilla, Bahamas (Abaco Cay, Andros, Barry, Eleuthera, Exuma Cays, San Salvador)	Metcalf 1943, Wolcott 1950, Caldwell & Martorell 1951, McDermott 1952, Wilson & McPherson 1980b, Tsai & Mead 1982, Cummins et al. 1988, Lago & Testa 2000, Bartlett 2000 (subspecies reductus Caldwell 1951 in Puerto Rico and Virgin Islands)
lautus (Metcalf, 1923) [Metcalf 1943: 280] = *Megamelanus lautus* Metcalf, 1923: 200. = *Neomegamelanus lautus* (Metcalf, 1923); comb. by McDermott 1952: 52–54.	USA: LA, MS, TX; Mexico (Veracruz)	Metcalf 1943, 1949; McDermott 1952, Wilson & McPherson 1980b, Meagher et al. 1993, Lago & Testa 2000
penilautus McDermott, 1952	USA: FL	McDermott 1951, Wilson & McPherson 1980b, Denno et al. 1991
spartini (Osborn, 1905) [Metcalf 1943: 280] = *Megamelanus spartini* Osborn, 1905: 375. = *Megamelanus dorsalis* Metcalf, 1923: 199. = *Neomegamelanus spartini* (Osborn, 1905); comb. by McDermott 1952: 41. = *Neomegamelanus dorsalis* (Metcalf, 1923); comb. by McDermott 1952: 48–49. = *Neomegamelanus dorsalis* (Metcalf, 1923); Syn. by Kennedy et al. 2012: 404–405.	USA: DE, FL, LA, MD, ME, MS, NC, NJ, NY, VA, VT (reported in error: USA: OH; VT may be mislabeled specimen)	Metcalf 1943, 1949; Proctor 1946, McDermott 1952, Davis & Gray 1966, Bickley & Seek 1975, Wilson & McPherson 1980b, Cummins et al. 1988, Denno et al. 1991, Lago & Testa 2000
Nilaparvata Distant, 1906a (Type species *Nilaparvata greeni* Distant, 1906a, junior synonym of *Delphax lugens* Stål, 1854). = ***Kalpa*** Distant, 1906 (Type species *Kalpa aculeata* Distant 1906); syn. by Muir 1919: 7–8.		
caldwelli Metcalf, 1955 = *Nilaparvata muiri* Caldwell, 1951: 193 (in Caldwell & Martorell 1951) (nec China, 1925). = *Nilaparvata caldwelli* Metcalf, 1955: 262; replacement name for unavailable *N. muiri* Caldwell, 1951. = *Nilaparvata bis* Nast 1984: 396; replacement name for unavailable *N. muiri* Caldwell, 1951; syn. by Bartlett, 2007: 51.	USA: FL, NC; Belize, Dominican Republic, French Guiana, Mexico (Oaxaca); Puerto Rico; also reported Senegal and Sudan[10]	Caldwell & Martorell 1951, Fennah 1961, Linnavuori 1973, Bartlett 2007
gerhardi (Metcalf, 1923) [Metcalf 1943: 246] = *Liburnia gerhardi* Metcalf, 1923: 210, pls. 62 & 70. = *Euidella gerhardi* (Metcalf 1923); comb. by Metcalf 1949: 58. = *Euides gerhardi* (Metcalf 1923); comb. by implication Metcalf 1952: 230–231. = *Nilaparvata gerhardi* (Metcalf 1923); comb. by Bartlett 2007: 55.	USA: DE, IL, LA, MO, NC, NH, NJ, TX, UT, VA; CAN: BC, MB, ON, QC, SK; Guatemala?	Metcalf 1943, 1949; Wilson & McPherson 1980a, b; Maw et al. 2000, Bartlett 2007

[10] African records of *N. caldwelli* need confirmation.

serrata Caldwell, 1951 (in Caldwell & Martorell 1951)	USA: FL; Bahamas, Belize, Bolivia, Cayman Islands (Cayman Brac), Costa Rica, Mexico (Federal District), Nicaragua, Puerto Rico	Caldwell & Martorell 1951, Bartlett 2007
wolcotti Muir & Giffard, 1924 [Metcalf 1943: 298]	USA: AZ, CA, CO, DE, FL, GA, MD, NJ, OK, UT; Mexico (Veracruz); Puerto Rico	Wolcott 1950, Caldwell & Martorell 1951, Tsai & Mead 1982, Bartlett 2007
Nothodelphax Fennah, 1963a (Type species *Liburnia foveata* Van Duzee, 1897). = ***Nothodelpha*** Fennah, 1963; missp. by Lago & Testa 2000: 190. = ***Tyrphodelphax*** Vilbaste, 1971: 185 (Type species *Delphax distincta* Flor, 1861); syn. by Anufriev & Averkin 1982b: 137.		
albocarinata (Stål, 1858) [Metcalf 1943: 401] = *Delphax albocarinata* Stål, 1858: 357. = *Liburnia albocarinata* (Stål, 1858); comb. by Sahlberg 1871: 426. = *Delphacodes albocarinata* (Stål, 1858); comb. by China 1938b: 197. = *Calligypona albocarinata* (Stål, 1858); comb. by Ossiannilsson 1946: 57. = *Delphacodes hyalina* Beamer, 1946d: 141. = *Muirodelphax albocarinata* (Stål, 1858); comb. by Wagner 1963: 175. = *Tyrphodelphax albocarinatus* (Stål, 1858); comb. by Vilbaste 1968: 70; 1971: 187. = *Nothodelphax albocarinata* (Stål, 1858); comb. by Anufriev & Averkin 1982b: 137. = *Nothodelphax albocarinatus* (Stål, 1858); emendation by Wilson 1992: 85–86. = *Delphacodes hyalina* Beamer, 1946d; syn. by Wilson 1992: 85–86.	USA: CO, ID, IL, KS; CAN: LB, MB, NT, QC, YK Palearctic: Northern and central Europe, Mongolia, Russia (Amur Region); Sweden, Finland, Scotland, Germany, England	Metcalf 1943, Wilson & McPherson 1980a, b; Wilson 1992, 1997; Maw et al. 2000, Hamilton 2002c
consimilis (Van Duzee, 1897) [Metcalf 1943: 421] = *Liburnia consimilis* Van Duzee, 1897: 249. = *Megamelus consimilis* (Van Duzee, 1897); comb. by Crawford 1914: 617. = *Delphacodes consimilis* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 21. = *Nothodelphax consimilis* (Van Duzee, 1897); comb. by Fennah 1965d: 254.	USA: AZ, CA, CO, DC, ID, KS, NC, NV, OR, SD, UT, WA; CAN: AB, BC	Metcalf 1943, Oman 1947, Beamer 1951d, DuBose 1960, Wilson & McPherson 1980b, Maw et al. 2000
eburneocarinata (Anufriev, 1979) = *Tyrphodelphax eburneocarinatus* Anufriev, 1979: 295–297. = *Tyrphodelphax eburneocarinata* Anufriev, 1979; emendation by Anufriev & Averkin 1982: 137b. = *Nothodelphax eburneocarinata* (Anufriev, 1979); comb. by Anufriev & Averkin 1982b: 137; Emeljanov 1982: 90.	USA: AK; CAN: NT, YK; Mongolia; Russia inc. Yakut, Tuva (Magadan, Kamchatka Regions, and Primor'ye Territory)	Wilson 1988, 1992, 1997; Maw et al. 2000

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foveata (Van Duzee, 1897) [Metcalf 1943: 447] = *Liburnia foveata* Van Duzee, 1897: 257. = *Megamelus foveatus* (Van Duzee, 1897); comb. by Crawford 1914: 629. = *Delphacodes foveata* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 22 (subspp. *foveata* by implication). = *Nothodelphax foveata* (Van Duzee, 1897); comb. by Fennah 1963a: 15 (designated Type species of *Nothodelphax*). = *Nothodelphax foveatus* (Van Duzee, 1897); unjustified emendation by Hamilton 2002b: 43.	USA: AZ, CA, ID, IL, MT, NJ, NM, NY, OH, OR, RI, UT; CAN: AB, BC, MB, ON, SK (reported in error: USA FL)	Metcalf 1943, Oman 1947, Wilson & McPherson 1980a, b,c; Maw et al. 2000, Hamilton 2002b
foveata subfoveata (Muir & Giffard, 1924) [Metcalf 1943: 448] = *Delphacodes foveata subfoveata* Muir & Giffard, 1924. = *Nothodelphax foveata subfoveata* (Muir & Giffard, 1924); comb. by implication Fennah 1963a: 15.	USA: AZ, CA; Mexico	Metcalf 1943
gillettei (Van Duzee, 1897) [Metcalf 1943: 450] = *Liburnia gillettei* Van Duzee, 1897: 258. = *Megamelus gillettei* (Van Duzee, 1897); comb. by Crawford 1914: 607, 616. = *Delphacodes gillettei* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 22. = *Nothodelphax gillettei* (Van Duzee, 1897); comb. by Fennah 1965d: 254.	USA: CA, CO, NV, UT, WY; CAN: AB, BC, QC, SK (reported in error: USA: OH)	Metcalf 1943, Oman 1947, Moore 1950a, b; Maw et al. 2000
glacia Wilson, 1992	CAN: AB, MB, YK	Wilson 1992, 1997; Maw et al. 2000
guentheri (Dlabola, 1966) = *Koswigianella* (sic) *güntheri* Dlabola, 1966: 444–445. = *Kosswigianella guentheri* Dlabola, 1966; emendation by Nast 1972: 62. = *Tyrphodelphax privigna* Emeljanov, 1972: 217–218. = *Nothodelphax guentheri* (Dlabola, 1966); comb. by Emeljanov 1982: 90. = *Tyrphodelphax privigna* Emeljanov, 1972; syn. by Emeljanov 1982: 90.	CAN: AB?, BC, SK?, YK; Mongolia, Russia inc, Taymyr Autonomous District (Altay Territory)	Wilson 1992, 1997, Maw et al. 2000
lineatipes (Van Duzee, 1897) [Metcalf 1943: 462] = *Liburnia lineatipes* Van Duzee, 1897: 255. = *M[egamelus] lineatipes* (Van Duzee, 1897); comb. by Crawford 1914: 629, 630. = *Delphacodes lineatipes* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 21. = *Calligypona lineatipes* (Van Duzee, 1897); comb. by Kontkanen 1958: 143. = *Nothodelphax lineatipes* (Van Duzee, 1897); comb. by Fennah 1965d: 254.	USA: AZ, CA, DE, MA, MD, NC, NH, NJ, NY, OH, OK, OR, PA, RI, TN, UT, WA, WI; CAN: AB?, BC, MB, NS, ON, QC, SK	Metcalf 1943, Oman 1947, Moore 1950a, b; Kontkanen 1958, DuBose 1960, Wray 1967, Wilson & McPherson 1980b, Maw et al. 2000, Hamilton 2002c, Bartlett & Bowman 2004, Gonzon et al. 2006
neocclusa (Muir & Giffard, 1924) [Metcalf 1943: 471] = *Delphacodes neocclusa* Muir & Giffard, 1924. = *Nothodelphax neocclusa* (Muir & Giffard, 1924); comb. by Fennah 1965d: 254.	USA: CO; CAN: AB, BC	Metcalf 1943, Strickland 1953, Maw et al. 2000

occlusa (Van Duzee, 1897) [Metcalf 1943: 477] = *Liburnia occlusa* Van Duzee, 1897: 256. = *Megamelus occlusus* (Van Duzee, 1897); comb. by Crawford 1914: 619. = *Delphacodes occlusa* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 21. = *Delphacodes occlusus* (Van Duzee, 1897); unjustified emendation by Moore 1950a, b. = *Nothodelphax occlusa* (Van Duzee, 1897); comb. by Fennah 1965d: 254.	USA: AZ, CA, CO, NV, OR, WA; CAN: BC, QC?; Mexico (Baja California, Federal District) (reported in error: USA: OH)	Metcalf 1943, Oman 1947, Moore 1950a, b; Maw et al. 2000
serrata Beamer, 1948a = *Delphacodes serrata* Beamer, 1948a: 6–8. = *Nothodelphax serrata* (Beamer, 1948a); **new combination.**	USA: AK, CT, NY; CAN: AB, MB, NT, ON, SK, YK	Beamer 1948a, Wilson & McPherson 1980b, Maw et al. 2000
slossonae (Ball, 1903) [Metcalf 1943: 326] = *Liburnia slossoni* Ball, 1903; 231. = *Megamelus slossoni* (Ball, 1903); comb. by Crawford 1914: 631. = *Stenocranus breviceps* Dozier, 1922: 76. = *Chloriona slossoni* (Ball, 1903); comb. by Muir & Giffard 1924: 8. = *Sogata breviceps* (Dozier, 1922); comb. by Muir & Giffard 1924: 12. = *Liburnia breviceps* (Dozier, 1922); comb. by Metcalf 1943: 353. = *Chloriona slossonae* (Ball, 1903); emendation by Caldwell & Martorell 1951: 160–161 (not listed as new). = *Nothodelphax slossonae* (Ball, 1903); comb. by Wilson & Hilburn 1991: 416 (as *N. slossoni*). = *Liburnia breviceps* (Dozier, 1922); syn. by Metcalf 1923: 148; Beamer 1946b: 87; see also Hamilton 2006: 497, Kennedy et al. 2012: 405.	USA: AL, DC, DE, FL, GA, IL, IN, LA, MI, MS, NC, TX; CAN: ON; Belize, Bermuda, Cuba, Hispaniola, Puerto Rico	Metcalf 1943, Beamer 1946b, Caldwell 1950a, Caldwell & Martorell 1951, Wilson & McPherson 1980a, b; Tsai & Mead 1982, Wilson & Hilburn 1991, Maw et al. 2000, Lago & Testa 2000
tshaunica (Anufriev, 1979) = *Tyrphodelphax tshaunicus* Anufriev, 1979: 297. = *Nothodelphax tshaunica* (Anufriev, 1979); comb. by Anufriev & Averkin 1982b: 137.	CAN: YK; Russia (Chukchi Autonomous District, Magadan Region)	Wilson 1992, 1997
umbrata Emeljanov, 1982	CAN: YK; Mongolia, Russia (Magadan, Kamchatka Regions and Yakut Autonomous Republic)	Wilson 1992, 1997; Maw et al. 2000
venusta (Beamer, 1948c) = *Delphacodes venusta* Beamer, 1948c: 115. = *Nothodelphax venusta* (Beamer, 1948c); comb. by Hamilton 2002a: 22. = *Nothodelphax venustus* (Beamer, 1948c); unjustified emendation by Hamilton, 2002b: 44–45.	USA: AZ, CO, TX, NM, WA, WY; CAN: BC	Beamer 1948c, Hamilton 2002a, b
Paradelphacodes Wagner, 1963 (Type species *Delphax paludosa* Flor, 1861).		

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litoralis (Reuter, 1880) [Metcalf 1943: 463] = *Liburnia litoralis* Reuter, 1880: 198. = *Delphax littoralis* [sic] (Reuter, 1880); comb. by Puton 1886: 74. = *Delphacodes litoralis* (Reuter, 1880); comb. by Metcalf 1943: 463. = *Paraliburnia (Struebingianella) litoralis* (Reuter, 1880); comb. by LeQuesne 1964: 57. = *Struebingianella litoralis* (Reuter, 1880); status by Nast 1972: 62. = *Paradelphacodes litoralis* (Reuter, 1880); comb. by Anufriev 1980: 211.	CAN: BC, NF, NT, YK; Scotland, Finland, Russia (Buryat and Yakut Autonomous Republic)	Wilson 1992, 1997; Maw et al. 2000
Paraliburnia Jensen-Haarup, 1917 (Type species *Paraliburnia jacobseni* Jensen-Haarup, 1917, junior. synonym of *Delphax concolor* Fieber, 1866b and *Delphax adela* Flor, 1861).		
furcata Hamilton, 2002a	CAN: BC	Hamilton 2002a, b
kilmani (Van Duzee, 1897) [Metcalf 1943: 456] = *Liburnia kilmani* Van Duzee 1897: 253. = *Delphacodes kilmani* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 20. = *Javesella kilmani* (Van Duzee, 1897); comb. by Wilson 1992: 97. = *Paraliburnia kilmani* (Van Duzee, 1897); comb. by Hamilton 2002a: 22.	USA: CT, IL, MD, MI, MT, NC, NH, NY, OH, WA; CAN: AB, BC, MB, NF, NT, ON, QC, SK, YK	Metcalf 1943, Oman 1947, Moore 1950a, b; Strickland 1953, DuBose 1960, Wilson & McPherson 1980b, Maw et al. 2000, Wilson 1992, 1997, Hamilton 2002c
lecartus Hamilton, 2002a	CAN: BC	Hamilton 2002a, b
Pareuidella Beamer, 1951b (Type species *Pareuidella spatulata* Beamer, 1951b).		
avicephaliforma Beamer, 1951b	USA: FL, GA, LA, MS, TX; Cuba	Beamer 1951b, Wilson & McPherson 1980b
magnistyla (Crawford, 1914) [Metcalf 1943: 246] = *Megamelus magnistylus* Crawford, 1914: 627–628. = *Liburnia magnistylus* (Crawford, 1914); comb. by Van Duzee 1916a: 84. = *Liburnia magnistyla* (Crawford, 1914); emendation by Van Duzee 1917b: 778. = *Euidella magnistylus* (Crawford, 1914); comb. by Muir & Giffard 1924: 10. = *Euidella magnistyla* (Crawford); emendation by Metcalf 1943: 246. = *Euides magnistyla* (Crawford, 1914); comb. by implication Metcalf 1952: 230–231. = *Pareuidella magnistyla* (Crawford, 1914); comb. by Kennedy et al. 2012: 404–405.	USA: AZ, GA, NC?; Costa Rica, Cuba, Dominican Republic, Grenada, Mexico (Guerrero, Sinaloa, Veracruz), Panama, Puerto Rico, St. Thomas, Turks & Caicos, Venezuela	Metcalf 1943, Caldwell 1950a, Caldwell & Martorell 1951, Wilson & McPherson 1980b
spatulata Beamer, 1951b	USA: AR, FL, GA, IL, NC, TN	Beamer 1951b, Wray 1967, Wilson & McPherson 1980b, Bartlett & Bowman 2004, Gonzon et al. 2006

triloba (Metcalf, 1923) [Metcalf 1943: 249] = *Liburnia triloba* Metcalf, 1923: 208. = *Euidella vanduzeei* Muir & Giffard, 1924: 11. = *Euidella triloba* (Metcalf, 1923); comb. by Metcalf 1943: 249. = *Euides triloba* (Metcalf, 1923); comb. by implication Metcalf 1952: 230–231. = *Euides vanduzeei* (Muir & Giffard, 1924); comb. by implication Metcalf 1952: 230–231. = *Euides vanduzeei* (Muir & Giffard, 1924); syn. by Kennedy et al. 2012: 404. = *Pareuidella triloba* (Metcalf, 1923); comb. by Kennedy et al. 2012: 404–405.	USA: AL, FL, LA, MS, NC, SC, TX; Bahamas (Cat, San Salvador); Belize; Bermuda (reported as error: USA: MO – lapsis for MS)	Metcalf, 1943, 1949, Wilson & McPherson 1980b, Wilson & Hilburn 1991, Kennedy et al. 2012
weedi (Van Duzee, 1897) [Metcalf 1943: 249] = *Liburnia weedi* Van Duzee, 1897: 252. = *Euidella weedi* (Van Duzee, 1897); comb. by Muir & Giffard 1924: 10. = *Euides weedi* (Crawford, 1914); comb. by implication Metcalf 1952: 230–231. = *Pareuidella weedi* (Van Duzee, 1897); comb. by Kennedy et al. 2012: 404–405.	USA: AZ, CA, DE, FL, GA, IL, KY, LA, MO, MS, NC, NY, OK, SC, TX, WI; Belize, Bermuda, Cayman Islands (Cayman Brac), Cuba, Dominican Republic, Jamaica, Mexico (San Luis Potosí, Sinaloa), Puerto Rico	Metcalf 1943, Oman 1947, Caldwell & Martorell 1951, Wilson & McPherson 1980a, b, c; Tsai & Mead 1982, Giri & Freytag 1983b, Giri et al. 1985, Wilson & Hilburn 1991, Lago & Testa 2000
Parkana Beamer, 1950c (Type species *Parkana alata* Beamer, 1950c).		
alata Beamer, 1950c	USA: AZ, CO, MT, OR, UT, WY; CAN: BC	Beamer 1950c, Maw et al. 2000
Penepissonotus Beamer, 1950c (Type species *Penepissonotus bicolor* Beamer, 1950c).		
bicolor Beamer, 1950c	USA: DE, FL, GA, IL, LA, MD, MO, NC, SC, TX, VA	Beamer 1950c, Wilson & McPherson 1980b
Peregrinus Kirkaldy, 1904a (Type species *Delphax maidis* Ashmead, 1890). = ***Perigrinus*** Kirkaldy, 1904a; Missp. by Barber 1914: 528, Van Der Goot 1936: 25; Beamer 1948: 106.		

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maidis (Ashmead, 1890) [Metcalf 1943: 252]
= *Delphax maidis* Ashmead, 1890: 323.
= *Dicranotropis maidis* (Ashmead, 1890); comb. by Van Duzee 1897: 227, 240.
= *Delphax psylloides* Lethierry, 1894: 105; syn. by Kirkaldy 1907a: 132.
= *Liburnia psylloides* (Lethierry, 1894); comb. by Melichar 1903: 101.
= *Peregrinus maidis* (Ashmead, 1890); comb. by Kirkaldy 1904a: 176.
= *Pundaluoya simplicia* Distant, 1906a: 468.
= *Delphax psylloides* Lethierry, 1894; syn. by Kirkaldy 1907a: 132.
= *Pundaluoya simplicia* Distant, 1906a; syn. by Kirkaldy 1907a: 132.
= *Megamelus teapae albinotatus* Crawford, 1914: 619.
= *Delphacodes albinotata* (Crawford, 1914) (nec Muir & Giffard, 1924); comb. by Muir & Giffard 1924: 36.
= *Delphacodes albinotata* (Crawford, 1914); syn. by Beamer 1948b: 106.
= *Perigrinus* (sic) *mardis* (Ashmead, 1890); missp. by Beamer 1948b: 106.

USA: AL, AR, CA, DC, DE, FL, GA, HI, IL, LA, NC, NJ, OH, SC, TN, TX, VA; Antigua, Argentina, Bahamas (Exuma Cays, New Providence, N. Bimini) Barbados, Belize, Bermuda, Brazil, British Virgin Islands (Guana); Cayman Is. (Grand Cayman, Cayman Brac), Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Mexico (Baja California Sur, Chiapas, Chihuahua, Federal District, Guerrero, Nayarit, Sinaloa, Veracruz), Navassa, Nevis, Nicaragua, Panama, Peru, Puerto Rico (inc. Vieques Island), St. Croix, St. Kitts, St. Lucia, St. Thomas, St. Vincent, Surinam, Trinidad, Tobago, Turks & Caicos, Venezuela

Palearctic: Bonin Islands, Japan, Ryukyus Islands, Okinawa

Indomalayan: China, Dutch East Indies, India, Indonesia (Java, Ambon, Borneo), Malaysia, Mentawai Islands, Philippine Islands (Luzon), Sri Lanka, Taiwan, Thailand, Viet Nam

Pacific: Fiji, Galapagos, Guam, Henderson Island, Micronesia (Caroline Islands, Palau, S. Mariana Islands, Yap); New Caledonia and Loyalty Islands; New Hebrides, Pitcairn Island, Samoa, Society Islands (Tahiti), Tonga

Australasian: Australia (Queensland, New South Wales, Northern Territory), New Zealand, Solomon Islands

Afrotropical: Angola, Cape Province, Cape Verde Islands, Cameroons, Canary Islands, Ivory Coast, Ethiopia, Ghana, Gold Coast, Guinea, Kenya, Madagascar, Mauritius (Rodriques Island), Mozambique, Natal, Nigeria, "Rhodesia", Reunion Island, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanganyika, Yemen, Zambia, Zimbabwe

Barber & Pepper 1942, Metcalf 1943, Wolcott 1950, Caldwell & Martorell 1951, Fennah 1950b, 1956b, 1957, 1958a, b, c; 1959, 1965c, 1967a, 1969b, 1971a, b, 1975, 1978a; Williams 1957, Miskimen & Bond 1970, Linnavuori 1973, Wilson & McPherson 1980a, b; Wilson & Tsai 1984, Tsai & Wilson 1986, Tsai et al. 1986, Asche 1988b, Fernandez-Badillo 1988, Denno et al. 1991, Wilson & Hilburn 1991, Rodriguez-León et al. 1994a, Tsai 1996, Asche 1997, Woodruff et al. 1998, Rioja et al. 2006, Singh & Seetharama 2008.

Perkinsiella Kirkaldy, 1903 (Type species *Perkinsiella saccharicida* Kirkaldy, 1903).

saccharicida Kirkaldy, 1903 [Metcalf 1943: 137]	USA: FL, GA, HI, LA, TX; Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Mexico (Veracruz), Peru, Venezuela (adventive) Widespread in Pacific, Indo-Malayan, and Australian regions (Bonin Islands, Fiji, India, Indonesia, Malaysia, Papua New Guinea, Philippine Islands, Taiwan, Thailand, Vietnam, southern China, Malaysia, Ryukyu Islands; Australia (Queensland, New South Wales), Réunion, Madagascar, South Africa, Swaziland, Comoro Islands, Mauritius)	Metcalf 1943, Wolcott 1950, Box 1953, Williams 1957, Risco 1966, Fennah 1965c, 1971b, 1975, 1979; Yépez G 1988, Denno et al. 1991, Meagher et al. 1991, 1993; Grillo 1994, White et al. 1995, Gómez & Lastra Borja 1995, Asche 1997, Mendoza 2005
Phrictopyga Caldwell, 1951 (In Caldwell & Martorell 1951) (Type species *Kelisia contorta* Muir, 1926).		
occidentalis (Muir, 1926) [Metcalf 1943: 192] = *Kelisia occidentalis* Muir, 1926: 22. = *Phrictopyga occidentalis* (Muir, 1926); comb. by Caldwell & Martorell 1951: 171–172. = *Sogata aurantii* Osborn, 1938: 244 (nec Crawford, 1914); syn. by Caldwell & Martorell 1951: 171–172.	USA: LA, TX; Belize, Brazil, Cuba (inc. Isle of Pines), Ecuador, Guatemala, Guyana, Jamaica, Mexico (Chiapas, Tamaulipas, San Luis Potosí, Veracruz), Puerto Rico (inc. Mona Isl.)	Metcalf 1943, Caldwell & Martorell 1951, Wolcott 1950, Wilson 1981, Remes-Lenicov et al. 2009
Phyllodinus Van Duzee, 1897 (Type species *Phyllodinus nervatus* Van Duzee, 1897). = ***Jamipax*** Matsumura, 1940 (Type species *Jamipax kotoshonis* Matsumura, 1940); syn. by Ishihara 1949: 73 (error).		
nervatus Van Duzee, 1897 [Metcalf 1943: 149]	USA: CO, CT, DE, IA, ID, ME, MD, MI, NC, NH, NY, OH, PA, SD, UT, VA, VT, WI, WY; CAN: AB, BC, MB, NF, ON, QC, SK	Strickland 1940, 1953, Metcalf 1943, Proctor 1946, Oman 1947, Morgan & Beamer 1949, Moore 1950a, b; Wilson & McPherson 1980a, b; Maw et al. 2000, Wheeler & Hoebeke 2008
Pissonotus Van Duzee, 1894a (Type species *Pissonotus marginatus* Van Duzee, 1897). = ***Phyllodictus*** Ball, 1926: 18–19 (Type species *Phyllodictus tessellatus* Ball, 1926); status (subgenus) by Morgan & Beamer 1949: 97; syn. by Bartlett & Deitz 2000: 13.		
agrestis Morgan & Beamer, 1949	USA: CT?, FL, GA	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000 (CT record likely a mislabeled specimen)
albivultus Morgan & Beamer, 1949	USA: FL, LA, TX?; Belize, Costa Rica, Guatemala, Honduras, Mexico (Chiapas?, Hidalgo, Nayarit, Oaxaca, San Luis Potosí, Veracruz), Nicaragua, Venezuela?	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000

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albovenosus Osborn, 1935 [Metcalf 1943: 268] = *Prokelisia albovenosus* Osborn, 1935: 247; lapsus by McCoy & Rey 1981: 289.	USA: AL, AR, AZ, CA, CT, DE, FL, GA, IL, LA, MA, MD, MS, NC, NH, NJ, NM, NY, SC, TX, VA, VT; Bahamas (Cat Island); Dominican Republic, Jamaica, Mexico (Sonora, Tamaulipas, Durango, Sinaloa, Jalisco, Mexico, Oaxaca, Chiapas), Puerto Rico	Metcalf 1943, Morgan & Beamer 1949, Wolcott 1950, Caldwell & Martorell 1951, Davis & Gray 1966, Wilson & McPherson 1980a, b, c; Bartlett & Deitz 2000, Lago & Testa 2000
aphidioides Van Duzee, 1897 [Metcalf 1943: 268] = *Pissonotus aphidioides* Van Duzee, 1897: 236, 239. = *Pissonotus aphidiodes* Van Duzee, 1897; missp. by Oman 1947: 216. = *Pissonotus aphidoides* Van Duzee, 1897; missp. by Strickland 1940: 88. = *Pissonotus (Phyllodictus) aphidioides* Van Duzee, 1897; comb. by Morgan & Beamer 1949: 101.	USA: CT, GA, IA, IL, MA, MD, ME, MI, NC, NJ, NY, OH, PA; CAN: AB, MB, NS, ON, PE?, QC (reported in error: USA: AZ, CA, CO)	Metcalf 1943, Strickland 1940, 1953, Oman 1947, Morgan & Beamer 1949, Moore 1950a, b; Kontkanen 1958, Wilson & McPherson 1980b, Bartlett & Deitz 2000, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006
aquilonius Morgan & Beamer, 1949 = *Pissonotus aquilonius* Morgan & Beamer, 1949: 125–126; missp. by Wilson & McPherson 1980b.	USA: WI (reported in error: USA: AL, IL)	Morgan & Beamer 1949, Wilson & McPherson 1980a, b, c; Bartlett & Deitz 2000, Benton & McCreadie 2009
basalis Van Duzee, 1897 [Metcalf 1943: 269] = *Pissonotus basalis* Van Duzee 1897: 227, 238–239; Bartlett & Deitz 2000: 95. *Pissonotus (Phyllodictus) basalis* Van Duzee 1897; status by Morgan & Beamer 1949: 108. = *Pissonotus crawfordi* Metcalf, 1923; syn. by Morgan & Beamer 1949: 108–109.	USA: CT, DE, ID?, IL, IN, MA, ME, MI, NE, NH, NJ, NY, OH, PA, TN, VT, WI; CAN: AB, MB, NB, NF, NS, ON, QC (reported in error: USA: FL, TX)	Strickland 1940, 1953; Metcalf 1943, Oman 1947, Morgan & Beamer 1949, Kontkanen 1958, Wilson & McPherson 1980b, Bartlett & Deitz 2000; Maw et al. 2000, Hamilton 2002c, Wheeler & Hoebeke 2008
binotatus Spooner, 1912 [Metcalf 1943: 270] = *Pissonotus binotatus* Spooner, 1912: 239. = *Dicranotropis binotatus* (Spooner, 1912); comb. by Crawford 1914: 601; returned to *Pissonotus* by Van Duzee 1916a: 83.	USA: AL, AR, DC?, DE, FL, GA, LA, MD, MO, MS, NC, NJ, OK, PA, SC, TN, TX, VA; Bermuda	Metcalf 1943, Morgan & Beamer 1949, Wilson & McPherson 1980b, Wilson & Hilburn 1991, Bartlett & Deitz 2000, Gonzon et al. 2006
brunneus Van Duzee, 1897 [Metcalf 1943: 270] = *Pissonotus brunneus* Van Duzee, 1897: 236, 239–240. = *Pissonotus divaricatus* Spooner, 1912: 236. = *Dicranotropis divaricatus* (Spooner, 1912); comb. by Crawford 1914: 600. = *Dicranotropis brunneus* (Van Duzee, 1897); comb. by Crawford 1914: 594, 599; returned to *Pissonotus* by Metcalf 1915: 44. = *Pissonotus divaricatus* Spooner, 1912; syn. by Morgan & Beamer 1949: 115–117.	USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV; CAN: AB, NS, ON, QC; Mexico (Chiapas, Federal District, Hidalgo, Michoacán, Puebla, San Luis Potosí, Tamaulipas, Veracruz), Puerto Rico? (Jamaica record in error; specimen label referred to Jamaica on Long Island in New York)	Metcalf 1943, Oman 1947, Morgan & Beamer 1949, Moore 1950a, b; Strickland 1953, Kontkanen 1958, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Bartlett & Deitz 2000, Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006
canadensis Bartlett, 2000 (in Bartlett & Deitz 2000)	CAN: AB, MB, ON, QC, YT	Bartlett & Deitz 2000
concolor Bartlett, 2000 (in Bartlett & Deitz 2000)	USA: CT?, MA?, NY, NC, TN	Bartlett & Deitz 2000, Gonzon et al. 2006

delicatus Van Duzee, 1897 [Metcalf 1943: 271] = *Pissonotus delicatus* Van Duzee, 1897: 237–238. = *Pissonotus delicatus delicatus* Van Duzee, 1897; subspecific status implied by description of *P. d. melanurus* Van Duzee, 1917a. = *Pissonotus pallipes* Van Duzee, 1897: 238–239; syn. by Oman 1947: 217–218, 220. = *Dicranotropis delicatus* (Van Duzee, 1897); comb. by Crawford 1914: 594, 596–597. = *Dicranotropis pallipes* (Van Duzee, 1897); comb. by Crawford 1914: 594, 599. = *Pissonotus giffardi* Van Duzee, 1925: 407–408: syn. by Morgan & Beamer 1949: 134–135.	USA: AL, AR, AZ, CA, CO, DC, FL, GA, IA, ID, IL, KS, MO, MS, MT, NC, ND, NJ, NM, NY, OK, OH, OR, SC, TX, UT, VT, WA, WY; CAN: AB, BC, MN, QC, SK; Bermuda, Mexico (Baja California, Coahuila, Tamaulipas); Jamaica?	Metcalf 1943, Oman 1947, Morgan & Beamer 1949, Moore 1950a, b; Wilson & McPherson 1980a, b, c; Wilson & Tsai 1991, Bartlett & Deitz 2000, Maw et al. 2000, Wilson & Wheeler 2010
dentatus Morgan & Beamer, 1949	USA: AL, FL, GA, IL, NC, SC; Cuba, Mexico (Federal District)	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000, Wilson & Wheeler 2010
divergens Bartlett, 2000 (in Bartlett & Deitz 2000)	USA: AZ?, CO?, KS, NM, TX?	Bartlett & Deitz 2000
dorsalis Van Duzee, 1897 [Metcalf 1943: 272]	USA: CT, IL?, MA, MD, ME, MI, MN, NC, NH, NY, OH, PA, VT, WI; CAN: MB, NB, NF, NS, ON, PE, QC	Metcalf 1943, Oman 1947, Morgan & Beamer 1949, Moore 1950a, b; Wilson & McPherson 1980b, Bartlett & Deitz 2000, Maw et al. 2000
festucae Bartlett, 2000 (in Bartlett & Deitz 2000)	USA: AZ?; Mexico (Federal District, Jalisco, Mexico); Puerto Rico?	Bartlett & Deitz 2000
flabellatus (Ball, 1903) [Metcalf 1943: 145] = *Phyllodinus flabellatus* Ball, 1903: 232. = *Phyllodictus flabellatus* (Ball, 1903); comb. by Ball 1926: 19. = *Pissonotus (Phyllodictus) flabellatus* (Ball, 1903); comb. by Morgan & Beamer 1949: 103–105. = *Pissonotus flabellatus* (Ball, 1903); status by Bartlett & Deitz 2000: 53. = *Phyllodinus koebelei* Osborn, 1903a: 44–45; syn. by Metcalf 1923: 148. = *Phyllodinus fuscous* Osborn, 1903a: 46; syn. by Ball 1926: 19–20.	USA: AL, AR, CT, DC, DE, FL, GA, IL, IN, KS, KY, MA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, TN, TX, VA, WV; CAN: ON	Metcalf 1943, Morgan & Beamer 1949, Wilson & McPherson 1980a, b, c; Giri & Freytag 1983a, Giri et al. 1985, Wilson et al. 1993, Bartlett & Deitz 2000, Maw et al. 2000, Gonzon et al. 2006
frontalis (Crawford, 1914) [Metcalf 1943: 273] = *Pissonotus exiguus* Morgan & Beamer, 1949; syn. by Bartlett & Deitz 2000: 44–46.	USA: CA, OR; CAN: BC	Metcalf 1943, Morgan & Beamer 1949, Bartlett & Deitz 2000
guttatus Spooner, 1912 [Metcalf 1943: 273]	USA: AL, AR, CT, DC, FL, IL, IN, MD, ME, MI, MT, NC, NH, NY, OH, PA, TN, VA, WI; CAN: MB, NS, ON, QC, SK	Metcalf 1943, Morgan & Beamer 1949, Moore 1950a, b; Wilson & McPherson 1980a, b; Bartlett & Deitz 2000, Maw et al. 2000, Bartlett & Bowman 2004,Gonzon et al. 2006
lactofascius Morgan & Beamer, 1949	USA: AZ, CO, NM, WY	Morgan & Beamer 1949, Bartlett & Deitz 2000

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marginatus Van Duzee, 1897 [Metcalf 1943: 273] = *Pissonotus ater* Van Duzee 1897: 237; syn. by Morgan & Beamer 1949: 134–135.	USA: AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, TN, VA, VT, WI, WV; CAN: AB, MB, NB, ON, QC (reported in error: USA: CA)	Metcalf 1943, Oman 1947, Morgan & Beamer 1949, Moore 1950a, b; Strickland 1953, Wilson & McPherson 1980a, b, c; Giri & Freytag 1983a, Giri et al. 1985, Bartlett & Deitz 2000; Maw et al. 2000, Bartlett & Bowman 2004, Gonzon et al. 2006
melanurus Van Duzee, 1917a [Metcalf 1943: 272] = *Pissonotus delicatus melanurus* Van Duzee, 1917a: 311–312. = *Pissonotus melanurus* Van Duzee, 1917a; status by Bartlett & Deitz 2000: 143–144.	USA: CA	Metcalf 1943, Morgan & Beamer 1949, Bartlett & Deitz 2000
merides Morgan & Beamer, 1949	USA: AL, FL, GA, MS, NC	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000
minutus Beamer, 1952a	USA: AZ	Beamer 1952a, Bartlett & Deitz 2000
niger Morgan & Beamer, 1949	USA: CT, GA, IL, MD, MI, MT?, NC, NY, PA, SD, VA; CAN: MB	Morgan & Beamer 1949, Wilson & McPherson 1980a, b; Bartlett & Deitz 2000, Maw et al. 2000
nigriculus Morgan & Beamer, 1949	USA: FL, TX	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000
nitens (Van Duzee, 1909) [Metcalf 1943: 146] = *Phyllodinus nitens* Van Duzee, 1909: 198–199. = *Phyllodictus nitens* (Van Duzee, 1909); comb. by Ball 1926: 20. = *Pissonotus (Phyllodictus) nitens* (Van Duzee, 1909); comb. by Morgan & Beamer 1949: 100, 107–108. = *Pissonotus nitens* (Van Duzee, 1909); status by Bartlett & Deitz 2000: 100.	USA: AL, FL, MS; Jamaica	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000
paludosus Morgan & Beamer, 1949	USA: AL, FL, GA, LA, MS, NC, SC	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000
piceus (Van Duzee, 1894b) [Metcalf 1943: 215] = *Megamelus piceus* Van Duzee, 1894b: 28. = *Pissonotus piceus* (Van Duzee, 1894b); comb. by Oman 1947: 219–220. = *Pissonotus fulvus* Metcalf, 1923: 206; syn. by Morgan & Beamer 1949: 137–138. = *Dicranotropis bakeri* Crawford, 1914: 598; syn. by Bartlett & Deitz 2000: 107–116. = *Delphacodes pictifrons* Osborn, 1938: 344; syn. by Bartlett & Deitz 2000: 107.	USA: AL, AR, AZ, CT, DC, DE, FL, GA, IL, IN, KS, LA, MA, MD, MI, MO, MS, MT, NC, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, VT, WV; CAN: ON, QC; Belize, Bermuda, Costa Rica, Cuba, French Guiana, Honduras, Jamaica, Mexico (Jalisco, San Luis Potosí, Sinaloa, Veracruz), Nicaragua, Panama, Peru, Trinidad, Venezuela	Metcalf 1943, 1949; Oman 1947, Morgan & Beamer 1949 Moore 1950a, b; Bickley & Seek 1975, Wilson & McPherson 1980a, b, c; Tsai & Mead 1982, Denno et al. 1991, Wilson & Hilburn 1991, Bartlett & Deitz 2000, Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009

quadripustulatus (Van Duzee, 1909) [Metcalf 1943: 275] = *Stobaera 4-pustulata* Van Duzee, 1909: 200. = *Pissonotus foveatus* Spooner 1912: 235. = *Stobaera quadripustulata* Van Duzee, 1909; transliteration of 4-pustulata by Crawford 1914: 572, 576. = *Dicranotropis foveatus* (Spooner, 1912); comb. by Crawford 1914: 600. = *Dicranotropis variegatus* (Spooner, 1912); comb. by Crawford 1914: 600. = *Pissonotus foveatus* Spooner 1912; syn. by Van Duzee 1916a: 84. = *Stobaera foveatus* (Spooner, 1912); comb. by Van Duzee 1916a: 84. = *Pissonotus quadripustulatus* (Van Duzee, 1909); comb. by Metcalf 1923: 148, 170. = *Pissonotus variegatus* Spooner, 1912; syn. by Metcalf 1923: 148. = *Pissonotus 4-pustulata* (Van Duzee, 1909); comb. by Morgan & Beamer 1949: 110, 120–121. = *Pissonotus quadripustutatus* (Van Duzee, 1909); missp. by Stiling 1994, noted by Bartlett & Deitz 2000: 34–38.	USA: AL, FL, GA, LA, TX; Mexico (Tamaulipas)	Metcalf 1943, Morgan & Beamer 1949, Wilson & McPherson 1980b, Denno et al. 1991, Stiling 1994, Bartlett & Deitz 2000
radiolus Bartlett 2000 (in Bartlett & Deitz 2000)	CAN: ON	Bartlett & Deitz 2000
rubrilatus Morgan & Beamer, 1949	USA: CO, ID, MT, WY; CAN: BC	Morgan & Beamer 1949, Bartlett & Deitz 2000, Maw et al. 2000, Hamilton 2002b
spatulatus Bartlett, 2000 (in Bartlett & Deitz 2000)	USA: CA; Mexico (Durango, Jalisco)	Bartlett & Deitz 2000
spooneri Morgan & Beamer, 1949 [Metcalf 1943: 145 as syn. of *Phyllodictus flabellatus*] = *Pissonotus piceus* Spooner, 1912: 238–239 (nec Van Duzee, 1894b). = *Phyllodictus flabellatus* (Ball, 1903); syn. by Ball 1926: 19 (error). = *Pissonotus (Phyllodictus) spooneri* Morgan & Beamer, 1949: 104–107; replacement name by Morgan & Beamer 1949: 104–107. = *Pissonotus spooneri* Morgan & Beamer, 1949; status by Bartlett & Deitz 2000: 98.	USA: CT, FL, MO, NC, NH, NY, OH, PA	Morgan & Beamer 1949, Wilson & McPherson 1980b, Wilson et al. 1993, Bartlett & Deitz 2000
tessellatus (Ball, 1926) [Metcalf 1943: 146] = *Phyllodictus tessellatus* Ball, 1926: 19. = *Pissonotus tessellatus* (Ball, 1926); comb. by Morgan & Beamer 1949: 100.	USA: FL, GA, MS, NC, OH	Morgan & Beamer 1949, Wilson & McPherson 1980b, Bartlett & Deitz 2000
tumidus Morgan & Beamer, 1949 = *Pissonotus (Phyllodictus) tumidus* Morgan & Beamer, 1949: 102–103. = *Pissonotus tumidus* Morgan & Beamer, 1949; status by Bartlett & Deitz 2000: 49.	USA: CT, MI, MN, NC, NH, NY, PA, VA; CAN: MB	Morgan & Beamer 1949, Kontkanen 1958, Wilson & McPherson 1980b, Bartlett & Deitz 2000, Maw et al. 2000, Gonzon et al. 2006
Prokelisia Osborn, 1905 (Type species *Prokelisia setigera* Osborn, 1905, junior syn. of *Megamelus marginatus* Van Duzee, 1897). = ***Prokelisoidea*** McDermott, 1952: 57 (Type species *Kelisia salina* Ball, 1902b); syn. by Wilson 1982a: 533.		

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carolae Wilson, 1982a	USA: CA; CAN: BC	Wilson 1982a, Heady & Wilson 1990, Maw et al. 2000
crocea (Van Duzee, 1897) [Metcalf 1943: 184] = *Kelisia crocea* Van Duzee, 1897: 233. = *Stenocranus crocea* (Van Duzee, 1897); comb. by Osborn & Ball 1897: 233. = *Liburnia crocea* (Van Duzee, 1897); comb. by Beamer 1945a: 100. = *Prokelisia crocea* (Van Duzee, 1897); comb. by Oman 1947: 220.	USA: AR, CO, CT, DE, FL, IA, IL, IN, KS, LA, MA, ME, MI, MN, MO, MS, NC, ND, NH, NJ, NM, NY, OH, SD, VA, WI; CAN: MB, NB, ON, PE, QC, SK	Beamer 1946b, Oman 1947, Wilson & McPherson 1980a, b; Wilson 1982a, Heady & Wilson 1990, Denno et al. 1991,Wilson et al. 1993, Maw et al. 2000, Lago & Testa 2000, Hamilton 2002c
dolus Wilson, 1982a	USA: AL, CA, CT, DE, FL, GA, LA, MA, MD, MS, NC, NH, NJ, NY, SC, TX, VA; CAN: NB, NS, ON, QC; Mexico	Wilson 1982a, Heady & Wilson 1990, Denno et al. 1991, Maw et al. 2000, Lago & Testa 2000, Hamilton 2002c, Benton & McCreadie 2009
marginata (Van Duzee, 1897) [Metcalf 1943: 300] = *Megamelus marginatus* Van Duzee, 1897: 234. = *Prokelisia setigera* Osborn, 1905: 373. = *Megamelus setigerus* (Osborn, 1905); comb. by Crawford 1914: 631. = *Prokelisia marginatus* (Van Duzee, 1897); comb. by Van Duzee 1916a; 83. = *Megamelus marginata* (Van Duzee, 1897); comb. by Van Duzee 1917b: 765. = *Prokelisia setigera* Osborn, 1905; syn. by Wilson 1982a: 537–539.	USA: CA, CT, DE, FL, GA, LA, MA, MD, MS, NC, NH, NJ, NY, SC, VA, WA; CAN: SK; England, France, Portugal, Slovenia, Spain (adventive) (reported in error: USA: IL)	Metcalf 1943, Oman 1947, Davis & Gray 1966, Bickley & Seek 1975, Wilson & McPherson 1980b, Wilson 1982a, Heady & Wilson 1990, Denno et al. 1991, Maw et al. 2000, Lago & Testa 2000, Grevstad et al. 2003, 2004; Seljak 2004, Badmin & Witts 2009
salina (Ball, 1902b) [Metcalf 1943: 198] = *Kelisia salina* Ball, 1902b: 264. = *Megamelus salina* (Ball, 1902b); comb. by Crawford 1914: 631. = *Megamelanus frontalis* Crawford, 1914: 593. = *Megamelus constrictus* Crawford, 1914: 610. = *Liburnia constricta* (Crawford, 1914); comb. by Metcalf 1923: 148. = *Prokelisia constricta* (Crawford, 1914); comb. by Muir & Giffard 1924: 10. = *Megamelanus salina* (Ball, 1902b); comb. by Beamer 1945a: 100. = *Prokelisoidea frontalis* (Crawford, 1914); syn. by McDermott 1952: 58–59. = *Prokelisoidea salina* (Ball, 1902b); comb. by McDermott 1952: 57. = *Megamelanus frontalis* Crawford, 1914: 593; syn. by Wilson 1982a: 540–542. = *Megamelus constrictus* Crawford, 1914: 610; syn. by Wilson 1982a: 540–542. = *Megamelus constrictus minutus* Crawford, 1914: 610; syn. by Wilson 1982a: 540–542.	USA: AZ, CA, CO, FL, GA, ID, IL, KS, MI, NE, NM, NV, OR, SD, TX, UT, WA, WY; CAN: BC, MB, ON, SK; Bahamas (Abaco Cays, Andros, Exuma Cays, Eleuthera, New Providence); Mexico (San Luis Potosí, Zacatecas)	Metcalf 1943, McDermott 1952, Wilson & McPherson 1980a, b; Wilson 1982a, Heady & Wilson 1990, Meagher et al. 1993, Maw et al. 2000, Wilson & Wheeler 2010
Pygospina Caldwell, 1951 (in Caldwell & Martorell 1951) (Type species *Pygospina spinata* Caldwell, 1951 in Caldwell & Martorell, 1951).		
spinata Caldwell, 1951 (in Caldwell & Martorell 1951)	USA: AL, FL; Belize, Dominican Republic, Jamaica, Panama, Puerto Rico, Cocos Islands	Caldwell & Martorell 1951, Tsai & Mead 1982, Rodriguez-León et al. 1994b, Doud et al. 1997, Benton & McCreadie 2009

Ribautodelphax Wagner, 1963 (Type species *Delphax collina* Boheman, 1847).		
albostriata (Fieber, 1866b) [Metcalf 1943: 402] = *Delphax albostriata* Fieber, 1866b: 525. = *Liburnia albostriata* (Fieber, 1866b); comb. by Fieber 1872: 5. = *Delphacodes albostriata* (Fieber, 1866b); comb. by Metcalf 1943: 402. = *Ribautodelphax albostriatus* (Fieber, 1866b); comb. by Wagner 1963: 176. = *Delphacodes albostriatus* (Fieber, 1866b); emendation by Wilson 1992: 88. = *Liburnia distinguenda* Sahlberg, 1871: 432 [nec Kirschbaum, 1868]; syn. by Reuter 1880: 197. = *Delphacodes nigrigaster* (Crawford, 1914); **new synonymy.**	USA: AK, CO; CAN: AB, BC, MB, SK, YK; Austria, Belgium, Cyprus, "Czechoslovakia", Denmark, Finland, France, Germany, Hungary, Italy, Kazakhstan, Mongolia, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, Tunisia, Russia, "Yugoslavia"	Metcalf 1943, Wilson 1988, 1992, 1997; Maw et al. 2000
magna (Crawford, 1914) [Metcalf 1943: 467] = *Megamelus magnus* Crawford, 1914: 627. = *Liburnia magnus* (Crawford, 1914); Van Duzee, 1916: 84. = *Delphacodes magna* (Crawford, 1914); comb. by. Muir & Giffard, 1924: 29. = *Ribautodelphax magna* (Crawford, 1914); **new combination.**	USA: AZ, CO, ID, IL?, MI, MT, OR; CAN: AB, BC, NF, QC, YK	Metcalf 1943, Wilson & McPherson 1980a, b; Maw et al. 2000
pusilla Emeljanov, 1972 = *Ribautodelphax balgasicus* Vilbaste 1980: 14; syn. by Anufriev & Averkin 1982a: 99.	USA: DE, MI, NY; CAN: AB, BC, ON, QC, SK, YK; Mongolia, Russia (Altay Territory, Chita Region, Tuva, Yakut Autonomous Republic, Khabarovsk Territory), China	Anufriev & Averkin 1982a, Wilson 1992, 1997; Maw et al. 2000, Qin et al. 2010
Rotundifronta Beamer, 1950c (Type species *Rotundifronta lutea* Beamer, 1950c).		
lutea Beamer, 1950c	USA: FL	Beamer 1950c, Wilson & McPherson 1980b
Scolopygos Bartlett, 2002 (Type species *Scolopygos pallida* Bartlett, 2002).		
pallida Bartlett, 2002	CAN: AB	Bartlett 2002
Sogatella Fennah, 1956a (Type species *Delphax furcifera* Horváth, 1899). = ***Sogatodes*** Fennah, 1963b: 71 (Type species *Sogatodes molinus* Fennah, 1963b); syn. by Asche & Wilson 1990; 5. = ***Chloriona (Sogatella)*** Fennah, 1956a (Type species of *Chloriona* Fieber 1866b is *Delphax unicolor* Herrich-Schaffer, 1835). = ***Sogatella*** Fennah, 1956a; status (genus) by Fennah 1963b: 48.		

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furcifera (Horváth, 1899) [Metcalf 1943: 357]
= *Delphax furcifera* Horváth 1899: 372.
= *Liburnia furcifera* (Horváth 1899); comb. by Matsumura 1900: 262.
= *Megamelus furcifera* (Horváth 1899); comb. by Muir 1917: 328.
= *Sogata furcifera* (Horváth 1899); comb. by Muir 1923: 174.
= *Delphacodes furcifera* (Horváth 1899); comb. by Matsumura 1935a: 129.
= *Liburnia albolineosa* Fowler, 1905; syn. by Muir & Giffard 1924: 13 (error; removed from syn. by Fennah 1963b: 74).
= *Sogata distincta* Distant, 1912: 191; syn. by Muir 1919a: 7.
= *Sogatella furcifera distincta* (Distant, 1912); status by Fennah 1963b: 51.
= *Sogata pallescens* Distant, 1912: 192; syn. by Muir 1919a: 7.
= *Sogatella furcifera pallescens* (Distant, 1912); status by Fennah 1963b: 51.
= *Sogata kyusyuensis* Masumura & Ishihara, 1945: 65; syn. by Asche & Wilson 1990: 9.
= *Sogatella kyusyuensis* (Masumura & Ishihara, 1945); comb. by Fennah 1963b: 51.
= *Sogata tandojamensis* Qadri & Mirza 1960: 115 (nomen nudum); syn. by Asche & Wilson 1990: 9.
= *Opiconsiva colorata* Distant, 1917: 301; syn. by Muir & Giffard 1924: 13 (error: removed from syn. by Fennah 1963b: 62–63).
= *Opiconsiva insularis* Distant, 1917: 303; syn. by Muir 1919a: 7 (error: to *Sogatella kolophon* by Asche & Wilson 1990: 7).
= *Opiconsiva derelicta* Distant, 1917: 303; syn. by Muir 1919a: 7 (error: to *Sogatella kolophon* by Asche & Wilson 1990: 7).
= *Opiconsiva balteata* Distant, 1917: 302; syn. by Muir 1919a: 7 (error: to *Sogatella kolophon* by Asche & Wilson 1990: 7).
= *Delphax nigrigenis* Jacobi, 1917: 530; syn. by Muir & Giffard 1924: 13.
= *Opiconsiva gloriosa* Distant, 1917: 303; syn. by Muir & Giffard 1924: 13.

Reported in error from New World (USA: FL, NC, LA, Bermuda, Brazil, Costa Rica, Cuba, Ecuador, Guyana, Jamaica, Mexico, Nicaragua, Panama, Puerto Rico (inc. Mona Island), Trinidad, St. Croix, Tortola. Also reported in error from Europe (Canary Islands, Egypt, Israel, Madeira, Russia, Sicily, "Yugoslavia") and Africa (Kenya, Madagascar, Nigeria, Seychelles Islands, South Africa, Tanzania).

Palearctic: Japan, Korea, Mongolia

Indomalaya: Cambodia, China, Hong Kong, India, Indonesia, Laos, Malaysia, Nepal, Pakistan, Philippine Islands, Saudi Arabia, Sri Lanka, Taiwan, Thailand, Vietnam

Pacific: Fiji, Micronesia (Guam, Palau, Ponape, Marshall Islands), Ryukyu Islands, Vanuatu

Australia

Metcalf 1943, Fennah 1945a, 1949, 1950b, 1956a, b; 1963, 1965c, 1971b, 1975, 1978a; Ramos 1947, Caldwell 1950a, Wolcott 1950, Caldwell & Martorell 1951, Beamer 1952a, Miskimen & Bond 1970, Asche & Wilson 1990, Wilson & Claridge 1991, Denno et al. 1991, Rodriguez-León et al. 1994a

kolophon (Kirkaldy, 1907a) [Metcalf 1943: 361] = *Delphax kolophon* Kirkaldy, 1907a: 157–158. = *Opiconsiva balteata* Distant, 1917: 302. = *Opicousiva iusularis* Distant, 1917: 303. = *Opicousiva derelicta* Distant, 1917: 303. = *Liburnia furcifera var. kolophon* (Kirkaldy, 1907a); comb. by Metcalf 1943: 361. = *Delphacodes elegantissima* Ishihara, 1952: 45–47. = *Sogata meridiana* Beamer, 1952a: 111–112. = *Sogatella kolophon meridiana* (Beamer, 1952a); comb. by Fennah 1963b: 59. = *Sogatella kolophon atlantica* Fennah, 1963b; 58. = *Chloriona (Sogatella) kolophon* (Kirkaldy, 1907a); comb. by Fennah 1956b: 116 (new comb. not stated). = *Sogatella kolophon* (Kirkaldy, 1907a); status by Fennah 1963b: 58. = *Sogatella kolophon insularis* (Distant, 1917); comb. by Fennah 1963b: 59–60. = *Sogatella derelicta* (Distant, 1917); comb. by Fennah 1963b: 62. = *Sogatella balteata* (Distant, 1917); comb. by Fennah 1963b: 64–65. = *Sogatella nebris* Fennah, 1963b: 67–68. = *Sogatella elegantissima* (Ishihara, 1952); comb. by Fennah 1963b: 67. = *Sogatella chenhea* Kuoh, 1977: 440–441. = *Sogata meridiana* Beamer, 1952a; syn. by Asche & Wilson 1990: 7, 16. = *Sogatella kolophon atlantica* Fennah, 1963b; syn. by Asche & Wilson 1990: 7, 16. = *Opicousiva balteata* Distant, 1917; syn. by Asche & Wilson 1990: 7, 16. = *Opiconsiva derelicta* Distant, 1917; syn. by Asche & Wilson 1990: 7, 16. = *Opiconsiva insularis* Distant, 1917: 303; syn. by Asche & Wilson 1990: 7, 16. = *Sogatella chenhea* Kuoh, 1977; syn. by Asche & Wilson 1990: 7, 16. = *Delphacodes elegantissima* Ishihara, 1952; syn. by Asche & Wilson 1990: 7, 16. = *Sogatella nebris* Fennah, 1963b; syn. by Asche & Wilson 1990: 7, 17.	Widespread, circumtropical and warm temperate regions. Nearctic: USA: AL, CT, DE, FL, GA, HI, IL, KS, KY, LA, MD, MS, NC, NJ, OK, SC, TN, TX, VA; CAN: NS Neotropical: Bahamas (Andros, Crooked, Eleuthera, Exuma, New Providence); Belize, Bermuda Islands, Brazil, Cayman Islands, Costa Rica, Cuba, Dominican Republic, Ecuador, Grenada, Guyana, Honduras, Jamaica, Martinique, Mexico (Guerrero, Jalisco, Michoacán, Morales, Puebla, Tamaulipas, Veracruz), Montserrat, Nicaragua, Peru, Puerto Rico, St. Lucia, Trinidad, Venezuela, Virgin Islands (St. Kitts) Atlantic Ocean: St. Helena Island. Palearctic: Azores, Canary Islands, Japan, Korea Afrotropical: Cape Verde Island, Ivory Coast, Mauritius, Nigeria, Rodrigues Island, South Africa. Indomalayan: Cambodia, China, Hong Kong, India, Indonesia, Laos, Malaysia, New Caledonia, Papua New Guinea, Philippine Islands, Seychelles Islands, Sri Lanka, Thailand, Taiwan, Vietnam Pacific: Austral Isl. (Rurutu Is.); Belau Island, Eniwetok Atoll, Fiji, Galapagos, Guam, Hawaii, Henderson Island, Mangareva Island, Marquesas Islands (Hiva Oa), Micronesia (Bonin Island, Caroline Atolls, Gilbert Islands, Marshall Islands, Palau, Ponape, S. Mariana Islands, Marshall Islands, Truk, Yap), New Caledonia, Northern Mariana Islands, Pitcairn Island, Rapa, Society Islands (Raiatea, Moorea), Solomon Islands, Swains Is., Tonga Islands, Western Samoa Australian: Australia	Beamer 1952a, Fennah 1956b, 1957c, 1959, 1963b, 1965c, 1967a, b, 1969b, 1971b, 1975, 1976, 1978a; Wilson & McPherson 1980b, Tsai & Mead 1982, Giri & Freytag 1983a, Giri et al. 1985, Ballou et al. 1987, Asche 1988b, Wilson & Hilburn 1991, Asche & Wilson 1990, Asche 1997, Maw et al. 2000, Lago & Testa 2000, Gonzon et al. 2006
molina (Fennah, 1963b) = *Sogatodes molinus* Fennah, 1963b: 72. = *Sogatella molina* (Fennah, 1963b); comb. by Asche & Wilson 1990: 7, 20–22.	USA: AL, MS, SC, FL; Bahamas (Andros, Exuma Cays); Bermuda, Cayman Is. (Grand Cayman), Cuba, Dominican Republic, Honduras, Jamaica, Mexico (Baja California Sur, Chiapas, Federal District, Jalisco, Morales, San Luis Potosí, Sinaloa, Sonora, Veracruz), Nicaragua, Puerto Rico, Trinidad, Virgin Islands (St. Thomas)	Fennah 1963b 1971; Tsai & Mead 1982, Asche & Wilson 1990, Wilson & Hilburn 1991, Benton & McCreadie 2009

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Stobaera Stål, 1859 (Type species *Delphax concinna* Stål, 1854). = ***Goniolcium*** Fowler, 1905: 132–133 (Type species *Goniolcium granulosum* Fowler, 1905); syn. by Muir 1915: 264.		
affinis Van Duzee, 1909 [Metcalf 1943: 83]	USA: FL; Mexico (Jalisco)	Metcalf 1943, Kramer 1973, Wilson & McPherson 1980b
bilobata Van Duzee, 1914 [Metcalf 1943: 84]	USA: CA	Metcalf 1943, Kramer 1973
caldwelli Kramer, 1973	USA: AZ, CA, NM, NV, TX, UT; Mexico (Baja California, Sonora)	Kramer 1973
concinna (Stål, 1859) [Metcalf 1943: 84, *Delphax*] = *Stobaera minuta* Osborn 1905: 376; syn. by Kramer 1973: 388–391. = *Stobaera bahamensis* Metcalf, 1954c: 6–8; syn. by O'Brien 1985: 657.	USA: AZ, CA, CO, FL, LA, MS, NC, TX, UT; Bahamas, Bermuda, Cuba, Dominican Republic, Haiti, Honduras, Jamaica, Martinique, Mexico (Baja California, Jalisco, Federal District, Nayarit, Nuevo León, Sonora, Sinaloa),Puerto Rico, St. Lucia? (reported in error: USA: NJ, IL)	Metcalf 1943, Kramer 1973, Wilson & McPherson 1980b, O'Brien 1985, Calvert, Wilson & Tsai 1987, Wilson & Hilburn 1991, Lago & Testa 2000
giffardi Van Duzee, 1917a [Metcalf 1943: 84]	USA: CA	Metcalf 1943, Kramer 1973
muiri Kramer, 1973	USA: CA	Kramer 1973
pallida Osborn, 1905 [Metcalf 1943: 85]	USA: DE, FL, MD, NC, NJ, NY, PA, TX, VA; Bahamas (Eleuthera Is., Abaco Cay); Mexico (Federal District, Hidalgo, Mexico, Michoacán, Morelos, Oaxaca, Puebla)	Metcalf 1943, Kramer 1973. Bickley & Seek 1975, Wilson & McPherson 1980b
tricarinata (Say, 1825) [Metcalf 1943: 86, *Delphax*] = *Stobaera nigripennis* Crawford, 1914: 576; syn. by Kramer 1973: 393–396.	USA: AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, SC, TN, TX, UT, VA, WA, WI; CAN: BC, ON, QC; Mexico (Baja California, Nayarit); also reported, probably in error, from Guatemala, Nicaragua, Cuba, Puerto Rico	Metcalf 1943, Proctor 1946, Moore 1950a, b; Wolcott 1950, Caldwell & Martorell 1951, Fennah 1959, Kramer 1973, Bickley & Seek 1975,Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Giri & Freytag 1983a, Maw et al. 2000, Gonzon et al. 2006
Syndelphax Fennah, 1963a (Type species *Delphax matanitu* Kirkaldy, 1907a, junior syn. of *Delphax disonymos* Kirkaldy, 1907a).		
alexanderi (Metcalf, 1923) [Metcalf 1943: 404] = *Liburnia alexanderi* Metcalf, 1923: 209. = *Delphacodes alexanderi* (Metcalf, 1923); comb. by Frison 1927: 153. = *Syndelphax alexanderi* (Metcalf, 1923); comb. by Kennedy et al. 2012: 404. = *Delphacodes uhleri* Muir & Giffard, 1924: 28; syn. by Kennedy et al. 2012: 404–405.	USA: AL, AR, DE, FL, GA, IL, KS, KY, MD, MO, MS, NC, NJ, TN, VA	Metcalf 1943, 1949; DuBose 1960, Wilson & McPherson 1980a, b, c; Giri & Freytag 1983b, Wilson et al. 1993, Gonzon et al. 2006, Kennedy et al. 2012
fallax (Muir, 1926) [Metcalf 1943: 442] = *Delphacodes fallax* Muir, 1926: 33. = *Syndelphax fallax* (Muir, 1926); comb. by Gonzon & Bartlett 2008: 252.	USA: TX, NM?; Jamaica, Paraguay, Brazil	Metcalf 1943, Beamer 1947, Gonzon & Bartlett 2008, Wilson & Wheeler 2010

floridae (Muir & Giffard, 1924) [Metcalf 1943: 445] = *Delphacodes floridae* Muir & Giffard, 1924: 33. = *Syndelphax floridae* (Muir & Giffard, 1924); comb. by Kennedy et al. 2012: 404–405.	USA: FL; Belize, Jamaica, Dominican Republic, Mexico (Tamaulipas)	Metcalf 1943, Wilson & McPherson 1980b, Kennedy et al. 2012 (Puerto Rico & Montserrat as D. f. puertoricensis Caldwell 1951; Caldwell & Martorell 1951; Fennah 1959)
fulvidorsum (Metcalf, 1923) [Metcalf 1943: 448] = *Liburnia fulvidorsum* Metcalf, 1923: 210. = *Delphacodes fulvidorsum* (Metcalf, 1923); comb. by Frison 1927: 153. = *Syndelphax fulvidorsum* (Metcalf, 1923); comb. by Kennedy et al. 2012: 404.	USA: FL, GA, MO, NC, SC, TX; Bahamas (Rum Cay, Exuma Cays); Belize, Bermuda, Cuba, Grenada, Guadeloupe, Honduras, Jamaica, Martinique, Mexico (Jalisco, Morelos, San Luis Potosí, Tamaulipas), Panama, Puerto Rico	Metcalf 1943, 1949; Beamer 1946b, Caldwell 1950a, Caldwell & Martorell 1951, Wilson & McPherson 1980b, Wilson & Hilburn 1991, Gonzon et al. 2006, Kennedy et al. 2012
humilis (Van Duzee, 1907) [Metcalf 1943: 455] = *Liburnia humilis* Van Duzee, 1907: 48. = *Megamelus humilis* (Van Duzee, 1907); comb. by Crawford, 1914: 629. = *Delphacodes humilis* (Van Duzee, 1907); comb. by Wolcott, 1923: 274. = *Megamelus erectus* Crawford, 1914: 624; syn. by Muir & Giffard 1924: 31–32. = *Megamelus erectus nigripennis* Crawford, 1914: 624; syn. by Muir & Giffard 1924: 31–32. (error). = *Syndelphax humilis* (Van Duzee, 1907); comb. by Kennedy et al. 2012: 404–405.	USA: FL; Argentina, Bahamas (Eleuthera, San Salvador); Belize, Brazil, Cayman Islands (Cayman Brac), Cuba, Ecuador, Guadelupe, Guyana, Hispaniola, Jamaica, Mexico (Veracruz), Montserrat, Nicaragua, Panama, Paraguay, Puerto Rico	Metcalf 1943, Wolcott 1950, Caldwell 1950a, Caldwell & Martorell 1951, Fennah 1959 Wilson & McPherson 1980b, Kennedy et al. 2012
nigripennis (Crawford 1914) [Metcalf 1943: 472] = *Megamelus erectus nigripennis* Crawford 1914: 625. = *Delphacodes erectus nigripennis* (Crawford 1914); comb. by Muir, 1918: 427. = *Delphacodes nigripennis* (Crawford 1914); comb. by Muir & Giffard 1924: 31. = *Syndelphax nigripennis* (Crawford, 1914); comb. by Kennedy et al. 2012: 404, 405.	USA: TX; Cuba, Jamaica, Martinique, Nicaragua, Panama, Puerto Rico	Metcalf 1943, Kennedy et al. 2012
pseudoseminiger (Muir & Giffard, 1924) [Metcalf 1943: 367] = *Sogata pseudoseminigra* Muir & Giffard, 1924: 15. = *Liburnia pseudoseminigra* (Muir & Giffard, 1924); comb. by Metcalf 1943: 367–368. = *Syndelphax pseudoseminiger* (Muir & Giffard, 1924); comb. by Kennedy et al. 2012: 404–405.	USA: GA, FL, LA	Metcalf 1943, Wilson & McPherson 1980b, Cherry et al. 2006, Kennedy et al. 2012
Tagosodes Asche & Wilson, 1990 (Type species *Dicranotropis cubanus* Crawford, 1914).		
albolineosus (Fowler, 1905) [Metcalf 1943: 357 as syn. of *Liburnia furcifera*] = *Liburnia albolineosa* Fowler, 1905: 135. = *Megamelus albolineosus* (Fowler, 1905); comb. by Crawford 1914: 610–611. = *Sogata furcifera* (Horváth, 1899); syn. by Muir & Giffard 1924: 13 (error). = *Delphacodes albolineosa* (Fowler, 1905); comb. by Osborn 1926: 360. = *Sogatodes albolineosus* (Fowler, 1905); comb. by Fennah 1963b: 74. = *Tagosodes albolineosus* (Fowler, 1905); comb. by Asche & Wilson 1990: 32.	USA: FL; Costa Rica, Mexico (Tabasco, Veracruz), Panama	Fowler 1905, Asche & Wilson 1990, Kennedy et al. 2012

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approximatus (Crawford, 1914) [Metcalf 1943: 351] = *Megamelus approximatus* Crawford, 1914: 622. = *Sogata approximata* (Crawford, 1914); comb. by Wolcott 1923: 273. = [*Liburnia*] *approximata* (Crawford, 1914); comb. by Metcalf 1943: 351. = *Chloriona (Sogatella) approximata* (Crawford, 1914); comb. by Fennah 1959: 259. = *Sogatodes approximatus* (Crawford, 1914); comb. by Fennah 1963b: 74. = *Tagosodes approximatus* (Crawford, 1914); comb. by Asche & Wilson 1990: 32.	USA: FL; Bahamas (Great Inagua); Belize, Cayman Islands (Grand Cayman, Cayman Brac), Costa Rica, Honduras, Mexico, Nicaragua, Puerto Rico (inc. Caja de Muertos), Peru, Trinidad, Virgin Islands (St. Thomas), Venezuela	Metcalf 1943, Wolcott 1950, Caldwell & Martorell 1951, Fennah 1959, Asche & Wilson 1990, Kennedy et al. 2012
cubanus (Crawford, 1914) [Metcalf 1943: 354] = *Dicranotropis cubanus* Crawford, 1914: 595. = *Dicranotropis cubana* Crawford, 1914; emendation by Weiss 1917: 215. = *Megamelus puellis* [sic] *mexicanus* Crawford, 1914: 626. = *Megamelus flavolineatus* Muir, 1920: 143; syn. by Wolcott 1923: 273. = *Sogata cubanus* (Crawford, 1914); comb. by Wolcott 1923: 273. = *Sogata mexicana* (Crawford, 1914); comb. by Muir & Giffard, 1924: 15. = *Sogata cubana* (Crawford, 1914); emendation by Muir 1926: 26–28. = *Peregrinus cubana* (Crawford, 1914); comb. By Osborn 1926: 358. = *Sogata cubana pallida* Osborn, 1935: 243. = *Liburnia cubana* (Crawford, 1914); comb. by Metcalf 1943: 354. = *Liburnia cubana pallida* (Osborn, 1935); comb. By Metcalf 1943: 254. = *Liburnia mexicana* (Crawford, 1914); comb. by Crawford, 1914: 365. = *Chloriona (Sogatella) cubana* (Crawford, 1914); comb. by Fennah 1959: 259. = *Sogatodes cubanus* (Crawford, 1914); comb. by Fennah 1963b: 74. = *Chloriona (Sogatella) panda* Fennah, 1958a: 491–492; syn. by Fennah 1969a: 56. = *Delphacodes pallidivitta* Fennah, 1945a: 433–434; syn. by Asche & Wilson 1990: 33. = *Tagosodes cubanus* (Crawford, 1914); comb. by Asche & Wilson 1990: 33. = *Liburnia cubana pallida* (Osborn, 1935); **new synonymy.** = *Liburnia mexicana* (Crawford, 1914); **new synonymy.**	USA: FL, NJ?, TX; Bahamas (Great Inagua); Bermuda, Brazil, Cayman Islands (Grand Cayman, Cayman Brac); Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Guadeloupe, Honduras, Jamaica, Martinique, Mexico (Colima, Federal District, Guerrero, Hidalgo, Jalisco, Michoacán, Morales, Nayarit, Sinaloa, Tabasco, Veracruz), Panama, Peru, Puerto Rico, St. Lucia, Surinam, Trinidad, Venezuela, Virgin Islands (St. Croix) (NJ record probably in error Palearctic: Nigeria, Ivory Coast, Sudan (adventive?)	Metcalf 1943, Wolcott 1950, Caldwell & Martorell 1951, Fennah 1959, 1969a, Miskimen & Bond 1970, Tsai & Mead 1982, Asche 1988b, Asche & Wilson 1990, Wilson & Hilburn 1991, Rodriguez-León et al. 1994a
dorsolineatus (Beamer, 1952a) = *Sogata dorsolineatus* Beamer, 1952a: 112. = *Tagosodes dorsolineatus* (Beamer, 1952a); comb. by Asche & Wilson 1990: 33.	USA: TX	Beamer 1952a, Asche & Wilson 1990

orizicolus (Muir, 1926) [Metcalf 1943: 366] = *Sogata orizicola* Muir, 1926: 27. = *Liburnia orizicola* (Muir, 1926); comb. Metcalf 1943: 366, 547. = *Liburnia brazilensis* (Muir, 1926); comb. by Metcalf 1943: 353, 547. = *Chloriona (Sogatella) orizicola* (Muir, 1926); comb. by Fennah 1959: 259. = *Sogatodes orizicola* (Muir, 1926); comb. by Fennah 1963b: 74. = *Sogatodes brazilensis* (Muir, 1926); comb. by Fennah 1963b: 74. = *Sogata brazilensis* Muir, 1926:26; syn. by Fennah 1965b: 215–217. = *Tagosodes orizicolus* (Muir, 1926); comb. and emendation by Asche & Wilson 1990: 34–35.	USA: FL, LA, MS; Bolivia, Brazil, Cayman Islands (Grand Cayman), Colombia, Costa Rica, Cuba, Dominica, French Guiana, Guyana, Mexico (Guerrero), Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Surinam, Trinidad, Uruguay, Venezuela	Metcalf 1943, Fennah 1959, 1965b, 1971, Wilson & McPherson 1980b, Wilson & Claridge 1991, Denno et al. 1991, Arias et al. 1993, Rodriguez-León et al. 1994a, Hernandez et al. 2004
wallacei (Muir & Giffard, 1924) [Metcalf 1943: 371] = *Sogata wallacei* Muir & Giffard, 1924: 13. = *Liburnia wallacei* (Muir & Giffard, 1924); comb. by Metcalf, 1943: 371. = *Chloriona (Sogatella) wallacei* (Muir & Giffard, 1924); comb. by Fennah, 1959: 259. = *Sogatella wallacei* (Muir & Giffard, 1924); new status by implication Fennah, 1963: 48. = *Tagosodes wallacei* (Muir & Giffard, 1924); comb. by Asche & Wilson, 1990: 7, 36. = *Delphacodes ardentis* Beamer, 1948c: 113–114; **new synonymy**	USA: FL; Mexico (Guerrero); Belize, Colombia, Cuba, Dominica, Guyana, Jamaica, Panama, Puerto Rico, Peru	Metcalf 1943, Beamer 1948c, Fennah 1959, Wilson & McPherson 1980b, Asche & Wilson 1990
Toya Distant, 1906a (Type species *Toya attenuata* Distant, 1906a). = ***Himeunka*** Matsumura & Ishihara 1945 (Type species *Unkana tateyamaella* Matsumura, 1945 in Matsumura & Ishihara 1945); syn. by Anufriev 1977: 865; removed from syn. by Kuoh et al. 1981: 190. = ***Metadelphax*** Wagner, 1963 (Type species *Delphax propinqua* Fieber, 1866b); syn. by Fennah 1964: 142 (Type species moved to *Toya*); Nast 1972: 65, Linnavuori 1973: 107 (generic syn. listed); removed from syn. by Ding 2006: 511.		
boxi (Muir, 1926) [Metcalf 1943: 411] = *Delphacodes boxi* Muir, 1926: 32. = *Toya boxi* (Muir & Giffard, 1924); comb. by Fennah 1965a: 96.	USA: FL; Guyana, Paraguay, Puerto Rico, St. Lucia, Trinidad and Tobago	Metcalf 1943, Gonzon & Bartlett 2008
goliai Gonzon & Bartlett, 2008	USA: FL	Gonzon & Bartlett 2008
idonea (Beamer, 1947) = *Delphacodes idonea* Beamer, 1947: 66. = *Toya idonea* (Beamer, 1947); comb. by Gonzon & Bartlett 2008: 222–224.	USA: AL, FL, LA, MS, NC; Bahamas (South Bimini, Andros, Great Inagua), Belize, Brazil, Bolivia, Cayman Islands, Colombia, Guatemala, Honduras, Panama, Paraguay, Surinam, Uruguay, Venezuela	Beamer 1947, Wilson & McPherson 1980b, Ballou et al. 1987, Lago & Testa 2000, Gonzon et al. 2006, Gonzon & Bartlett 2008, Benton & McCreadie 2009

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nigra (Crawford, 1914) [Metcalf 1943: 471] = *Megamelus erectus niger* Crawford, 1914: 608. = *Delpliacodes nigra* (Crawford, 1914); comb. and emendation by Muir & Giffard 1924: 32. = *Delphacodes axonopi* Fennah, 1945a: 434–435; syn. by Gonzon & Bartlett 2008: 224. = *Toya nigra* (Crawford, 1914); comb. by Gonzon & Bartlett 2008: 224–227.	USA: FL; Argentina, Bahamas (Cat, Exuma Cays, Long); Belize, Brazil, Bolivia, Cayman Islands, Colombia, Costa Rica, Cuba, Dominica, Guyana, Guadeloupe, Jamaica, Mexico (Guerrero, Veracruz), Panama, Puerto Rico (inc. Mona and Vieques Is.), St. Lucia, Trinidad and Tobago, Venezuela	Metcalf 1943, Fennah 1945a, 1959; Caldwell & Martorell 1951, Gonzon & Bartlett 2008
Tumidagena McDermott, 1952 (Type species *Tumidagena minuta* McDermott, 1952).		
minuta McDermott, 1952	USA: CT, DE, GA, MD, NJ, NY	Wilson & McPherson 1980b, McDermott 1952, Denno et al. 1991
propinqua McDermott, 1952	USA: FL, LA, MS, NC, TX	Wilson & McPherson 1980b, McDermott 1952, Denno et al. 1991
terminalis (Metcalf, 1923) [Metcalf 1943: 280] = *Megamelanus terminalis* Metcalf, 1923: 198–199. = *Tumidagena terminalis* (Metcalf, 1923); comb. by McDermott 1952: 43.	USA: AL, FL, LA, MS, NC, SC, TX, VA (reported in error: USA: MA)	Metcalf 1943, 1949; McDermott 1952, Davis & Gray 1966, Wilson & McPherson 1980b
Unkanodes Fennah, 1956a (Type species *Unkana sapporona* Matsumura 1935b). = ***Elymodelphax*** Wagner, 1963: 167 (Type *Liburnia excisa* Melichar, 1898); syn. by Dlabola 1965:86. = ***Uncanodes*** Fennah, 1956a; missp. by Dlabola 1965: 86. = ***Chilodelphax*** Vilbaste, 1968: 26 (subgenus; Type species *Unkanodes (C.) silvatica* Vilbaste, 1968: 26); status revised to genus by Kwon 1982: 4. = ***Kwonianella*** Anufriev, 1988 (in Anufriev & Emeljanov 1988) (Type species *Liburnia albifascia* Matsumura, 1900) (subgenus).		
excisa (Melichar, 1898) [Metcalf 1943: 436] = *Liburnia excisa* Melichar, 1898: 67. = *Delphax excisa* (Melichar, 1898); comb. by Puton 1899: 108. = *Liburnia elymi* Jensen-Haarup, 1917: 3; syn. by Jensen-Haarup 1920: 53. = *Delpliacodes excisa* (Melichar, 1898); comb. by Metcalf 1943: 436. = *Elymodelphax excisa* (Melichar, 1898); comb. by Wagner 1963: 167. = *Unkanodes excisa* (Melichar, 1898); comb. by implication Dlabola 1965: 86.	USA: AK; Austria, Denmark, Estonia, Finland, Germany, Poland, Russia (Kurile Is.), Sweden, Ukraine	Metcalf 1943, Wilson 1992, Maw et al. 2000
Yukonodelphax Wilson, 1992 (Type species *Yukonodelphax kendallae* Wilson, 1992).		
bifurca Beamer, 1946d = *Delpliacodes bifurca* Beamer, 1946d: 143. = *Yukonodelphax bifurca* (Beamer, 1946d); **new combination**	USA: FL, KS, MO, NC, TN, VA	Beamer 1946d, Wilson et al. 1993, Bartlett & Bowman 2004, Gonzon et al. 2006
kendallae Wilson, 1992	CAN: AB, YK	Wilson 1992, 1997; Maw et al. 2000

stramineosa (Beamer, 1948a) = *Delphacodes stramineosa* Beamer, 1948a: 5–6. = *Yukonodelphax stramineosa* (Beamer, 1948a); comb. by Wilson 1992: 92.	USA: CT, NY; CAN: QC	Beamer 1954a, Wilson & McPherson 1980b, Wilson 1992, Maw et al. 2000
FAMILY DERBIDAE		
Cedusinae Emeljanov, 1992		
Cedusini Emeljanov, 1992 = **Cenchreini** Muir 1917 sensu Fennah 1952, Broomfield 1985 in part; status by Emeljanov 1996a.		
Cedusa Fowler, 1904 (Type species *Cedusa funesta* Fowler, 1904) = ***Sedusa***, missp. by Wray 1967: 30.		
arizonensis Flynn & Kramer, 1983	USA: AZ; Mexico (state not specified)	Flynn & Kramer 1983
australis (Metcalf, 1923) [Metcalf 1945: 133 as syn. of *Cedusa praecox*] = *Herpis australis* Metcalf, 1923: 196. = *Cedusa praecox* (Van Duzee, 1912a: 502); syn. by McAtee 1924: 180 (error); removed from syn. by Flynn & Kramer 1983: 194–195. = *Cedusa australis* (Metcalf, 1923); comb. by Flynn & Kramer 1983: 194.	USA: IL, LA, MI, MO, MS, TX; El Salvador, Honduras, Panama	Wilson & McPherson 1980a, b, c; Flynn & Kramer 1983
balli Flynn & Kramer, 1983	USA: LA	Flynn & Kramer 1983
beameri Flynn & Kramer, 1983	USA: AZ, NM, UT	Flynn & Kramer 1983
bedusa McAtee, 1924 [Metcalf 1945: 128]	USA: AR, CA, FL, IL, LA, MS, NC, OH, VA	Metcalf 1945, Wilson & McPherson 1980a, b, c; Flynn & Kramer 1983
californica (Van Duzee, 1891) [Metcalf 1945: 128, *Lamenia*]	USA: AZ, CA, CO, ID, OK, OR, TX, UT (reported in error: USA: MI)	Metcalf 1945, Oman 1947, Wilson & McPherson 1980b, Flynn & Kramer 1983
carolinensis Flynn & Kramer, 1983	USA: AL, DC, DE, FL, GA, MD, NC, SC	Flynn & Kramer 1983, Benton & McCreadie 2009, Bartlett et al. 2011
cedusa McAtee, 1924 [Metcalf 1945: 129]	USA: DC, FL, MD, MI, MN, NY, OH, VA, WI	Metcalf 1945, Wilson & McPherson 1980b, Flynn & Kramer 1983, Bartlett et al. 2011
chuluota Ball, 1928 [Metcalf 1945: 129]	USA: FL, GA, NC, NJ	Metcalf 1945, Wilson & McPherson 1980b, Flynn & Kramer 1983, Bartlett et al. 2011
edentula (Van Duzee, 1912a) [Metcalf 1945: 129] = *Cedusa hedusa* McAtee, 1924: 184; syn. by Ball 1928: 200 (error); removed from syn. by Flynn & Kramer 1983: 194–195.	USA: DC, GA, IL, MD, MS, NC, NJ, OH, TN, VA (reported probably in error Puerto Rico)	Metcalf 1945, Wilson & McPherson 1980a, b; Flynn & Kramer 1983, Bartlett et al. 2011
flavida (Van Duzee, 1907) [Metcalf 1945: 129, *Lamenia*]	Jamaica (reported in error: USA: FL)	Metcalf 1945, Flynn & Kramer 1983
gedusa McAtee, 1924 [Metcalf 1945: 130]	USA: FL, GA, MD, MS, NJ, NY, PA, TN	Metcalf 1945, Wilson & McPherson 1980b, Flynn & Kramer 1983, Gonzon et al. 2006, Bartlett et al. 2011

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hedusa McAtee, 1924 [Metcalf 1945: 129, as syn. of *Cedusa edentula*] = *Cedusa hedusa* McAtee, 1924: 184. = *Cedusa edentula* (Van Duzee, 1912); syn. by Ball, 1928: 200 (error); removed from syn. by Flynn & Kramer 1983: 194–195	USA: AL, FL, GA, MD, ME, NY, OH, SC, VA; CAN: NB, ON, QC	Proctor 1946, Wilson & McPherson 1980b, Flynn & Kramer 1983, Maw et al. 2000, Benton & McCreadie 2009, Bartlett et al. 2011
incisa (Metcalf, 1923) [Metcalf 1945: 130, *Herpis*]	USA: CT, FL, IA, IL, IN, MA, MD, ME, MI, MN, MS, NC, NE, NH, NJ, NY, OH, PA, WI; CAN: MB, NB, ON, QC	Metcalf 1945, Moore 1950a, b; Kontkanen 1958, Wilson & McPherson 1980a, b, c; Flynn & Kramer 1983, Maw et al. 2000, Bartlett et al. 2011
inflata (Ball, 1902b) [Metcalf 1945: 130, *Lamenia*] = *Cedusa santaclara* Myers 1928: 13; syn. by Flynn & Kramer 1983: 241.	USA: FL; Cuba, Dominican Republic, Haiti, Puerto Rico	Metcalf 1945, Caldwell & Martorell 1951, Tsai & Mead 1982, Flynn & Kramer 1983, Rodriguez-León et al. 1994a
kedusa McAtee, 1924 [Metcalf 1945: 131]	USA: AL, AZ, CA, CT, DC, DE, FL, GA, IA, IL, IN, KS, MD, MI, MO, NC, NJ, OH, TN, VA, WI; CAN: BC, ON, QC	Metcalf 1945; Moore 1950a, b; Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Flynn & Kramer 1983, Paiero et al. 2003, Gonzon et al. 2006; Bartlett et al. 2011
maculata (Van Duzee, 1912a) [Metcalf 1945: 131, *Lamenia*]	USA: FL, GA, IL, IN, MD, MN, MO, MS, NC, NJ, NY, OH, OK, PA, TN, TX; CAN: ON, QC; Costa Rica, Honduras	Metcalf 1945, Wilson & McPherson 1980a, b, c; Flynn & Kramer 1983, Gonzon et al. 2006, Maw et al. 2000, Bartlett et al. 2011
mallochi McAtee, 1924 [Metcalf 1945: 132]	USA: DE, FL, GA, IL, IN, LA, MD, MS, NC, OH, SC, TN, VA; Honduras	Metcalf 1945, Wray 1967, Wilson & McPherson 1980b, Flynn & Kramer 1983, Bartlett et al. 2011
metcalfi Flynn & Kramer, 1983	USA: GA, NC	Flynn & Kramer 1983
minuenda Ball, 1928 [Metcalf 1945: 132]	USA: FL, GA, NC	Metcalf 1945, Wilson & McPherson 1980b, Flynn & Kramer 1983
neomaculata Caldwell, 1944b	USA: FL; Mexico (Oaxaca)	Wilson & McPherson 1980b, Flynn & Kramer 1983
obscura (Ball, 1902b) [Metcalf 1945: 132, *Lamenia*] = *Cedusa fedusa* McAtee 1924: 185; syn. by Ball 1928: 200. = *Cedusa tedusa* McAtee 1924: 185; syn. by Ball 1928: 200 (error); syn. with *C. vulgaris* (Fitch 1851) by Flynn & Kramer 1983: 184.	USA: AR, CA, CO, CT, DC, FL, GA, IL, KS, LA, MA, MD, ME, MI, MS, NC, NJ, NY, TN, TX, VA, VT, WI; CAN: MB, ON, QC; Cuba, Guyana?	Metcalf 1945, Moore 1950a, b; Wilson & McPherson 1980a, b; Flynn & Kramer 1983, Maw et al. 2000, Lago & Testa 2000, Bartlett & Bowman 2004, Gonzon et al. 2006, Bartlett et al. 2011
olseni Flynn & Kramer, 1983	USA: NC, NY, TN, WV	Flynn & Kramer 1983, Gonzon et al. 2006
plummeri Caldwell, 1944c	USA: AZ, TX; Costa Rica; Mexico (Federal District)	Flynn & Kramer 1983

praecox (Van Duzee, 1912a) [Metcalf 1945: 133, *Lamenia*] = *Herpis australis* Metcalf, 1923: 196; syn. by McAtee 1924: 180; removed from syn. by Flynn & Kramer 1983: 194–195.	USA: AZ, (reported in error: USA: TX based on *Herpis australis* record)	Metcalf 1945, Flynn & Kramer 1983
redusa McAtee, 1924 [Metcalf 1945: 134]	USA: DE, FL, GA, KY, MD, NC, VA	Metcalf 1945, Wilson & McPherson 1980b, Flynn & Kramer 1983, Bartlett et al. 2011
shawi Flynn & Kramer, 1983	USA: AL, GA, MD, NC, TX	Flynn & Kramer 1983, Benton & McCreadie 2009, Bartlett et al. 2011
siopa Kramer, 1986	USA: TX; Mexico (San Luis Potosí)	Kramer, 1986
vanduzeei Flynn & Kramer, 1983	USA: TX	Flynn & Kramer 1983
vulgaris (Fitch, 1851) [Metcalf 1945: 135, *Poeciloptera*] = *Lamenia vulgaris* (Fitch, 1851); lapsus by Proctor 1946: 95. = *Cedusa tedusa* McAtee 1924: 185; syn. by Flynn & Kramer 1983: 184	USA: AR, CA, CT, DC, DE, GA, IA, IL, KS, MD, ME, MI, MS, NC, NH, NJ, NY, OH, OK, PA, TN, TX, VA; CAN: ON, QC	Metcalf 1945, Proctor 1946, Moore 1950a, b; Wilson & McPherson 1980a, b, c; Flynn & Kramer 1983, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
widisca Kramer, 1986	USA: TX	Kramer 1986
woodsholensis Flynn & Kramer, 1983	USA: MA, NC	Flynn & Kramer 1983
xenga Kramer, 1986	USA: FL, TX	Kramer 1986
zaxoza Kramer, 1986	USA: FL	Kramer 1986
Derbinae Spinola, 1839		
Derbini Spinola, 1839 = **Mysidiini** Broomfield, 1985; Syn. by Emeljanov 1996a: 74.		
Dysimia Muir, 1924 (Type species *Dysimia maculata* Muir 1924).		
pseudomaculata Broomfield, 1985: 91; replacement name for *D. maculata* Ball, 1928 [nec Muir, 1924] (misidentification).	USA: FL	Broomfield 1985
Paramysidia Broomfield, 1985 (Type species *Mysidia mississippiensis* Dozier, 1922).		
mississippiensis (Dozier, 1922) [Metcalf 1945: 68] = *Mysidia mississippiensis* Dozier, 1922: 82. = *Paramysidia mississippiensis* (Dozier, 1922); comb. by Broomfield 1985: 104–105.	USA: FL, LA, MS, OK, TX	Metcalf 1945, Wilson & McPherson 1980b, Broomfield 1985
Cenchreini Muir, 1917		
Neocenchrea Metcalf, 1923 (Type species *Cenchrea heidemanni* Ball, 1902b).		
heidemanni (Ball, 1902b) [Metcalf 1945: 104, *Cenchrea*]	USA: DC, DE, IL, KS, MD, NC, NJ, OH, VA	Metcalf 1945, Wilson & McPherson 1980a, b, c; O'Brien 1982b, Bartlett et al. 2011

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Omolicna Fennah, 1945a (Type species *Omolicna proxima* Fennah, 1945a). = ***Phaciocephalus*** Kirkaldy, 1906, in part (Type species *Phaciocephalus vitiensis* Kirkaldy 1906); Caldwell 1951: 201 (in Caldwell & Martorell 1951), also Fennah 1952: 126. = ***Omalicna*** Fennah, 1945a; Missp. by Gonzon et al. 2006: 253.		
fulva (Van Duzee, 1909) [Metcalf 1945: 102] = *Cenchrea fulva* Van Duzee, 1909: 195. = *Phaciocephalus fulvus* (Van Duzee, 1909); comb. by Myers 1926: 91, 103; also Fennah 1952: 136. = *Syntames fulvus* (Van Duzee, 1909); comb. by Metcalf 1938: 328. = *Omolicna fulvus* (Van Duzee, 1909); comb. by implication Fennah 1952: 136; also Wilson & McPherson 1980b: 13. = *Omolicna fulva* (Van Duzee, 1909); emendation by O'Brien 1982b: 320.	USA: FL; Cuba; Panama	Metcalf 1945, Wilson & McPherson 1980b, O'Brien 1982b
mcateei (Dozier, 1928) [Metcalf 1945: 102] = *Cenchrea mcateei* Dozier, 1928: 128. = *Syntames mcateei* (Dozier, 1928); comb. by Metcalf 1938: 328, 329. = *Phaciocephalus mcateei* (Dozier, 1928); comb. by Caldwell 1944b: 102. = *Phaciocephalus nicatiei* (Dozier, 1928); missp. by Wray 1967: 30. = *Omolicna mcateei* (Dozier, 1928); comb. by implication Caldwell & Martorell 1951: 201; also O'Brien 1982b: 320.	USA: FL, GA, MS, NC, TN	Caldwell 1944b, Metcalf 1945, Wray 1967, Wilson & McPherson 1980b, O'Brien 1982b, Gonzon et al. 2006
nigripennis var. *flavipennis* (Caldwell 1944b) = *Phaciocephalus nigripennis* var. *flavipennis* Caldwell, 1944b: 104. = *Omolicna nigripennis* var. *flavipennis* (Caldwell, 1944b); comb. by implication Caldwell & Martorell 1951: 201.	USA: TX; Mexico (Chiapas, Oaxaca, San Luis Potosí, Sinaloa, Veracruz); Guatemala	Caldwell 1944b
texana (Caldwell, 1944b) = *Phaciocephalus texanus* Caldwell, 1944b: 103. = *Omolicna texana* (Caldwell, 1944b); comb. by implication Caldwell & Martorell 1951: 201; emendation by O'Brien 1982b: 320.	USA: TX	Caldwell 1944b, O'Brien 1982b
uhleri (Ball, 1902b) [Metcalf 1945: 102] = *Cenclırea uhleri* Ball, 1902b: 261. = *Phaciocephalus uhleri* (Ball, 1902b); comb. by Muir 1918a: 418. = *Lamenia uhleri* (Ball, 1902b); comb. by Smith 1910. = *Syntames uhleri* (Ball, 1902b); comb. by Fennah 1952: 136. = *Omolicna uhleri* (Ball, 1902b); comb. by implication Caldwell & Martorell 1951: 201; also O'Brien 1982b: 320.	USA: AL, DC, GA, IL, KS, MD, MO, MS, NC, NJ, NY, OH, TN, VA; CAN: ON	Caldwell 1944b, Metcalf 1945, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, O'Brien 1982b, Wilson et al. 1993, Paiero et al. 2003, Benton & McCreadie 2009, Bartlett et al. 2011
Persis Stål, 1862c (Type species *Persis pugnax* Stål, 1862c)		
Subgenus *Anapersis* Fennah, 1952 (Type species *Neocenchrea gregaria* Fennah, 1945a)		

arizonensis O'Brien, 1986a	USA: AZ; Mexico (Sonora)	O'Brien 1986a
ferox O'Brien, 1986a	USA: AZ; Mexico (Sonora)	O'Brien 1986a
Otiocerinae Muir, 1917		
Otiocerini Muir, 1917		
Anotia Kirby, 1821 (Type species *Anotia bonnetii* Kirby, 1821) = ***Amalopota*** Van Duzee, 1889 (Type species *Amalopota uhleri* Van Duzee 1889); syn. by Fennah 1952: 152.		
bonnetii Kirby, 1821 [Metcalf 1945: 147]	USA: CT, FL, GA, IL, KS, NC, NJ, NY, OH, TX; CAN: ON; Mexico	Metcalf 1945, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Bartlett et al. 2011;
burnetii Fitch, 1856 [Metcalf 1945: 148]	USA: IL, IN, MS, NC, NY, PA, TX; CAN: ON	Metcalf 1945, Wilson & McPherson 1980a, b, c; Maw et al. 2000, Bartlett et al. 2011
caliginosa Ball, 1937 [Metcalf 1945: 148]	USA: AZ	Metcalf 1945
fitchi (Van Duzee, 1893) [Metcalf 1945: 143] = *Amalopota fitchi* Van Duzee, 1893: 280. = *Anotia fitchi* (Van Duzee, 1893); comb. by implication Fennah 1952: 152.	USA: FL, GA, IL, KS, MO, MS, NC, NY, OH, OK, PA, SC, TN; Cuba; Mexico; Panama	Metcalf 1945, Oman 1947, Wilson & McPherson 1980a, b, c; Wilson et al. 1993, Bartlett et al. 2011
kirkaldyi Ball, 1902b [Metcalf 1945: 149]	USA: DE, IA, IL, KS, MS, NC, OH, PA, VA; CAN: ON	Metcalf 1945, Wilson & McPherson 1980a, b, c; Maw et al. 2000, Bartlett et al. 2011
lineata Ball, 1937 [Metcalf 1945: 149]	USA: AZ	Metcalf 1945
mcateei (Dozier, 1928) [Metcalf 1945: 144] = *Amalopota mcateei* Dozier, 1928: 141–142. = *Anotia mcateei* (Dozier, 1928); comb. by implication Fennah 1952: 152.	USA: IL, MS	Metcalf 1945, Wilson & McPherson 1980a, b, c
robertsonii Fitch, 1856 [Metcalf 1945: 149]	USA: AR, DE, FL, NC, NJ, OK, PA	Metcalf 1945, Wilson & McPherson 1980b, Bartlett et al. 2011
uhleri (Van Duzee, 1889) [Metcalf 1945: 144] = *Amalopota uhleri* Van Duzee, 1889: 178. = *Anotia uhleri* (Van Duzee, 1889); comb. by implication Fennah 1952: 152.	USA: AL, FL, IL, IN, MN, MO, MS, NC, NY, OH, RI, TN; CAN: ON, QC	Metcalf 1945, Moore 1950a, b; Wilson & McPherson 1980a, b, c; Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009
westwoodii Fitch, 1856 [Metcalf 1945: 150]	USA: DC, DE, IL, KS, MD, MO, NC, NJ, NY, OH, PA, TN; CAN: ON	Metcalf 1945, Wilson & McPherson 1980a, b; Paiero et al. 2003, Bartlett & Bowman 2004, Gonzon et al. 2006, Bartlett et al. 2011
Apache Kirkaldy, 1901a (Type species *Hynnis rosea* Burmeister 1835, jr. syn. of *Otiocerus degeerii* Kirby 1821). = ***Hynnis*** Burmeister, 1835 (Type species *Hynnis rosea* Burmeister 1835, junior syn. of *Otiocerus degeerii* Kirby 1821); syn. by Schaum 1850: 70.		

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californicum Wilkey, 1963	USA: CA	Wilkey 1965
degeerii (Kirby, 1821) [Metcalf 1945: 183, *Otiocerus*]	USA: AL, CT, DE, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MN, MO, MS, MT, NC, NH, NJ, NY, OH, OK,PA, RI, TN, TX, WA, WV; CAN: AB, BC, NS, ON, QC; Cuba	Strickland 1940, 1953; Metcalf 1945, Proctor 1946, Moore 1950a, b; Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Wilson 1982b, Wheeler & Wilson 1996; Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
Otiocerus Kirby, 1821 (Type species *Otiocerus stollii* Kirby 1821) = ***Cobax*** Germar, 1821 (Type species *Cobax winthemi* Germar, 1821, junior syn. of *Otiocerus stollii* Kirby 1821); syn. by Latreille 1829: 216.		
abbotii Kirby, 1821 [Metcalf 1945: 171]	USA: CT, FL, GA, IL, IN, MN, MO, NC, NY, OH; CAN: ON	Metcalf 1945, Moore 1950a, b; Wilson & McPherson 1980a, b, c; Paiero et al. 2003
amyotii Fitch, 1856 [Metcalf 1945: 172]	USA: CT, DC, GA, IA, IL, KS, MA, NC, NJ, NY, OH, PA; CAN: ON, QC	Metcalf 1945, Moore 1950a, b, c; Wilson & McPherson 1980a, b; Paiero et al. 2003, Bartlett et al. 2011
coquebertii Kirby, 1821 [Metcalf 1945: 173]	USA: CT, DE, GA, IA, IL, IN, MA, MD, ME, MI, MN, MO, NC, NH, NJ, NY, OH, PA, RI, TN, TX, WV; CAN: NB, NS, ON, PE, QC	Metcalf 1945, Moore 1950a, b; Kontkanen 1958, Wilson & McPherson 1980a, b, c; Wheeler & Wilson 1996, Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
coquebertii var. *rubidus* Osborn, 1938 [Metcalf 1945: 145]	USA: OH	Metcalf 1945
francilloni Kirby, 1821 [Metcalf 1945: 176]	USA: DE, FL, GA, IL, MS, NJ, NY, OH	Metcalf 1945, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Bartlett et al. 2011
kirbyii Fitch, 1851 [Metcalf 1945: 176]	USA: AL, MD?, MS, NC, NY, TX; CAN: NS, ON	Metcalf 1945, Wilson & McPherson 1980b, Maw et al. 2000, Bartlett et al. 2011
reaumurii Kirby, 1821 [Metcalf 1945: 177]	USA: DE, GA, IA, NY, OH, TX	Metcalf 1945, Wilson & McPherson 1980b, Bartlett et al. 2011
stollii Kirby, 1821 [Metcalf 1945: 178] = *Otiocerus signoretii* Fitch, 1856: 349; **new synonymy**.	USA: AR, FL, GA, IA, IL, LA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, TX; CAN: ON; Brazil?	Metcalf 1945, Wilson & McPherson 1980a, b, c; Maw et al. 2000, Bartlett et al. 2011 (Brazil record from Germar 1821 as *Cobax winthemi*)
wolfii Kirby, 1821 [Metcalf 1945: 180] = *Otiocerus wolfei* Kirby, 1821: 19; missp. by Maw et al. 2000: 86.	USA: AR, DE, FL, GA, IA, IL, KS, MD, MO, MS, NC, NJ, NY, OH, PA, RI, TN, TX; CAN: ON	Metcalf 1945, Wilson & McPherson 1980a, b, c; Maw et al. 2000, Gonzon et al. 2006, Bartlett et al. 2011
wolfii var. *nubilus* McAtee 1926 [Metcalf 1945: 181]	USA: IL	Metcalf 1945

Sayiana Ball, 1928 (Type species *Anotia sayi* Ball, 1902b).		
sayi (Ball, 1902b) [Metcalf 1945: 142, *Anotia*]	USA: AL, AR, FL, IA, IL, MS, NY, TX	Metcalf 1945, Wilson & McPherson 1980a, b, c; Benton & McCreadie 2009
Shellenius Ball, 1928 (Type species *Otiocerus ballii* McAtee 1923).		
ballii (McAtee, 1923) [Metcalf 1945: 185, *Otiocerus*] = *Otiocerus balli* (McAtee, 1923); missp. by Paiero et al. 2003: 123.	USA: FL, IL, LA, MD, MS, OH, TN; CAN: ON	Metcalf 1945, Wilson & McPherson 1980a, b, c; Paiero et al. 2003, Gonzon et al. 2006, Bartlett et al. 2011
schellenbergii (Kirby, 1821) [Metcalf 1945: 185, *Otiocerus*]	USA: AZ, FL, GA, IL, LA, MO, MS, NJ, NY, OH	Metcalf 1945, Wilson & McPherson 1980a, b, c; Bartlett et al. 2011
Patarini Emeljanov, 1996		
Patara Westwood, 1840 (Type species *Patara guttata* Westwood, 1840). = ***Petata***, missp. by Proctor 1946: 95.		
albida Westwood, 1840 [Metcalf 1945: 97]	USA: FL; Puerto Rico, St. Vincent	Metcalf 1945,Caldwell & Martorell 1951, Halbert 2005
vanduzei Ball, 1902b [Metcalf 1945: 98]	USA: AL, DE, GA, IL, MD, ME, MO, NC, NY, OH, OK, PA, TN; CAN: ON, QB	Metcalf 1945, Proctor 1946, Moore 1950a, b; Wilson & McPherson 1980a, b, c; O'Brien 1982b, Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
Sikaianini Muir, 1917		
Mula Ball, 1928 (Type species *Mula resonans* Ball, 1928).		
resonans Ball, 1928 [Metcalf 1945: 62]	USA: FL, LA, MS	Metcalf 1945, Wilson & McPherson 1980b
Sikaiana Distant, 1907b (Type species *Sikaiana hyalinata* Distant, 1907b) = ***Iguvium*** Distant, 1917 (Type species *Iguvium albomaculatum* Distant 1917); syn. by Muir 1918b: 174, 176. = ***Euklastus*** Metcalf, 1923 (Type species *Euklastus harti* Metcalf 1923); syn. by Fennah 1952: 118.		
harti (Metcalf, 1923) [Metcalf 1945: 60] = *Euklastus harti* Metcalf 1923: 195. = *Sikaiana harti* (Metcalf 1923); comb. by Fennah 1952: 118.	USA: DE, IL, GA, MD, MS, NC, OK, TN, TX, WI	Metcalf 1945, Wilson & McPherson 1980a, b, c; Willis 1982, Gonzon et al. 2006, Bartlett et al. 2011
FAMILY DICTYOPHARIDAE		
Dictyopharinae Spinola, 1839		
Nersiini Emeljanov, 1983 (sensu Emeljanov 2011)		
Mitrops Fennah, 1944a (Type species *Fulgora noctivida* Linnaeus, 1767).		

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dioxys (Walker, 1858) [Metcalf 1946a: 59]	USA: FL, KS, MD, MS, NJ, TX; Argentina, Brazil, Costa Rica, Guatemala, Mexico (Chiapas, Nuevo León), Panama, Paraguay	Metcalf 1946a, Wilson & McPherson 1980b, Donovall 2008, Bartlett et al. 2011
Nersia Stål, 1862c (Type species *Nersia haedina* Stål, 1862c).		
florens Stål, 1862c [Metcalf 1946a: 55]	USA: AL, AR, FL, GA, IL, KS, LA, MO, MS, NC, OK, SC, TN, TX; Belize, Brazil, Bolivia, Colombia, Costa Rica, Guatemala, Guyana, Jamaica, Mexico (Chiapas, Durango, Hidalgo, Guerrero, Morales, San Luis Potosí, Tabasco, Veracruz, Yucatán), Panama, Peru, Suriname, Venezuela	Metcalf 1946a, Wilson & McPherson 1980a, b, c; 1981a, Donovall 2008, Benton & McCreadie 2009
florida Fennah, 1944a [Metcalf 1946a: 56]	USA: FL, MS, TX; Mexico (Veracruz)	Metcalf 1946a, Wilson & McPherson 1980b, Donovall 2008
Rhynchomitra Fennah, 1944a (Type species *Dictyophara microrhina* Walker, 1851).		
lingula (Van Duzee, 1908) [Metcalf 1946a: 64]	USA: DE, FL, GA, LA, MD, MS, NC, NJ, NY, SC	Metcalf 1946a, Wilson & McPherson 1980b, Lago & Testa 2000, Donovall 2008, Bartlett et al. 2011
microrhina (Walker, 1851) [Metcalf 1946a: 65]	USA: AL, AR, DE, FL, GA, IL, KS, LA, MD, MO, MS, NC, NE, NJ, NY, OK, PA, SC, TX, VA; Belize	Metcalf 1946a, Davis & Gray 1966, Wilson & McPherson 1980a, b, c; Lago & Testa 2000, Wilson & Wheeler 2005, Donovall 2008, Wilson & Wheeler 2010, Bartlett et al. 2011
recurva (Metcalf, 1923) [Metcalf 1946a: 66]	USA: FL, LA, NC, SC, TX	Metcalf 1946a, Wilson & McPherson 1980b, Donovall 2008, Wilson & Wheeler 2010
Phylloscelini Emeljanov, 1983		
Phylloscelis Germar, 1839 (Type species *Phylloscelis pallescens* Germar, 1839).		
atra Germar, 1839 [Metcalf 1946a: 116] = *Phylloscelis atra* var. *albovenosa* Melichar 1906: 179; syn. by McPherson & Wilson 1995: 181. = *Phylloscelis atra* var. *ocala* Ball 1930: 193; syn. by McPherson & Wilson 1995: 181.	USA: AL, AR, CT, DC, FL, GA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, NC, NE, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WV; CAN: ON; Mexico	Metcalf 1946a, Wilson & McPherson 1980a, b, c; Wilson et al. 1993, McPherson & Wilson 1995, Maw et al. 2000, Donovall 2008, Bartlett et al. 2011
pallescens Germar, 1839 [Metcalf 1946a: 118]	USA: AR, FL, IA, IL, KS, KY, LA, MA, MD, MI, MO, MS, NC, NJ, NY, OH, PA, TX, VA; CAN: ON; Mexico	Metcalf 1946a, Wilson & McPherson 1980a, b, c; Wilson et al. 1993, McPherson & Wilson 1995, Maw et al. 2000, Donovall 2008, Bartlett et al. 2011
pennata Ball, 1937 [Metcalf 1946a: 119]	USA: TX; Mexico (Nuevo León)	Metcalf 1946a, McPherson & Wilson 1995, Donovall 2008

rubra Ball, 1930a [Metcalf 1946a: 119] = *Phylloscelis rubra* var. *nigra* Ball 1930: 194; syn. by McPherson & Wilson 1995: 182.	USA: FL, MS, NC, NJ, NY	Metcalf 1946a, Wilson & McPherson 1980b, Donovall 2008, Bartlett et al. 2011
Scoloptini Emeljanov, 1983		
Scolops Schaum, 1850 (Type species *Fulgora sulcipes* Say 1825) = ***Ornithissus*** Fowler, 1904 (Type species *Ornithissus cockerelli* Fowler, 1904); syn. by Kirkaldy 1907c: 248.		
Subgenus *Belonocharis* Uhler, 1891 (Type species *Belonocharis fuuida* Uhler, 1891); status (subgenus) Van Duzee 1916a: 78.		
abnormis Ball, 1902a [Metcalf 1946a: 136]	USA: CA, ID, OR, WA; CAN: BC	Metcalf 1946a, Maw et al. 2000, Donovall 2008
californicus Lawson & Beamer, 1930 [Metcalf 1946a: 136]	USA: AZ, CA, ID, NV	Metcalf 1946a, Donovall 2008
fuuidus (Uhler, 1891) [Metcalf 1946a: 137, *Belonocharis*]	USA: AZ, CA, ID	Metcalf 1946a, Donovall 2008
pallidus Uhler, 1900 [Metcalf 1946a: 137]	USA: CA, CO, ID, UT; Mexico (Baja California)	Metcalf 1946a, Donovall 2008
pallidus var. *punctata* Lawson & Beamer, 1930 [Metcalf 1946a: 138]	USA: CA, ID	Metcalf 1946a, Donovall 2008
Subgenus *Scolops* Schaum 1850 (Type species *Fulgora sulcipes* Say 1825).		
angustatus Uhler, 1876 [Metcalf 1946a: 124	USA: AZ, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NY, OH, OK, OR, RI, SD, TN, TX, UT, VA, WA, WI, WY; CAN: AB, BC, MB, ON, SK	Metcalf 1946a, Strickland 1953, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Wilson et al. 1993, Maw et al. 2000, Gonzon et al. 2006, Donovall 2008, Bartlett et al. 2011
austrinus Breakey, 1929 [Metcalf 1946a: 125]	USA: AZ, OK	Metcalf 1946a, Donovall 2008
cockerelli (Fowler, 1904) [Metcalf 1946a: 125]	USA: AZ, NM, TX; Mexico (Chihuahua, Nuevo León)	Lawson 1930, Metcalf 1946a, Donovall 2008
excultus Lawson & Beamer, 1930 [Metcalf 1946a: 125]	USA: CO, TX	Metcalf 1946a, Donovall 2008
flavidus Breakey, 1929 [Metcalf 1946a: 125]	USA: CA, OR	Metcalf 1946a, Donovall 2008
flavidus var. *pellos* Breakey, 1929 [Metcalf 1946a: 126]	USA: OR	Metcalf 1946a
graphicus Ball, 1930b [Metcalf 1946a: 126]	USA: AZ	Metcalf 1946a, Donovall 2008
grossus Uhler, 1876 [Metcalf 1946a: 126]	USA: CA, CO, IA, ID, KS, TX; CAN: AB (reported probably in error: USA: NJ, IL)	Strickland 1940, 1953; Metcalf 1946a, Wilson & McPherson 1980b, Maw et al. 2000, Donovall 2008, Bartlett et al. 2011

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hesperius Uhler, 1872 [Metcalf 1946a: 126]	USA: CA, CO, ID, KS, MT, ND, NE, NM, NV, SD, TX, UT; CAN: AB, MB, SK (reported in error: USA: MA)	Maw et al. 2000 (AB SK MB); Wilson & McPherson 1980b (MA = Error); Metcalf 1946a, Strickland 1953, Donovall 2008
immanis Breakey, 1929 [Metcalf 1946a: 127]	USA: KS, NM, TX	Metcalf 1946a
luridus Breakey, 1929 [Metcalf 1946a: 127]	USA: CO, KS, ND, TX, UT, WY	Metcalf 1946a, Donovall 2008
maculosus Ball, 1902a [Metcalf 1946a: 127]	USA: AZ, CO, NM, UT	Metcalf 1946a, Donovall 2008
neomexicanus Lawson & Beamer, 1930 [Metcalf 1946a: 128]	USA: AZ, CO, NM, TX	Metcalf 1946a, Donovall 2008
nicholi Ball, 1937 [Metcalf 1946a: 128]	USA: AZ	Metcalf 1946a, Donovall 2008
osborni Ball, 1902a [Metcalf 1946a: 128]	USA: IA, KS, NE (reported probably in error: USA: OH)	Metcalf 1946a, Wilson & McPherson 1980b, Donovall 2008
perdix Uhler, 1900 [Metcalf 1946a: 128]	USA: AZ, CO, DC, DE, FL, GA, IL, IN, KS, LA, MA, MD, MS, NC, NE, NJ, NY, OH, PA, SC, TN, TX, UT, VA; Mexico (Chihuahua, Sinaloa, Sonora)	Metcalf 1946a, Wilson & McPherson 1980a, b, c; Lago & Testa 2000, Bartlett & Bowman 2004, Gonzon et al. 2006; Donovall 2008 Bartlett et al. 2011
pruinosus Breakey, 1929 [Metcalf 1946a: 129]	USA: CO	Metcalf 1946a, Donovall 2008
pungens (Germar, 1830) [Metcalf 1946a: 129, *Flata*]	USA: AL, AR, AZ, CO, CT, DC, DE, FL, IA, IL, IN, KS, KY, LA, MD, MO, MS, NC, ND, NE, NJ, NM, NY, OH, OK, PA, SC, TX, WI; CAN: MB?, ON, SK?; Mexico (Coahuila, Nuevo León, Sonora)	Bartlett et al. 2011; Weber& Wilson 1981; Maw et al. 2000 (SK? MB?); Wilson et al. 1993 (MO); Wilson & McPherson 1980a, b, c; Metcalf 1946a, Donovall 2008
robustus Ball, 1902a [Metcalf 1946a: 131]	USA: AZ, CA, CO, ID, KS, NE, NM, TX, UT (reported in error: Mexico)	Lawson 1930, Metcalf 1946a, Donovall 2008
snowi Breakey, 1929 [Metcalf 1946a: 131]	USA: AZ, IL?, UT	Metcalf 1946a, Donovall 2008
socorroensis Lawson & Beamer, 1930 [Metcalf 1946a: 132]	USA: NM	Metcalf 1946a, Donovall 2008
stonei Breakey, 1929 [Metcalf 1946a: 132]	USA: FL, GA, MS, NC (reported in error: USA: AZ)	Metcalf 1946a, Wilson & McPherson 1980, Donovall 2008
sulcipes (Say, 1825) [Metcalf 1946a: 132, *Fulgora*]	USA: AR, AZ, CO, CT, DC, DE, FL, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, NY, OH, OK, OR, PA, RI, TN, TX, UT, VA, VT, WA, WI, WV, WY; CAN: BC, MB, NB, ON, QC, SK	Metcalf 1946a, Moore 1950a, b; Kontkanen 1958, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Wilson et al. 1993, Maw et al. 2000, Gonzon et al. 2006, Donovall 2008, Bartlett et al. 2011
tanneri Ball, 1937 [Metcalf 1946a: 134]	USA: UT	Metcalf 1946a, Donovall 2008

texanus Lawson & Beamer, 1930 [Metcalf 1946a: 134]	USA: AZ, TX; Mexico (Sonora)	Metcalf 1946a, Donovall 2008
uhleri Ball, 1902a [Metcalf 1946a: 134]	USA: AZ, CA, CO, ID, NM, NV, UT; Mexico (Baja California) (reported in error: USA: NC)	Metcalf 1946a, Wilson & McPherson 1980b, Donovall 2008
uhleri marginatus Ball, 1930b [Metcalf 1946a: 135]	USA: AZ, CO, NV, UT	Metcalf 1946a, Donovall 2008
vanduzei Ball, 1902a [Metcalf 1946a: 135] = *Scolops vanduzei* Ball, 1902a: 150. = *Scolops vanduzeei* Ball, 1902a; missp. by Metcalf 1946a: 135.	USA: CO, IA, KS, NE, NM, TX	Metcalf 1946a
virescens Ball, 1937 [Metcalf 1946a: 135]	USA: AZ	Metcalf 1946a, Donovall 2008
virescens var. *salsus* Ball, 1937 [Metcalf 1946a: 135]	USA: AZ	Metcalf 1946a
viridis Ball, 1902a [Metcalf 1946a: 135]	USA: AZ, CA, CO, NM, TX, UT	Metcalf 1946a, Donovall 2008
Orgeriinae Fieber, 1872		
Orgeriini Fieber, 1872		
Acinaca Ball & Hartzell, 1922 (Type species *Acinaca lurida* Ball & Hartzell, 1922).		
lurida Ball & Hartzell, 1922 [Metcalf 1946a: 219]	USA: AZ, CA, NM	Metcalf 1946a, Doering 1955
Aridia Ball & Hartzell, 1922 (Type species *Orgerius compressus* Ball, 1909).		
compressa (Ball, 1909) [Metcalf 1946a: 220, *Orgerius*]	USA: CA, NV, UT	Metcalf 1946a
erecta (Ball, 1909) [Metcalf 1946a: 220, *Orgerius*]	USA: AZ, CA, NV	Metcalf 1946a
Deserta Ball & Hartzell, 1922 (Type species *Orgamara bipunctata* Ball, 1909).		
bipunctata (Ball, 1909) [Metcalf 1946a: 199] = *Orgamara bipunctata* Ball, 1909: 199–200. = *Deserta bipunctata* (Ball, 1909); comb. by Ball & Hartzell 1922: 143.	USA: CA, UT	Metcalf 1946a, Doering 1955, Kuznetsova et al. 2009
fuscata Doering, 1955	USA: CA, NV	Doering 1955
obesa (Ball, 1909) [Metcalf 1946a: 199] = *Orgamara obesa* Ball, 1909: 199. = *Deserta obesa* (Ball, 1909); comb. by Ball & Hartzell 1922: 143.	USA: AZ, UT	Metcalf 1946a, Doering 1955
obscura (Ball, 1909) [Metcalf 1946a: 199] = *Orgamara obscura* Ball, 1909: 200. = *Deserta obscura* (Ball, 1909); comb. by Ball & Hartzell 1922: 142.	USA: CA, ID, NV, UT	Metcalf 1946a, Doering 1955
pinturensis Doering, 1955	USA: CA, NV, UT	Doering 1955
raptoria Ball, 1937 [Metcalf 1946a: 199]	USA: CA	Metcalf 1946a, Doering 1955
Orgamara Ball, 1909 (Type species *Orgamara acuta* Ball, 1909)		
acuta Ball, 1909 [Metcalf 1946a: 197]	USA: CA; Mexico (Baja California)	Metcalf 1946a
argentia Ball, 1937 [Metcalf 1946a: 198]	USA: AZ	Metcalf 1946a
reducta Ball, 1909 [Metcalf 1946a: 198]	USA: CA, NM; Mexico (Baja California)	Metcalf 1946a

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Orgerius Stål, 1859 (Type species *Orgerius rhyparus* Stål, 1859). = ***Ranissus*** Fieber, 1866a (Type species *Ranissus leptopus* Fieber, 1866a); syn. by Fieber 1872: 4.		
Subgenus *Orgerius* Stål, 1859		
bilobatus Doering & Darby, 1943	USA: CA	Doering & Darby 1943
bucculentus Doering & Darby, 1943	USA: CA, OR	Doering & Darby 1943
concordus Ball & Hartzell, 1922 [Metcalf 1946a: 209] = *Orgerius rhyparus* var. *concordus* Ball & Hartzell, 1922: 145. = *Orgerius concordus* Ball & Hartzell, 1922; status by Doering & Darby 1943: 64, 80.	USA: CA; Mexico (Baja California)	Doering & Darby 1943, Metcalf 1946a
disgregus Doering & Darby, 1943	USA: CA	Doering & Darby 1943
glaucus Emeljanov, 2006a	USA: CA	Emeljanov 2006a
junceus Doering & Darby, 1943	USA: CA	Doering & Darby 1943
pajaronius Ball & Hartzell, 1922 [Metcalf 1946a: 209] = *Orgerius rhyparus* var. *pajaronius* Ball & Hartzell, 1922: 145. = *Orgerius pajaronius* Ball & Hartzell, 1922; status by Doering & Darby 1943: 64, 73.	USA: CA, OR	Doering & Darby 1943, Metcalf 1946a
proprius Doering & Darby, 1943	USA: CA	Doering & Darby 1943
rhyparus Stål, 1859 [Metcalf 1946a: 208] = *Orgerius rhyparus* var. *clitellus* Ball & Hartzell, 1922: 145; syn. by Doering & Darby 1943: 64.	USA: AZ, CA, CO, OR; Mexico (Baja California)	Doering & Darby 1943, Metcalf 1946a
spicatus Doering & Darby, 1943	USA: CA	Doering & Darby 1943
triquetrus Doering & Darby, 1943	USA: AZ, CA	Doering & Darby 1943
Subgenus *Opsigonus* Emeljanov, 2006a (Type species *Orgerius minor* Ball, 1909).		
bicornis Doering & Darby, 1943 = *Orgerius bicornis* Doering & Darby, 1943: 85. = *Orgerius* (*Opsigonus*) *bicornis* Doering & Darby, 1943; status by implication Emeljanov 2006a: 76.	USA: CA, UT	Doering & Darby 1943
foliatus Doering & Darby, 1943 = *Orgerius foliatus* Doering & Darby, 1943: 87. = *Orgerius* (*Opsigonus*) *foliatus* Doering & Darby, 1943; status by implication Emeljanov 2006a: 76.	USA: AZ, CA, NM, NV	Doering & Darby 1943
minor Ball, 1909 [Metcalf 1946a: 211] = *Orgerius minor* Ball, 1909: 202. = *Orgerius* (*Parorgerius*) *minor* Ball, 1909; comb. by Melichar 1912: 218. = *Parorgerius* (*Parorgerius*) *minor* (Ball, 1909); comb. by Metcalf 1946a: 211 (by implication de Bergevin 1924: 258). = *Orgerius* (*Opsigonus*) *minor* Ball, 1909; comb. by Emeljanov, 2006a: 76.	USA: CA, CO, ID, NV, UT	Doering & Darby 1943, Metcalf 1946a

ventosus Ball & Hartzell, 1922 [Metcalf 1946a: 209] = *Orgerius rhyparus* var. *ventosus* Ball & Hartzell, 1922: 145. = *Orgerius ventosus* Ball & Hartzell, 1922; status by Doering & Darby 1943: 64, 88. = *Orgerius* (*Opsigonus*) *ventosus* Ball & Hartzell, 1922; status by Emeljanov 2006a: 76 (by implication); also Kuznetsova et al. 2009.	USA: CA, NV	Doering & Darby 1943, Metcalf 1946a
Ticida Uhler, 1891 (Type species *Ticida cingulata* Uhler, 1891). = ***Loxophora*** Van Duzee, 1908 (Type species *Loxophora transversa* Van Duzee, 1908); syn. by Emeljanov 2006a: 73.		
Subgenus *Heicophora* Emeljanov, 2006a (type species *Loxophora dammersi* Van Duzee, 1934).		
dammersi (Van Duzee, 1934) [Metcalf 1946a: 224] = *Loxophora dammersi* Van Duzee, 1934:191. = *Ticida (Heicophora) dammersi* (Van Duzee, 1934); comb. by Emeljanov 2006a: 74.	USA: CA, NV, Mexico (Baja California)	Van Duzee 1934, Metcalf 1946a
Subgenus *Ticida* Uhler, 1891 (Type species *Ticida cingulata* Uhler, 1891).		
cingulata Uhler, 1891 [Metcalf 1946a: 223]	USA: CA, CO, NV, UT	Metcalf 1946a, Emeljanov 2006a
transversa (Van Duzee, 1908) [Metcalf 1946a: 224] = *Loxophora transversa* Van Duzee, 1908: 473. = *Ticida (Ticida) transversa* (Van Duzee 1908); comb. by Emeljanov 2006a: 73.	USA: AZ, CA, NV, UT; Mexico (Baja California)	Metcalf 1946a, Emeljanov 2006a
Subgenus *Timodema* Ball, 1909 (Type species *Timodema miracula* Ball, 1909); status (subgenus) by Emeljanov 2006a: 74.		
miracula Ball, 1909 [Metcalf 1946a: 221] = *Timodema miracula* Ball, 1909: 201. = *Ticida (Timodema) miracula* Ball, 1909; revised status by Emeljanov 2006a: 74.	USA: AZ, CA; Mexico (Baja California)	Metcalf 1946a
rakitovi Emeljanov, 2006a	USA: CA; Mexico (Baja California)	Emeljanov 2006a
subapplanta Emeljanov, 2006a	USA: AZ, NV	Emeljanov 2006a
Ticrania Emeljanov, 2006a (Type species *Ticida chamberlini* Van Duzee, 1923).		
chamberlini (Van Duzee, 1923) [Metcalf 1946a: 223] = *Ticida chamberlini* Van Duzee, 1923: 187. = *Ticrania chamberlini* (Van Duzee, 1923); comb. by Emeljanov 2006a: 73.	USA: CA; Mexico (Baja California, Ángel de la Guarda Island)	Metcalf 1946a, Emeljanov 2006a
Timonidia Ball & Hartzell, 1922 (Type species *Timonidia solitaria* Ball & Hartzell, 1922).		
nodosa (Ball, 1937) [Metcalf 1946a: 220] = *Aridia nodosa* Ball, 1937: 176. = *Timonidia nodosa* (Ball, 1937); comb. by Emeljanov 2006a: 76.	USA: AZ	Metcalf 1946a
solitaria Ball & Hartzell, 1922 [Metcalf 1946a: 226]	USA: CA	Metcalf 1946a
Yucanda Ball & Hartzell, 1922 (Type species *Orgauara albida* Ball 1909).		
albida (Ball, 1909) [Metcalf 1946a: 200, *Orgauara*]	USA: CA, NV; Mexico (Baja California)	Metcalf 1946a
miuiata Ball, 1937 [Metcalf 1946a: 200]	USA: AZ	Metcalf 1946a
ornata Ball, 1937 [Metcalf 1946a: 200]	USA: AZ	Metcalf 1946a

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FAMILY FLATIDAE

Flatinae Spinola, 1839

Flatini Spinola, 1839

Hesperophantia Kirkaldy, 1904b (Type species *Poeciloptera caudata* Stål, 1862c) (replacement name for unavailable *Carthaea* Stål, 1862c)
= ***Carthaea*** Stål, 1862c (nec Walker 1858) (Type species *Poeciloptera caudata* Stål, 1862c); syn. by Kirkaldy 1904b: 279.
= ***Carthaeella*** Strand, 1928 (Type species *Poeciloptera caudata* Stål, 1862c) (replacement name for unavailable *Carthaea* Stål, 1862c); syn. by Neave 1939: 593.

ricanioides (Spinola, 1839) [Metcalf 1957: 228] = *Poeciloptera ricanioides* Spinola, 1839: 442. = *Carthaea ricanioides* (Spinola, 1839): comb. by Van Duzee 1916a: 82. = *Hesperophantia ricanioides* (Spinola, 1839): comb. by Metcalf 1957: 228.	Mexico (reported in error: USA: CA)	Metcalf 1957 (Spinola 1839 reports this species from northern Mexico or California, but this species not since verified from California)

Nephesini Melichar, 1923

Antillormenis Fennah, 1942 (Type species *Ormenis contaminata* Uhler, 1895).

contaminata (Uhler, 1895) [Metcalf 1957: 313, *Ormenis*]	Cuba, Jamaica, St. Vincent; Mexico (Reported in error from USA: AZ, CA, TX)	Metcalf 1957

Flatormenis Melichar, 1923 (Type species *Ormenis squamulosa* Fowler, 1900).

inferior (Fowler, 1900) [Metcalf 1957: 304] = *Ormenis inferior* Fowler, 1900: 58. = *Anormenis inferior* (Fowler, 1900); comb. by Melichar 1923: 69. = *Flatormenis inferior* (Fowler, 1900); comb. by Medler 1993: 439.	USA: TX; Mexico (Morelos, Tabasco, Veracruz); Costa Rica	Metcalf 1957, Medler 1993
proxima (Walker, 1851) [Metcalf 1957: 296] = *Poeciloptera proxima* Walker, 1851: 459. = *Ormenis proxima* (Walker, 1851); comb. by Stål 1862: 490. = *Ormenis chloris* Melichar, 1902: 89. = *Anormenis chloris* (Melichar, 1902); comb. by Melichar 1923: 69; see also O'Brien 1985: 660. = *Anormenis septentrionalis* auct. (nec Spinola, 1839); syn. by O'Brien 1985: 657–660. = *Flatormenis chloris* (Melichar, 1902); comb. by Medler 2003: 593 (from *Anormenis* Melichar 1923). = *Flatormenis chloris* (Melichar, 1902); **new synonymy.** = *Flatormenis proxima* (Walker, 1851); **new combination**	USA: AL, AR, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, MA, LA, MD, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA; CAN: ON, QC	Metcalf 1957, Kontkanen 1958, Bickley & Seek 1975, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981; O'Brien 1985, Wilson & Lucchi 2001, Medler 2003, Paiero et al. 2003, Bartlett & Bowman 2004, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
saucia (Van Duzee, 1912a) [Metcalf 1957: 297] = *Ormenis saucia* Van Duzee, 1912a: 498. = *Flatormenis saucia* (Van Duzee, 1912a); **new combination.** = *Ormenis yumana* Ball, 1933b: 148; **new synonymy.**	USA: AZ, CA, NM, NV, TX, UT	Metcalf 1957, Ward et al. 1977

squamulosa (Fowler, 1900) [Metcalf 1957: 318] = *Ormenis squamulosa* Fowler, 1900: 57. = *Flatormenis squamulosa* (Fowler, 1900); comb. by Melichar 1923: 71.	USA: TX; Mexico (Guerrero, Morelos, Yucatán); Guatemala, Trinidad	Metcalf 1957
Ketumala Distant, 1906a (Type species *Seliza bisecta* Kirby, 1891).		
bisecta (Kirby, 1891) [Metcalf 1957: 437, *Seliza*] = *Melormenis conformis* (Melichar 1902); comb. by Metcalf 1957: 332. = *Ormenis conformis* Melichar, 1902: 73; syn. by Medler 2003: 594.	Sri Lanka, India (reported in error USA: NM)	Metcalf 1957, Medler 2003 (Note Medler 2003 reported the type specimen of *Ormenis conformis* as being from "Trincomalie, Ceylon" at the Natural History Museum of Geneva, Switzerland)
Leptormenis Melichar, 1923 (Type species *Flata relicta* Fabricius 1803).		
relicta (Fabricius, 1803) [Metcalf 1957: 277, *Flata*]	Venezuela (reported in error: USA: "Carolina")	Metcalf 1957, Wilson & McPherson 1980b
Melormenis Metcalf, 1938 (Type species *Cicada quadripunctata* Fabricius 1794 (nec De Villers 1789), replaced by *Ormenis antillarum* Kirkaldy, 1909).		
basalis (Walker, 1851) (nec Caldwell 1951) [Metcalf 1957: 440] = *Flatoides basalis* Walker, 1851: 419. = *Ormenis antillarum* Kirkaldy, 1909: 32; replacement name for unavailable *Cicada quadripunctata* Fabricius 1794 (nec De Villers 1789). = *Ormenis quadripunctata* (Fabricius 1794); comb. by Stål 1869: 110. = *Anaya* (?) *basalis* (Walker, 1851); comb. by Melichar, 1923: 66. = *Melormenis quadripunctata* (Fabricius 1794); comb. by Metcalf 1938: 395. = *Melormenis antillarum* (Kirkaldy, 1909); comb. by Ramos 1947. = *Melormenis antillarum* (Kirkaldy, 1909); syn. by Fennah 1965a: 107. = *Melormenis basalis* (Walker, 1851); comb. by Fennah 1965a: 107.	USA: FL, HI (adventive); Puerto Rico (Inc. Vieques Island, Mona Island, Caja de Muertos), Leeward Islands (Anguilla, Antigua, Montserrat, Nevis, St. Bartholomew, St. Kitts), Virgin Islands (St. Thomas, St. Croix, Jost Van Dyke, Tortola, Virgin Gorda); (reported in error: India)	Ramos 1947, Wolcott 1950, Metcalf 1957, Fennah 1965a, Miskimen & Bond 1970, Miyahira & Nakahara 1981, Medler 1990, Asche 1997, Bartlett 2000, Wilson 2005 Note: This species confused by homonymy with *Melormenis basalis* Caldwell, 1951 (in Caldwell & Martorell 1951) nec Walker (see Fennah 1965a: 107). Records for Virgin Islands—Guana, Tortola, Virgin Gorda, Great Camanoe, St. John—were intended to refer to *Melormenis basalis* Caldwell & Martorell 1951 = *Capistra basalis* (Caldwell & Martorell 1951).
infuscata (Stål, 1864) [Metcalf 1957: 332] = *Ormenis infuscata* Stål, 1864: 55. = *Melormenis infuscata* (Stål, 1864); comb. by Metcalf 1957: 332.	USA: AZ, CA; Mexico, Puerto Rico (record from Bermuda appears to be error)	Wolcott 1950, Metcalf 1957, Wilson & Hilburn 1991, Medler 1993
Metcalfa Caldwell, 1951 (In Caldwell & Martorell 1951) (Type species *Flata pruinosa* Say, 1830).		

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pruinosa (Say, 1830) [Metcalf 1957: 343] = *Flata pruinosa* Say, 1830: 237. = *Poeciloptera pruinosa* (Say, 1830); comb. by Schaum 1850: 72. = *Ormenis pruinosa* (Say, 1830); comb. by Glover 1877: 28. = Melormenis *pruinosa* (Say, 1830); comb. by Metcalf 1938: 395. = *Metcalfa pruinosa* (Say, 1830); comb. by Caldwell & Martorell 1951: 268.	USA: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NJ, NM, NY, OH, OK, PA, RI, TN, TX, VA, VT, WI, WV; CAN: NB, ON, QC; Bermuda Doubtful records: Brazil, Cuba; Jamaica, Puerto Rico, Mexico Palearctic (adventive): Italy (inc Sicily, Sardini), Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, Corsica, Germany, Greece, Hungary, Netherlands, Romania, Russia, Serbia, Slovenia, South Korea, Spain, Switzerland, Turkey	Moore 1950a, b; Wolcott 1950, Metcalf 1957, Ward et al. 1977, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c, 1981c; Dlabola 1981, Weber & Wilson 1981, della Giustina 1986, Wilson & Hilburn 1991, Maw et al. 2000, Lago & Testa 2000, Wilson & Lucchi 2001, Bartlett & Bowman 2004, Gonzon et al. 2006, Gnezdilov & Sugonyaev 2009, Benton & McCreadie 2009, Lee & Wilson 2010, Bartlett et al. 2011
Ormenaria Fennah, 1947 (Type species *Poeciloptera rufifascia* Walker, 1851).		
barberi (Van Duzee, 1912a) [Metcalf 1957: 290] = *Ormenis barberi* Van Duzee, 1912a: 498. = *Ormenaria barberi* (Van Duzee, 1912a); **new combination.**	USA: AZ	Metcalf 1957
rufifascia (Walker, 1851) [Metcalf 1957: 352, *Poeciloptera*]	USA: FL, GA; Cuba (including Isla de la Juventud as Isle of Pines), Jamaica	Metcalf 1957, Wilson & McPherson 1980b, Tsai & Mead 1982, Wilson & Tsai 1984, Wilson 1988
Ormenoides Melichar, 1923 (Type species *Ormenis distincta* Melichar, 1902).		
venusta (Melichar, 1902) [Metcalf 1957: 328] = *Ormenis venusta* Melichar, 1902: 67. = *Ormenis pauperata* Melichar, 1902: 67. = *Ormenoides venusta* (Melichar, 1902); comb. by Metcalf 1957: 328. = *Ormenoides pauperata* (Melichar, 1902); comb. by Metcalf 1957: 328. = *Ormenoides pauperata* (Melichar, 1902); **new synonymy.**	USA: AL, DC, DE, FL, GA, IL, IN, KY, LA, MD, MO, MS, NC, NJ, OH, OK, PA, SC, TN, TX, VA; CAN: ON	Metcalf 1957, Nixon & McPherson 1977, Weber & Wilson 1981, Wilson & McPherson 1980a, b, c; Wilson & Lucchi 2001, Paiero et al. 2003, Bartlett & Bowman 2004, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
Selizini Melichar, 1923		
Cyarda Walker, 1858 (Type species *Cyarda difformis* Walker, 1858). = ***Gelastophantia*** Kirkaldy, 1904b: replacement name for *Cyarda* Stål, 1866 (Type species *Poekilloptera acuminipennis* Spinola, 1839); syn. by Schulze et al. 1929: 1351.		
acuminipennis (Spinola, 1839) [Metcalf 1957: 425] = *Poeciloptera iniquipennis* Walker, 1858: 107: syn. by Fennah 1965a: 112.	USA: FL; Dominican Republic, Haiti, Jamaica, Cuba	Metcalf 1957, Fennah 1965a, Wilson & McPherson 1980b

nelichari Van Duzee, 1907 [Metcalf 1957: 428]	USA: DC, FL, IL, MS, NC, SC; Cuba (Inc. Isle of Pines), Jamaica	Metcalf 1957, Wilson & McPherson 1980a, b, c; Wheeler & Hoebeke 1982, Lago & Testa 2000, Bartlett et al. 2011 (species identity in doubt all records require confirmation)
sordida Fennah, 1965a = sp. nr. *acutissima* Metcalf & Bruner, 1948: 101. sensu Wheeler & Hoebeke 1982; see Fennah 1965a: 115.	USA: FL; Belize	Metcalf 1957, Fennah 1965a, Wheeler & Hoebeke 1982
walkeri Metcalf, 1923 [Metcalf 1957: 429]	Jamaica (reported in error: Cuba, "Eastern United States")	Metcalf 1923, 1957; Fennah 1965a
Mistharnophantia Kirkaldy, 1907b (Type species *Mistharnophantia sonorana* Kirkaldy, 1907b). = ***Rhynchopteryx*** Van Duzee, 1914 (Type species *Rhynchopteryx caudata* Van Duzee, 1914); syn. by Doering & Shepherd 1946: 112.		
acuta Doering & Shepherd, 1946 [Metcalf 1957: 416]	USA: NM, NV?, TX, UT; Mexico (Baja California, Sinaloa)	Doering & Shepherd 1946, Metcalf 1957
ajoensia Doering & Shepherd, 1946 [Metcalf 1957: 416]	USA: AZ	Doering & Shepherd 1946, Metcalf 1957
angusta Doering & Shepherd, 1946 [Metcalf 1957: 417]	USA: NM, TX	Doering & Shepherd 1946, Metcalf 1957
extensa Doering & Shepherd, 1946 [Metcalf 1957: 417]	USA: AZ, NM, TX; Mexico (Sonora, as Kino Bay)	Doering & Shepherd 1946, Metcalf 1957
sima Doering & Shepherd, 1946 [Metcalf 1957: 417]	USA: AZ, CA, TX, UT; Mexico (Nuevo León)	Doering & Shepherd 1946, Metcalf 1957
sonorana Kirkaldy, 1907b [Metcalf 1957: 417] = *Rhynchopteryx caudata* Van Duzee, 1914: 43; syn. by Doering & Shepherd 1946: 111.	USA: AZ, CA, FL, NM, TX; Mexico (Baja California, Baja California Sur, Sonora, Ángel de la Guarda Island, Cerralvo [Jacques Costeau] Island, San Jose Island, San Francisco Island, San Esteban Island, Monserrate Island, Carmen Island, San Marcos Island, Tiburón Island)	Doering & Shepherd 1946, Metcalf 1957, Wilson & McPherson 1980b
Paradascalia Metcalf, 1923 (Type species *Cicada grisea* Fabricius, 1775).		
edax Van Duzee, 1923 [Metcalf 1957: 446]	USA: CA; Mexico (Baja California, San Marcos Is., Coronados Island, Monserrate Island, San Diego Island, Carmen Island, Tiburón Island, San Francisco Island, San Jose Island, Cerralvo [Jacques Costeau] Island, Ángel de la Guarda Island, San Lorenzo Island, Espiritu Santo Island)	Metcalf 1957

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Siphantini Melichar, 1923		
Siphanta Stål, 1862c (Type species *Poeciloptera acuta* Walker, 1851). = ***Phalainesthes*** Kirkaldy, 1899 (Type species *Phalainesthes schauinslandi* Kirkaldy, 1899); syn. by Kirkaldy 1902: 117. = ***Lombokia*** Distant, 1910a (Type species *Lombokia everetti* Distant, 1910a); syn. by Fletcher 1985: 3. = ***Siphantoides*** Distant, 1910b (Type species *Siphantoides conspicua* Distant, 1910b); syn. by Fletcher 1985: 3. = ***Parasalurnis*** Distant, 1910b (Type species *Poeciloptera roseicincta* Walker, 1862); syn. by Fletcher 1985: 3.		
acuta (Walker, 1851) [Metcalf 1957: 233, *Poeciloptera*]	USA: CA, HI, UT (adventive); Australia, New Zealand	Metcalf 1957, Fletcher 1985, Asche 1997, Wilson 2005
Flatoidinae Melichar, 1901		
Flatoidini Melichar, 1901		
Flataloides Metcalf, 1938 (Type species *Elidiptera obliqua* Metcalf 1938).		
scabrosa (Melichar, 1902) [Metcalf 1957: 535] = *Flatoides scabrosus* Melichar, 1902: 220. = *Flatoidinus scabrosus* (Melichar, 1902); comb. by Melichar 1923: 117. = *Flataloides scabrosa* (Melichar, 1902); comb. by Medler, 1993: 443.	USA: FL, GA, NC, TX; Brazil (reported in error: USA: AL)	Metcalf 1957, Wilson & McPherson 1980b, Medler 1993
signata (Melichar, 1902) [Metcalf 1957: 536] = *Flatoides signatus* Melichar, 1902: 219. = *Flatoidinus signatus* (Melichar, 1902); comb. by Melichar 1923: 117. = *Flataloides signata* (Melichar, 1902); **new combination.**	USA: TX; "Eastern United States"	Metcalf 1957
Flatoides Guérin-Méneville, 1844 (Type species *Flatoides tortrix* Guérin-Méneville, 1844).		
enota Van Duzee, 1923 [Metcalf 1957: 505] = *Flatoides enotus* Van Duzee, 1923: 197. = *Flatoides enota* Van Duzee, 1923; emendation by Metcalf 1957: 505.	USA: AZ, NM; Mexico (Baja California Sur, Mexico, San Esteban Island)	Metcalf 1957
Flatoidinus Melichar, 1923 (Type species *Poeciloptera couviva* Stål, 1862c).		
acutus (Uhler, 1901) [Metcalf 1957: 528] = *Dascalia acuta* Uhler, 1901: 515. = *Flatoides acuta* (Uhler, 1901); comb. by Van Duzee 1909: 193. = *Flatoides acutus* (Uhler, 1901); emendation by Van Duzee 1917b: 756. = *Flatoidinus acutus* var. *acutus* (Uhler, 1901); comb. and status by implication Metcalf & Bruner 1948: 115.	Bahamas (South Bimini Island), Cayman Islands, Cuba (Inc. Isle of Pines), Dominican Republic, Haiti, Jamaica, Puerto Rico (Reported in error USA: FL, GA)	Metcalf 1957, Wilson & McPherson 1980b
occidentis (Walker, 1851) [Metcalf 1957: 532]	"North America"; Honduras, Panama (North America record in error)	Metcalf 1957, Medler 1990 (Medler 1990 recorded that the type annotated "W. Coast/of Am")

punctatus (Walker, 1851) [Metcalf 1957: 533] = *Elidiptera punctata* Walker, 1851: 332. = *Cyarda punctata* (Walker, 1851); comb. by Stål 1862: 490. = *Dascalia punctata* (Walker, 1851); comb. by Uhler, 1884: 238. = *Flatoides punctata* (Walker, 1851); comb. by Van Duzee, 1909: 193. = *Flatoides concisus* Metcalf, 1923: 192. = *Flatoidinus maculosus* Metcalf, 1923:191. = *Flatoidinus punctatus* (Walker, 1851); comb. by Bruner et al. 1945: 14, 67. = *Flatoidinus acutus* var. *maculosus* Metcalf, 1923; status by Metcalf & Bruner 1948: 116. = *Flatoides concisa* Metcalf, 1923; emendation by Metcalf 1957: 503. = *Flatoidinus acutus* var. *maculosus* Metcalf, 1923; **new synonymy.** = *Flatoides concisus* Metcalf, 1923; **new synonymy.**	USA: FL, GA; Cuba, Haiti, Jamaica, Puerto Rico (Inc. Mona Island)	Wolcott 1950, Metcalf 1957, Wilson & McPherson 1980b, Medler 1990 (Medler 1990 recorded that the type of punctata annotated "N. Amer.")
Metcracis Medler, 1993 (Type species *Elidiptera humeralis* Walker, 1858).		
fusca (Van Duzee, 1908) [Metcalf 1957: 531] = *Flatoides fuscus* Van Duzee, 1908: 497. = *Flatoidinus fuscus* (Van Duzee, 1908); comb. by Melichar 1923: 117. = *Flatoides fecalfuscus* Caldwell, 1938b: 306. = *Flatoides fecalfusca* Caldwell, 1938b; emendation by Metcalf 1957: 505. = *Metcracis fusca* (Van Duzee, 1908); **new combination.** = *Flatoides fecalfusca* Caldwell, 1938b; **new synonymy.**	USA: AZ, CA, TX; Mexico (Baja California Sur) (reported in error: USA: CO)	Caldwell 1938b, Metcalf 1957, Ward et al. 1977
Pseudoflatoides Metcalf, 1938 (Type species *Flata (Phalaenomorpha) tortrix* Guérin-Méneville, 1856).		
insularis Melichar, 1902 [Metcalf 1957: 541] = *Flatoides insularis* Melichar, 1902: 209. = *Pseudoflatoides tortrix insularis* (Melichar, 1902); comb. by Metcalf & Bruner 1949: 111. = *Pseudoflatoides insularis* (Melichar, 1902); comb. by Medler 1994: 222.	"Eastern United States"; Cuba; West Indies (US record evidently in error)	Metcalf 1957, Medler 1994
tortrix (Guérin-Méneville, 1856) [Metcalf 1957: 540, *Flata*] = *Pseudoflatoides tortrix* var. *tortrix* (Guérin-Méneville, 1856); comb. by Metcalf 1938: 401. = *Flatoides torttix* (Guérin-Méneville, 1856); missp. by Wolcott, 1950: 138.	"Eastern United States"; Cuba, Hispaniola; Puerto Rico; West Indies (US record evidently in error)	Wolcott 1950, Metcalf 1957 (See also Medler 1986: 14—note on type)
FAMILY FULGORIDAE		
Amyclinae Metcalf, 1938		
Amyclini Metcalf, 1938		
Amycle Stål, 1861a (Type species *Fulgora (Episcius?) amabilis* Westwood, 1842).		
pinyonae Knull & Knull, 1947	USA: AZ, CA, NM	Knull & Knull 1947, O'Brien 1988b

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saxatilis Van Duzee, 1914 [Metcalf 1947: 102]	USA: CA	Metcalf 1947, Knull & Knull 1947, O'Brien 1988b, Wilson & Wheeler 2005
tumacacoriae Knull & Knull, 1947	USA: AR, AZ, OK, TX	Knull & Knull, 1947, O'Brien 1988b
vernalis Manee, 1910 [Metcalf 1947: 103]	USA: AL, FL, GA, LA, NC, SC, TX	Metcalf 1947, Wilson & McPherson 1980b, O'Brien 1988b, Wilson & Wheeler 2005, 2010
Rhabdocephala Van Duzee, 1929a (Type species *Rhabdocephala brunnea* Van Duzee, 1929a).		
brunnea Van Duzee, 1929a [Metcalf 1947: 106]	USA: AZ, TX; Mexico (Sonora)	Metcalf 1947, O'Brien 1988b, Wilson & Wheeler 1992
Scolopsella Ball, 1905 (Type species *Scolopsella reticulata* Ball, 1905).		
reticulata Ball, 1905 [Metcalf 1947: 106]	USA: AZ, CA; Mexico (Baja California Sur, Gulf of California: Carman Island, Cerralvo [Jacques Cousteau] Island, San Marcos Island, Tiburón Island; Sonora)	Metcalf 1947, O'Brien 1986a, 1988b
Poiocerinae Haupt, 1929		
Poiocerini Haupt, 1929		
Calyptoproctina Metcalf, 1938		
Alphina Stål, 1863 (Type species *Alphina nigrosignata* Stål, 1863). (Generic placement in doubt.)		
glauca (Metcalf, 1923) [Metcalf 1947: 78] = *Crepusia glauca* Metcalf, 1923: 173. = *Alphina glauca* (Metcalf, 1923); comb. by Metcalf 1938: 348–349.	USA: AZ, TX (reported probably in error: USA: MS, NC, TN)	Metcalf 1923, 1947, Wilson & McPherson 1980b, Gonzon et al. 2006
Calyptoproctus Spinola, 1839 (Type species *Fulgora elegans* Olivier, 1788).		
marmoratus Spinola, 1839 (Generic placement in doubt) [Metcalf 1947: 69] = *Crepusia glauca* Metcalf, 1923: 173; syn. by Ball 1933b: 145 (error?). = *Alphina glauca* auctt.	USA: AL, AZ, FL, GA, MS, NC, NM, OK, SC, TN, TX, UT, VA	Metcalf 1947, Wilson & McPherson 1980b, Hoffman 1994, Gonzon et al. 2006
Cyrpoptus Stål, 1862a (Type species *Cyrpoptus suavis* Stål, 1862). = ***Pelidnopepla*** Stål, 1869a (Type species *Lystra obscura* Fabricius, 1803); syn. by O'Brien 1985: 661. = ***Tomintus*** Stål, 1864a (Type species *Calyptoproctus pudicus* Stål, 1861a); syn. by O'Brien 1985: 661.		
belfragei Stål, 1869 [Metcalf 1947: 74]	USA: AL, DE, FL, GA, IL, KS, LA, MD, MO, MS, MT?, NC, OH, OK, SC, TN, TX, VA; Belize, Costa Rica?, Cuba?, Mexico (Campeche, Hidalgo, San Luis Potosí, Yucatán); Honduras	Metcalf 1947, Kramer 1978; Wilson & McPherson 1980a, b, c; Wilson et al. 1993, Wilson & Wheeler 2005, 2010; Bartlett et al. 2011

metcalfi Ball, 1933b [Metcalf 1947: 75]	USA: AZ, CA, NV; Belize, Mexico (Baja California, Baja California Sur, Jalisco, Sinaloa, Sonora)	Metcalf 1947, Kramer 1978
pudicus (Stål, 1861a) [Metcalf 1947: 72] = *Calyptoproctus pudicus* Stål, 1861a: 149. = *Tonuntus pudicus* (Stål, 1861a); comb. by Stål 1864a: 49. = *Cyrpoptus nubeculosus* Stål, 1869b: 240: syn. by O'Brien 1985: 661. = *Cyrpoptus pudicus* (Stål, 1861a); comb. by O'Brien 1985: 661.	USA: AZ, TX; Mexico (Campeche, Chiapas, Michoacán, Morales, Nayarit, Nuevo León, Puebla, San Luis Potosí, Sonora, Tamaulipas, Tlaxcala, Yucatán), Brazil?, Costa Rica, Honduras	Metcalf 1947, Kramer 1978, O'Brien 1985
reineckei Van Duzee, 1909 [Metcalf 1947: 76]	USA: AL, FL, GA, LA, MS, NC, SC, TX	Metcalf 1947, Kramer 1978, Wilson & McPherson 1980b, Wilson & Wheeler 2005
vanduzeei Ball, 1933b [Metcalf 1947: 76]	USA: AZ, NM, TX; Mexico (Baja California Sur, Chihuahua, Sinaloa)	Metcalf 1947, Ward et al. 1977, Kramer 1978
Poiocerina Haupt, 1929		
Alaruasa Distant, 1906b (Type species *Poiocera lepida* Spinola, 1839).		
lepida (Spinola, 1839) [Metcalf 1947: 45, *Poiocera*] = *Poblicia tricolor* (Gerstaecker, 1860); syn. by O'Brien 1985: 660. = *Poblicia atomaria* (Walker, 1858); syn. by O'Brien 1985: 660.	USA: TX; Mexico (Nuevo León), Guatemala, Brazil?	Metcalf 1947, O'Brien 1985
Itzalana Distant, 1905 (Type species *Itzalana formosa* Distant, 1905).		
submaculata Schmidt, 1905 [Metcalf 1947: 52]	USA: TX; Mexico (Chiapas, Morelos, San Luis Potosí); Honduras, Nicaragua, Surinam	Metcalf 1947, Wilson & O'Brien 1986
Poblicia Stål, 1866 (Type species *Poeocera misella* Stål, 1863).		
fuliginosa (Olivier, 1791) [Metcalf 1947: 62, *Fulgora*]	USA: AZ, GA, IL, KS, LA, MD, MO, MT, MS, NC, NM, OH, OK, SC, TX; Mexico (Chihuahua, Coahuila, Morelos, Nuevo León)	Metcalf 1947, Wilson & McPherson 1980a, b, c; Bartlett et al. 2011
texana Oman, 1936 [Metcalf 1947: 65]	USA: AR, TX	Metcalf 1947
FAMILY ISSIDAE		
Issinae Spinola, 1839		
Colpopterini Gnezdilov, 2003b		
Colpoptera Burmeister, 1835 (Type species *Colpoptera sinuata* Burmeister, 1835). = ***Hesperophara*** Kirkaldy, 1904b (Type species *Flata rustica* Fabricius, 1803); replacement name for unavailable *Leptophara* Stål, 1869; syn. by Gnezdilov & O'Brien 2008: 21. = ***Leptophara*** Stål, 1869 (nec. Billberg 1820) (Type species *Flata rustica* Fabricius, 1803); syn. by Kirkaldy 1904b: 279.		
sp. [species undetermined]	USA: FL (adventive)	Halbert 2010
Issini Spinola, 1839		
Subtribe Agalmatiina Gnezdilov, 2002		

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Agalmatium Emeljanov, 1971 (Type species *Cercopis grylloides* Fabricius, 1794; jr. syn. of *Fulgora flavescens* Olivier, 1791).		
bilobum (Fieber, 1877) [Metcalf 1958: 229] = *Hysteropterum bilobum* Fieber, 1877: 16. = *Agalmatium bilobum* (Fieber, 1877); comb. by implication Emeljanov 1971: 353. = *Hysteropterum angustum* Melichar, 1906: 130; syn. by Dlabola 1980: 234. = *Hysteropterum dubium* Melichar, 1906: 131; syn. by Dlabola 1984: 29. = *Hysteropterum inconspicuum* Matsumura, 1910: 27; syn. by Dlabola 1984: 29. = *Hysteropterum severini* Caldwell & DeLong, 1948: 176; syn. by Gnezdilov & O'Brien 2006a: 51. = *Hysteropterum beameri* Doering, 1958: 101; syn. with *H. severini* Caldwell & Delong, 1948 by O'Brien 1988a: 868; syn. with *A. bilobum* by Gnezdilov & O'Brien 2006a: 51.	USA: CA (adventive); Bulgaria, France, Georgia, Greece, Israel, Italy (inc. Sardinia and Sicily), Lebanon, Palestine, Portugal, Romania, Russia (Krasnodar territory), Spain (Inc. Canary Islands), Syria, Tunisia, Turkey, Ukraine (inc. Crimea)	Metcalf 1958, Doering 1958, O'Brien 1988a, Gnezdilov & O'Brien 2006a
Subtribe Hysteropterina Melichar, 1906		
Abolloptera Gnezdilov & O'Brien, 2006b (Type species *Hysteropterum bistriatum* Caldwell, 1945).		
bistriata (Caldwell, 1945) [Metcalf 1958: 230] = *Hysteropterum bistriatum* Caldwell, 1945: 100. = *Abolloptera bistriata* (Caldwell, 1945); comb. by Gnezdilov & O'Brien 2006b: 223.	USA: TX; Mexico (Nuevo León)	Caldwell 1945, Metcalf 1958, O'Brien 1988a, Gnezdilov & O'Brien 2006b
Balduza Gnezdilov & O'Brien, 2006b (Type species *Hysteropterum unum* Ball, 1910) .		
bufo (Van Duzee, 1923) [Metcalf 1958: 230] = *Hysteropterum bufo* Van Duzee, 1923: 192. = *Kathleenum bufo* (Van Duzee, 1923); comb. by Gnezdilov, 2004: 2. = *Balduza bufo* (Van Duzee, 1923); comb. by Gnezdilov & O'Brien 2006b: 221.	USA: AZ; Mexico (Baja California, Baja California Sur, Sonora; Cerralvo [Jacques Cousteau] Island, Tiburón Island)	Doering 1938, Metcalf 1958, Gnezdilov 2004, Gnezdilov & O'Brien 2006b,
una (Ball, 1910) [Metcalf 1958: 286] = *Hysteropterum unum* Ball, 1910: 43. = *Balduza una* (Ball, 1910); comb. by Gnezdilov & O'Brien 2006b: 221.	USA: AZ, CA, CO, NM, NV, TX; Mexico (Durango, Nuevo León)	Doering 1938, Metcalf 1958, Gnezdilov & O'Brien 2006b
Exortus Gnezdilov, 2004 (Type species *Hysteropterum punctiferum* Walker, 1851)		
punctiferus (Walker, 1851) [Metcalf 1958: 273] = *Hysteropterum punctiferum* Walker, 1851: 376. = *Exortus punctiferus* (Walker, 1851); comb. by Gnezdilov 2004: 2.	USA: FL, GA, TX (reported in error: USA: NJ, CO)	Doering 1938, Metcalf 1958, Wilson & McPherson 1980b, Gnezdilov 2004, Gnezdilov & O'Brien 2006b, Bartlett et al. 2011
fuscomaculosus (Doering, 1938) [Metcalf 1958: 254] = *Hysteropterum fusconaculosum* Doering, 1938. = *Exortus fusconaculosus* (Doering, 1938); comb. by Gnezdilov 2004: 2.	USA: FL	Doering 1938, Metcalf 1958, Wilson & McPherson 1980b, Gnezdilov 2004, Gnezdilov & O'Brien 2006b
Kathleenum Gnezdilov, 2004 (Type species *Hysteropterum cornutum* Melichar, 1906).		

cornutum (Melichar, 1906) [Metcalf 1958: 233] = *Hysteropterum cornutum* Melichar, 1906: 147. = *Hysteropterum cornutum* var. *cornutum* Melichar, 1906; status by Ball, 1935a: 38. = *Kathleenum cornutum* (Melichar, 1906); comb. Gnezdilov, 2004: 2.	USA: AZ, CA, CO, ID, NM, NV, TX, UT; Mexico (Baja California)	Doering 1938, Metcalf 1958, Gnezdilov 2004, Gnezdilov & O'Brien 2006b
cornutum var. *utahnum* (Ball, 1935a) [Metcalf 1958: 234] = *Hysteropterum cornutum* var. *utahnum* Ball, 1935a: 38. = *Kathleenum cornutum* var. *utahnum* Ball, 1935a; comb. by Gnezdilov, 2004: 2.	USA: AZ, CA, CO, NM, TX, UT	Doering 1938, Metcalf 1958, Gnezdilov 2004
sepulcrale (Ball, 1935a) [Metcalf 1958: 282] = *Hysteropterum sepulcralis* Ball, 1935a: 37. = *Hysteropterum sepulchralis* [sic] Ball, 1935a; missp. by Doering 1938: 492; Caldwell 1945: 100. = *Kathleenum sepulcralis* (Ball, 1935a); comb. by Gnezdilov, 2004: 2. = *Kathleenum sepulchrale* [sic] (Ball, 1935a); emendation by Gnezdilov & O'Brien, 2006b: 220, 224.	USA: AZ, NM, TX, WY; Mexico (Coahuila, Hidalgo)	Ball 1935a, Doering 1938, Caldwell 1945, Metcalf 1958, Gnezdilov 2004, Gnezdilov & O'Brien 2006b
Paralixes Caldwell, 1945 (Type species *Issus scutatus* Walker, 1858) = ***Ulixes* (*Paralixes*)** Caldwell, 1945 (subgenus of ***Ulixes*** Stål, 1861a) (Type species for genus *Issus marmoreus* Stål, 1861a); Status revised by Gnezdilov & O'Brien 2006b: 224.		
scutatus (Walker, 1858) [Metcalf 1958: 407] = *Issus scutatus* Walker, 1858: 44. = *Ulixes (Paralixes) scutatus* (Walker, 1858); comb. by Caldwell 1945: 108. = *Paralixes scutatus* (Walker, 1858); status by Gnezdilov & O'Brien 2006b: 224.	USA: AZ, TX; Mexico, Guatemala	Doering 1938, Caldwell 1945, Metcalf 1958, Gnezdilov & O'Brien 2006b
Stilbometopius Gnezdilov & O'Brien, 2006b (Type species *Issus auroreus* Uhler, 1876).		
auroreus (Uhler, 1876) [Metcalf 1958: 228] = *Issus auroreus* Uhler 1876: 352. = *Hysteropterum auroreum* (Uhler, 1876); comb. by Melichar 1906: 148. = *Stilbometopius auroreus* (Uhler, 1876); comb. by Gnezdilov & O'Brien 2006b: 222.	USA: TX; Mexico (Coahuila, Nuevo León, Tamaulipas)	Doering 1938, Caldwell 1945, Wilson & McPherson 1980b, Gnezdilov & O'Brien 2006b
Traxus Metcalf, 1923 (Type species *Traxus fulvus* Metcalf, 1923).		
fulvus Metcalf, 1923 [Metcalf 1958: 214]	USA: TX; Mexico (Hidalgo, Tamaulipas)	Doering 1938, Caldwell 1945, Metcalf 1958, Wilson & McPherson 1980b, Gnezdilov & O'Brien 2006b
Tylanira Ball, 1936 (Type species *Tylanira bifurca* Ball, 1936).		
bifurca Ball, 1936 [Metcalf 1958: 408] = *Tylanira bifurcata* [sic] Ball, 1936: 155; missp. by Caldwell 1945: 106.	USA: AZ, TX; Mexico (Coahuila)	Ball 1936, Metcalf 1958, Ward et al. 1977, Gnezdilov & O'Brien 2006b

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ustulata (Uhler, 1876) [Metcalf 1958: 537] = *Tylana ustulata* Uhler, 1876: 354. = *Hysteropterum ustulata* (Uhler, 1876); comb. by O'Brien 1988a: 868. = *Hysteropterum morum* Van Duzee, 1923: 191; syn. by O'Brien 1988a: 868. = *Tylanira ustulata* (Uhler, 1876); comb. by Gnezdilov & O'Brien 2006b: 223.	USA: AZ, CO, NM; Mexico (Tiburón Island)	Ball 1936, Metcalf 1958, Ward et al. 1977, O'Brien 1988a, Gnezdilov & O'Brien 2006b
Subtribe Thioniina Melichar, 1906		
Picumna Stål, 1864 (Type species *Picumna varians* Stål, 1864). = ***Cyclumna*** Fowler, 1904 (Type species *Cyclumna subrotunda* Fowler, 1904); syn. by Metcalf 1938: 415. = ***Issomorphus*** Melichar, 1906 (Type species *Issomorphus maculatus* Melichar, 1906); syn. by Metcalf 1938: 414.		
chinai Doering, 1938 [Metcalf 1958: 460]	USA: AZ, CA, NM, TX; Mexico (Guerrero, Veracruz); Guatemala, Panama	Doering 1941, Metcalf 1958
maculata (Melichar, 1906) [Metcalf 1958: 460, *Issomorphus*]	USA: AZ, NM, TX	Doering 1941, Metcalf 1958
ovatipennis (Walker, 1858) [Metcalf 1958: 461, *Issus*]	Mexico (Guerrero, Veracruz) (reported in error: USA: AZ)	Doering 1941, Metcalf 1958
Thionia Stål, 1859 (Type species *Issus longipennis* Spinola 1839).		
acuta Doering, 1941 [Metcalf 1958: 437] = *Thionia naso* Doering, 1938: 463 [nec Fowler 1905]; replacement name by Doering 1941: 214.	USA: OK, TX; Mexico (Hidalgo)	Doering 1941, Metcalf 1958
bullata (Say, 1830) [Metcalf 1958: 439, *Flata*] = *Thionia bullata bullata* (Say, 1830); comb. by implication Metcalf 1938: 411, see Metcalf 1958: 441–442. = *Thionia bullata conspersa* (Walker, 1851); **new synonymy**.	USA: AL, AR, DC, DE, FL, GA, IL, IN, LA, MD, MO, MS, NC, NJ, NY, OH, PA, SC, TN, TX; CAN: ON	Doering 1938, Metcalf 1958, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Wheeler & Wilson 1988, Wheeler 1996, Maw et al. 2000, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
elliptica (Germar, 1830) [Metcalf 1958: 444, *Issus*]	USA: AL, AR, DC, FL, GA, KY, IL, MD, MO, MS, NJ, NC, OH, OK, PA, TN, TX, VA; CAN: ON	Doering 1938, Metcalf 1958, Wilson & McPherson 1980a, b, c; Wheeler & Wilson 1987, 1996; O'Brien 1988a, Wheeler 1996, Paiero et al. 2003, Gonzon et al. 2006, Benton & McCreadie 2009, Bartlett et al. 2011
obrienae Wilson, 1987 (in Wheeler & Wilson 1987) = *Thionia elliptica* Doering, 1938: 459–460, 542–547, 550–553 (nec Germar, 1830); replacement name by Wheeler and Wilson 1987: 449.	USA: TX	Wheeler & Wilson 1987, O'Brien 1988a
omani Doering, 1938 [Metcalf 1958: 450]	USA: NM	Doering 1938, Metcalf 1958
producta Van Duzee, 1908 [Metcalf 1958: 451]	USA: AZ, CO, OK, TX, UT	Doering 1938, Metcalf 1958
quinquata Metcalf, 1923 [Metcalf 1958: 452]	USA: AL, GA, NC	Doering 1938, Metcalf 1958, Wilson & McPherson 1980b

simplex (Germar, 1830) [Metcalf 1958: 453]	USA: AL, AR, DC, DE, FL, GA, IL, KY, MD, MO, MS, NC, NJ, OH, PA, SC, TN, TX, VA	Doering 1938, Metcalf 1958, Nixon & McPherson 1977, Wilson & McPherson 1980a, b, c; Weber & Wilson 1981, Wheeler & Wilson 1988, Gonzon et al. 2006, Bartlett et al. 2011
FAMILY KINNARIDAE		
Kinnarinae Muir, 1925		
Oeclidiini Emeljanov, 2006b		
Oeclidius Van Duzee, 1914 (Type species *Oeclidius nanus* Van Duzee, 1914). = ***Paroeclidius*** Myers, 1928 (Type species *Paroeclidius luizi* Myers, 1928); new status (subgenus) by Fennah 1980: 682, 695.		
carolus Ball, 1934a [Metcalf 1945: 248]	USA: AZ	Ball 1934a, Metcalf 1945
fraternus Van Duzee, 1923 [Metcalf 1945: 248]	USA: AZ, CA, UT; Mexico (Baja California Sur, Sonora)	Ball 1934a, Metcalf 1945
nanus Van Duzee, 1914 [Metcalf 1945: 248] = *Oeclidius brickellus* Ball, 1934a; **new synonymy**	USA: AZ, CA NM, NV, UT; CAN: BC; Mexico (Baja California, Baja California Sur, Isla Tortuga, Isla Cerralvo [Jacques Cousteau], Isla San Lorenzo)	Ball 1934a, Metcalf 1945; Maw et al. 2000
nimbus Ball, 1934a [Metcalf 1945: 249]	USA: AZ	Ball 1934a, Metcalf 1945
transversus Ball, 1934a [Metcalf 1945: 249]	USA: AZ, CA	Ball 1934a, Metcalf 1945
FAMILY TROPIDUCHIDAE (sensu Gnezdilov 2007)		
Tambiniinae Kirkaldy, 1907		
Gaetuliini Fennah, 1978 (sensu Gnezdilov 2007)		
Danepteryx Uhler, 1889 (Type species *Danepteryx manca* Uhler, 1889). = ***Epidanepteryx*** Bliven, 1966 (Type species *Epidanepteryx sequoiae* Bliven, 1966): syn. by O'Brien 1988a: 867.		
adiuncta Doering, 1939 [Metcalf 1958: 326]	USA: CA	Doering 1939, Metcalf 1958
artemisiae Kirkaldy, 1908 [Metcalf 1958: 326]	USA: CA	Doering 1939, Metcalf 1958
barbarae Kirkaldy, 1908 [Metcalf 1958: 326] = *Epidanepteryx santana* Bliven, 1966: 107; syn. by O'Brien 1988a: 868.	USA: CA; Mexico (Baja California)	Doering 1939, Metcalf 1958, Bliven 1966, O'Brien 1988a
lurida Melichar, 1906 [Metcalf 1958: 327]	USA: CA	Doering 1939, Metcalf 1958
manca Uhler, 1889 [Metcalf 1958: 327]	USA: CA, UT	Doering 1939, Metcalf 1958
robusta Doering, 1939 [Metcalf 1958: 328]	USA: CA	Doering 1939, Metcalf 1958
sequoiae (Bliven, 1966) = *Epidanepteryx sequoiae* Bliven, 1966: 106; comb. by O'Brien 1988a: 868.	USA: CA	Bliven 1966, O'Brien 1988a
Dictyssonia Ball, 1936 (Type species *Dictyssonia beameri* Ball, 1936).		
beameri Ball, 1936 [Metcalf 1958: 319]	USA: AZ	Ball 1936, Doering 1939, Metcalf 1958

Continued

Dictyobia Uhler, 1889 (Type species *Dictyobia peruuutata* Uhler, 1889; jr. syn. of *Hysteropterum seuuivitreum* Provancher, 1889).		
atra Van Duzee, 1914 [Metcalf 1958: 318]	USA: CA	Doering 1939, Metcalf 1958
combiuata Ball, 1910 [Metcalf 1958: 318]	USA: CA	Doering 1939, Metcalf 1958
seuuivitrea (Provancher, 1889) [Metcalf 1958: 318, *Hysteropterum*]	USA: CA, TX (reported in error: CAN: QC)	Doering 1939, Metcalf 1958
varia Doering, 1939 [Metcalf 1958: 319]	USA: CA	Doering 1939, Metcalf 1958
Dictyonia Uhler, 1889 (Type species *Dictyouia obscura* Uhler, 1889).		
obscura Uhler, 1889 [Metcalf 1958: 297] = *Dictyouia psychodimorpha* Bliven, 1966: 103; syn. by O'Brien 1988a: 868.	USA: CA, WA	Doering 1938, Metcalf 1958
Dictyonissus Uhler, 1876 (Type species *Dictyonissus griphus* Uhler, 1876).		
griphus Uhler, 1876 [Metcalf 1958: 316]	USA: CA, TX; Mexico (Nuevo León)	Doering 1938, Metcalf 1958
uigropilosus Doering, 1938 [Metcalf 1958: 317]	USA: TX; Mexico (Tamaulipas)	Doering 1938, Metcalf 1958
Dictyssa Melichar, 1906 (Type species *Dictyssa areolata* Melichar, 1906).		
areolata Melichar, 1906 [Metcalf 1958: 310]	USA: CA	Doering 1938, Metcalf 1958
beaueri Doering, 1936 [Metcalf 1958: 311]	USA: CA, NV	Doering 1938, Metcalf 1958
clathrata Melichar, 1906 [Metcalf 1958: 311]	USA: CA	Doering 1938, Metcalf 1958
doeringae (Ball, 1936) [Metcalf 1958: 311] = *Dictyouia doeringae* Ball, 1936: 157. = *Dictyssa doeringae* (Ball, 1936); comb. by Doering 1941: 214. = *Dictyssa balli* Doering, 1936; syn. by Doering 1941: 214.	USA: CA	Ball 1936, Doering 1941, Metcalf 1958
fenestrata Ball, 1910 [Metcalf 1958: 312]	USA: CA	Doering 1936, Metcalf 1958
fusca Melichar, 1906 [Metcalf 1958: 312]	USA: CA	Doering 1936, Metcalf 1958
maculosa Doering, 1936 [Metcalf 1958: 312]	USA: CA	Doering 1936, Metcalf 1958
marginepunctata Melichar, 1906 [Metcalf 1958: 312]	USA: CA; Mexico (Baja California)	Doering 1936, Metcalf 1958
mira Van Duzee, 1928 [Metcalf 1958: 313]	USA: CA	Metcalf 1958
monroviana Doering, 1936 [Metcalf 1958: 313]	USA: CA	Doering 1936, Metcalf 1958
mutata Melichar, 1906 [Metcalf 1958: 313]	USA: CA	Doering 1936, Metcalf 1958
obliqua Ball, 1910 [Metcalf 1958: 314]	USA: CA; Mexico (Baja California)	Doering 1936, Metcalf 1958
ovata Ball, 1910 [Metcalf 1958: 314]	USA: CA; Mexico (Baja California)	Doering 1936, Metcalf 1958
quadravitrea Doering, 1936 [Metcalf 1958: 315]	USA: CA	Doering 1936, Metcalf 1958
schuhi O'Brien, 1986a	USA: CA, OR	O'Brien 1986a, 1988a
transversa Van Duzee, 1914 [Metcalf 1958: 315]	USA: CA	Doering 1936, Metcalf 1958
Dyctidea Uhler, 1889 (Type species *Dyctidea augustata* Uhler, 1889). = ***Dictydea*** Uhler, 1889: 37; missp. by Uhler 1889: 39; Van Duzee 1938: 33; Doering 1938: 449; 1939: 88; O'Brien 1986a: 68; 1988a: 868.		
augustata Uhler, 1889 [Metcalf 1958: 321]	USA: CA	Doering 1939, Metcalf 1958
falcata Van Duzee, 1938 [Metcalf 1958: 321]	USA: CA	Metcalf 1958
intermedia Uhler, 1889 [Metcalf 1958: 321]	USA: CA	Doering 1939, Metcalf 1958

nigrata Doering, 1939 [Metcalf 1958: 322]	USA: CA	Doering 1939, Metcalf 1958
texana O'Brien, 1986a = *Dictydea* [sic] *texana* O'Brien, 1986a: 68; also O'Brien 1988a: 868 [missp. of *Dyctidea*].	USA: TX	O'Brien 1986a, 1988a
ulileri Doering, 1939 [Metcalf 1958: 322]	USA: CA	Doering 1939, Metcalf 1958
valida Doering, 1939 [Metcalf 1958: 322]	USA: CA	Doering 1939, Metcalf 1958
variegata Van Duzee, 1938 [Metcalf 1958: 322]	USA: CA	Metcalf 1958
Misodema Melichar, 1907 (Type species *Misodema reticulata* Melichar, 1906 as *Rileya reticulata* Melichar, 1906); replacement name for unavailable *Rileya* Melichar, 1906). = ***Rileya*** Melichar, 1906 (nec Huene 1902). = ***Mesodema*** Melichar, 1907; missp. by Caldwell 1945: 97.		
reticulata Melichar, 1906	USA: AZ, TX; Mexico?	Doering 1938, Metcalf 1958
Neaethus Stål, 1861b (Type species *Hysteropterum vitripenne* Stål, 1854). = ***Issovarcia*** Bliven, 1966 (Type species *Issovarcia dipteroides* Bliven 1966); syn. by O'Brien 1988a: 867.		
bicornis Doering, 1941 [Metcalf 1958: 305] = *Issovarcia dipteroides* Bliven 1966: 104–105; syn. by O'Brien 1988a: 868.	USA: CA	Doering 1941, Metcalf 1958, Bliven 1966, O'Brien 1988a
consuetus Doering, 1941 [Metcalf 1958: 305]	USA: CA	Doering 1941, Metcalf 1958
curvaminis Doering, 1938 [Metcalf 1958: 305]	USA: AZ	Doering 1938, Metcalf 1958
diversus Doering, 1938 [Metcalf 1958: 305]	USA: AZ	Doering 1938, Metcalf 1958
fenestratus Melichar, 1906 [Metcalf 1958: 305]	USA: AZ, CA, NM, UT	Doering 1938, Metcalf 1958
fragosus Van Duzee, 1921 [Metcalf 1958: 306]	USA: CA	Doering 1938, Metcalf 1958
grossus Melichar, 1906 [Metcalf 1958: 306]	USA: AZ, CA	Doering 1938, Metcalf 1958
grossus var. *pallidus* Melichar, 1906 [Metcalf 1958: 306]	USA: AZ?, CA	Doering 1938, Metcalf 1958
jacintiensus Doering, 1938 [Metcalf 1958: 306]	USA: CA; Mexico (Baja California)	Doering 1938, Metcalf 1958
maculatus Melichar, 1906 [Metcalf 1958: 306]	USA: CA	Doering 1938, Metcalf 1958
maculatus var. *fasciatus* Van Duzee, 1917a [Metcalf 1958: 307]	USA: CA	Metcalf 1958
nigronervosus Melichar, 1906 [Metcalf 1958: 307]	USA: AZ, CA, UT	Doering 1938, Metcalf 1958
perlucidus Doering, 1938 [Metcalf 1958: 307]	USA: CA	Doering 1938, Metcalf 1958
semivitreus Fowler, 1896 [Metcalf 1958: 308]	USA: CA	Metcalf 1958
similis Doering, 1938 [Metcalf 1958: 308]	USA: CA	Doering 1938, Metcalf 1958
sinelamatus Doering, 1938 [Metcalf 1958: 308]	USA: CA	Doering 1938, Metcalf 1958
unicus Doering, 1941 [Metcalf 1958: 308]	USA: CA	Doering 1941, Metcalf 1958
uniformis Doering, 1938 [Metcalf 1958: 308]	USA: AZ, CA	Doering 1938, Metcalf 1958
vitripennis (Stål, 1854) [Metcalf 1958: 308]	USA: AZ, CA	Doering 1938, Metcalf 1958
Osbornia Ball, 1910 (Type species *Osbornia cornuta* Ball, 1910).		
arborea Ball, 1935a [Metcalf 1958: 329] = *Osbornia arborea* var. *arborea* Ball, 1935a; comb. by implication Doering 1939: 98–99.	USA: AZ, CA, NM, TX, UT	Ball 1935a, Doering 1939, Metcalf 1958

Continued

arborea var. *fusca* Doering, 1939 [Metcalf 1958: 330]	USA: NM	Doering 1939, Metcalf 1958
coruuta Ball, 1910 [Metcalf 1958: 330]	USA: CA, TX, UT	Doering 1939, Metcalf 1958
Remosini Fennah, 1982		
Monopsis Spinola, 1839 (Type species *Monopsis tabida* Spinola, 1839).		
tabida Spinola, 1839 [Metcalf 1954a: 97]	Dominican Republic (Reported in error: USA: FL, Cuba)	Metcalf 1954a, Wilson & McPherson 1980, O'Brien 1992
Neurotmeta Guérin-Méneville, 1856 (Type species *Fulgora sponsa* Guérin-Méneville, 1856). = ***Tangia*** Stål, 1859 (Type species *Monopsis viridis* Walker, 1851); syn. by Van Duzee 1917b: 739; removed from syn. by Fennah 1965a: 100.		
sponsa (Guérin-Méneville, 1856) [Metcalf 1954a: 80] = *Fulgora (Pseudophaua?) sponsa* Guérin-Méneville, 1856: 180. = *Tangia sponsa* (Guérin-Méneville, 1856); comb. by Uhler 1884: 231. = *Neurotmeta sponsa* (Guérin-Méneville, 1856); comb. by Melichar 1912: 174, 217.	Cuba, Dominican Republic, Puerto Rico, Jamaica (reported in error: USA: FL)	Wolcott 1950, Metcalf 1954a, Wilson & McPherson 1980b, O'Brien 1992
Tangiini Melichar, 1914		
Pelitropis Van Duzee, 1908 (Type species *Pelitropis rotulata* Van Duzee, 1908).		
rotulata Van Duzee, 1908 [Metcalf 1954a: 93]	USA: AL, FL, MS, NC, SC; Cuba	Metcalf 1954a, Wilson & McPherson 1980b, Wilson & Wheeler 1984, O'Brien 1992
Taugia *Stål, 1859* (Type species *Monopsis viridis* Walker, 1851).		
breviceps (Metcalf & Bruner, 1930) [Metcalf 1954a: 80] = *Neurotmeta breviceps* Metcalf & Bruner, 1930: 398. = *Taugia breviceps* (Metcalf & Bruner, 1930); comb. by O'Brien 1992: 122.	USA: FL; Cuba	Metcalf 1954a, O'Brien 1992

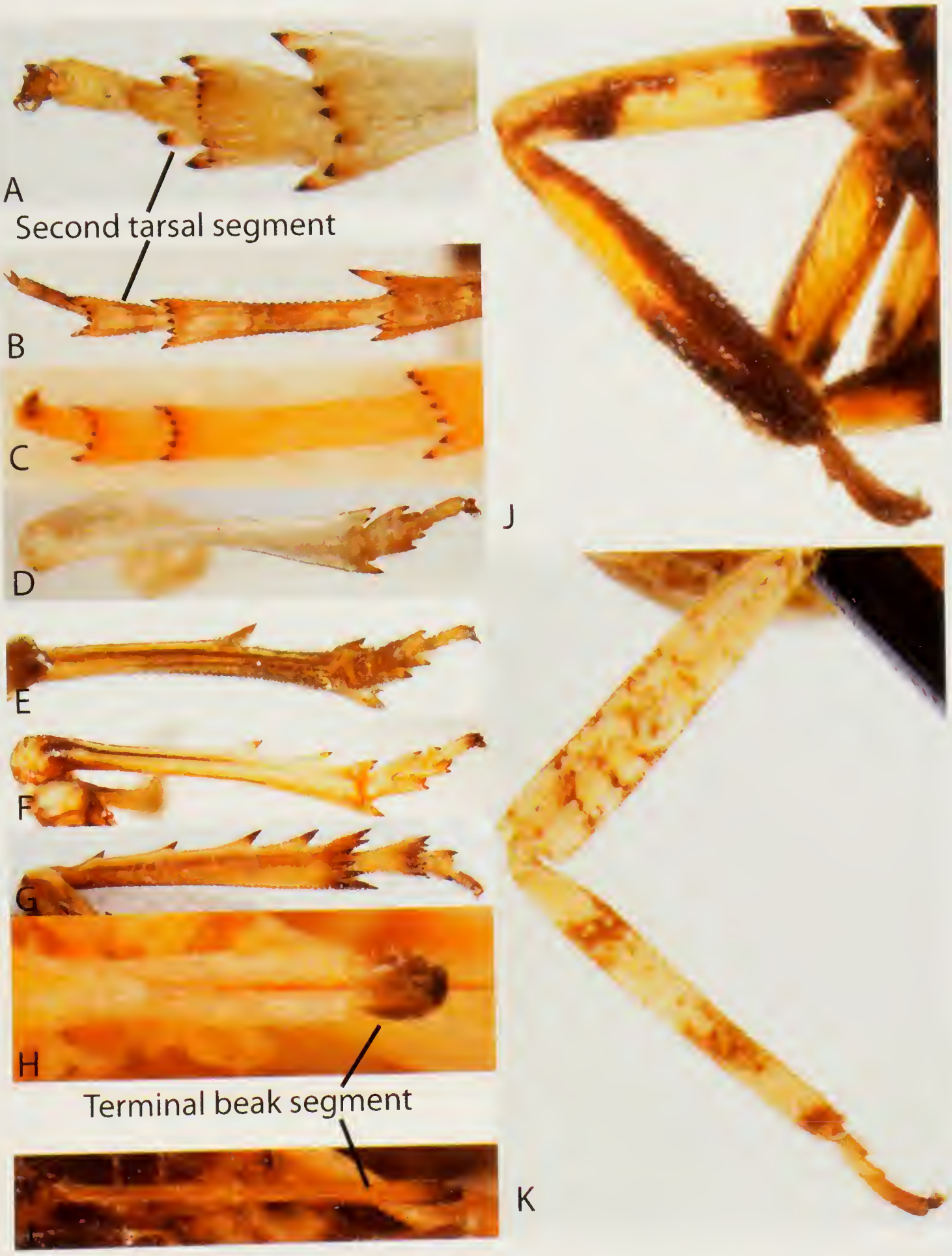


Figure 1. Features of planthoppers. **A**. Hind tarsus of *Acanalonia conica* (Acanaloniidae), ventral view; **B**. Hind tarsus of *Melanoliarus placitus* (Cixiidae), ventral view; **C**. Hind tarsus of *Synecdoche impunctata* (Achilidae), ventral view; **D**. Hind tibia of *Acanalonia conica*; **E**. Hind tibia of *Aphelonema simplex* (Caliscelidae); **F**. Hind tibia of *Thionia elliptica* (Issidae), **G**. Hind tibia of *Picumna chinai* (Issidae); **H**. Beak of *Anotia westwoodi* (Derbidae, terminal beak segment short); **I**. Beak of *Bothriocera cognita* (Cixiidae, terminal beak segment long); **J**. Front leg of *Fitchiella robertsonii* (Caliscelidae); **K**. Front leg of *Scolops abnormis* (Dictyopharidae).

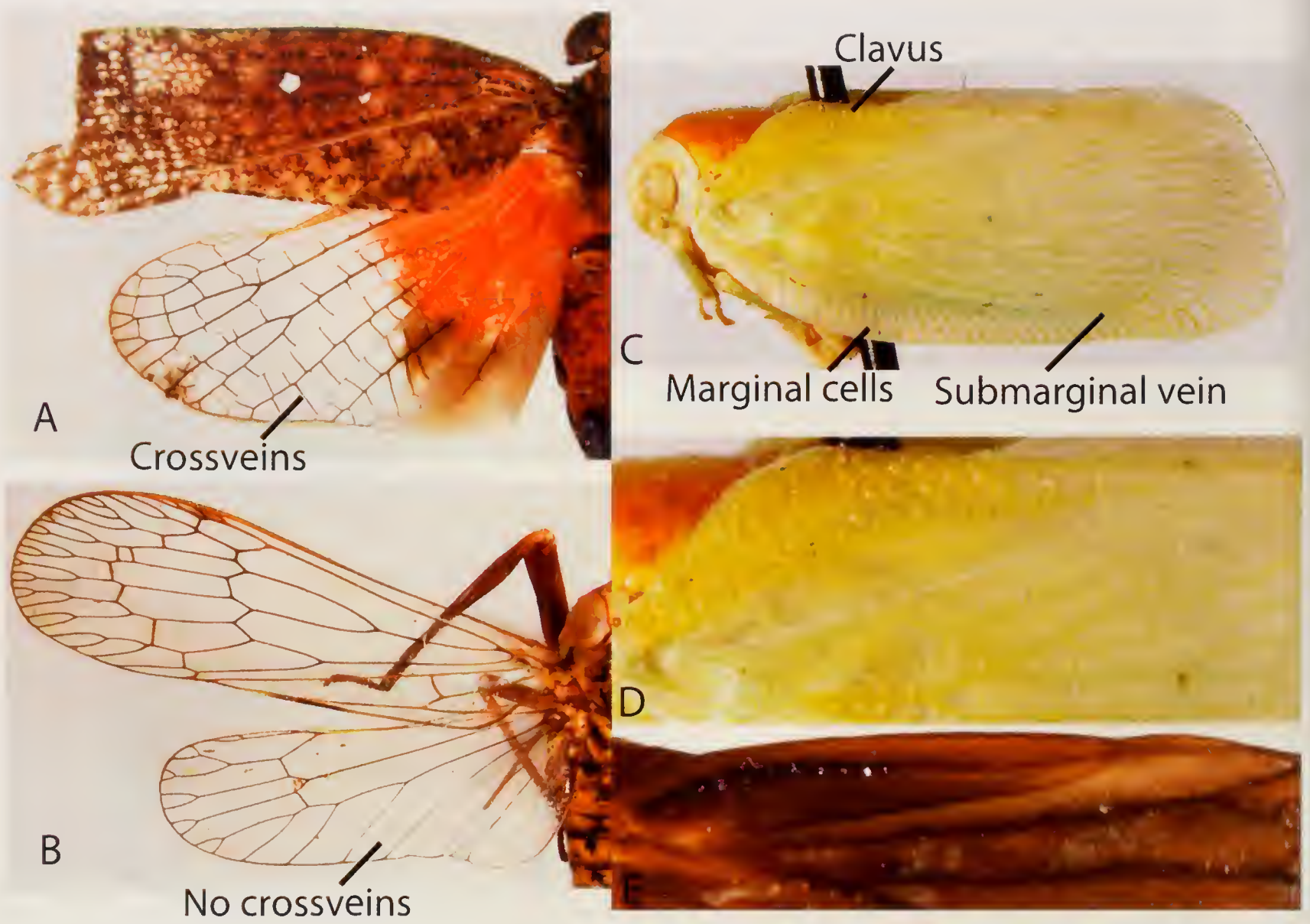


Figure 2. Features of planthoppers. **A**. Wings of *Cyrpoptus vanduzeei* (Fulgoridae); **B**. Wings of *Diacira setifera* (Dictyopharidae); **C**. Lateral habitus of *Flatormenis saucia* (Flatidae); **D**. Clavus of *Flatormenis saucia*; **E**. Clavus of *Omolicna* sp. (Derbidae).

Figure 3. Ventral view of planthopper genitalia (G8, G9 = gonapophyses of segments 8 and 9). **A**. *Melanoliarus placitus* (Cixiidae, male); **B**. *Omolicna texana* (Derbidae, male); **C**. *Stenocranus similis* (Delphacidae, female); **D**. *Obtusicranus bifidus* (Delphacidae, female); **E**. *Acanalonia conica* (female); **F**. *Melanoliarus* sp. (female); **G**. *Haplaxius ovatus* (Cixiidae, female); **H**. *Quilessa fasciata* Fennah, 1945 (female, Kinnaridae, British Virgin Islands); **I**. *Thionia simplex* (Issidae, female).

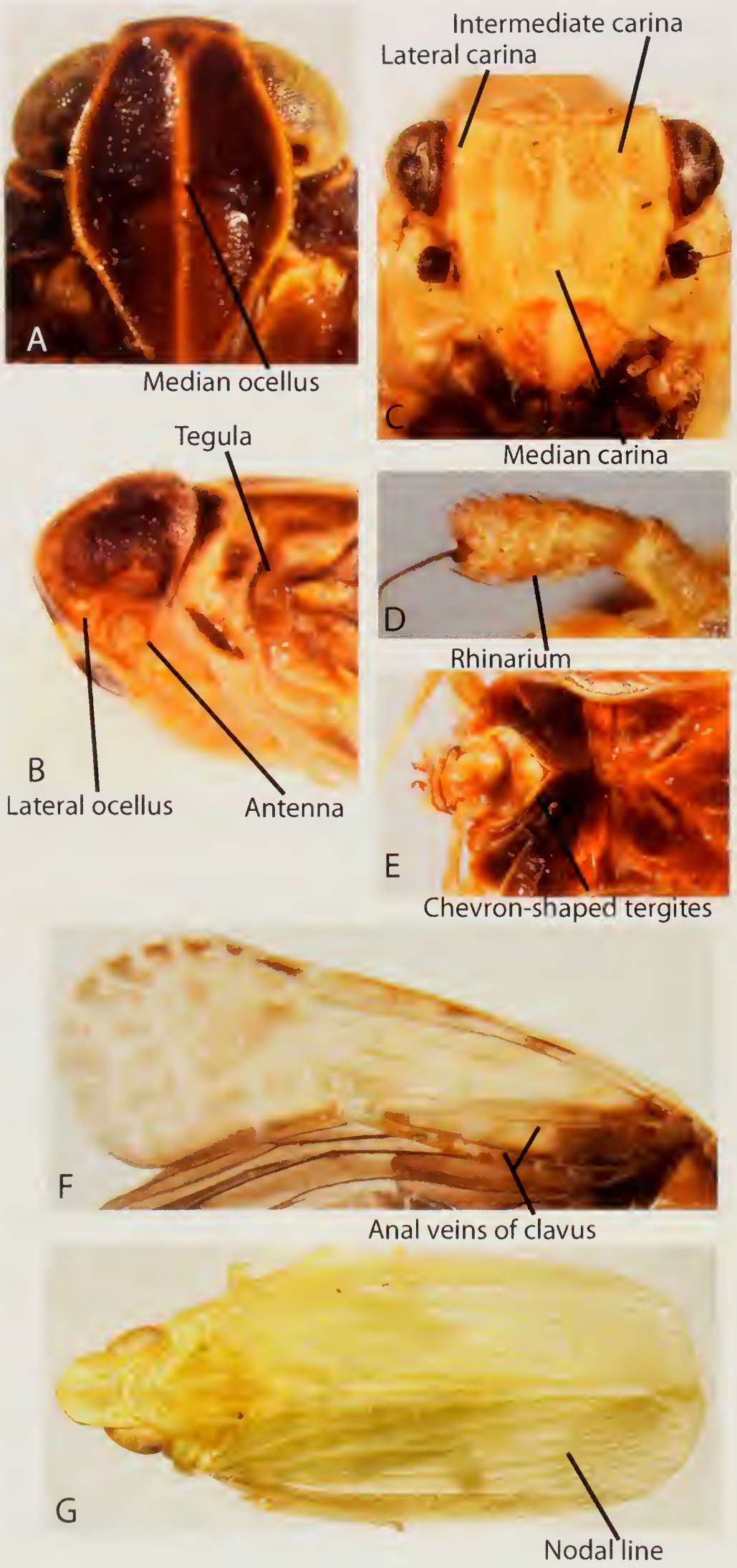


Figure 4. Features of planthoppers. **A**. Frons of Cixiidae (*Reptalus exoptatus*); **B**. Cixiidae, head, lateral view (*Haplaxius pictifrons*); **C**. Frons of Issidae (*Kathleennn coruntum*, Issidae); **D**. Antenna (*Aethodelphax megadontus*, Delphacidae); **E**. Dorsal view of *Lomageues delphacoides* Fennah, 1945c (Kinnaridae, Dominican Republic); **F**. Forewing of Achilidae (*Synecdoche grisea*); **G**. Dorsal habitus of Tropiduchidae (*Tangia viridis* (Walker 1851), British Virgin Islands).

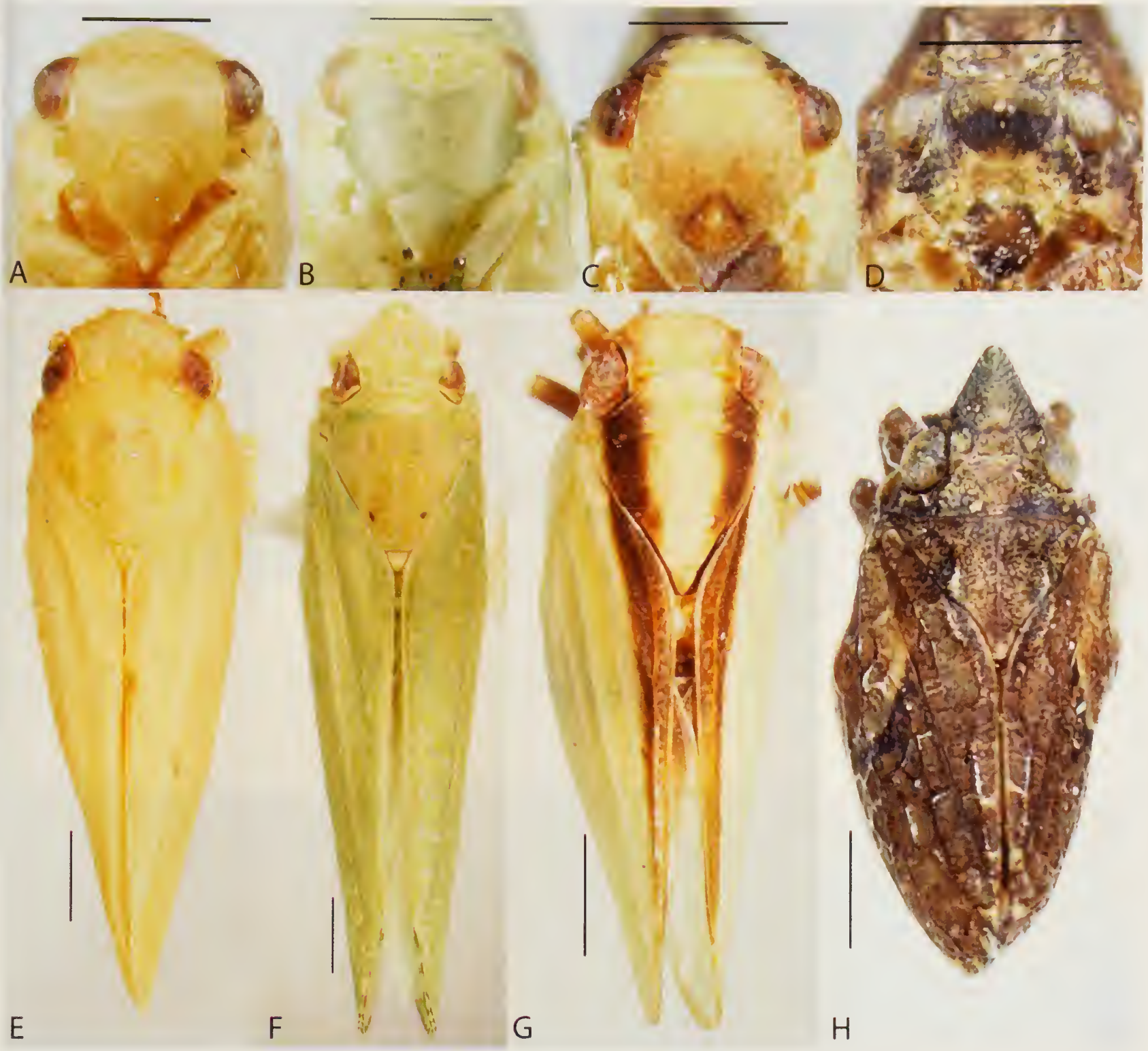


Figure 5. Views of Acanaloniidae, A–D, frontal view, E–H, dorsal view (scale = 1.0 mm). **A, E.** *Acanalonia clypeata;* **B, F.** *A. conica;* **C, G.** *A. fasciata;* **D, H.** *Philatis tuberculata* (female).

Figure 6. Lateral views of Acanaloniidae (scale = 1.0 mm). **A**. *Acanalonia clypeata*; **B**. *A. conica*; **C**. *A. fasciata*; **D**. *Philatis tuberculata*.

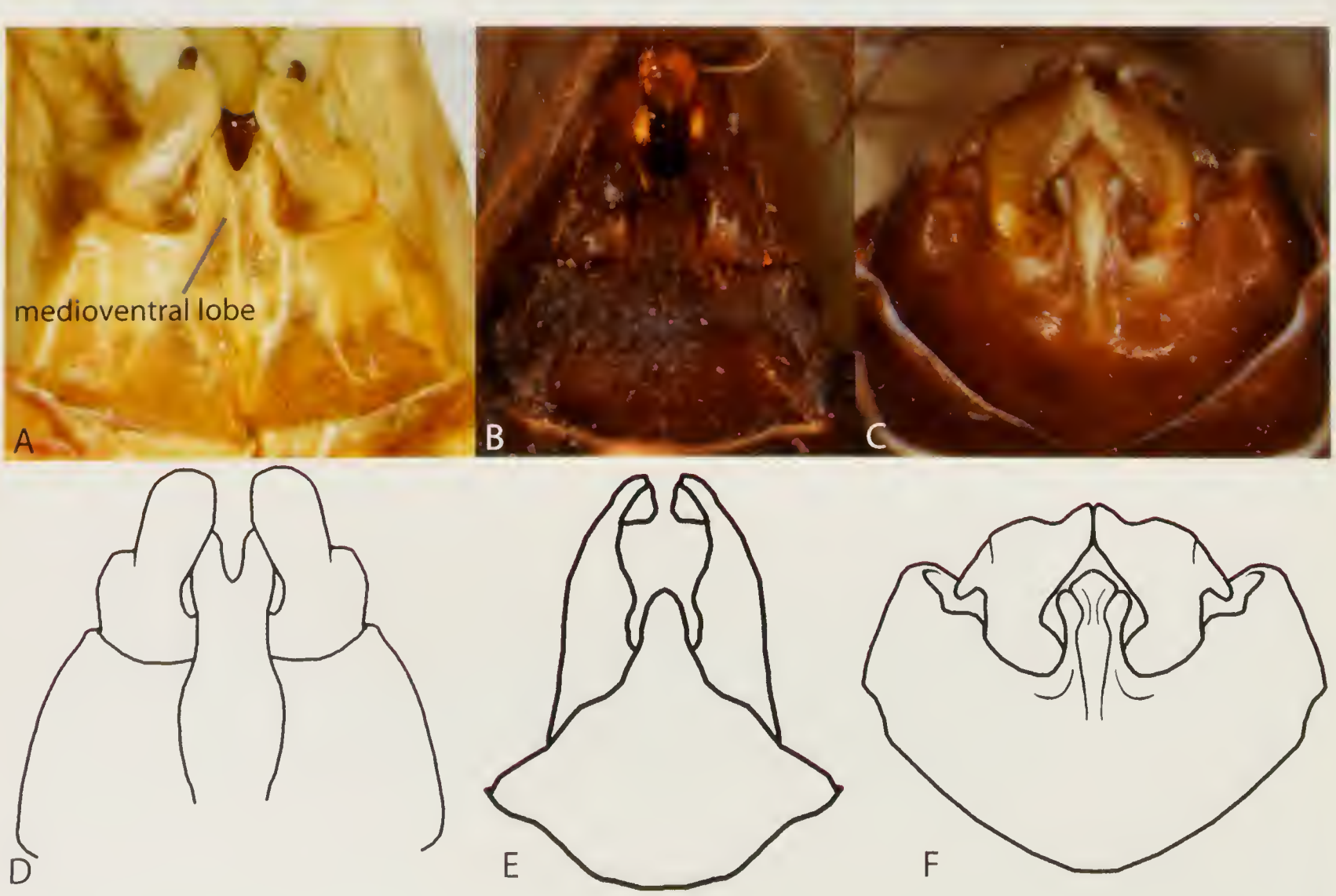


Figure 7. Male terminalia of Achilidae, ventral view. **A, D**. *Catonia picta*; **B, E**. *Synecdoche dimidiata*; **C, F**. *Opsiplanon luellus*.

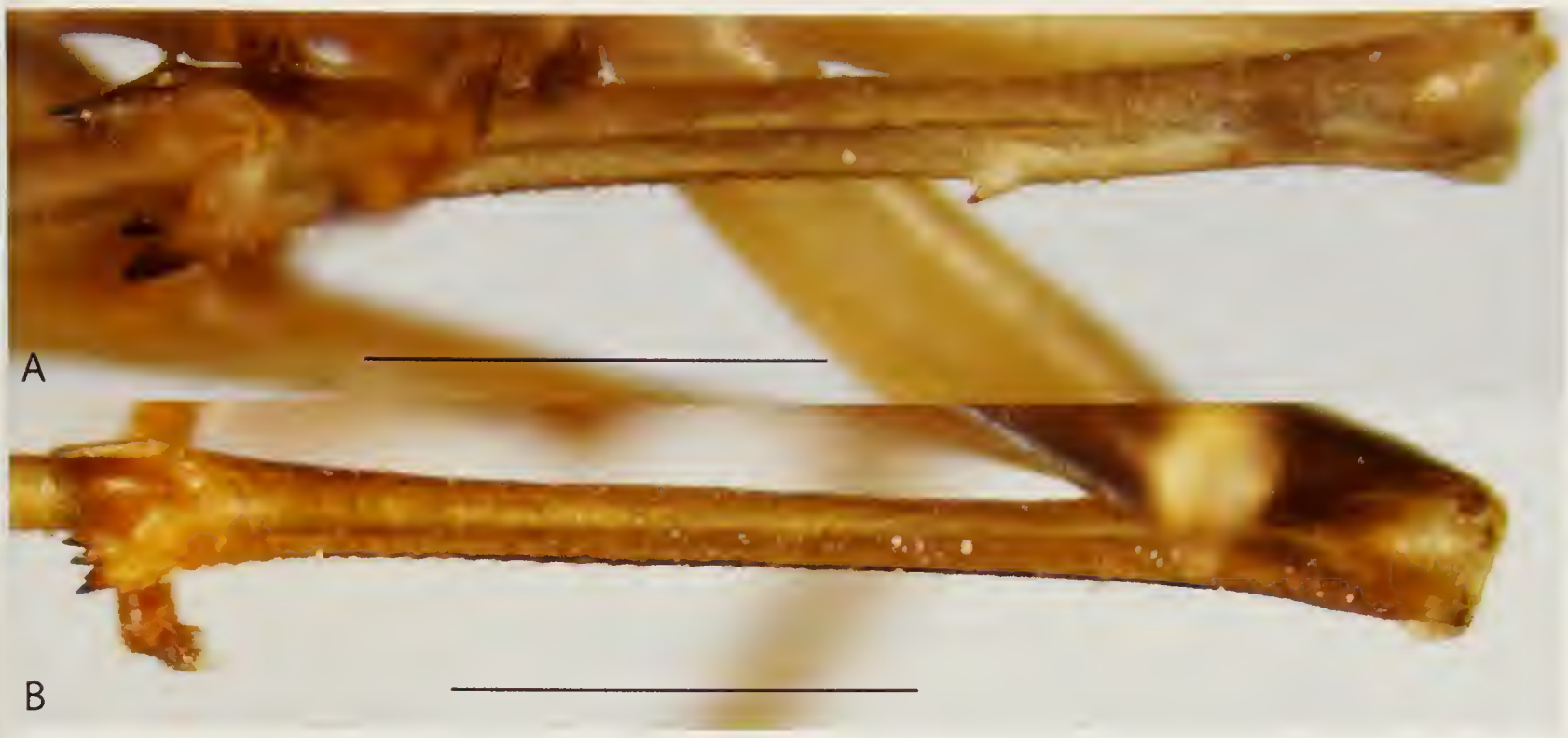


Figure 8. Hind tibiae of Achilidae (scale = 0.5 mm). **A**. *Catonia picta*; **B**. *Juniperthia indella* (note absence of spine).

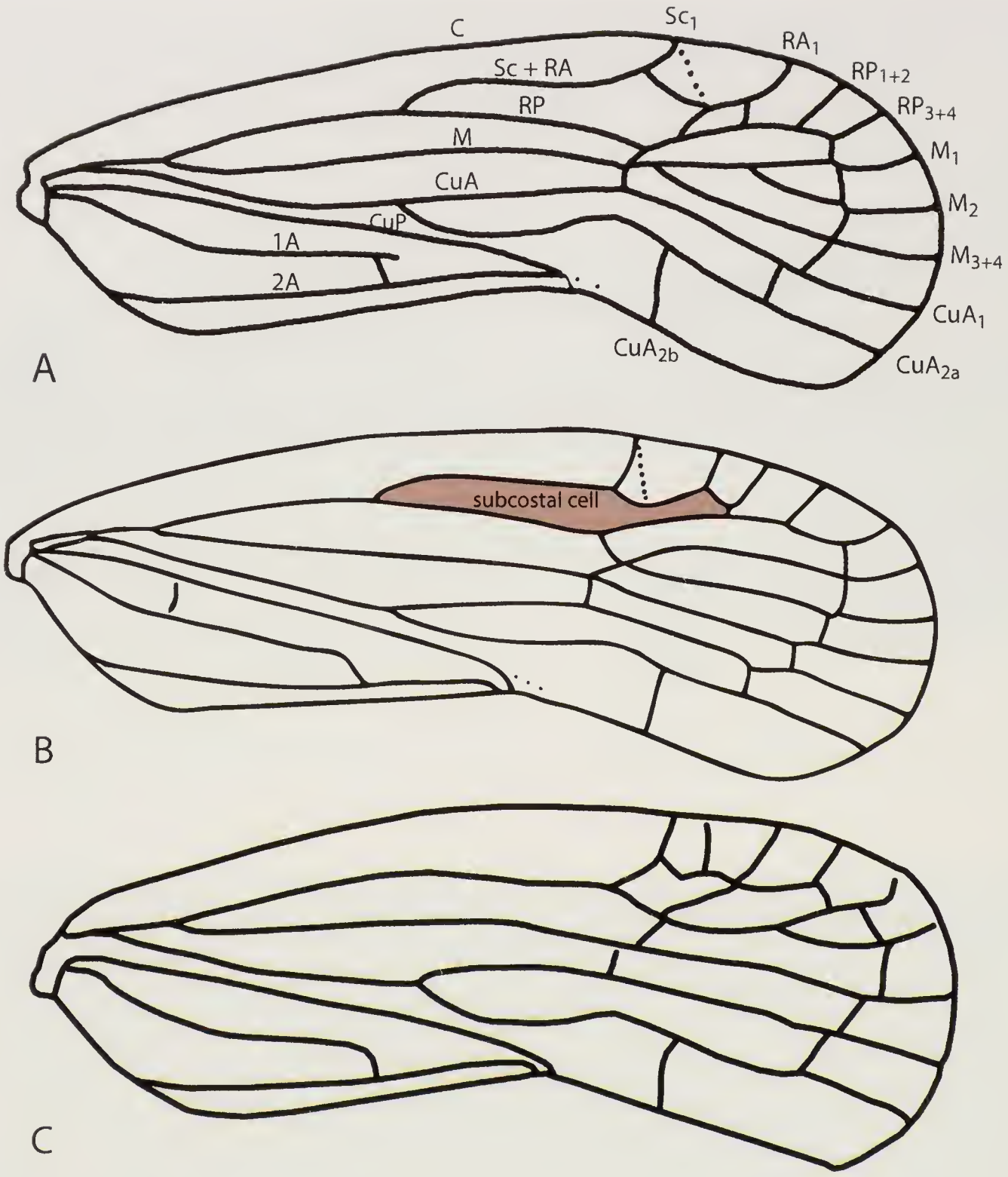


Figure 9. Forewing of Achilidae (redrawn from O'Brien 1971). **A.** *Catonia*; **B.** *Synecdoche;* **C.** *Opsiplanon*. Abbreviations of wing veins: A = anal; C = costa; CuA = anterior cubitus; CuP = posterior cubitus (which approximates the position of the claval suture); M = media (assumed to be posterior media); RA = anterior radius; RP = posterior radius; Sc = subcosta (assumed to be posterior subcosta).

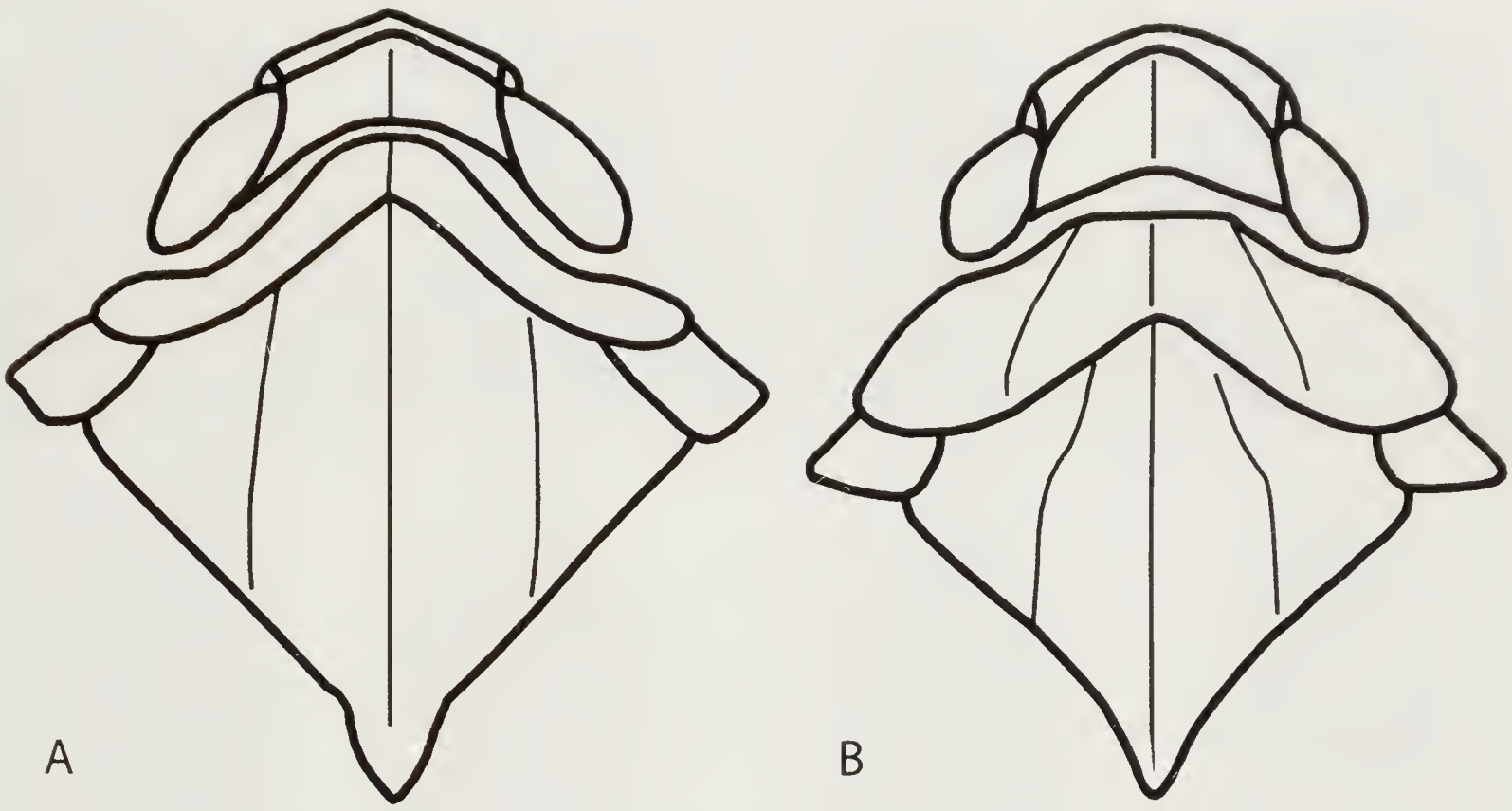


Figure 10. Dorsal view of head and thorax of Achilidae (redrawn from O'Brien 1971). **A.** *Synecdoche dimidiata;* **B.** *Xerbus brunnellus.*

Figure 11. Views of Achilidae, A–D frons, E–H dorsal view (scale = 0.5 mm). **A, E**. *Catonia picta*; **B, F**. *Cixidia septentrionalis*; **C, G**. *Juniperthia indella*; **D, H.** *Monar maculifrons.*

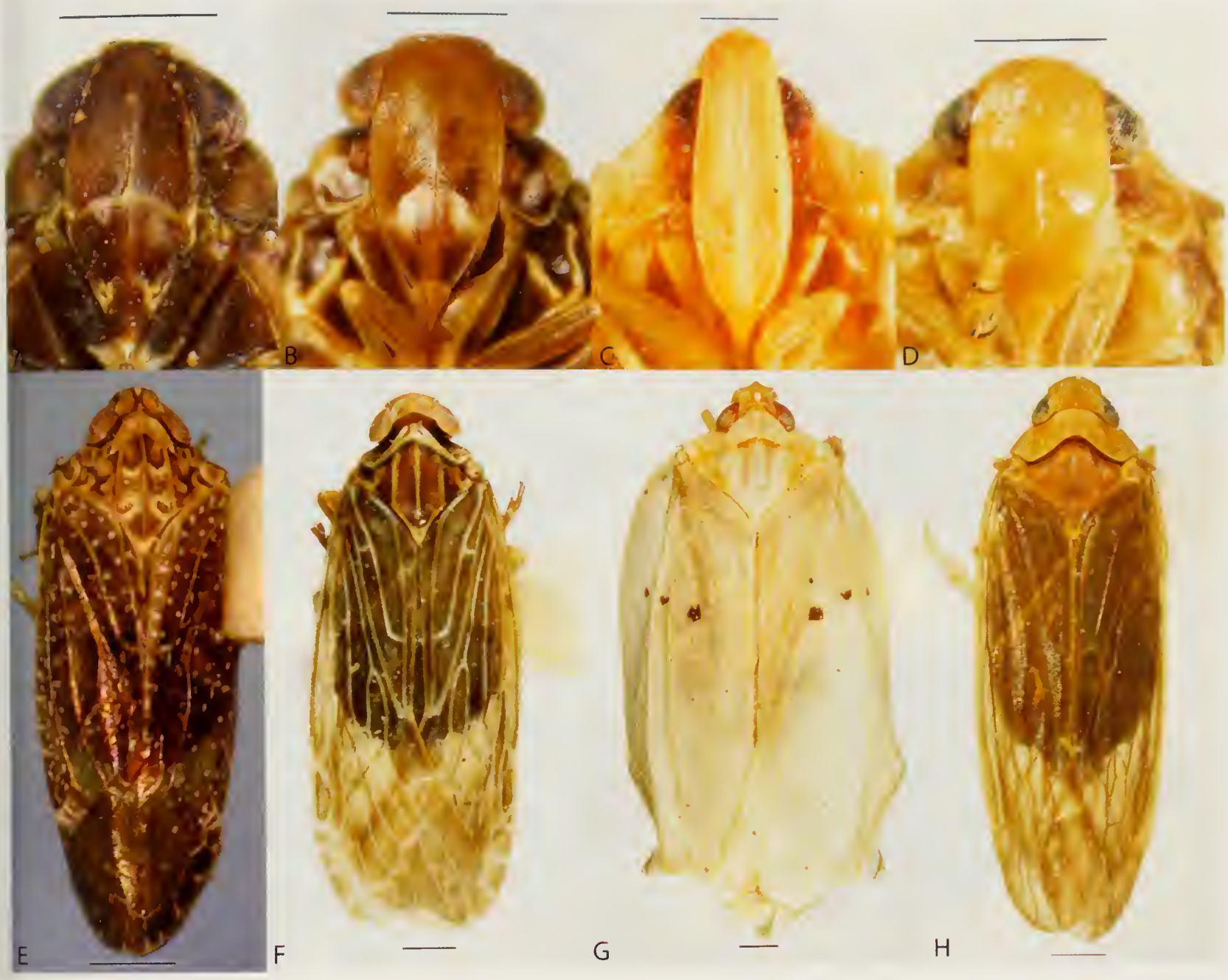


Figure 12. Views of Achilidae, A–D frons, E–H dorsal view (scale = 0.5 mm). **A, E**. *Opsiplanon huellus*; **B, F**. *Synecdoche nervata*; **C, G**. *Uniptera ampliata*; **D, H**. *Xerbus brunnellus*.

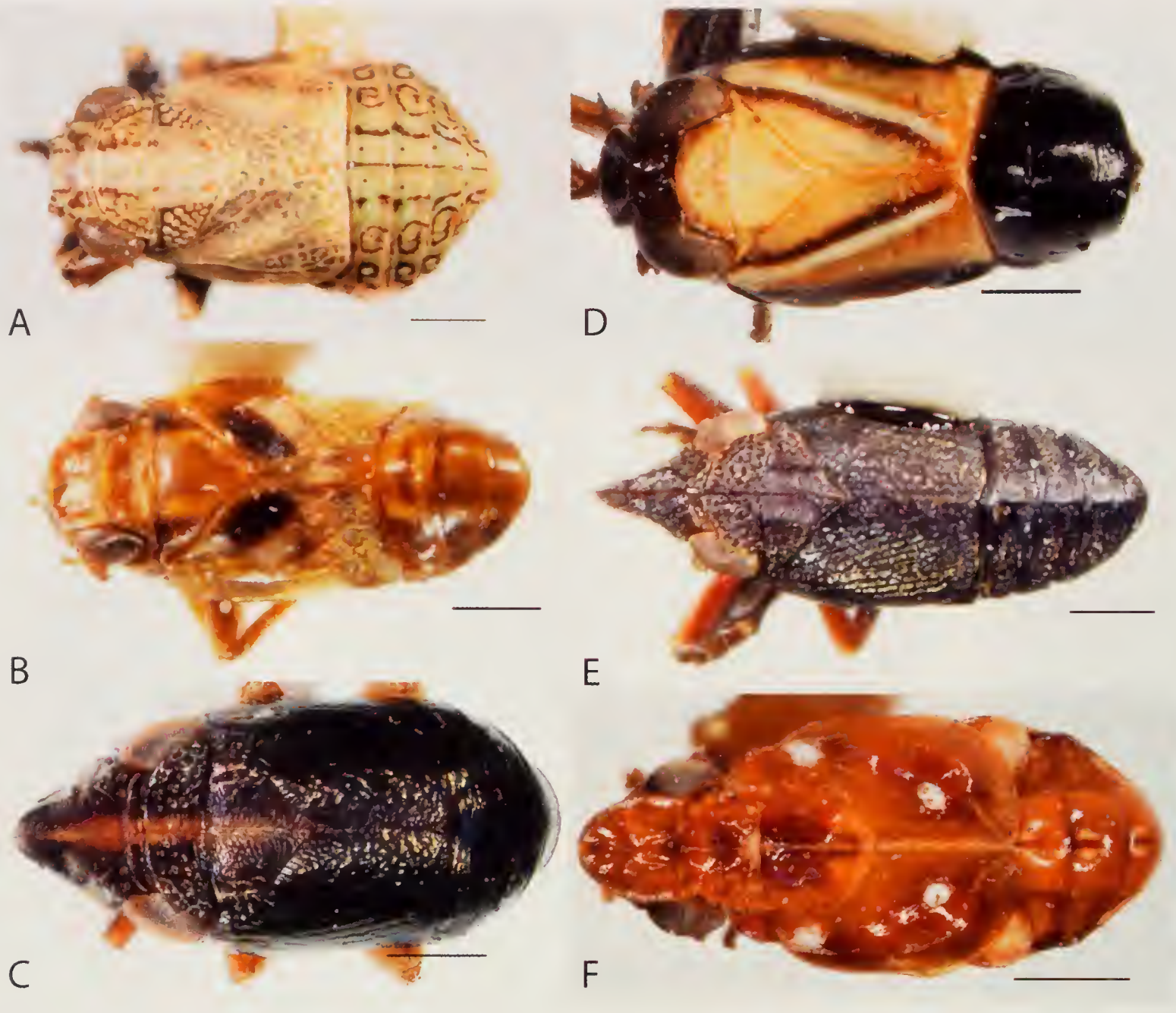


Figure 13. Dorsal habitus of Caliscelidae (scale = 0.5 mm). **A**. *Aphelonema rugosa;* **B**. *Asarcopus palmarum* (male); **C**. *Bruchomorpha oculata;* **D**. *Caliscelis bonellii* (male); **E.** *Fitchiella rufipes,* **F**. *Papagona succinea*.

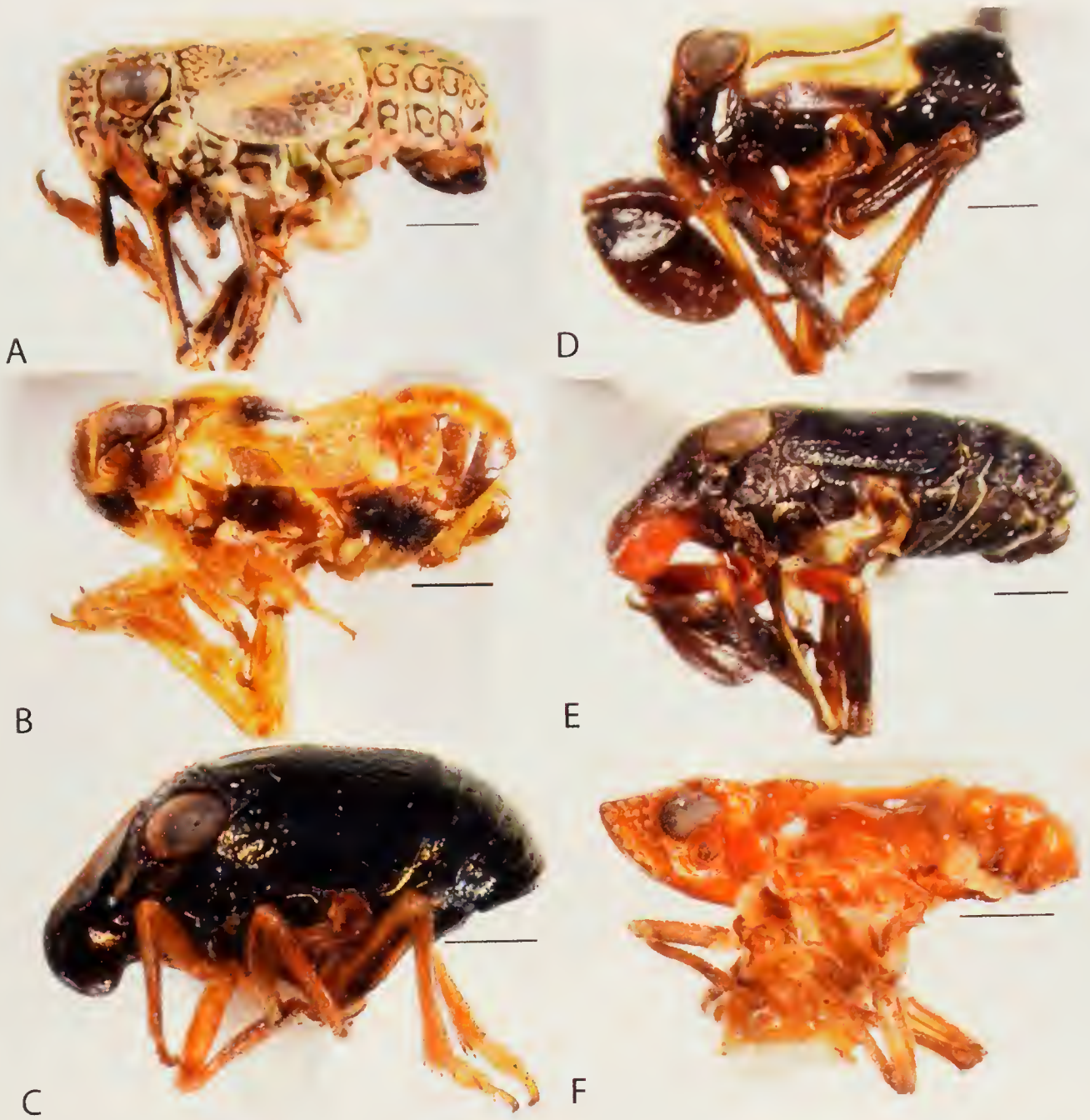


Figure 14. Lateral views of Caliscelidae (scale = 0.5 mm). **A**. *Aphelonema rugosa*; **B**. *Asarcopus palmarum* (male); **C**. *Bruchomorpha oculata*; **D**. *Caliscelis bonellii* (male); **E**. *Fitchiella rufipes*; **F**. *Papagona succinea*.

Figure 15. Frons of Caliscelidae (scale = 0.5 mm). **A**. *Aphelonema rugosa*; **B**. *Asarcopus paluarum;* **C**. *Bruchomorpha oculata;* **D**. *Caliscelis bonellii;* **E**. *Fitchiella rufipes;* **F**. *Papagona succinea.*

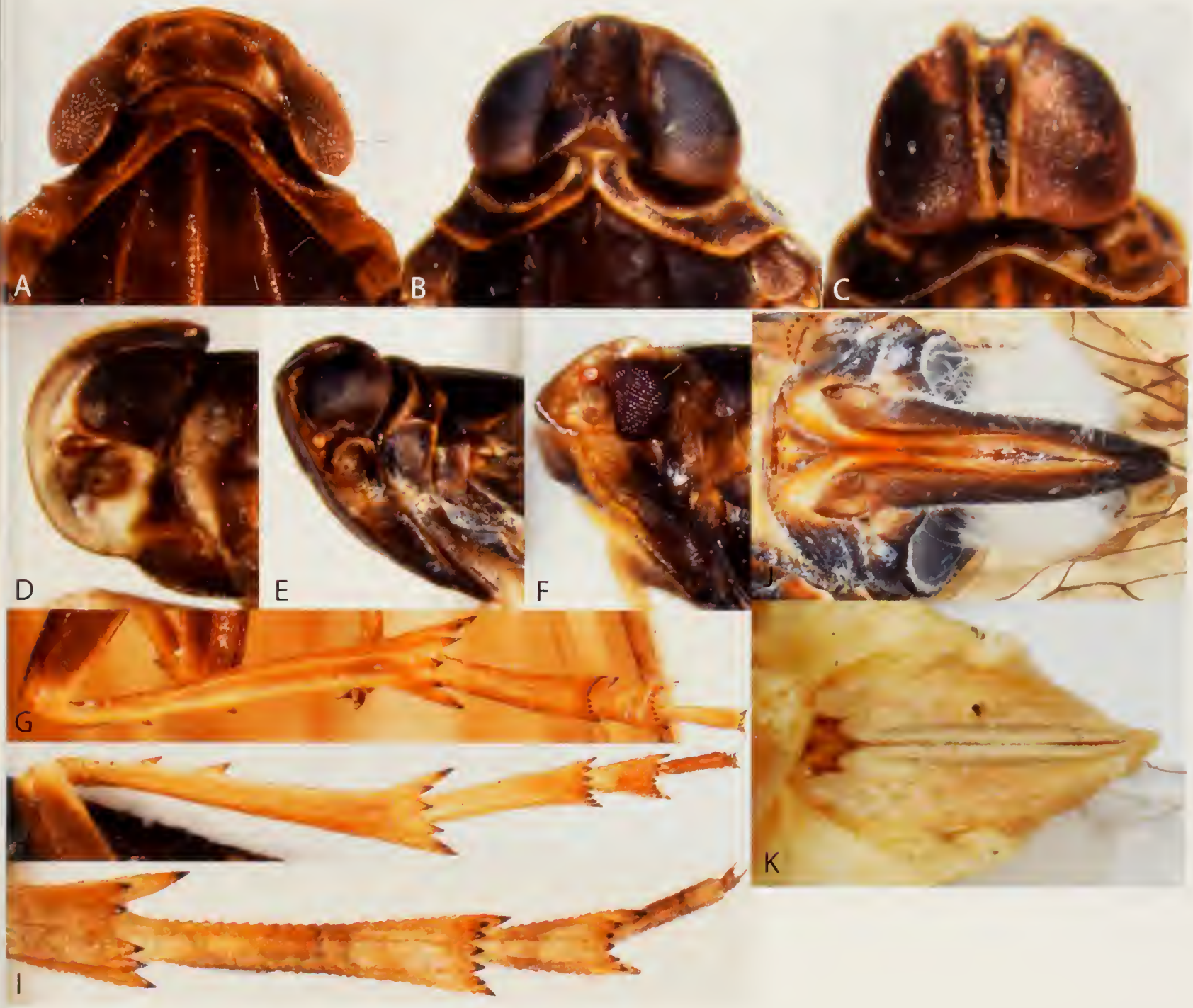


Figure 16. Features of Cixiidae. **A**. Head and anterior thorax of *Cixius pini*; **B**. Head and anterior thorax of *Melanoliarus placitus*; **C**. Head and anterior thorax of *Oecleus* sp.; **D**. Lateral view of head of *Nymphocixia unipunctata*; **E**. Lateral view of head of *Melanoliarus placitus*; **F**. Lateral view of head of *Bothriocera cognita*; **G**. Leg of *Pentastiridius cinnamomeus*; **H**. Leg of *Reptalus exoptatus*; **I**. Tarsus of *Melanoliarus placitus*; **J**. Ovipositor of *Melormenis* sp.; **J**. Ovipositor of *Haplaxius ovatus*.

Figure 17. Frons and dorsal habitus of Cixiidae, A–E frons, F–J dorsal habitus (scale = 0.5 mm). **A. F.** *Asotocixius diopter* (paratype); **B. G.** *Bothriocera cognita*; **C. H.** *Cixius pini*; **D, I.** *Haplaxius radicis*; **E, J.** *Melanoliarus placitus*.

Figure 18. Frons and dorsal habitus of Cixiidae, A–E frons, F–J dorsal habitus (scale = 0.5 mm). **A. F.** *Microledrida olor;* **B. G.** *Monorachis sordulentus;* **C. H.** *Nymphocixia unipunctata;* **D, I.** *Oecleus* sp.; **E, J.** *Oliaronus tontonus.*

Figure 19. Frons and dorsal habitus of Cixiidae, A–E frons, F–J dorsal habitus (scale = 0.5 mm). **A. F.** *Pentastiridius cinnamomeus;* **B. G.** *Pintalia vibex;* **C. H.** *Platycixius calvus;* **D, I.** *Reptalus exoptatus;* **E, J.** *Stegocixius lochites* (holotype).

Figure 20. Lateral habitus of Cixiidae (scale = 0.5 mm). **A**. *Asotocixius diopter;* **B**. *Bothriocera cognita;* **C**. *Cixius pini;* **D**. *Haplaxius radicis;* **E**. *Melanoliarus placitus;* **F**. *Microledrida olor;* **G**. *Monorachis sordulentus;* **H**. *Nymphocixia unipunctata.*

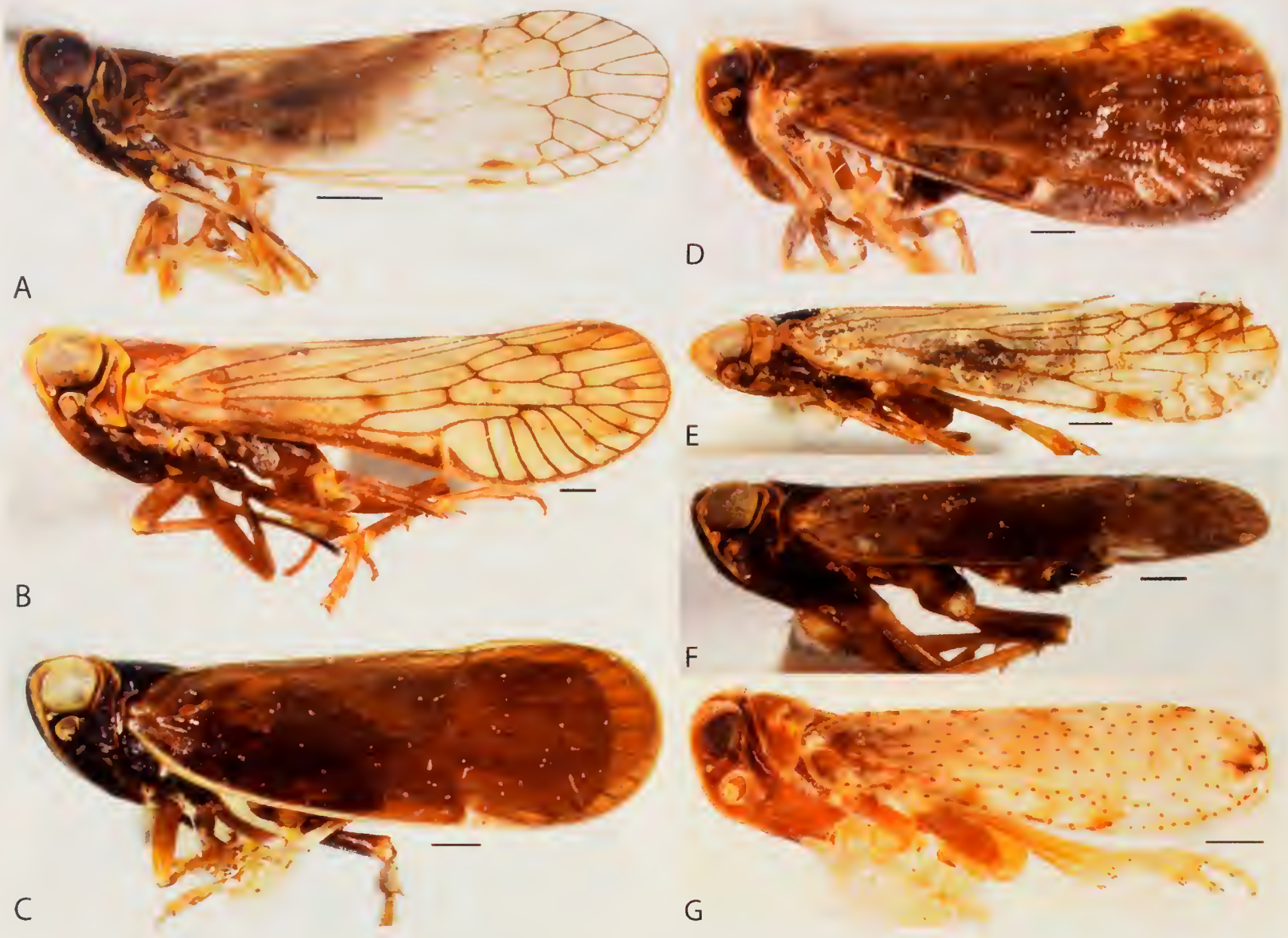


Figure 21. Lateral habitus of Cixiidae (scale = 0.5 mm). **A**. *Oecleus* sp.; **B**. *Oliaronus tontonus*; **C**. *Pentastiridius cinnamomeus*; **D**. *Pintalia vibex*; **E**. *Platycixius calvus*; **F**. *Reptalus exoptatus*; **G**. *Stegocixius lochites*.

Figure 22. Post tibial spurs (calcars) of Delphacidae (scale = 0.2 mm). **A.** *Copicerus irroratus;* **B**. *Kelisia curvata;* **C**. *Stenocranus brunneus;* **D**. *Saccharosydne saccharivora;* **E**. *Liburniella ornata;* **F**. *Delphacodes recurvata;* **G**. *Megamelus davisi;* **H**. *Nilaparvata* showing teeth on basitarsus.

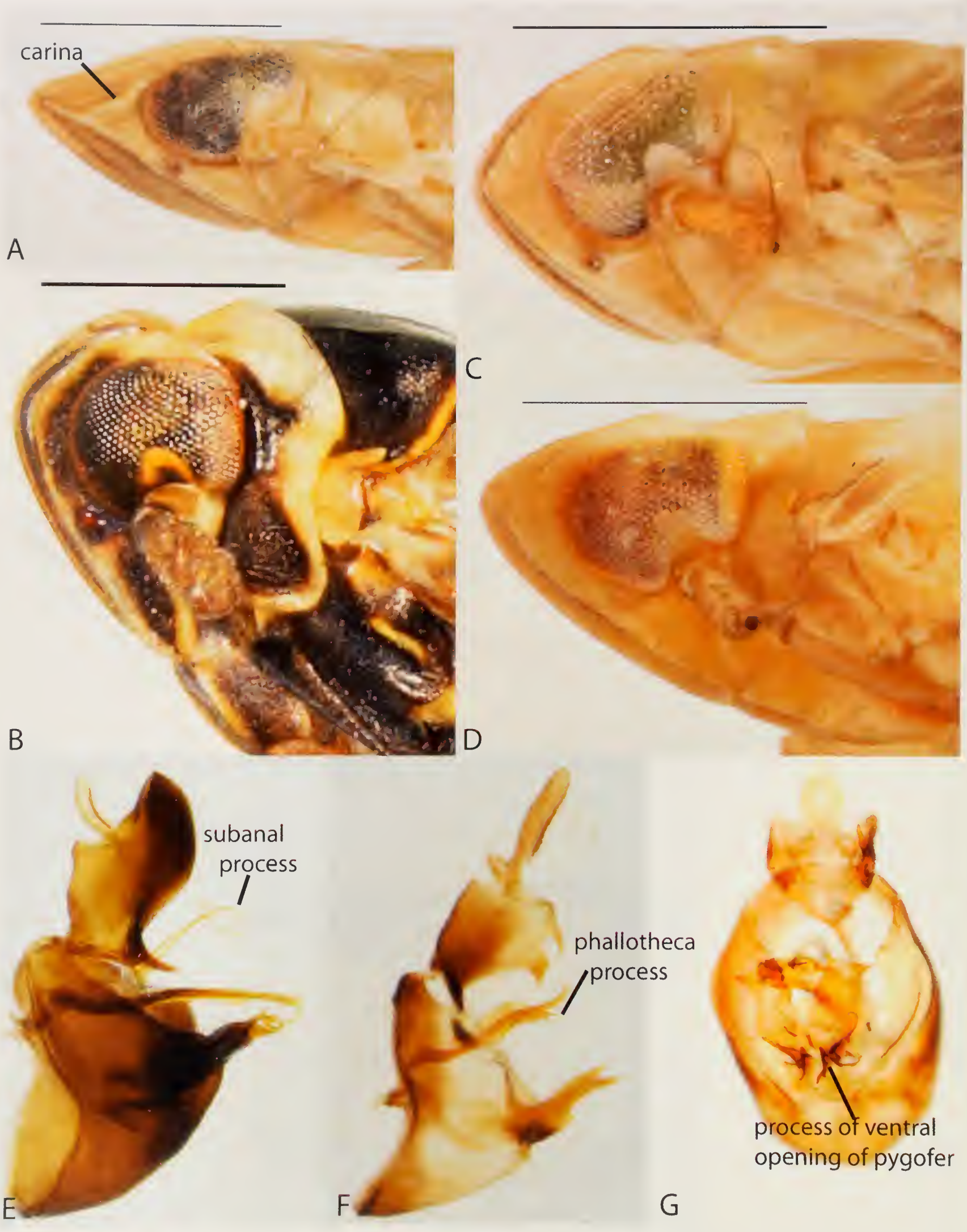


Figure 23. Select features of delphacid genera (scale = 0.5 mm). **A.** Head of *Neomegamelanus elongatus* lateral view (showing characteristic carina for genus); **B.** Head of *Javesella pellucida* lateral view; **C.** Head of *Prokelisia dolus* lateral view; **D.** Head of *Tumidagena minuta* lateral view; **E.** Terminalia of *Kelisia spinata*, lateral view, showing subanal process of Kelisiinae; **F.** Terminalia of *Obtusicranus bifidus* Bartlett, 2010, lateral view, showing processes of the phallotheca characteristic of Stenocraninae; **G.** Terminalia of *Perkinsiella saccharicida*, semicaudal view, illustrating processes on ventral margin of pygofer.

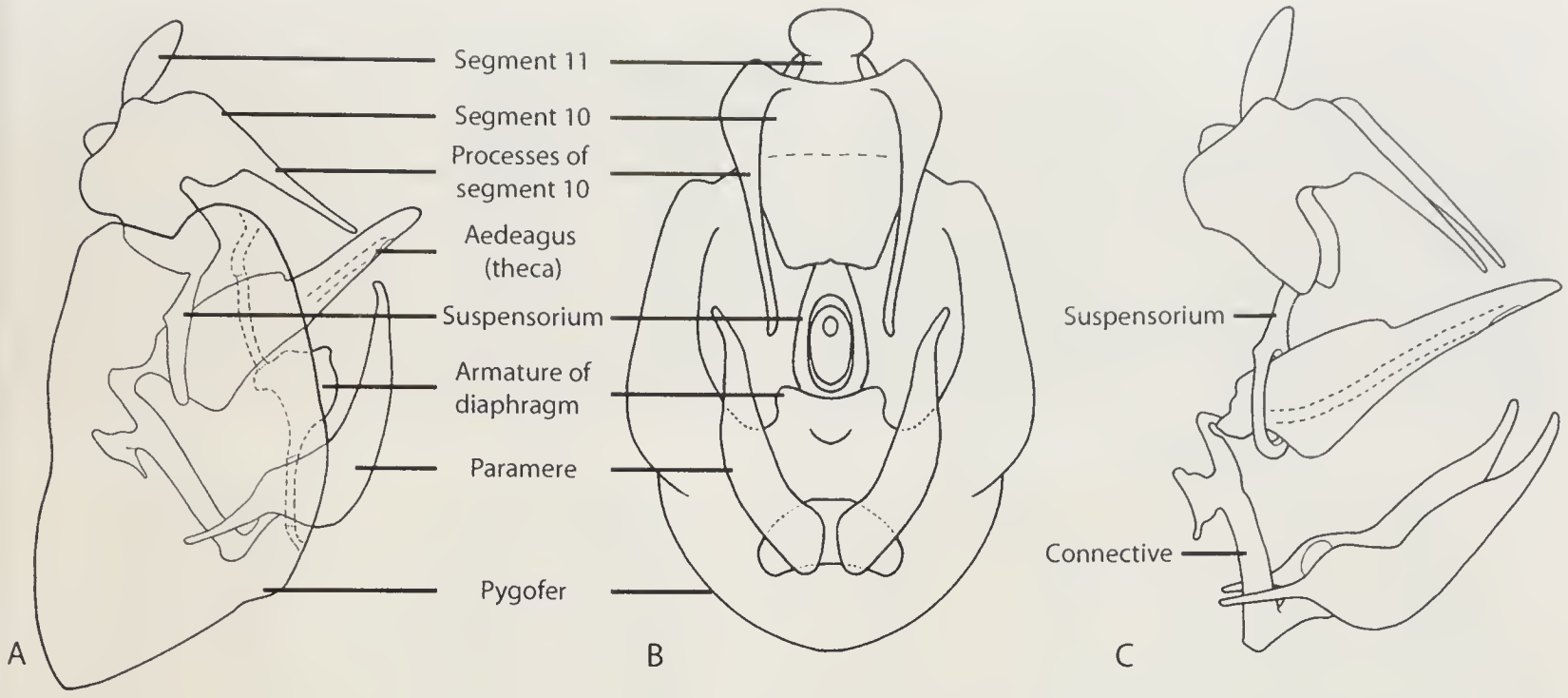


Figure 24. Features of male terminalia of Delphacidae, semi-diagrammatic based on *Nothodelphax slossonae*. **A.** Terminalia left lateral view; **B.** Terminalia caudal view; **C.** Aedeagal complex, including segments 10 and 11, left lateral view.

Figure 25. Views of Delphacidae, A–D frons, E–H dorsal view (scale = 0.5 mm). **A, E.** *Copicerus irroratus* (Asiracinae: Asiracini); **B, F.** *Pentagramma vittatifrons* (Asiracinae: Idiosystanini); **C, G.** *Kelisia spinosa;* **D, H.** *Kelisia vesiculata* (Kelisiinae).

Figure 26. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Kelisicranus arundiniphagus* (Stenocraninae); **B, G.** *Obtusicranus bicarinus* (Stenocraninae); **C, H.** *Stenocranus lautus* (Stenocraninae); **D, I.** *Stenocranus similis* (Stenocraninae); **E, J.** *Saccharosydne saccharivora* (Delphacinae: Saccharosydnini).

Figure 27. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Achorotile stylata*; **B, G.** *Aethodelphax prairianus*; **C, H.** *Akemetopon inornatum*; **D, I.** *Bakerella cornigera*; **E.** *Bostaera nasuta*; **J.** *Bostaera balli*.

Figure 28. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Caenodelphax teapae*; **B, G.** *Chionomus havanae* (holotype); **C, H.** *Conomelus anceps*; **D, I.** *Criomorphus inconspicuous*; **E, J.** *Delphacodes acuministyla*.

Figure 29. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Delphacodes andromeda*; **B, G.** *Delphacodes detecta*; **C, H.** *Delphacodes nigripennata*; **D, I.** *Delphacodes nitens*; **E, J.** *Delphacodes puella*.

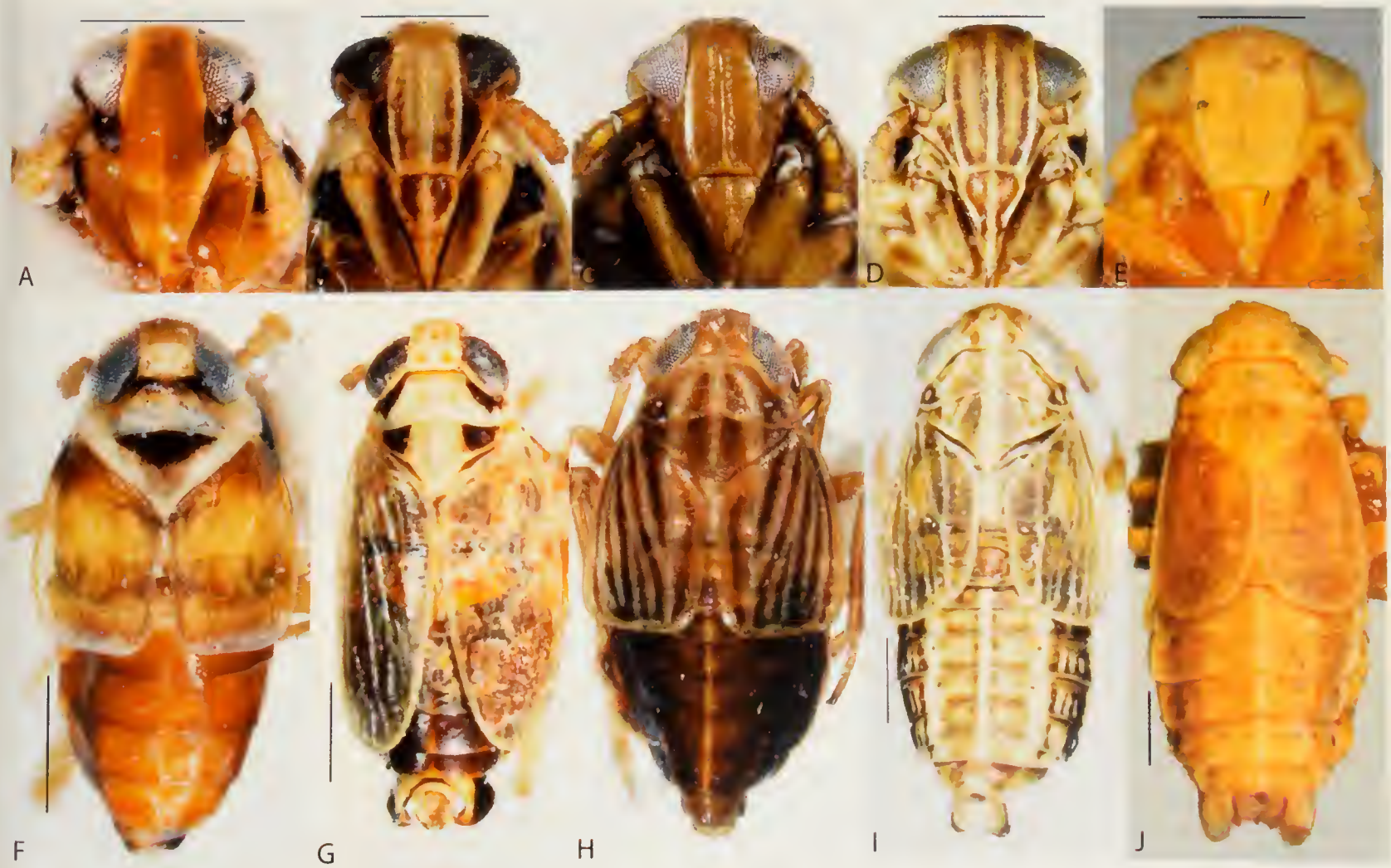


Figure 30. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Delphacodes trimaculata*; **B, G.** *Elachodelphax bifida*; **C, H.** *Euides fasciatella*; **D, I.** *Eurybregma magnifrons*; **E, J.** *Eurysa kormusi*.

Figure 31. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Falcotoya sagae;* **B, G.** *Harmalia anacharsis;* **C, H.** *Isodelphax basivitta;* **D, I.** *Javesella pellucida;* **E, J.** *Kelisoidea versa* (paratype).

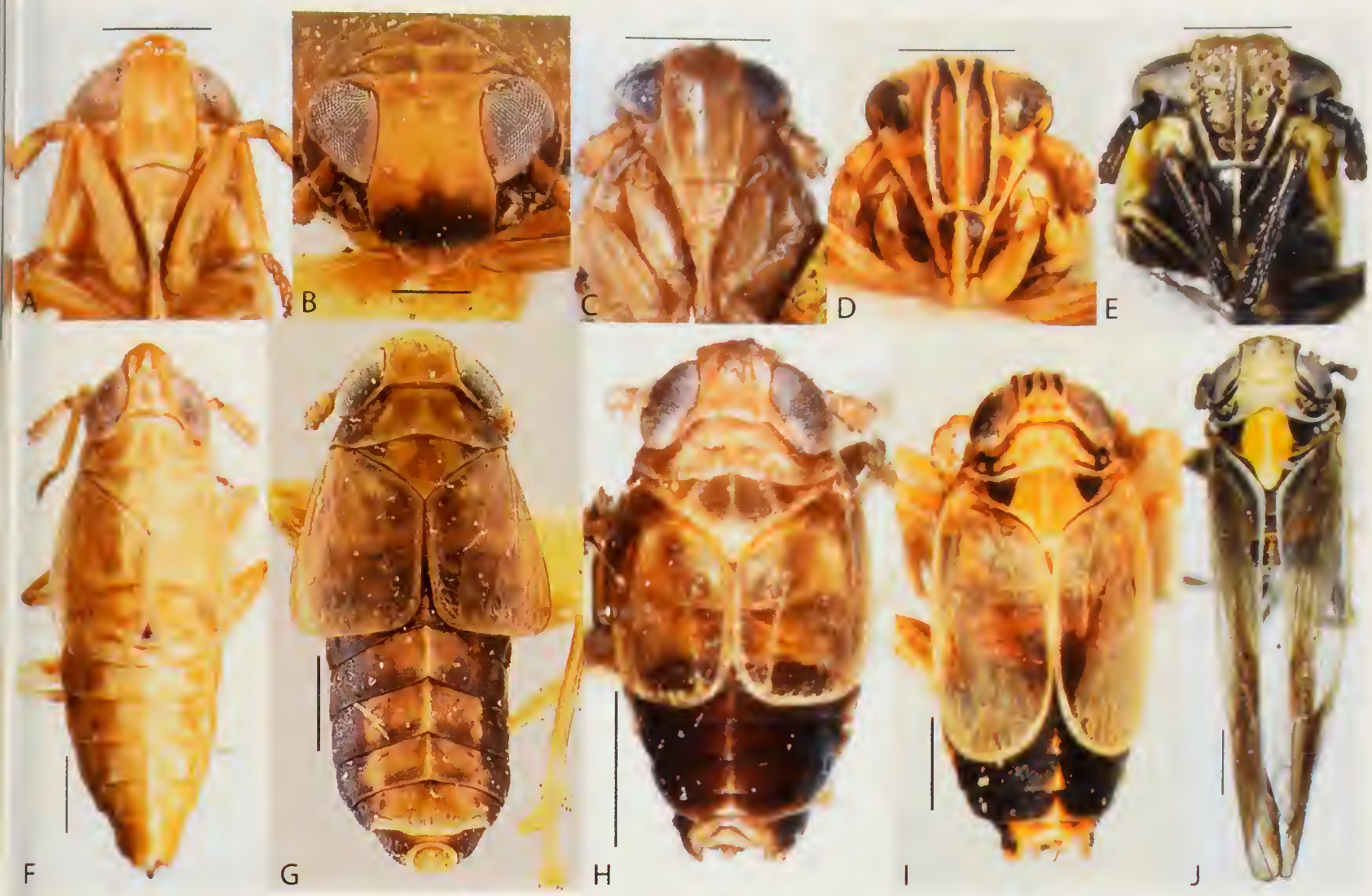


Figure 32. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Keyflana hasta*; **B, G.** *Kormus californicus* (holotype, photo courtesy CASC); **C, H.** *Kosswigianella analis*; **D, I.** *Kusnezoviella macleani*; **E, J.** *Lacocera vittipennis*.

Figure 33. Views of delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Laccocera oregonensis*; **B, G.** *Liburniella ornata*; **C, H.** *Macrotomella carinata*; **D, I.** *Megadelphax bidentatus* (photos courtesy A. Hamilton, CNCI); **E, J.** *Megamelanus bicolor.*

Figure 34. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Megamelus distinctus;* **B, G.** *Meristopsis rhamphis;* **C, H.** *Metadelphax propinqua;* **D, I.** *Muellerianella guaduae;* **E, J.** *Muellerianella lanuginalis.*

Figure 35. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Muirodelphax arvensis*; **B, G.** *Neomegamelanus elongatus*; **C, H.** *Nilaparvata wolcotti*; **D, I.** *Nothodelphax consimilis*; **E, J.** *Nothodelphax occlusa.*

Figure 36. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Paradelphacodes litoralis* (photos courtesy A. Hamilton, CNCI); **B, G.** *Paraliburnia kilmani*; **C, H.** *Pareuidella spatulata*; **D, I.** *Parkana alata;* **E, J.** *Peuepissonotus bicolor.*

Figure 37. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Peregrinus maidis;* **B, G.** *Perkinsiella saccharicida;* **C, H.** *Pluctopyga occidentalis;* **D, I.** *Phyllodiuus uervatus;* **E, J.** *Pissouotus delicatus.*

Figure 38. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Prokelisia crocea*; **B, G.** *Prokelisia marginata*; **C, H.** *Pygospina spinata*; **D, I.** *Ribautodelphax albostriata*; **E, J.** *Rotundifronta lutea.*

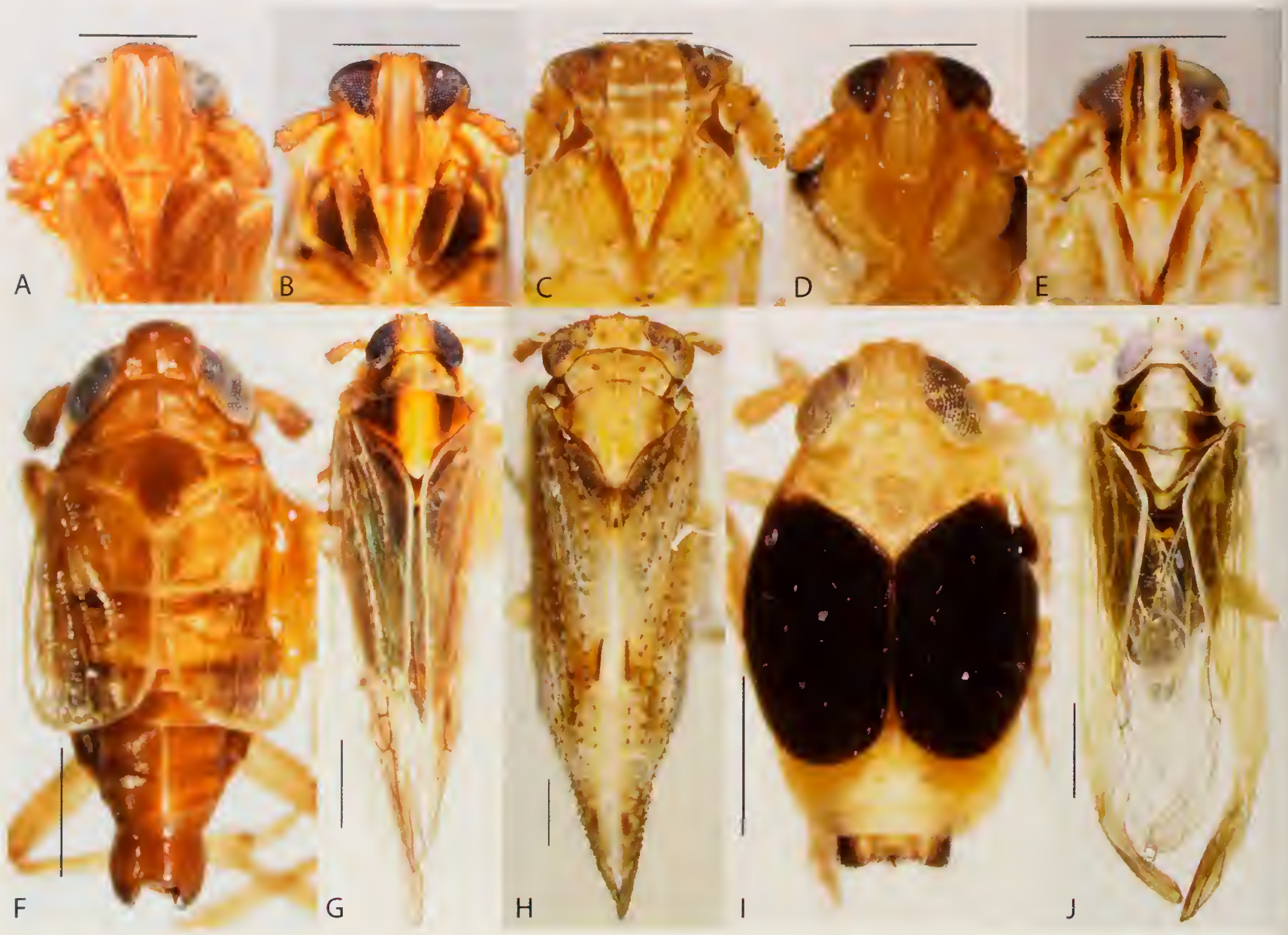


Figure 39. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Scolopygos pallida*; **B, G.** *Sogatella kolophon*; **C, H.** *Stobaera pallida*; **D, I.** *Syndelphax fulvidorsum*; **E, J.** *Tagosodes cubanus*.

Figure 40. Views of Delphacidae, A–E frons, F–J dorsal view (scale = 0.5 mm). **A, F.** *Tagosodes orizicolus*; **B, G.** *Toya idonea*; **C, H.** *Tumidagena minuta*; **D, I.** *Unkanodes excisa*; **E, J.** *Yukonodelphax stramineosa*.

Figure 41. Lateral views of Delphacidae (scale = 0.5 mm). **A.** *Copicerus irroratus* (Asiracinae; Asiracini); **B.** *Pentagramma vittatifrons* (Asiracinae; Idiosystanini); **C.** *Kelisia spinosa* (Kelisiinae); **D.** *Kelisia vesticulata* (Kelisiinae); **E.** *Kelisicranus arundiniphagus* (Stenocraninae); **F.** *Obtusicranus bicarinus* (Stenocraninae); **G.** *Stenocranus lautus* (Stenocraninae); **H.** *Stenocranus similis* (Stenocraninae); **I.** *Saccharosydne saccharivora* (Delphacinae: Saccharosydnini); **J.** *Achorotile stylata* (Delphacinae: Delphacini).

Figure 42. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Aethodelphax prairianus;* **B.** *Akemetopon inornatum;* **C.** *Bakerella cornigera;* **D.** *Bostaera nasuta;* **E.** *Caenodelphax teapae;* **F.** *Chiononus havanae;* **G.** *Conomelus anceps;* **H.** *Criomorphus inconspicuus;* **I.** *Delphacodes acuministyla;* **J.** *Delphacodes andromeda.*

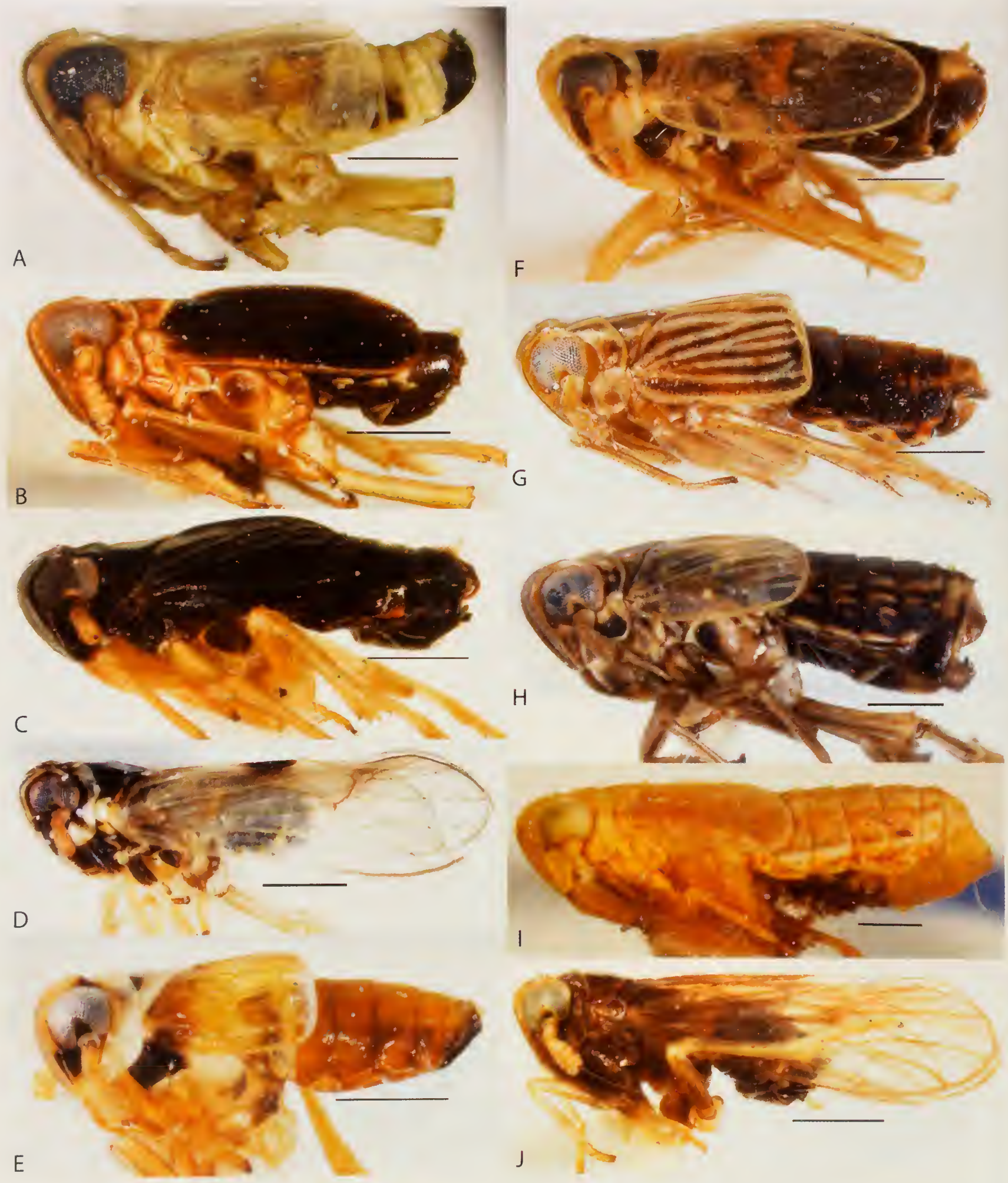


Figure 43. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Delphacodes detecta;* **B.** *Delphacodes nigripennata;* **C.** *Delphacodes niteus;* **D.** *Delphacodes puella;* **E.** *Delphacodes trimaculata;* **F.** *Elachodelphax bifida;* **G.** *Euides fasciatella;* **H.** *Eurybregma magnifrons;* **I.** *Eurysa kormusi;* **J.** *Falcotoya sagae.*

Figure 44. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Harmalia anacharsis;* **B.** *Isodelphax basivitta;* **C.** *Javesella pellucida;* **D.** *Kelisoidea versa* (paratype); **E.** *Keyflana hasta;* **F.** *Kormus californicus* (holotype, courtesy Norm Penny, CASC); **G.** *Kosswigianella analis;* **H.** *Kusnezoviella macleani;* **I.** *Laccocera oregonensis;* **J.** *Laccocera vittipennis.*

Figure 45. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Liburniella ornata;* **B.** *Macrotonella carinata;* **C.** *Megadelphax bidentatus* (photo courtesy A. Hamilton, CNCI); **D.** *Megamelanus bicolor;* **E.** *Megamelus distinctus;* **F.** *Megamelus flavus;* **G.** *Meristopsis rhamphis;* **H.** *Metadelphax propinqua;* **I.** *Muellerianella guaduae;* **J.** *Muellerianella laminalis.*

Figure 46. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Muirodelphax arvensis;* **B.** *Neomegamelanus elongatus;* **C.** *Nilaparvata wolcotti;* **D.** *Nothodelphax consimilis;* **E.** *Nothodelphax occlusa;* **F.** *Paradelphacodes litoralis* (photo courtesy A. Hamilton, CNCI); **G.** *Paraliburnia kilmani;* **H.** *Pareuidella spatulata;* **I.** *Parkana alata;* **J.** *Penepissonotus bicolor.*

Figure 47. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Peregrinus maidis;* **B.** *Perkinsiella saccharicida;* **C.** *Phrictopyga occidentalis;* **D.** *Phyllodinus nervatus;* **E.** *Pissonotus delicatus;* **F.** *Prokelisia crocea;* **G.** *Prokelisia marginata;* **H.** *Pygospina spinata;* **I.** *Ribautodelphax albostriata;* **J.** *Rotundifrons lutea.*

Figure 48. Lateral views of Delphacidae (Delphacinae: Delphacini) (scale = 0.5 mm). **A.** *Scolopygos pallida;* **B.** *Sogatella kolophon;* **C.** *Stobaera pallida;* **D.** *Syndelphax fulvidorsum;* **E.** *Tagosodes cubanus;* **F.** *Tagosodes orizicolus;* **G.** *Toya idonea;* **H.** *Tumidagena minuta;* **I.** *Unkanodes excisa;* **J.** *Yukonodelphax stramineosa.*

Figure 49. Male delphacid genitalia of Delphacidae, A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Copicerus irroratus* (Asiracinae; Asiracini); **B, G.** *Pentagramma vittatifrons* (Asiracinae; Idiosystanini); **C, H.** *Kelisia flava* (Kelisiinae); **D, I.** *Kelisicranus arundiniphagus* (Stenocraniinae); **E, J.** *Obtusicranus bicarinus* (Stenocraninae).

Figure 50. Male delphacid genitalia of Delphacidae, A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Stenocranus lautus* (Stenocraninae); **B, G.** *Stenocranus similis* (Stenocraninae); **C, H.** *Saccharosydne saccharivora* (Delphacinae: Saccharosydnini); **D, I.** *Achorotile angulata* (paratype, Delphacinae: Delphacini); **E, J.** *Aethodelphax prairianus* (Delphacinae: Delphacini).

Figure 51. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Akemetopon politum;* **B, G.** *Bakerella rotundifrons;* **C, H.** *Bostaera nasuta;* **D, I.** *Caenodelphax teapae;* **E, J.** *Chionomus havanae.*

Figure 52. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Conomelus anceps;* **B, G.** *Criomorphus inconspicuus;* **C, H.** *Delphacodes acuministyla;* **D, I.** *Delphacodes andromeda;* **E, J.** *Delphacodes detecta.*

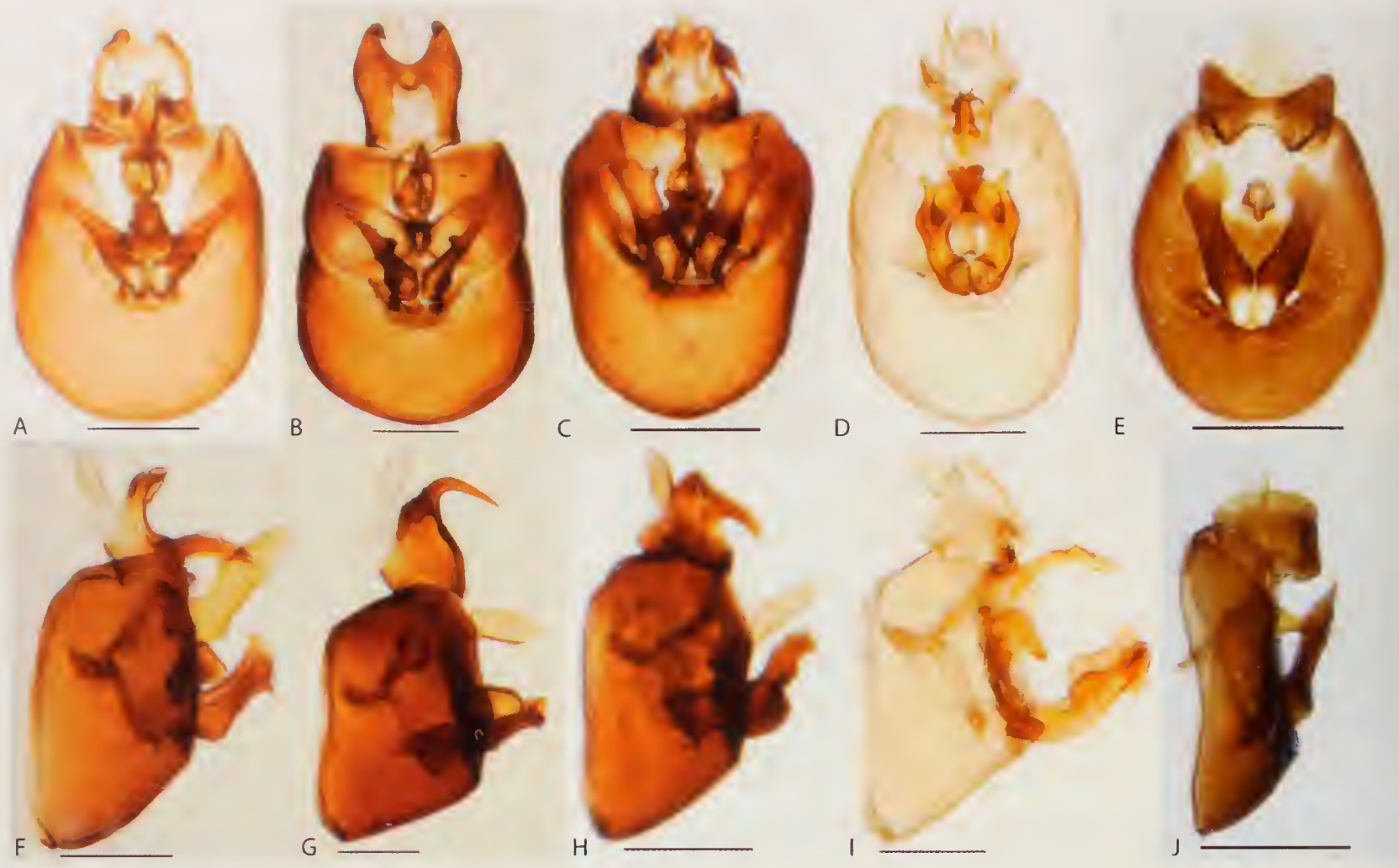


Figure 53. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Delphacodes nigripennata;* **B, G.** *Delphacodes niteus;* **C, H.** *Delphacodes puella;* **D, I.** *Delphacodes recurvata;* **E, J.** *Delphacodes trimaculata.*

Figure 54. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Elachodelphax coloradensis* (paratype); **B, G.** *Euides fasciatella;* **C, H.** *Eurybregma obesa;* **D, I.** *Falcotoya crawfordi;* **E, J.** *Harmalia anacharsis.*

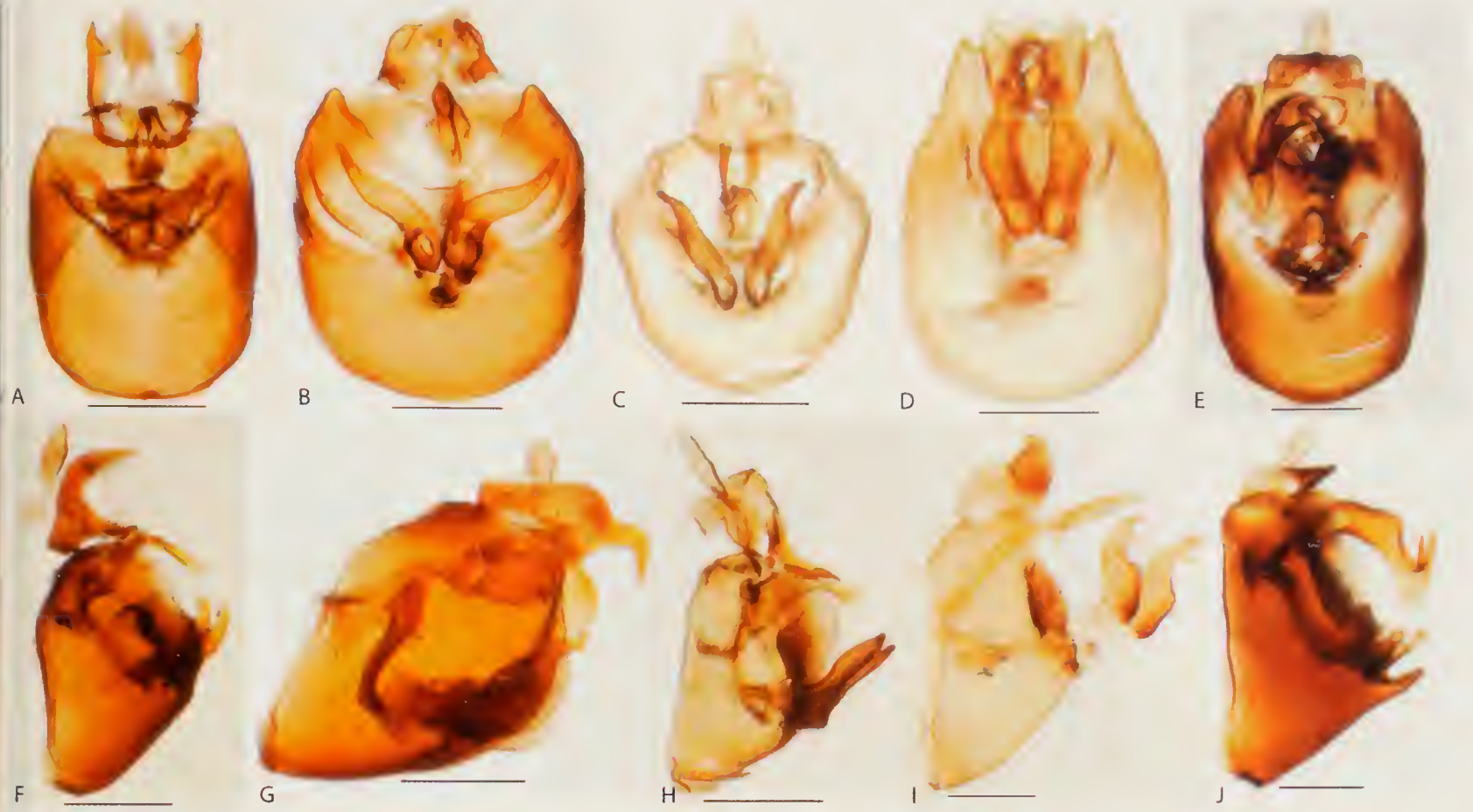


Figure 55. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Isodelphax basivitta;* **B, G.** *Javesella pellucida;* **C, H.** *Kelisoidea versa* (paratype); **D, I.** *Keyflana hasta* (paratype); **E, J.** *Kosswigianella analis.*

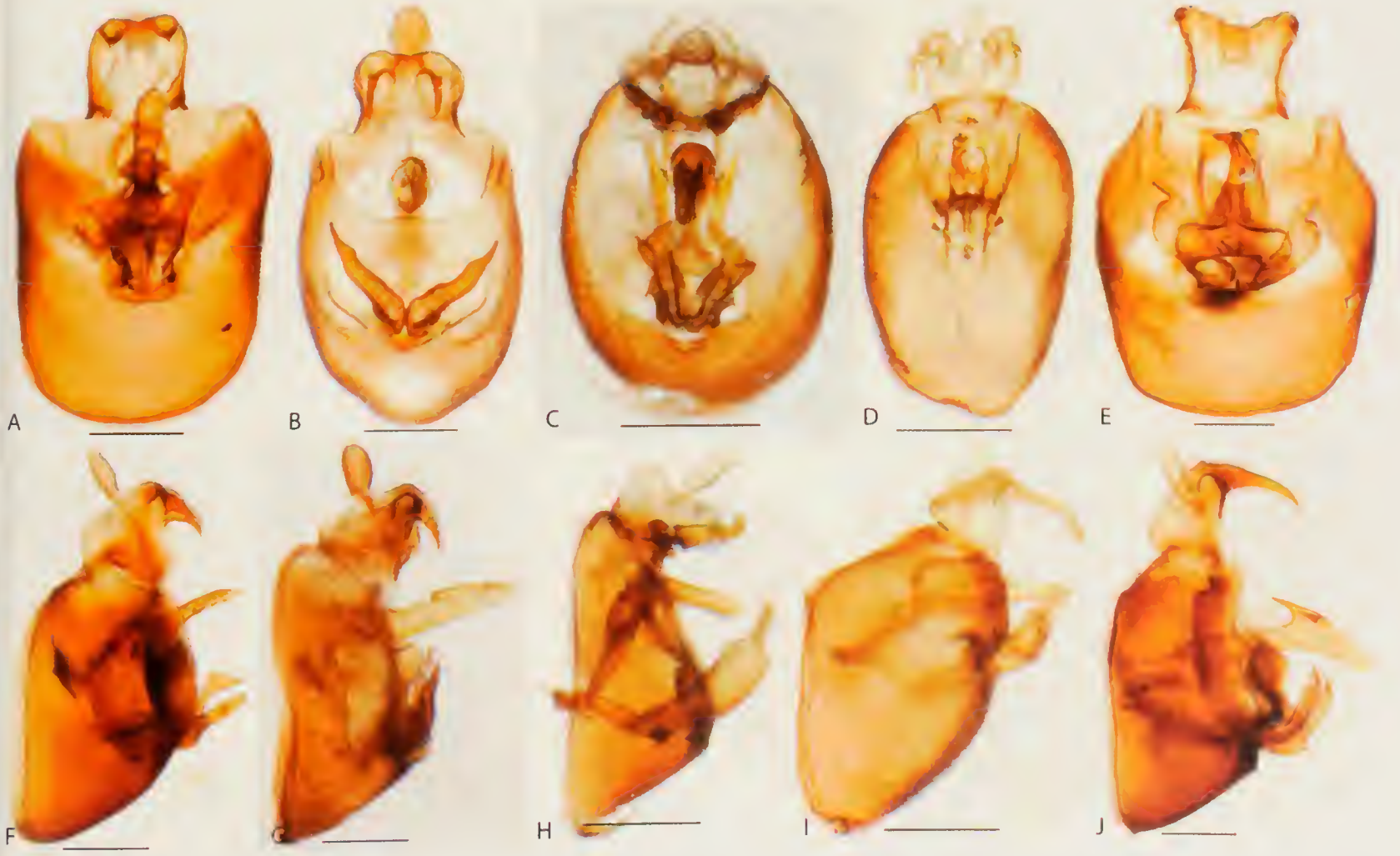


Figure 56. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm).**A, F.** *Kusnezoviella munda;* **B, G.** *Laccocera obesa;* **C, H** *Liburniella ornata;* **D, I.** *Macrotomella carinata;* **E, J.** *Megadelphax bidentatus.*

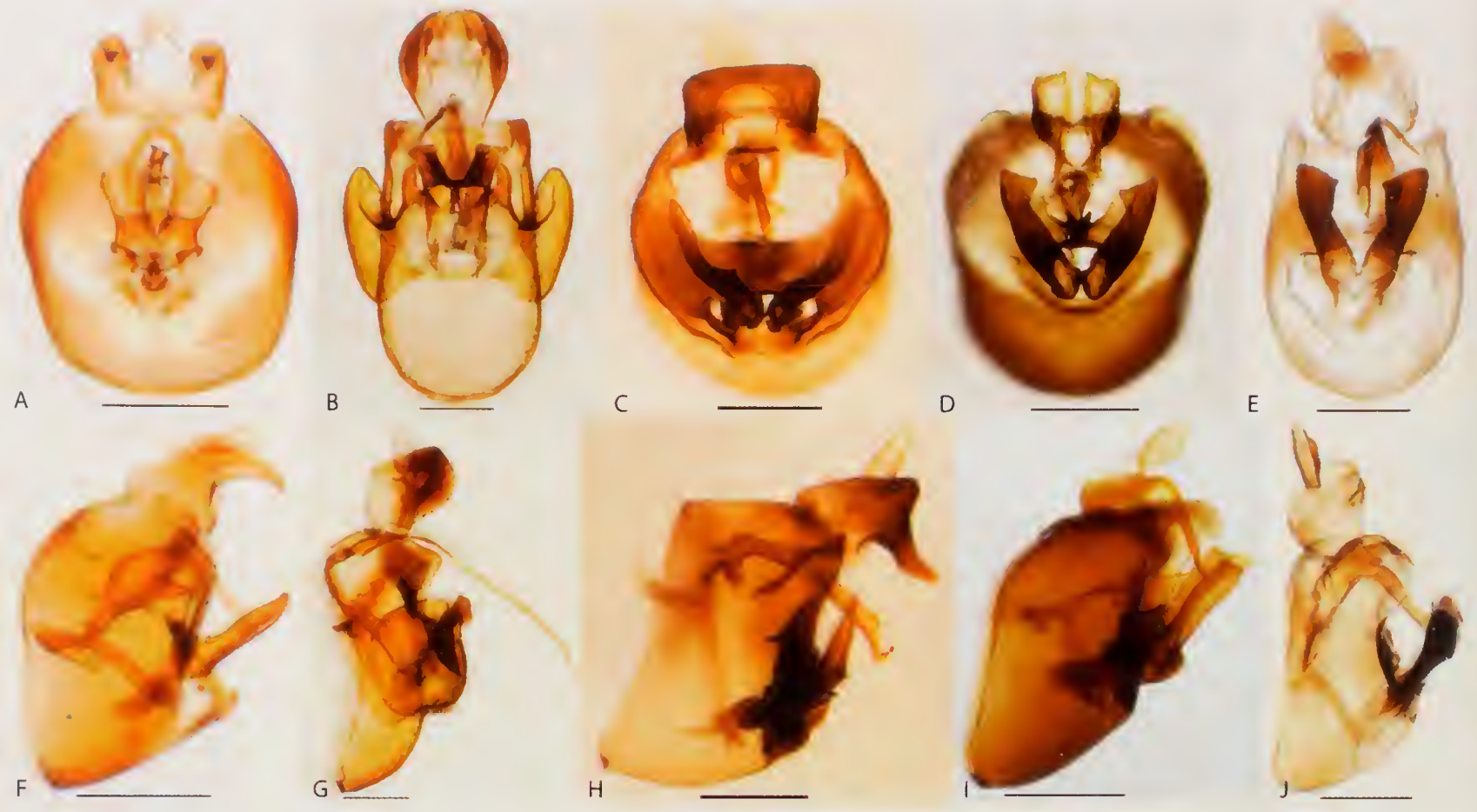


Figure 57. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Megamelanus bicolor;* **B, G.** *Megamelus distinctus;* **C, H.** *Meristopsis rhamphis;* **D, I.** *Metadelphax propinqua;* **E, J.** *Muellerianella guaduae.*

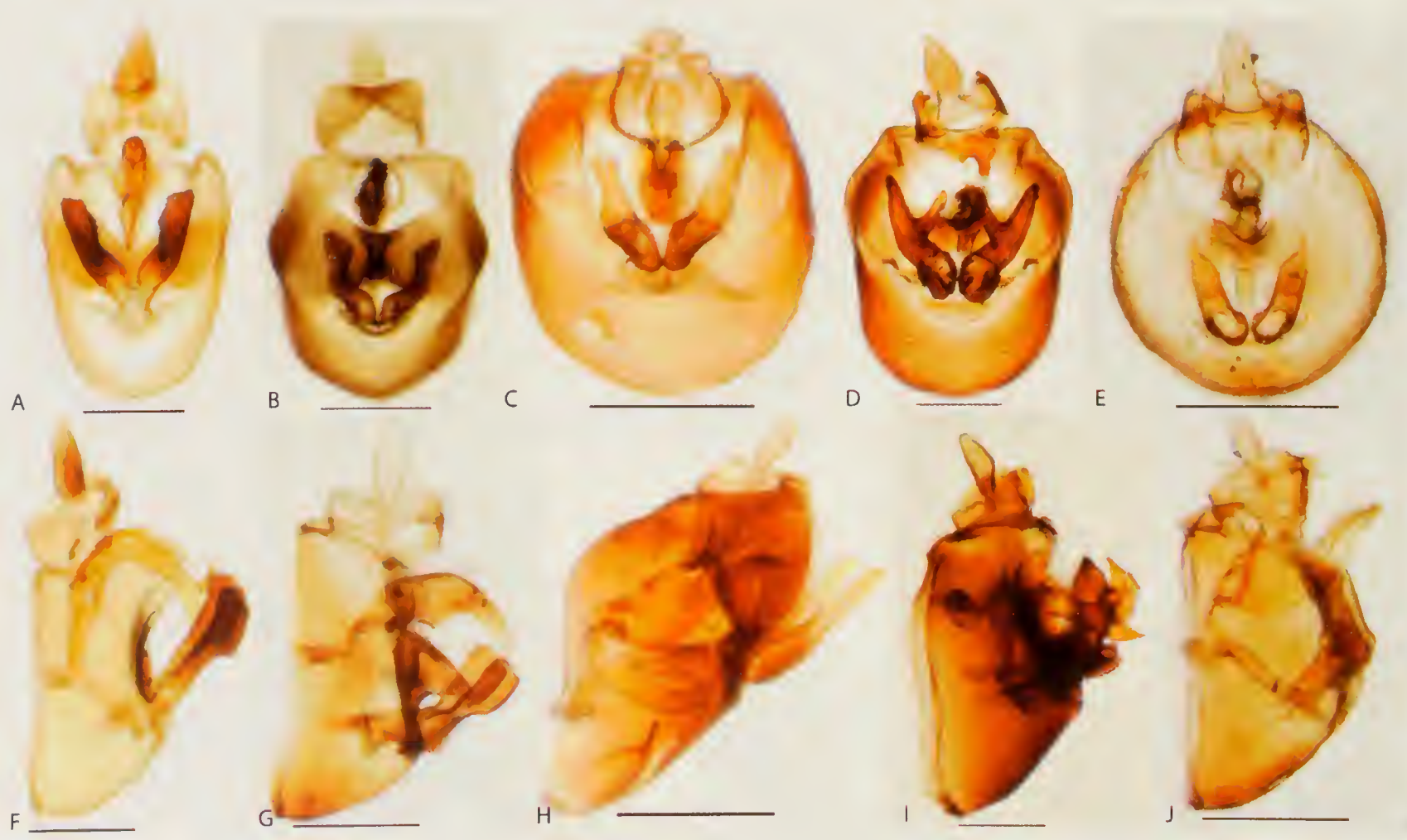


Figure 58. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Muellerianella laminalis;* **B, G.** *Muirodelphax arvensis;* **C, H.** *Neomegamelanus elongatus;* **D, I.** *Nilaparvata wolcotti;* **E, J.** *Nothodelphax consimilis.*

Figure 59. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Paradelphacodes litoralis;* **B, G.** *Paraliburnia kilmani;* **C, H.** *Pareuidella avicephaliforma;* **D, I.** *Parkana alata;* **E, J.** *Penepissonotus bicolor.*

Figure 60. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Peregrinus maidis;* **B, G.** *Perkinsiella saccharicida;* **C, H.** *Phrictopyga occidentalis;* **D, I.** *Phyllodinus nervatus;* **E, J.** *Pissonotus binotatus.*

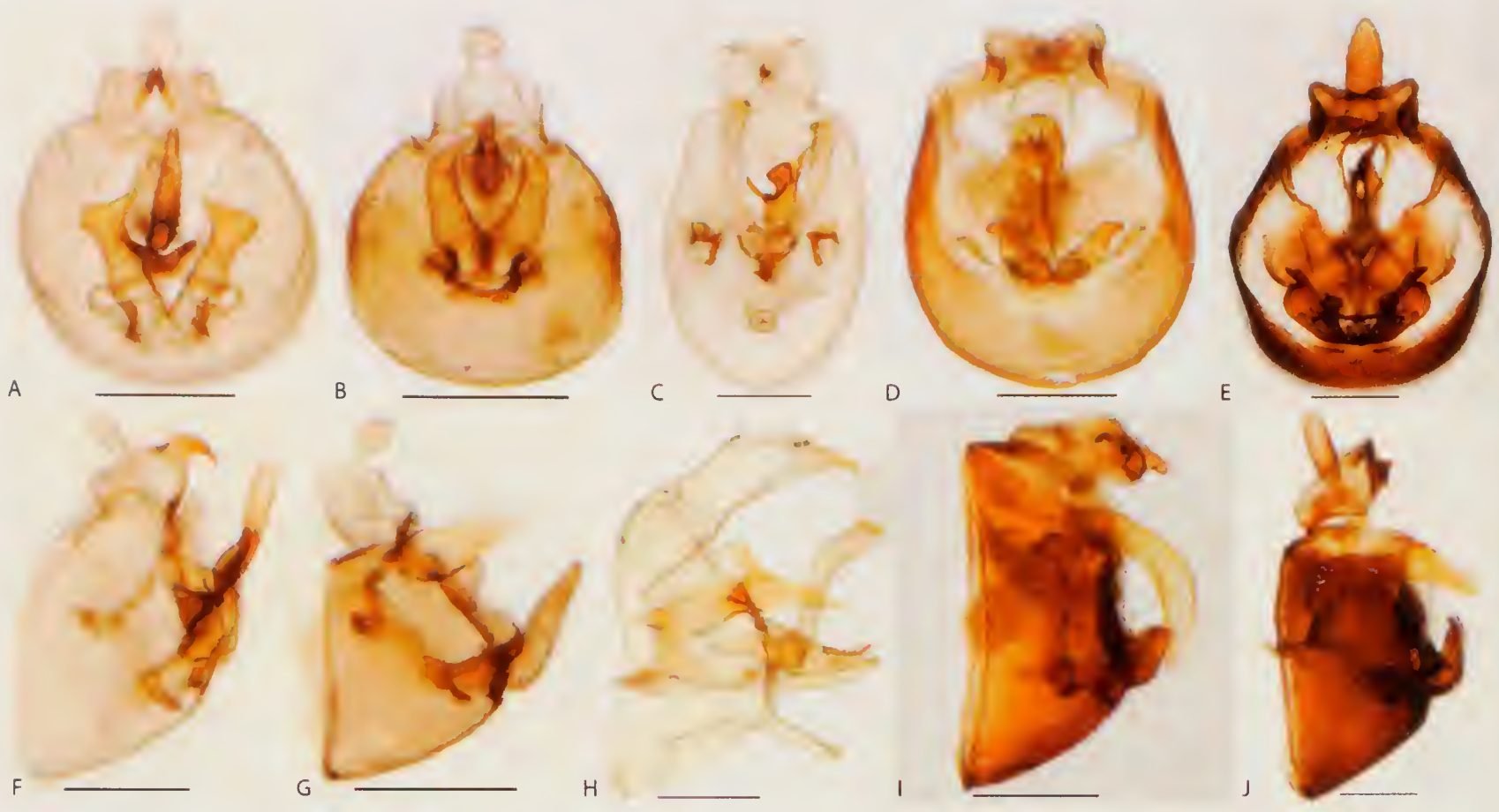


Figure 61. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Prokelisia crocea;* **B, G.** *Prokelisia marginata;* **C, H.** *Pygospina spinata;* **D, I.** *Ribautodelphax albostriata;* **E, J.** *Ribautodelphax pusilla.*

Figure 62. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Sogatella kolophon;* **B, G.** *Stobaera concinna;* **C, H.** *Stobaera tricarinata;* **D, I.** *Syndelphax alexanderi;* **E, J.** *Tagosodes approximatns.*

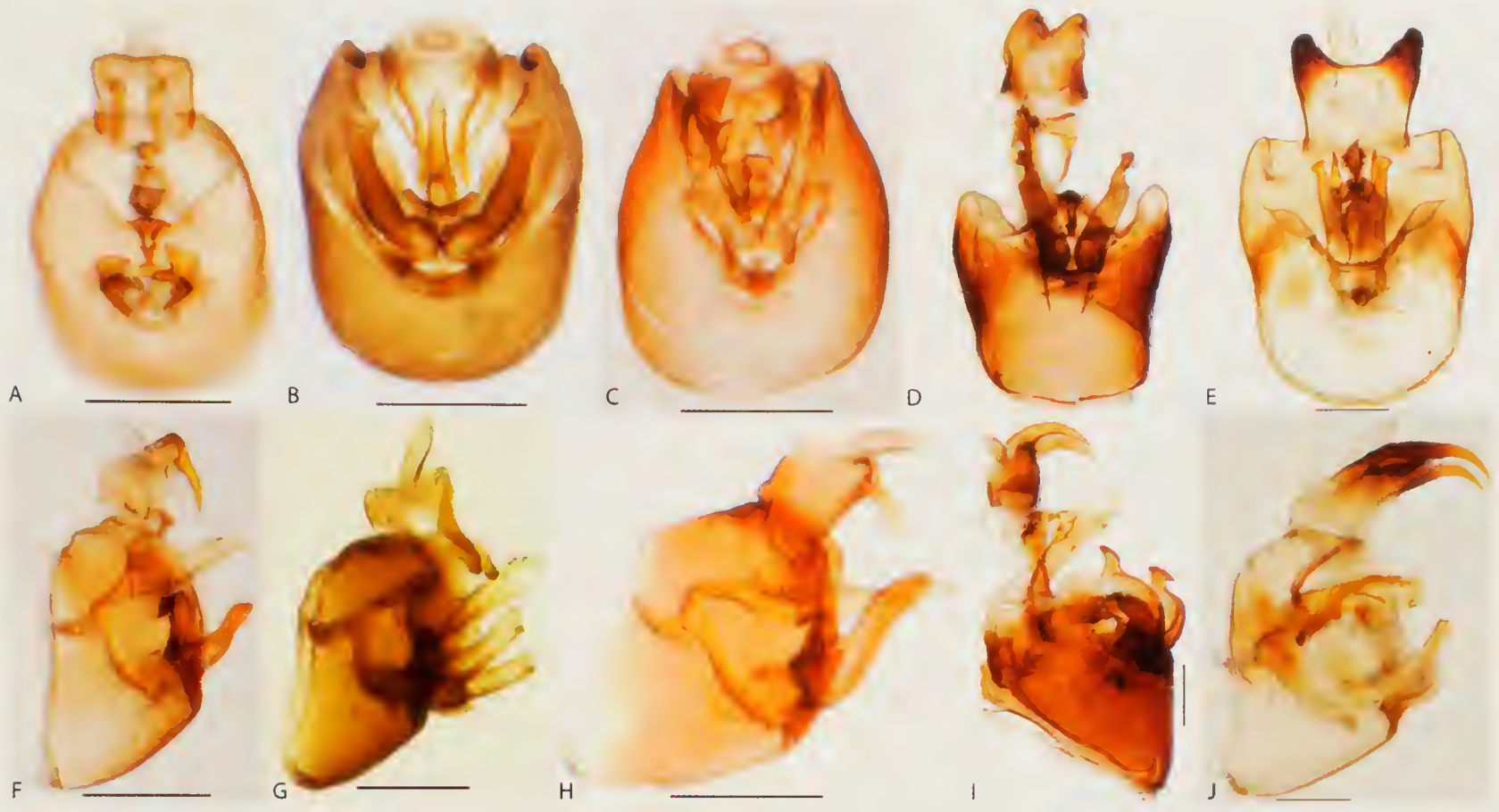
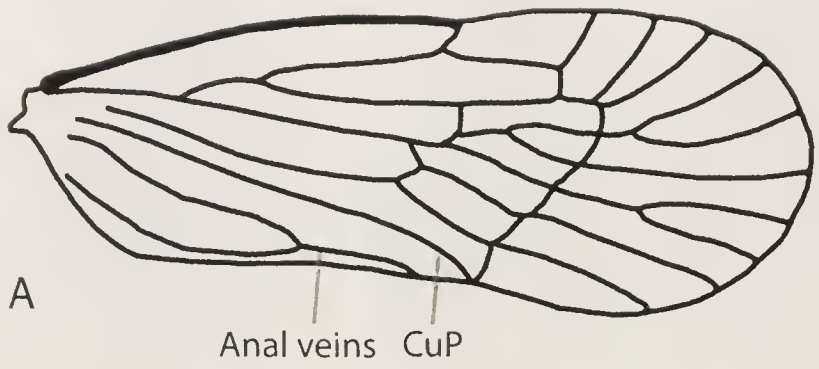
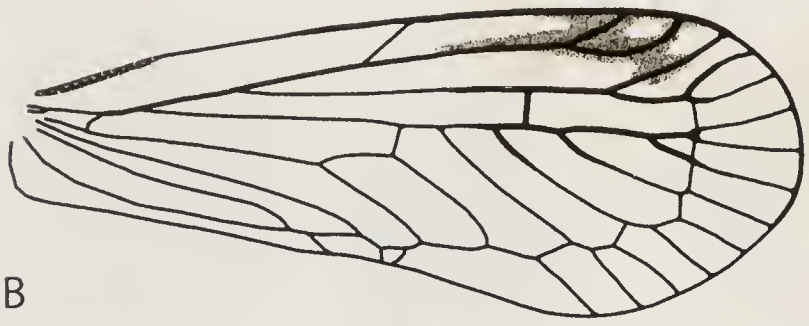
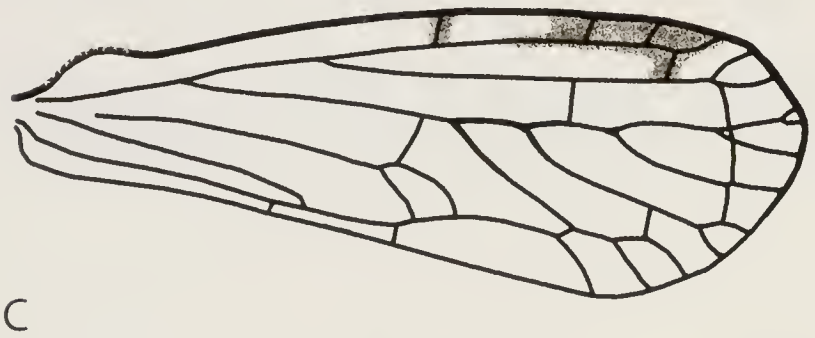
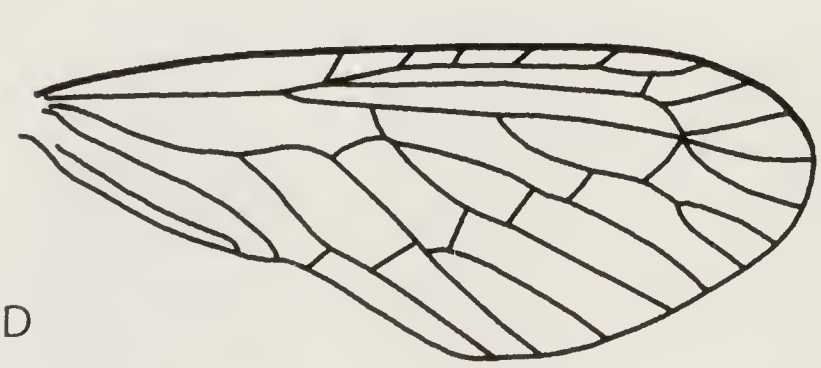


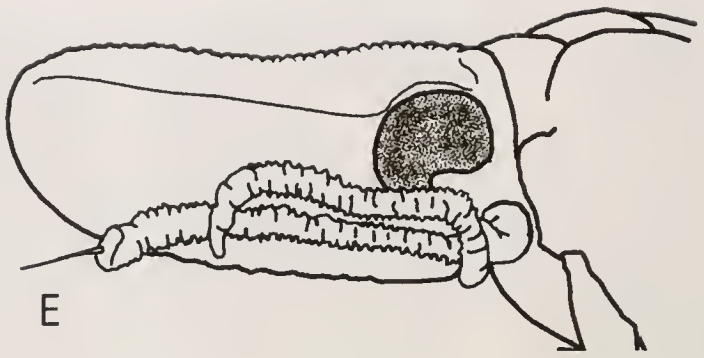
Figure 63. Male delphacid genitalia of Delphacidae (Delphacinae: Delphacini), A–E caudal view, F–J left lateral view (scale = 0.2 mm). **A, F.** *Tagosodes cubanus;* **B, G.** *Toya idonea;* **C, H.** *Tumidagena minuta;* **D, I.** *Unkanodes excisa;* **E, J.** *Yukonodelphax stramineosa.*

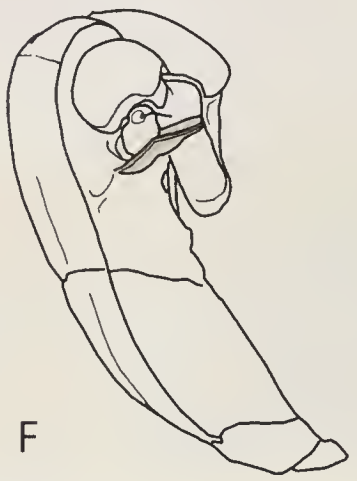


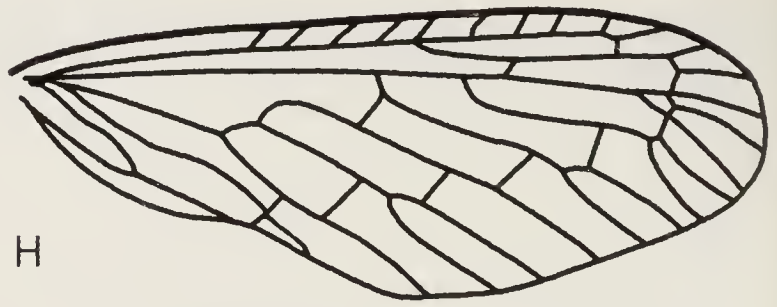












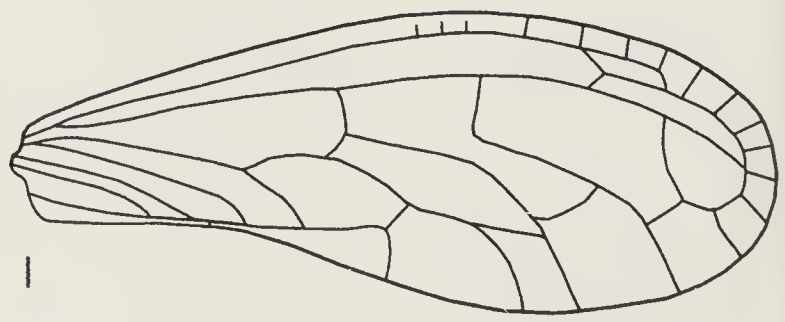


Figure 64. Features of Derbidae. **A**. Wing of *Cedusa* sp. (redrawn from Metcalf 1923); **B**. Wing of *Anotia fitchi;* **C**. Wing of *Anotia robertsonii;* **D**. Wing of *Dysimia* (redrawn from Broomfield 1985); **E**. Head of *Shellenius schellenbergii;* **F**. Head of *Cedusa kedusa;* **G**. Head of *Omolicna fulva;* **H**. Wing of *Paramysidia vulgaris* Broomfield 1985 (redrawn from Broomfield 1985); **I**. Wing of *Sikaiana harti;* **J**. Lateral view of anterior portion of *Sayiana sayi* showing projected costal margin of wing (shaded) .

Figure 65. Heads of Derbidae (A–E, K–M lateral view; F–J, O frontal view; N dorsal view; scale = 0.5 mm). **A**. *Anotia westwoodii*; **B**.*Sayiana sayi*; **C**. *Apache degeerii*; **D**. *Otiocerus coquebertii*; **E**. *Shellenius ballii*; **F**. *Cedusa* sp.; **G**. *Neocenchrea heidemanni*; **H**. *Omolicna texana* (paratype); **I**. *Persis ferox*; **J**. *Patara cyanea* Fennah, 1952 (male, from Dominica); **K**. *Cedusa kedusa*; **L**. *Omolicna* sp.; **M**. *Neocenchrea heidemanni*; **N**. *Sikaiana harti*; **O**. *Patara vanduzei* (female).

Figure 66. Lateral view of Derbidae (scale = 0.5 mm). **A**. *Cedusa kedusa*; **B**. *Neocenchrea heidemanni*; **C**. *Omolicna texana* (paratype); **D**. *Persis ferox*; **E**. *Dysiuia pseudomaculata*; **F**. *Paramysidia mississippiensis*; **G**. *Mula resonans*; **H**. *Sikaiana harti*.

Figure 67. Lateral view of Derbidae (scale = 0.5 mm). **A**. *Anotia westwoodii*; **B**. *Anotia uhleri*; **C**. *Sayiana sayi*; **D**. *Patara vanduzei* (female); **E**. *Apache degeerii*; **F**. *Otiocerus coquebertii*; **G**. *Otiocerus stollii* (male); **H**. *Shellenius ballii*.

Figure 68. Dorsal view of Derbidae (scale = 0.5 mm). **A**. *Cedusa kedusa*; **B**. *Neocenchrea heidemanni*; **C**. *Omolicna texana* (paratype); **D**. *Persis ferox*; **E**. *Paramysidia mississippiensis*; **F**. *Dysimia pseudomaculata*; **G**. *Patara vandinzei* (female); **H**. *Patara cyanea* Fennah, 1952 (male, from Dominica); **I**. *Mula resonans*; **J**. *Sikaiana harti*.

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Figure 70. Features of Dictyopharidae (scale A–B = 1.0, C–D = 0.2). **A**. Forewing venation of *Nersia florens*; **B**. Forewing venation of *Rhynchomitra microrhina*; **C**. Median notch of posterior margin of pronotum for *Nersia florens*; **D**. Median notch of posterior margin of pronotum for *Rhynchomitra microrhina;* **E.** Left side of head *Acinaca lurida* (callosity absent); **F.** Left side of head *Orgerius concordus* (callosity present); **G.** Left lateral view of thorax of *Deserta obscura* (tegula hidden); **H.** Left lateral view of thorax of *Rhynchomitra microrhina* (tegula visible, lacking carina); **I.** Left lateral view of thorax of *Nersia florens* (tegula visible, carina present); **J**. Dorsal view of head *Timonidia* sp.; **K**. Dorsal view of head *Aridia compressa*; **L**. Dorsal view of head *Ticida cingulata*; **M**. Dorsal view of head *Ticrania chamberlini*.

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Figure 73. Frons and dorsal habitus of Dictyopharidae (Orgeriinae) (A–D frontal view, E–H dorsal habitus; scale = 1.0 mm). **A, E.** *Acinaca lurida*; **B, F.** *Aridia compressa*; **C, G.** *Deserta obscura*; **D, H.** *Orgamara argentia*.

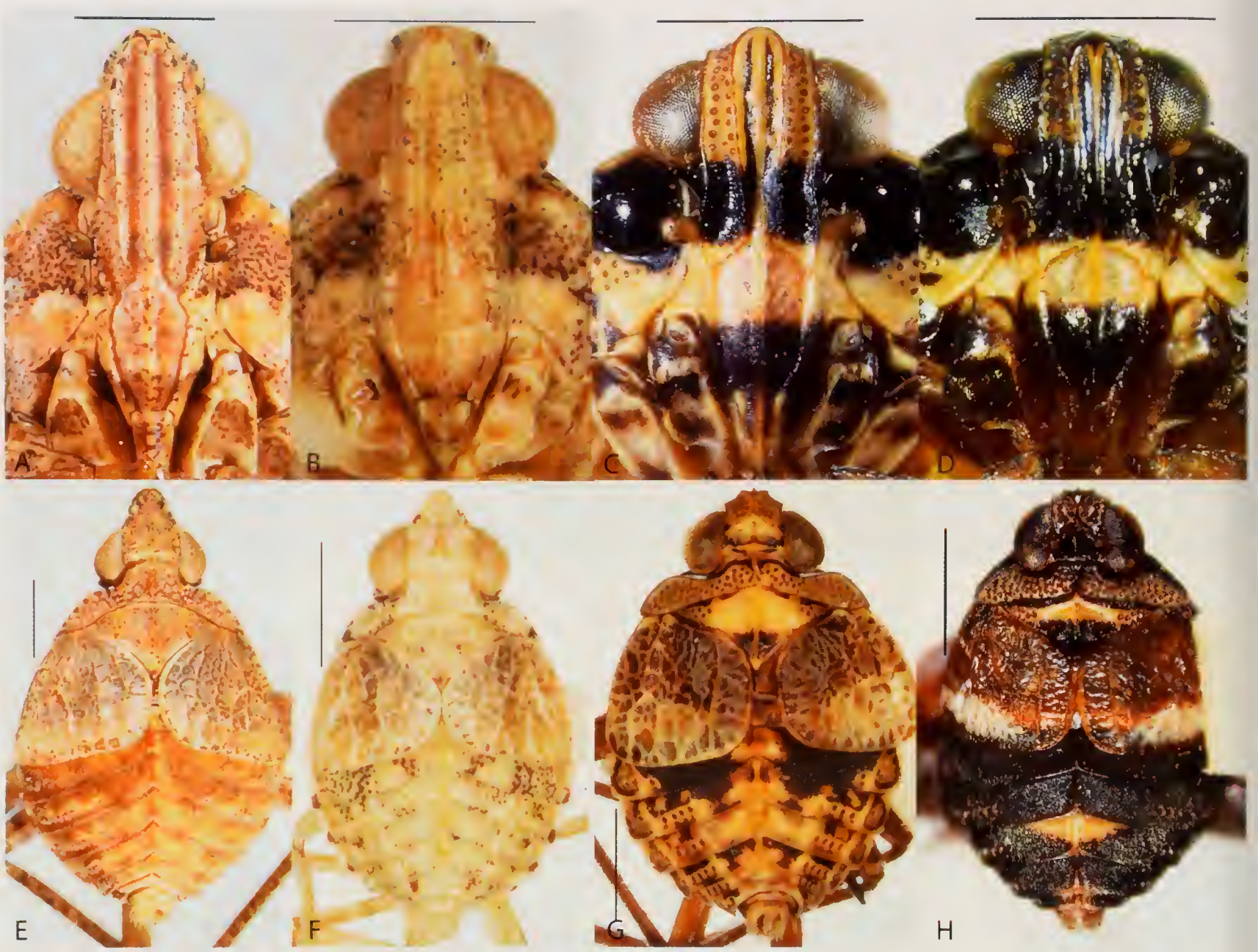

Figure 74. Frons and dorsal habitus of Dictyopharidae (Orgeriinae) (A–D frontal view, E–H dorsal habitus; scale = 1.0 mm). **A, E.** *Orgerius (Orgerius) concordus*; **B, F**. *Orgerius (Opsigonus) minor*; **C, G**. *Ticida (Ticida) cingulata*; **D, H**. *Ticida (Timodema) miracula.*

Figure 75. Views of Dictyopharidae (Orgeriinae) (A–C frontal view, D–F dorsal habitus, G–I lateral habitus; scale = 1.0 mm). **A, D, G.** *Ticrania chamberlini*; **B, E, H**. *Timonidia solitaria*; **C, F, I**. *Yucanda albida*.

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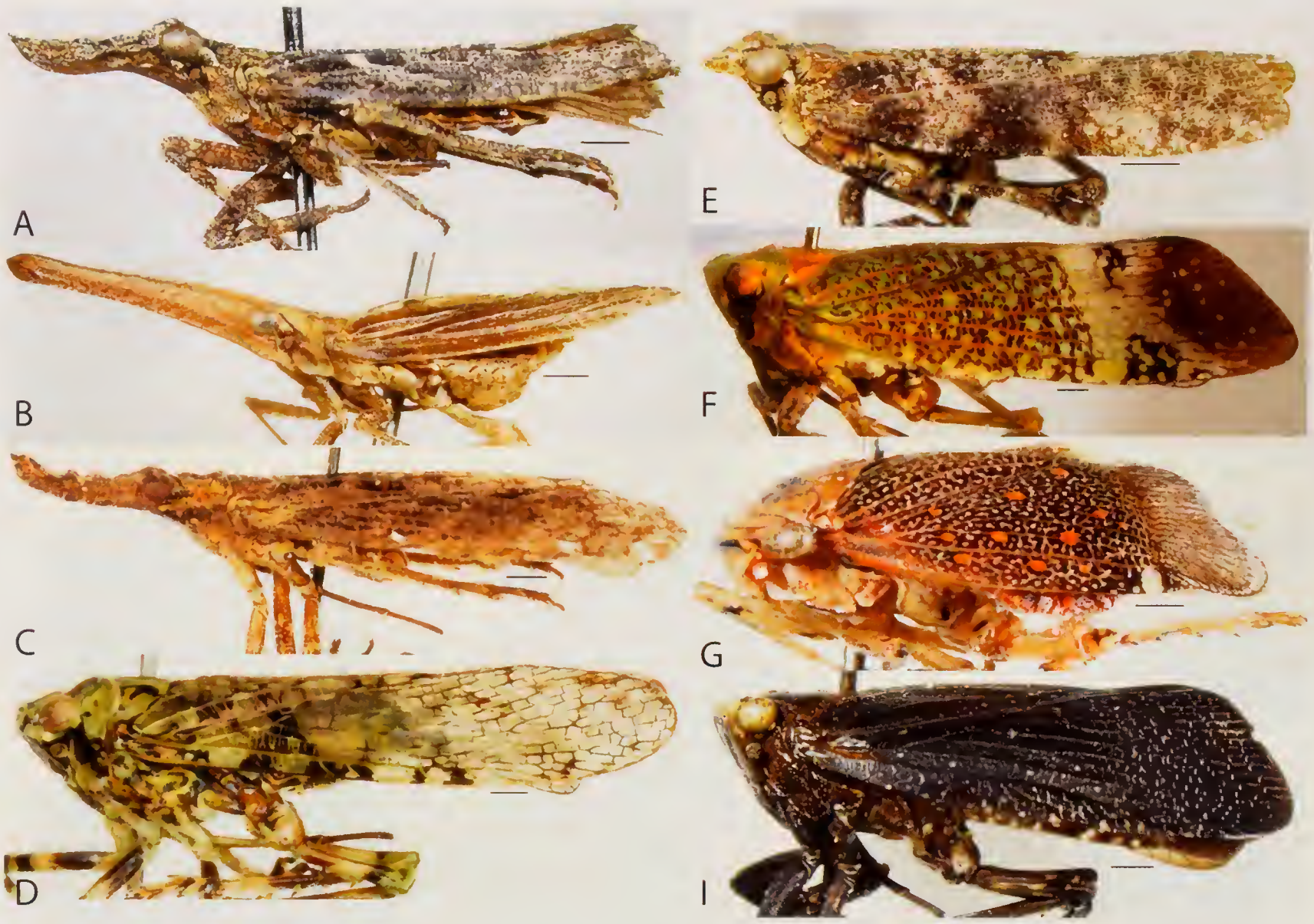

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Figure 87. Lateral habitus of Issidae (scale = 1.0 mm). **A.** *Abolloptera bistriata*; **B.** *Agalmatium bilobum* (photo by L. B. O'Brien); **C.** *Balduza una*; **D.** *Exortus fuscomaculus*; **E.** *Kathleenum cornutum*; **F.** *Paralixes scutatus*; **G.** *Picumna chinai*; **H.** *Stilbometopius auroreus*; **I.** *Thionia bullata*; **J.** *Traxus fulvus*; **K.** *Tylanira bifurca*.

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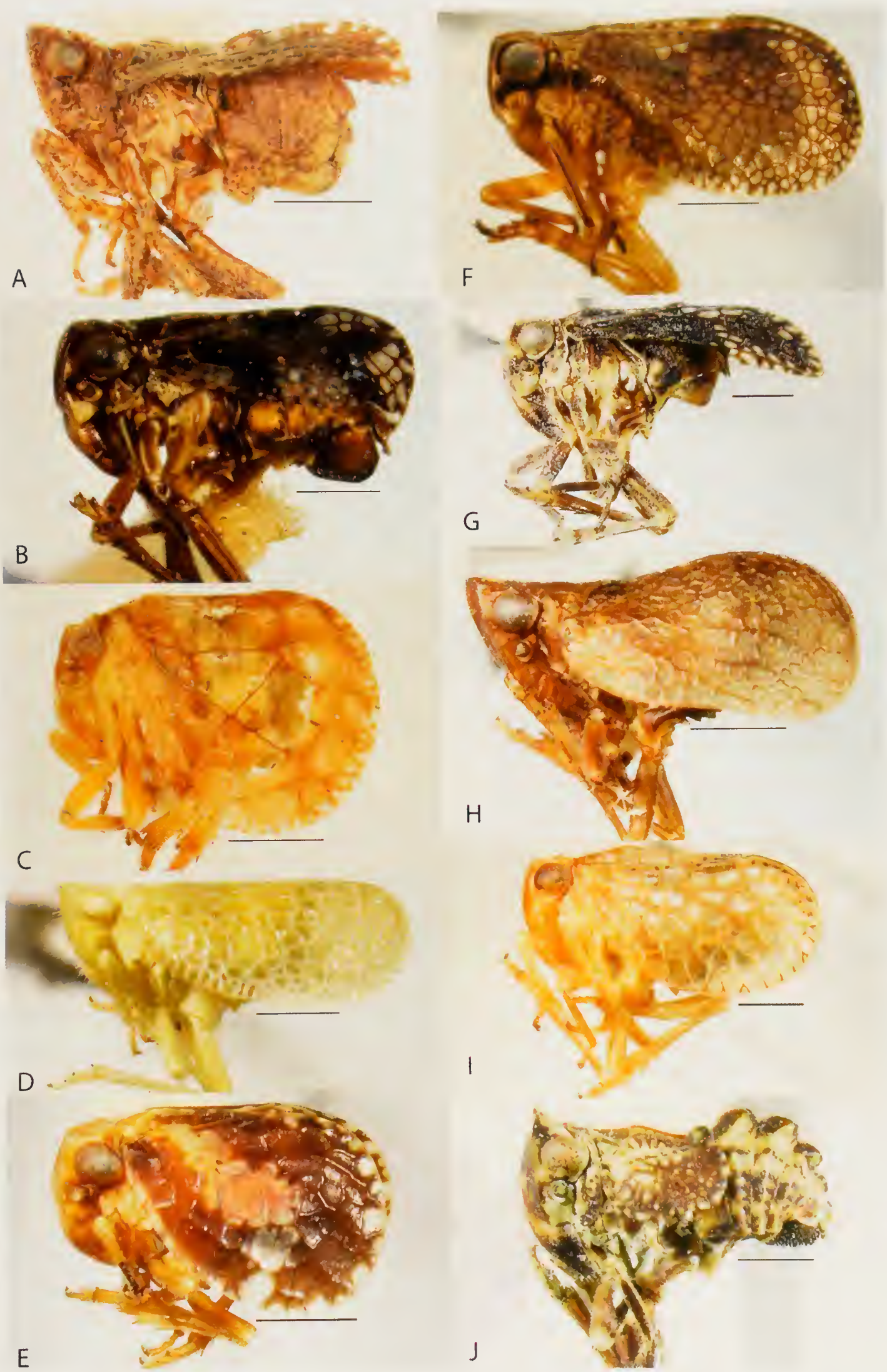

Figure 90. Lateral habitus of Tropiduchidae (Gaetuliini; scale = 1.0 mm). **A.** *Danepteryx lurida;* **B.** *Dictyobia semivittrea;* **C.** *Dictyonia obscura;* **D.** *Dictyonissus griphus;* **E.** *Dictyssa monroviana;* **F.** *Dictyssonia beameri;* **G.** *Dyctidea* sp.; **H.** *Misodema reticulata;* **I.** *Neaethus sinehamatus;* **J.** *Osbornia cornuta.*

Figure 91. Front and dorsal habitus of Kinnaridae and Tropiduchidae (Remosini and Tangiini) (A, E Kinnaridae; B–D, F–H Tropiduchidae; A–D front, E–H dorsal habitus; scale A,E = 0.5 mm, B–D, F–H = 1.0). **A, E**. *Oeclidius* sp.; **B, F**. *Tangia breviceps*; **C, G**. *Neurotmeta sponsa*; **D, H**. *Pelitropis rotulata*.

Figure 92. Lateral habitus of Kinnaridae and Tropiduchidae (Remosini and Tangiini) (A. Kinnaridae; B–D, Tropiduchudae; scale = 1.0 mm). **A.** *Oeclidius* sp.; **B**. *Tangia breviceps*; **C**. *Neurotmeta sponsa*; **D.** *Pelitropis rotulata.*

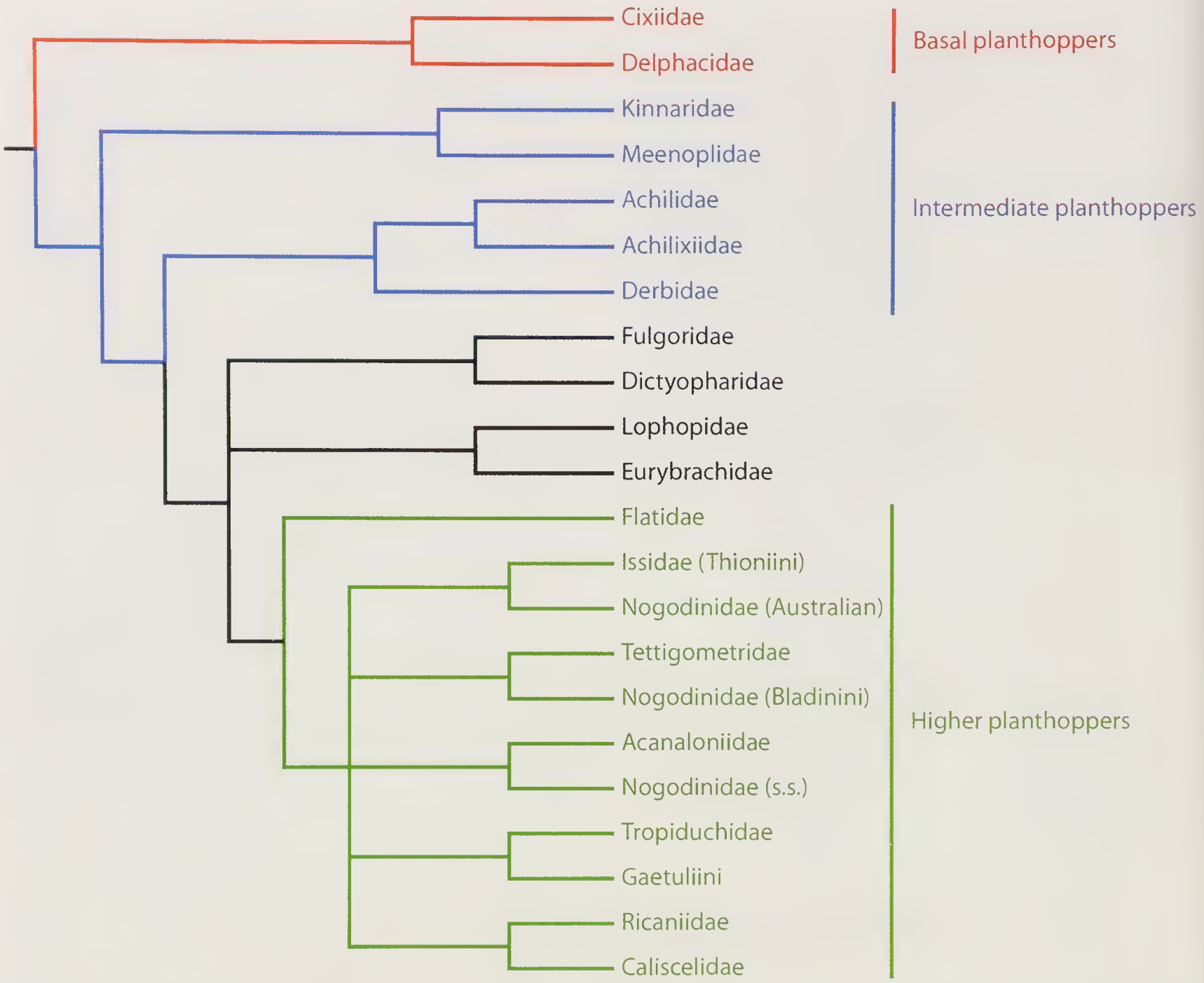

Figure 93. Diagrammatic tree from Urban & Cryan (2007) from Bayesian 50% consensus tree based on combined 18S + 28S + H3 + Wg gene molecular data.

Figure 94. Geographic regions of the contiguous United States used for discussion of planthopper distributions.

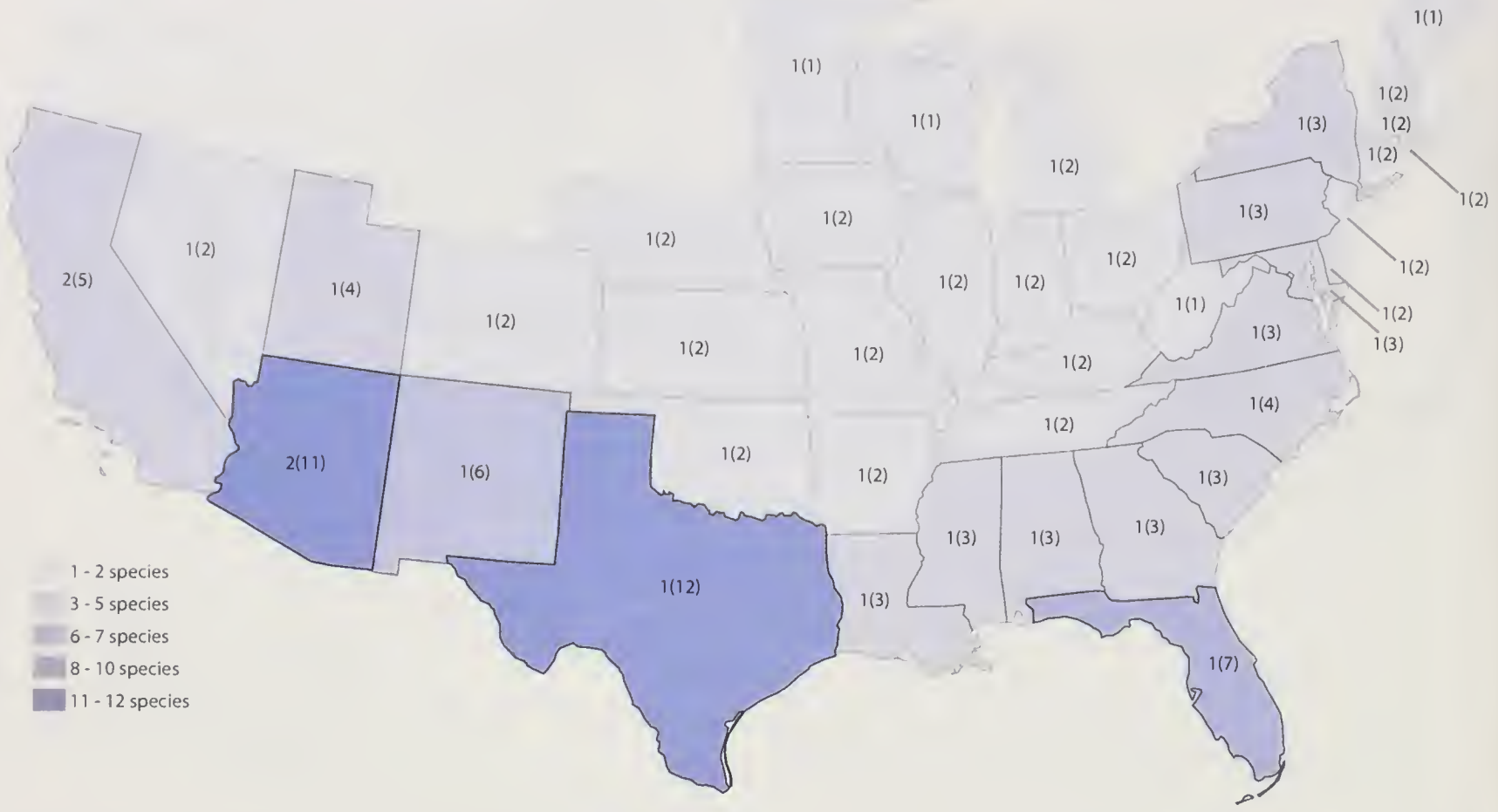

Figure 95. Distribution of Acanaloniidae in the contiguous United States. Within state outlines are the numbers of taxa recorded for each state as "genera (species)".

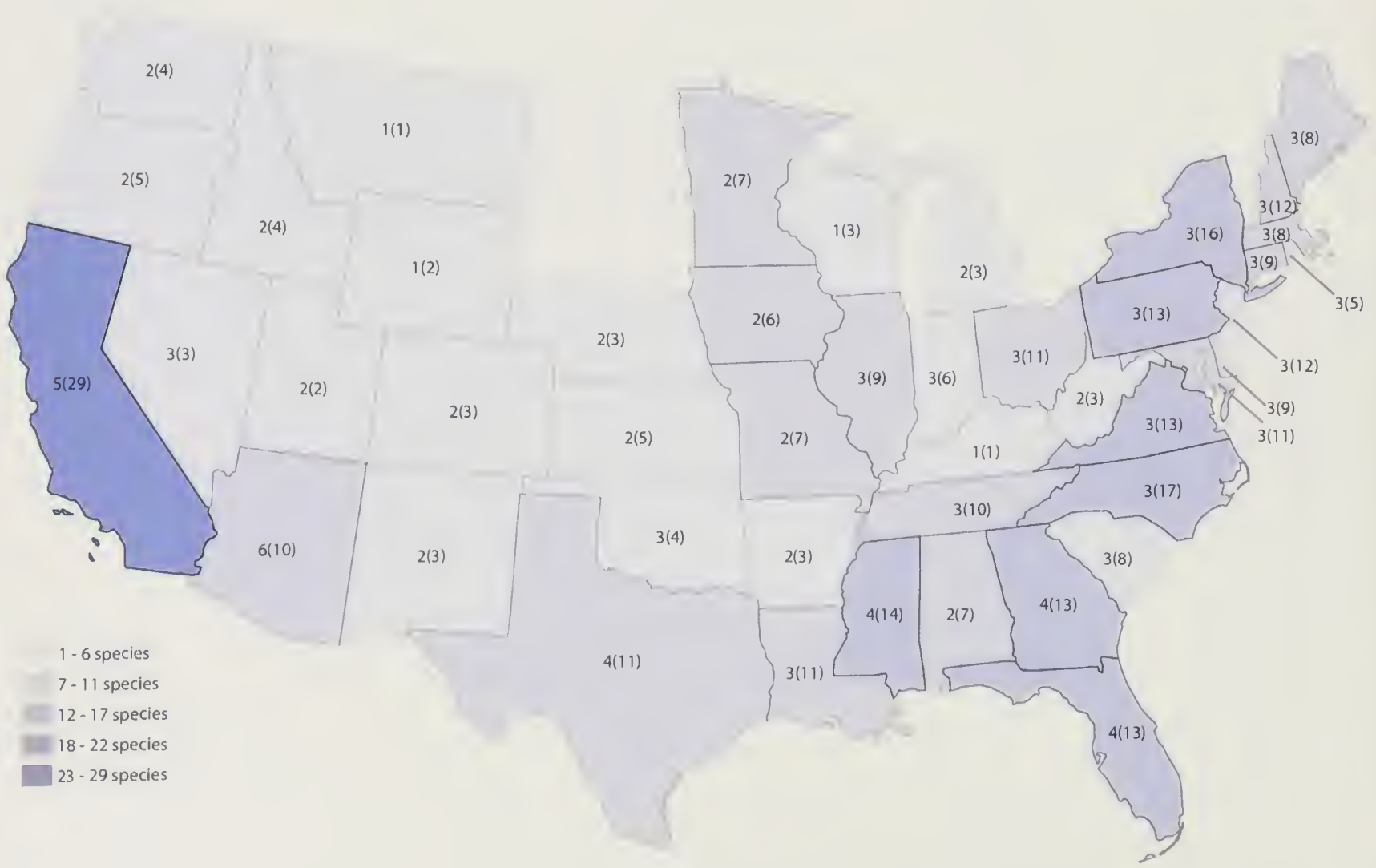

Figure 96. Distribution of Achilidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

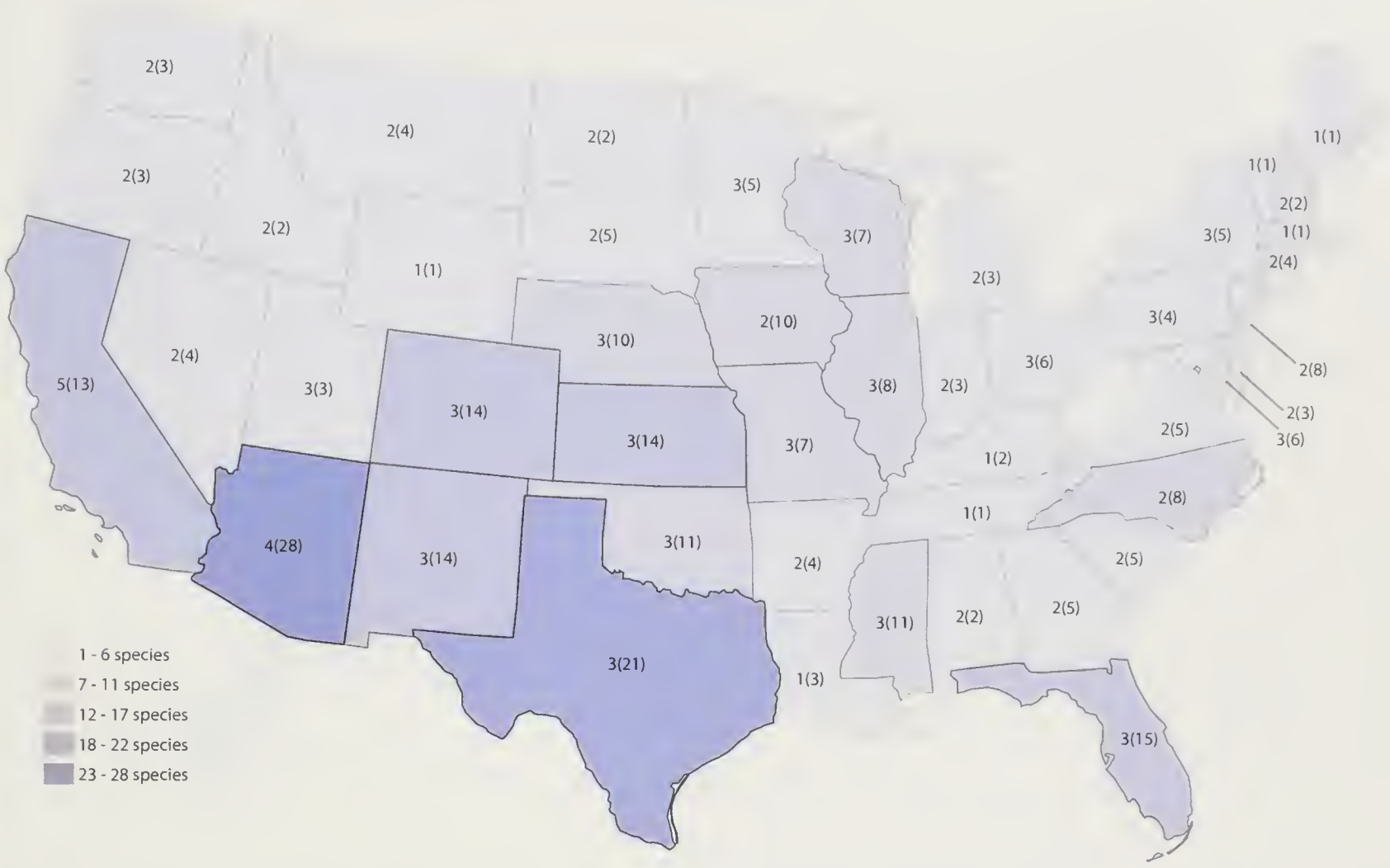

Figure 97. Distribution of Caliscelidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

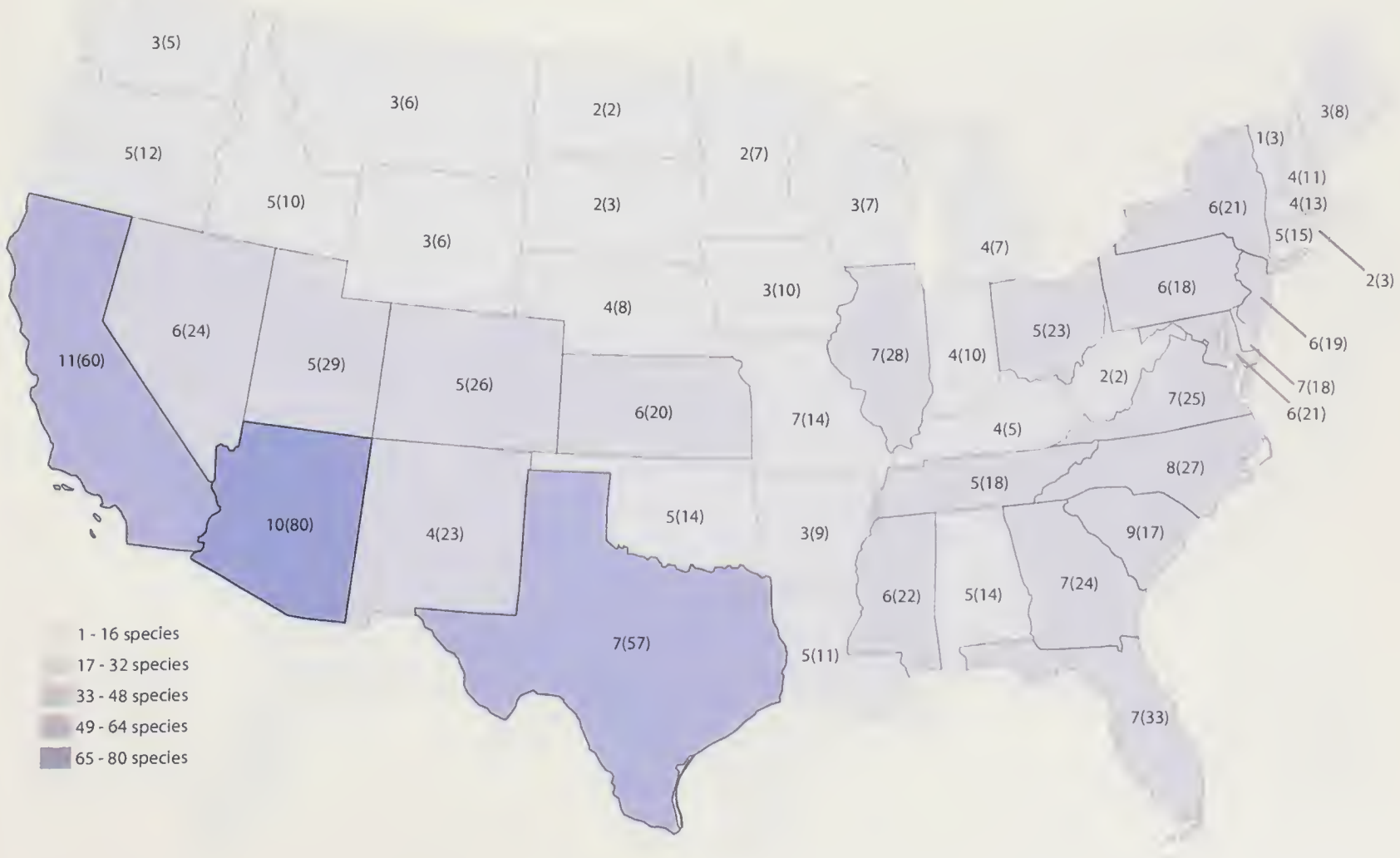

Figure 98. Distribution of Cixiidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

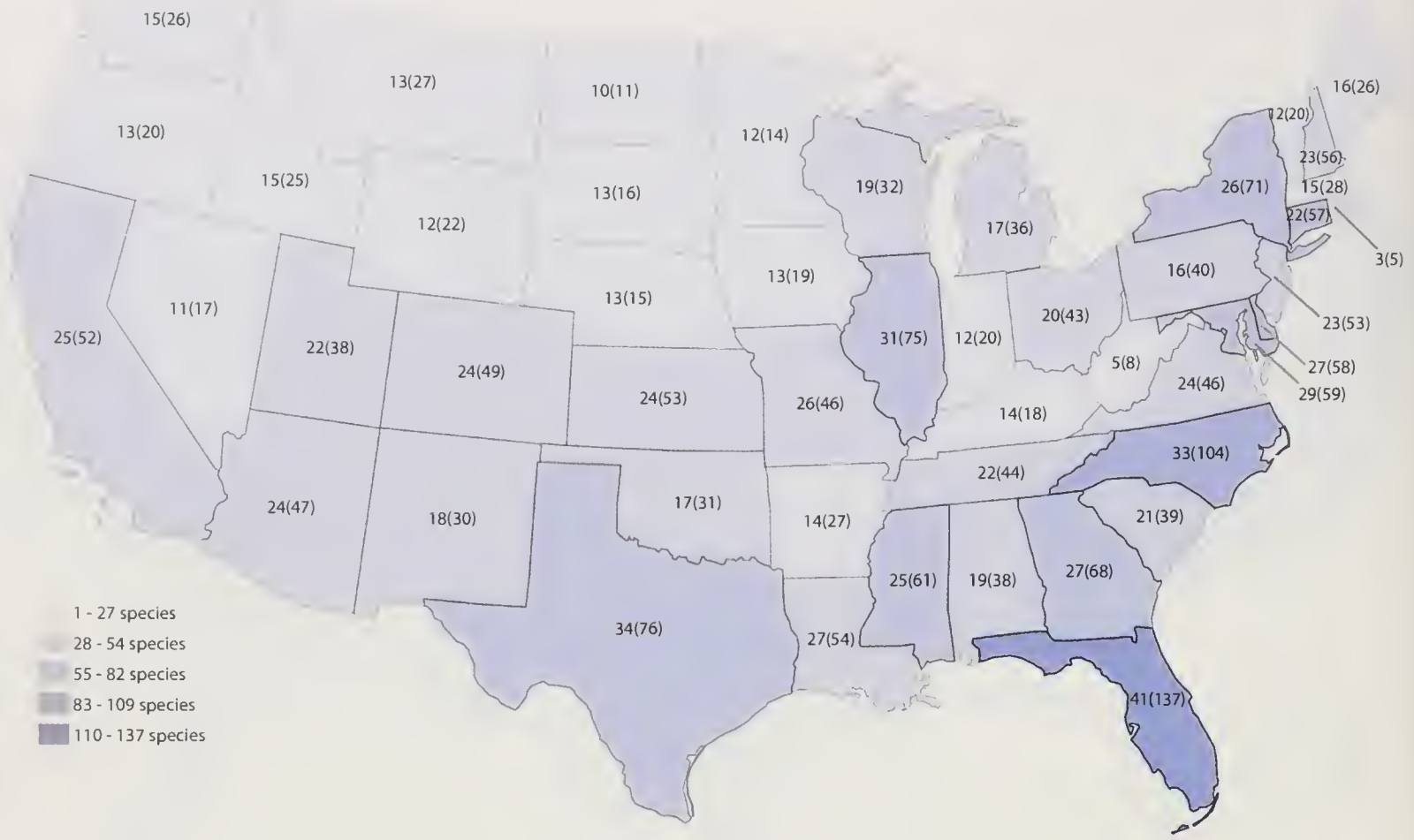

Figure 99. Distribution of Delphacidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

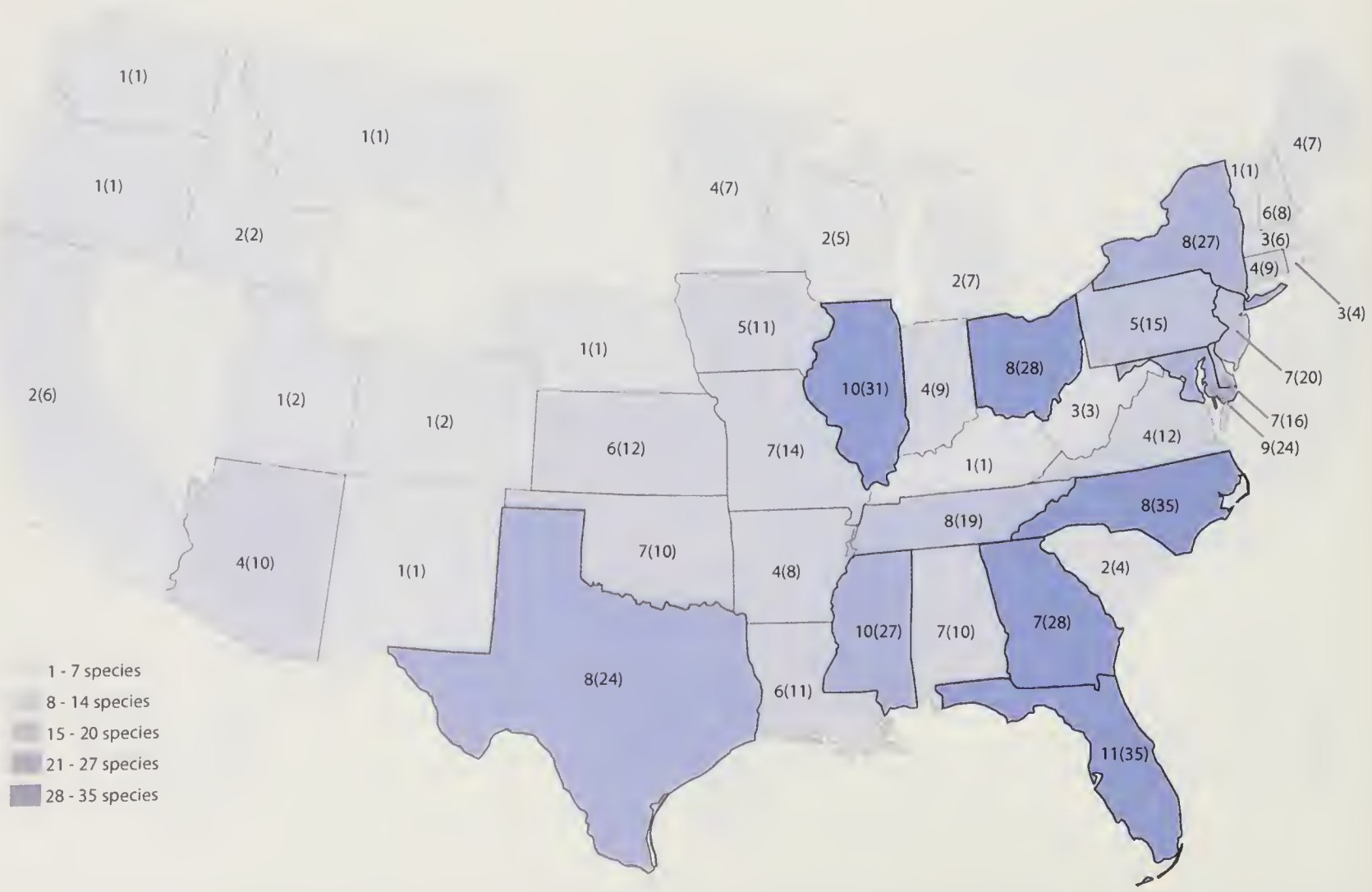

Figure 100. Distribution of Derbidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

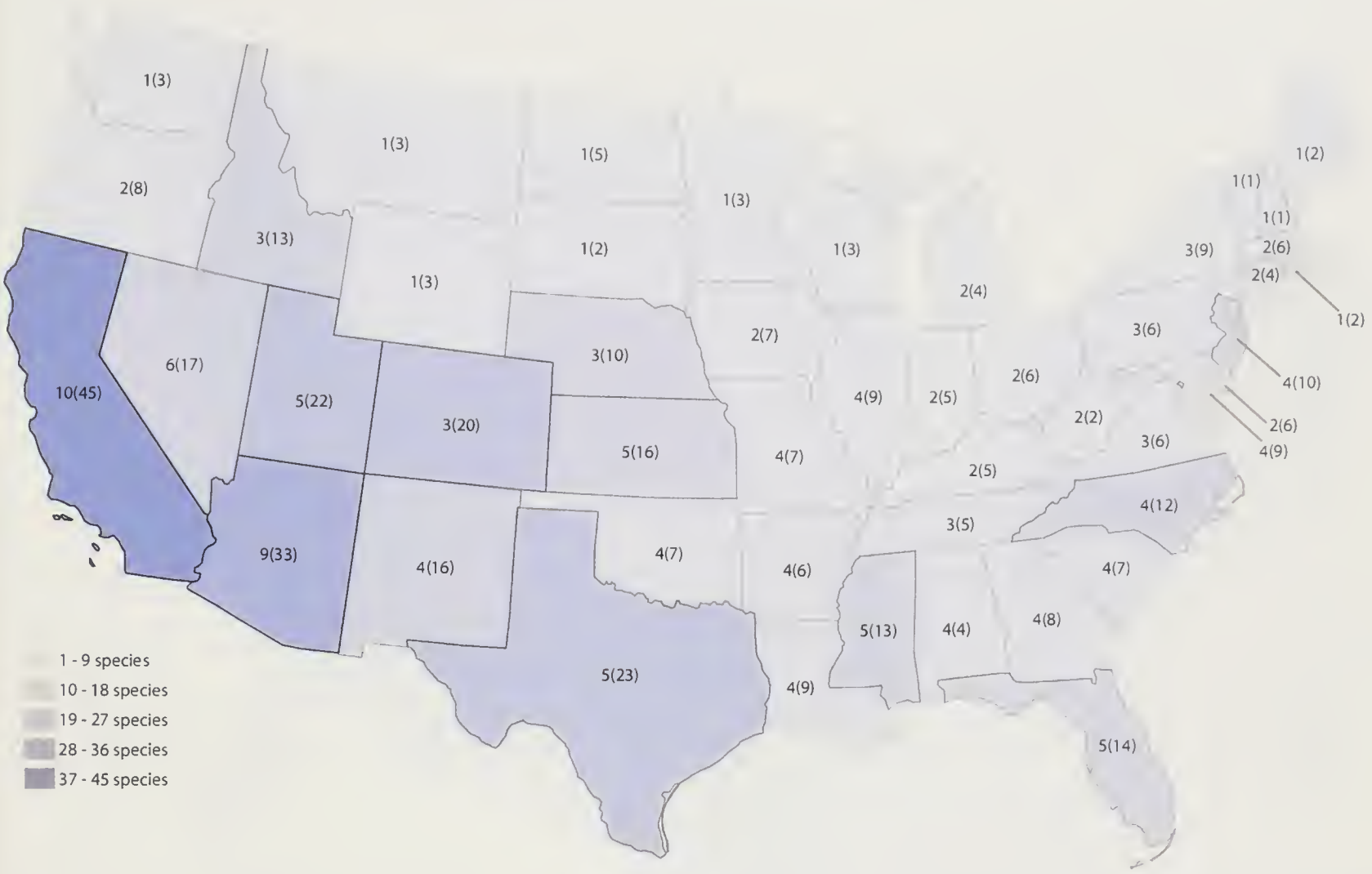

Figure 101. Distribution of Dictyopharidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

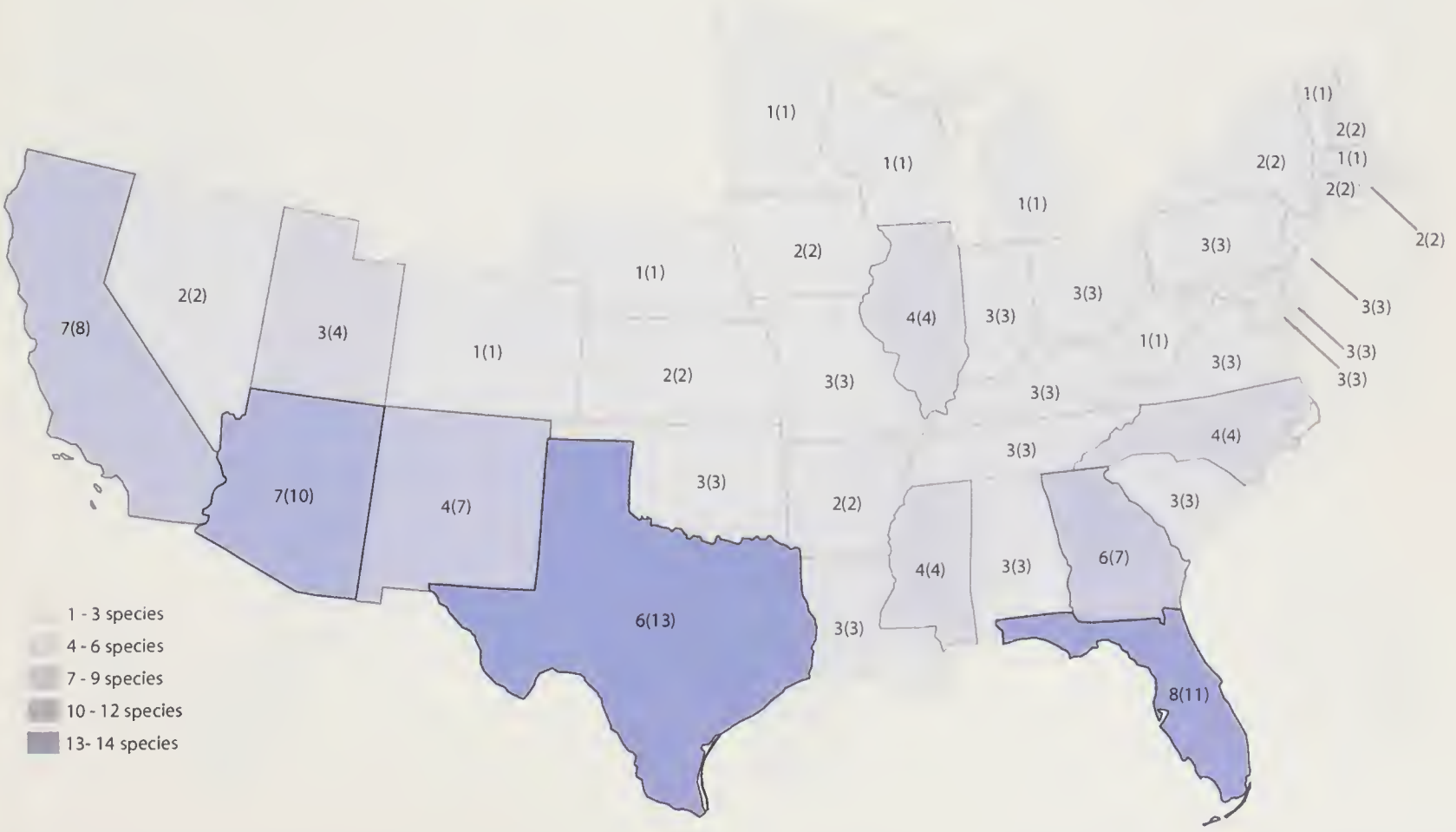

Figure 102. Distribution of Flatidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

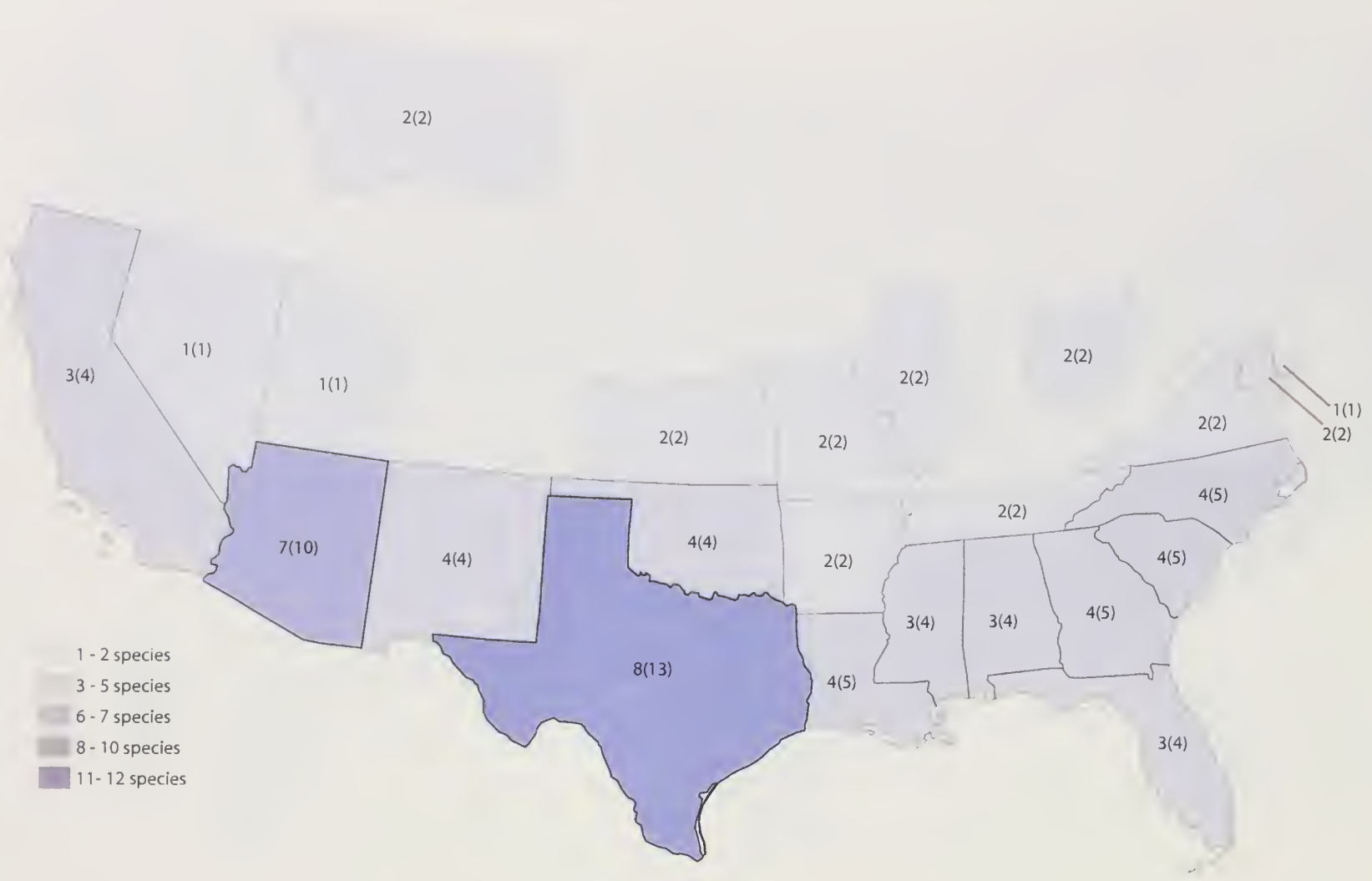

Figure 103. Distribution of Fulgoridae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

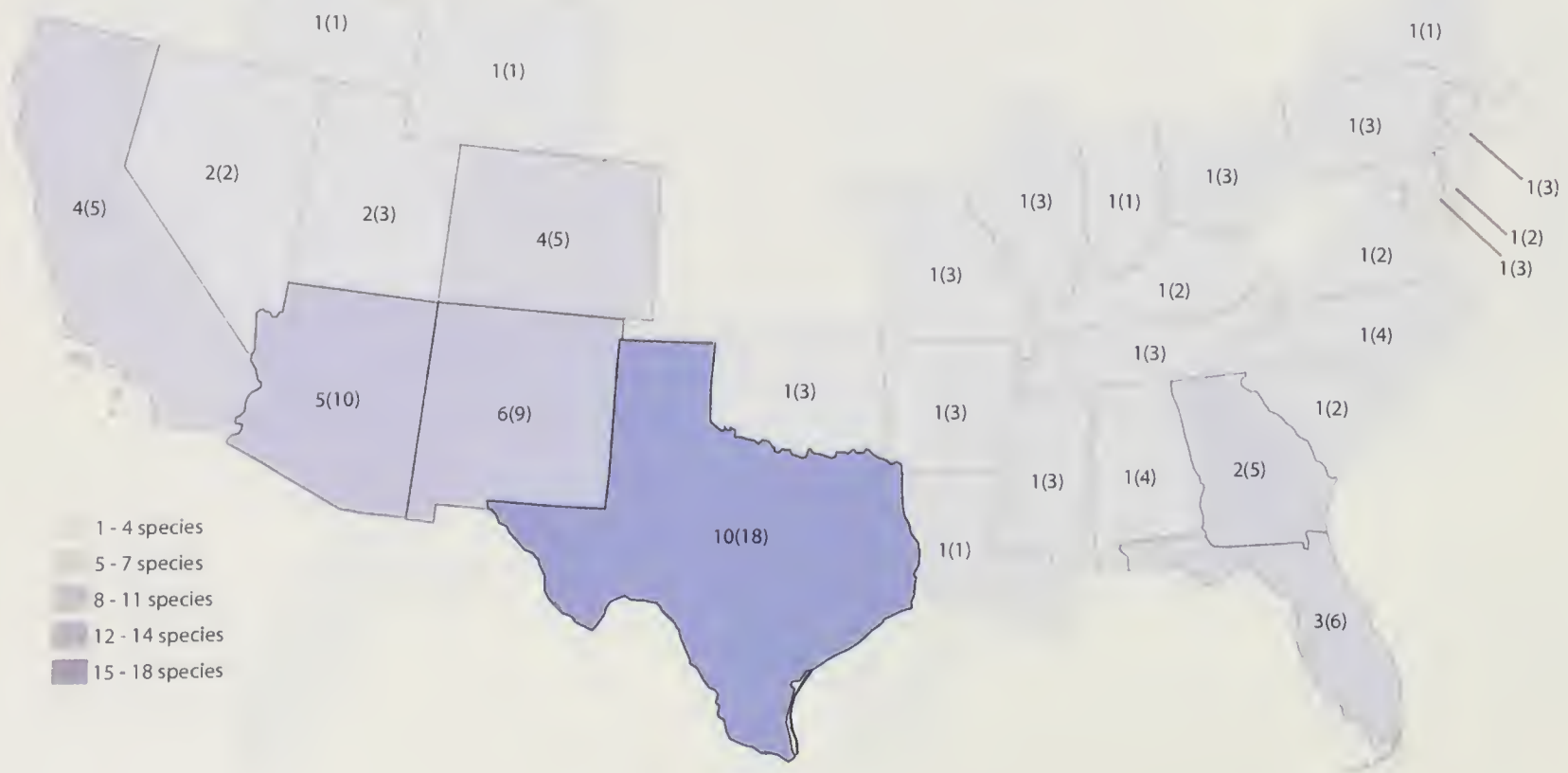

Figure 104. Distribution of Issidae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

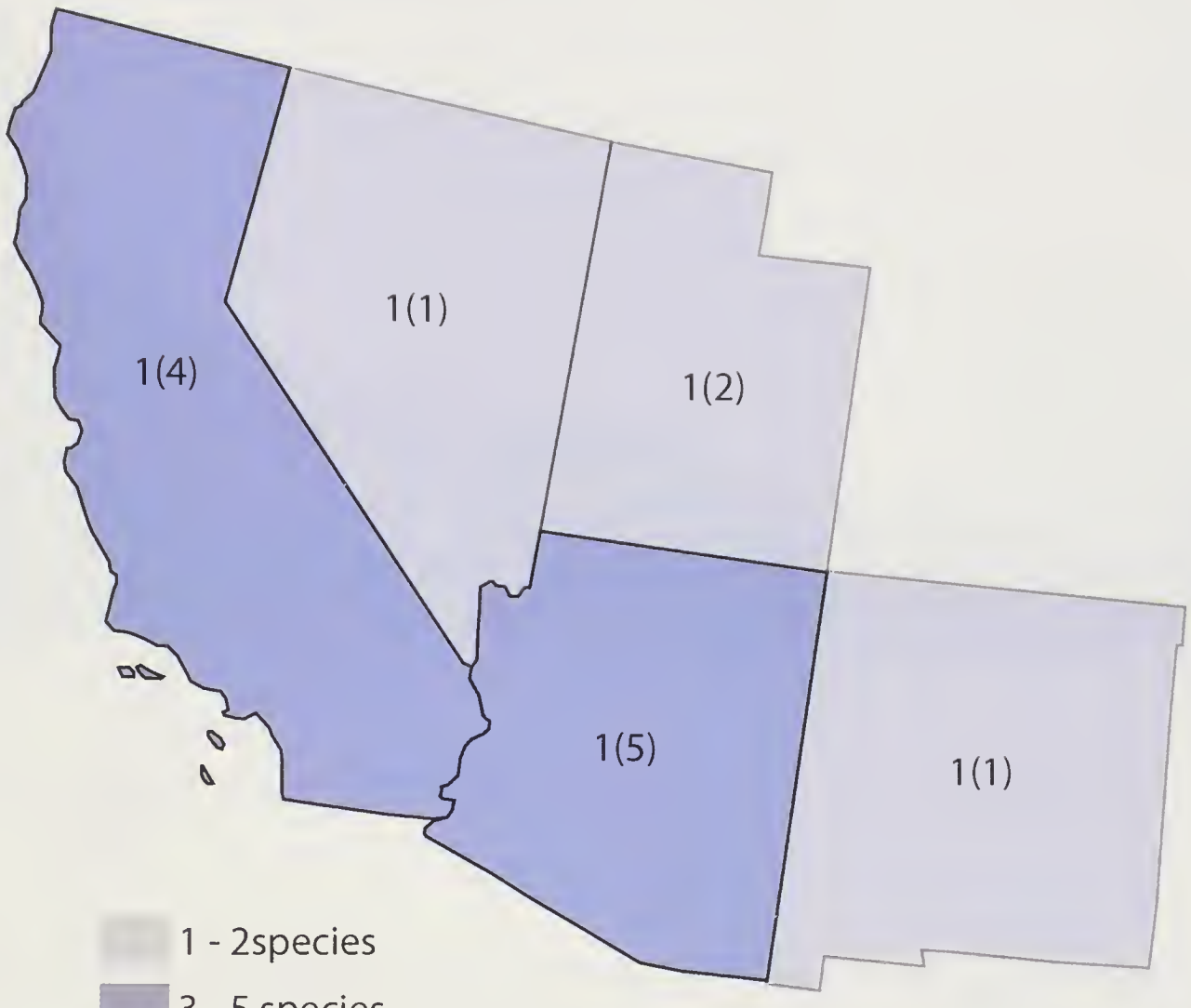

Figure 105. Distribution of Kinnaridae in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

Figure 106. Distribution of Tropiduchidae (including Gaetuliini) in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

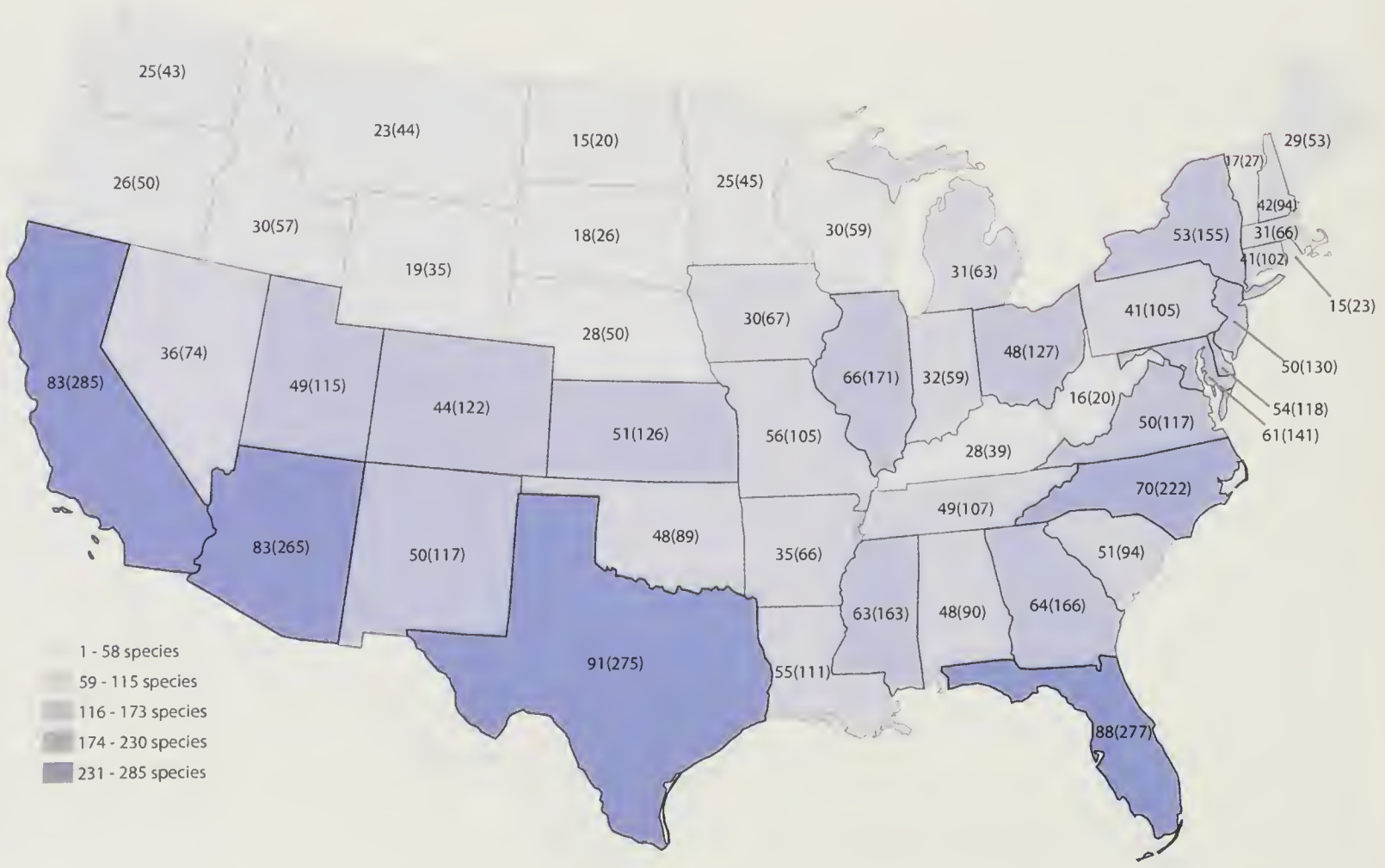

Figure 107. Distribution of all planthoppers in the contiguous United States. Within state outlines are numbers of taxa recorded for each state as "genera (species)".

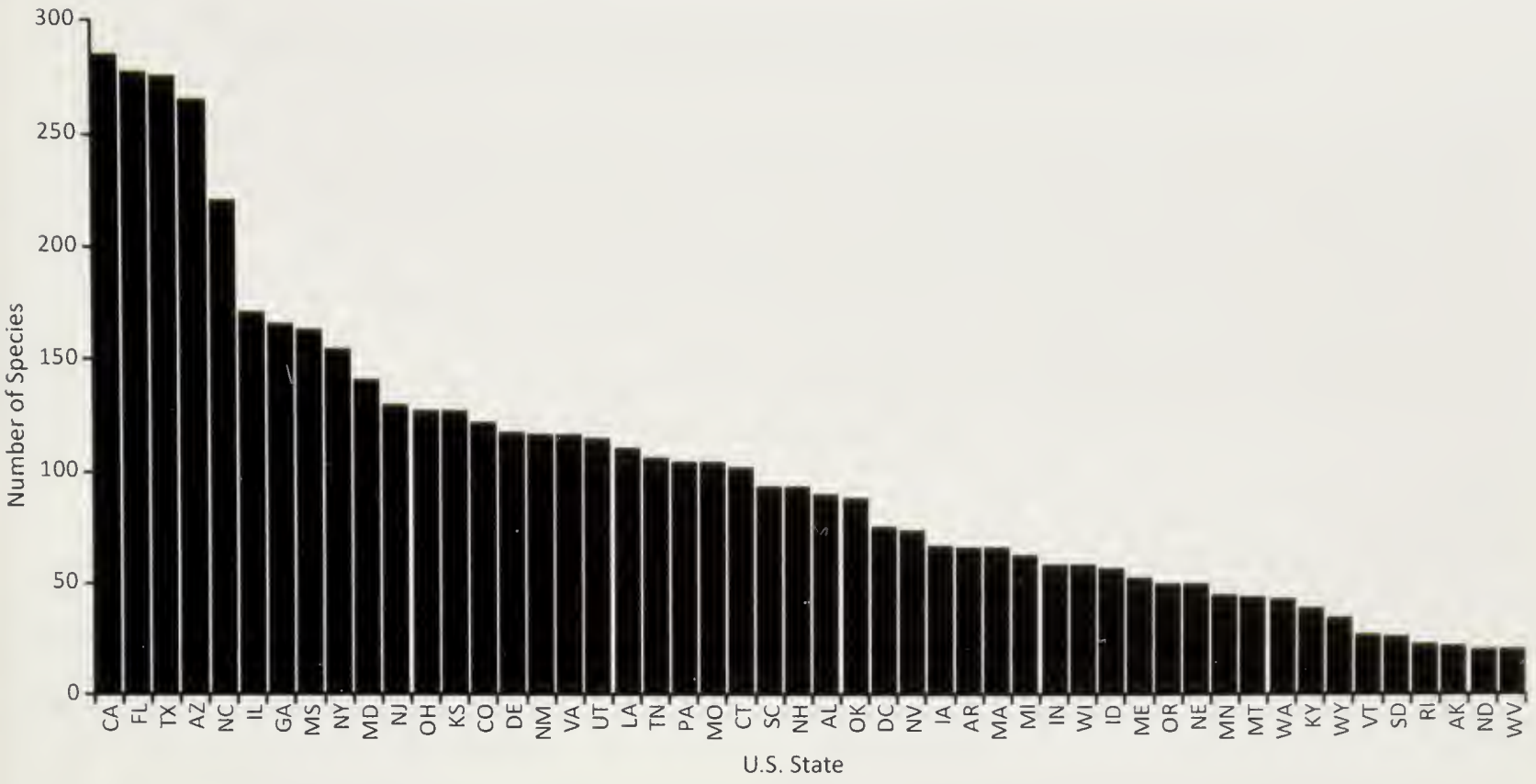

Figure 108. Rank abundance histogram of reported planthopper species richness by state.

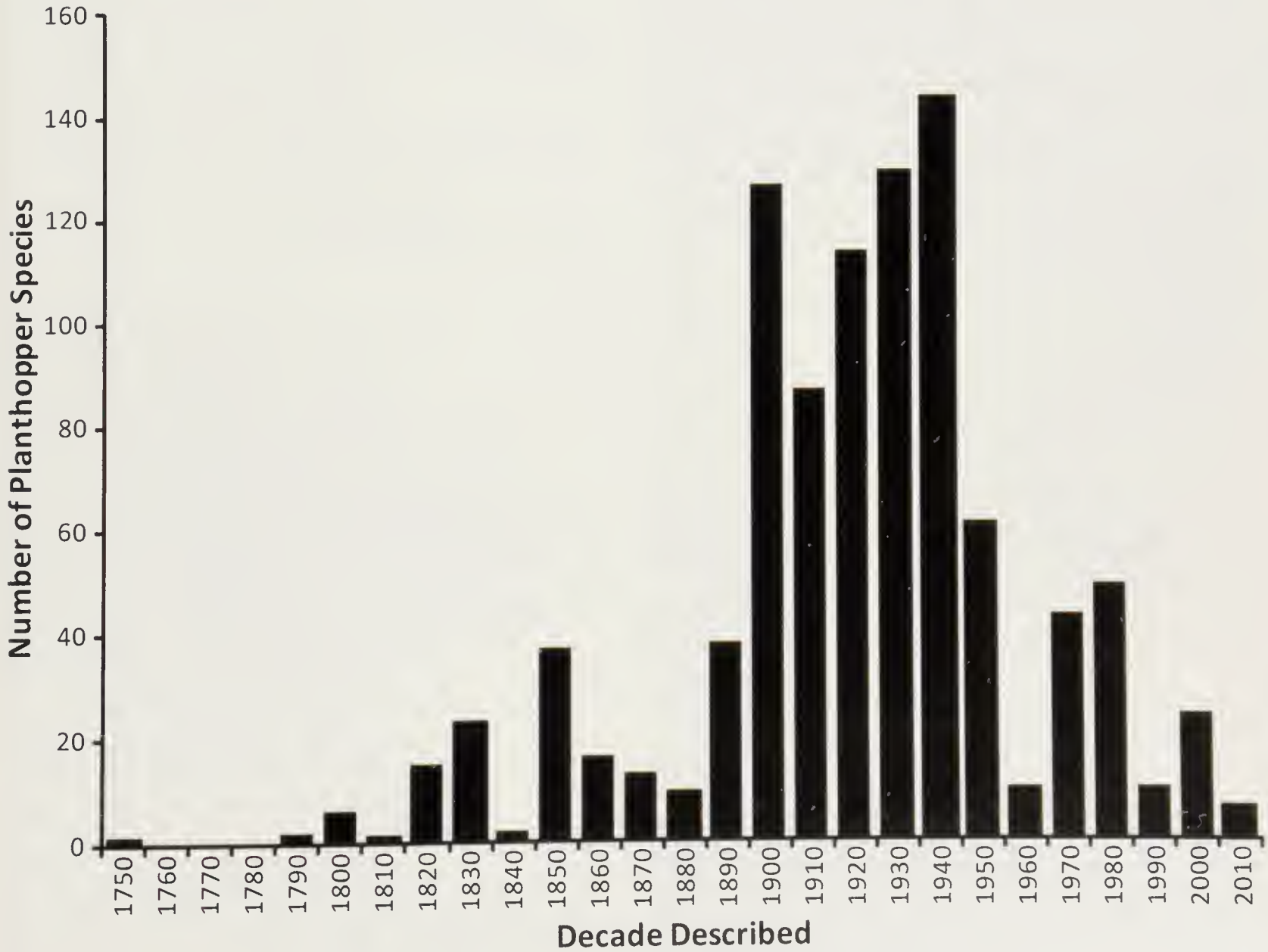

Figure 109. Number of planthopper species reported north of Mexico as described by decade.

Index to Species and Subspecies of Planthoppers

Names in **bold** are valid names listed in the Appendix, names in *italics* are synonyms, names in regular typeface are mentioned only in the text or as a type species of a genus. The valid genus follows each entry in square brackets, except the original genus is provided for type species. **Bold** page numbers indicate primary entries in the Appendix, underlined page numbers indicate figures, page numbers in regular typeface indicate mentions in the text. The codens in parentheses following names indicate family placement as follows: AN = Acanaloniidae; AL = Achilidae; CA = Caliscelidae; CI= Cixiidae; DL = Delphacidae; DR = Derbidae; DC = Dictyopharidae; FT = Flatidae; FG = Fulgoridae; IS = Issidae; KI = Kinnaridae; LO = Lophopidae; TR = Tropiduchidae.

Index of Genera and Higher Groups of Planthoppers

Names in **bold** are valid names listed in the Appendix, names in *italics* are synonyms, names in regular typeface are mentioned only in the text or other contexts. Genera occurring in the Appendix only in context of species synonymy are not included. **Bold** page numbers indicate primary entries in the Appendix, underlined page numbers indicate figures, page numbers in regular typeface indicate mentions in the text. The codens in parentheses following names indicate family placement as follows: AN = Acanaloniidae; AL = Achilidae; CA = Caliscelidae; CI= Cixiidae; DL = Delphacidae; DR = Derbidae; DC = Dictyopharidae; FT = Flatidae; FG = Fulgoridae; IS = Issidae; KI = Kinnaridae; LO = Lophopidae; TR = Tropiduchidae.

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