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Monograph

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New World genera of Galerucinae Latreille, 1802 (tribes Galerucini Latreille, 1802, Metacyclini Chapuis, 1875, and Luperini Gistel, 1848): an annotated list and identification key (Coleoptera: Chrysomelidae)

Keezhpattillam VISWAJYOTHI [1,*] & Shawn M. CLARK [2]

[1,2] Monte L. Bean Life Science Museum, Brigham Young University, Provo, Utah 84602, USA.
[1] Kerala Agricultural University, Department of Agricultural Entomology, College of Agriculture, Vellayani, Trivandrum, Kerala, 695522, India.

[*] Corresponding author: viswajyothi14@gmail.com
[2] Email: shawn_clark@byu.edu

[1] urn:lsid:zoobank.org:author:D4086923-B29E-40C6-BB48-0E6D3E83E7EE
[2] urn:lsid:zoobank.org:author:48F459D7-6E57-4CD4-85DA-84365725C81F

Abstract. An annotated list, including information on type species, distribution, and number of species, is provided for all of the non-flea-beetle galerucine genera known to occur in the New World (tribes Galerucini, Metacyclini, and Luperini). A diagnostic key to the genera is provided. Habitus illustrations are provided for most genera. The following new genera are proposed: *Amplioluperus* gen. nov., *Cornuventer* gen. nov., *Geethaluperus* gen. nov., *Megarhabda* gen. nov., *Mexiluperus* gen. nov., *Monoaster* gen. nov., *Pyesexora* gen. nov., *Texiluperus* gen. nov., *Trachyelytron* gen. nov. and *Yingabruxia* gen. nov. The following new taxonomic placements are proposed: *Microbrotica* Jacoby, 1887 is transferred from the tribe Metacyclini to the section Diabroticites Chapuis, 1875 (tribe Luperini, subtribe Diabroticina Chapuis, 1875); *Pteleon* Jacoby, 1888 is transferred from the section Exosomites Wilcox, 1973 (tribe Luperini, subtribe Luperina Gistel, 1848) to the section Scelidites Chapuis, 1875 (subtribe Luperina). The following new combinations are proposed: *Luperodes histrio* Horn, 1895, *Luperus maculicollis* LeConte, 1884, and *Scelolyperus cyanellus* Horn, 1895 are transferred from *Pseudoluperus* Beller & Hatch, 1932 to *Amplioluperus*; *Luperodes tuberculatus* Blake, 1942 is transferred from *Pseudoluperus* to *Cornuventer*; *Luperus flavofemoratus* Jacoby, 1888 is transferred from *Pseudoluperus* to *Geethaluperus*; *Trirhabda obscurovittata* Jacoby, 1886 is transferred from *Trirhabda* LeConte, 1865 to *Megarhabda*; *Cneorane nigripes* Allard, 1889 is transferred from *Scelida* Chapuis, 1875 to *Metacycla* Baly, 1861; *Luperodes wickhami* Horn, 1893 and *Luperus dissimilis* Jacoby, 1888 are transferred from *Pseudoluperus* to *Mexiluperus*; *Scelolyperus tenuimarginatus* Bowditch, 1925, is transferred from *Scelida* to *Mimastra* Baly, 1865 and is synonymized with *Mimastra semimarginata* Jacoby, 1886 syn. nov.; *Pseudoluperus fulgidus* Wilcox, 1965 and *Pseudoluperus linus* Wilcox, 1965 are transferred from *Pseudoluperus* to *Monoaster*; *Crioceris detrita detrita* Fabricius, 1801, *Malacosoma detrita laevicollis* Jacoby, 1887, *Pyesia detrita meridionalis* Bechyné, 1958, *Pyesia elytropleuralis elytropleuralis* Bechyné, 1958, and *Pyesia elytropleuralis subalutacea* Bechyné, 1958 are transferred from *Pyesia* Clark, 1865 to *Pyesexora*; *Luperodes spretus* Horn, 1893 and *Luperodes texanus* Horn, 1893 are transferred from *Pseudoluperus* to *Texiluperus*; *Chthoneis smaragdipennis* Jacoby, 1888 is transferred from *Platymorpha* Jacoby, 1888 to *Trachyelytron*; *Luperus albomarginatus* Jacoby, 1888 is

transferred from *Pseudoluperus* to *Trichobrotica* Bechyné, 1956; and *Galleruca sordida* LeConte, 1858, *Monoxia apicalis* Blake, 1939, *Monoxia batisia* Blatchley, 1917, and *Monoxia brisleyi* Blake, 1939 are transferred from *Monoxia* LeConte, 1865 to *Yingabruxia*; all comb. nov. *Pseudoluperus decipiens* (Horn, 1893), originally described in *Scelolyperus* Crotch, 1874, is reduced to a junior synonym of *Pseudoluperus longulus* (LeConte, 1857), syn. nov. *Trachyscelida dichroma* Viswajyothi & Clark is proposed as a nom. nov. for *Racenisa bicolor* Bechyné, 1958 (not *Agelastica bicolor* LeConte, 1884), as both species are currently placed in the genus *Trachyscelida* Horn, 1893.

Keywords. Distribution, new combinations, synonym, taxonomy, type species.

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Introduction

Although galerucine classification is in a state of flux, with the validity of some of the historically recognized groupings being doubtful, the prevailing arrangement still largely follows the catalogues of Wilcox (1971, 1972, 1973) and is reflected in the subsequent list of genera by Seeno & Wilcox (1982). The subfamily is divided into tribes (-ini endings), which are subdivided into subtribes (-ina endings) and further into sections (-ites endings). Oddly, the subtribal rank is sometimes omitted, the tribes being directly divided into sections. Unfortunately, some of the taxa are very inadequately differentiated from each other. With the relatively recent addition of Alticini Newman, 1835 (formerly regarded as a separate subfamily), six tribes are recognized. These are Oidini Chapuis, 1875, an exclusively Old World tropical tribe, with approximately 183 species in seven genera; Galerucini, with approximately 1013 species in 123 genera in five sections; Metacyclini, with approximately 259 species within 37 genera; Hylaspini Chapuis, 1875, with approximately 394 species in 49 genera in six loosely arranged sections; Luperini, with approximately 3953 species in 272 genera in 18 sections within three subtribes; and Alticini, which is not treated in the present investigation (Wilcox 1971, 1972, 1973; Seeno & Wilcox 1982). These numbers are all approximate, since additional taxa have been proposed subsequent to the publications mentioned above. Nie *et al.* (2017) reported 543 total genera and 7145 total species for non-alticine Galerucinae. However, we believe a more accurate count to be 544 genera and 7318 species.

Numerous studies deal with the phylogeny of Galerucinae (e.g., Eben & Monteros 2003a, 2003b, 2008, 2013; Gillespie *et al.* 2003, 2004, 2008; Kim *et al.* 2003; Duckett *et al.* 2004; Nokkala & Nokkala 2004; Swigoňová & Kjer 2004; Bünnige *et al.* 2008; Ge *et al.* 2011, 2012; Eben 2012; Hua *et al.* 2014; Song *et al.* 2018; Nie *et al.* 2020). The abovementioned classification is largely supported by these studies, but there are many exceptions. For instance, Oidini and Hylaspini should probably be combined with Luperini (Duckett *et al.* 2004; Gillespie *et al.* 2004, 2008; Nie *et al.* 2020). Additionally, some studies place Metacyclini as the sister to Galerucini (e.g., Gillespie *et al.* 2003, 2004). In contrast, some studies do not recover Metacyclini as monophyletic (e.g., Duckett *et al.* 2004). Indeed, Beenen (2013) synonymized Metacyclini with Galerucini. Further investigation may be needed before this synonymy is widely accepted. Moreover, note that some genera that have been regarded as metacyclines, such as *Hecataeus* Jacoby, 1888 and *Masurius* Jacoby, 1888, may not be closely related to the other metacyclines (Gillespie *et al.* 2008; Nie *et al.* 2020). Below the level of tribes, some of the sections are strongly recovered, but not all of them. For instance, Phyllobroticites Chapuis, 1875 may be paraphyletic (Gillespie *et al.* 2008). At the genus level, there are also many problems. For instance, genera such as *Gynandrobrotica* Bechyné, 1955 and *Isotes* Weise, 1922 are probably not monophyletic (Eben & Monteros 2003a, 2003b, 2008, 2013, 2015; Gillespie *et al.* 2004, 2008; Eben 2012). In spite of major

advances in the understanding of phylogeny, many of the questions have not been adequately answered. Future studies, involving larger taxon sampling, are warranted (Gillespie *et al.* 2008).

The subfamily Galerucinae in the New World is poorly studied. In large part, this is because the taxonomic literature is widely scattered. Would-be galerucine taxonomists are often discouraged due to the near absence of identification keys, even to the level of genus. Actually, keys to genera are published for some areas (e.g., Wilcox 1965; Bechyné & Bechyné 1969; Bechyné 1997; Riley *et al*. 2002a). Additionally, some keys facilitate identification of genera within taxonomic subgroups of Galerucinae (e.g., Bechyné 1957, 1958; Blake 1958, 1966a, 1966b; Smith & Lawrence 1967; Bechyné & Bechyné 1968; Moura 2010; Derunkov *et al.* 2015). However, there are no published keys that treat all galerucine genera for the entire New World. We here provide such a comprehensive key. With the notable exception of Alticini, which hopefully will be treated by flea beetle specialists, this key includes all galerucine genera known to occur in the New World. Being the first such published attempt, the key surely includes some problems and errors. Even so, we believe that it achieves the goal of facilitating correct generic identification of most specimens.

Material and methods

All specimens studied were in the adult stage. They were examined using Wild M5A and Olympus SZ61 stereo microscopes. Microphotography employed an Olympus SZX12 dissecting microscope equipped with an Olympus DP70 camera. Image montage employed Olympus cellSens software. Images were later retouched with Adobe Photoshop.

The annotated list of genera is arranged according to recent classifications. Notwithstanding, we recognize that some of the subtribes (-ina endings) and especially sections (-ites endings) are probably unnatural (Gillespie *et al.* 2008). In fact, even some of the tribes may not be valid. For instance, Beenen (2013) recommended combining Metacyclini with Galerucini.

The following keys incorporate elements from the above-mentioned publications, as well as from extensive unpublished notes left behind by the late John A. Wilcox (now in possession of Shawn Clark). They also incorporate many novel characters observed during our own examinations of beetles but not previously reported. At present, several of the galerucine genera are heterogeneous with regards to the included species. Future study will undoubtedly result in the descriptions of many new genera and revised generic placements of many species. However, only a few taxonomic changes are formalized in this publication. Instead, the following key to genera accounts for much of the generic heterogeneity, allowing identification of most of the species into the genera in which they are currently classified. Also, in some instances, the characters of a particular genus are variable or intermediate between the options employed in the key, or the characters are easily misinterpreted. With these considerations in mind, some genera appear in multiple places in the key. In just a few instances, the key will allow for identification of only the type species and its close relatives, not for some of the anomalous species that are currently included in the genus. In such instances, explanations are usually given in the Annotated List of Genera preceding the key.

We have provided habitus illustrations of most of the genera, as well as illustrations of many diagnostic characters. However, the illustrations are not to scale; thus, the size of the beetles should not be interpreted based on the illustrations.

Results

Class Insecta Linnaeus, 1758
Order Coleoptera Linnaeus, 1758
Family Chrysomelidae Latrielle, 1802

Subfamily **Galerucinae** Latreille, 1802

Annotated list of genera

Tribe Galerucini Latreille, 1802
Section Coelomerites Chapuis, 1875

Genus ***Apteroyinga*** Viswajyothi & Clark, 2020

Apteroyinga Viswajyothi & Clark, 2020b: 228 (type species *Apteroyinga andrewsi* Viswajyothi & Clark, 2020, by original designation).

Remarks

This genus contains just one described species, *A. andrewsi* from Costa Rica. See Fig. 21 for a habitus illustration. Although distinctive in some of its features, this genus is probably closely related to *Socorroita* Bechyné, 1956.

Genus ***Austrochorina*** Bechyné, 1963

Austrochorina Bechyné, 1963: 236 (type species *Monocesta consularis* Clark, 1865, by monotypy).

Remarks

This genus includes just one described species, *A. consularis* (Clark, 1865) from Brazil. See Fig. 3 for a habitus illustration.

Genus ***Caraguata*** Bechyné, 1954

Caraguata Bechyné, 1954: 123 (type species *Monocesta sublimbata* Baly, 1879, by original designation).

Remarks

This genus contains 38 described species, occurring from Mexico through much of South America. See Figs 6 and 223. See Bechyné (1958) for a key including several of the species.

Genus ***Chorina*** Baly, 1866

Chorina Baly, 1866: 471 (type species *Monocesta cincta* Clark, 1865, by original designation).

Remarks

This genus includes three described species, all of which occur in Brazil. See Fig. 8 for a habitus illustration.

Genus ***Coelomera*** Chevrolat in Dejean, 1836

Coelomera Chevrolat in Dejean, 1836: 375 (type species *Chrysomela cajennensis* Fabricius, 1787, by subsequent designation of Weise 1924).

Remarks

This genus contains 32 described species. They are distributed from Guatemala through much of South America. See Fig. 7 for a habitus illustration.

Genus ***Coraia*** Clark, 1865

Coraia Clark, 1865: 323 (type species *Coraia maculicollis* Clark, 1865, by monotypy).

Remarks

This genus includes four described species, which occur from Texas to Guatemala. See Figs 4–5 for habitus illustrations.

Genus ***Derospidea*** Blake, 1931

Derospidea Blake, 1931: 32 (type species *Trirhabda brevicollis* LeConte, 1865, by original designation).

Remarks

This genus includes three described species, which occur from Canada to Mexico. See Fig. 12 for a habitus illustration.

Genus ***Dicoelotrachelus*** Blake, 1941

Dicoelotrachelus Blake, 1941: 171 (type species *Dicoelotrachelus darlingtoni* Blake, 1941, by original designation).

Remarks

This genus includes five described species. See Fig. 13 for a habitus illustration. The genus occurs in Cuba and Hispaniola.

Genus ***Dircema*** Clark, 1865

Dircema Clark, 1865: 262 (type species *Galleruca nigripennis* Fabricius, 1792, by subsequent designation of Dallas 1866).

Remarks

This genus includes 25 described species, all from South America. See Figs 10 and 186 for a habitus illustration and morphological details. See Bechyné (1951) for a key that includes most of the species.

Genus ***Gonaives*** Clark, 1987

Gonaives Clark, 1987a: 167 (type species *Gonaives buenae* Clark, 1987, by original designation).

Remarks

This genus contains just one described species, *G. buenae* from Haiti. See Fig. 45 for a habitus illustration.

Genus ***Megarhabda*** gen. nov.
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Type species

Trirhabda obscurovittata Jacoby, 1886, by present designation.

Diagnosis

This genus is quite different from *Trirhabda* LeConte, 1865 (the genus in which the single named species of *Megarhabda* gen. nov. was previously placed). Among other things, the pronotum of *Megarhabda* is very short (about 2.5 times as broad as long). In this respect, the new genus is similar to *Derospidea*, but differs in the larger pronotal depressions and the more broadly explanate lateral pronotal margins (Fig. 192). See the following key for additional diagnostic characters.

Etymology

The genus name '*Megarhabda*' suggests a relationship to *Trirhabda*, but with unusually large size. It should be treated as a female noun.

Remarks

This genus includes a single named species, *M. obscurovittata* (Jacoby, 1886), which occurs from Guatemala to Panama, but an undescribed species from Guatemala and Mexico also belongs here. See Fig. 14 for a habitus photograph.

Genus ***Miraces*** Jacoby, 1888

Miraces Jacoby, 1888: 611 (type species *Miraces aeneipennis* Jacoby, 1888, by monotypy).
Halticidea Horn, 1893: 61 (type species *Halticidea delata* Horn, 1893, by subsequent designation of Wilcox 1965).

Remarks

This genus contains five described species. They are distributed from the southern United States through Guatemala, and in West Indies. Other species, apparently undescribed, occur throughout much of Latin America, including South America. See Fig. 18 for a habitus illustration. See Wilcox (1965) for a key to the species occurring in the United States.

Genus ***Monocesta*** Clark, 1865

Monocesta Clark, 1865: 264 (type species *Monocesta imperialis* Clark, 1865, by subsequent designation of Weise 1924).

Remarks

Although the elytra in this genus are pubescent, the setae are easily overlooked in some species. The key allows for correct identification, even if the elytra are interpreted as being asetose. The genus includes 28 described species, occurring in the United States through much of South America, and in West Indies. See Figs 1, 146, and 195.

Genus ***Narichona*** Kirsch, 1883

Narichona Kirsch, 1883: 203 (type species *Narichona haroldi* Kirsch, 1883, by subsequent designation of Wilcox 1971).

Remarks

This genus contains three described species, occurring in Colombia and Peru.

Genus ***Neophaestus*** Hincks, 1949

Phaestus Jacoby, 1887: 570 (type species *Phaestus chiriquensis* Jacoby, 1887, by monotypy).
Neophaestus Hincks, 1949: 617 (replacement name for *Phaestus* Jacoby, 1887).

Remarks

This genus currently includes a single species, *N. chiriquensis* (Jacoby, 1887) from Panama. See Fig. 11 for a habitus illustration. Some characteristics, such as the narrow epipleuron, suggest a close relationship with *Apteroyinga* and *Socorroita* Bechyné, 1956.

Genus ***Nestinus*** Clark, 1865

Nestinus Clark, 1865: 324 (type species *Nestinus bimaculatus* Clark, 1865, by subsequent designation of Barber in Blake 1931).
Monotia Jacoby, 1879: 787 (type species *Monotia viridis* Jacoby, 1879, by monotypy).

Remarks

This genus includes seven described species, occurring in Mexico and Guatemala. See Fig. 19 for a habitus illustration. The genus also includes *N. incertus* Clark, 1865, from Brazil, but the generic placement of this species is extremely doubtful.

Genus ***Platycesta*** Viswajyothi & Clark, 2021

Platycesta Viswajyothi & Clark, 2021b: 474 (type species *Monocesta depressa* Clark, 1865, by original designation).

Remarks

This genus includes just one described species, *P. depressa* (Clark, 1865), which is distributed in Central America and northwestern South America. Although it has been reported from the United States (Kim *et al.* 2003), this was surely in error. See Figs 2 and 152 for a habitus illustration and details of morphology.

Genus ***Socorroita*** Bechyné, 1956

Socorroita Bechyné, 1956a: 286 (type species *Monocesta carinipennis* Bowditch, 1923, by original designation).

Remarks

This genus includes only two described species, both from Colombia. See Figs 16–17, 183–184, and 218–219 for illustrations. In some aspects, such as the narrow epipleura, it is similar to *Neophaestus*. Even so, the type species of the two genera are very different from each other, based on various other characteristics. However, we are aware of ten apparently undescribed species that seem to be closely related to these genera (Costa Rica, Panama, Colombia, Ecuador; all in the Brigham Young University collection). Some of the undescribed species are intermediate between the two genera. We do not suggest that the two genera are synonymous. Rather, new genera should probably be erected to accommodate the intermediate species.

Genus ***Syphaxia*** Baly, 1866

Syphaxia Baly, 1866: 471 (type species *Monocesta spectanda* Clark, 1865, by original designation).

Remarks

This genus includes just two described species, one in Peru and the other in French Guiana. See Figs 9 and 144.

Genus ***Trirhabda*** LeConte, 1865

Trirhabda LeConte, 1865: 219 (type species *Trirhabda nitidicollis* LeConte, 1865, by subsequent designation of Barber in Blake 1931).

Remarks

This genus contains 29 described species, occurring from Canada to Guatemala. Although the elytra are pubescent, the setae are easily overlooked in some species. The following key allows for correct identification of the genus, even if the elytra are interpreted as being asetose. See Fig. 15 for a habitus illustration. Blake (1931), Wilcox (1965), and Hogue (1970) each provided useful keys for species identification, although a few species were missing in each instance.

Tribe Galerucini Latreille, 1802
Section Atysites Chapuis, 1875

Genus ***Diorhabda*** Weise, 1883

Diorhabda Weise, 1883: 316 (type species *Galeruca elongata* Brullé, 1832, by original designation).

Remarks

Four Palearctic species from North America (United States and Mexico), where they have intentionally been released for the biological control of *Tamarix* L. (Tamaricaceae). See Figs 20, 147, and 220 for a habitus illustration and morphological details. See Tracy & Robbins (2009) for a key to the species.

Genus ***Galerucella*** Crotch, 1873

Galerucella Crotch, 1873: 55.

Subgenus ***Galerucella*** Crotch, 1873

Galerucella Crotch, 1873: 55 (type species *Chrysomela nymphaeae* Linnaeus, 1758, by subsequent designation of Maulik 1936).
Hydrogaleruca Laboissière, 1922: 33 (type species *Chrysomela nymphaeae* Linnaeus, 1758, by original designation).

Subgenus ***Neogalerucella*** Chûjô, 1962

Neogalerucella Chûjô, 1962: 38 (type species *Chrysomela tenella* Linnaeus, 1761, by original designation).

Remarks

See Manguin *et al.* (1993) for a key to the species occurring in the New World. The subgenus *Galerucella* is represented in Canada and the United States by a single species, *G. nymphaeae* (Linnaeus, 1758), which also occurs in the Palearctic Region. The subgenus *Neogalerucella* includes two species that are native to Canada and the northern United States. It also includes two Palearctic species that have intentionally been introduced to Canada and the United States for biological control of the invasive plant *Lythrum salicaria* L. (Lythraceae). See Figs 25 and 153 for a habitus illustration and morphological details.

Genus ***Pyrrhalta*** Joannis, 1865

Pyrrhalta Joannis, 1865: 82 (type species *Galeruca viburni* Paykull, 1778, by monotypy).
Hoplostines Blackburn, 1890: 361 (type species *Hoplostines viridipennis* Blackburn, 1890, by monotypy).
Decoomanius Laboissière, 1927: 55 (type species *Decoomanius limbatus* Laboissière, 1927, by original designation).
Chapalia Laboissière, 1929: 269 (type species *Chapalia jeanvoinei* Laboissière, 1929, by original designation).

Remarks

Pyrrhalta viburni (Paykull, 1778), a Palearctic species, has been accidentally introduced to Canada and the United States. See Fig. 23 for a habitus illustration.

Genus ***Tricholochmaea*** Laboissière, 1932

Tricholochmaea Laboissière, 1932: 963 (type species *Galerucella semifulva* Jacoby, 1885, by original designation).

Remarks

Riley *et al.* (2003) listed 13 Nearctic species for this Holarctic genus, occurring in both Canada and the United States. Some of the species are subdivided into subspecies, which might more properly be regarded as valid species. Beyond this, several undescribed Nearctic species also belong in this genus (Ward 1982). Lee & Bezděk (2021) treated *Tricholochmaea* as a synonym of *Pyrrhalta*. However, we defer acceptance of this taxonomic change until further evidence is available. See Fig. 22 for a habitus illustration of *Tricholochmaea*. See Wilcox (1965) and Ward (1982) for keys to the Nearctic species.

Genus ***Xanthogaleruca*** Laboissière, 1934

Xanthogaleruca Laboissière, 1934: 67 (type species *Chrysomela luteola* Müller, 1766, by monotypy).

Remarks

One species, *X. luteola* (Müller, 1766), is native to the Palearctic Region but has been accidentally introduced to both North and South America. See Fig. 24 for a habitus illustration. Nie *et al.* (2013) treated *Xanthogaleruca* as a synonym of *Pyrrhalta*. However, Lee & Bezděk (2021) regarded *Xanthogaleruca* to be a valid genus, separate from *Pyrrhalta*. At least until additional evidence is available, we also treat *Xanthogaleruca* as a separate genus.

Tribe Galerucini Latreille, 1802
Section Schematizites Chapuis, 1875

Genus ***Brucita*** Wilcox, 1965

Brucita Wilcox, 1965: 42 (type species *Galerucella marmorata* Jacoby, 1886, by original designation).

Remarks

Only a single species, *B. marmorata* (Jacoby, 1886), occurring from south Texas to Guatemala, is currently placed in this genus. See Figs 32 and 204 for a habitus illustration and morphological details. However, some undescribed species or species currently placed in *Yingaresca* Bechyné, 1956 might properly belong here.

Genus ***Chlorolochmaea*** Bechyné & Bechyné, 1969

Chlorolochmaea Bechyné & Bechyné, 1969: 16 (type species *Monocesta parallela* Bowditch, 1923, by monotypy).

Remarks

This genus contains a single described species, *C. parallela* (Bowditch, 1923) from South America (Fig. 43). See Moura (1998a) for a detailed description of the species.

Genus ***Erynephala*** Blake, 1936

Erynephala Blake, 1936: 425 (type species *Galeruca maritima* LeConte, 1865, by original designation).
Sarigueia Bechyné, 1956a: 302 (type species *Galerucella subvittata* Demay, 1838, by original designation).

Remarks

This genus contains six described species, distributed from Canada to Argentina. The tarsal claws are bifid in males and simple in females. The elytra are covered with short setae, but these are sparse and inconspicuous in some species. Our key enables correct identification, even if the elytra are interpreted to be asetose. See Figs 34 and 151 for a habitus illustration and morphological details. See Groll *et al.* (2022) for a cladistic analysis and a key to the described species.

Genus ***Itaitubana*** Bechyné, 1963

Itaitubana Bechyné, 1963: 238 (type species *Galerucella spinipennis* Bowditch, 1923, by monotypy).

Remarks

This genus currently contains nine species, distributed from Mexico through much of South America. See Figs 26–27 and 222 for habitus illustrations and morphological details. However, the species are heterogeneous. Among other things, the tarsal claws are reported to be either bifid or appendiculate. Future investigation will likely reveal that some species need to be transferred to other genera. Beyond the claws, the relative lengths of the antennomeres also vary. Some workers have used the very long third antennomere as a diagnostic character for *Itaitubana* (e.g., Bechyné & Bechyné 1969). Indeed, we have employed this character in the following key. However, species such as *I. alternata* (Jacoby, 1886) do not have this characteristic. Future study may prove that they would be better placed in *Caraguata*.

Genus ***Iucetima*** Moura, 1998

Iucetima Moura, 1998b: 76 (type species *Neolochmaea quadrilineata minor* Bechyné, 1954, by original designation).

Remarks

This genus contains three described species. They occur in Argentina, Brazil, and Paraguay. See Figs 42, 215, and 224. See Moura (1998b) for a key to the species.

Genus ***Metrogaleruca*** Bechyné & Bechyné, 1969

Metrogaleruca Bechyné & Bechyné, 1969: 24 (type species *Chrysomela obscura* DeGeer, 1775, by original designation).

Remarks

This genus currently includes only five species, distributed from Mexico through much of South America, as well as in the Lesser Antilles. However, some species currently placed in *Schematiza* Chevrolat, 1836, *Yingaresca*, or *Ophraea* Jacoby, 1886 might properly belong in *Metrogaleruca*. See Figs 31 and 221 for illustrations of *Metrogaleruca*.

Genus ***Monoxia*** LeConte, 1865

Monoxia LeConte, 1865: 221 (type species *Galleruca angularis* LeConte, 1859, by subsequent designation of Blake 1939).

Remarks

This genus contains 15 described species, distributed from Canada to Guatemala. See Fig. 35 for a habitus illustration. See Blake (1939) for a key to the species. However, realize that one species from Texas has been named subsequent to that key, and the generic placement of the old species from Guatemala warrants reevaluation (Riley 2020). All species of *Monoxia* are rather similar to each other, although easily separating into two groups, those with slender, dorsoventrally flattened aedeagi, and those with more robust aedeagi. Whereas most of the species have bifid claws in the male and simple claws in the female, the anomalous species *M. schizonycha* Blake, 1939 has bifid claws in both genders. Four species formerly included in the genus are herein transferred to *Yingabruxia* gen. nov.

Genus ***Neolochmaea*** Laboissière, 1939

Neolochmaea Laboissière, 1939: 153 (type species *Lochmaea tropica* Jacoby, 1889, by original designation).

Remarks

This genus contains three described species, distributed in Florida, the West Indies, Central America, and South America. See Fig. 41 for a habitus illustration. See Moura (1998c) for a key to the species.

Genus ***Ophraea*** Jacoby, 1886

Ophraea Jacoby, 1886: 492 (type species *Ophraea rugosa* Jacoby, 1886, by subsequent designation of Wilcox 1965).

Remarks

This genus currently contains twelve species, distributed from Arizona to Costa Rica. See Figs 40, 154, and 188 for a habitus illustration and morphological details. See Bechyné (1950) for a key that includes some, but certainly not all, of the species currently placed in the genus. However, be aware that *Ophraea*, as currently constituted, is heterogeneous. Some species should probably be transferred to other genera, such as *Metrogaleruca*. The following key to genera reflects the characteristics of the type species, but not necessarily those of all the species currently included in the *Ophraea*.

Genus ***Ophraella*** Wilcox, 1965

Ophraella Wilcox, 1965: 43 (type species *Galleruca notata* Fabricius, 1801, by original designation).

Remarks

This genus contains 14 described species, occurring from Canada to Mexico. See Figs 37–39 for habitus illustrations. See LeSage (1986) for a key to the species. However, realize that two additional species

have been named subsequent to that key (Futuyma 1990, 1991). Another species, *O. godmani* (Jacoby, 1886), occurring in Mexico and Guatemala, is also included in the genus, but this generic placement is extremely questionable. Several South American species have also been included in the genus (Bechyné 1997), but we also doubt this placement.

Genus ***Platynocera*** Blanchard, 1842

Platynocera Blanchard, 1842: 212 (type species *Platynocera murina* Blanchard, 1842, by monotypy).
Corynocesta Bechyné, 1956a: 291 (type species *Corynocesta peruviana* Bechyné, 1956, by monotypy).

Remarks

This genus contains three described species, all from South America. See Figs 33, 208, and 229.

Genus ***Schematiza*** Chevrolat in Dejean 1836

Schematiza Chevrolat in Dejean 1836: 377 (type species *Lycus laevigatus* Fabricius, 1801, by subsequent designation of Barber 1947b).

Remarks

This genus currently contains 37 described species, distributed from Mexico through much of South America. See Fig. 28 for a habitus illustration. However, some of these species are very similar to those currently in *Metrogaleruca*. The characteristics of other species currently in *Schematiza* are intermediate between the two genera. Likely, careful investigation will either reveal the need for synonymizing the two putative genera, or the investigation will lead to the transferal of some species from *Schematiza* to *Metrogaleruca*.

Genus ***Yingabruxia*** gen. nov.
urn:lsid:zoobank.org:act:80E0FCE4-B2DE-4000-9CBF-5762AFA93C9E

Type species

Galleruca sordida LeConte, 1858, by present designation.

Diagnosis

Although the species included in this genus were formerly placed in *Monoxia*, the two genera are significantly different. The tarsal claws in *Yingabruxia* gen. nov. are always bifid, while those of most species (one exception) of *Monoxia* are bifid in the male and simple in the female. In *Yingabruxia*, the prothorax is usually more than twice as wide as long, and the lateral third of the pronotum is almost entirely occupied by a large depression. In contrast, the pronotum of *Monoxia* is usually not more than twice as wide as long, and the lateral third of the pronotum is partially occupied by a convex elevation. See the following key for additional diagnostic characters.

Etymology

The genus name '*Yingabruxia*' is a conglomeration, suggesting similarities to *Yingaresca*, *Brucita*, and *Monoxia*. It should be treated as a female noun.

Remarks

Four species previously included in *Monoxia* [*M. apicalis* Blake, 1939; *M. batisia* Blatchley, 1917; *M. brisleyi* Blake, 1939; and *M. sordida* (LeConte, 1858)] are here transferred to this new genus, all comb. nov. The distribution of *Yingabruxia* gen. nov. is from Canada to Mexico.

The food plants of *Yingabruxia* gen. nov. are often Solanaceae, while those of *Monoxia* are often Asteraceae. Both genera are in some instances associated with Amaranthaceae. The general appearance of *Yingabruxia* is similar to that of *Yingaresca* and *Brucita*, while the appearance of *Monoxia* is more similar to *Ophraella*. See Fig. 36 for a habitus illustration of *Yingabruxia*. See Blake (1939) and Wilcox (1965) for keys to the species (treated as part of *Monoxia*).

Genus ***Yingaresca*** Bechyné, 1956a

Yingaresca Bechyné, 1956a: 298 (type species *Galerucella difficilis* Bowditch, 1923, by original designation).

Remarks

As currently constituted, approximately 50 species of this genus occur from Mexico through much of South America, as well as in West Indies. See Figs 29–30 for habitus illustrations. However, the genus includes a rather heterogeneous assemblage of species. Future study will likely show that some species are better placed in other genera (for instance *Brucita* or *Metrogaleruca*). Also, new genera will likely need to be described to accommodate some of the species.

Tribe Galerucini Latreille, 1802
Section Galerucites Latreille, 1802

Genus ***Galeruca*** Geoffroy, 1762

Galeruca Geoffroy, 1762: 251.

Subgenus ***Galeruca*** Geoffroy, 1762

Galeruca Geoffroy, 1762: 251 (conserved name, ICZN Opinion 1754 [1994]; type species *Chrysomela tanaceti* Linnaeus, 1758, by subsequent designation of Latreille 1810).
Adimonia Laicharting, 1781: 190 (type species *Chrysomela tanaceti* Linnaeus, 1758, by subsequent designation of Beenen 2010)

Subgenus ***Emarhopa*** Weise, 1886

Emarhopa Weise, 1886: 657 (extralimital; type species *Galeruca rufa* Germar, 1823, by monotypy).

Subgenus ***Haptoscelis*** Weise, 1886

Haptoscelis Weise, 1886: 658 (extralimital; type species *Galeruca melanocephala* Ponza, 1805, by monotypy).

Subgenus ***Galerima*** Reitter, 1903

Galerima Reitter, 1903: 133 (extralimital; type species *Galeruca monticola* Kiesenwetter, 1850, by monotypy).

Subgenus ***Galerotoma*** Reitter, 1903

Galerotoma Reitter, 1903: 139 (extralimital; type species *Adimonia haagi* Joannis, 1865, by monotypy).

Subgenus ***Fassatia*** Havelka, 1955

Fassatia Havelka, 1955: 115 (extralimital; type species *Galeruca microptera* Havelka, 1955, by original designation).

Subgenus ***Rhabdotilla*** Jacobson, 1911

Rhabdotilla Jacobson, 1911: pl. 59 (extralimital; type species *Rhabdotilla rosti* Jacobson, 1911, by monotypy [= *Galeruca sexcostata* Jacoby, 1904]).
Galemira Beenen, 2003: 2 (type species *Galeruca sexcostata* Jacoby, 1904, by original designation).

Remarks

This Holarctic genus is represented in Canada and the United States by five species. They all belong to the subgenus *Galeruca*. See Figs 44 and 150 for a habitus illustration and morphological details. See Blake (1945) and Wilcox (1965) for keys to the New World species.

Tribe Galerucini Latreille, 1802
Section Apophyliites Chapuis, 1875

Genus ***Metalepta*** Baly, 1861

Metalepta Baly, 1861: 205 (type species *Metalepta tuberculata* Baly, 1861, by original designation).

Remarks

This genus includes three described species, distributed in Ecuador and Peru. See Fig. 50 for a habitus illustration. Beenen (2013) reported the front coxal cavities to be posteriorly closed. However, they appear to be open in material we have examined. Perhaps, this character is variable among the species. Regarding this genus, we have not used this character in the following key. The placement in the principally Old World section Apophyliites is quite doubtful.

Tribe Metacyclini Chapuis, 1875

Genus ***Byblitea*** Baly, 1864

Byblitea Baly, 1864: 136 (type species *Byblitea deyrollei* Baly, 1864, by original designation).

Remarks

As currently constituted, this genus contains six described species, all from South America. It is distinguished from most other metacycline genera by having bifid, rather than appendiculate, tarsal claws. However, some species currently placed in *Chthoneis* Baly, 1864 (but not the type species) are extremely similar to some species currently in *Byblitea*, although possessing appendiculate claws. Perhaps, such species should be transferred to *Byblitea*. Alternatively, a new genus may need to be erected, with some members possessing bifid claws and others appendiculate claws. Further taxonomic investigation is warranted. See Figs 59 and 157.

Genus ***Chthoneis*** Baly, 1864

Chthoneis Baly, 1864: 135 (type species *Chthoneis apicicornis* Baly, 1864, by monotypy).

Remarks

This genus contains 28 described species. See Fig. 65 for a habitus illustration. They occur from Mexico through much of South America. Numerous undescribed species also belong in the genus.

Genus ***Elyces*** Jacoby, 1888

Elyces Jacoby, 1888: 612 (type species *Elyces quadrimaculatus* Jacoby, 1888, by subsequent designation of Wilcox 1971).

Remarks

This genus contains six described species, plus numerous apparently undescribed species from Guatemala to Peru. See Figs 58 and 161.

Genus ***Exora*** Chevrolat in Dejean 1836

Exora Chevrolat in Dejean 1836: 379 (type species *Crioceris olivacea* Fabricius, 1801, by subsequent designation of Hincks 1949).

Remarks

This genus currently contains 14 described species, but some of these should probably be transferred to *Trigonexora* Bechyné & Bechyné. True *Exora* occurs from Mexico through much of South America, and in the Lesser Antilles. See Fig. 56 for a habitus illustration. See Bechyné (1958) for a key to distinguish some of the species and subspecies. As with most Metacyclini, the larval habits of *Exora* are largely unknown. However, in unpublished notes from the late John A. Wilcox (currently in the possession of Shawn M. Clark), he recorded the following correspondence that he received from Jan Bechyné (dated 16 May 1970): "I have received important information from F. Fernández Yépez: The larvae of *Pyesia* Clark, 1865 or *Exora* have been collected in the FRUITS of Inga (Leguminosae-tree) and the adults have been obtained in laboratory ex larvae. I am unable to find the corresponding material now (may be in alcohol)."

Genus ***Hecataeus*** Jacoby, 1888

Hecataeus Jacoby, 1888: 612 (type species *Hecataeus nigricollis* Jacoby, 1888, by monotypy).

Remarks

This genus contains three described species, occurring in Panama and Brazil. See Fig. 46 for a habitus illustration. The inclusion in Metacyclini may not be correct (Nie *et al.* 2020).

Genus ***Malacorhinus*** Jacoby, 1887

Malacorhinus Jacoby, 1887: 582 (type species *Diabrotica foveipennis* Jacoby, 1879, by original designation).

Remarks

This genus occurs from the United States to Panama, as well as in South America (Bolivia and Venezuela). See Figs 61, 187, and 226 for illustrations. It contains 24 described species. Numerous undescribed species also belong here. The males of some species are immediately recognizable by the odd depression located laterally, near the mid-length of each elytron. In some species, there is an intricate structure within the depression, but this is missing in others. Unfortunately, some specimens cannot be identified by this depression, as it is entirely missing from the males of some species, as well as from the females of all species. In these instances, less conspicuous features must be employed for identification. Similar elytral depressions are present in other genera, but rather than being near mid-length, they are near the apicolateral angle or the apex.

Genus ***Masurius*** Jacoby, 1888

Masurius Jacoby, 1888: 614 (type species *Masurius bifasciatus* Jacoby, 1888, by subsequent designation of Wilcox 1971).

Remarks

Wilcox (1971) listed only one species for this genus from Panama. However, see the comments below, regarding the genus *Zepherina* Bechyné, 1958. See Figs 57 and 185 for illustrations of specimens possessing the characters *Masurius*, but differing in color from the type species.

Genus ***Metacycla*** Baly, 1861

Metacycla Baly, 1861: 206 (type species *Metacycla sallei* Baly, 1861, by original designation).
Gastrogyna LeConte, 1865: 210 (type species *Diabrotica insolita* LeConte, 1861, by monotypy).

Remarks

This genus includes eight described species, plus several undescribed species. See Fig. 49 for a habitus illustration. They occur in Mexico and Guatemala (also doubtfully recorded from Peru). Whereas the larvae of most Metacyclini are unknown, those of *Metacycla* are clearly leaf-feeders (Andrews & Gilbert 2005). This suggests a closer relationship of Metacyclini with Galerucini (leaf-feeding larvae) than with Luperini (root-feeding larvae). It is noteworthy that, based on the morphology of *Metacycla*, Beenen (2013) advocated the synonymy of Metacyclini with Galerucini. Although *Cneorane nigripes* Allard, 1889 has most recently been classified in *Scelida* Chapuis, 1875, examination of the male holotype (Museum national d'histoire naturelle, Paris) reveals that this species properly belongs in the genus *Metacycla* as comb. nov.

Genus ***Nyctiplanctus*** Blake, 1963

Nyctiplanctus Blake, 1963: 15 (type species *Nyctiplanctus farri* Blake, 1963, by original designation).

Remarks

This genus contains eight described species, all from the West Indies. See Figs 47–48 for habitus illustrations.

Genus ***Pyesexora*** gen. nov.
urn:lsid:zoobank.org:act:6EA58217-4FF6-471D-BD61-01C244A63265

Type species

Crioceris detrita Fabricius, 1801, by present designation.

Diagnosis

All of the named species in this genus were most recently placed in *Pyesia* Clark, 1865, but they dramatically differ from true members of that genus. Among other things, the aedeagus of *Pyesexora* gen. nov. is symmetrical in dorsal view, while that of *Pyesia* is strongly asymmetrical. See the following key for additional diagnostic characters.

Etymology

The name '*Pyesexora*' is a combination of *Pyesia* and *Exora*. It should be treated as a female noun.

Remarks

This new genus occurs from Mexico through much of South America, as well as in the Lesser Antilles. It includes *P. detrita detrita* (Fabricius, 1801) [originally named in *Crioceris* Geoffroy, 1762], *P. detrita laevicollis* (Jacoby, 1887) [originally named in *Malacosoma* Chevrolat, 1837], *P. detrita meridionalis* (Bechyné, 1958) [originally named in *Pyesia*], *P. elytropleuralis elytropleuralis* (Bechyné, 1958) [originally named in *Pyesia*], and *P. elytropleuralis subalutacea* (Bechyné, 1958) [originally named in *Pyesia*], all comb. nov. The genus is in need of taxonomic revision. Our examinations show that there are numerous species, markedly differing from each other in aedeagal shape. Some of the differences we have seen may correspond to the named subspecies, and, if so, these should be elevated to species rank. Other aedeagal differences surely correspond to unnamed species. See Figs 63, 145, 148, 156, 189, and 196 for a habitus illustration and morphological details. See Bechyné (1958) for a key to distinguish some of the putative species and subspecies (cited as *Pyesia*).

Genus ***Pyesia*** Clark, 1865

Pyesia Clark, 1865: 260 (type species *Galeruca laticornis* Germar, 1823, by monotypy).

Remarks

After our transferal of two species to *Pyesexora* gen. nov., *Pyesia* now contains 13 described species. See Fig. 64 for a habitus illustration. However, *Pyesia* continues to be a heterogeneous assemblage of species. The following key will enable some of them to be identified as this genus, but perhaps not all of them. Future taxonomic investigation will probably lead to additional species being removed from *Pyesia* and transferred to other genera (some likely to *Uaupesia* Bechyné, 1957).

Genus ***Sonyadora*** Bechyné, 1958

Sonyadora Bechyné, 1958: 594 (type species *Malacosoma quadripustulatum* Bowditch, 1925, by original designation).

Remarks

This genus currently includes eleven described species, distributed in Central and South America. See Fig. 60 for a habitus illustration. However, they are rather heterogeneous. Possibly, the following key will not identify some of them as *Sonyadora*. Future investigation will probably necessitate the transferal of some species to other genera.

Genus ***Trigonexora*** Bechyné & Bechyné, 1969

Trigonexora Bechyné & Bechyné, 1969: 90 (type species *Exora stilodina* Bechyné & Bechyné, 1962, by original designation).

Remarks

This genus currently contains only four described species, but some of the species currently in *Exora* probably belong here. Numerous apparently undescribed species also belong in *Trigonexora*. The males of some species have a curious, slender appendage on the abdomen, but the males of other species do not. The genus occurs in South America. See Figs 62 and 200.

Genus ***Uaupesia*** Bechyné, 1957

Uaupesia Bechyné, 1957: 139 (type species *Uaupesia romani* Bechyné, 1957, by monotypy).

Remarks

This genus contains eight described species, all from South America. See Figs 69 and 197.

Genus ***Zepherina*** Bechyné, 1958

Zepherina Bechyné, 1958: 590 (type species *Malacosoma bellum* Bowditch, 1925, by original designation).

Remarks

This genus is reported to occur in Central and South America. An undescribed species from the Bahamas may also belong here. However, the genus is composed of a heterogeneous mixture of species. Most notably, the aedeagi vary dramatically in form. The beetles are also very heterogeneous in their externally visible characters (hence, the numerous places the genus appears in the key). Future systematic study will surely result in the genus being subdivided into numerous smaller genera. The following key accounts for much of the heterogeneity, but may not allow for identification of all of the species currently in the genus. Moreover, minimal characters differentiate *Zepherina* from *Masurius*. Some of the species currently placed in *Zepherina* might more properly belong in *Masurius*. Together, the two genera currently contain approximately 60 named species. See Figs 52–55 and 155 for illustrations of *Zepherina*.

Tribe Luperini Gistel, 1848
Subtribe Diabroticina Chapuis, 1875
Section Diabroticites Chapuis, 1875

Genus ***Acalymma*** Barber, 1947

Acalymma Barber, 1947a: 154 (type species *Acalymma gouldi* Barber, 1947, by original designation).

Remarks

This genus contains about 80 described species. They are distributed from Canada through much of South America, as well as in West Indies. See Figs 77–78 for habitus illustrations. See Bechyné (1958), Bechyné & Bechyné (1968), Munroe & Smith (1980), and Cabrera (1999) for keys to many of the species. Some of the smaller beetles are very similar to some of the small *Isotes*, and their generic placements warrant reevaluation.

Genus ***Amphelasma*** Barber, 1947

Amphelasma Barber, 1947a: 158 (type species *Galeruca cava* Say, 1835, by original designation).

Remarks

This genus currently contains only eleven described species, distributed from the United States to northern South America. However, some species currently placed in other genera may properly belong here. On the other hand, *A. nigrolineata* (Jacoby, 1878), a species from Mexico and Central America, might more properly belong in *Diabrotica* Chevrolat, 1836. See Figs 73 and 181 for illustrations of *Amphelasma*.

Genus ***Anisobrotica*** Bechyné & Bechyné, 1969

Anisobrotica Bechyné & Bechyné, 1969: 30 (type species *Diabrotica donckieri* Baly, 1889, by original designation).

Remarks

This genus includes five described species. They occur from Brazil to Argentina. See Figs 74 and 191.

Genus ***Aristobrotica*** Bechyné, 1956

Aristobrotica Bechyné, 1956a: 285 (type species *Galeruca decemguttata* Olivier, 1808, by original designation).

Remarks

This genus contains 17 described species (Moura 2011). They occur in Panama and much of South America. See Figs 91 and 205.

Genus ***Buckibrotica*** Bechyné & Bechyné, 1969

Buckibrotica Bechyné & Bechyné, 1969: 29 (type species *Diabrotica cinctipennis* Baly, 1886, by original designation).

Remarks

This genus contains only one described species, *B. cinctipennis* (Baly, 1886) from South America. See Fig. 83 for a habitus illustration.

Genus ***Cochabamba*** Bechyné, 1955

Cochabamba Bechyné, 1955b: 6 (type species *Diabrotica marginata* Harold, 1875, by original designation).

Remarks

This genus contains about ten described species, all from South America. See Figs 66, 182, 190, and 230.

Genus ***Cornubrotica*** Bechyné & Bechyné, 1969

Cornubrotica Bechyné & Bechyné, 1969: 29 (type species *Diabrotica dilaticornis* Baly, 1879, by original designation).

Remarks

This genus contains only two described species from Venezuela, Brazil and French Guiana. See Figs 81 and 209.

Genus ***Diabrotica*** Chevrolat in Dejean 1836

Diabrotica Chevrolat in Dejean 1836: 380 (type species *Crioceris fucata* Fabricius, 1787, by subsequent designation of Barber 1947a).

Remarks

This is a very large genus, with nearly 400 described species from the New World and includes some of the most agriculturally damaging pests on Earth. Species from North and Central America have recently been treated by Derunkov *et al.* (2020). However, although there are studies of local faunas and of certain species groups, there is no modern, comprehensive treatment for the species from South America. See Fig. 67 for a habitus illustration.

Genus ***Ensiforma*** Jacoby, 1876

Ensiforma Jacoby, 1876: 817 (type species *Ensiforma caerulea* Jacoby, 1876, by original designation).

Remarks

Ensiforma occurs in much of South America. See Fig. 79 for a habitus illustration. The genus currently contains just nine described species. However, numerous other species belong here, but they are currently undescribed or perhaps misplaced in genera such as *Isotes*.

Genus ***Gynandrobrotica*** Bechyné, 1955

Gynandrobrotica Bechyné, 1955a: 9 (type species *Diabrotica xanthoptera* Baly, 1886, by original designation).

Remarks

Wilcox (1972) listed 32 species for this genus. They occur from Mexico through much of South America. However, the genus apparently does not form a monophyletic clade, some species being nested within Diabroticites and others within Cerotomites Chapuis, 1875 (Gillespie *et al.* 2008). See Figs 82 and 158–160.

Genus ***Isotes*** Weise, 1922

Isotes Weise, 1922: 64 (type species *Isotes quadrimaculata* Weise, 1922, by monotypy).
Synbrotica Bechyné, 1956a: 243 (type species *Diabrotica borrei* Baly, 1889, by original designation).

Remarks

This is a large genus, containing about 200 described species, occurring in Mexico, Central America, South America, and the West Indies. See Figs 84–88 for habitus illustrations. The included species are rather heterogeneous, and the relationships to various other genera, such as *Acalymma* and *Ensiforma*, are currently unclear. Future investigation will probably result in *Isotes* being subdivided into numerous smaller genera.

Genus ***Microbrotica*** Jacoby, 1887

Microbrotica Jacoby, 1887: 569 (type species *Microbrotica subglabrata* Jacoby, 1887, by monotypy).

Remarks

Smith & Lawrence (1967) "tentatively" assigned this genus to the tribe Metacyclini. However, we find very little similarity with other metacylines. We here transfer the genus to the section Diabroticites (Luperini: Diabroticina), **new taxonomic placement**. This genus contains a single described species, *M. subglabrata*, which occurs in Panama (Fig. 72).

Genus ***Palmaria*** Bechyné, 1956

Palmaria Bechyné, 1956a: 284 (type species *Palmaria tibialis* Bechyné, 1956, by monotypy).

Remarks

This genus contains a single species, *P. tibialis* from Bolivia and Peru.

Genus ***Paranapiacaba*** Bechyné, 1958

Paranapiacaba Bechyné, 1958: 562 (type species *Diabrotica decemverrucata* Gahan, 1891, by original designation).

Remarks

This genus contains 58 described species. They occur from the United States through much of South America, and in West Indies. See Figs 70–71 for habitus illustrations.

Genus ***Paratriarius*** Schaeffer, 1906

Paratriarius Schaeffer, 1906: 243 (type species *Galeruca dorsata* Say, 1824, by original designation).
Chanchamayia Bechyné, 1956a: 243 (type species *Diabrotica flavolimbata* Erichson, 1847, by original designation).

Remarks

Wilcox (1972) listed 51 species for this genus. They occur in North, Central, and South America. See Figs 75–76, and 227.

Genus ***Platybrotica*** Cabrera & Walsh, 2004

Platybrotica Cabrera & Walsh, 2004: 7 (type species *Platybrotica misionensis* Cabrera & Walsh, 2004, by original designation).

Remarks

This genus contains a single species, *P. misionensis*. Externally, it is very similar to *Diabrotica*, except the male antennae are enlarged and modified. The species occurs in Argentina.

Genus ***Prathapanius*** Viswajyothi & Clark, 2020a

Prathapanius Viswajyothi & Clark, 2020a: 113 (type species *Prathapanius fortis* Viswajyothi & Clark, 2020, by original designation).

Remarks

This genus contains a single described species, *P. fortis* from Ecuador. See Figs 90, 180, and 207.

Genus ***Pseudodiabrotica*** Jacoby, 1892

Pseudodiabrotica Jacoby, 1892: 334 (type species *Pseudodiabrotica metallica* Jacoby, 1892, by monotypy).

Remarks

This genus contains a single species, *P. metallica* (Figs 80, 228) from Mexico.

Genus ***Zischkaita*** Bechyné, 1956

Zischkaita Bechyné, 1956a: 263 (type species *Zischkaita boliviensis* Bechyné, 1956, by monotypy).

Remarks

This genus contains nine described species. They occur in Bolivia, Brazil, and Peru. See Fig. 68 for a habitus illustration.

Tribe Luperini Gistel, 1848
Subtribe Diabroticina Chapuis, 1875
Section Cerotomites Chapuis, 1875

Genus ***Cerotoma*** Chevrolat in Dejean 1836

Cerotoma Chevrolat in Dejean 1836: 379 (type species *Crioceris caminea* Fabricius, 1801, by subsequent designation of Chapuis 1875).
Andrector Horn, 1872: 152 (type species *Andrector sexpunctatus* Horn, 1872, by monotypy).

Remarks

This genus contains 16 described species. They occur from Canada through much of South America, as well as in West Indies. See Figs 97, 165, 166, and 210.

Genus ***Cyclotrypema*** Blake, 1966

Cyclotrypema Blake, 1966b: 354 (type species *Galeruca furcata* Olivier, 1808, by original designation).

Remarks

This genus contains a single described species, *C. furcata* (Olivier, 1808) from Texas and Mexico. See Figs 102, 164, and 194.

Genus ***Eccoptopsis*** Blake, 1966

Eccoptopsis Blake, 1966b: 339 (type species *Neobrotica denticornis* Jacoby, 1887, by original designation).

Remarks

This genus contains twelve described species. They occur from Mexico through much of South America. See Figs 101, 170, 171, and 211 for a habitus illustration and morphological details. See Blake (1966b) for a key to most of the species.

Genus ***Eucerotoma*** Laboissière, 1939

Eucerotoma Laboissière, 1939: 155 (type species *Cerotoma heterocera* Baly, 1866, by original designation).

Remarks

This genus contains 20 described species. They are all from South America. See Figs 99 and 167–169.

Genus ***Hyperbrotica*** Bechyné & Bechyné, 1968

Hyperbrotica Bechyné & Bechyné, 1968: 26 (type species *Crioceris ebraea* Fabricius, 1787, by original designation).

Remarks

This genus contains a single species, *H. ebraea* (Fabricius, 1787), with two named subspecies. The distribution is in northern South America. The tarsal claws are bifid in males. However, the inner claw lobe on the hind leg is slightly broader than the inner lobe on the front and middle legs. Females have appendiculate tarsal claws. See Fig. 92 for a habitus illustration.

Genus ***Hystiopsis*** Blake, 1966

Hystiopsis Blake, 1966b: 324 (type species *Crioceris marginalis* Fabricius, 1801, by original designation).

Remarks

This genus contains 19 described species. They occur throughout much of South America. Most of them were treated in a key by Blake (1966b). See Fig. 93 for a habitus illustration.

Genus ***Interbrotica*** Bechyné & Bechyné, 1965

Interbrotica Bechyné & Bechyné, 1965: 14 (type species *Interbrotica desiderata* Bechyné & Bechyné, 1965, by monotypy).

Remarks

This genus contains a single described species, *I. desiderata* from northeastern Brazil.

Genus ***Metrobrotica*** Bechyné, 1958

Metrobrotica Bechyné, 1958: 596 (type species *Cerotoma geometrica* Erichson, 1847, by original designation).

Remarks

This genus contains a single described species, *M. geometrica* (Erichson, 1847) from Bolivia, Ecuador, and Peru. See Figs 94, 162, 163, 193, and 212.

Genus ***Neobrotica*** Jacoby, 1887

Neobrotica Jacoby, 1887: 571 (type species *Neobrotica variabilis* Jacoby, 1887, by subsequent designation of Weise 1924).

Remarks

This genus contains 64 described species. They occur from the southern United States through much of South America. See Fig. 96 for a habitus illustration. See Blake (1966b) for keys to the species.

Genus ***Potamobrotica*** Blake, 1966

Potamobrotica Blake, 1966b: 351 (type species *Potamobrotica trifasciata* Blake, 1966, by original designation).

Remarks

This genus contains three described species. They occur in Brazil and Venezuela. See Fig. 98 for a habitus illustration.

The Palearctic species *Sermylassa halensis* (Linnaeus, 1767), belonging to the tribe Hylaspini Chapuis, 1875, has been reported from several localities in North America, but these reports are extremely doubtful (Wilcox 1965). Since *Sermylassa* Reitter, 1913 probably does not occur on the American continents, we have excluded this genus from the following key. However, if specimens were to be discovered, they would probably be keyed to couplet 107, although the inner lobes of the tarsal claws are more pointed than in many other genera with appendiculate claws. The uniformly metallic green elytra of *Sermylassa* easily distinguish this genus from the two genera diagnosed in couplet 107, *Potamobrotica* and *Coronabrotica* Moura, 2010.

Genus ***Rachicephala*** Blake, 1966

Rachicephala Blake, 1966b: 353 (type species *Neobrotica vittatipennis* Jacoby, 1887, by original designation).

Remarks

This genus contains a single described species, *R. vittatipennis* (Jacoby, 1887) from Mexico. See Fig. 95 for a habitus illustration.

Tribe Luperini Gistel, 1848
Subtribe Diabroticina Chapuis, 1875
Section Phyllecthrites Horn, 1892

Genus ***Coronabrotica*** Moura, 2010

Coronabrotica Moura, 2010: 27 (type species *Coronabrotica amazonensis* Moura, 2010, by original designation).

Remarks

This genus includes a single species, *C. amazonensis* (Figs 114, 178–179) from Brazil. For comments about this genus, in conjunction with the Palearctic genus *Sermylassa* Reitter, 1913, see our explanation under *Potamobrotica*, section Cerotomites.

Genus ***Deinocladus*** Blake, 1966

Deinocladus Blake, 1966a: 259 (type species *Diabrotica pectinicornis* Baly, 1889, by original designation).

Remarks

This genus contains three described species. They occur in Costa Rica, Colombia, Peru, and Bolivia. See Figs 113, 217, and 231.

Genus ***Ectmesopus*** Blake, 1940

Ectmesopus Blake, 1940: 96 (type species *Ectmesopus darlingtoni* Blake, 1940, by original designation).

Remarks

This genus contains 16 described species. They are all from the Greater Antilles. See Fig. 104 for a habitus illustration. See Blake (1958) for a key that includes most of the described species. However, realize that four species have been named subsequent to that key (Blake 1959, 1966a; Zayas 1988).

Genus ***Heterochele*** Viswajyothi & Clark, 2021

Heterochele Viswajyothi & Clark, 2021a: 3105 (type species *Heterochele actias* Viswajyothi & Clark, 2021, by original designation).

Remarks

This genus contains two described species, occurring in Costa Rica and Panama. It is tentatively placed in the section Phyllecthrites, because the preapical, ventral portion of the male middle tibia is concave. However, the concavity is slight and not forming a deep notch as in most other genera of Phyllecthrites.

The setae along the lateral margin of the pronotum (easily abraded) are suggestive of a relationship with *Acalymma* (section Diabroticites). The deep incision at the apex of the male abdomen and the tarsal claws (bifid in males, appendiculate in females) are both remarkable, as well as somewhat confusing with regards to classification. See Fig. 89 for a habitus illustration.

Genus ***Leptonesiotes*** Blake, 1958

Leptonesiotes Blake, 1958: 75 (type species *Diabrotica cyanospila* Suffrian, 1867, by original designation).

Remarks

This genus contains three extant species, all from Cuba. See Figs 108 and 202 for a habitus illustration and morphological details. A fossil species is known from Dominican amber (Santiago-Blay *et al.* 1996).

Genus ***Luperosoma*** Jacoby, 1891

Luperosoma Jacoby, 1891: 87 (type species *Luperosoma marginata* Jacoby, 1891, by original designation).
Deuterobrotica Bechyné, 1958: 596 (type species *Diabrotica amplicornis* Baly, 1886, by original designation).

Remarks

This genus includes 13 described species, occurring from the southern United States through much of South America. See Fig. 111 for a habitus illustration. See Blake (1958) for a key that includes some, but not all, of the species. Females are hardly distinguishable from females of some species of *Trichobrotica* Bechyné, 1956.

Genus ***Oroetes*** Jacoby, 1888

Oroetes Jacoby, 1888: 600 (type species *Oroetes flavicollis* Jacoby, 1888, by monotypy).

Remarks

This genus contains four described species. They occur in Mexico, Nicaragua, Panama, and Bolivia. See Figs 105, 172, and 216 for a habitus illustration and morphological details. See Niño-Maldonado & Clark (2020b) for a key to species.

Genus ***Parabrotica*** Bechyné & Bechyné, 1961

Parabrotica Bechyné & Bechyné, 1961: 23 (type species *Parabrotica decolor* Bechyné & Bechyné, 1961, by monotypy).
Neotrichota Blake, 1966a: 241 (type species *Neotrichota flavipennis* Blake, 1966, by original designation).

Remarks

This genus contains three described species. They occur in northern South America. See Fig. 109 for a habitus illustration.

Genus ***Phyllecthris*** Dejean, 1836

Phyllecthris Dejean, 1836: 382 (type species *Galeruca dorsalis* Olivier, 1808, by monotypy).
Myocera Dejean, 1836: 382 (nomen nudum).

Remarks

This genus contains three described species, all from the eastern United States. Each antenna is composed of ten antennomeres in males and eleven antennomeres in females. See Fig. 100 for a habitus illustration. See Blake (1958) and Wilcox (1965) for keys to the species.

Genus ***Platymorpha*** Jacoby, 1888

Platymorpha Jacoby, 1888: 602 (type species *Platymorpha variegata* Jacoby, 1888, by original designation).

Remarks

This genus includes three described species. They occur in Mexico and Central America. See Figs 106, 176, and 177 for habitus illustrations and morphological details. The preapical notch of the male middle tibia, characteristic of the section Phyllecthrites, is very small or absent in some species of this genus. The following key enables correct identification, whether or not the notch is interpreted to be present. *Chthoneis smaragdipennis* Jacoby, 1888, formerly included in *Platymorpha*, is herein transferred to *Trachyelytron* gen. nov.

Genus ***Porechontes*** Blake, 1966

Porechontes Blake, 1966a: 251 (type species *Porechontes wilcoxi* Blake, 1966, by original designation).

Remarks

This genus contains three described species. They occur in Panama, Peru, and Brazil. See Figs 103 and 173.

Genus ***Romanita*** Bechyné, 1957

Romanita Bechyné, 1957: 136 (type species *Romanita amazonica* Bechyné, 1957, by original designation).

Remarks

This genus contains five described species. They occur in Brazil and Colombia.

Genus ***Simopsis*** Blake, 1966

Simopsis Blake, 1966a: 253 (type species *Simopsis neobroticoides* Blake, 1966, by original designation).

Remarks

This genus contains just one described species, *S. neobroticoides* from Brazil.

Genus ***Trachyelytron*** gen. nov.
urn:lsid:zoobank.org:act:359BFF29-9AAE-4A1B-94A5-6D5BE20F675C

Type species

Chthoneis smaragdipennis Jacoby, 1888, by present designation.

Diagnosis

The single named species in this genus was formerly placed in *Platymorpha*, but the two genera have very little in common. Among other things, males of *Trachyelytron* gen. nov. lack a mesal spine or spine-

like tuft of setae on the clypeus, as well as enlarged foretibiae that are characteristic of *Platymorpha*. The coarse elytral punctation (Fig. 107) is also characteristic of the new genus. See the following key for additional diagnostic characters.

Etymology

The name '*Trachyelytron*' is Greek for 'rough sheath', and it refers to the coarsely punctate elytra.

Remarks

This genus is erected to accommodate a single described species, *T. smaragdipennis* (Jacoby, 1888) comb. nov., which occurs in Guatemala. Specimens we have seen from Nicaragua probably belong to the same species, although the elytra are metallic purple, rather than metallic green. See Fig. 107 for a habitus illustration.

Genus ***Trichobrotica*** Bechyné, 1956

Trichobrotica Bechyné, 1956b: 969 (type species *Diabrotica sexplagiata* Jacoby, 1878, by original designation).
Iceloceras Blake, 1958: 76 (type species *Diabrotica sexplagiata* Jacoby, 1878, by original designation).

Remarks

This genus includes 22 described species, occurring from Mexico through much of South America. See Fig. 110 for a habitus illustration. See Blake (1958) for a key that includes some, but not all, of the species (as *Iceloceras*). Also, realize that the genus should probably be split to form multiple genera. Blake (1966a) stated that the species with a relatively short third antennomere might eventually be removed from the genus. Additional variability involves the elytral punctures, which are exceptionally coarse in some species, while being extremely minute in others. The different genal lengths among the species are also noteworthy. Females of some species of *Trichobrotica* are hardly distinguishable from females of *Luperosoma*. A species described from Guatemala, *Luperus albomarginatus* Jacoby, 1888, has most recently been classified in the genus *Pseudoluperus* Beller & Hatch, 1932. However, our examination of the type specimen (British Museum of Natural History) reveals that it instead belongs in *Trichobrotica*. Hence, we propose a new combination, *Trichobrotica albomarginata* (Jacoby, 1888) comb. nov. This species is very similar to *T. nymphaea* (Jacoby, 1887) but differs in having a dark occiput. Perhaps, the two are synonyms, but this requires further study.

Tribe Luperini Gistel, 1848
Subtribe Diabroticina Chapuis, 1875
Section Trachyscelidites Wilcox, 1972

Genus ***Trachyscelida*** Horn, 1893

Trachyscelida Horn, 1893: 107 (type species *Agelastica bicolor* LeConte, 1884, by monotypy).
Racenisa Bechyné, 1958: 604 (type species *Racenisa venezuelensis* Bechyné, 1958, by original designation).

Remarks

This genus contains seven described species. They occur from the United States (Arizona) through much of South America. See Fig. 115 for a habitus illustration. See Bechyné (1958) for a key that includes most of the species. *Agelastica bicolor* LeConte, 1884, and *Racenisa bicolor* Bechyné, 1958, are both currently included in *Trachyscelida*. We here propose *Trachyscelida dichroma* **nom. nov**., as a replacement name for *R. bicolor* Bechyné, 1958.

The Palearctic species *Agelastica alni* (Linnaeus, 1758), belonging to the tribe Hylaspini Chapuis, 1875, has been reported from eastern Canada and the northeastern United States, but this species is not thought to be established in North America (Riley *et al.* 2003). Since *Agelastica* Chevrolat, 1836 probably does not occur on the American continents, we have excluded this genus from the following key. However, if specimens were to be discovered, they would key to couplet 134, along with *Trachyscelida*, which shares a similar, broadly ovate body form. The two genera are easily distinguished by the pronotal color, that of *Agelastica* being concolorous with the dark elytra, while that of *Trachyscelida* is pale, strongly contrasting with the dark elytra.

Tribe Luperini Gistel, 1848
Subtribe Luperina Gistel, 1848
Section Scelidites Chapuis, 1875

Genus ***Amplioluperus*** gen. nov.
urn:lsid:zoobank.org:act:E1537450-57C4-4683-84EE-2F679D6242DD

Type species

Luperus maculicollis LeConte, 1884, by present designation.

Diagnosis

In this genus, the antennae extend to near the middle of the elytra, the third antennomere is less than twice as long as the second, the base of the pronotum is margined by a fine bead, and tibial spurs are present on at least the hind legs. The aedeagus is symmetrical, and the aedeagal orifice lacks a sclerotized covering. Males lack the extraordinary modifications found in some other genera of Scelidites (greatly swollen antennomeres, large apicolateral fovea on the elytra, large apical extension to the metatibia, unusually enlarged tarsi on the middle or hind legs, abdominal appendages). See the following key for additional diagnostic characters.

Etymology

The genus name *Amplioluperus*, refers to the large size of the type species, in comparison to beetles in related genera. It should be treated as a male noun.

Remarks

Amplioluperus gen. nov. includes three named species, all of which are here transferred from the genus *Pseudoluperus*: *Amplioluperus maculicollis* (LeConte, 1884) [originally named in *Luperus* Geoffroy, 1762] comb. nov., *A. cyanellus* (Horn, 1895) [originally named in *Scelolyperus* Crotch, 1874] comb. nov., and *A. histrio* (Horn, 1895) [originally named in *Luperodes* Motschulsky, 1858] comb. nov. Further investigation will likely prove that the pale form of "*Pseudoluperus cyanellus*" from Arizona is an undescribed species. True *A. cyanellus* is a darkly colored species occurring in the Baja California peninsula. This new genus is known only from the southwestern United States and northwestern Mexico (including the Baja California peninsula). See Fig. 120 for a habitus illustration.

It is noteworthy that *Scelolyperus cyanellus* Horn, 1895 (here transferred to *Amplioluperus* gen. nov.) is a homonym of *Luperus cyanellus* LeConte, 1865 (currently placed in *Scelolyperus*). However, no replacement name is needed (ICZN article 59.2).

Genus ***Androlyperus*** Crotch, 1873

Androlyperus Crotch, 1873: 55 (type species *Androlyperus fulvus* Crotch, 1873, by monotypy).
Malacamerus Wilcox, 1951: 93 (type species *Androlyperus maculatus* LeConte, by original designation).

Remarks

This genus includes six described species. They occur in the southwestern United States and northwestern Mexico. See Figs 128 and 232 for a habitus illustration and morphological details. See Clark (2001) for a key to species. In contrast to the male modification of some species of *Malacorhinus*, the male modification in *Androlyperus* is at the apicolateral angle of the elytron, rather than near the mid-length of the elytron.

Genus ***Carpiradialis*** Niño-Maldonado & Clark, 2020a

Carpiradialis Niño-Maldonado & Clark, 2020a: 564 (type species *Carpiradialis pueblensis* Niño-Maldonado & Clark, 2020, by original designation).

Remarks

This genus includes two described species, both from Mexico. See Figs 112 and 206 for a habitus illustration and morphological details. The diagnostic key to the genera of Scelidites by Clark (1998) emphasized the presence or absence of a bead along the posterior margin of the pronotum. However, this character varies in *Carpiradialis*, being very fine yet discernable in one species and missing in the other. Even so, we believe that the two species are closely related and should be classified in the same genus. See Niño-Maldonado & Clark (2020a) for a key to the species of *Carpiradialis*.

Genus ***Cornuventer*** gen. nov.
urn:lsid:zoobank.org:act:66B597D1-E741-42AC-A86E-5654078DB5D5

Type species

Luperodes tuberculatus Blake, 1942, by present designation.

Diagnosis

In this genus, the anterior margin of the pronotum is fringed by a row of short setae, the basal margin of the pronotum is equipped with a fine bead, and the second abdominal ventrite of the male is equipped with two short horns (Fig. 201). See the following key for additional diagnostic characters.

Etymology

The name '*Cornuventer*' is Latin for 'horn belly', and it refers to the abdominal appendages of the male. It should be treated as a male noun.

Remarks

The single species included in this genus is *C. tuberculatus* (Blake, 1942) comb. nov. It was originally named in *Luperodes* and most recently placed in *Pseudoluperus* from California. See Fig. 122 for a habitus photograph.

Genus ***Geethaluperus*** gen. nov.
urn:lsid:zoobank.org:act:D8D6888A-CDA6-4370-9528-8DC8EABA3438

Type species

Luperus flavofemoratus Jacoby, 1888, by present designation.

Diagnosis

In this genus, the genal length is less than the width of the basal antennomere, the antennal fossae are separated from each other by a distance much less than the diameter of each fossa, the base of the

pronotum has a fine yet distinct bead, the tarsal claws are bluntly appendiculate, the rectangular lobe at the apex of the male abdomen is much less than half as long as wide, and the aedeagus is symmetrical and lacks a sclerotized covering to the orifice. However, the most remarkable character is the mesal appendage that extends posteriorly from the posterior margin of second abdominal sternite of the male. This appendage is single at the base but separates into two divergent lobes in the distal half.

Etymology

The name of the genus should be treated as a male noun, and it honors Geetha, the mother of the first author.

Remarks

Although male abdominal appendages are present in some other Scelidites (*Cornuventer tuberculatus* comb. nov., *Androlyperus fulvus*, some species of *Scelida*), the morphology is quite different. See Figs 117 and 174 for a habitus illustration and morphological details of *Geethaluperus* gen. nov. The single described species included in this genus is *G. flavofemoratus* (Jacoby, 1888) comb. nov. This species is pale brown, except for the antennae and legs. Most recently, it was included in *Pseudoluperus*, but it was quite out of place there. An undescribed species from Mexico is very similar in color and morphology (including the abdominal appendage), but the eyes are much smaller (in *G. flavofemoratus*, the width of the head across the eyes if fully twice as great as the interocular distance, and the genal length is less than the diameter of an ommatidium).

Genus ***Inbioluperus*** Clark, 1993

Inbioluperus Clark, 1993: 215 (type species *Inbioluperus flowersi* Clark, 1993, by original designation).

Remarks

This genus contains two described species. They are both from Costa Rica. See Fig. 129 for a habitus illustration. See Clark (1993) for a key to the species.

Genus ***Keitheatus*** Wilcox, 1965

Keitheatus Wilcox, 1965: 163 (type species *Scelolyperus blakeae* White, 1944, by original designation).

Remarks

This genus contains only a single described species, *K. blakeae* (White, 1944), which occurs in Texas and Mexico. See Figs 125 and 203 for a habitus illustration and morphological details. *Luperodes histrio*, which was transferred to *Keitheatus* by Wilcox (1973) and later to *Pseudoluperus* by Andrews & Gilbert (2005), is here transferred to *Amplioluperus* gen. nov.

Genus ***Lygistus*** Wilcox, 1965

Lygistus Wilcox, 1965: 160 (type species *Lygistus streptophallus* Wilcox, 1965, by original designation).

Remarks

This genus contains a single described species, *L. streptophallus* (Fig. 131) from Arizona and nearby areas of Mexico.

Genus ***Metacoryna*** Jacoby, 1888

Metacoryna Jacoby, 1888: 605 (type species *Metacoryna fulvicollis* Jacoby, 1888, by original designation).

Cyphotarsis Jacoby, 1892: 339 (type species *Cyphotarsis niger* Jacoby, 1892, by monotypy).

Remarks

This genus contains eight described species. Numerous undescribed species also belong here (Clark 1987b). They occur in Mexico and Central America. See Figs 126 and 214 for a habitus illustration and morphological details. See Clark (1987b) for a key to the species.

Genus ***Mexiluperus*** gen. nov.
urn:lsid:zoobank.org:act:F3061F04-546A-409E-B089-AE430CE5BAEE

Type species

Luperus dissimilis Jacoby, 1888, by present designation.

Diagnosis

In this genus, the distance between the antennal fossae equals less than twice the diameter of a fossa, the third antennomere is less than half as long as the second, the pronotum is equipped with a fine basal bead, the elytra lack a transverse impression at the basal third, the elytral punctation is conspicuous, and the apical lobe of the male abdomen is less than half as long as broad. Males lack the extraordinary modifications found in some other genera of Scelidites (greatly swollen antennomeres, large apicolateral fovea on the elytra, large apical extension to the metatibia, unusually enlarged tarsi on the middle or hind legs, abdominal appendages). The aedeagus (which may be either symmetrical or asymmetrical) lacks a sclerotized covering to the orifice. See the following key for additional diagnostic characters.

Etymology

The name of this new genus refers to the geographic distribution, which is principally in Mexico. It should be treated as a male noun.

Remarks

Mexiluperus gen. nov. includes two described species, both of which are here transferred from the genus *Pseudoluperus*: *M. dissimilis* (Jacoby, 1888) [originally named in *Luperus*] comb. nov., and *M. wickhami* (Horn, 1893) [originally named in *Luperodes*] comb. nov. See Clark (1987b) for a key to the species, including numerous undescribed species (as part of *Pseudoluperus*). See Fig. 119 for a habitus illustration. The genus occurs in Arizona and Mexico.

Genus ***Microscelida*** Clark, 1998

Microscelida Clark, 1998: 195 (type species *Microscelida viridipennis* Clark, 1998, by original designation).

Remarks

This genus includes eleven described species, all from Mexico. See Clark (1998) for a key to species. See Fig. 133 for a habitus illustration.

Genus ***Monoaster*** gen. nov.
urn:lsid:zoobank.org:act:2597C0FD-8DB4-431B-A90C-4121E00F1ADD

Type species

Pseudoluperus fulgidus Wilcox, 1965, by present designation.

Diagnosis

This genus is quite distinctive in the form of the supracallinal sulcus, that is, the sulcus delimiting the posterior edge of the antennal calli (= frontal tubercles). This sulcus extends obliquely from the meson to a point over the inner extreme of the antennal fossa. It then bends abruptly downward, at an angle of about 90º. It continues for a short distance and abruptly bends again. Finally, it extends laterally to the orbit. *Mexiluperus wickhami* (Horn, 1893), a species from Arizona, has a similar sulcus but differs in the more coarsely punctate elytra. See the following key for additional characters defining *Monoaster* gen. nov.

Etymology

The name '*Monoaster*' is Greek for 'single star'. The two included species are both from Texas, nicknamed The Lone Star State. The name should be treated as a male noun.

Remarks

This genus includes two species, both of which were originally named in the genus *Pseudoluperus*: *M. fulgidus* (Wilcox, 1965) comb. nov,. and *M. linus* (Wilcox, 1965) et comb. nov. See Figs 118 and 121 for habitus illustrations. See Wilcox (1965) for a key that includes the two species (as part of *Pseudoluperus*). Edward G. Riley (personal communication) has on several occasions collected *M. fulgidus* from *Colubrina texensis* (Torr. & A. Gray) A. Gray (Rhamnaceae), and *M. linus* by beating *Cercocarpus montanus* Raf. (Rosaceae). In the case of *C. texensis*, the plants were in bloom, but the beetles were not clearly associated with the blossoms, and none of the beetles were found on nearby plant species, including some that were in bloom.

Genus ***Pseudoluperus*** Beller & Hatch, 1932

Pseudoluperus Beller & Hatch, 1932: 115 (type species *Pseudoluperus* Beller & Hatch, 1932, by monotypy).

Remarks

In the catalogue of Wilcox (1973), *Pseudoluperus* constituted a heterogeneous assemblage of all sorts of Scelidites (and even a species from another section). Subsequent to that catalogue, Andrews & Gilbert (2005) added one more species to the genus, transferring *Luperodes histrio* from the genus *Keitheatus*. Some of the species formerly included in *Pseudoluperus* have already been transferred to other genera [*P. subcostatus* (Jacoby, 1888), *P. subglabratus* (Jacoby, 1888), and *P. viridis* (Jacoby, 1892) to *Microscelida* by Clark (1998); *P. lecontii* (Crotch, 1873) to *Scelolyperus* by Clark (1996); *P. wallacei* Wilcox, 1965 to *Synetocephalus* Fall, 1910 by Riley *et al*. (2002b)]. In this publication, we transfer most of the remaining species to other genera: *Pseudoluperus cyanellus*, *P. histrio*, and *P. maculicollis* to *Amplioluperus* gen. nov., *P. tuberculatus* to *Cornuventer* gen. nov., *P. flavofemoratus* to *Geethaluperus* gen. nov., *P. dissimilis* and *P. wickhami* to *Mexiluperus* gen. nov., *P. fulgidus* and *P. linus* to *Monoaster* gen. nov., *P. spretus* (Horn, 1893) and *P. texanus* (Horn, 1893) to *Texiluperus* gen. nov., and *P. albomarginatus* Jacoby, 1888 to *Trichobrotica*. As a result of the aforementioned taxonomic changes, *Pseudoluperus* now contains only *P. bakeri* [originally named in *Pseudoluperus*], *P. decipiens* (Horn, 1893) [originally named in *Scelolyperus*], and *P. longulus* (LeConte, 1857) [originally named in *Luperus*]. However, *P. bakeri* was reduced to a synonym of *P. longulus* by Wilcox (1965). Here, we agree with this synonymy and also reduce *P. decipiens* to a junior synonym of *P. longulus* syn. nov. In some male specimens of this species, the more distal antennomeres are enlarged and distinctly flattened (or even concave) on one side. In other males (especially those from the more southern part of the range) and in all females, the antennae are slender and unmodified. This difference has been employed to distinguish the putative species. However, the male antennae of some specimens are intermediate.

We believe the difference to be clinal and not diagnostic of different species. We have examined the male holotype of *Luperus longulus* (Museum of Comparative Zoology, Harvard University), the male holotype of *Scelolyperus decipiens* (Museum of Comparative Zoology, Harvard University), and the male holotype of *P. bakeri* (National Museum of Natural History, Washington, DC). In all three specimens, the antennae are at least moderately enlarged. Minor differences also exist in the aedeagi, but these are not correlated with other characters, and we interpret them as mere intraspecific variability. See Figs 123 and 213 for illustrations of *Pseudoluperus*.

Genus ***Pteleon*** Jacoby, 1888

Pteleon Jacoby, 1888: 603 (type species *Pteleon semicaeruleus* Jacoby, 1888, by original designation), **new taxonomic placement** (in Scelidites).

Remarks

This genus was formerly classified in the section Exosomites Wilcox, 1973. However, Gillespie *et al.* (2008) provided evidence indicating that it is nested within Scelidites. We here formally make the taxonomic change. The genus contains three described species. They occur in the southwestern United States and in Mexico. See Fig. 137 for a habitus illustration.

Genus ***Scelida*** Chapuis, 1875

Scelida Chapuis, 1875: 184 (type species *Scelida elegans* Chapuis, 1875, by monotypy).

Remarks

This genus contains eleven described species. Numerous undescribed species also belong here (Clark 1987b). They occur from the southwestern United States to Panama. Most of them have appendiculate tarsal claws, but one species, *S. metallica* Jacoby, 1888, has bifid claws. In some species, the males have curious appendages on the ventral side of the abdomen, but these are lacking in other species. See Clark (1987b) for a key to the species. See Fig. 127 for a habitus illustration. As noted in the preceding discussion of *Metacycla*, the species *Cneorane nigripes* does not belong in *Scelida*, although it has been classified in this genus. Additionally, in recent classifications, *Scelolyperus tenuimarginatus* Bowditch, 1925, has been included in *Scelida*. However, examination of the male holotype (Museum of Comparative Zoology, Harvard University) reveals that this species properly belongs in *Mimastra* Baly, 1865 as a comb. nov. Furthermore, we believe the specimen matches *Mimastra semimarginata* Jacoby, 1886, a species occurring in Indonesia. Syntype photographs from the Genoa Museum support this (photographs shared by one of the reviewers). Thus, we synonymize these two names, syn. nov. The locality label "Brasil" for *S. tenuimarginatus* is probably in error.

Genus ***Scelidacne*** Clark, 1998

Scelidacne Clark, 1998: 192 (type species *Scelidacne andrewi* Clark, 1998, by original designation).

Remarks

This genus contains a single described species, *S. andrewi* (Fig. 135) from Mexico.

Genus ***Scelolyperus*** Crotch, 1874

Scelolyperus Crotch, 1874: 79 (type species *Scelolyperus tejonicus* Crotch, 1874, by monotypy).
Eugalera Brancsik, 1899: 103 (type species *Eugalera reitteri* Brancsik, 1899, by monotypy).
Tuomuria Chen & Jiang in Huang *et al.* 1985: 107 (type species *Tuomuria tibialis* Chen & Jiang, 1985, by original designation).

Remarks

This genus occurs from Canada to Mexico, as well as in the Palearctic Region. In the New World, there are 28 described species. See Figs 130, 149, and 175 for a habitus illustration and morphological details. See Clark (1996) for a key to most of the North American species. Only one New World species has been described subsequent to that publication (Gilbert & Andrews 1999). The Palearctic species were revised by Bezděk (2015).

Genus ***Synetocephalus*** Fall, 1910

Synetocephalus Fall, 1910: 146 (type species *Synetocephalus autumnalis* Fall, 1910, by monotypy).

Remarks

This genus contains eleven described species. They occur in the western United States and northwestern Mexico. See Fig. 116 for a habitus illustration. See Wilcox (1965) for a key that includes most of the described species. Only two species are missing from that key: *S. wallacei* (Wilcox, 1965) that was transferred from *Pseudoluperus* by Riley *et al*. 2002b), and a new species was described by Gilbert & Clark (2012).

Genus ***Texiluperus*** gen. nov.
urn:lsid:zoobank.org:act:5EF4CB1E-8079-498D-A945-B92290EF2357

Type species

Luperodes spretus Horn, 1893, by present designation.

Diagnosis

The antennae of this genus are unusual among the Scelidites, the third antennomere being fully twice as long as the second. See the following key for additional diagnostic characters.

Etymology

The name '*Texiluperus*' suggests that the genus occurs in Texas, which is the case for both described species. The name should be treated as a male noun.

Remarks

This genus includes two putative species, both of which were originally named in *Luperodes* and most recently placed in *Pseudoluperus*: *T. spretus* (Horn, 1893) comb. nov. and *T. texanus* (Horn, 1893) comb. nov. Future study might show that they are mere color forms of a single variable species. See Wilcox (1965) for a key that includes the two putative species (as part of *Pseudoluperus*).

Genus ***Triariodes*** Clark & Anderson, 2019

Triariodes Clark & Anderson, 2019: 344 (type species *Malacosoma vittipenne* Horn, 1893, by original designation).

Remarks

This genus includes three described species. They occur in the southern United States and Mexico. See Fig. 136 for a habitus illustration. See Clark & Anderson (2019) for a key to species.

Genus ***Triarius*** Jacoby, 1887

Triarius Jacoby, 1887: 571 (type species *Triarius mexicanus* Jacoby, 1887, by monotypy).

Remarks

This genus includes seven described species. They occur in the southern United States and in Mexico. Depending on the species, the tarsal claws are either bifid or appendiculate. See Figs 124 and 198 for a habitus illustration and morphological details. See Clark & Anderson (2019) for a key to the species.

Tribe Luperini Gistel, 1848
Subtribe Luperina Gistel, 1848
Section Phyllobroticites Chapuis, 1875

Genus ***Phyllobrotica*** Chevrolat in Dejean, 1836

Phyllobrotica Chevrolat in Dejean, 1836: 381 (type species *Chrysomela quadrimaculata* Linnaeus, 1758, by subsequent designation of Thomson 1859).
Stachysivora Farrell & Mitter, 1990: 1391 (nomen nudum).

Remarks

This Holarctic genus includes 18 described species in the New World, all from Canada and the United States. See Figs 132, 134, 199, and 225 for a habitus illustration and morphological details. See Wilcox (1965) for a key that includes most of the Nearctic species. However, realize that three species have been named subsequent to that key (Hatch 1971; Riley 1979; Gilbert 2008), and an undescribed species was recognized in an unpublished thesis (Farrell 1985).

Tribe Luperini Gistel, 1848
Subtribe Luperina Gistel, 1848

Section **Monoleptites** Chapuis, 1875

Remarks

The taxonomic rank and relationships of this group have varied quite dramatically. The group is sometimes viewed as a subtribe within the tribe Luperini (e.g., Wilcox 1965), while other times it is treated as a section within the subtribe Luperina (e.g., Seeno & Wilcox 1982). However, in spite of the superficial similarity with the luperines, we concur with Nie *et al.* (2018) that the group is quite distinct. Perhaps, it should be treated as a separate tribe of Galerucinae. Even so, until greater consensus is achieved, we continue to list it as a section of Luperina.

Genus ***Eusattodera*** Schaeffer, 1906

Eusattodera Schaeffer, 1906: 244 (type species *Eusattodera pini* Schaeffer, 1906, by original designation).

Remarks

As currently constituted, this genus contains six described species. However, the New World representatives of the section Monoleptites are in desperate need of taxonomic revision. The differences among the genera are very poorly defined. At present, the generic placements of many of the species are probably incorrect. The confusion is perpetuated in the following key. With regards to *Eusattodera*, the type species (type locality in Arizona), as well as some of its close relatives, are relatively distinctive.

See Fig. 138 for a habitus illustration. However, other species currently in the genus probably belong elsewhere.

Genus ***Halinella*** Bechyné, 1956a

Halinella Bechyné, 1956a: 323 (type species *Halinella malachioides* Bechyné, 1956, by original designation).

Remarks

This genus contains nine described species, all from South America. Compared to other New World genera of Monoleptites, *Halinella* is rather distinctive, the beetles being more elongate and dorsoventrally flattened than many of those in other genera (Fig. 140).

Genus ***Lilophaea*** Bechyné, 1958

Lilophaea Bechyné, 1958: 601 (type species *Luperodes brasiliensis* Jacoby, 1888, by original designation).

Remarks

Only 19 species are currently placed in this genus (Groll & Moura 2016). However, they hardly differ from many of those currently placed in other genera of Monoleptites reported to occur in the New World, especially from species in *Luperodes*, *Metrioidea* Fairmaire, 1882, and *Monolepta* Chevrolat, 1836. The generic placements seem to be almost random, except that all species currently in *Lilophaea* are from South America. Upon naming the genus, Bechyné (1958) probably intended that many other New World species should eventually be transferred to *Lilophaea*, including some from north of South America. See Fig. 143 for a habitus illustration.

Genus ***Luperodes*** Motschulsky, 1858

Luperodes Motschulsky, 1858: 102 (type species *Luperodes alboplagiatus* Motschulsky, 1858, by subsequent designation of Weise 1924).

Remarks

Wilcox (1973) listed 53 extant New World species for this genus, occurring from Mexico through the northern half of South America. He also listed one fossil species from Colorado. However, future taxonomic revision of the Monoleptites may eventually show that true *Luperodes* does not occur in the New World. Wagner & Bieneck (2012) studied the type species of *Luperodes* and made some notes on the genus. They seem to agree with the conclusion that the New World species are probably misplaced. The genus was originally named from Sri Lanka. The New World species currently included in the genus are hardly distinguishable from those currently in *Lilophaea*, *Metrioidea*, and *Monolepta*. See Fig. 141 for a habitus illustration of one of the New World species currently included in *Luperodes*.

Genus ***Metrioidea*** Fairmaire, 1882

Metrioidea Fairmaire, 1882: 489 (type species *Metrioidea signatipennis* Fairmaire, 1882, by monotypy).

Remarks

Wilcox (1973) listed 14 New World species for this genus, distributed from the United States through Peru. However, similar to the situation with *Luperodes*, future taxonomic revision may eventually show that true *Metrioidea* does not occur in the New World. The genus was originally named from Fiji. The

New World species currently included in the genus are hardly distinguishable from those currently in *Lilophaea*, *Luperodes*, and *Monolepta*. See Fig. 139 for a habitus illustration of one of the New World species currently placed in *Metrioidea*.

Genus ***Monolepta*** Chevrolat in Dejean, 1836

Monolepta Chevrolat in Dejean, 1836: 383 (type species *Crioceris bioculata* Fabricius, 1781, by subsequent designation of Chevrolat 1845).
Damais Jacoby, 1903: 118 (type species *Damais humeralis* Jacoby, 1903, by monotypy).
Chimporia Laboissière, 1931: 413 (type species *Chimporia monardi* Laboissière, 1931, by original designation).
Aemulaphthona Scherer, 1969: 89 (type species *Aphthona ochracea* Weise, 1922, by original designation).

Remarks

Wilcox (1973) listed 19 New World species for this genus, distributed from Mexico to Panama. However, similar to the situation with *Luperodes* and *Metrioidea*, future taxonomic study may eventually show that true *Monolepta* does not occur in the New World. The genus was originally named from Africa. Wagner (2007) re-described the type species of *Monolepta* and made some notes on the Afrotropical fauna. The New World species currently included in the genus are hardly distinguishable from those currently in *Lilophaea*, *Luperodes*, and *Metrioidea*. The genus *Monolepta* is sometimes reported to differ from the others by having closed anterior coxal cavities, and this character is employed in the key below. Even so, the character is not very useful for the New World fauna. Many of the current generic placements are not correlated with this character. Moreover, some species appear to have open cavities in some individuals and closed cavities in others. This variability may be true in some instances. However, in other instances the apparent difference may be a result of the flimsy nature of the very thin strip of sclerotized cuticle behind the coxae. Possibly, the strip is sometimes present, but withdrawn into the thorax, such that the coxal cavities appear to be open. See Fig. 142 for a habitus illustration of one of the New World species currently included in *Monolepta*.

Key to the tribes, subtribes, and sections of New World Galerucinae Latreille, 1802

(Modified from Riley *et al*. 2002a)

1. Hind femur usually adapted for jumping, broad, with internal extensor apodeme (spring); if hind femora slender, then prosternum comparatively broad, forming small horizontally flattened area between front coxae; pronotum variable, but often with transverse prebasal groove in basal fourth (this groove is not to be confused with fine sulcus delimiting basal bead); inner wall of epipleuron usually with two elytron-to-body binding patches ..... **Tribe Alticini** Newman, 1835
– Hind femur not abnormally broad (except rarely), without sclerotized internal extensor apodeme (spring); front coxae contiguous, or narrowly separated by keel-like prosternum; pronotum sometimes shallowly impressed near base, but never with well-defined, transverse groove in basal fourth; inner wall of epipleuron with single elytron-to-body binding patch 2

2. Median lobe of aedeagus with prominent basal spurs (Fig. 148); last ventrite of male abdomen without apical lobe; antennae usually inserted low on frons, beyond middle of eyes; larvae, where known, feeding on leaves 3
– Basal spurs of aedeagus small or absent (Fig. 149); male abdomen variable, sometimes with lobe at apex; antennae usually inserted higher, nearer middle of eyes; larvae, where known, feeding on roots. .....4 (**Tribe Luperini** Gistel, 1848)

3. Posterior-most ventrite of male abdomen usually with median, apical, semicircular depression; abdominal apex sometimes emarginate behind impression; tarsal claws of most genera either simple (Fig. 144) or bifid with narrow, sharply pointed appendage (Fig. 146); anterior and posterior tibiae usually without terminal spurs; larvae feeding on leaves ..... **Tribe Galerucini** Latreille, 1802: Sections Apophyliites Chapuis, 1875, Atysites Chapuis, 1875, Coelomerites Chapuis, 1875, Galerucites Latreille, 1802, Schematizites Chapuis, 1875
– Posterior-most ventrite of male abdomen without distinct impression, although sometimes flattened; tibiae usually with terminal spurs; tarsal claws of most genera appendiculate, with broad, blunt lobe (Fig. 145); larvae unknown for most genera, but feeding on leaves in at least one genus ..... **Tribe Metacyclini** Chapuis, 1875

4. Last ventrite of male abdomen with rectangular lobe (Figs 198–199) ..... 5 (**Subtribe Luperina** Gistel, 1848)
– Last ventrite of male apically rounded or slightly truncate, without lobe ..... 7 (**Subtribe Diabroticina** Chapuis, 1875)

5. Elytral epipleura extremely narrow, indistinct..... **Section Phyllobroticites** Chapuis, 1875
– Elytral epipleura normal, comparatively broad at least basally..... 6

6. Tarsomere 1 of hind leg distinctly longer than 2 and 3 combined; apical lobe of last ventrite of male abdomen large, nearly square (as in Fig. 198); aedeagal orifice covered by sclerotized plate..... **Section Monoleptites** Chapuis, 1875
– Tarsomere 1 of hind leg usually shorter than 2 and 3 combined; apical lobe of male abdomen usually much wider than long (as in Fig. 199); aedeagal orifice variable, but usually without sclerotized covering ..... **Section Scelidites** Chapuis, 1875

7. Mesotibia of male with deep, inner, subapical notch (Fig. 201).. **Section Phyllecthrites** Horn, 1892
– Mesotibia of male without subapical notch 8

8. Tarsal claws bifid, with narrow, sharply pointed inner lobe (as in Fig. 146)..... **Section Diabroticites** Chapuis, 1875
– Tarsal claws appendiculate, with comparatively broad, blunt inner lobe (as in Fig. 145) 9

9. Elytra entirely dark, with distinct transverse impression near basal third ..... **Section Trachyscelidites** Wilcox, 1972
– Elytra often colored otherwise, without transverse impression across basal third ..... **Section Cerotomites** Chapuis, 1875

Key to the genera of adult Galerucinae Latreille, 1802 of the New World

The following key does not deal with the genera of Alticini. See Scherer (1962, 1983) for keys that enable identification of most of those genera. It is not necessary to know the tribe etc. before using the following key to genera. As evidenced by the preceding key, galerucine classification is largely based on male features, especially those found on the aedeagus. The following key to genera partially reflects this, in that some of the couplets mention only male characteristics. Indeed, users will occasionally be frustrated in their attempts at identification, if only female specimens are available for examination. However, such instances are less frequent than in previously published keys. The principal objective of our key is to facilitate identification, rather than follow phylogeny. In an effort to enable identification of females, as well as males, we usually use characters that are present in either gender. Some of these characteristics are of very little value in classification. Accordingly, genera that key out close to each

other might be quite distantly related. Moreover, the superficial characters (such as color) may not always allow for proper generic placement of undescribed species.

1. Hind femora clearly enlarged, except rarely; extensor apodeme present inside hind femur; front coxae of most genera clearly separated from each other by posterior process of prosternum ..... **Tribe Alticini** Newman, 1835 (not treated here)
– Hind femora not abnormally enlarged (except in *Leptonesiotes*, an anomalous genus from Cuba, Fig. 202); extensor apodeme absent from inside hind femur; front coxae of most genera contiguous or very narrowly separated 2

2. Epipleuron extremely narrow along entire length, narrower than width of second antennomere (Fig. 225) 3
– Epipleuron wider, at least near base 6

3. Tarsal claws appendiculate, with inner appendage broad and apically blunt (Fig. 145); male with terminal abdominal ventrite impressed, with rectangular lobe at apex (Fig. 199); habitus as in Figs 132, 134; distribution in Canada and United States..... ***Phyllobrotica*** Chevrolat, 1836
– Tarsal claws bifid, with inner appendage apically pointed (Figs 146–147); male with terminal abdominal ventrite semicircularly incised (Figs 195, 197), but without median rectangular lobe at apex..... 4

4. Metasternum shorter than basal abdominal ventrite; both pronotum and elytra with well-developed tubercles (Fig. 21); distribution in Costa Rica..... ***Apteroyinga*** Viswajyothi & Clark, 2020
– Metasternum longer than basal abdominal ventrite; pronotum and elytra not both strongly tuberculate..... 5

5. Elytron with strongly developed carina, beginning at humerus and extending most of elytral length, simulating edge of extremely broad epipleuron (Figs 218–219); elytra with numerous long, erect, comparatively sparse setae, without short, dense, appressed setae (Figs 16–17); distribution in northern South America and perhaps Central America ..... ***Socorroita*** Bechyné, 1956
– Elytron without posthumeral carina; elytra densely covered in very short, dense, appressed setae, in addition to longer, sparser, erect setae; habitus as in Fig. 11; distribution in Panama..... ***Neophaestus*** Hincks, 1949

6. Elytra with dense, short, subappressed setae, in most species covering entire disc, in some species evident only in basolateral area; in some species, elytral surface obscured by dense setae; basal spurs of aedeagus well developed in most species (Fig. 148)..... 7
– Elytral setae, when present, rather sparse, long, and erect; elytral surface clearly visible, even when sparsely pubescent; basal spurs of aedeagus either present (Fig. 148) or absent (Fig. 149) 47

7. Tarsal claws appendiculate; inner appendage of claw broad and apically blunt 8
– Tarsal claws bifid or simple; inner appendage of claw, when present, narrow, with apex sharply pointed 9

8. Body larger than 10 mm long; male with distal five antennomeres enlarged, wider than preceding antennomeres; habitus as in Fig. 3; distribution in Brazil ..... ***Austrochorina*** Bechyné, 1963
– Body less than 10 mm long; male antennae filiform (Figs 26–27); distribution from Mexico through much of South America ..... ***Itaitubana*** Bechyné, 1963 [in part; see couplet 25]

9. Tarsal claws simple, without inner appendage (Fig. 144) 10
– Tarsal claws bifid, with sharply pointed inner appendage (Figs 146–147) 13

10. Antennomeres 6–10 more elongate than described below; each elytron dark with pale, transverse or oblique band across middle; habitus as in Fig. 8; distribution in Brazil..... ***Chorina*** Baly, 1866
– Antennomeres 6–10 short, each only slightly longer than broad; elytral color pattern not as above.....11

11. Pronotal punctures much smaller than those of elytra; body more than 10 mm long; gender either male or female; habitus as in Fig. 9; distribution in Peru and French Guiana ...***Syphaxia*** Baly, 1866
– Pronotal punctures as large as, or much larger than, those of elytra; body less than 10 mm long; gender female (males with bifid claws)..... 12

12. Pronotal punctures much larger than those of elytra; body length usually larger than 6.0 mm; habitus as in Fig. 34; distribution from Canada to Argentina .....
..... ***Erynephala*** Blake, 1936 [in part; see couplets 15, 47]
– Pronotal punctures similar in size to those of elytra; body length usually less than 6.0 mm; habitus as in Fig. 35; distribution from Canada to Guatemala.....
.....***Monoxia*** LeConte, 1865 [in part; see couplet 41]

13. Pronotal punctures much larger than those of elytra 14
– Pronotal punctures not larger than those of elytra, or only slightly larger 16

14. Eyes separated from each other by distance greater than length of basal antennomere; pronotum pale, with two dark spots; elytra dark, with sutural, median, and lateral pale vittae; habitus as in Fig. 45; distribution in Hispaniola..... ***Gonaives*** Clark, 1987
– Eyes separated from each other by distance less than length of basal antennomere; color not as above..... 15

15. Basal margin of pronotum gently curved from meson to posterolateral pronotal angle; posterolateral angle only slightly more anterior than most posterior part of prothorax; males only (females with simple tarsal claws); aedeagus extraordinarily long, C-shaped, forming complete semicircle in lateral view; habitus as in Fig. 34; distribution from Canada to Argentina .....
..... ***Erynephala*** Blake, 1936 [in part; see couplets 12, 47]
– Basal margin of pronotum very strongly bisinuate from meson to posterolateral pronotal angle; posterolateral angle positioned far anterior to most posterior part of pronotum (Fig. 188); gender either male or female; aedeagus not as above; habitus as in Fig. 40; distribution from Arizona to Costa Rica..... ***Ophraea*** Jacoby, 1886 [in part; see couplet 27]

16. Elytropleuron (lateral area of elytron, just before epipleural ridge) distinctly swollen, in some species coalescing with epipleural ridge and together forming broad, rounded, single costa (Fig. 223) 17
– Elytropleuron concave, not or only vaguely swollen; epipleural ridge narrow, normally acutely carinate, although less commonly forming narrowly rounded costa..... 27

17. Antennomeres 3–7 compressed or dilated; body depressed; habitus as in Fig. 28; distribution from Mexico through much of South America.....***Schematiza*** Chevrolat, 1836
– Antennae filiform..... 18

18. In many species, elytral pubescence directed in various directions, forming mottled pattern; if elytral pubescence otherwise, then elytra tuberculate, in addition to standard humeral and basal callosities 19
– Elytral pubescence not swirling in various directions; elytra not unusually tuberculate 20

19. Proximal male tarsomere of front leg with small ventral tubercle at base (visible only when tarsus bent dorsally, Fig. 204); body of single included species 5–6 mm long (but undescribed or misplaced species may be smaller); habitus as in Fig. 32; distribution from Texas to Guatemala ..... ***Brucita*** Wilcox, 1965
– Male without tubercle at base of proximal tarsomere; body of most species smaller than 5 mm; habitus as in Figs 29–30; distribution from Mexico through much of South America, as well as in West Indies..... ***Yingaresca*** Bechyné, 1956 [in part; see couplet 60]

20. Seventh antennomere with tuberculate protuberance on distal edge (Fig. 215), distinct in males, obsolete in some females; pronotum at least twice as wide as long..... 21
– Seventh antennomere without apical tubercle; pronotum in many (but not all) species less than twice as wide as long..... 23

21. Elytra green with yellow lateral margins; discal elytral costae absent; habitus as in Fig. 43; distribution in South America ..... ***Chlorolochmaea*** Bechyné & Bechyné, 1969
– Elytra dark, with pale, slightly elevated, discal vittae 22

22. Each elytron dark with suture, lateral margin, and two discal vittae pale; habitus as in Fig. 41; distribution in Florida, West Indies, Central America, and South America..... ***Neolochmaea*** Laboissière, 1939
– Each elytron dark with suture, lateral margin, and three discal vittae pale (Fig. 224); habitus as in Fig. 42; distribution in Argentina, Brazil, and Paraguay ..... ***Iucetima*** Moura, 1998

23. Pronotum and elytra uniformly reddish; habitus as in Fig. 22; distribution in Canada and United States..... ***Tricholochmaea*** Laboissière, 1932 [in part; see couplet 46]
– Color usually otherwise; distribution in Latin America 24

24. Pronotum entirely pale, or dark with pale lateral margins; elytra either entirely dark metallic blue or violet, or dark red with narrow black lateral margin; body 7.5–9.0 mm long; distribution in Colombia and Peru ..... ***Narichona*** Kirsch, 1883
– Color otherwise..... 25

25. Third antennomere distinctly longer than fourth; elytra pale, often with green and yellow vittae (Fig. 222); habitus as in Figs 26–27; distribution from Mexico through much of South America..... ***Itaitubana*** Bechyné, 1963 [in part; see couplet 8]
– Third antennomere usually shorter than fourth; if third antennomere longer than fourth, then elytra entirely dark 26

26. Body at least twice as long as broad, usually dorsoventrally flattened; habitus as in Fig. 31; distribution from Mexico through much of South America, as well as in Lesser Antilles..... ***Metrogaleruca*** Bechyné & Bechyné, 1969
– Body less than twice as long as broad, oval, with dorsum usually distinctly convex, not flattened; habitus as in Fig. 6; distribution from Mexico through much of South America..... ***Caraguata*** Bechyné, 1954

27. Basal margin of pronotum very strongly bisinuate from meson to posterolateral pronotal angle (Fig. 188); posterolateral angle positioned far anterior to most posterior part of pronotum; elytra uniformly dark; habitus as in Fig. 40; distribution from Arizona to Costa Rica ..... ***Ophraea*** Jacoby, 1886 [in part; see couplet 15]
– Basal margin of pronotum usually not strongly bisinuate as described above; if basal margin of pronotum strongly bisinuate, then elytra partly or entirely pale..... 28

28. Third and fourth antennomeres nearly equal in length; each elytron yellow, with long, broad, sublateral, black vitta extending from base, over humerus, to shortly before elytral apex; most specimens also with short, black, basal vitta positioned midway between scutellum and sublateral vitta; yellow areas of elytra with greenish tint in some specimens; habitus as in Fig. 24; Palearctic species, adventive in North and South America ..... ***Xanthogaleruca*** Laboissière, 1934
– Third and fourth antennomeres differing in length; if third and fourth antennomere lengths only slightly different, then elytral color pattern not as above 29

29. Third antennomere shorter than fourth 30
– Third antennomere longer than fourth, in some species only slightly so 33

30. Pronotum short and broad, at least 2.5 times as wide as long 31
– Pronotum less than 2.5 times as wide as long 32

31. Depression on each side of pronotum large, extending to anterolateral and posterolateral corners of pronotum (Fig. 192); due to large depressions, pronotum broadly explanate laterally; habitus as in Fig. 14; distribution from Guatemala to Panama..... ***Megarhabda*** gen. nov.
– Lateral depressions of pronotum smaller, not extending to anterolateral and posterolateral corners; pronotum more evenly convex; habitus as in Fig. 12; distribution from Canada to Mexico ..... ***Derospidea*** Blake, 1931

32. Elytral surface rough, but punctation usually not visible without magnification; elytra vittate in many species, but varying from entirely pale to entirely dark; aedeagus with dorsal, thinly chitinized groove extending medially for most of aedeagal length; body 4–12 mm long; habitus as in Fig. 15; distribution from Canada to Guatemala..... ***Trirhabda*** LeConte, 1865 [in part; see couplet 58]
– Elytral punctation of some species coarser, noticeable without magnification; elytra not vittate; aedeagus lacking dorsal groove as described above; body 7–14 mm long; habitus as in Fig. 19; distribution in Mexico and Guatemala (doubtfully reported from Brazil) ..... ***Nestinus*** Clark, 1865

33. Both male and female with antennomeres 7–11 strongly broadened and flattened, with each antennomere shorter than wide (Fig. 208); elytra with callosities near mid-length (Fig. 229); habitus as in Fig. 33; distribution in South America ..... ***Platynocera*** Blanchard, 1842
– Antennomeres 7–10, whether or not short, not strongly broadened and flattened in either sex; elytra without callosities near mid-length..... 34

34. Body length 10.0 mm or more 35
– Body length 8.0 mm or less 39

35. Third antennomere equal to or longer than fourth to sixth antennomeres combined; fifth to ninth antennomeres short, each not more than twice as long as wide; habitus as in Fig. 7; distribution from Guatemala through much of South America ..... ***Coelomera*** Chevrolat, 1836
– Third antennomere shorter than fourth to sixth antennomeres combined; fifth to ninth antennomeres more elongate..... 36

36. Pronotum distinctly broader in distal half than in basal half, with lateral margins strongly sinuate (Fig. 186); third antennomere distinctly longer than fourth antennomere, more than three times as long as second antennomere; habitus as in Fig. 10; distribution in South America..... ***Dircema*** Clark, 1865 [in part; see couplet 51]
– Pronotum not distinctly broader in distal half, without strongly sinuate lateral margins; third antennomere as above or not 37

37. Epipleuron more than twice as wide as second antennomere length, wider than apical portion of foretibia; elytra broadly explanate in dorsal view; habitus as in Fig. 2; distribution in Central America and northwestern South America ..... ***Platycesta*** Viswajyothi & Clark, 2021
– Epipleuron not more than two times as wide as second antennomere length, not distinctly wider than apical portion of foretibia; elytra narrowly explanate in dorsal view 38

38. Pronotum at least twice as wide as long; lateral carina of pronotum well developed, narrowly explanate; habitus as in Fig. 1; distribution from United States through much of South America, and in West Indies ..... ***Monocesta*** Clark, 1865 [in part; see couplet 54]
– Pronotum less than twice as wide as long; lateral pronotal carina weakly developed, especially anteriorly; habitus as in Figs 4–5; distribution from Texas to Guatemala ..... ***Coraia*** Clark, 1865

39. Elytral pubescence nearly absent, but usually noticeable laterally; weak carina present behind humerus, extending most of elytral length (Fig. 220); habitus as in Fig. 20; Palearctic species, introduced to North America (United States and Mexico) ..... ***Diorhabda*** Weise, 1883
– Elytral pubescence dense in most species; if elytral pubescence nearly absent, then elytra not carinate 40

40. Elytra pale brown, in most species with darker speckles, which often coalesce to form irregular blotches; elytral vittae, if present, usually short and irregular; antennae short, not or barely reaching beyond base of elytra; abdomen of male with deflexed pygidium in most cases 41
– Elytral coloration varying from entirely pale to entirely black; dark elytral markings not forming speckles or irregular blotches, sometimes forming long, regular vittae; antennae usually longer, distinctly extending beyond humeri; abdomen without deflexed pygidium 42

41. Lateral third of pronotum almost entirely occupied by large depression; prothorax usually more than twice as wide as long; gender either male or female; habitus as in Fig. 36; distribution from Canada to Mexico ..... ***Yingabruxia*** gen. nov.
– Lateral third of pronotum partially occupied by convex elevation; pronotum usually not distinctly more than twice as wide as long; gender usually male (female claws simple, except in one anomalous species with bifid claws); habitus as in Fig. 35; distribution from Canada to Guatemala ..... ***Monoxia*** LeConte, 1865 [in part; see couplet 12]

42. Front coxae narrowly but distinctly separated from each other by posterior extension of prosternum; middle coxae separated from each other by distance subequal to half coxal width (Fig. 153); pronotum polished and nearly impunctate, except in depressions; all tibiae lacking apical spurs in both male and female; habitus as in Fig. 25; distribution in Canada and United States ..... ***Galerucella*** Crotch, 1873 (subgenus *Galerucella* Crotch)
– Front coxae not separated by prosternum; middle coxae closely approximate but rarely in actual contact (Fig. 154); male with broad, often curved, apical spur on middle tibia 43

43. Elytra with distinct, dark vittae (Figs 37–38); distribution from Canada to Mexico ..... ***Ophraella*** Wilcox, 1965 [in part; see couplets 46, 55, 66]
– Elytra not distinctly vittate 44

44. Fourth antennomere distinctly longer than second; outer margin of epipleuron (marginal bead between disc of elytron and epipleuron) sometimes becoming obscure near apex, but inner margin (next to body) always distinct to apex or to point where it joins outer margin 45
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47. Pronotal punctation very coarse, with punctures distinctly larger than those of elytra; upon close examination, elytra with numerous, short, appressed setae (easily rubbed off in some specimens); aedeagus extraordinary long, C-shaped, forming complete semicircle in lateral view; tarsal claws bifid in male, simple in female; procoxal cavities open behind; habitus as in Fig. 34; distribution from Canada to Argentina ..... ***Erynephala*** Blake, 1936 [in part; see couplets 12, 15]
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100. New World species usually testaceous, orange, or yellow (brown to black in a few species); dark elytral markings usually faint, irregular, or absent; many species with dark markings on pronotum; body usually elongate oval, dorsally convex; habitus as in Fig. 139; reported distribution from United States through Peru ..... ***Metrioidea*** Fairmaire, 1882 [in part; see couplet 97]
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Discussion

In this study, we recognize 130 New World genera of Galerucinae, 10 of these being newly named. However, we are confident than many undescribed genera are yet to be discovered. Surely, the numbers will substantially increase upon future study. The key we provide is the first of its kind. That is, it is the first modern key to include all of the New World, non-alticine genera of Galerucinae. However, we certainly do not believe it to be unequivocally authoritative. To the contrary, it undoubtedly includes errors. We present it as a first attempt, hopefully to be corrected and improved upon by future workers. We hope that our study will stimulate interest and facilitate future taxonomic investigations of this woefully understudied group of important beetles.

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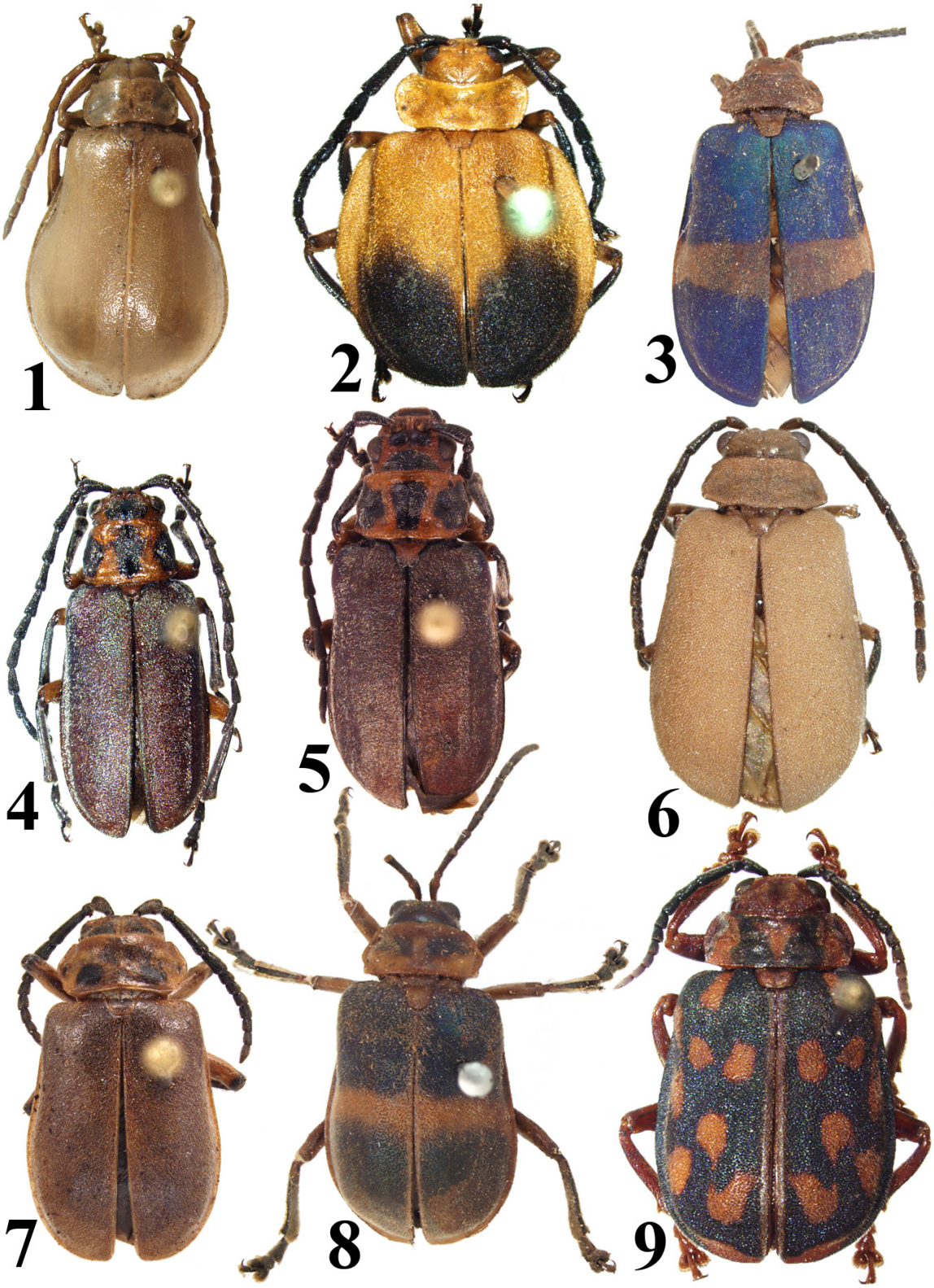

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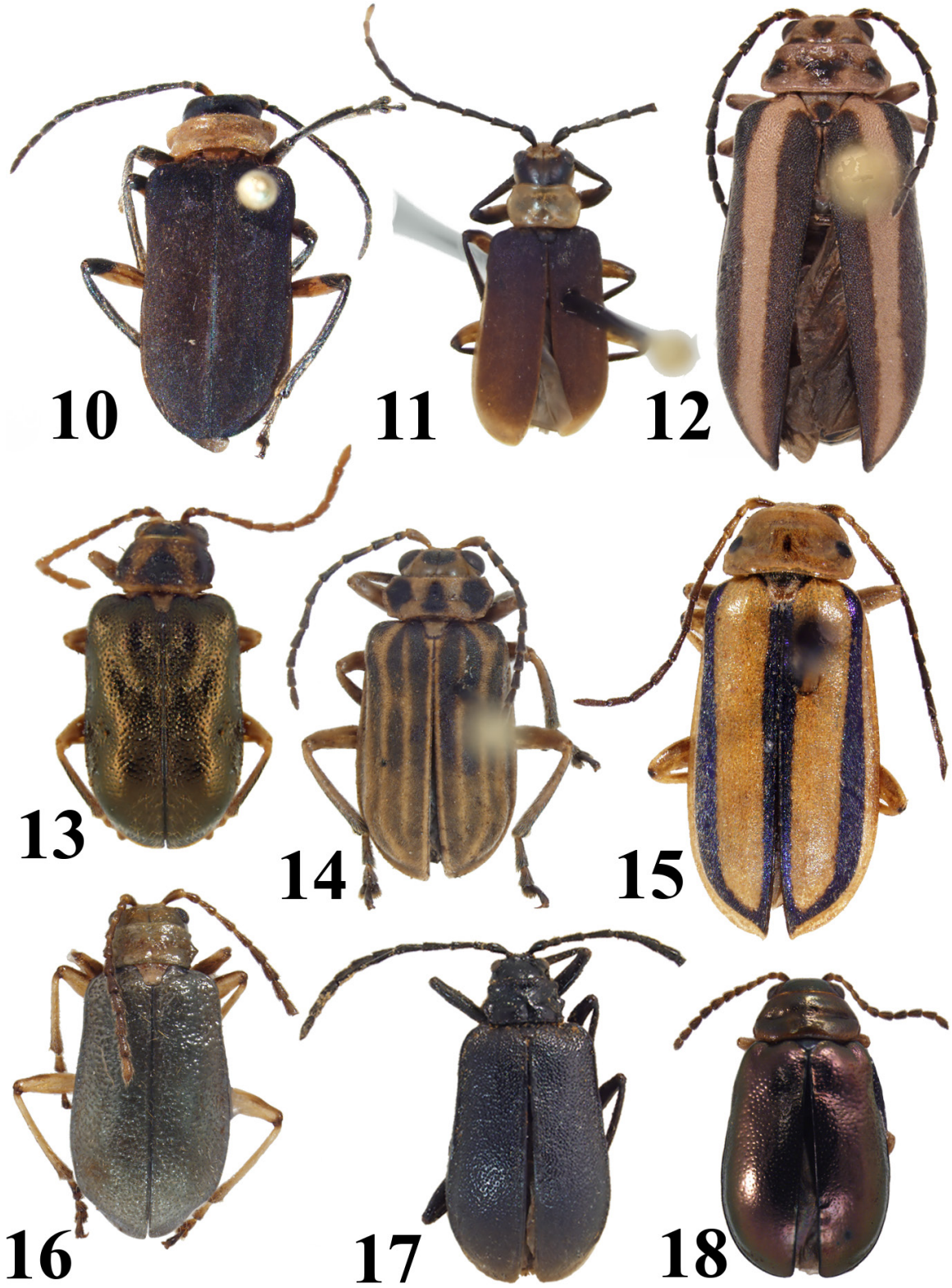

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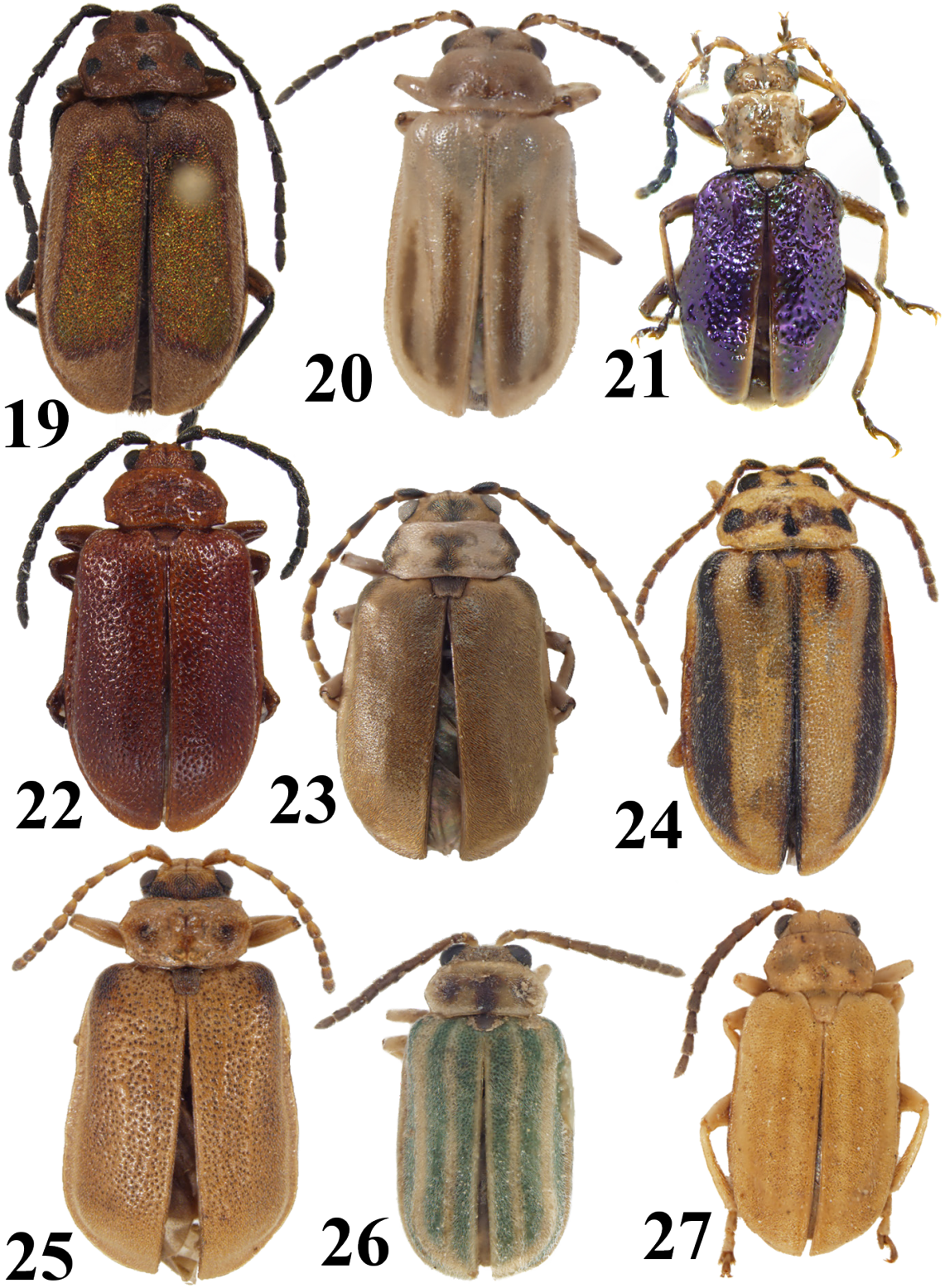

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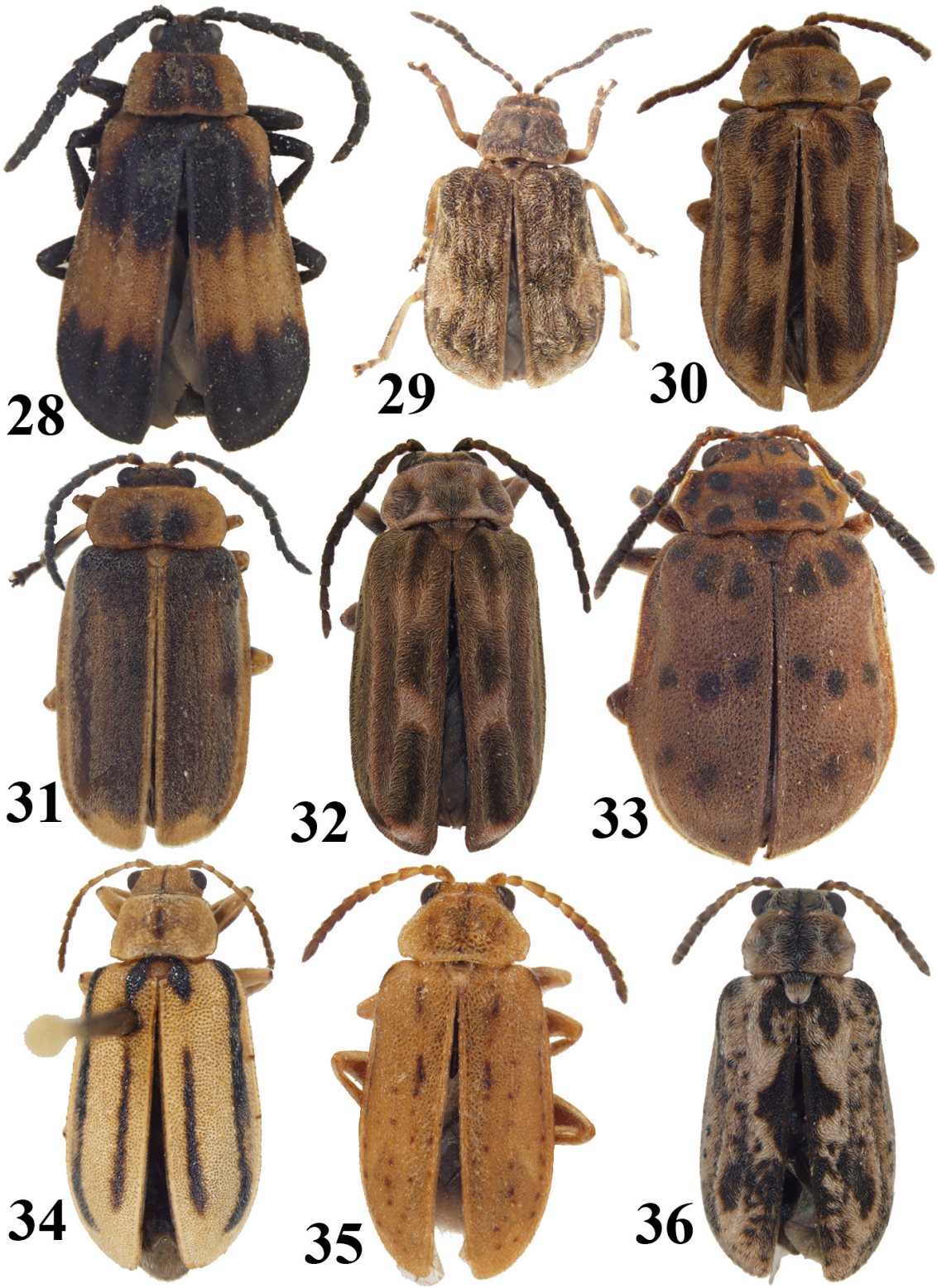

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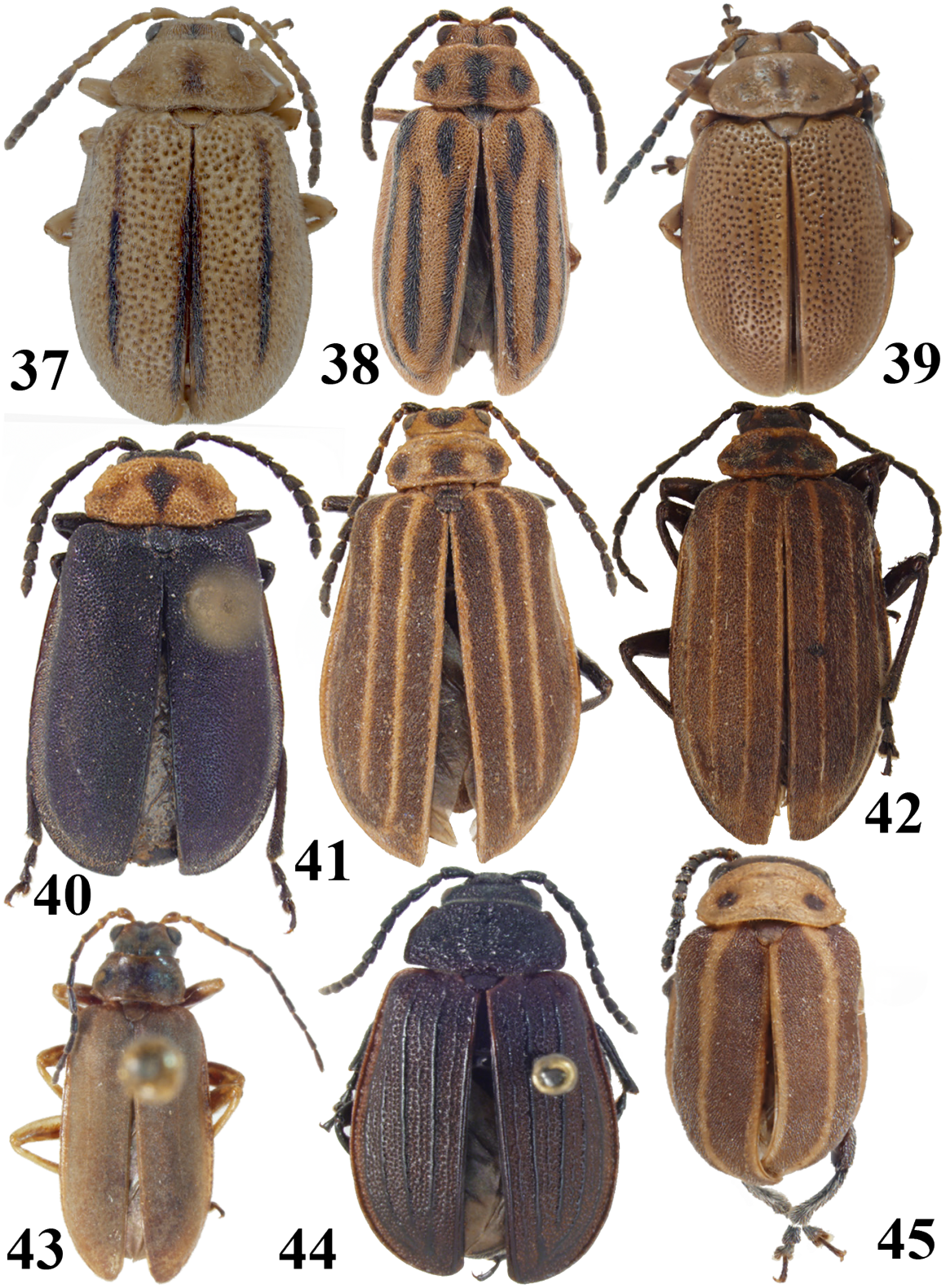

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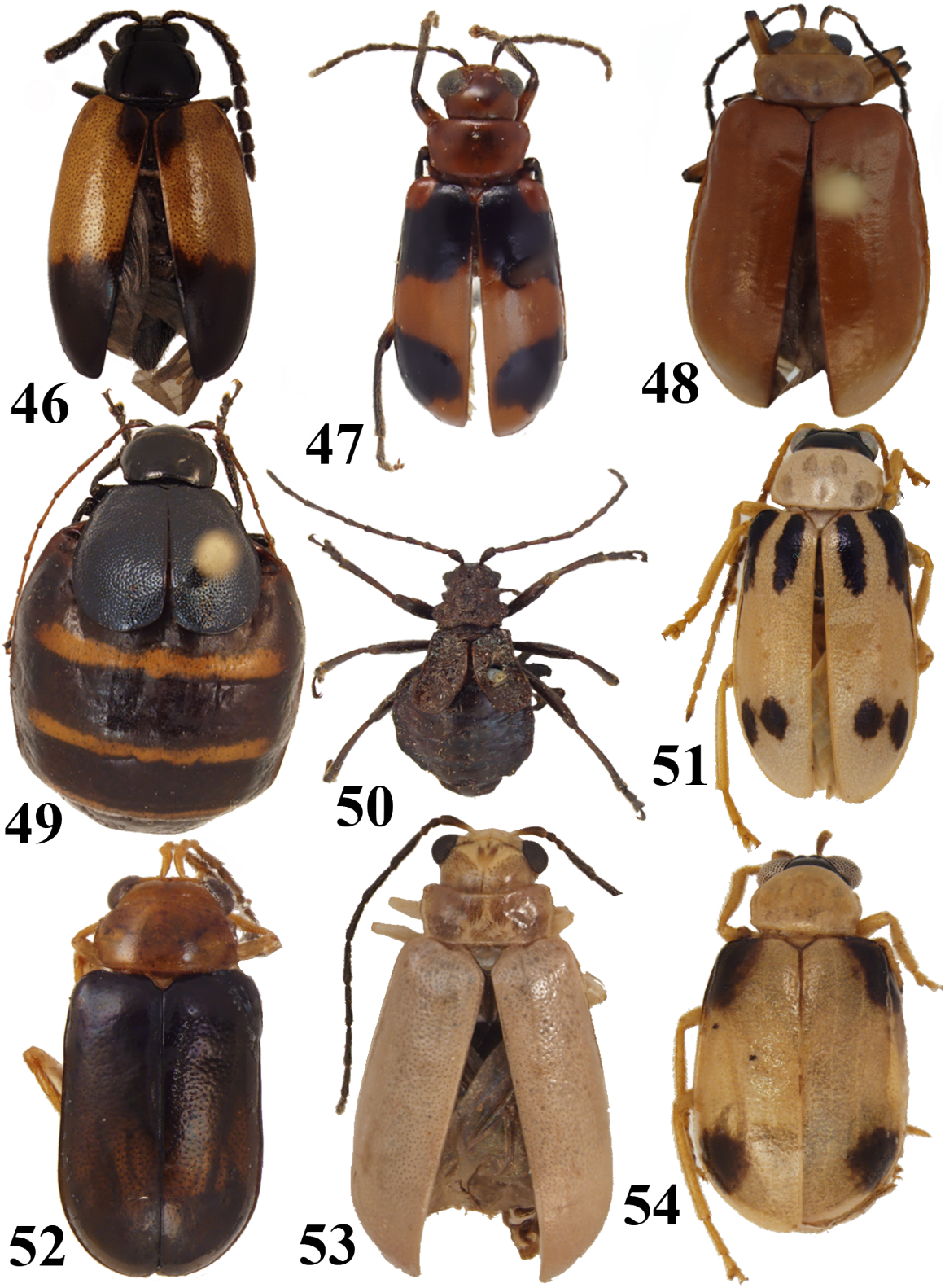

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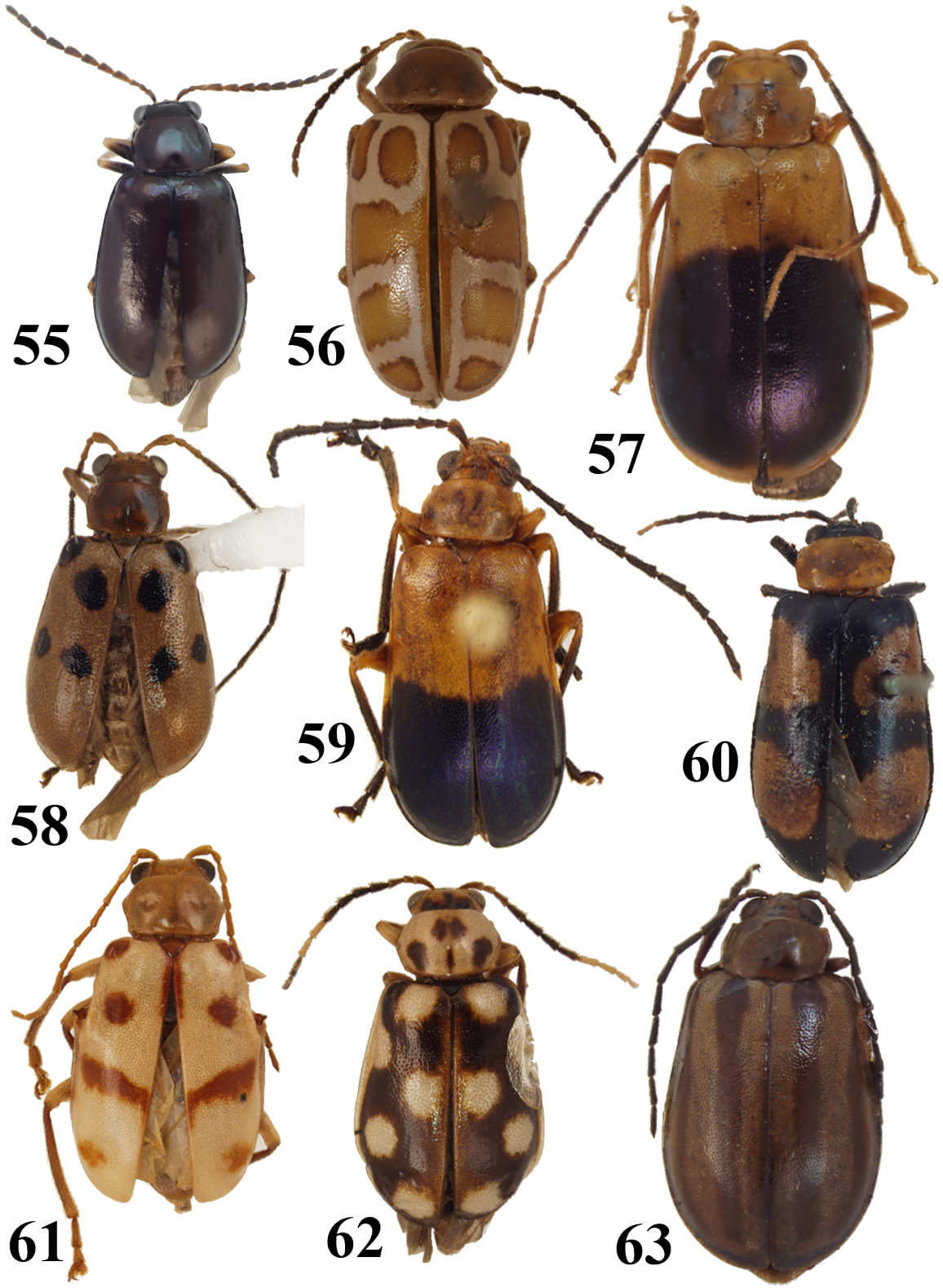

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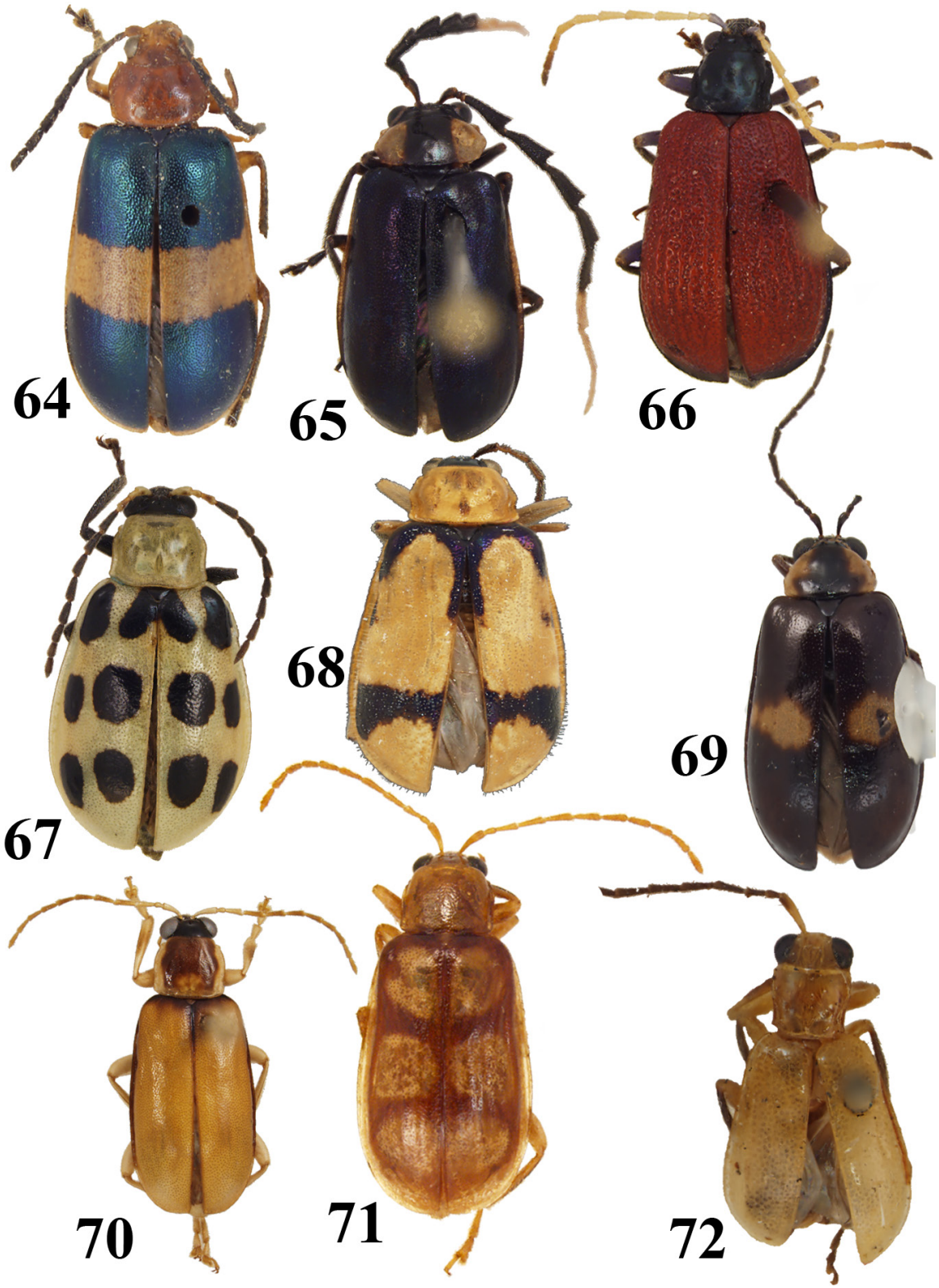

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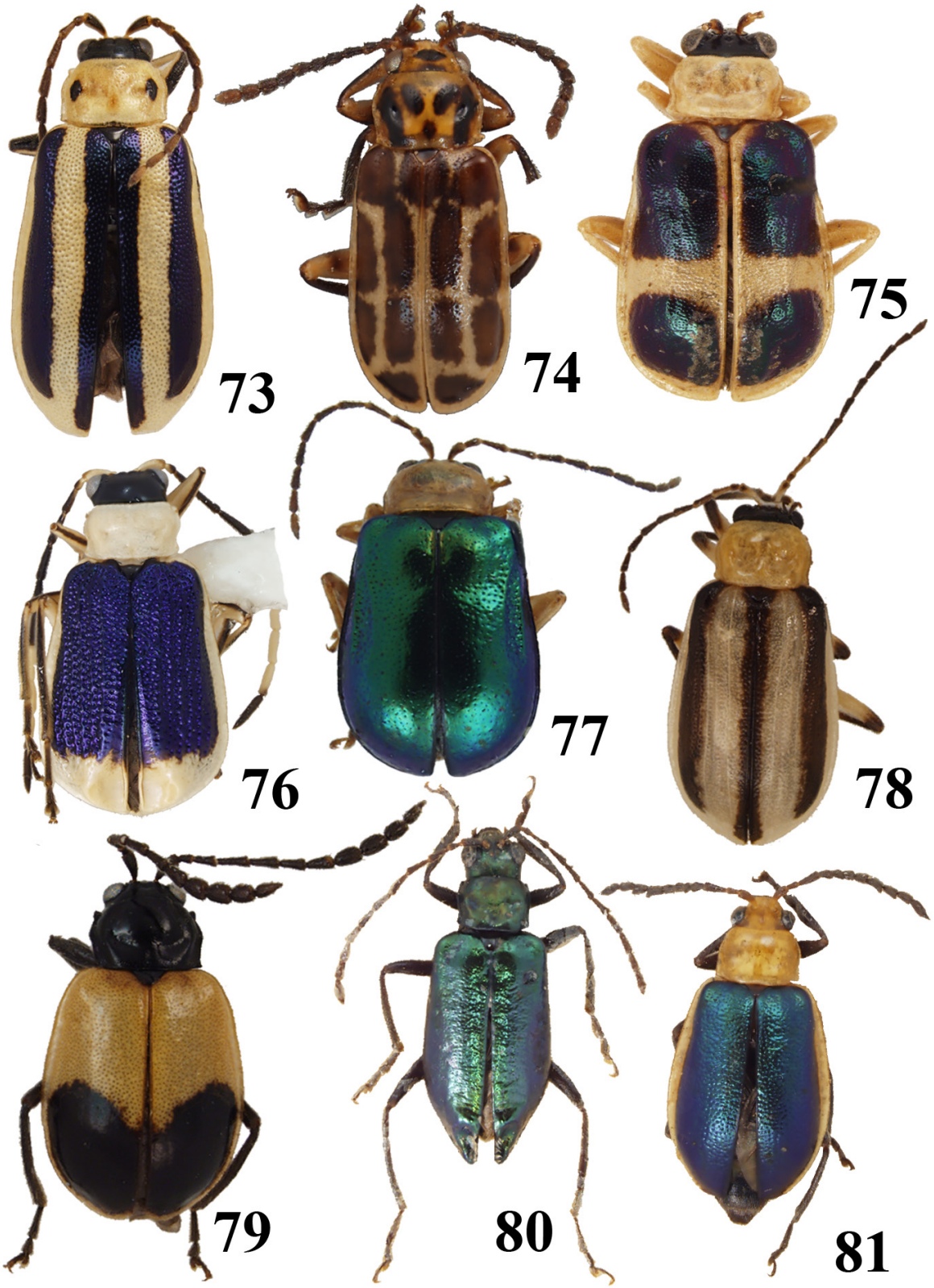

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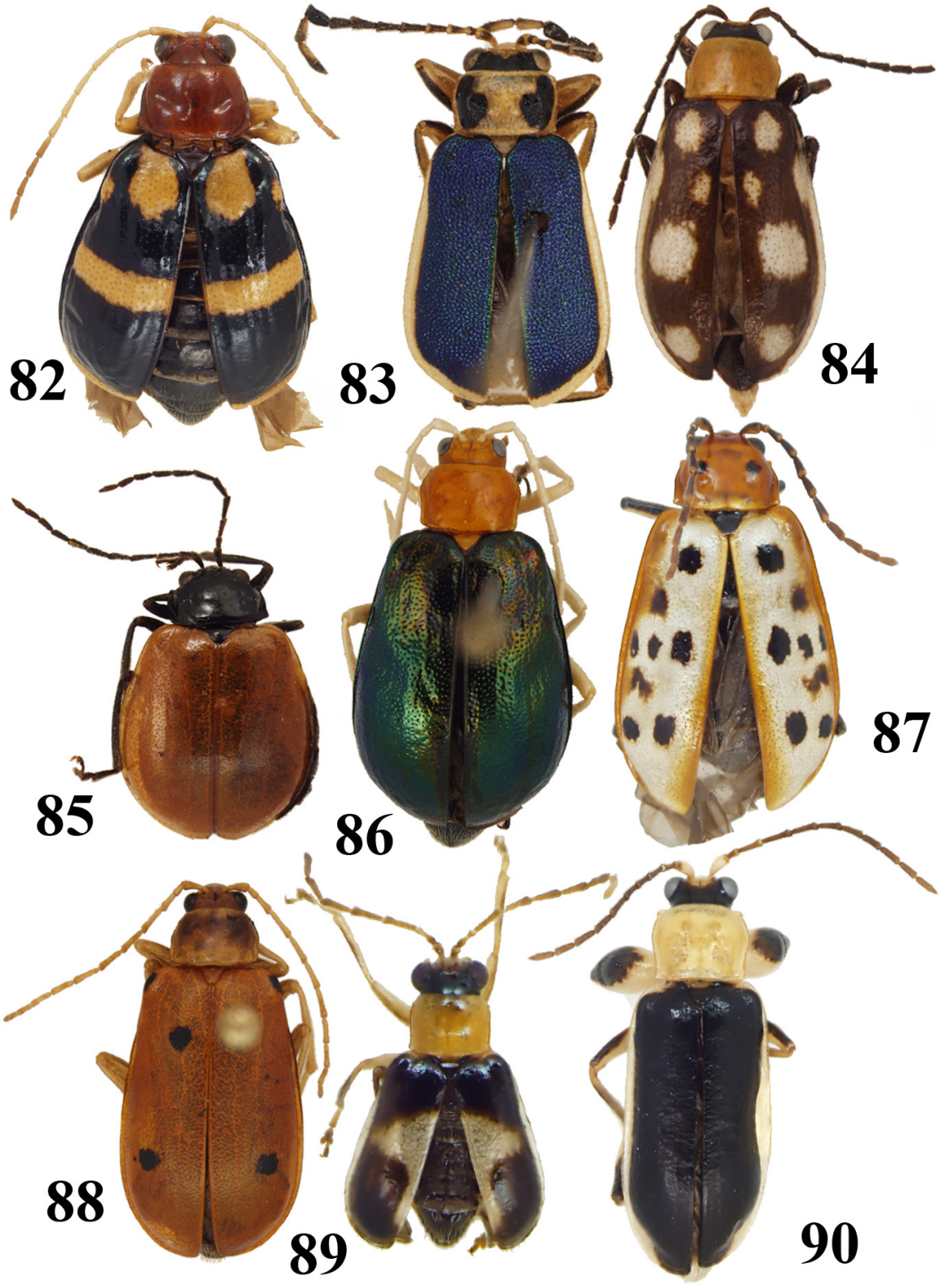

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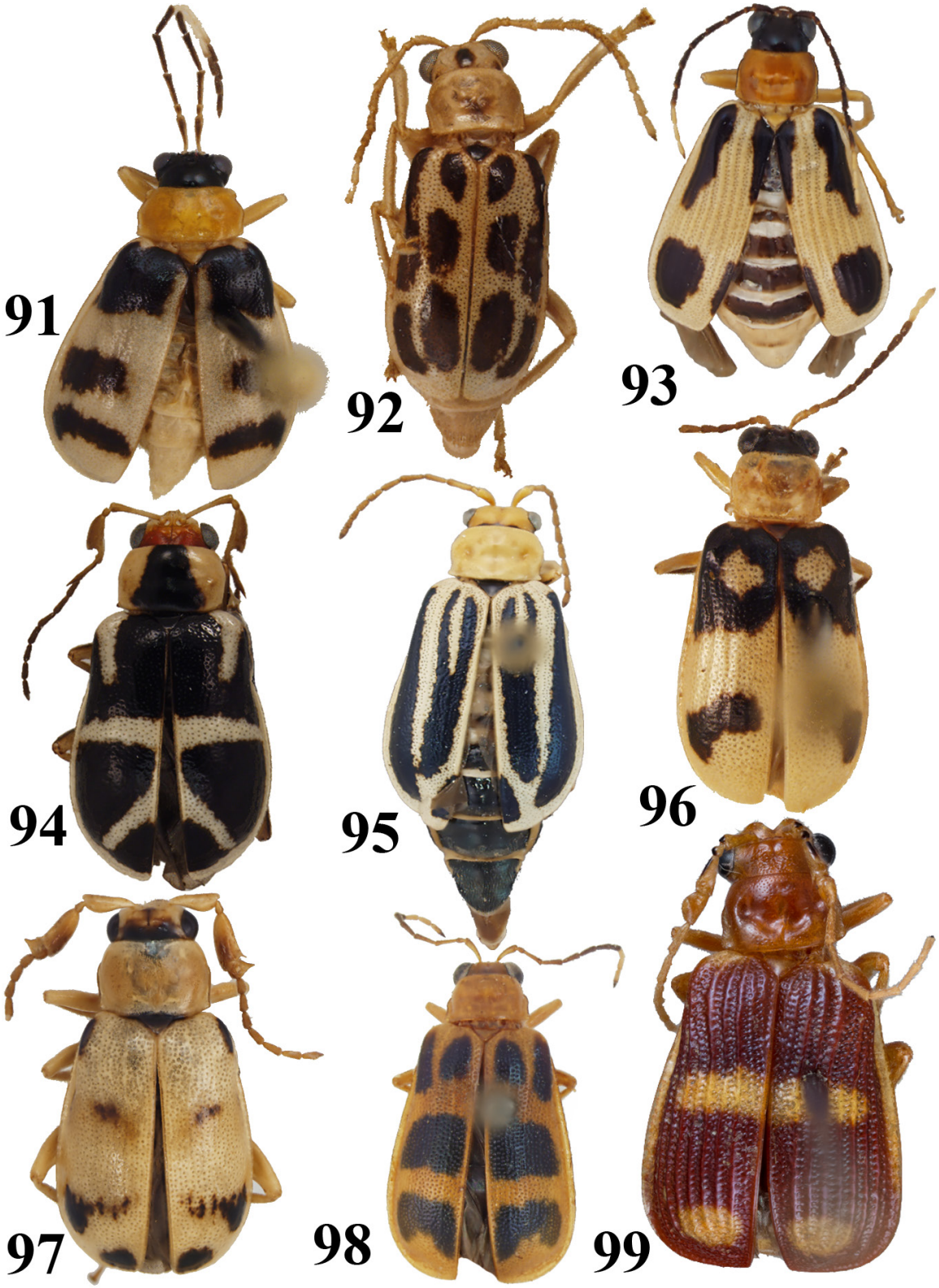

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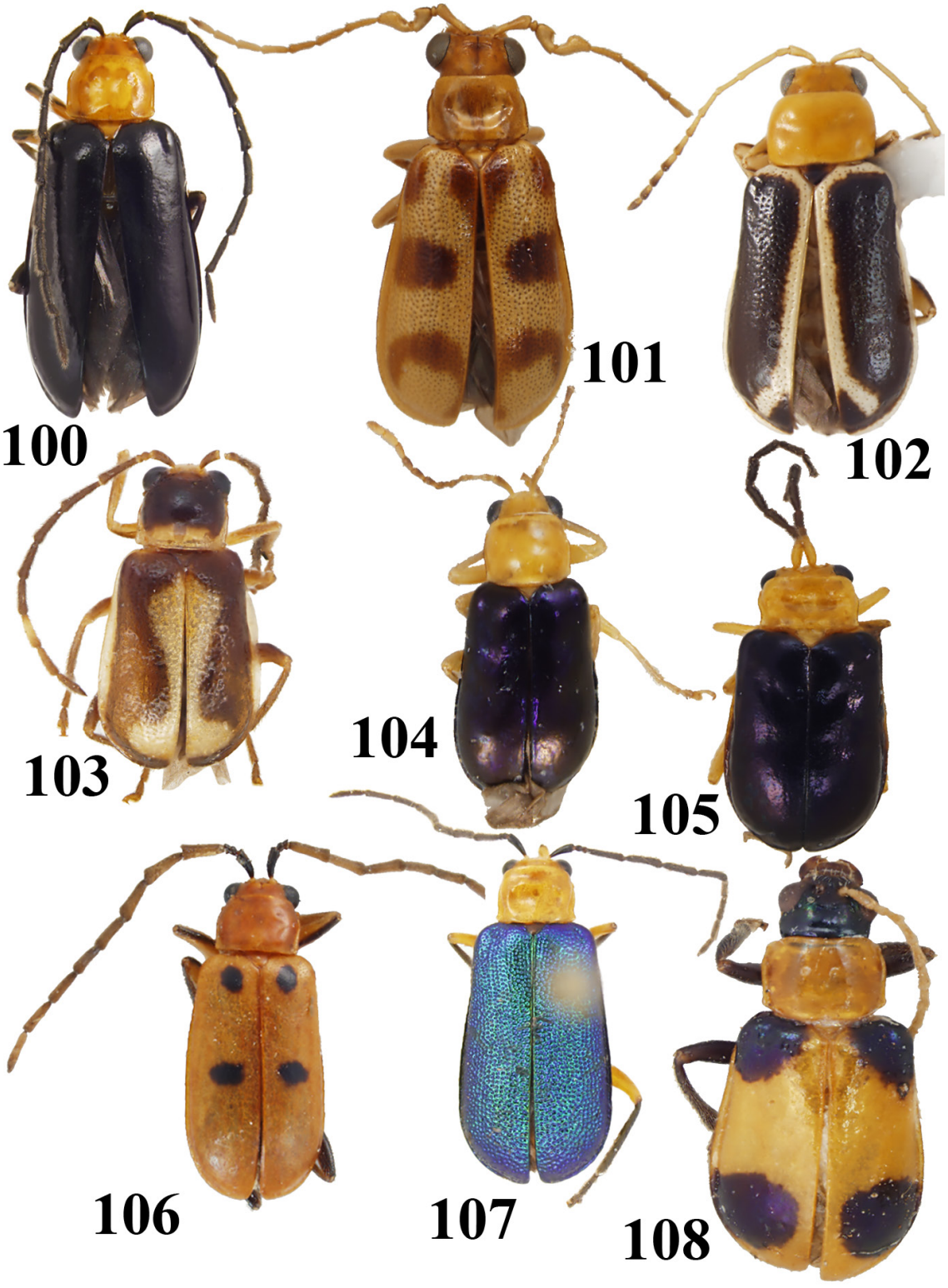

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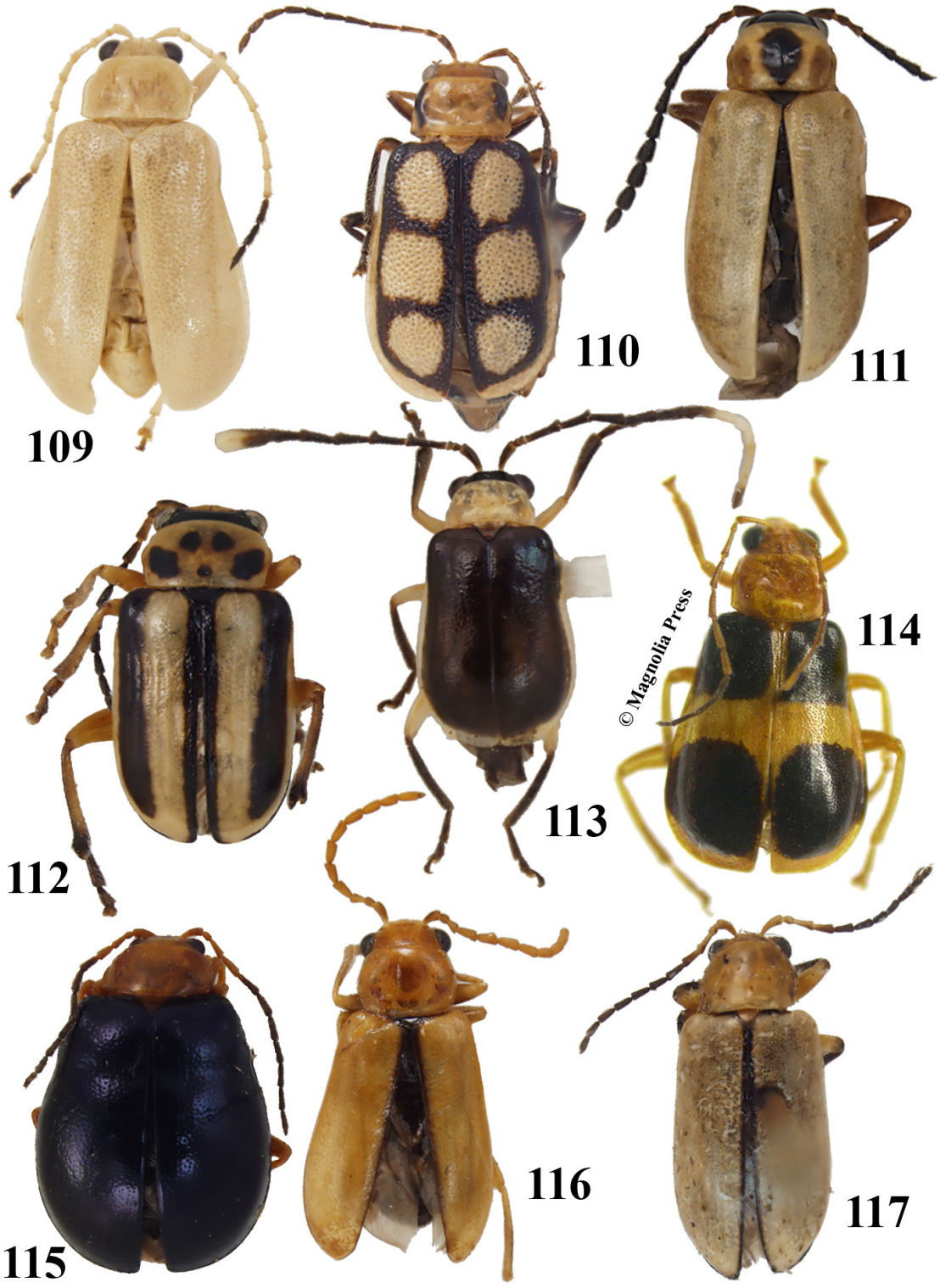

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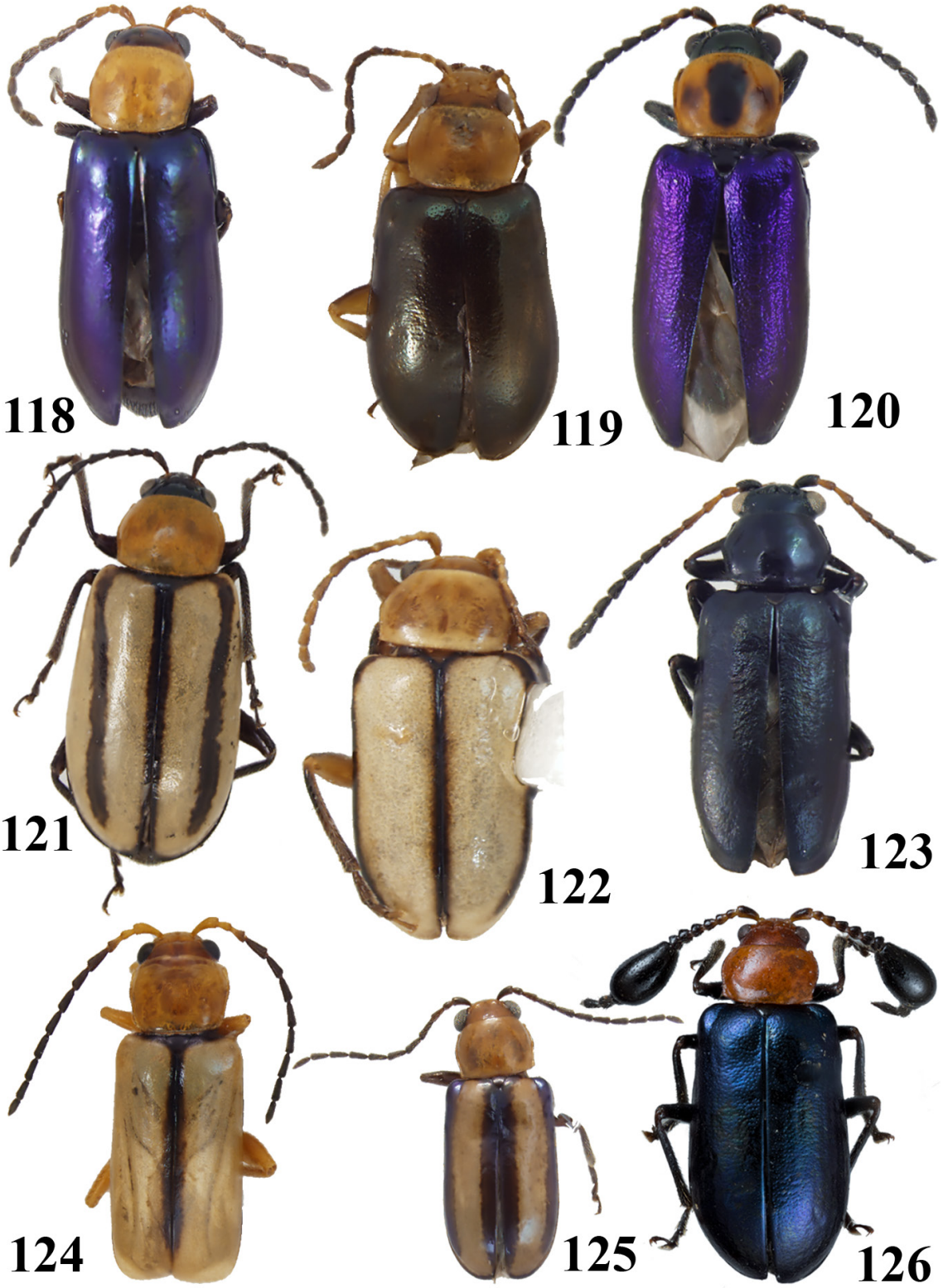

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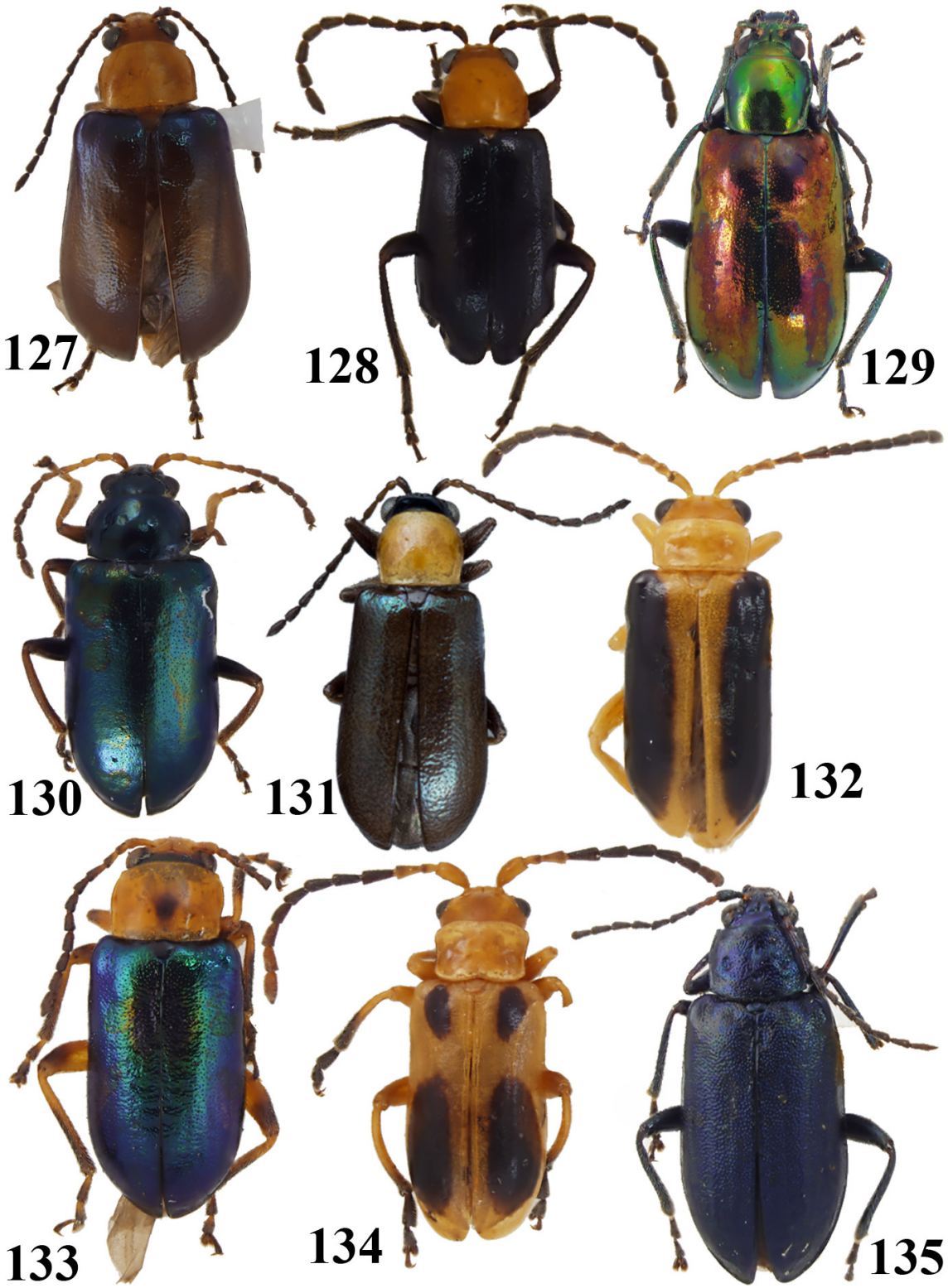

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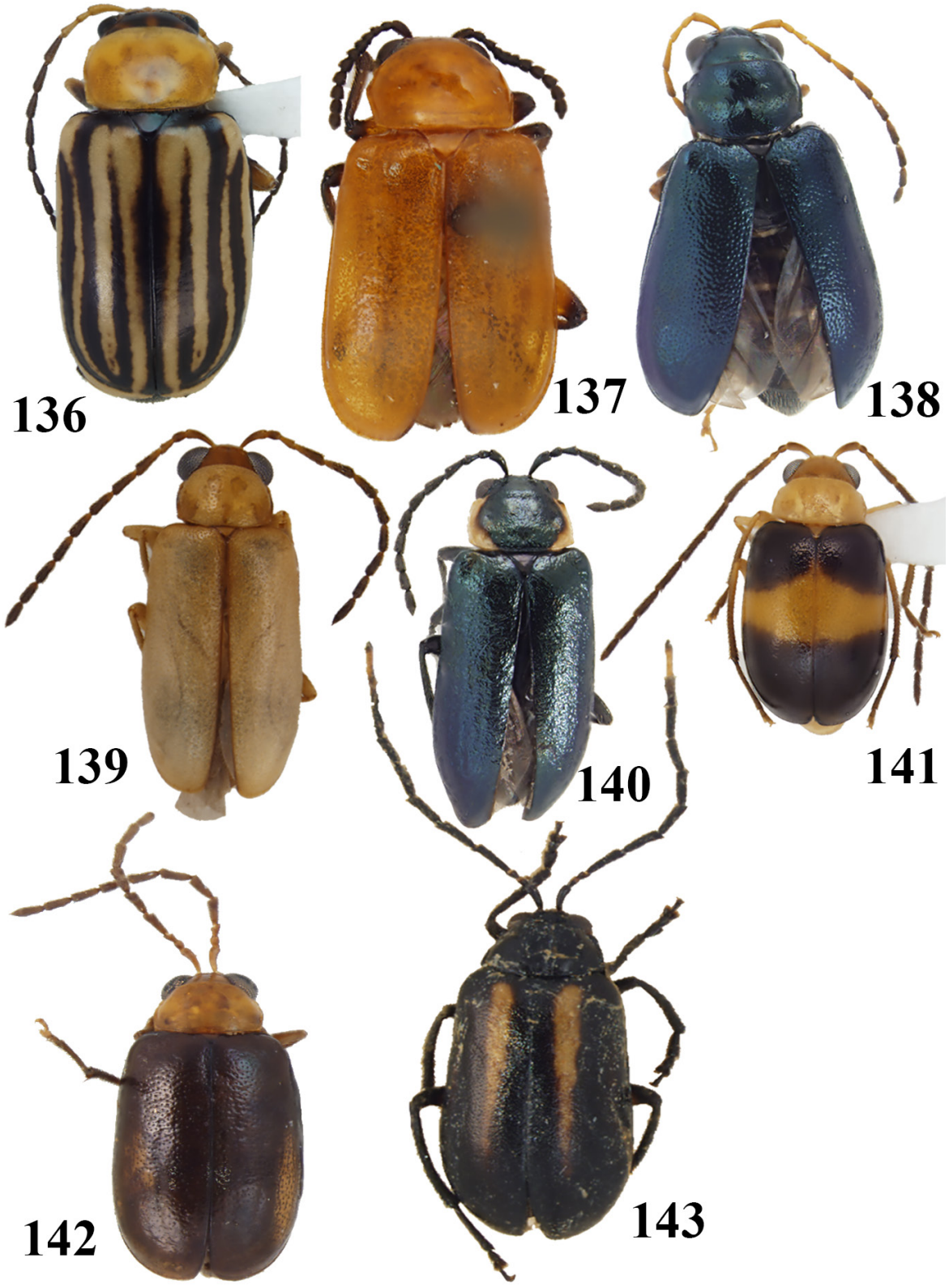

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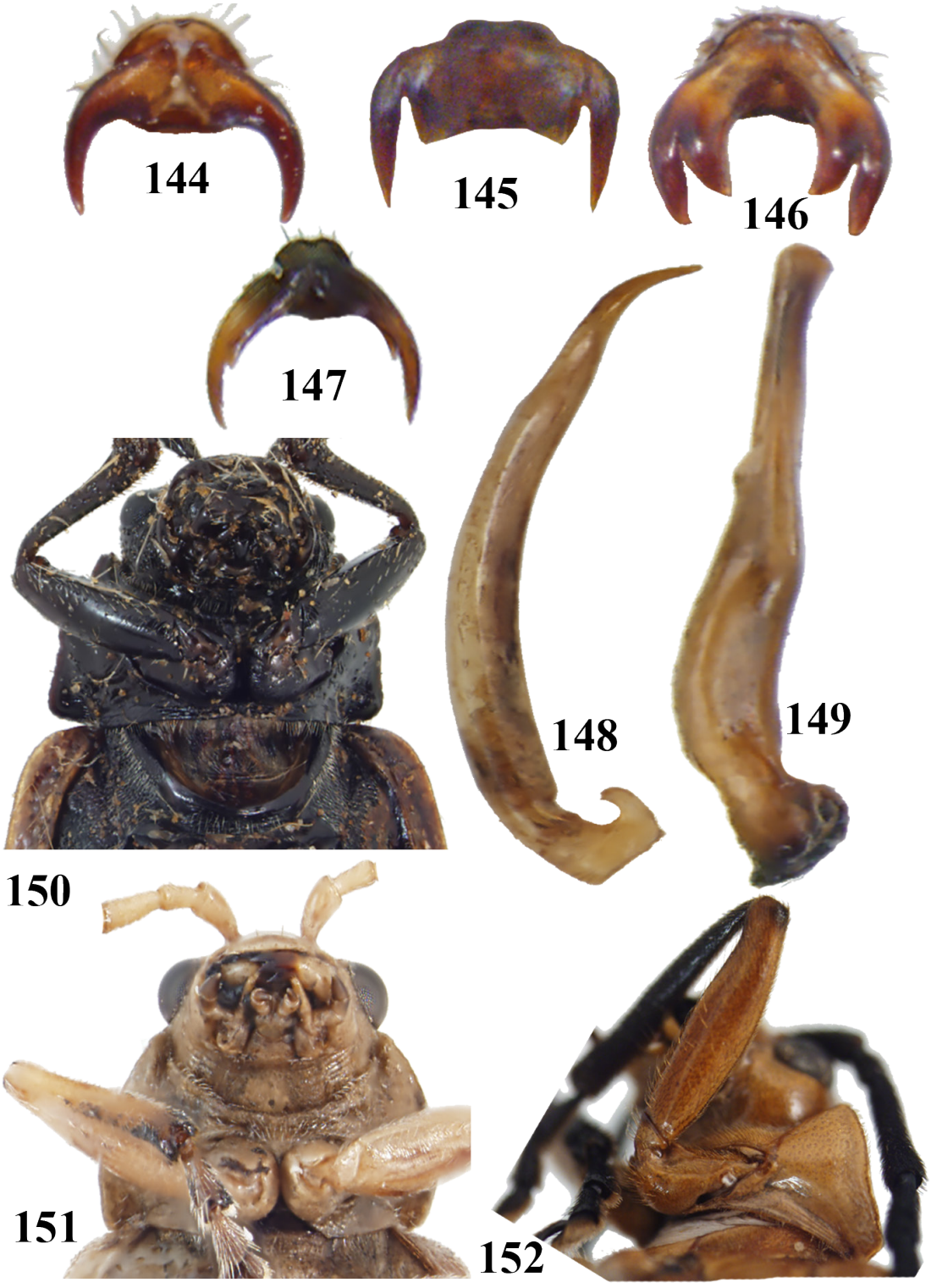

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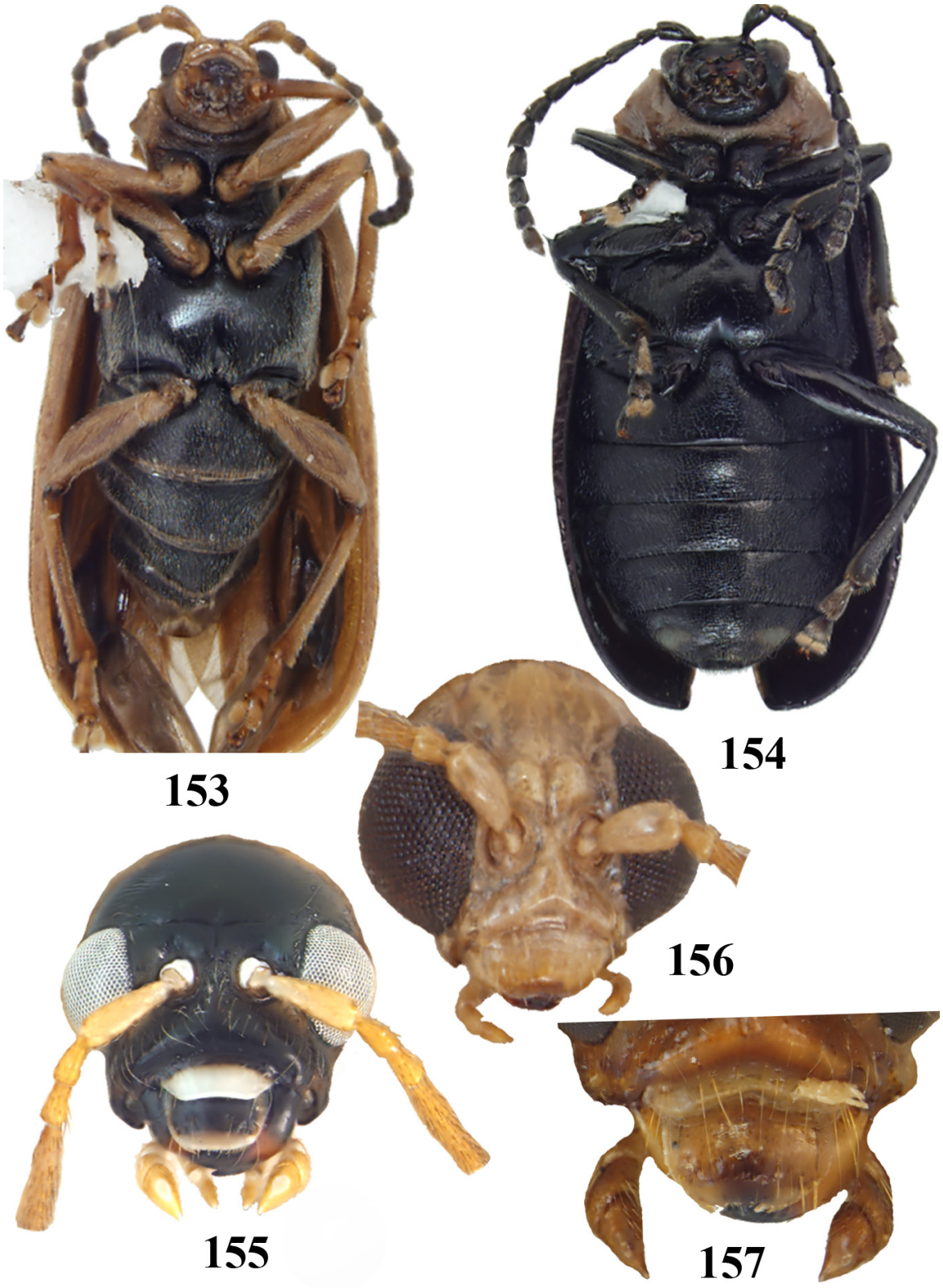

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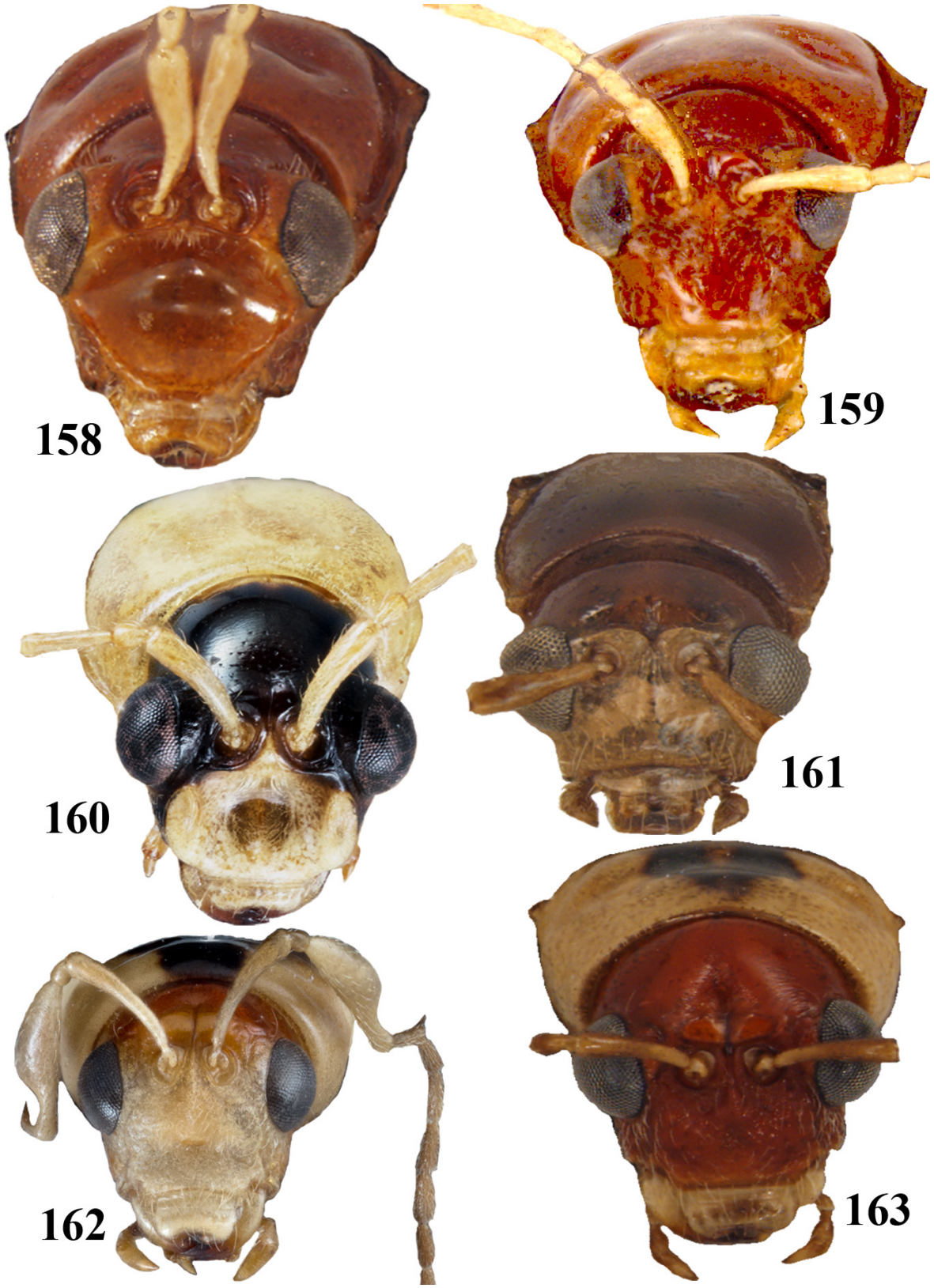

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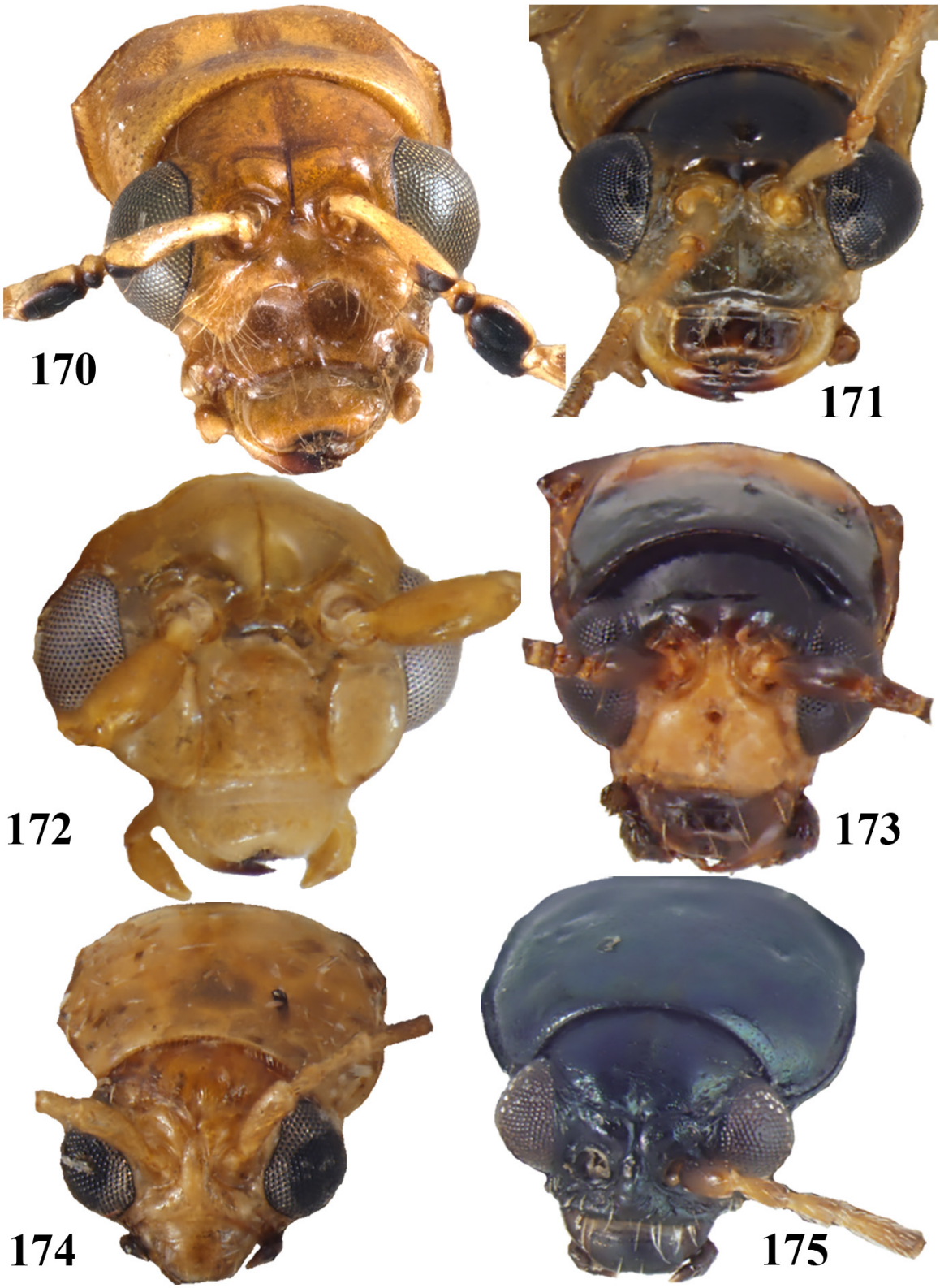

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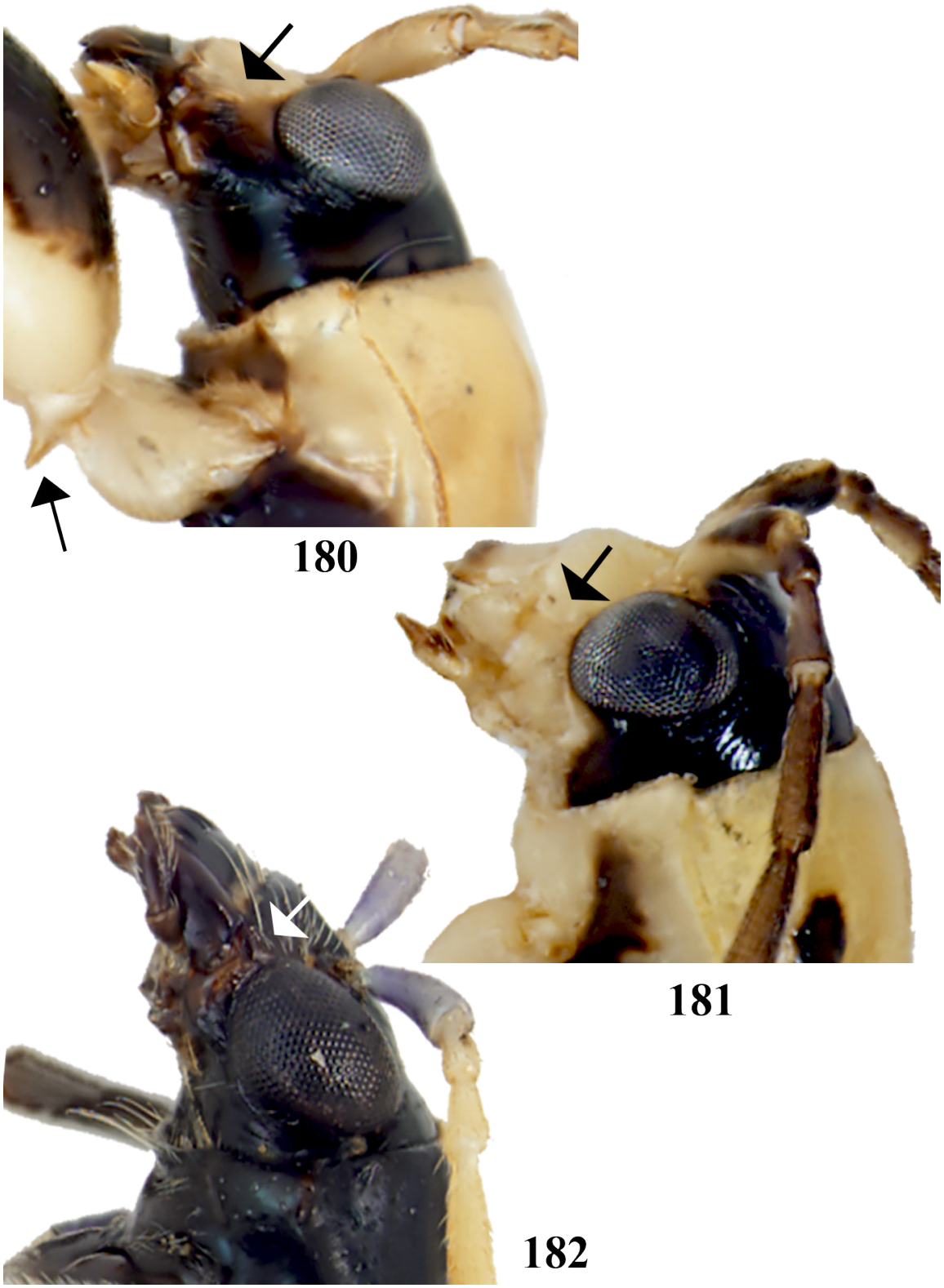

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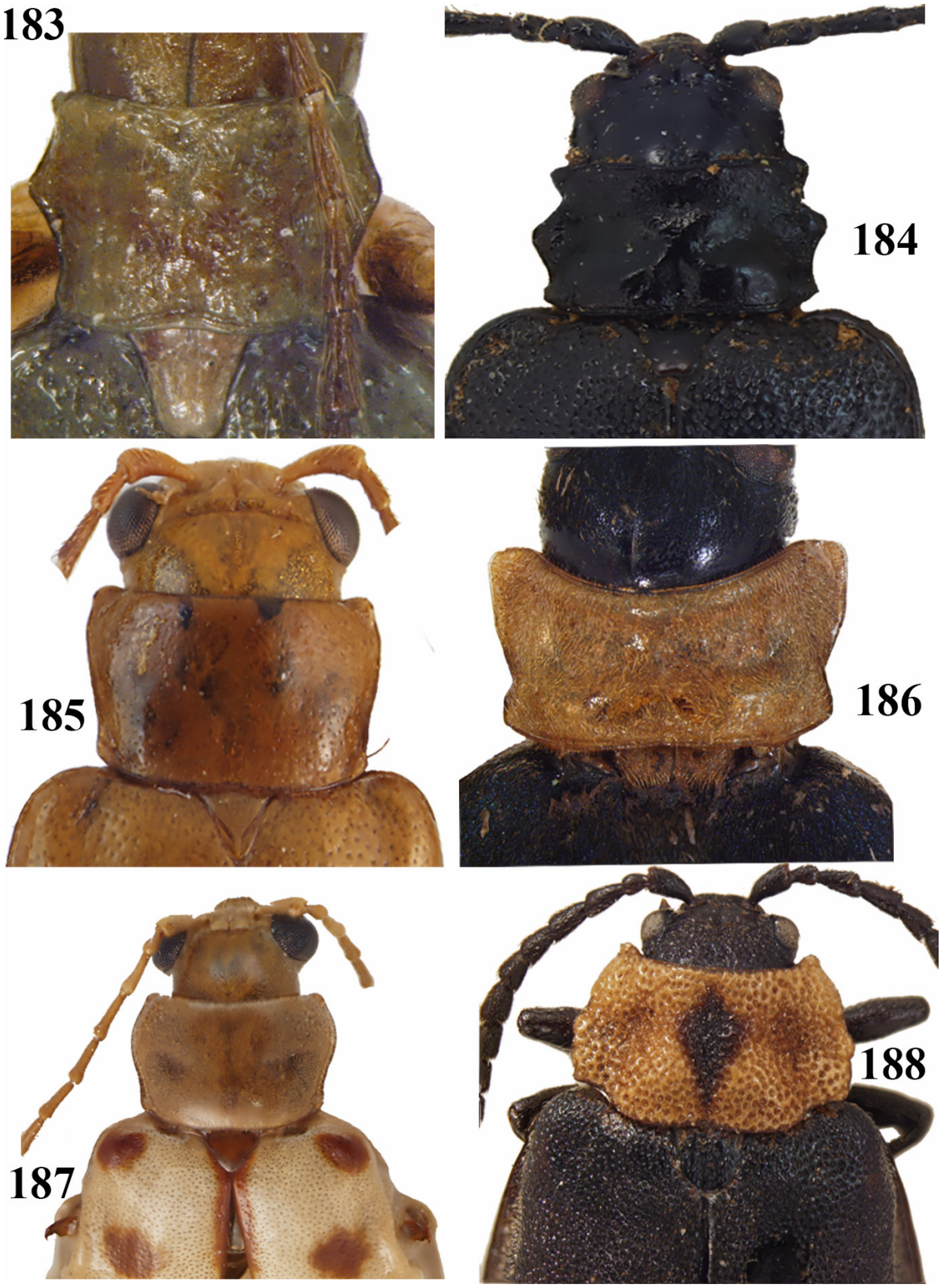

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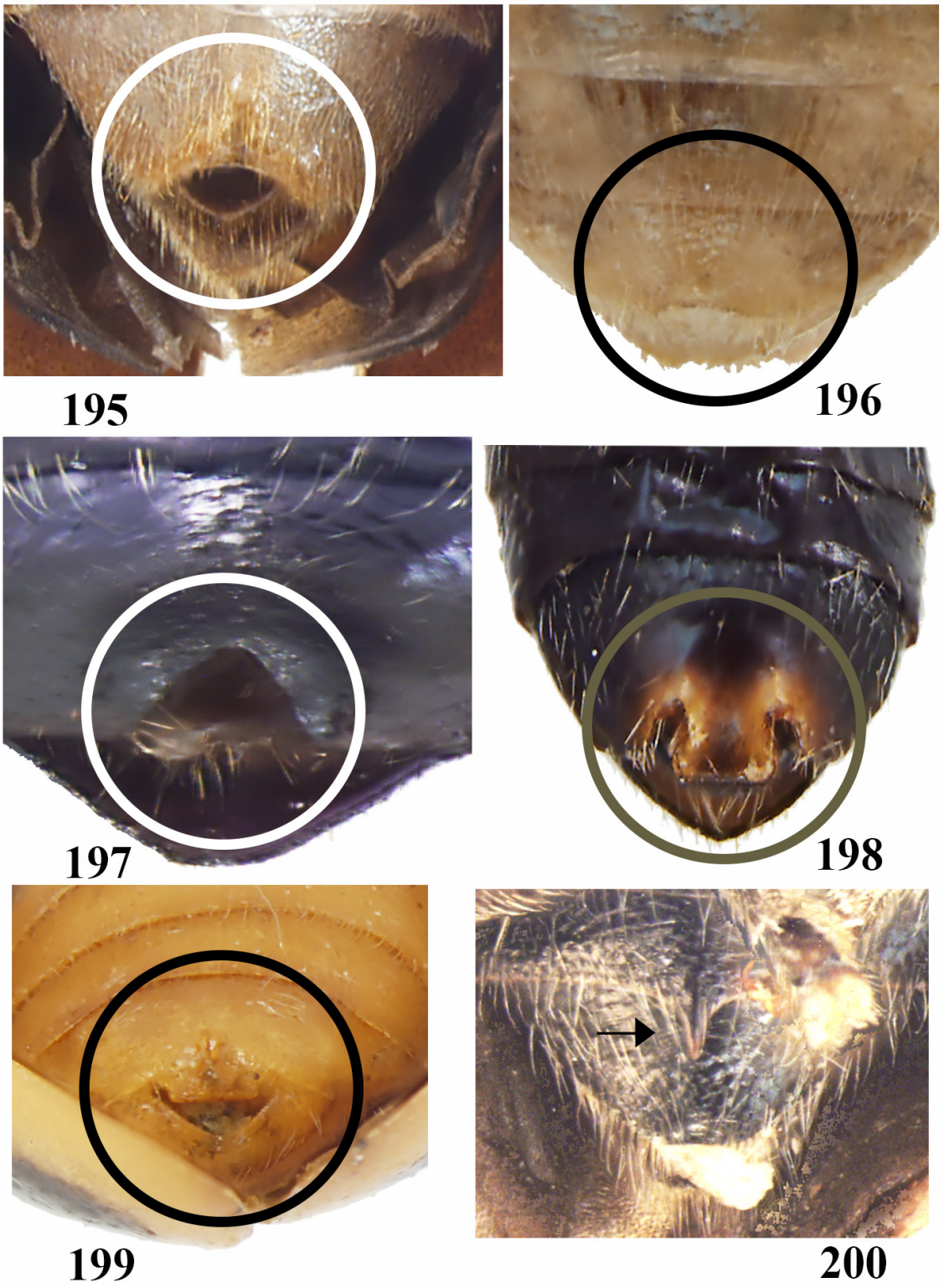

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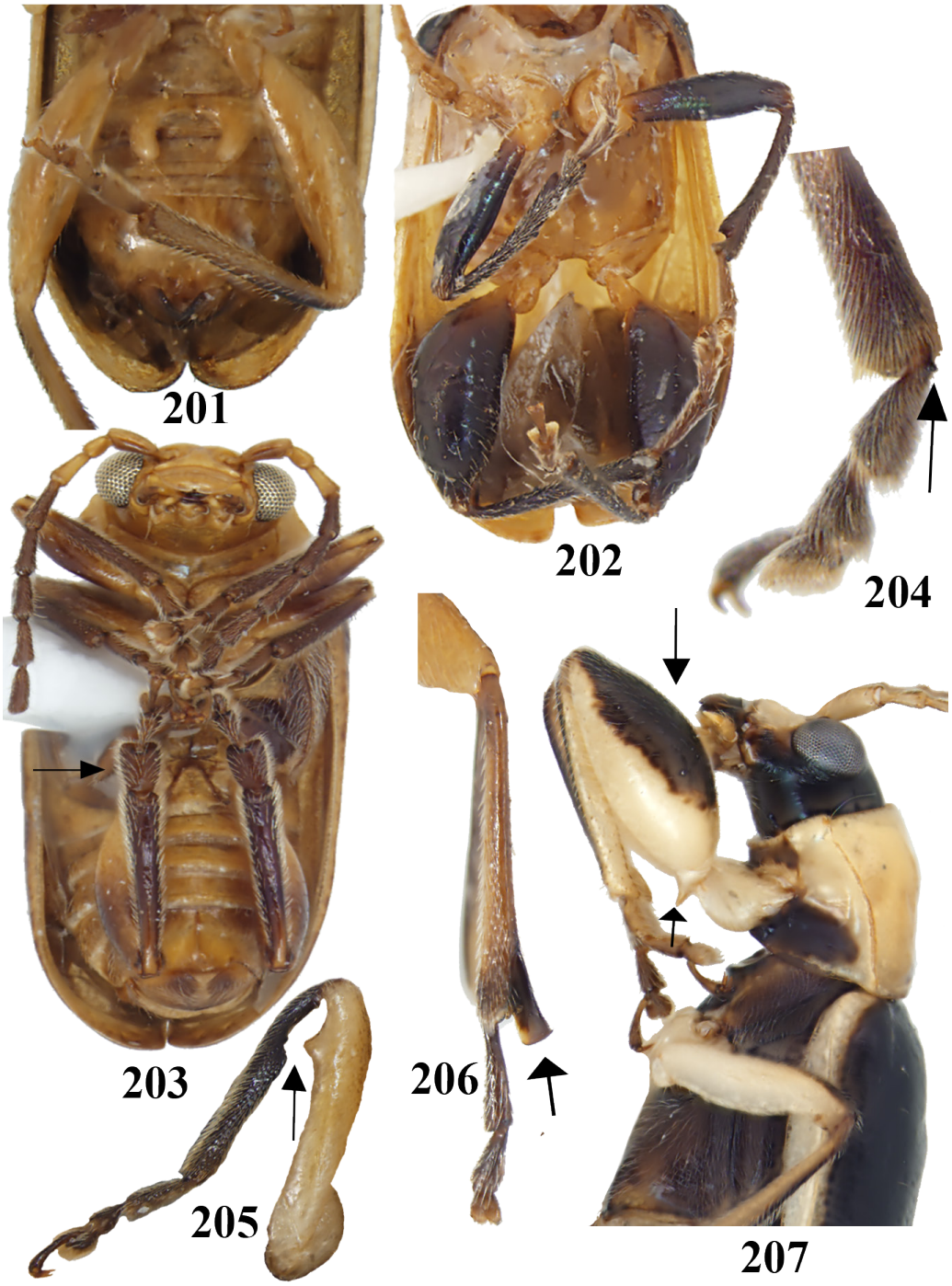

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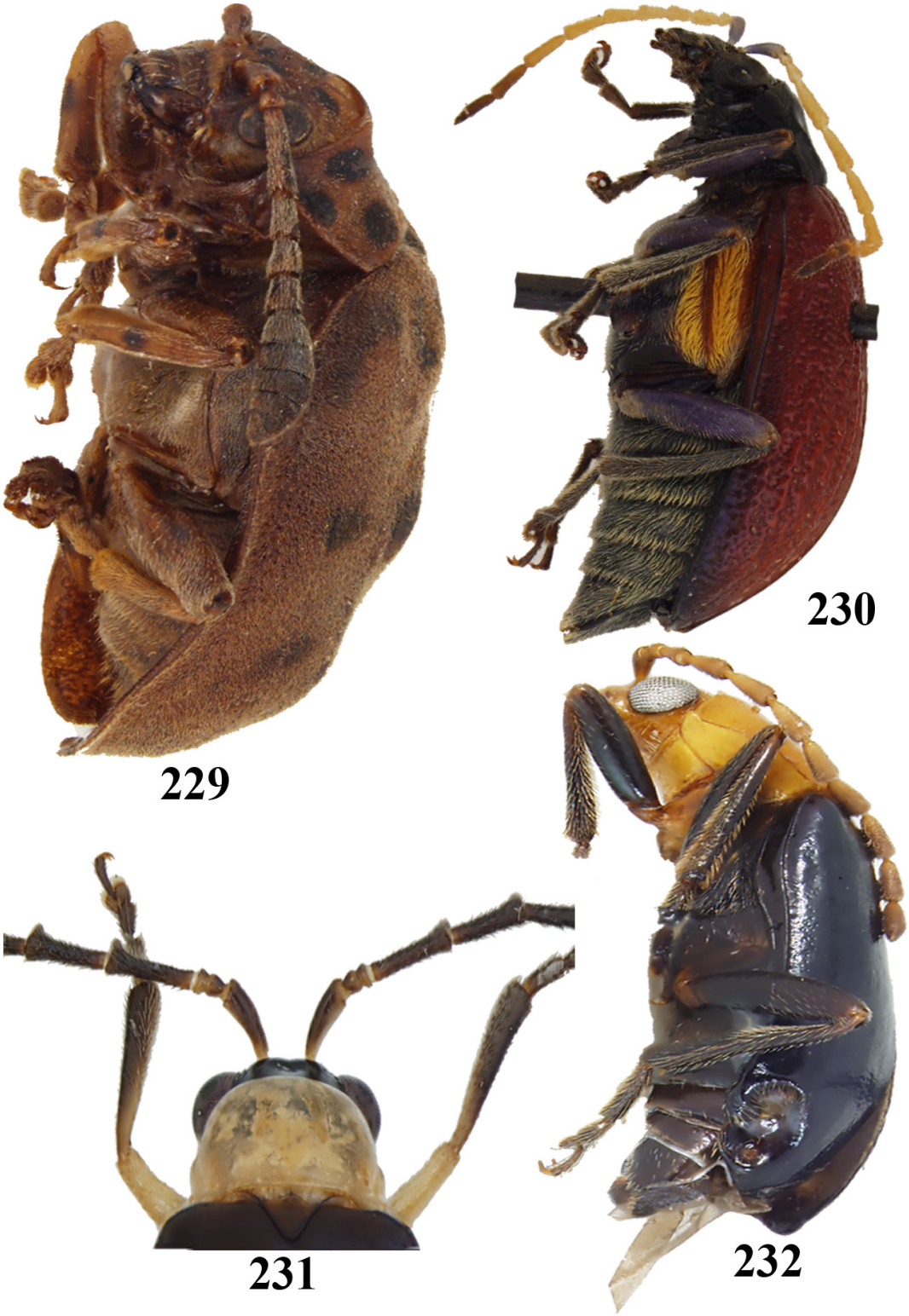

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