

CATALOG OF THE SCIRTIDAE OF AMERICA NORTH OF MEXICO
(COLEOPTERA: SCIRTOIDEA), WITH TAXONOMIC
AND DISTRIBUTIONAL NOTES

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ABSTRACT

The species of Scirtidae from North America, described both formally and informally, are reviewed and cataloged. Select nomenclatural acts from an unpublished 1967 dissertation are validated and manuscript names from this dissertation are matched with currently described species. *Contacyphon pusillus* (LeConte, 1853), **status restored, new combination** is brought out of synonymy with *Contacyphon padi* (Linnaeus, 1758). Two species are formally listed in their valid genus for the first time: *Contacyphon modestus* (LeConte, 1853), **new combination** and *Contacyphon punctatus* (LeConte, 1853), **new combination**. Three additional new combinations are proposed based on examination of specimens in light of modern generic definitions: *Herthania exigua* (Horn, 1880), **new combination** [from *Contacyphon* Gozis, 1886]; *Herthania obscura* (Guérin-Méneville, 1843), **new combination** [from *Contacyphon*]; *Hiekeycyphon spinulosus* (Klausnitzer, 1976), **new combination** [from ?*Yoshitomia* Klausnitzer, 2013]. Four new synonyms are proposed at the species level: *Helodes nebulosa* LeConte, 1853 and *Helodes picea* LeConte, 1853 with *Contacyphon pubescens* (Fabricius, 1792), **new synonyms**; *Contacyphon fuscescens* (Klausnitzer, 1976) with *C. punctatus*, **new synonym**; *Contacyphon neopadi* (Klausnitzer, 1976) with *C. pusillus*, **new synonym**. *Hemicyphon* LeConte, 1866 is recognized as having priority over *Exneria* Klausnitzer, 2013, **new objective synonym**, resulting in *Hemicyphon ruficollis* (Say, 1825), **new combination**. State- and province-level distributions are provided for all species, and original references along with type localities are given for all genus- and species-group names and nomenclatural acts.

Keywords: checklist, marsh beetles, Nearctic, Scirtiformia

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INTRODUCTION

The goal of this work is to provide a synthesis of the highly scattered, multilingual, or unpublished literature that has borne upon the North American Scirtidae over the past several decades to provide the first detailed, published summary of the North American fauna since Horn (1880). This was prompted by our involvement in the Scirtidae chapter of the *Beetles of Canada and United States* volumes currently under production, which will include a revised key to and illustrations of the adults of North American genera.

Scirtid species can be difficult or impossible to identify accurately without examination of male or

female internal terminalia. Consequently, species described and records reported prior to about 75 years ago that have not been critically evaluated more recently using dissection techniques are generally unreliable. The important PhD dissertation work of Robert Close Tetrault (1967) was the first treatment of the North American fauna to include such dissection techniques. He proposed a few taxonomic changes within North American Scirtidae, including 10 new species in the genus *Cyphon* Paykull, 1799 (now *Contacyphon* Gozis, 1886 and other genera), as well as a wealth of new distributional records. However, this work was unfortunately never formally published and his proposed names and nomenclatural acts remain unavailable. As a

result, taxonomic progress on the fauna has languished. Piecemeal works in German describing new genera and species in the *Contacyphon* group, mostly without relating them to the described North American fauna, and not referencing Tetrault's (1967) foundational work, were provided by Klausnitzer (1976b, 2006, 2013, 2016b, c). Young and Stribling (1990), Epler (2010), and Zwick (2010) were the only modern English-language works treating any portion of the North American fauna in the *Contacyphon* group. Epler (2009, 2012), Zwick (2015), Klausnitzer (2016a), Epler and Gimmel (2019), and Springer and Waller (2021) treated the genera *Ora* Clark, *Microcara* Thomson, *Sarabandus* Leech, and *Scirtes* Illiger. *Contacyphon* and its closely related genera, as well as *Elodes* Latreille, still badly need revision.

As alluded to above, species belonging to the formerly sprawling genus *Cyphon* have been cleaved off to form new genera in a piecemeal fashion over the past 18 years. The progress of this effort was most recently summarized by Zwick *et al.* (2013), who also corrected the name of the core genus to *Contacyphon*. Here, we continue that effort by placing two species previously associated with the genus *Contacyphon* into *Herthania* Klausnitzer, 2006 and one into *Hiekeleyphon* Klausnitzer, 2016 based on examination of internal and external morphology and comparison with published generic diagnoses. We also propose four new species-level synonyms based on illustrations of the genitalia of previously-described species provided by Tetrault (1967) and comparisons with those in Klausnitzer (1976b, 2009).

MATERIALS AND METHODS

All original literature pertaining to the nomenclature of North American scirtids was consulted to construct the catalog. In an attempt to alleviate confusion and to perform much-needed "housekeeping" work on the fauna, we associated, where possible, the manuscript names in Tetrault (1967) with more recently described species. We were unable to associate four of these manuscript names with confidence; these represent putatively undescribed species. We also compared all illustrated North American species to the illustrations in Nyholm (1972a), Yoshitomi (2005), and Klausnitzer (2009), which treat northern European, Japanese, and central European species, respectively, resulting in three matches to North American species of *Contacyphon* and confirming such species as Holarctic. We have made no special attempt to relate the Nearctic fauna to the even more poorly known fauna south of the USA-Mexico border. In addition to original descriptions and the literature mentioned above, a handful of recent publications with reliable

species-level identifications were used to compile species distributions.

Since male and female terminalia are usually critical for defining and identifying species of Scirtidae, we have included a "Terminalia Illustrations" section for each species, citing published illustrations where these exist. We hope this may facilitate species identification of dissected North American specimens, as well as highlight gaps in present knowledge.

For confirming generic identities of various species, specimens from the following collections were examined: Florida State Collection of Arthropods, Gainesville, FL, USA (FSCA; Kyle Schnepf); J. H. Epler collection, Crawfordville, FL, USA (JHEC); Manchester Museum, Manchester, UK (MMUE; Diana Arzuza Buelvas); Santa Barbara Museum of Natural History, Santa Barbara, CA, USA (SBMNH); Maurice T. James Entomological Collection, Washington State University, Pullman, WA, USA (WSU; Richard Zack).

CATALOG OF THE SCIRTIDAE OF AMERICA NORTH OF MEXICO

Below we present a distributional catalog of the 12 genera and 55 described species presently known from the region, plus one undescribed genus and six undescribed species that have been mentioned in the literature. Additional undescribed species exist in collections, particularly within the *Contacyphon* group of genera (M. L. Gimmel and J. H. Epler, personal observations).

Elodes Latreille, 1797

Elodes Latreille 1797: 44. Type species: *Cistella pallida* Fabricius, 1775 (= *Lampyrus minuta* Linnaeus, 1767), by subsequent designation (Latreille 1810: 426).

Helodes of authors (misspelling of *Elodes* Latreille, 1797).

Cyphon Paykull 1799: 117. Type species: *Cistella pallida* Fabricius, 1775 (= *Lampyrus minuta* Linnaeus, 1767), by subsequent designation (Westwood 1838: 27). [junior objective synonym of *Elodes* Latreille, suggested by Pope (1976: 187), formally recognized by Zwick *et al.* (2013: 337)]

Remarks. Klausnitzer (1976a) provided a key to the species of *Elodes* (including *Sacodes*) that included the following North American species: *Elodes apicalis* LeConte and *Elodes sternalis* Klausnitzer.

Elodes angusta Hatch, 1962

Elodes angusta Hatch 1962: 99. Type locality: Seattle, Washington, USA.

Distribution. CANADA: BC; USA: OR, WA (Hatch 1962; Tetrault 1967).

Terminalia Illustrations. None.

Remarks. This species was unknown to Tetrault (1967: 105), who did not include it in his key.

***Elodes apicalis* LeConte, 1865**

Helodes apicalis LeConte 1865: 87. Type locality: San Francisco, California, USA.

Distribution. USA: CA, NV, OR (Hatch 1962; Tetrault 1967).

Terminalia Illustrations. Klausnitzer (1974: figs. 14–19): ♂ sternites VII, VIII, IX, tergite VIII, tegmen, penis.

Remarks. This species was keyed and briefly redescribed by Tetrault (1967: 96) and redescribed by Klausnitzer (1974: 18).

***Elodes aquatica* Blaisdell, 1940**

Helodes aquatica Blaisdell 1940: 190. Type locality: Lagunitas, Marin County, California, USA.

Distribution. USA: CA (Blaisdell 1940).

Terminalia Illustrations. None.

Remarks. This species was unknown to Tetrault (1967: 103), who did not include it in his key.

***Elodes emarginata* Hatch, 1962**

Elodes emarginata Hatch 1962: 100. Type locality: Seattle, Washington, USA.

Distribution. CANADA: BC; USA: OR, WA (Hatch 1962; Tetrault 1967).

Terminalia Illustrations. None.

Remarks. This species was unknown to Tetrault (1967: 105), who did not include it in his key.

***Elodes impressa* Hatch, 1962**

Elodes impressa Hatch 1962: 100. Type locality: Seattle, Washington, USA.

Distribution. USA: OR, WA (Hatch 1962; Tetrault 1967).

Terminalia Illustrations. None.

Remarks. This species was unknown to Tetrault (1967: 106), who did not include it in his key.

***Elodes maculicollis* Horn, 1880**

Helodes maculicollis Horn 1880: 104. Type locality: Canada; New Hampshire and Pennsylvania, USA.

Distribution. CANADA: NB, PQ; USA: NH, NY, PA, TN (Horn 1880; Tetrault 1967; Webster *et al.* 2012).

Terminalia Illustrations. None.

Remarks. This species was keyed and briefly diagnosed by Tetrault (1967: 98).

***Elodes nunenmacheri* Wolcott, 1922**

Helodes nunenmacheri Wolcott 1922: 94. Type locality: Del Norte County, California, USA.

Distribution. USA: CA (Tetrault 1967; Wolcott 1922).

Terminalia Illustrations. None.

Remarks. This species was unknown to Tetrault (1967: 104), who did not include it in his key.

***Elodes sternalis* Klausnitzer, 1974**

Helodes sternalis Klausnitzer 1974: 19. Type locality: Lewiston Hill, Idaho, USA.

Distribution. USA: ID (Klausnitzer 1974).

Terminalia Illustrations. Klausnitzer (1974: figs. 20–25): ♂ sternites VII, VIII, IX, tergite VIII, tegmen, penis.

***Microcara* Thomson, 1859**

Microcara Thomson 1859: 107. Type species:

Galeruca livida Fabricius, 1792 (= *Silpha testacea* Linnaeus, 1767), by original designation.

***Microcara explanata* (LeConte, 1865)**

Helodes explanata LeConte 1865: 87. Type locality: Ottawa, Ontario, Canada.

Microcara explanata: LeConte 1866: 50.

Distribution. CANADA: MB, NB, ON; USA: MI, MN, NH, NY, ND (Tetrault 1967; Webster 2016).

Terminalia Illustrations. Klausnitzer (2016a: figs. 1–4): ♂ tegmen, penis.

Remarks. Tetrault (1967: 19) provided a brief redescription of this species; Klausnitzer (2016a) described the genitalia.

***Ora* Clark, 1865**

Ora Clark 1865: 385. Type species: *Scirtes chevrolatii* Clark, 1865, by subsequent designation (Champion 1918: 95).

Remarks. Epler (2010: 16.15) provided a key to *Ora* species of Florida; Epler and Gimmel (2019: 526) provided a key to all species in North America, including one now known to be undescribed (see *Ora* sp. 1 below). Yoshitomi (2005) incorrectly listed *Ora grayii* Clark, 1865 as the type species of *Ora*.

***Ora discoidea* Champion, 1897**

Ora discoidea Champion 1897: 604. Type localities: Córdoba and Jalapa, Veracruz, Mexico; near Guatemala City and Dueñas, Guatemala; Honduras.

Distribution. USA: AL, FL, LA, TX (Epler and Gimmel 2019); Neotropical (Epler and Gimmel 2019).

Terminalia Illustrations. Epler and Gimmel (2019: fig. 17): ♂ genitalia apex (composite).

***Ora hyacintha* Blatchley, 1914**

Ora hyacintha Blatchley 1914: 88. Type locality: Lake Okeechobee, Florida, USA.

Distribution. USA: FL (Epler and Gimmel 2019; Tetrault 1967).

Terminalia Illustrations. None.

Remarks. Tetrault (1967: 107) keyed and briefly redescribed this species; Epler (2010: 16.16) gave further diagnostic remarks. Ciegler's (2003: 145) record of this species from South Carolina was a

misidentified specimen of *Ora texana* Champion, 1897 (Epler and Gimmel 2019: 525).

***Ora texana* Champion, 1897**

Scirtes Trobertii: Horn 1880: 102. [misidentification]

Ora texana Champion 1897: 604. Type locality: Texas.

Distribution. USA: FL, GA, LA, SC, TX, VA (Ciegler 2003; Epler and Gimmel 2019; Tetrault 1967); Neotropical (Epler and Gimmel 2019).

Terminalia Illustrations. Nyholm (1972b: fig. 4A): ♂ tegmen + penis.

Remarks. The name *O. texana* was proposed by Champion (1897) for the species misidentified by Horn (1880) as *Scirtes trobertii* Guérin-Méneville, 1843. This species was keyed and briefly diagnosed by Tetrault (1967: 109); Epler (2010: 16.16) gave further diagnostic remarks.

***Ora trobertii* (Guérin-Méneville, 1861)**

Scirtes Trobertii Guérin-Méneville 1861: 545. Type locality: Mexico.

Ora trobertii: Champion 1897: 603.

Distribution. USA: FL, TX (Epler and Gimmel 2019; Tetrault 1967); Neotropical (Epler and Gimmel 2019).

Terminalia Illustrations. None.

Remarks. The species epithet has often been spelled “*trobertii*” by authors (Champion 1897; Epler and Gimmel 2019; Horn 1880), but the correct original spelling is “*trobertii*” (see ICZN 1999: Article 33.4). Tetrault (1967: 107) keyed and briefly diagnosed this species; Epler (2010: 16.16) gave further diagnostic remarks.

Undescribed Species of *Ora* from the Literature

Ora sp. 1

Ora cf. *marmorata*: Epler and Gimmel 2019: 525.

Distribution. USA: TX (Epler and Gimmel 2019); Neotropical (J. H. Epler, personal data).

Terminalia Illustrations. Epler and Gimmel (2019: fig. 18): ♂ genitalia apex (composite).

Remarks. Originally based on a single specimen from extreme south Texas that was not clearly assignable to a described taxon, this species was considered to provisionally represent *Ora marmorata* Champion, 1897 (Epler and Gimmel 2019), a species described from Panama based on two teneral specimens (Champion 1897: 605). However, recent examination of a female syntype of *O. marmorata* by Rafał Ruta (*in litt.*), who supplied photos of the bursal sclerite, indicated that the Texan species is most likely undescribed. Collections in Guatemala by Richard Zack (WSU) yielded a large amount of material of both sexes.

***Prionocyphon* Redtenbacher, 1858**

Prionocyphon Redtenbacher 1858: 517. Type species: *Cyphon serricornis* P. W. J. Müller, 1821, by original monotypy.

Remarks. Tetrault (1967: 23) and Ciegler (2003: 144) provided a key to the two North American species of *Prionocyphon*.

***Prionocyphon discoideus* (Say, 1825)**

Cyphon discoideus [sic] Say 1825: 161. Type locality: “banks of the river Arkansa”, USA.

Elodes discoidea: Guérin-Méneville 1843b: 9.

Prionocyphon discoideus: LeConte 1866: 50.

Distribution. CANADA: NB, ON, PQ; USA: AR, CT, FL, GA, IN, MD, MI, MO, MS, NC, NH, NY, OH, PA, SC, VA, VT (Ciegler 2003; LeConte 1853; Tetrault 1967; Webster *et al.* 2012).

Terminalia Illustrations. None.

Remarks. Tetrault (1967: 24) provided a brief diagnosis of this species; Epler (2010: 16.17) gave further diagnostic remarks.

***Prionocyphon limbatus* LeConte, 1865**

Prionocyphon limbatus LeConte 1865: 87. Type locality: “Middle States”, USA.

Distribution. CANADA: NB, ON, PQ; USA: AL, CT, DC, FL (new state record), GA, IA, IN, MA, ME, NC, NJ, NY, OH, PA, SC, VT, WV (Ciegler 2003; Horn 1880; Tetrault 1967; Webster 2016).

Terminalia Illustrations. None.

Remarks. Tetrault (1967: 26) provided a brief diagnosis of this species; Epler (2010: 16.17) gave further diagnostic remarks. The record from Florida is newly reported here based on three specimens with the following data: “FL: Leon Co., Tall Timbers Research Station, Malaise trap #2, 4–11-V-1993, M. Lara” (FSCA).

***Sacodes* LeConte, 1853**

Sacodes LeConte 1853: 356. Type species: *Elodes thoracica* Guérin-Méneville, 1843, by subsequent designation (Yoshitomi 1997: 382).

Flavohelodes Klausnitzer 1980: 61. Type species: *Elodes flavicollis* Kiesenwetter, 1859, by original designation. [synonymized with *Sacodes* LeConte by Yoshitomi (1997: 381)]

Remarks. The species in this genus were treated as part of *Helodes* (= *Elodes*) in recent literature (Klausnitzer 1973, 1974, 1976a; Tetrault 1967) or as *Flavohelodes* (Klausnitzer 1980). Yoshitomi (1997) then synonymized the latter with *Sacodes*, restoring the generic combinations for the North American species. Klausnitzer (1976a) provided a key that included all three North American species of *Sacodes*.

***Sacodes fuscipennis* (Guérin-Méneville, 1843)**

Elodes fuscipennis Guérin-Méneville 1843b: 9. Type locality: North America.

Nycteus? thoracicus Melsheimer 1845: 222. Type locality: Pennsylvania. [synonymized with *Elodes fuscipennis* Guérin-Méneville by LeConte (1853: 356)]

Sacodes fuscipennis: LeConte 1853: 356.

Flavohelodes fuscipennis: Klausnitzer 1980: 62.

Distribution. USA: GA, PA, SC (Chatzimanolis *et al.* 2020; Ciegler 2003; LeConte 1853).

Terminalia Illustrations. Klausnitzer (1974: figs. 8–13): ♂ sternites VII, VIII, IX, tergite VIII, tegmen, penis.

Remarks. Horn (1880: 105) considered this species to be a variety of the following species. Tetrault (1967: 97) keyed, repeated Guérin-Méneville's description, and briefly diagnosed this species; it was redescribed by Klausnitzer (1974: 18).

***Sacodes pulchella* (Guérin-Méneville, 1843)**

Elodes pulchella Guérin-Méneville 1843b: 13. Type locality: North America.

Sacodes pulchella: LeConte 1853: 356.

Flavohelodes pulchella: Klausnitzer 1980: 62.

Distribution. CANADA: NB, ON; USA: CT, FL, IN, MA, MD, MN, MS, NC, NJ, NY, OH, PA, SC, TN, TX, VA, WI (Ciegler 2003; Tetrault 1967; Webster *et al.* 2012).

Terminalia Illustrations. Nyholm (1972b: figs. 2E, J): ♂ tegmen, penis; Klausnitzer (1974: figs. 1–7): ♂ sternites VII, VIII, IX, tergite VIII, tegmen, penis.

Remarks. This species was briefly diagnosed by Tetrault (1967: 99) and redescribed by Klausnitzer (1974: 17); Epler (2010: 16.18) gave further diagnostic remarks.

***Sacodes thoracica* (Guérin-Méneville, 1843)**

Elodes thoracica Guérin-Méneville 1843b: 14. Type locality: North America.

Sacodes thoracica: LeConte 1853: 356.

Flavohelodes thoracica: Klausnitzer 1980: 62.

Distribution. CANADA: NB, ON; USA: AL, CT, DC, GA, IA, IL, IN, KY, MA, MD, NC, NE, NJ, NY, OH, PA, SC, TN, WI (Chatzimanolis *et al.* 2020; Ciegler 2003; Lawhorn *et al.* 2023; Tetrault 1967).

Terminalia Illustrations. Klausnitzer (1973: figs. 26–32): ♂ sternites VII, VIII, IX, tergite VIII, tegmen, penis.

Remarks. Tetrault (1967: 99) keyed this species and repeated Guérin-Méneville's description. It was redescribed by Klausnitzer (1973: 108); Epler (2010: 16.17) gave further diagnostic remarks.

***Sarabandus* Leech, 1955**

Sarabandus Leech 1955: 34. Type species: *Cyphon robustus* LeConte, 1875, by original designation.

***Sarabandus robustus* (LeConte, 1875)**

Cyphon robustus LeConte 1875: 171. Type locality: New York, USA.

Sarabandus robustus: Leech 1955: 34.

Distribution. CANADA: NB; USA: FL, GA, MA, NC, NH, NJ, NY, SC, VA (Ciegler 2003; Epler 2009; Tetrault 1967; Webster 2016; Webster *et al.* 2012; Zwick 2015).

Terminalia Illustrations. Zwick (2015: figs. 6–15): ♀ ovipositor + bursa, prehensor, ♂ tergites VIII, IX, sternites VIII, IX, tegmen + penis.

Remarks. Tetrault (1967: 21) provided a brief redescription of this species; Zwick (2015) provided a thorough redescription of this species, including the previously unstudied male and female genitalia.

***Scirtes* Illiger, 1807**

Scirtes Illiger 1807: 301. Type species: *Chrysomela hemisphaerica* Linnaeus, 1758, by subsequent monotypy (Leach 1815: 86).

Scyrtes of authors (misspelling of *Scirtes* Illiger, 1807).

Remarks. Epler (2010: 16.21) provided a key to *Scirtes* species occurring in Florida; Springer and Waller (2021) provided a key to all six North American species of *Scirtes*. Ruta (2009) transferred *Scirtes californicus* Motschulsky (1845: 35; type locality: California, USA) to Alticini (Chrysomelidae). *Scirtes humeralis* Horn (1895: 240; type locality: San José del Cabo, Baja California, Mexico) has sometimes been included as part of the Nearctic fauna, but is only known to occur in the Baja California Peninsula, Mexico.

***Scirtes goliai* Epler, 2012**

Scirtes sp. 1: Epler 2010: 16.23.

Scirtes goliai Epler 2012: 78. Type locality: Grand Cayman, Cayman Islands.

Distribution. USA: FL (Epler 2012); Neotropical (Epler 2012).

Terminalia Illustrations. Epler (2010: 16.23): ♂ genitalia (composite); Epler (2012: figs. 8–12): ♀ prehensor, ♂ tegmen + penis, tergites VIII, IX.

***Scirtes goodrichi* Springer and Waller, 2021**

Scirtes goodrichi Springer and Waller 2021: 3. Type locality: Norfolk, Virginia, USA.

Distribution. USA: SC, VA (Springer and Waller 2021).

Terminalia Illustrations. Springer and Waller (2021: figs. 2, 5–10): ♀ prehensor, ♂ tegmen, penis, tergites VIII, IX.

***Scirtes oblongus* Guérin-Méneville, 1861**

Scyrtes oblongus Guérin-Méneville 1861: 546. Type locality: Yucatán, Mexico.

Distribution. USA: FL (Epler 2009); Neotropical (Epler 2009).

Terminalia Illustrations. Epler (2009: fig. 5): ♂ genitalia (composite).

***Scirtes orbiculatus* (Fabricius, 1801)**

Cyphon orbiculatus [sic] Fabricius 1801: 503. Type locality: “Carolina”, USA.

Altica centralis Say 1824: 88. Type locality: “Missouri Territory”, USA. [synonymized with *Cyphon orbiculatus* Fabricius by LeConte (1866: 50)]

Scirtes orbiculatus: Guérin-Ménéville 1843a: 6.

Scirtes suturalis Guérin-Ménéville 1843a: 3. Type locality: North America. [synonymized with *Cyphon orbiculatus* Fabricius by LeConte (1866: 50)]

Scirtes suturalis Ziegler 1844: 44. Type locality: Pennsylvania, USA. [junior primary homonym of *Scirtes suturalis* Guérin-Ménéville, 1843]

Scirtes lateralis LeConte 1853: 356. [replacement name for *Scirtes suturalis* Ziegler, 1844] [synonymized with *Cyphon orbiculatus* Fabricius by LeConte (1866: 50)]

Scirtes ruficollis LeConte 1868: 53. Type locality: south of Raton Mountain, New Mexico and Texas, USA. [synonymized with *Cyphon orbiculatus* Fabricius by Horn (1880: 102)]

Distribution. CANADA: PQ; USA: AZ, CT, FL, IA, IN, MA, ME, MN, MS, NC, NH, NJ, NM, NY, OK, PA, SC, TN, TX, WI (Ciegler 2003; LeConte 1868; Tetrault 1967; Ziegler 1844).

Terminalia Illustrations. Nyholm (1972b: figs. 3H, I): ♂ tegmen, penis.

Remarks. Tetrault (1967: 113) keyed and briefly diagnosed this species.

***Scirtes plagiatus* Schaeffer, 1906**

Scirtes plagiatus Schaeffer 1906: 115. Type locality: Huachuca Mountains, Arizona, USA.

Distribution. USA: AZ, TX (Tetrault 1967).

Terminalia Illustrations. None.

Remarks. Tetrault (1967: 117) keyed and briefly diagnosed this species.

***Scirtes tibialis* Guérin-Ménéville, 1843**

Scirtes tibialis Guérin-Ménéville 1843a: 3. Type locality: “Carolina”, USA.

Scyrtes solstitialis Melsheimer 1845: 223. Type locality: Pennsylvania, USA. [synonymized with *Scirtes tibialis* Guérin-Ménéville by LeConte (1853: 356)]

Scirtes ovalis Blatchley 1924: 166. Type locality: Dunedin, Florida, USA. [synonymized with *Scirtes tibialis* Guérin-Ménéville by Epler (2010: 16.23)]

Scirtes piceolus Blatchley 1924: 166. Type locality: Jerry Lake, Dunedin, Florida, USA. [synonymized with *Scirtes tibialis* Guérin-Ménéville by Epler (2010: 16.23)]

Distribution. CANADA: NB, ON, PQ; USA: CT, DC, DE, FL, GA, IA, IL, IN, LA, MA, MD, ME, MI, MN, NC, ND, NJ, NY, OH, OK, SC, VT, WI (Epler 2010; Tetrault 1967).

Terminalia Illustrations. None.

Remarks. Tetrault (1967: 115, 116, 118) keyed and briefly redescribed *S. ovalis*, *S. piceolus*, and *S. tibialis*, although he was unable to distinguish the first two species.

Contacyphon-Group of Genera

Note. Genera and species in this group, which make up the remainder of the catalog, were, until the last 20 years, treated as *Cyphon*. Taxa falling into this group have historically been the most challenging within Scirtidae due to their small size and relatively uniform external appearance; however, most can be readily recognized based on male or female genitalic characters. As a consequence, most older geographic records (prior to Tetrault 1967) cannot be relied upon; with the exception of type localities, we have largely omitted them here.

Contacyphon Gozis, 1886

Cyphon of authors (not *Cyphon* Paykull, 1799) [see Pope (1976: 187) and Zwick *et al.* (2013: 337)].

Contacyphon Gozis 1886: 23. Type species: *Cantharis variabilis* Thunberg, 1787, by original designation.

Remarks. *Contacyphon coarctatus* (Paykull, 1799) and *Contacyphon padi* (Linnaeus, 1758) are strictly Palearctic species that were removed from the North American fauna by Tetrault (1967: 28).

***Contacyphon americanus* (Pic, 1913)**

Cyphon impressus LeConte 1878: 405. Type locality: Tampa, Florida, USA. [junior primary homonym of *Cyphon impressus* Kiesenwetter, 1871, currently a junior synonym of *Contacyphon siculus* (Tournier, 1868)]

Cyphon americanus Pic 1913: 164. [replacement name for *Cyphon impressus* LeConte, 1878]

Contacyphon americanus: Zwick *et al.* 2013: 339.

Distribution. USA: DE, FL, IN, NY, SC (Ciegler 2003; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 3, fig. 1): ♀ prehensor.

Remarks. Both this species and *Contacyphon cooperi* (Schaeffer) were described based on their distinctive females. Tetrault (1967: plate 4, figs. 1–3; plate 14, figs. 1–3) and Epler (2010: 16.9) illustrated the male sternite IX, tergite VIII, and the penis of both *C. americanus* and *C. cooperi*; however, these have not been definitively associated with their respective females. Based on a very small sample, it appears that the male labeled as “type 1” by Epler (2010: 16.9) represents *C. americanus* while his “type 2” is *C. cooperi*. In Tetrault (1967),

this would mean his plate 4, figs. 1–3 is *C. americanus* while his plate 14, figs. 1–3 would be *C. cooperi*.

***Contacyphon arcuatus* (Hatch, 1962)**

Cyphon arcuatus Hatch 1962: 101. Type locality: Green Spring Pass, Jackson County, Oregon, USA.

Contacyphon arcuatus: Zwick *et al.* 2013: 339.

Distribution. USA: OR (Hatch 1962).

Terminalia Illustrations. None.

Remarks. This species was unknown to Tetrault (1967: 93) and Zwick *et al.* (2013: 339).

***Contacyphon cooperi* (Schaeffer, 1931)**

Cyphon cooperi Schaeffer 1931: 174. Type locality: Southold, Long Island, New York, USA.

Contacyphon cooperi: Zwick *et al.* 2013: 340.

Distribution. USA: FL, NY, SC (Ciegler 2003; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 3, fig. 2): ♀ prehensor.

Remarks. See Remarks under *C. americanus*.

***Contacyphon johni* (Klausnitzer, 1976)**

“*Cyphon schuhi*” Tetrault 1967: 76. [unavailable manuscript name]

Cyphon johni Klausnitzer 1976b: 442. Type locality: Pasadena, California, USA.

Contacyphon johni: Zwick *et al.* 2013: 343.

Distribution. USA: CA, OR (Klausnitzer 1976b; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 11, figs. 1–3): ♀ prehensor, ♂ sternite IX, penis; Klausnitzer (1976b: figs. 8–12): ♀ prehensor, ♂ tergites VIII, IX, sternite IX, tegmen, penis.

Remarks. This species was identified and described as a new species with the unpublished manuscript name “*schuhi*” by Tetrault (1967: 76). Correspondence between the shapes of the female prehensor, male sternite IX, and the penis with Klausnitzer’s *C. johni* allowed placement of the Tetrault species.

***Contacyphon kongsbergensis* (Munster, 1923)**

Cyphon kongsbergensis Munster 1923: 292. Type locality: Kongsberg, Norway.

“*Cyphon alicae*” Tetrault 1967: 35. [unavailable manuscript name]

Contacyphon kongsbergensis: Zwick *et al.* 2013: 343.

Distribution. CANADA: AB, BC, MB, YT; USA: AK, MN (Nyholm 1972a; Pentinsaari *et al.* 2019; Tetrault 1967); Palearctic (Klausnitzer 2009; Nyholm 1972a).

Terminalia Illustrations. Tetrault (1967: plate 1, figs. 1–5): ♀ prehensor, ♂ sternite IX, penis; Nyholm (1972a: figs. 4D, 9A, C, G, H, K, 11C, D): ♀ sternite VIII, prehensor, ♂ tergites VIII, IX,

accessory sclerite, tegmen, penis; Klausnitzer (2009: figs. 107, 108): ♀ prehensor; Pentinsaari *et al.* (2019: fig. 23): ♂ tegmen, penis, sternite IX.

Remarks. This species was identified and described as a new species with the unpublished manuscript name “*aliceae*” by Tetrault (1967: 35). Correspondence between the penis and sternite IX allowed us to match “*aliceae*” to *C. kongsbergensis*. The first North American record of *C. kongsbergensis* was reported by Nyholm (1972a: 40) from Alaska.

***Contacyphon modestus* (LeConte, 1853), new combination**

Helodes modesta LeConte 1853: 355. Type locality: South Carolina, USA. [synonymized with *Cantharis variabilis* Thunberg by Horn (1880: 114)]

Cyphon modestus: LeConte 1866: 50.

Distribution. CANADA: PQ; USA: CT, MA, MD, ME, MI, MN, NC, NH, NY, OH, SC, WI (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 10, figs. 1–3): ♀ prehensor, ♂ tergite VIII, sternite IX; Epler (2010: 16.12): ♀ prehensor, ♂ penis, tergite VIII.

Remarks. Tetrault (1967: 62), in his unpublished dissertation, elevated *Cyphon modestus* from synonymy with *Cyphon* (now *Contacyphon*) *variabilis* (Thunberg, 1787), which was followed by Epler (2010: 16.13).

***Contacyphon neovariabilis* (Klausnitzer, 1976)**

“*Cyphon shenefelti*” Tetrault 1967: 81. [unavailable manuscript name]

Cyphon neovariabilis Klausnitzer 1976b: 441. Type locality: Long Lake, Adirondack Park, New York, USA.

Contacyphon neovariabilis: Zwick *et al.* 2013: 344.

Distribution. CANADA: NB, ON, PQ; USA: CT, MA, MD, MI, MN, NH, NJ, NY, OH, PA, WI (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 4, figs. 4–7): ♀ prehensor, ♂ sternite IX, penis; Klausnitzer (1976b: figs. 4–7): ♀ prehensor, ♂ penis, tegmen, sternite IX.

Remarks. This species was identified and described as a new species with the unpublished manuscript name “*shenefelti*” by Tetrault (1967: 81). Correspondence between the shapes of the female prehensor, male sternite IX, and the penis with those of Klausnitzer’s species *C. neovariabilis* allowed placement of the Tetrault species.

***Contacyphon obscurellus* (Klausnitzer, 1976)**

Cyphon obscurellus Klausnitzer 1976b: 450. Type locality: Long Lake, Adirondack Park, New York, USA.

Contacyphon obscurellus: Pentinsaari *et al.* 2019: 92.

Distribution. CANADA: NB, NF, NS, ON; USA: NY (Klausnitzer 1976b; Pentinsaari *et al.* 2019).

Terminalia Illustrations. Klausnitzer (1976b: figs. 25–27): ♂ sternite IX, tegmen, penis; Pentinsaari *et al.* (2019: fig. 24): ♂ tegmen, penis, sternite IX, tergite IX.

Remarks. This species was omitted from the worldwide list of *Contacyphon* species by Zwick *et al.* (2013).

***Contacyphon ochreatus* (Klausnitzer, 1976)**

“*Cyphon alvahi*” Tetrault 1967: 37. [unavailable manuscript name]

Cyphon ochreatus Klausnitzer 1976b: 451. Type locality: Oradell, New Jersey, USA.

Cyphon sp. 1: Epler 2010: 16.12.

Contacyphon ochreatus: Zwick *et al.* 2013: 344.

Distribution. CANADA: MB, PQ; USA: FL, ME, MS, NH, NJ, NY, WI (Klausnitzer 1976b; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 2, figs. 1–5; as “*C. alvahi*”): ♀ prehensor, pygidium, ♂ tergite VIII, “ninth tergite” [error for sternite IX], penis; Klausnitzer (1976b: figs. 28–30): ♂ sternite IX, tegmen, penis; Epler (2010: 16.11): ♀ prehensor, ♂ sternite IX, penis, tergite VIII.

Remarks. This species was identified and described as a new species with the unpublished manuscript name “*alvahi*” by Tetrault (1967: 37). Correspondence between the shapes of male sternite IX and the penis allowed placement of the Tetrault species with Klausnitzer’s species *C. ochreatus*. Tetrault (1967) noted a specimen from Broadwater Co., Montana was excluded from his “paratype series” of “*alvahi*”.

***Contacyphon perplexus* (Blatchley, 1914)**

Cyphon perplexus Blatchley 1914: 89. Type locality: Florida, USA (multiple localities).

Contacyphon perplexus: Zwick *et al.* 2013: 345.

Distribution. USA: DE, FL, GA, LA, MI, NC, SC, VA (Ciegler 2003; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 11, figs. 4–7): ♀ prehensor, ♂ tegmen, penis, sternite IX; Epler (2010: 16.10): ♀ prehensor, ♂ genitalia (composite).

Remarks. Tetrault (1967: 70–71) repeated Blatchley’s original description and briefly diagnosed this species.

***Contacyphon pubescens* (Fabricius, 1792)**

Cistela pubescens Fabricius 1792: 47. Type locality: Denmark.

Cyphon pubescens: Fabricius 1801: 502.

Helodes nebulosa LeConte 1853: 355. Type locality: “Northern and Middle States”, USA. **New synonym.**

Helodes picea LeConte 1853: 354. Type locality: “Lake Superior”. **New synonym.**

Cyphon piceus: LeConte 1866: 50.

Cyphon nebulosus: LeConte 1866: 50.

Contacyphon pubescens: Zwick *et al.* 2013: 345.

Distribution. CANADA: BC, NF, NS, NT, ON, PQ; USA: CT, DE, FL, GA, IA, IN, KY, MA, MI, MN, NC, NE, NH, NY, OH, OR, PA, RI, VA, WI (Nyholm 1972a; Tetrault 1967); Palearctic (Klausnitzer 2009; Nyholm 1972a).

Terminalia Illustrations. Tetrault (1967: plate 13, figs. 4–7, as *C. nebulosus*): ♀ prehensor, ♂ penis, sternite IX; Nyholm (1972a: figs. 4H, 10C, I, O, U, 13A, B): ♀ sternite VIII, prehensor, ♂ tergites VIII, IX, sternite IX, tegmen, penis; Nyholm (1972b: fig. 6E): ♂ tegmen + penis; Klausnitzer (2009: figs. 168–171, 176, 177): ♀ prehensor, ♂ penis, tegmen, tergites VIII, IX, sternite IX; Epler (2010: 16.11; as *C. nebulosus*): ♀ prehensor, ♂ genitalia (composite).

Remarks. Horn (1880: 109) synonymized *H. nebulosa* with *C. variabilis*. Tetrault (1967: 64), in his unpublished dissertation, elevated *C. nebulosus* from synonymy with *C. variabilis*, which was followed by Epler (2010: 16.12). Tetrault (1967) also synonymized *H. picea* with *C. nebulosus*. However, comparison of Tetrault’s (1967) male and female terminalia illustrations of *C. nebulosus* with those of *C. pubescens* in Nyholm (1972a) and Klausnitzer (2009) revealed that these species are synonymous. We hereby formalize this synonymy, as well as the synonymy of *H. picea*.

***Contacyphon punctatus* (LeConte, 1853), new combination**

Helodes punctata LeConte 1853: 354. Type localities: South Carolina and New York, USA. [synonymized with *Cantharis variabilis* Thunberg by Horn (1880: 114)]

Cyphon punctatus: LeConte 1866: 50.

Cyphon fuscescens Klausnitzer 1976b: 452. Type locality: Ithaca, New York, USA. **New synonym.**

Contacyphon fuscescens: Zwick *et al.* 2013: 341.

Distribution. CANADA: BC, ON, PQ, YT; USA: FL, ID, IN, MI, MN, NC, NY, SD, TX, WV (Klausnitzer 1976b; Pentinsaari *et al.* 2019; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 2, figs. 6, 7): ♀ prehensor, ♂ penis; Klausnitzer (1976b: figs. 32, 33; as *C. fuscescens*): ♀ prehensor, ♂ penis; Epler (2010: 16.11): ♀ prehensor, ♂ penis; Pentinsaari *et al.* (2019: fig. 22; as *C. fuscescens*): ♂ tegmen, penis, segment VIII.

Remarks. The syntypes of *H. punctata* were examined by Tetrault (1967: 72), which led him to re-elevate the species from synonymy with *C. variabilis*; this was followed by Epler (2010: 16.12). *Contacyphon fuscescens* is here synonymized with

C. punctatus based on the close similarity of both the penis and female prehensor (Klausnitzer 1976b; Tetrault 1967).

***Contacyphon pusillus* (LeConte, 1853), status restored, new combination**

Helodes pusilla LeConte 1853: 355. Type locality: near Evansville, Indiana, USA. [synonymized with *Chrysomela padi* Linnaeus by Horn (1880: 114)]

Cyphon pusillus: LeConte 1866: 50.

Cyphon neopadi Klausnitzer 1976b: 440. Type locality: Hopkinton, Massachusetts, USA. **New synonym.**

Contacyphon neopadi: Zwick *et al.* 2013: 344.

Distribution. CANADA: BC, ON, PQ; USA: FL, IN, MA, ME, MI, MN, NJ, NY, OH, UT, WA, WI (Ciegler 2003; Klausnitzer 1976b; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 12, figs. 5–7): ♂ tegmen [mislabelled “ventral piece” = penis], sternite IX; Klausnitzer (1976b: figs. 1–3; as *C. neopadi*): ♂ penis, tegmen, sternite IX.

Remarks. The type of *C. pusillus* was examined by Tetrault (1967: 74), which led him to re-elevate the species from synonymy with *C. padi*. We agree with this assessment and formalize this nomenclatural act here. *Contacyphon neopadi* was described by Klausnitzer (1976b) apparently without knowledge of the identity of *C. pusillus*. However, these two species have similar genitalic structures; consequently, *C. neopadi* is proposed as a junior synonym of *C. pusillus*.

Although *C. neopadi* (as *Cyphon padi*) was listed from Florida by Ciegler (2003: 143), Epler (2010: 16.13) had not seen specimens from there.

***Contacyphon setulipennis* (Klausnitzer, 1976)**

“*Cyphon diffusus*” Tetrault 1967: 55. [unavailable manuscript name]

Cyphon setulipennis Klausnitzer 1976b: 452. Type locality: Seneca Lake, New York, USA.

Cyphon sp. 2: Epler 2010: 16.13.

Contacyphon setulipennis: Zwick *et al.* 2013: 346.

Distribution. USA: AL, FL, GA, MD, MI, MS, NC, NY, TX, VA (Klausnitzer 1976b; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 3, figs. 3–6; as “*C. diffusus*”): ♀ prehensor, ♂ sternite IX; Klausnitzer (1976b: fig. 34): ♀ prehensor; Epler (2010: 16.10; as “*C. sp. 2*”): ♀ prehensor, ♂ genitalia (composite).

Remarks. This species was identified and described as a new species with the unpublished manuscript name “*diffusus*” by Tetrault (1967: 55). Based on the prehensor illustrations, we were able to match this species with Klausnitzer’s (1976b) *C. setulipennis*. The species is abundant in Florida (J. H. Epler, personal observation).

***Contacyphon variabilis* (Thunberg, 1787)**

Cantharis variabilis Thunberg 1787: 54. Type locality: Sweden.

Cyphon ovalis Say 1825: 161. Type locality: none given. [synonymized with *Cantharis variabilis* Thunberg by Guérin-Ménéville (1843b: 4)]

Cyphon fusciceps Kirby 1837: 245. Type locality: northern North America. [synonymized with *Cantharis variabilis* Thunberg by Guérin-Ménéville (1843b: 6, 15)]

Elodes variabilis: Guérin-Ménéville 1843b: 4.

Cyphon variabilis: Horn 1880: 108.

Contacyphon variabilis: Zwick *et al.* 2013: 347.

Distribution. CANADA: AB, BC, MB, NF, NS, NT, ON, PQ, SK, YT; USA: AK, CA, CO, CT, DE, IA, ID, MA, ME, MI, MN, MT, ND, NE, NH, NY, OR, UT, VT, WA, WI, WY (Tetrault 1967); Palearctic (Klausnitzer 2009; Nyholm 1972a).

Terminalia Illustrations. Tetrault (1967: plate 13, figs. 1–3): ♀ prehensor, ♂ penis, sternite IX; Nyholm (1972a: figs. 4F, 5B, 10A, G, M, S, 12C): ♀ sternite VIII, prehensor, ♂ genitalia (composite), tergites VIII, IX, sternite IX, tegmen, penis; Yoshitomi (2005: figs. 118C, D, E, F, G, 119B, C, D): ♀ tergite VIII, sternite VIII, prehensor, ♂ tergites VIII, IX, sternite IX, tegmen, penis; Klausnitzer (2009: figs. 153–156, 165): ♀ prehensor, ♂ penis, tegmen, tergites VIII, IX, sternite IX.

Remarks. This species was briefly remarked upon by Tetrault (1967: 87–88). Despite being synonymized with *C. variabilis* by Guérin-Ménéville (1843b), *C. fusciceps* was treated as valid by LeConte (1853: 354). Since many now-valid species were included within Ciegler’s (2003: 143) broad concept of *C. variabilis*, her state records were not included in the Distribution section above.

Undescribed Species of *Contacyphon* from the Literature

“*Cyphon connatus*” Tetrault 1967: 49.

Distribution. USA: NC (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 7, figs. 1–5): ♂ tegmen, tergite VIII, sternite IX, penis.

Remarks. This unavailable species name was proposed based on a single specimen from North Carolina. We were unable to match the genitalia illustrations in Tetrault (1967) to any described species. We conclude that this species remains an undescribed member of the *Contacyphon variabilis*-complex.

“*Cyphon conspicuus*” Tetrault 1967: 51.

Distribution. USA: CA, MT, NV, OR (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 13, figs. 8–10): ♀ prehensor, ♂ penis, tegmen.

Remarks. This unavailable species name was proposed based on 16 specimens from the western USA. We were unable to match the illustrations of the genitalia in Tetrault (1967) to any described species. We conclude that this species remains undescribed and belongs to *Contactyphon*.

“*Cyphon craigi*” Tetrault 1967: 53.

Distribution. CANADA: ON, PQ; USA: MN, NH, NY, WI (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 9, figs. 5–8): ♀ prehensor, ♂ tegmen, sternite IX, tegmen.

Remarks. This unavailable species name was proposed based on 37 specimens from eastern North America. We were unable to match the illustrations of the genitalia in Tetrault (1967) to any described species. We conclude that this species remains undescribed and belongs to *Contactyphon*.

“*Cyphon elutus*” Tetrault 1967: 58.

Distribution. CANADA: BC, LB, MB, ON, PQ, SK; USA: AK, CO, MN, WI (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 8, figs. 1–4): ♀ prehensor, ♂ sternite IX, penis.

Remarks. Although Tetrault’s (1967) illustrations of the penis and prehensor of this manuscript species are a close match to those of the Palearctic *Contactyphon punctipennis* (Sharp, 1872) in Nyholm (1972a: figs. 10V, 13C, D) and Klausnitzer (2009: figs. 172, 178, 179), male sternite IX shows some differences (see Klausnitzer 2009: fig. 175; Nyholm 1972a: fig. 10J). The status of this widespread yet apparently undescribed species is under investigation by H. E. James Hammond (*in litt.*).

***Hemicyphon* LeConte, 1866**

Hemicyphon LeConte 1866: 50 (as subgenus of *Cyphon* Paykull). Type species: *Lampyris ruficollis* Say, 1825, by original monotypy.

Exneria Klausnitzer 2013: 257. Type species: *Lampyris ruficollis* Say, 1825, by original designation. **New objective synonym.**

Remarks. The subgeneric name *Hemicyphon* originally appeared in LeConte’s (1866) checklist of North American beetles under *Cyphon*, with only one valid species, “*ruficollis* Lec.,” included within it, along with four synonyms (including “*Lampyris ruf.* Say.”), fixing that species as the type. Shortly thereafter, *Hemicyphon* appeared as a synonym of *Helodes* (= *Elodes*) in Gemminger and Harold (1869: 1616), along with *Cyphon*. In all catalogs since in which *Cyphon* was maintained as a separate genus, *Hemicyphon* has been incorrectly listed as a synonym of *Elodes*. Klausnitzer (2013) was apparently unaware of the existence of this available

generic name attached to *L. ruficollis* when erecting *Exneria*. As a consequence, *Exneria* becomes a junior objective synonym of *Hemicyphon*.

***Hemicyphon ruficollis* (Say, 1825), new combination**

Lampyris ruficollis Say 1825: 161. Type locality: none given.

Elodes marginicollis Guérin-Méneville 1843b: 2. Type locality: North America. [synonymized with *Lampyris ruficollis* Say by LeConte (1853: 354)]

Elodes oblonga Guérin-Méneville 1843b: 13. Type locality: North America. [synonymized with *Lampyris ruficollis* Say by LeConte (1853: 354)]

Elodes fragilis Ziegler 1845: 269. Type locality: “Carolina”. [synonymized with *Lampyris ruficollis* Say by LeConte (1853: 354)]

Helodes ruficollis: LeConte 1853: 353.

Cyphon (*Hemicyphon*) *ruficollis*: LeConte 1866: 50.

Cyphon ruficollis: Horn 1880: 106.

Exneria ruficollis: Klausnitzer 2013: 257.

Distribution. CANADA: NB, NF, ON, PQ; USA: GA, IN, KS, MA, MD, ME, NC, NH, NJ, NY, OH, PA, SC, TN (Ciegler 2003; Horn 1880; Tetrault 1967; Webster 2016; Webster *et al.* 2012).

Terminalia Illustrations. Tetrault (1967: plate 10, figs. 4–7): ♀ prehensor, ♂ sternites VIII, IX, tegmen + penis; Nyholm (1972b: fig. 5E): ♂ tegmen + penis; Young and Stribling (1990: figs. 12, 13): ♀ prehensor, ♂ tegmen + penis; Klausnitzer (2013: fig. 9): ♂ tegmen + penis.

Remarks. This species was briefly redescribed by Tetrault (1967: 85–86).

***Herthania* Klausnitzer, 2006**

Herthania Klausnitzer 2006: 71. Type species: *Cyphon japonicola* Nakane, 1963, by original designation.

Remarks. Klausnitzer (2006) provided a key to three of the North American species of *Herthania*.

***Herthania cherokee* Zwick, 2010**

Herthania cherokee Zwick 2010: 427. Type locality: Shenandoah National Park, Virginia, USA.

Distribution. USA: VA (Zwick 2010).

Terminalia Illustrations. Zwick (2010: figs. 1–6): ♂ tegmen, penis, sternite VIII, tergite VIII, segment IX.

***Herthania compta* (Klausnitzer, 1976)**

“*Cyphon schulzi*” Tetrault 1967: 79. [unavailable manuscript name]

Cyphon comptus Klausnitzer 1976b: 446. Type locality: Tallac, California, USA.

Herthania compta: Klausnitzer 2006: 74.

Distribution. USA: CA, ID, NV, OR (Klausnitzer 1976b; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 12, figs. 1–4; as “*C. schulzi*”): ♀ prehensor, ♂ tergite IX, penis; Klausnitzer (1976b: figs. 19, 20): ♂ tegmen, penis.

Remarks. This species was identified and described as a new species with the unpublished manuscript name “*schulzi*” by Tetrault (1967: 79). Strong correspondence between the shape of the penis allowed placement of the Tetrault species with *H. compta*.

***Herthania concinna* (LeConte, 1853)**

Helodes concinna LeConte 1853: 353. Type locality: San Francisco, California, USA.

Cyphon concinnus: LeConte 1866: 50.

Herthania concinna: Klausnitzer 2006: 74.

Distribution. CANADA: BC; USA: CA, CO, ID, MT, NV, OR, UT, WA, WY (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 6, figs. 1–6): ♀ prehensor, ♂ tegmen, penis; Nyholm (1972b: figs. 6A, B): ♂ tegmen, penis; Klausnitzer (2016c: figs. 7, 12, 13, 15, 21, 22): ♂ tegmen, penis.

***Herthania confinis* (Klausnitzer, 1976)**

Cyphon confinis Klausnitzer 1976b: 448. Type locality: “Alleghany Mt.”, USA.

Herthania confinis: Klausnitzer 2006: 74.

Distribution. “USA, Kanada” (Klausnitzer 2006).

Terminalia Illustrations. Klausnitzer (1976b: figs. 21, 22): ♂ tegmen, penis.

Remarks. Although this species was recorded from both the USA and Canada, no state or province records have been given.

***Herthania exigua* (Horn, 1880), new combination**

Cyphon exiguus Horn 1880: 107. Type locality: Mariposa, California, USA.

Contacyphon exiguus: Zwick *et al.* 2013: 341.

Distribution. CANADA: BC; USA: CA, ID, OR, WA (Hatch 1962; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 9, figs. 1–4): ♀ prehensor, ♂ tegmen (mislabelled “ninth sternite”), penis.

Remarks. Tetrault (1967: 62) provided brief comments relative to this species. Based on the following characteristics observed on specimens examined (SBMNH) and confirmed to match *Contacyphon exiguus* (Horn, 1880) based on male genital dissection and comparison to the genitalia drawings in Tetrault (1967), we here transfer *C. exiguus* to *Herthania*: right mandible with retinaculum, left mandible with very small, inconspicuous tooth; subgenal ridge without “buttonhole”; mesoventrite with diamond-shaped central pit for reception of prosternal process; overall shape of male genitalic structures (especially tegmen and penis). These character states correspond to those

in the diagnosis and illustrations of *Herthania* given in Klausnitzer (2006), and we consider it to belong to that genus.

***Herthania obscura* (Guérin-Méneville, 1843), new combination**

Elodes obscura Guérin-Méneville 1843b: 4. Type locality: North America.

Helodes pallipes LeConte 1853: 354. Type localities: “Southern States” and New York, USA. [synonymized with *Elodes obscura* Guérin-Méneville, 1843 by Horn (1880: 108)]

Cyphon obscurus: LeConte 1866: 50.

Cyphon pallipes: LeConte 1866: 50.

Contacyphon obscurus: Zwick *et al.* 2013: 344.

Distribution. CANADA: BC, NB, NS, ON, PQ; USA: CT, DE, GA, IA, IN, MA, MD, ME, MI, MN, NC, NH, NJ, NY, OH, PA, SC, TN, VA, VT, WI (Ciegler 2003; Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 5, figs. 5–7): ♀ prehensor, ♂ tegmen (mislabelled “ninth sternite”), penis.

Remarks. Based on the following characteristics observed on specimens examined (FSCA, JHEC) and confirmed to match *Contacyphon obscurus* (Guérin-Méneville, 1843) based on genitalic dissection and comparison to the genitalia drawings in Tetrault (1967), we here transfer *C. obscurus* to *Herthania*: right mandible with retinaculum, left mandible with very small, inconspicuous tooth; subgenal ridge without “buttonhole”; mesoventrite with diamond-shaped central pit for reception of prosternal process; overall shape of male genitalic structures (especially tegmen and penis). These character states correspond to those in the diagnosis and illustrations of *Herthania* given in Klausnitzer (2006), and we consider it to belong to that genus. This generic placement was also suggested by Zwick (2010: 429).

***Herthania yoshitomii* Klausnitzer, 2016**

Herthania yoshitomii Klausnitzer 2016c: 1313. Type locality: Mt. Burnaby, British Columbia, Canada.

Distribution. CANADA: BC; USA: CA (Klausnitzer 2016c).

Terminalia Illustrations. Klausnitzer (2016c: figs. 1–6, 8–11, 14, 16–20): ♂ sternites VIII, IX, tergites VIII, IX, tegmen, penis.

***Hiekeleyphon* Klausnitzer, 2016**

Hiekeleyphon Klausnitzer 2016b: 240. Type species: *Helodes brevicollis* LeConte, 1865.

***Hiekeleyphon brevicollis* (LeConte, 1865)**

Helodes? brevicollis LeConte 1865: 88. Type locality: Oregon, USA.

Microcara? brevicollis: LeConte 1866: 50.

Cyphon brevicollis: Horn 1880: 106.

Contacyphon brevicollis: Zwick *et al.* 2013: 340.

Hiekeycyphon brevicollis: Klausnitzer 2016b: 241.

Distribution. CANADA: BC; USA: CA, OR, WA (Tetrault 1967).

Terminalia Illustrations. Tetrault (1967: plate 5, figs. 1–4): ♀ prehensor, ♂ sternite IX, tergite IX, penis; Nyholm (1972b: figs. 5C, D): ♂ tegmen, penis; Klausnitzer (2016b: figs. 19–27): ♀ prehensor, genital tract surface, ♂ sternites VIII, IX, tergites VIII, IX, tegmen, penis.

Remarks. This species was redescribed by Klausnitzer (2016b: 238).

***Hiekeycyphon spinulosus* (Klausnitzer, 1976), new combination**

Cyphon spinulosus Klausnitzer 1976b: 449. Type locality: Mariposa, California, USA.

?*Yoshitomia spinulosa*: Klausnitzer 2013: 260.

Distribution. USA: CA (Klausnitzer 1976b).

Terminalia Illustrations. Klausnitzer (1976b: figs. 23, 24): ♂ tegmen, penis.

Remarks. Klausnitzer (2013) speculated that *C. spinulosus* might belong to his otherwise monotypic genus *Yoshitomia* Klausnitzer, 2013, with a single species from Japan, *Yoshitomia beattyi* (Pic, 1918). However, he indicated that the type of the former species needs reexamination to confirm this placement.

We examined the holotype of *C. spinulosus* (deposited in MMUE) and observed the following character states: (1) mandibles symmetrical, each with a retinaculum; (2) subgenal ridge with “buttonhole”; (3) antennomeres 2 and 3 short, combined length about equal to antennomere 4; (4) pronotum with anterior angles very weak, with pair of deep pores along basal margin; (5) mesoventral cavity rounded, elongate (not transverse); (6) metathoracic carina continuous from metanepisternum to metaventricle; (7) discrimen anteriorly complete; (8) elytron with weak costae. The labial palpi in the holotype are damaged, but the terminal segment appears to be attached latero-apically on the penultimate segment. Character states 1, 2, and 5 above are at odds with those given for *Yoshitomia* by Klausnitzer (2013). Indeed, the only close match among described genera with a “buttonhole” configuration is with *Hiekeycyphon* (see Klausnitzer 2016b for key and diagnosis), with which all of the above character states are shared—the presence of a pair of deep pores on the pronotum is especially notable. The genitalia of *C. spinulosus* also share key features, including a (partially) split trigonium as well as conical spines on the parameres. Based on the above, we consider *C. spinulosus* to belong to *Hiekeycyphon*.

***Nyholmia* Klausnitzer, 2013**

Nyholmia Klausnitzer 2013: 255. Type species:

Elodes collaris Guérin-Méneville, 1843, by original designation.

Remarks. The four North American species of this genus were treated and keyed by Young and Stribling (1990, as *Cyphon collaris*-complex), who also illustrated a generalized female prehensor for the group (Young and Stribling 1990: fig. 11).

***Nyholmia bicolor* (LeConte, 1853)**

Helodes bicolor LeConte 1853: 355. Type locality: Georgia, USA.

Cyphon bicolor: LeConte 1866: 50.

Cyphon dieckmanni Klausnitzer 1976b: 445. Type locality: “Alleghany Mt.,” USA. [synonymized with *Helodes bicolor* LeConte by Young and Stribling (1990: 201)]

Nyholmia bicolor: Klausnitzer 2013: 256.

Distribution. USA: GA, OH (Young and Stribling 1990).

Terminalia Illustrations. Klausnitzer (1976b: figs. 13–16; as *C. dieckmanni*): ♂ tergites VIII, IX, tegmen, penis; Young and Stribling (1990: figs. 7, 8): ♂ tegmen + penis; Epler (2010: 16.13): ♀ prehensor, ♂ penis.

Remarks. Horn (1880: 114) considered *C. bicolor* to be a synonym of the following species, which was followed by Tetrault (1967: 44). This species was diagnosed by Young and Stribling (1990: 201).

***Nyholmia collaris* (Guérin-Méneville, 1843)**

Elodes collaris Guérin-Méneville 1843b: 4. Type locality: North America.

Cyphon collaris: LeConte 1866: 50.

Nyholmia collaris: Klausnitzer 2013: 256.

Distribution. CANADA: NB, PQ; USA: CT, DE, GA, IN, MA, ME, NC, NH, NJ, NY, OH, PA, SC, TN (Ciegler 2003; Tetrault 1967; Young and Stribling 1990).

Terminalia Illustrations. Tetrault (1967: plate 8, figs. 5–7): ♀ prehensor, ♂ sternite IX, penis; Nyholm (1972b: fig. 5F): ♂ tegmen + penis; Young and Stribling (1990: figs. 1, 2, 14): ♂ tegmen + penis; Epler (2010: 16.13): ♀ prehensor, ♂ penis; Klausnitzer (2013: figs. 5, 6): ♀ accessory sclerite, ♂ tegmen + penis.

Remarks. This species was briefly diagnosed by Tetrault (1967: 44) and more fully diagnosed by Young and Stribling (1990: 199).

***Nyholmia confusa* (Brown, 1930)**

Cyphon confusus Brown 1930: 91. Type locality: Knowlton, Québec, Canada.

Cyphon horioni Klausnitzer 1976b: 445. Type locality: “Alleghany Mt.,” USA. [synonymized with

Cyphon confusus Brown by Young and Stribling (1990: 201)]

Nyholmia confusa: Klausnitzer 2013: 256.

Distribution. CANADA: NB, ON, PQ; USA: MI, NH, NY, OH, PA (Webster 2016; Young and Stribling 1990).

Terminalia Illustrations. Tetrault (1967: plate 4, figs. 8–10): ♂ tegmen (as “ninth sternite”), penis; Klausnitzer (1976b: figs. 17, 18; as *C. horioni*): ♂ tegmen, penis; Young and Stribling (1990: figs. 3–6): ♂ tegmen + penis.

Remarks. This species was briefly redescribed by Tetrault (1967: 49) and more fully diagnosed by Young and Stribling (1990: 201).

***Nyholmia drymophila* (Young and Stribling, 1990)**

Cyphon drymophilous Young and Stribling 1990: 202. Type locality: Pine Hollow, Sauk County, Wisconsin, USA.

Nyholmia drymophila: Klausnitzer 2013: 256.

Distribution. USA: IL, OH, WI (Young and Stribling 1990).

Terminalia Illustrations. Young and Stribling (1990: figs. 9, 10): ♂ tegmen + penis.

Undescribed Genus

“*Cyphon* species 3” Epler 2010: 16.7.

Distribution. USA: FL (Epler 2010); Neotropical (Epler 2010).

Terminalia Illustrations. None.

Remarks. This species is the northernmost member of an undescribed genus of about 12 species that is distributed throughout Central and South America. It is currently being described by M. L. Libonatti, R. Ruta, and J. H. Epler (manuscript in preparation).

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ADDENDUM

It has been pointed out to the authors by Adriean Mayor in consultation with Doug Yanega that the genus *Elodes* is grammatically masculine, not feminine, based on ICZN Article 30.1.4.4--Latreille (1797) did not include any species in the genus originally, which defaults it to masculine despite subsequent usage. This affects four combinations in the catalog, which are correct as follows:

Elodes angustus Hatch, 1962

Elodes aquaticus Blaisdell, 1940

Elodes emarginatus Hatch, 1962

Elodes impressus Hatch, 1962

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