

**Catalogue of the Cerambycidae (Coleoptera) of Canada and  
United States of America. Part II. Subfamilies Lepturinae  
and Necydalinae**

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MIGUEL A. MONNÉ

Museu Nacional, Universidade Federal do Rio de Janeiro, Quinta da Boa Vista, 20940-  
040, Rio de Janeiro, RJ, Brazil  
monne@uol.com.br

EUGENIO H. NEARNS

National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560  
gino@nearns.com

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## **Catalogue of the Cerambycidae (Coleoptera) of Canada and United States of America. Part II. Subfamilies Lepturinae and Necydalinae**

This catalogue is an attempt to offer the names, the geographical distribution and bibliographic references for extant taxa of Cerambycidae of Canada and United States of America.

All informations of the present catalogue were previously published, there is not unpublished data. The geographical distribution of the extant families and subfamilies is based on previously published records, supplemented by data extracted from several collections.

Tribes are listed in alphabetical order, and in each tribe genera and species follow the same order. The geographical distribution of the species from Canada were adapted from Bousquet, Laplante, Hammond and Langor, 2017. Each species-group name is followed by author (s), publication year, page, and figure (if any), acronym of the institution depository of the type, host plants (when available) and when not strictly taxonomical, an abbreviated indication of the matter is given as:

ab. - aberration  
 biol. - biological data  
 cat. - catalogue  
 distr. - distribution  
 ecol. - ecological data  
 emend. - emendation  
*et al.*, - more than four authors  
 lect. - lectotype (designation).  
 mim. - mimetism  
 paras. - parasites  
 pherom. - pheromones  
 pred. - predators  
 refs - bibliographic references  
 rev. - revision  
 reval. - revalidation  
 syn. - synonymy  
 terat - teratology  
 var. - variety

Acronyms of the institutions or private collections mentioned in the Part II of the catalogue:

AMNH - American Museum of Natural History, New York, New York, United States.  
 ANSP - Academy of Natural Sciences, Philadelphia, Pennsylvania, United States.  
 BMNH - The Natural History Museum, London, United Kingdom.  
 CASC - California Academy of Sciences, San Francisco, California, United States  
 CNCI - Canadian National Collection of Insects, Ontario, Ottawa, Canada.  
 EMEC - Essig Museum of Entomology, University of California, Berkeley, California, United States.  
 FINH - Finnish Museum of Natural History, University of Helsinki, Finland  
 FMNH - Field Museum of Natural History, Chicago, Illinois, United States

LSUK - Linnean Society, London, United Kingdom.  
 MCZN - Museum of Comparative Zoology, Harvard University, Cambridge,  
 Massachusetts, United States.  
 MNHN - Muséum National d'Histoire Naturelle, Paris, France  
 NHRS - Naturhistoriska Riksmuseet, Stockholm, Sweden  
 SEMC - Snow Entomological Museum, University of Kansas, United States  
 SMTD - Staatliches Museum für Tierkunde, Dresden, Germany.  
 USNM - National Museum of Natural History, Washington, D. C., United States.  
 UZIU - Uppsala University, Uppsala, Sweden.  
 ZMHB - Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.  
 ZMUM - Zoological Museum, Moscow State University, Moscow, Russia.

## LEPTURINAE Latreille, 1802

Lepturetae Latreille, 1802: 218.

**Type-genus:** *Leptura* Linnaeus, 1758.

**Type-species:** *Leptura quadrifasciata* Linnaeus, 1758 designated by Westwood (1838: 41).

## CARILIINI Zamoroka, 2022

Cariliini Zamoroka, 2022: 307

**Type-genus:** *Carilia* Mulsant, 1863

### *Brachysomida* Casey, 1913

*Brachysomida* Casey, 1913: 19; Chemsak & Linsley, 1963: 86; Chemsak, 1964: 231; Linsley & Chemsak, 1972: 227; Monné, M.A., 1995: 42; Chemsak, 2005: 34, 175; Monné, M.A. & Hovore, 2006: 159 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 109 (key spp.); Zamoroka, 2022: 308

**Type-species** - *Acmaeops tumida* LeConte, 1857 (= *Acmaeops californica* LeConte, 1850) (original designation).

### 1. *Brachysomida atra* (LeConte, 1850)

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - Southeastern Alberta to the Okanagan Valley in south-central British Columbia, south to southern Oregon and Colorado.

*Acmaeops ater* LeConte, 1850b: 323; 1857: 23 (distr.).

*Acmaeops atra*; LeConte, 1873a: 209, Leng, 1890: 105; Chagnon, 1897: 15 (distr., ) Wickham, 1900: 598 (distr.); Canova, 1936: 126 (cat.).

*Acmaeops (Pseudodinoptera) atra*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Brachysomida atra*; Casey, 1913: 221; Leng, 1920: 271 (cat.); Linsley & Chemsak, 1972: 131; Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M A., 1995: 43 (cat.); Heffern, 1998: 8 (distr.); Chemsak, 2005: 176, pl. 14, figs 1,2; Monné, M.A. & Hovore, 2006: 159 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 109

*Acmaeops (Brachysomida) atra*; Hatch, 1971: 142.

*Brachysomida morata* Casey, 1913: 222; Leng, 1920: 271 (cat.); Casey. 1924: 275; Lingafelter *et al.*, 2014: 102, fig. 112s (holotype).

**Type locality** - Holotype male: United States, Colorado: Summit of Mount Arapahoe. (USNM).

*Brachysomida aterrима* Casey, 1924: 276; Lingafelter *et al.*, 2014: 20, fig. 21 a (holotype).

**Type locality** - Holotype male: Canada, Alberta: Calgary. (USNM).

## 2. *Brachysomida bivittata* (Say, 1824)

**Syntypes locality** - Syntypes: United States, Missouri: vicinity of Council Bluff and the Pawnee villages. (Depository unknown). **Distribution** - This species is known from Cape Breton Island to the Lake Timiskaming area in western Quebec, south to northeastern Mississippi and North Carolina

*Leptura bivittata* Say, 1824: 416; LeConte, 1850a: 340; LeConte, 1859c: 195

*Acmaeops bivittata*; LeConte, 1859d: 49 (distr.); 1873a: 209 (syn.); Austin, 1874: 270 (biol., distr.); Slosson, 1894: 3 (distr.); Hamilton, 1895: 338 (distr.); Wickham, 1897b: 172, fig. 27 (biol.); Smith, 1900: 291 (distr.); Knaus, 1901: 112 (distr.); Dury, 1902: 161 (distr.); Longley, 1905: 125 (distr.); Smith, 1910: 330; Blatchley, 1910: 1050, fig. 447 (biol.); Lovell, 1915: 114; Chagnon, 1917: 234 (distr.); Gibson, 1917: 150 (distr.); Graham, 1922: 193, pl. 3 (morphol.); Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 438 (distr.); Hopping, 1928: 7 (syn.); Park, 1931: 193; Saalas, 1936: 75 (morphol.); Chagnon, 1936: 247 (distr.); Brimley, 1938: 212 (distr.); Knull, 1946: 181; Dillon & Dillon, 1961: 622, pl. 61, No. 14,15; Chagnon & Robert, 1962: 247; Gardiner, 1970: 287 (biol.); Wilson, 1971: 62 (biol.); Swan & Papp, 1972: 450, fig. 959.

*Acmaeops (Pseudodinoptera) bivittata*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Gaurotes bivittatus*; Casey, 1913: 218.

*Brachysomida bivittata*; Linsley & Chemsak, 1972: 129; Gosling & Gosling, 1976: 7, fig. 77 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 91 (biol.); Turnbow & Franklin, 1980: 338 (distr.); Chemsak, Linsley & Noguera, 1992: 91 (cat.); MacRae, 1993: 238 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 43 (cat.); Yanega, 1996: 31, pl. 3, figs 31a-d; Heffern, 1998: 24 (distr.); Vlasák & Vlasakova, 2002: 205 (distr.); Chemsak, 2005: 176, 178, pl. 13, figs 11,12; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 19, 22, 140, 2 figs., pl. 4d; Guarnieri, 2009: 14 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 109, pl.20

*Acmaeops varians* LeConte, 1850a: 324.

*Acmaeops (Pseudodinoptera) bivittata* ab. *varians*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

**Syntypes localities** - Syntypes: United States, Missouri, Wisconsin. (MCZN).

*Acmaeops fusciceps* LeConte, 1850a: 324; Leonard, 1928: 438 (distr.)

*Acmaeops (Pseudodinoptera) bivittata* ab. *fusciceps*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Gaurotes fusciceps*; Casey, 1913: 218.

**Type locality** - Holotype: United States, New York: Cattaraugus County. (MCZN).

*Acmaeops incertus* Bland, 1863: 321.

**Type locality** - Holotype: United States, Virginia: Hampshire County. (ANSP).

*Gaurotes oblongus* Casey, 1913: 218; Lingafelter *et al.*, 2014: 110, fig. 120 w (holotype).

*Acmaeops oblongus*; Hopping, 1928: 7.

**Type locality** - Holotype female: United States, Nebraska. (USNM)

## 3. *Brachysomida californica* (LeConte, 1851)

**Type locality** - Holotype: United States, California. (MCZN). **Distribution** - Washington to southern California. **Host plants** - *Lomatium lucidum* (Torrey & A. GrayJepson (Apiaceae).

*Acmaeops californicus* LeConte, 1851: 101; 1857: 23.

*Leptura californica*; Fall, 1901: 149 (distr.).

*Acmaeops (Pseudodinoptera) californica*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Brachysomida californica*; Casey, 1913: 225; Linsley & Chemsak, 1972: 131, fig. 41; Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 44 (cat.); Heffern, 1998: 8 (distr.); Chemsak, 2005: 177, pl. 14, figs 3, 4; Monné, M.A. & Hovore, 2006: 159 (checklist); Swift, 2008: 4 (distr., hosts).

*Acmaeops subaeneus* LeConte, 1851: 101; 1857: 23; 1873a: 209; Leng, 1890: 105; Fall, 1901: 149 (distr.); Canova, 1936: 126 (distr.).

*Acmaeops (Pseudodinoptera) subaenea*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Brachysomida subaenea*; Casey, 1913: 224; Moore, 1937: 88 (distr.); Hatch, 1971: 142.

**Type locality** - Holotype: United States, California: San Francisco. (MCZN).

*Acmaeops fusca* LeConte, 1857: 62.

*Acmaeops (Pseudodinoptera) californica* ab. *fusca*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

**Type locality** - Holotype: United States, California: Sacramento. (MCZN).

*Acmaeops lugens* LeConte, 1857: 62.

*Acmaeops (Pseudodinoptera) californica* ab. *lugens*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Brachysomida lugens*; Casey. 1913: 223.

**Type locality** - Holotype: United States, California: Sacramento. (MCZN).

*Acmaeops subcyanea* LeConte, 1857: 63.

*Acmaeops (Pseudodinoptera) californica* ab. *subcyanea*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Brachysomida subcyanea*; Casey, 1913: 226.

**Type locality** - Holotype: United States, California: San Francisco. (MCZN).

*Acmaeops tumida* LeConte, 1857: 63; 1873a: 209; Snow, 1877a: 19 (distr.); 1877b: 76 (distr.); Leng, 1890: 105; Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.); Linsley & Usinger, 1934: 105 (distr.); Canova, 1936: 127 (distr.); Linsley, 1936: 200 (hosts).

*Acmaeops (Pseudodinoptera) californica* ab. *tumida*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Brachysomida tumida*; Casey, 1913: 223; Linsley & MacSwain, 1959: 24 (biol.).

**Type locality** - Holotype: United States, California: San Francisco. (MCZN).

*Acmaeops mollipilosa* LeConte, 1860: 321; Canova, 1936: 126 (distr.).

*Acmaeops (Pseudodinoptera) californica* ab. *mollipilosa*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Brachysomida mollipilosa*; Casey. 1913: 223; Hatch, 1971: 143.

**Type locality** - Holotype: United States, Oregon or Rocky Mountains. (MCZN).

*Acmaeops viola* LeConte, 1860: 321; Horn, 1885b: 180; Leng, 1890: 105; Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.)

*Acmaeops (Pseudodinoptera) californica* ab. *viola*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Brachysomida viola*; Casey. 1913: 222; Hatch, 1971: 143.

**Type locality** - Holotype: United States, Oregon or Rocky Mountains. (MCZN).

*Acmaeops pinguis* LeConte, 1873a: 210; Leng, 1890: 105; Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.).

*Acmaeops (Pseudodinoptera) pinguis*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Brachysomida pinguis*; Casey, 1913: 229.

**Type locality** - Holotype: United States, California. (MCZN).

*Brachysomida celestina* Casey, 1913: 222; Lingafelter et al., 2014: 39, 365, fig. 40i (lectotype).

**Type locality** - Lectotype female: United States, California. (USNM).

**Type locality** - Lectotype female: United States, California: Santa Cruz Mountains. (USNM).

*Brachysomida caerulea chalybea* Casey, 1913: 227; Lingafelter et al., 2014: 35, 365, fig. 35u (lectotype).

**Type locality** - Lectotype: United States, California: Santa Cruz Mountains. (USNM).

*Brachysomida robustula* Casey, 1913: 228; Lingafelter et al., 2014: 310, fig. 144m (holotype).

**Type locality** - United States, California: Gilroy Springs. (USNM).

*Brachysomida protensicollis* Casey, 1913: 228; Lingafelter et al., 2014: 303, fig. 136k (holotype).

**Type locality** - Holotype male: United States, California: Lake County. (USNM).

*Brachysomida hirsuta* Casey, 1913: 228; Lingafelter et al., 2014: 75, 365, fig. 81g (lectotype).

**Type locality** - Lectotype: United States, California. (USNM).

*Brachysomida lepidula* Casey, 1913: 229; Lingafelter et al., 2014: 88, 365, fig. 97k (lectotype).

**Type locality** - Lectotype male: United States, California. (USNM).

*Brachysomida versicolor* Casey, 1913: 229; Lingafelter et al., 2014: 343, 365, fig. 181a (lectotype).

**Type locality** - Lectotype: United States, California: Calaveras County. (USNM).

#### 4. *Brachysomida nigripennis* (LeConte, 1850)

**Type locality** - Holotype: United States, Missouri. (MCZN). **Distribution** - British Columbia south to Mississippi and North Carolina.

*Acmaeops nigripennis* LeConte, 1850a: 323; Longley, 1905: 125 (distr.); Leonard, 1928: 438 (distr.).

*Acmaeops (Pseudodinoptera) bivittata* ab.*nigripennis*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Gaurotes nigripennis*; Casey, 1913: 218.

*Acmaeops nigripennis*; Park, 1931: 193; Brimley, 1938: 212 (distr.).

*Brachysomida nigripennis*; Bousquet, Laplante. Hammond & Langor, 2017: 110, pl. 20

#### 5. *Brachysomida rugicollis* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, Wyoming: 20 miles East of Lyman. (SEMC). **Distribution** - United States (Wyoming, Utah, Montana and Idaho).

*Brachysomida rugicollis* Linsley & Chemsak, 1972: 135; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 45 (cat.); Heffern, 1998: 8 (distr.); Chemsak, 2005: 177, 184, pl. 14, figs 5, 6; Monné, M.A. & Hovore, 2006: 160 (checklist);

#### 6. *Brachysomida vittigera* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, California: 15 miles SW of Havilah, Kern County. (CASC). **Distribution** - United States (California). **Host plants** - *Lomatium utriculatum* (Torrey & A. Gray) J. M. Coulter & Rose (Apiaceae). *Brachysomida corpulenta* Hopping, 1943: 119 (not Casey, 1913). *Brachysomida vittigera* Linsley & Chemsak, 1972: 127, fig. 40; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 45 (cat.); Chemsak, 2005: 176, pl. 13, figs 9, 10; Monné, M.A. & Hovore, 2006: 160 (checklist); Swift, 2008: 4 (distr., hosts).

### ***Gnathacmaeops* Linsley & Chemsak, 1972**

*Gnathacmaeops* Linsley & Chemsak, 1972: 135; Monné, M.A., 1995: 45; Chemsak, 2005: 34, 186; Bousquet, Laplante. Hammond & Langor, 2017: 111; Zamoroka, 2022: 308

**Type-species** - *Leptura pratensis* Laicharting, 1784 (original designation).

### **1. *Gnathacmaeops pratensis* (Laicharting, 1784)**

**Syntype locality** - Syntypes: Austria, Tyrolen: Innsbruck. (Naturhistorika Museum, Innsbruck). **Distribution** - Boreal areas of Holarctic Region; in North America extending over taiga forests of Alaska and Canada and southward through the Appalachian mountains to northwestern Georgia, the Rocky Mountains to central New Mexico and southern Arizona, and the Pacific mountain chains to southern California. **Host plants** - *Acer pictum* var. *truncatum* (Bunge) Chin S. Chang (Aceraceae), *Picea abies* Linnaeus, *Pinus sylvestris* Linnaeus (Pinaceae).

*Leptura pratensis* Laicharting, 1784: 172.

*Acmaeops pratensis*; LeConte, 1873a: 210; Horn, 1876: 170 (syn.); LeConte, 1876: 520 (distr.); Provancher, 1877a: 610; Kraatz, 1879: 85; LeConte, 1879: 505 (distr.); Snow, 1883: 42 (distr.); Harrington, 1883: 59; Holland, 1888: 90 (distr.); Fauvel, 1889: 150 (distr.); Hamilton, 1889a: 145; Harrington, 1890: 185 (distr.); Leng, 1890: 106; Cockerell, 1890: 38 (distr.); Hanham, 1894: 352 (distr.); Hamilton, 1894a: 31 (distr.); 1894b: 396 (distr.); Townsend, 1895: 48 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 171; 1897c: 157 (distr.); Slosson, 1897: 238 (distr.); Wickham, 1899b: 199 (distr.); 1900: 598 (distr.); Fall, 1901: 149 (distr.); Knaus. 1902: 152 (distr.); MacGillivray & Houghton, 1902: 252 (distr.); Skinner, 1903: 40 (distr.); Houghton, 1905: 51 (distr.); Fall & Cockerell, 1907: 193 (distr.); Sherman, 1910: 194 (distr.); Blatchley, 1910: 1050; Casey, 1913: 241; Lovell, 1915: 114; Notman, 1916: 166 (distr.); Chagnon, 1917: 234 (distr.); Garnett, 1918: 213 (distr.); Munding, 1924: 317 (distr.); Fall, 1926: 202 (distr.); Engelhardt, 1927: 73 (distr.); Leonard, 1928: 438; Beaulne. 1932: 199 (hosts); Mank, 1934: 80 (distr.); Brown, 1934: 229 (distr.); Doane *et al.*, 1936: 177; Chagnon, 1936: 247; Canova, 1936: 126 (distr.); Saalas, 1936: 74, pl. 7, fig. 87 (morphol.); Hatch, 1939: 49 (distr.); Chagnon, 1939: 86 (distr.); Smith *et al.*, 1943: 315, fig. 314; Knull, 1946: 180; Hardy, 1948: 32 (distr.); Knowlton & Wood, 1950: 11 (distr.); Hicks, 1955: 165 (distr.); Clark, 1956: 41 (distr.); Chagnon & Robert, 1962: 247; Gardiner, 1970: 287 (biol.); Wilson, 1971: 62; Hatch, 1971: 143; Monné, M.A. & Hovore, 2006: 156 (checklist); Webster, 2016: 486; Rice, MacRae & Merickel, 2017: 670 (distr.) *Gnathacmaeops pratensis*; Linsley & Chemsak, 1972: 136; Gosling & Gosling, 1976: 7 (biol., distr.); Laliberté, Chantal & LaRoche, 1977: 93 (biol.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 45 (cat.); Yanega, 1996: 32, pl. 7, fig. 72; Linsley & Chemsak, 1997: 379 (hosts); Heffern, 1998: 9 (distr.); Burne, 1998: 393 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 186, pl. 14, figs 7, 8; MacRae & Rice, 2007: 246 (distr.); O'Neill,

Fultz & Ivie, 2008: 30 (biol., distr.); Bousquet, Laplante. Hammond & Langor, 2017: 111, pl. 20;

*Leptura strigilata* Fabricius, 1793: 341; Germar, 1825: 11, pl. 11, figs a,b; Zimsen, 1964: 182 (type).

*Acmaeops strigilata*; LeConte, 1850ba: 235; 1850: 323; 1869: 371 (distr.); 1870: 399 (syn.); Snow, 1877a: 19 (distr.).

**Type locality** - Holotype: Sweden. (Depository unknown).

*Leptura lateralis* Estlund, 1796: 127, pl. 5, fig. 1. (not Olivier, 1795).

**Type locality** - Sweden.

*Leptura longiceps* Kirby, 1837: 187; Haldeman, 1847a: 65.

*Acmaeops longiceps*; LeConte, 1850a: 324; Bethune, 1872: 118.

**Syntypes locality** - Syntypes: America Septentrionalis, latitudes 54 and 65 degrees. (BMNH).

*Leptura semimarginata* Randall, 1838: 30.

**Type locality** - Holotype: United States, Maine: Abbott, between the Kennebec river and Penobscot county. (MCZN).

*Pachyta strigilata* var. *suturalis* Mulsant, 1839: 246.

**Type locality** - Holotype: France, Basses-Alpes (Alpes-de-Haute-Provence). (MNHN).

*Pachyta fulvipennis* Mannerheim, 1853: 251.

*Leptura fulvipennis*; LeConte, 1857: 23.

**Type locality** - Holotype: United States, Alaska: Peninsula Kenai, ad rivulos flumen Tschunuktnu peninsulae Kenai. (MZHF).

*Acmaeops (Acmaeops) pratensis* var. *obscuripennis* Pic, 1901b: 24

**Syntypes locality** - Syntypes: France, Pyrénées. (MNHN).

### ***Pseudogaurotina* Plavilstshikov, 1958**

*Gaurotes (Pseudogaurotina)* Plavilstshikov, 1958: 722; Podany, 1962: 224;

*Pseudogaurotina*; Chemsak & Linsley, 1963: 82; Chemsak, 1964: 234; Hatch, 1971: 125; Linsley & Chemsak, 1972: 123; Monné, M.A., 1995: 41; Chemsak, 2005: 34, 170; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 108 (key spp.); Zamoroka, 2022: 307

**Type-species** - *Gaurotes splendens* Jakovlev, 1893 (original designation).

#### **1. *Pseudogaurotina abdominalis* (Bland, 1862)**

**Type locality** - Holotype: United States, Virginia: Hampshire County. (ANSP).

**Distribution** - This species ranges from the Lac Saint-Jean area in Quebec to the Steel River Provincial Park area north of Lake Superior in Ontario, south to Virginia.

*Gaurotes abdominalis* Bland, 1862: 270; Lacordaire, 1868: 443; Horn, 1880a: xi; Hamilton, 1885: 46 (biol.); Leng, 1890: 156; Hamilton, 1895: 338 (distr.); Chagnon, 1917: 234 (distr.); Boppe, 1921: 70; Mason, 1922: 227 (distr.); Kirk & Knull, 1926: 24 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 438 (distr.); Schaeffer, 1931: 102; Chagnon, 1936: 247; Doane *et al.*, 1936: 177; Hopping, 1937: 20, pl. 5; Knull, 1946: 179, pl. 6, fig. 24; Procter, 1946: 177 (distr.); Chagnon & Robert, 1962: 247; Wilson, 1971: 62.

*Gaurotes (Neogaurotes) abdominalis*; Podany, 1962: 226, pl. 6, fig. 16.

*Pseudogaurotina abdominalis*; Chemsak & Linsley, 1963: 83; Gardiner, 1970: 287; Linsley & Chemsak, 1972: 124; Gosling & Gosling, 1976: 6 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 97 (biol.); Chemsak, Linsley & Noguera, 1992: 99 (cat.);



Glaser, 1992: 153 (distr.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 42 (cat.); Yanega, 1996: 37, pl. 3, fig. 28; Chemsak, 2005: 171, pl. 13, fig. 4; Monné, M.A. & Hovore, 2006: 167 (checklist); Lingafelter, 2007: 25, 141, 2 figs, pl. 6c; Bousquet, Laplante. Hammond & Langor, 2017: 109, pl. 19  
*Gaurotes (Neogaurotes) abdominalis* ab. *micans* Podany, 1962: 226; Ruetter, 1970: 19 (type).

**Type locality** - Holotype: Canada, Ontario: Nable. (CNCI).

## 2. *Pseudogaurotina cressoni cressoni* (Bland, 1864)

**Type locality** - Holotype male: United States, Colorado: Rocky Mountains. (ANSP).

**Distribution** - From the southwestern mainland of British Columbia to southwestern Alberta, south to southern Colorado and southern Utah Rocky Mts. **Host plants** - *Abies* sp., *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Gaurotes Cressoni* Bland, 1864: 69; LeConte, 1879: 505 (distr.); Horn, 1880a: xi; Boppe, 1921: 70.

*Gaurotes cressoni*; Leng, 1890: 156; Laurent, 1899: 302 (distr.); Hopping, 1928: 7 (syn.); Beaulne, 1932: 199 (hosts); Hopping, 1937: 19, pl. 5.

*Gaurotes (Pseudogaurotina) cressoni*; Podany, 1962: 237, pl. 4, fig. 8, pl. 5, fig., 18.

*Pseudogaurotina cressoni*; Chemsak & Linsley, 1963: 83; Gardiner, 1970: 287 (biol.); Hatch, 1971: 143; Chemsak, Linsley & Noguera, 1992: 99 (cat.).

*Pseudogaurotina cressoni cressoni*; Linsley & Chemsak, 1972: 125; Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 42 (cat.); Linsley & Chemsak, 1997: 426 (hosts); Chemsak, 2005: 173, pl. 13, figs 5, 6; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 109, pl. 19; Rice, MacRae & Merickel, 2017: 674 (distr.)

*Gaurotes (Pseudogaurotina) cressoni* ab. *howdeni* Podany, 1962: 237; Ruetter, 1970: 19.

**Type locality** - Holotype: Canada, British Columbia, Robson. (CNCI).

*Gaurotes (Pseudogaurotina) cressoni* ab. *amethystina* Podany, 1962: 238; Ruetter, 1970: 20.

**Type locality** - Holotype: Canada, British Columbia, Nicola (CNCI).

*Gaurotes (Pseudogaurotina) cressoni* ab. *nigrita* Podany, 1962: 238; Ruetter, 1970: 20.

**Type locality** - Holotype: Canada, British Columbia, Midday Valley, Merritt. (CNCI).

## 2a. *Pseudogaurotina cressoni lecontei* (Casey, 1913)

**Type locality** - Holotype female: United States, Oregon. (USNM). **Distribution** - Cascade Range from Washington southward along coast ranges to southern California, Sierra Nevada. **Host plants** - *Abies* sp, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Gaurotes lecontei* Casey, 1913: 219; Leng, 1920: 272 (cat.).

*Gaurotes (Pseudogaurotina) lecontei*; Podany, 1962: 238.

*Pseudogaurotina cressoni lecontei*; Linsley & Chemsak, 1972: 126, figs 31, 39; Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 169 (checklist); Monné, M.A., 1995: 42 (cat.); Linsley & Chemsak, 1997: 426 (hosts); Chemsak, 2005: 174, pl.13, figs 7, 8; Monné, M.A. & Hovore, 2006: 167 (checklist); Lingafelter *et al.*, 2014: 88, fig. 96o, (holotype).

*Gaurotes cressoni*; Garnett, 1918: 248 (distr.); Hopping, 1928: 7 (syn.); Mank, 1934: 80 (distr.); Canova, 1936: 130 (distr.); Doane *et al.*, 1936: 177; Hopping, 1937: 19, pl. 5; Hardy, 1948: 32 (distr.) (not Bland, 1864).

**DESMOCERINI Blanchard, 1845**

Desmocerites Blanchard, 1845: 163; Chenu, 1870: 328;

Desmoceritae; Thomson, 1860: 159

Desmocerini; LeConte, 1873b: 324; LeConte & Horn, 1883: 309; Leng, 1890: 11; Blatchley, 1910: 1043; Boppe, 1921: 13, 29; Linsley, 1940: 270; Knull, 1946: 185; Arnett, 1962: 856, 878; Hatch, 1971: 123; Linsley & Chemsak, 1972: 3; Monné, M. A., 1995: 1; Chemsak, 2005: 2; Bouchard *et al*, 2011: 462; Bousquet, Laplante. Hammond & Langor, 2017: 116

**Type-genus** - *Desmocerus* Dejean, 1821

**Type-species** - *Stenocorus cyaneus* Fabricius, 1775 (monotypy).

***Desmocerus* Dejean 1821**

*Desmocerus* Dejean, 1821: 111; Gray, 1832: 111; Audinet-Serville, 1835: 202; Laporte, 1840: 498; Blanchard, 1849: 493; 317; Emmons, 1854: 125; Thomson, 1861: 145, 159; 1864: 149, 510; Lacordaire, 1868; LeConte, 1850a: 317; Chenu, 1870: 328; 734; LeConte, 1873b: 324; Provancher, 1877a: 580, 604; Horn, 1881: viii; LeConte & Horn, 1883: 309; Leng, 1890: 11; Wickham, 1897b: 87; Webb, 1905: 105; Blatchley, 1910: 1044; Boppe, 1921: 15, 29; Burke, 1921: 450; Craighead, 1923: 86; Bradley, 1930: 228; Chagnon, 1936: 243; Knull, 1946: 185; Dillon & Dillon, 1961: 623; Arnett, 1962: 856, 878; Chagnon & Robert, 1962: 240; Chemsak, 1964: 232; Linsley & Chemsak, 1972: 4; Monné, M.A., 1995: 2; Chemsak, 2005: 2, 3; Monné, M.A. & Hovore, 2006: 156 (checklist); Švácha & Lawrence, 2014: 78, 144, 153, 155, 156; Haack, 2017: 116; Bousquet, Laplante. Hammond & Langor, 2017: 116 (key spp.)

**Type-species** - *Stenocorus cyaneus* Fabricius, 1775 (monotypy) (= *Cerambyx palliatus* Forster, 1771)

**1. *Desmocerus aureipennis aureipennis* Chevrolat 1855**

**Type locality** - Holotype: United States, Rocky Mountains. (BMNH). **Distribution** - Sierra Nevada Mts. of California to southern Oregon and Nevada. **Host plants** - *Sambucus glauca* Nuttall ex Torrey & A. Gray, *S. mexicana* Presl ex de Candolle (Caprifoliaceae).

*Desmocerus aureipennis* Chevrolat, 1855: 187; 1858: 325, pl. 8, fig. 6; Strauch, 1861: 138 (cat.); Thomson, 1861: 159; Lacordaire, 1868: 459; Horn, 1881: viii; Boppe, 1921: 30.

*Desmocerus auripennis*; LeConte, 1857: 23 (error); LeConte, 1873b: 324; Horn, 1879: xxx; Riley, 1880: 239 (hosts); Leng, 1890: 110 (distr.); Blaisdell, 1892: 34 (hosts); Fall, 1901: 147 (distr.); Webb, 1905: 105; Garnett, 1918: 211 (distr.); Burke, 1921: 452 (biol.); Essig, 1926: 454, fig. 355 (biol.); Tanner, 1927: 33; Beaulne, 1932: 200 (hosts); Doane *et al.*, 1936: 178, fig. 85; Jaques, 1951: 258, fig. 611; Linsley & Chemsak, 1972: 8; Swan & Papp, 1972: 451, fig. 963; Furniss & Carolin, 1977: 296 (biol.); Chemsak, Linsley & Noguera, 1992: 89 (cat.).

*Desmocerus auripennis auripennis*; Hatch, 1971: 145, pl. 17, fig. 5; Linsley & Chemsak, 1972: 8; Hovore & Giesbert, 1976: 350 (hosts); Monné, M.A., & Giesbert, 1994: 157 (checklist); Linsley & Chemsak, 1997: 365 (hosts); Chemsak, 2005: 8, pl. 1, fig. 6.

*Desmocerus aureipennis aureipennis*; Monné, M.A. & Giesbert, 1994: 157 (checklist); Monné, M.A. & Hovore, 2006: 156 (checklist); Bezark, 2019b: 74 (distr.)

**1a. *Desmocerus aureipennis lacustris* Linsley & Chemsak 1972**

**Type locality** - Holotype male: United States, Oregon: Crater Lake. (CASC). **Distribution** - United States (Southcentral Oregon). **Host plants** - *Sambucus callicarpa* Greene, *S. glauca* Nuttall ex Torrey & A. Gray, *S. mexicana* Presl ex de Candolle (Caprifoliaceae).

*Desmocerus auripennis lacustris* Linsley & Chemsak, 1972: 11, figs. 1, 4; Chemsak, Linsley & Noguera, 1992: 89 (cat.).

*Desmocerus aureipennis lacustris*. Monné, M.A., & Giesbert, 1994: 157 (checklist); Chemsak, 2005: 11, pl. 1, figs 10, 11; Monné, M.A. & Hovore, 2006: 156 (checklist);

## 2. *Desmocerus californicus californicus* Horn 1881

**Type locality** - Holotype: United States, Southern California. (ANSP). **Distribution** - Coastal California from Mendocino Co. to Los Angeles Co., lower Sacramento Valley to upper San Joaquin Valley. **Host plants** - *Sambucus glauca* Nuttall ex Torrey & A. Gray, *S. mexicana* Presl ex de Candolle, *S. racemosa* L. var. *microbotrys* (Rydb.) Kearney (Caprifoliaceae).

*Desmocerus californicus* Horn, 1881: vii; Leng, 1890: 11; Fall, 1901: 147 (distr.); Blaisdell, 1903: 276 (biol.); Webb, 1905: 105; Garnett, 1918: 211 (distr.); Boppe, 1921: 30; Burke, 1921: 451 (biol.); Davis & Comstock, 1924: 179 (larva, biol.); Essig, 1926: 454 (biol.); Davis, 1931: 187 (hosts); Doane *et al.*, 1936: 178 (biol.); Moore, 1937: 89 (distr.); Jaques, 1951: 258; Linsley & Chemsak, 1972: 7; Swan & Papp, 1972: 451; Damoiseau & Cools, 1987: 7 (types); Chemsak, Linsley & Noguera, 1992: 89 (cat.); Halstead & Oldham, 2000: 74, fig. 1 (distr.).

*Desmocerus californicus californicus*; Linsley & Chemsak, 1972: 7; Monné, M.A., & Giesbert, 1994: 157 (checklist); Monné, M.A., 1995: 3 (cat.); Collinge *et al.*, 2001: 104 (hosts); Chemsak, 2005: 5, pl. 1, fig. 3; Monné, M.A. & Hovore, 2006: 156 (checklist); Hanks & Wang, 2017: 134 (biol).

### 2a. *Desmocerus californicus dimorphus* Fisher 1921

**Type locality** - Holotype male: United States, California: Sacramento. (USNM). **Distribution** - United States, California (Lower Sacramento Valley to upper San Joaquin Valley). **Host plants** - *Sambucus glauca* Nuttall ex Torrey & A. Gray, *S. mexicana* Presl ex de Candolle, *S. racemosa* L. var. *microbotrys* (Rydb.) Kearney & Peebles.

*Desmocerus dimorphus* Fisher, 1921: 207.

*Desmocerus californicus dimorphus*; Doane *et al.*, 1936: 178; Linsley & Chemsak, 1972: 7, fig. 2; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., 1995: 3 (cat.); Linsley & Chemsak, 1997: 365 (hosts); Huxel, 2000: 81 (ecol.); Collinge *et al.*, 2001: 104 (biol.); Chemsak, 2005: 6, pl.1, figs 4,5; Monné, M.A. & Hovore, 2006: 156 (checklist); Bouchard, 2014: 541; Lingafelter *et al.*, 2014: 54, fig. 57c (holotype); Ray *et al.*, 2014: 2 (pherom.)

## 3. *Desmocerus cribripennis* Horn 1881

**Syntypes locality** - Syntypes male and female: United States, Washington Territory. (ANSP). **Distribution** - Pacific Coast from central California. In Canada, British Columbia, it occurs on Haida Gwaii and Vancouver Island, east to the Okanagan Valley. **Host plants** - *Sambucus callicarpa* Greene (Caprifoliaceae).

*Desmocerus cribripennis* Horn, 1881: viii; Leng, 1890: 11; Fall, 1901: 147 (distr.); Webb, 1905: 105; Garnett, 1918: 211 (distr.); Burke, 1921: 451 (biol.); Boppe, 1921: 30; Craighead, 1923:87 (larva); Essig, 1926: 454 (distr.); Hardy, 1926b: 36; 1927: C36; Hardy & Preece, 1927b: 63 (hosts); Beaulne, 1932: 200 (hosts); Doane *et al.*, 1936: 178; Damoiseau & Cools, 1987: 9 (types); Bousquet, Laplante. Hammond & Langor, 2017: 116, pl. 22

*Desmocerus auripennis cribripennis*; Hatch, 1971: 145; Linsley & Chemsak, 1972: 9, fig. 1; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., & Giesbert, 1994: 157 (checklist); Monné, M.A., 1995: 2 (cat.); Linsley & Chemsak, 1997: 365 (hosts); Chemsak, 2005: 9, pl. 1, fig. 7; Monné, M.A. & Hovore, 2006: 156 (checklist);

## 4. *Desmocerus palliatus* (Forster 1771)

**Type locality** - Holotype: America Septentrionali. (LSUK). **Distribution** - Eastern North America from Canada to Florida and westward to Kansas. In Canada this species ranges from eastern Newfoundland to the Lake Nipigon area in central Ontario. **Host plants** - *Sambucus canadensis* Linnaeus, *S. nigra* Linnaeus, *S. racemosa* Linnaeus (Caprifoliaceae).

*Ceramyx palliatus* Forster, 1771: 40.

*Desmocerus palliatus*; Fitch, 1845:250; Haldeman, 1847a: 58; LeConte, 1850a: 318; Chevrolat, 1852: 651; Jaeger, 1859: 56, fig. 14; Bland, 1861: 100 (distr., hosts); Bland, 1863: 322 (syn.); Jaeger, 1864: 56, fig. 14; Lacordaire, 1868: 459; LeConte, 1873b: 324; Popenoe, 1877: 33 (distr.); Gardiner, 1879: 213 (distr.); Riley, 1880: 239 (biol.); Horn, 1880a: xi (syn.); 1881: viii; LeConte & Horn, 1883: 309; Townsend, 1884: 221; 1885: 70; Horn, 1885c: 89; Harrington, 1890: 185; Leng, 1890: 110; 1890: 11; Hamilton, 1893a: 274 (distr.); 1893b: 326 (distr.); Harrington, 1894a: 86, fig. 6C; Hamilton, 1895: 338 (distr.); Beutenmuller, 1896: 87 (hosts); Wickham, 1897a: 157 (distr.); 1897b: 169; Lugger, 1899: 204, pl. 4, fig. 124; Smith, 1900: 291 (distr.); Dury, 1902: 160 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 35 (distr.); Stevenson, 1905: 90; Webb, 1905: 105; Wickham, 1909a: 28 (distr.); Leng, 1910: 77 (distr.); Smith, 1910: 330; Blatchley, 1910: 1044; Fisher & Kirk, 1912: 312 (distr.); Kaeber, 1914: 430 (hosts); Morris, 1915: 22 (biol.); 1916a: 201; Johnson, 1915: 315 (distr.); Nicolay, 1917a: 94 (distr.); Chagnon, 1917: 233 (distr.); Hess, 1917: 64 (morphol.); Nicolay, 1919: 68 (distr.); Britton, 1920: 268 (distr.); Boppe, 1921: 30, pl. 2, fig. 6; Burke, 1921: 451; Graham, 1922: 196, fig. 3 (morphol.); Herrick, 1923: 543, pl. 7; Craighead, 1923: 87, pl. 17, fig. 11, pl. 31, fig. 8 (larva); Hatch, 1925: 580 (distr.); Kirk & Knull, 1926: 26 (distr.); Procter, 1927: 112 (distr.); Leonard, 1928: 443 (distr.); Ware, 1929: 368 (distr.); Beaulne, 1932: 200 (hosts); Goldman, 1933: 93, pl.5, figs 40-44 (anat.); Herrick, 1935: 324, figs 271-272; Chagnon, 1936: 243, pl. 15, fig. 3; Doane *et al.*, 1936: 278; Saalas, 1936: 84, fig. 9, pl. 8, figs 102a,b; Brimley, 1938: 214 (distr.); Smith *et al.*, 1943: 215, pl. 15, fig. 3; Loding, 1945: 118 (distr.); Knull, 1946: 185, pl. 8, fig. 33; Sherman, 1946: 127 (distr.); Procter, 1946: 180 (biol.); Fattig, 1947: 21; Craighead, 1950: 244 (biol.); Jaques, 1951: 258, fig. 610; Alexander, 1958: 46; Dillon & Dillon, 1961: 623, pl. 62, No. 6; Chagnon & Robert, 1962: 243, pl. 15, fig. 3; Hicks, 1965: 39 (distr.); Gardiner, 1966: 202, 207, figs 10, 42; 1970: 287 (hosts); Linsley & Chemsak, 1972: 5, fig. 1; Baker, 1972: 193 (biol.); Swan & Papp, 1972: 451, fig. 962; Gosling & Gosling, 1976: 2, fig. 62 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 92 (biol.); Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 340; Gosling, 1984: 71 (hosts); 1986: 155 (hosts); Chemsak, Linsley & Noguera, 1992: 89 (cat.); MacRae, 1993: 237 (distr.); Monné, M.A., & Giesbert, 1994: 157 (checklist); Monné, M.A., 1995: 3 (cat.); Yanega, 1996: 28, pl. 88, fig. 221; Linsley & Chemsak, 1997: 365 (hosts); Schiefer, 1998: 120 (distr.); Vlasák & Vlasakova, 2002: 204 (distr.); Chemsak, 2005: 4, pl. 1, figs 1, 2; Monné, M.A. & Hovore, 2006: 156 (checklist); Lingafelter, 2007: 35, 140, 2 figs, pl. 22, fig. b; Guarnieri, 2009: 14 (distr.); Holt, 2013: 243 (distr.); Švácha & Lawrence, 2014: figs 2, 4, 7 (morphol.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Haack, 2017: 116; Bousquet, Laplante, Hammond & Langor, 2017: 116, pl. 22

*Desmocerus spalliatius*; Provancher, 1877a: 605 (error).

*Calopus blandus* Fabricius, 1775: 182; Zimsen, 1964: 172 (types).

**Syntypes locality** - Syntypes: Indiis. (BMNH).

*Stenocorus cyaneus* Fabricius, 1775: 823; 1781: 226; 1787: 143; 1793: 293; Olivier, 1795: 23, pl. 3, fig. 26; Fabricius, 1801: 305; Knoch, 1801: 148, pl. 6, fig. 1; Palisot de Beauvois, 1805: 249, pl. 7, fig. 6; Illiger, 1805: 111; Latreille, 1807: 41; Zimsen, 1964: 172 (types).

*Cerambyx (Stenocorus) cyaneus*; Gmelin, 1790: 1861.

*Rhagium cyaneum*; Schoenherr, 1817: 411 (syn.).

*Desmocerus cyaneus*; Dejean, 1821: 111 (cat.); Audinet-Serville, 1835: 202; Laporte, 1840: 499, pl. 54, fig. 1; Harris, 1841: 92 (biol.); Guérin-Méneville, 1844: 251, pl. 46, figs 1, 1a-b; Thomson, 1861: 159; 1864: 149; Chenu, 1870: 328; Croft, 1872: 120 (distr.); Packard, 1872: 501 (biol.).

**Type locality** - Holotype: India. (HUMG).

*Desmocerus elongatus* Bland, 1862: 269; Lacordaire, 1868: 459.

**Type locality** - Lectotype female: United States, Virginia: Hampshire County. (ANSP).

##### 5. *Desmocerus piperi* Webb 1905

**Type locality** - Holotype male: United States, Washington: Blue Mountains. (USNM).

**Distribution** - Northern Rocky Mts. From Oregon and Washington to Montana. In Canada

- southwestern Alberta and southeastern British Columbia. **Host plants** - *Sambucus melanocarpa* A. Gray (Caprifoliaceae).
- Desmocerus piperi* Webb, 1905: 104; Burke, 1921: 452 (biol.); Boppe, 1921: 30; Craighead, 1923: 87 (larva); Hardy, 1926b: 7; Essig, 1926: 454; Berlioz, 1933: 111; Mank, 1934: 80 (distr.); Jaques, 1951: 258; Clark, 1956: 41 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 117
- Desmocerus auripennis piperi*; Doane *et al.*, 178 (distr.); Linsley & Chemsak, 1972:11, fig. 1; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Linsley & Chemsak, 1997: 365 (hosts)
- Desmocerus aureipennis piperi*; Monné, M.A., & Giesbert, 1994: 157 (checklist); Monné, M.A., 1995: 2 (cat.); Chemsak, 2005: 10, pl. 1, figs 8, 9; Korotyaev *et al.*, 2005: 253 (hosts); Monné, M.A. & Hovore, 2006: 156 (checklist); Lingafelter *et al.*, 2014: 300, fig. 133i (holotype); Rice.MacRae & Merickel, 2017: 670 (distr.)

## ENCYCLOPINI LeConte, 1873

Encyclopini LeConte, 1873b: 326; LeConte & Horn, 1883: 211; Leng, 1890: 10; Blatchley, 1910: 1043, 1045; Bousquet *et al.*, 2009: 22; Bouchard *et al.*, 2011: 462.  
; Bousquet, Laplante, Hammond & Langor, 2017:

**Type-genus:** *Encyclops* Newman, 1838

**Type-species:** *Encyclops pallipes* Newman, 1838 (monotypy)

### *Encyclops* Newman 1838

*Encyclops* Newman, 1838: 392; Haldeman, 1847b: 375; LeConte, 1850a: 317; Thomson, 1861: 145, 149; 1864: 149, 410; Lacordaire, 1868: 455; LeConte, 1873b: 327; LeConte & Horn, 1883: 312; Leng, 1890: 13; Wickham, 1897b: 88; Blatchley, 1910: 1045; Boppe, 1921: 79; Craighead, 1923: 82; Swaine & Hopping, 1928: 11, 14; Bradley, 1930: 235; Hopping, 1937: 2; Knull, 1946: 170; Gressitt, 1947: 191; Dillon & Dillon, 1961: 17; Arnett, 1962: 857, 877; Chemsak, 1964: 232; Linsley & Chemsak, 1972: 61; Monné, M.A., 1995: 24; Chemsak, 2005: 32, 88; Monné, M.A. & Hovore, 2006: 160 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 115

**Type-species** - *Encyclops pallipes* Newman, 1838 (= *Leptura caerulea* Say, 1826) (monotypy).  
*Microrhabdium* Kraatz 1879: 99; Chemsak, 1964: 233.

*Microrhabdium*; Plaviltstshikov 1936: 108, 123, 423, 498.

**Type-species** - *Microrhabdium macilentum* Kraatz, 1879 (monotypy).

### 1. *Encyclops caerulea* (Say, 1827)

**Syntypes locality** - Syntypes: United States (Depository unknown). **Distribution** - Eastern North America. In Canada, it is known from one locality in east-central New Brunswick and several localities in southern Ontario north to the Ottawa area **Host plants** - *Acer* sp. (Aceraceae), *Castanea* sp., *Quercus bicolor* Willd. (Fagaceae), *Carya glabra* (Miller) Sweet, *Juglans nigra* Linnaeus (Juglandaceae), *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Fraxinus americana* Linnaeus (Oleaceae), *Pinus contorta* Douglas ex Loudon (Pinaceae).

*Leptura caerulea* Say, 1827: 280.

*Encyclops caerulea*; Haldeman, 1847b: 376; LeConte, 1850a: 317; White, 1855: 203; LeConte, 1859c: 336; Thomson, 1861: 159; Bland, 1861: 100; Thomson, 1864: 149; Leng, 1890: 110; Harrington, 1890: 185 (distr.); Hamilton, 1895: 338 (distr.); Wickham, 1897b: 173; Smith, 1900: 291 (distr.); Dury, 1902: 160 (distr.); Ulke, 1903: 26, 50 (distr.); Smith, 1910: 330; Blatchley, 1910: 1045; Fisher & Kirk, 1912: 312 (distr.); Chagnon, 1917: 233 (distr.); Nicolay, 1917a: 94 (distr.); Britton, 1920: 268 (distr.); Craighead, 1923: 89, pl. 1, fig. 2, pl. 27, fig. 2; 1950: 247 (biol.).

*Encyclops caerulea*; Lacordaire, 1868: 456; Horn, 1885a: 5 (syn.); Morris, 1909b: 416; Boppe, 1921:80; Kirk & Knull, 1926: 26 (distr.); Leonard, 1928: 443 (distr.); Knull, 1932: 63; 1934: 210 (hosts); Beaulne, 1932: 200 (hosts); Saalas, 1936: 83 (morphol.); Hopping, 1937: 2, pl.

1; Brimley, 1938: 214 (distr.); Knull, 1946: 170, pl. 5, fig. 16; Sherman, 1946: 127 (distr.); Fattig, 1947: 21; Dillon & Dillon, 1961: 617, pl. 61, No. 16; Wilson, 1971: 61 (biol.); Linsley & Chemsak, 1972: 62; Baker, 1972: 199 (biol.); Perry, 1975: 59 (hosts); Gosling & Gosling, 1976: 3 (biol., distr.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); Arnett, 1985: 368, fig. 24.201; White, 1985: 283, fig. 123; Gosling, 1986: 156 (hosts); Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 34 (cat.); Krinsky & Godwin, 1996: 238; Yanega, 1996: 32, pl. 4, fig. 42; Linsley & Chemsak, 1997: 373 (hosts); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Chemsak, 2005: 89, pl. 6, fig. 9; Rice & Veal, 2006: 258 (distr.); Monné, M.A. & Hovore, 2006: 160 (checklist); Lingafelter, 2007: 17, 140, 2 figs, pl. 3, fig. h; Webster, McCorquodale & Majka, 2009: 294 (distr.); Guarnieri, 2009: 15 (distr.); Webster, 2016: 485; Haack, 2017: 115; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 116, pl. 20; Heffern, Vlasak & Allen, 2018: 744 (hosts).

*Encyclops pallipes* Newman, 1838: 392

**Syntypes locality** - Syntypes: United States, New York: Trenton Falls, (BMNH).

## 2. *Encyclops californica* Van Dyke 1920

**Type locality** - Holotype male: United States, California: Marin County, Cañon near Lagunitas. (CASC), **Distribution** - Coastal northern California. **Host plants** - *Lithocarpus densiflora* Rehder (Fagaceae), *Tsuga* sp. (Pinaceae), *Rhamnus californica* Eschscholtz (Rhamnaceae).

*Encyclops californicus* Van Dyke, 1920: 45; Hopping, 1937: 3.

*Encyclops californica*; Linsley & Chemsak, 1972: 62, fig. 20; Penrose & Westcott, 1974: 234; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 24 (cat.); Linsley & Chemsak, 1997: 373 (hosts); Chemsak, 2005: 90, pl. 6, figs 10,11; Monné, M.A. & Hovore, 2006: 160 (checklist); Swift, 2008: 4 (distr.).

## *Leptalia* LeConte 1873

*Leptalia* LeConte, 1873: 204a; 1873b: 327; LeConte & Horn, 1883: 312; Leng, 1890: 13; Boppe, 1921: 79; Craighead, 1923: 83; Swaine & Hopping, 1928: 11, 14; Bradley, 1930: 235; Hopping, 1937: 2; Arnett, 1962: 857, 877; Chemsak, 1964: 233; Hatch, 1971: 124; Linsley & Chemsak, 1972: 99; Monné, M.A., 1995: 36; Chemsak, 2005: 33, 132; Monné, M.A. & Hovore, 2006: 164 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 115

**Type-species** - *Anoplodera macilenta* Mannerheim, 1853 (original designation).

### 1. *Leptalia macilenta* (Mannerheim) 1853

**Syntypes locality** - Syntypes: United States, Alaska, Peninsula Kenai, ad rivulos flumen Tschunuktnu. (MZHF). **Distribution** - In United States Alaska, Montana southward to Central California. In Canada, it occurs from the Aleutian Islands south to southern Vancouver Island, east to the Rocky Mountains in southwestern Alberta. **Host plants** - *Acer macrophyllum* Pursh (Aceraceae), *Alnus rubra* Bongard (Betulaceae), *Quercus agrifolia* Née (Fagaceae), *Umbellularia californica* (Hooker & Arnott) Nuttall (Lauraceae), *Prunus emarginata* Walpers (Rosaceae), *Salix* sp. (Salicaceae).

*Anoplodera macilenta* Mannerheim, 1853: 253

*Leptura macilenta*; LeConte, 1857: 23

*Leptalia macilenta*; LeConte, 1873b: 327; 1873a: 204; LeConte & Horn, 1883: 312; Leng, 1890: 13; Hamilton, 1894a: 31; Harrington, 1899: 108 (distr.); Kincaid, 1900: 376, pl. 25, figs 8-12 (larva); Schwarz, 1900: 535 (distr.); Fall, 1901: 148 (distr.); Van Dyke, 1902: 199 (distr.); Schwarz, 1910: 183 (distr.); Garnett, 1918: 211 (distr.); Boppe, 1921: 79; Craighead, 1923: 89, pl. 1, fig. 1 (larva); Fall, 1926: 202 (distr.); Hardy, 1926b: 35; Beaulne, 1932: 198 (hosts); Mank, 1934: 80 (distr.); Doane *et al.*, 1936: 170 (biol.); Saalas, 1936: 83 (morphol.); Canova, 1936: 130 (distr., hosts); Moore, 1937: 88 (distr.); Clark, 1956: 41 (distr.); Chemsak & Powell, 1971: 101 (hosts); Linsley & Chemsak, 1972: 99, fig. 32; Penrose & Westcott, 1974:

234; Deyrup, 1977: 182 (hosts); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 36 (cat.); Linsley & Chemsak, 1997: 387 (hosts); Chemsak, 2005: 133, pl. 10, fig. 3; Monné, M.A. & Hovore, 2006: 164 (checklist); Swift, 2008: 5 (distr., hosts); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 115, pl. 21

*Anoplodera Frankenhaeuseri* Mannerheim 1853: 252.

*Leptura Frankenhaeuseri*; LeConte, 1857: 23.

*Leptalia macilenta* var. *Frankenhaeuseri*; LeConte, 1873b: 327; 1873a: 205; LeConte & Horn, 1883: 312.

*Leptalia macilenta* var. *frankenhaeuseri*; Leng, 1890: 13; Hardy, 1926a: 4; 1942: 10.

*Leptalia frankenhaeuseri*; Hopping, 1937: 2 pl. 1; Hatch, 1971: 136, pl. 15, figs 5, 5<sup>a</sup>.

*Leptalia frankenhaeuseri* ab. *macilenta*; Hatch, 1971: 136.

**Type locality** - Syntypes: United States, Alaska, Peninsula Kenai, ad rivulos flumen Tschunuktnu. (MZHF).

*Leptura fuscicollis* LeConte, 1857: 65; 1869: 283 (distr.); Canova, 1936: 130 (distr., hosts).

*Leptalia macilenta* var. *fuscicollis*; LeConte, 1873b: 327; 1873a: 205; LeConte & Horn, 1883: 312; Leng, 1890: 13.

*Leptalia frankenhaeuseri* ab. *fuscicollis*; Hatch. 1971: 136.

**Type locality** - Holotype: United States, California: San Francisco. (MCZN).

## **EVODINIINI Zamoroka, 2022**

Evodiniini Zamoroka, 2022: 302

**Type-genus** - *Evodinus* Mulsant, 1863

### ***Brachyta* Fairmaire, 1868**

*Brachyta* Fairmaire, 1868: 185; Plavilstshikov, 1936: 186; Sama, 2003: 16; Bousquet, Laplante. Hammond & Langor, 2017: 108; Zamoroka, 2022: 302

**Type species** - *Leptura interrogationis* Linnaeus, 1758 (monotypy)

#### **1. *Brachyta lanhami* Lewis, 1976**

**Type locality** - Holotype female: United States, Wyoming: Park County, Beartooth Plateau. (Department of Entomology Collection, University of Colorado). **Distribution** - United States (Wyoming) and Canada (Saskatchewan and Alberta).

*Evodinus lanhami* Lewis, 1976: 227; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M. A., 1995: 26 (cat.); Chemsak, 2005: 97, pl. 7, figs 8, 9; Monné, M.A. & Hovore, 2006: 161 (checklist);

*Brachyta lanhami*; Bousquet, Laplante. Hammond & Langor, 2017: 108, pl. 19

#### ***Evodinus* LeConte, 1850: 325**

*Evodinus* LeConte, 1850a: 325; 1850b: 235; Thomson, 1861: 365; Casey, 1913: 216; Boppe, 1921: 71; Swaine & Hopping, 1928: 11; Bradley, 1930: 235; Chagnon, 1936: 246; Hopping, 1937: 18; Linsley, 1938: 109; Knull, 1946: 151; Dillon & Dillon, 1961: 618; Arnett, 1962: 857; Chagnon & Robert, 1962: 241; Chemsak & Linsley, 1963: 82; Chemsak, 1964: 232; Hatch, 1971: 125; Linsley & Chemsak, 1972: 70; Monné, M.A., 1995: 26; Chemsak, 2005: 32; Monné, M.A. & Hovore, 2006: 161 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 107 (key spp.); Zamoroka, 2022: 302

**Type -species** - *Leptura monticola* Randall, 1838 (monotypy).

#### **1. *Evodinus monticola* (Randall, 1838)**

**Syntypes locality** - Syntypes: United States, Maine: on the Saddleback Mountains, and in the vicinity of the Mousehead Lake. (MCZN). **Distribution** - From eastern Newfoundland and Labrador to southeastern Manitoba, south through the Appalachian Mountains to northern Georgia. **Host plants** - *Abies* sp., *Picea* sp., *Pinus banksiana* Lambert, *P. resinosa* Aiton, *Tsuga* sp. (Pinaceae).

*Leptura monticola* Randall, 1838: 27.

*Evodinus monticola*; LeConte, 1850b: 235 (distr.); 1850a: 326 (biol.); Thomson, 1864: 142; Boppe, 1921: 72; Mundinger, 1924: 316 (biol.); Kirk & Knull, 1926: 24 (distr.); Fletcher, 1926: 143 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 438 (distr.); Pack, 1930: 119 (distr.); Beaulne, 1932: 199 (hosts); Brown, 1934: 229 (distr.); Saalas, 1936: 73 (morphol.); Chagnon, 1936: 246, pl. 16, fig. 1; Canova, 1936: 129 (distr., hosts); Doane *et al.*, 1936: 278; Hopping, 1937: 18, pl. 5; Brimley, 1938: 212 (distr.); Chagnon, 1939: 86 (distr.); Procter, 1946: 177 (distr.); Knull, 1946: 178, pl. 6, fig. 21; Sherman, 1946: 127 (distr.); Fattig, 1947: 15 (distr.); Dillon & Dillon, 1961: 218, pl. 61, No. 11; Chagnon & Robert, 1962: 246, pl. 16, fig. 1; Gardiner, 1966: 202, fig. 9; 1970: 787 (distr., hosts); Wilson, 1971: 61 (biol.); Linsley & Chemsak, 1972: 70; Gosling & Gosling, 1976: 3 (biol., distr.); Lewis, 1976: 227; Laliberté, Chantal & LaRochelle, 1977: 93 (biol.); Miliczky & Osgood, 1979: 133 (biol.); Švácha & Danilevsky, 1989: 75 (larva); Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 27 (cat.); Monné, M.A. & Hovore, 2006: 161 (checklist); Lingafelter, 2007: 21, 149, 2 figs, pl. h; Bousquet, Laplante, Hammond & Langor, 2017: 107, pl. 19

*Argaleus monticola*; LeConte, 1854b: 218.

*Pachyta monticola*; Austin, 1874: 270 (distr.); Provancher, 1877: 608; Leng, 1890: 97; Harrington, 1890: 185 (distr.); Slosson, 1894: 3 (distr.); Hamilton, 1894a: 31 (distr.); 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 171; 1897c: 157 (distr.); Harrington, 1899: 108 (distr.); Schwarz, 1900: 535 (distr.); MacGillivray & Houghton, 1902: 252 (distr.); Chagnon, 1905: 36 (distr.); Houghton, 1905: 51 (distr.); Blatchley, 1910: 1049; Schwarz, 1910: 183 (distr.); Fisher & Kirk, 1912: 312 (distr.); Lovell, 1915: 114; Morris, 1916: 19 (hosts); Chagnon, 1917: 233 (distr.); Nicolay, 1917a: 94; Blackman, 1918: 125 (distr.); Craighead, 1923: 141, pl. 1, fig. 3, pl. 22, fig. 15 (larva).

*Evodinus monticola monticola*; Linsley & Chemsak, 1972: 71; Frost, 1979: 347 (biol.); Turnbow & Franklin, 1980: 338 (distr.); Hansen & Osgood, 1983: 149 (biol.); Gosling, 1986: 156 (hosts); Drouin, 1992: 175 (distr.); Monné, M.A., 1995: 27 (cat.); Yanega, 1996: 32, pl. 8, figs 87a,b; Linsley & Chemsak, 1997: 377 (hosts); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 98, pl. 8, fig. 5; Webster, 2016: 486;

*Evodinus carolinensis* Casey, 1924: 275; Wray, 1967: 46 (syn.); Lingafelter *et al.*, 2014: 36, 367, fig. 38s (lectotype).

**Type locality** - Lectotype: United States, North Carolina: Summit of Black Mountains. (USNM).

## 2. *Evodinus vancouveri* Casey, 1913

**Type locality** - Lectotype: Canada, British Columbia: Vancouver Island. (USNM).

**Distribution** - This species ranges from south-central Alaska south to central Idaho and central California along the Pacific Coast, east to Saskatchewan. In Canada, it is known from central Yukon and southwestern Northwest Territories, south to east-central Saskatchewan and southern British Columbia, including southern Vancouver Island. **Host plants** - *Abies* sp., *Pseudotsuga menziesii* (Mirbel) Franco, *Tsuga heterophylla* (Rafinesque) Sargent (Pinaceae).

*Evodinus vancouveri* Casey, 1924: 216; Leng, 1920: 271 (cat.); Hardy, 1926a: 5; 1927: C35; Canova, 1936: 129 (distr.); Hopping, 1937: 19, pl. 5; Hardy, 1944: 16 (distr.); 1948: 32 (distr.); 1955: B50 (distr.); Clark, 1956: 41; Barr & Penrose, 1969: 90 (distr.); Hatch, 1971: 144, pl. 20, figs 13-21; Bousquet, Laplante, Hammond & Langor, 2017: 108, pl. 19

*Evodinus monticola vancouveri*; Linsley & Chemsak, 1972: 71, figs 24, 25; Deyrup, 1977: 182 (biol.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 27 (cat.); Linsley & Chemsak, 1997: 378 (hosts); Chemsak, 2005: 99, pl. 7, figs 6, 7; Monné, M.A. & Hovore, 2006: 161 (checklist); Lingafelter *et al.*, 2014: 340, 367, fig. 178e (lectotype); Rice, MacRae & Merickel, 2017: 670 (distr.)

## *Metacmaeops* Linsley & Chemsak, 1972

*Metacmaeops* Linsley & Chemsak, 1972: 137; Monné, M.A., 1995: 46; Chemsak, 2005: 34, 188; Monné, M.A. & Hovore, 2006: 165 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 111; Zamoroka, 2022: 302

**Type-species** - *Leptura vittata* Swederus, 1787 (original designation).



### 1. *Metacmaeops vittata* (Swederus, 1787)

**Type locality** - Holotype: Amérique Septentrionale. (Depository unknown). **Distribution** - Canada (southern Quebec), eastern United States to Alabama and midwestern states. **Host plants** - *Castanea* sp. (Fagaceae), *Liriodendron tulipifera* Linnaeus (Magnoliaceae).

*Leptura vittata* Swederus, 1787: 198; Gmelin, 1790: 1875.

*Acmaeops vittata*; Gemminger in Gemminger & Harold, 1872: 2862 (cat.).

*Acmaeops (Pseudodinoptera) vittata*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Metacmaeops vittata*; Linsley & Chemsak, 1972: 137; Gosling & Gosling, 1976: 7 (b iol., distr.); Turnbow & Franklin, 1980: 338 (distr.); Chemsak, Linsley & Noguera, 1992: 97 (cat.); MacRae, 1993: 238 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., 1995: 46 (cat.); Yanega, 1996: 36, pl. 15, fig. 180; Linsley & Chemsak, 1997: 397 (hosts); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 207 (distr.); Chemsak, 2005: 188, pl. 14, fig. 9; Monné, M.A. & Hovore, 2006: 165 (checklist); Lingafelter, 2007: 25, 141, 2 figs, pl. 6a (hosts); Guarneri, 2009: 15 (distr.); McDowell, 2011: 412 (biol.); Holt, 2013: 245 (distr.); Steury & MacRae, 2014: 9 (biol., distr.); Bousquet. Laplante, Hammond & Langor, 2017: 111, pl. 20; Klingeman *et al.*, 2017: 296 (distr.)

*Leptura quadrivittata* Schoenherr, 1817: 497.

*Anoplodera 4-vittata*; Haldeman, 1847a: 65.

*Acmaeops quadrivittatus*; Bland, 1861: 100.

**Type locality** - America Septentrionalis.

*Leptura directa* Newman, 1841: 71.

*Anoplodera directa*; Haldeman, 1847b: 374.

*Acmaeops directa*; LeConte, 1873a: 210; Horn, 1885a: 6; Leng, 1890: 106; Hamilton, 1895: 338 (distr.); Smith, 1900: 291 (distr.); Ulke, 1903: 26, 50 (distr.); Leng, 1910: 77 (distr.); Blatchley, 1910: 1050; Smith, 1910: 330; Fisher & Kirk, 1912: 312 (distr.); Banks, 1912: 106; Casey, 1913: 241; Johnson, 1916: 119 (distr.); Chagnon, 1917: 234 (distr.); Blackman, 1918: 130; Britton, 1920: 267 (distr.); Craighead, 1923: 139 (larva); Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 438 (distr.); Beaulne, 1932: 199 (hosts); Loding, 1933: 148 (distr.); Canova, 1936: 126 (distr.); Brimley, 1938: 212 (distr.); Wright & Whitehouse, 1941: 72 (distr.); Loding, 1945: 16 (distr.); Gibson & Carrillo, 1959: 118 (distr.); Dillon & Dillon, 1961: 619, pl. 61, No.13; Hatch, 1971: 143; Staines, 2008: 145 (distr.)

**Type locality** - Holotype: United States, New York. (BMNH).

*Anoplodera 4-vittata* var. *pallida* Haldeman, 1847a: 65.

*Acmaeops vittata* var. *pallida*; Gemminger in Gemminger & Harold, 1872: 2862 (cat.).

*Acmaeops (Pseudodinoptera) vittata* ab. *pallida*; Aurivillius, 1912: 193 (cat.); Boppe, 1921: 77.

**Type locality** - Holotype: United States, Pennsylvania. (MCZN).

### LEPTURINI Latreille, 1802

Lepturetae Latreille, 1802: 218.

Lepturaeidae; Gistel, 1848a: (9).

Lepturinae; Pascoe, 1869: 553, 555.

Lepturini; LeConte, 1873b: 292, 327; LeConte & Horn, 1883: 312; Leng, 1890: 10; Blatchley, 1910: 1043, 1045; Casey, 1913: 193; Boppe, 1921: 15, 77; Swaine & Hopping, 1928: 1, 14; Bradley, 1930: 228, 234; Knull, 1946: 151; Linsley, 1961a: 629 (mimet.); Dillon & Dillon, 1961: 607; Chagnon & Robert, 1962: 240; Arnett, 1962: 856, 876; Hatch, 1971: 123; Linsley & Chemsak, 1972: 26; Villiers, 1974: 208, 212; 1980: 154; Svacha & Danilevsky, 1989: 15 (larva); Monné, M.A., 1995: 15 (cat.); Chemsak, 2005: 29 (rev.); Monné, M.A., 2006: 114 (cat.); Bousquet *et al.*, 2009:

22; Bouchard *et al.*, 2011: 462; Bousquet, Laplante. Hammond & Langor, 2017: 117; Dutrillaux & Dutrillaux, 2018: 47 (cytogenetics)

**Type-genus:** *Leptura* Linnaeus, 1758.

**Type-species:** *Leptura quadrifasciata* Linnaeus, 1758 designated by Westwood (1838: 41).

Grammoptérates Mulsant, 1863: 569 (based on *Grammoptera* Audinet-Serville, 1835).

*Nomen nudum*. Comment. This name is unavailable under Article 11.7 (not subsequently Latinized and attributed to Mulsant 1863).

Strangalini Zagajkevich, 1991: 96 (based on *Strangalia* Audinet-Serville, 1835). *Nomen nudum*. Comment. This name is unavailable under Article 11.5 (first published as a junior synonym).

### ***Alosternida* Podany 1961**

*Alosterna* (*Alosternida*) Podany, 1961: 27; 1963: 47.

*Alosternida*; Linsley & Chemsak, 1976: 37; Monné, M.A., 1995: 72; Chemsak, 2005: 36, 232; Monné, M.A. & Hovore, 2006: 158 (checklist);

**Type-species** - *Pachyta chalybaea* Haldeman, 1847 (monotypy).

#### **1. *Alosternida chalybaea* (Haldeman, 1847)**

**Type locality** - Holotype: United States, Pennsylvania. (MCZN). **Distribution** - Eastern United States.

*Pachyta chalybaea* Haldeman, 1847a: 60.

*Strangalia chalybea*; LeConte, 1850a: 331.

*Gaurotes chalybea*; Gemminger in Gemminger & Harold, 1872: 2863 (cat.).

*Leptura chalybaea*; LeConte, 1873a: 217; Leng, 1890: 185, 186, 188, 194; Hamilton, 1895: 338 (distr.); Dury, 1902: 161 (distr.); Blatchley, 1910: 1056.

*Leptura chalybea*; Wickham, 1897b: 190.

*Strangalia* (*Strangalia*) *chalybea*; Aurivillius, 1912: 242 (cat.); Boppe, 1921: 100;

*Parallelina chalybea*; Casey, 1913: 255; Leng, 1920: 273 (cat.); Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 440 (distr.).

*Alosterna chalybea*; Swaine & Hopping, 1928: 23, pl. 1, fig. 20; Knull, 1946: 156, pl. 4, fig. 12.

*Alosterna* (*Alosternida*) *chalybea*; Podany, 1961: 28; 1963: 47.

*Alosternida chalybea*; Linsley & Chemsak, 1976: 38; Gosling & Gosling, 1976: 8 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.) Monné, M.A., & Giesbert, 1994: 159 (checklist);

*Alosternida chalybaea*; Monné, M.A., 1995: 72 (cat.); Yanega, 1996: 29, pl. 4, fig. 47; Chemsak, 2005: 233, pl. 17, fig. 3; Monné, M.A. & Hovore, 2006: 158 (checklist); Lingafelter, 2007: 29, 33, 139, 2 figs, pl. 7e.; Klingeman *et al.*, 2017: 295 (distr.)

### ***Analeptura* Linsley & Chemsak 1976**

*Analeptura* Linsley & Chemsak, 1976: 26; Monné, M.A., 1995: 70 (cat.); Chemsak, 2005: 35, 216; Monné, M.A. & Hovore, 2006: 158 (checklist);

**Type-species** - *Leptura lineola* Say, 1824 (original designation).

#### **1. *Analeptura lineola* (Say 1824)**

**Syntypes locality** - Syntypes: United States, Pennsylvania and Mississippi. (Depository unknown). **Distribution** - In United States, Florida to midwestern states, in Canada, from the Nova Scotia peninsula to the Rainy River District in western Ontario. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Betula* sp., *Corylus americana* *Ostrya virginiana* (Miller) K. Koch (Betulaceae), *Viburnum acerifolium* Linnaeus (Cornaceae), *Carpinus caroliniana* Walter (Corylaceae), *Rhododendron* sp. (Ericaceae), *Fagus grandifolia* Ehrhart, *Quercus* sp. (Fagaceae), *Lindera benzoin* (Linnaeus) Blume (Lauraceae), *Tilia americana* Linnaeus

- (Malvaceae), *Pinus contorta* Douglas ex Loudon, *P. strobus* Linnaeus (Pinaceae), *Malus* sp., *Prunus virginiana* Linnaeus (Rosaceae).
- Leptura lineola* Say, 1824: 421; LeConte, 1859c: 199; Horn, 1868: 24 (distr.); LeConte, 1873a: 217; Henshaw, 1874: 22 (distr.); Provancher, 1877a: 614; Schaupp, 1880: 84 (biol.); Horn, 1885a: 6 (syn.); Leng, 1890: 187, 194; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 190; 1897c: 158 (distr.); Smith, 1900: 292 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 33 (distr.); Morris, 1909b: 416 (biol.); Blatchley, 1910: 1055; Leng, 1910: 77 (distr.); Smith, 1910: 331; Fisher & Kirk, 1912: 313 (distr.); Johnson, 1915: 35 (distr.); Lovell, 1915: 114; Chagnon, 1917: 234 (distr.); Blackman, 1918: 125 (biol.); Nicolay, 1919: 69 (distr.); Craighead, 1923: 97 (larva); Swaine & Hopping, 1928: 30, pl. 3, fig. 33, pl. 12, fig. 4; Knull, 1934: 209 (hosts); Chagnon, 1936: 252; Knull, 1946: 159; Fattig, 1947: 18; Dillon & Dillon, 1961: 610, pl. 50, No. 11; Chagnon & Robert, 1962: 252; Bayer & Shenefelt, 1969: 11, fig. 21; Kirk, 1970: 78; Wilson, 1971: 60 (biol.); Swan & Papp, 1972: 449, fig. 955; Perry, 1975: 59 (hosts); Gosling & Gosling, 1976: 13; Laliberté, Chantal & LaRochelle, 1977: 94 (biol.); Miliczky & Osgood, 1979: 133 (biol.).
- Stenura lineola*; Haldeman, 1847a: 63.
- Strangalia lineola*; LeConte, 1850a: 330; Bland, 1861: 101 (biol., distr.).
- Strangalia (Strangalia) lineola*; Aurivillius, 1912: 243 (cat.); Boppe, 1921: 100.
- Strangalepta lineola*; Casey, 1913: 257; Britton, 1920: 268; Leng, 1920: 273 (cat.); Fletcher, 1926: 143 (distr.); Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 440 (distr.); Frost & Dietrich, 1929: 436 (distr.); Park, 1931: 193 (biol.); Beaulne, 1932: 199 (hosts); Loding, 1933: 148 (distr.); Brimley, 1938: 213 (distr.); Loding, 1945: 117 (distr.); Gibson & Carrillo, 1959: 119 (distr.).
- Strangalia (Leptura) lineola*; Saalas, 1936: 80 (morphol.).
- Analeptura lineola*; Linsley & Chemsak, 1976: 26; Frost, 1979: 345 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 79 (biol.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); MacRae, 1993: 239 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., & Giesbert, 1994: 159 (checklist); Monné, M.A., 1995: 70 (cat.); Krinsky & Godwin, 1996: 238; Yanega, 1996: 29, pl. 15, figs 181a, b; Linsley & Chemsak, 1997: 340 (hosts); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Chemsak, 2005: 216, pl. 16, fig. 4; Senchina, 2005: 329 (biol.); Monné, M.A. & Hovore, 2006: 158 (checklist); Rice & Veal, 2006: 158 (distr.); Majka, McCorcuodale & Smith, 2007: 259 (distr.); Lingafelter, 2007: 31, 139, 2 figs, pl. 7j; Staines, 2008: 145 (distr.); Guarnieri, 2009: 14 (distr.); McDowell, 2011: 412 (biol.); Holt, 2013: 443 (biol., distr.); Steury & MacRae, 2014: 9; Vlasák, 2014: 317 (hosts); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 118, pl. 22
- Leptura indirecta* Newman, 1841: 71.
- Syntypes locality** - Syntypes: United States, New York. (BMNH).
- Stenura cincta* Haldeman, 1847a: 63.
- Syntypes locality** - Syntypes: United States, Pennsylvania. (MCZN).
- Stenura cincta* var. *lateralis* Haldeman, 1847a: 63.
- Strangalia lateralis*; LeConte, 1850a: 330.
- Strangalia (Strangalia) lineola* ab. *lateralis*; Aurivillius, 1912: 243 (cat.).
- Strangalepta lineola lateralis*; Leng, 1920: 273 (cat.).
- Type locality** - Holotype: United States. (MCZN).
- Stenura cincta* var. *obsoleta* Haldeman, 1847a: 63.
- Strangalia (Strangalia) lineola* ab. *obsoleta*; Aurivillius, 1912: 243 (cat.).
- Strangalepta lineola obsoleta*; Leng, 1920: 273 (cat.).
- Type locality** - Holotype: United States, (MCZN).

#### **Anastrangalia Casey, 1924**

- Strangalia (Anastrangalia)* Casey, 1924: 280; Monné, M.A., 2006: 115 (cat.); Monné, M.A. & Hovore, 2006: 158 (checklist); Monné, M. A., 2012: 121; Bousquet. Laplante, Hammond & Langor, 2017: 132 (key spp)
- Anastrangalia*; Chemsak, 1964: 231; Linsley & Chemsak, 1976: 144; Chemsak, 2005: 386 (rev.).

**Type-species** - *Leptura sanguinea* LeConte, 1859 (original designation).

*Marthaleptura* Ohbayashi, 1963: 9

**Type-species** - *Leptura scotodes* Bates, 1873 (original designation).

### 1. *Anastrangalia haldemani* (Casey, 1891)

**Type locality** - Lectotype male: United States, New Mexico. (USNM). **Distribution** - United States (South Dakota, Colorado, Arizona and New Mexico), Mexico (Durango). **Host plants** - *Pinus leiophylla chihuahuana* (Engelmann) A. E. Murray, *Pinus ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Leptura haldemani* Casey, 1891: 42; Hamilton, in Leng & Hamilton, 1896: 175; Lingafelter *et al.*, 2014: 74, figs 79s, t (lect. designation).

*Brachyleptura haldemani*; Casey, 1913: 251.

*Strangalia (Anastrangalia) haldemani*; Casey, 1924: 280.

*Anoplodera haldemani*; Swaine & Hopping, 1928: 58, pl. 9, fig. 88.

*Anastrangalia haldemani*; Linsley & Chemsak, 1976: 148, fig. 39 (syn.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 159 (checklist); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 340 (hosts); Heffern, 1998: 10 (distr.); Monné, M.A., 2002: 36 (cat. hosts); Chemsak, 2005: 391, pl. XXV, figs 9-11; Monné, M.A., 2006: 115 (cat.); Monné, M.A. & Hovore, 2006: 1578 (checklist);

*Leptura lucifera* Hopping, 1922: 163; Ruetter, 1970: 20 (type).

*Anoplodera lucifera*; Swaine & Hopping, 1928: 58, pl. 9, fig. 87; Canova, 1936: 129 (distr., hosts); Linsley, Knull & Statham, 1961: 27 (distr.).

**Type locality** - Holotype female: United States, Arizona: Cochise Co. (CNCI).

### 2. *Anastrangalia laetifica* (LeConte, 1859)

**Syntypes locality** - Syntypes female: United States, Washington: Shoalwater Bay. (MCZN).

**Distribution** - Canada (Southern half of British Columbia, as far north as the Fraser River Valley east of Prince George), United States (Washington, Oregon, California, Idaho), Mexico (Baja California). **Host plants** - *Pinus contorta* Douglas ex Loudon, *P. insignis* Douglas ex Loudon, *P. ponderosa* Douglas ex Lawson & P. Lawson, *P. sabiniana* Douglas ex D. Don, *P. tuberculata* Gordon (Pinaceae).

*Leptura laetifica* LeConte, 1859a: 291; 1859b: 89 (distr.); 1873a: 220 (distr.); Provancher, 1877a: 615, 620; Leng, 1890: 197; Harrington, 1899: 108 (distr.); Fall, 1901: 150 (distr.); Wright & Coolidge, 1908: 68 (distr.); Dow, 1913: 78; Burke, 1917: 88 (paras.); Garnett, 1918: 251 (distr.).

*Brachyleptura laetifica*; Casey, 1913: 251; Hardy, 1926b: 29, pl. 4, fig. 12; Keen, 1929: 69; Beaulne, 1932: 199 (hosts).

*Strangalia (Anastrangalia) laetifica*; Casey, 1924: 280.

*Anoplodera laetifica*; Swaine & Hopping, 1928: 58, pl. 8, figs 85, 86, pl. 12, fig. 18; Canova, 1936: 128 (distr.); Doane *et al.*, 1936: 175 (hosts); Hardy, 1948: 32; Schoening & Tilden, 1959: 167; Tyson, 1966: 202 (hosts); Hatch, 1971: 133, pl. 15, fig. 1.

*Anastrangalia laetifica*; Linsley & Chemsak, 1976: 146; Hovore, 1988: 28 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Noguera & Chemsak, 1996: 403 (distr.); Linsley & Chemsak, 1997: 340 (hosts); Monné, M.A., 2002: 37 (cat. hosts); Chemsak, 2005: 389, pl. XXV, figs 7, 8; Monné, M.A., 2006: 115 (cat.); Monné, M.A. & Hovore, 2006: 159 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 133, pl. 29

*Leptura lugens* LeConte, 1859b: 89.

**Type locality** - Holotype male: United States, Washington: Shoalwater Bay. (MCZN).

### 3. *Anastrangalia sanguinea* (LeConte, 1859)

**Type locality** - Holotype: United States, Washington Territory. (MCZN). **Distribution** - British Columbia to New Brunswick, Western United States to California, Arizona and New Mexico. **Host plants** - *Abies* sp., *Picea* sp., *Pinus ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga* sp., *Tsuga* sp. (Pinaceae).

- Leptura sanguinea* LeConte, 1859a: 291; 1859b: 89; 1869: 371 (distr.); 1873a: 220; Snow, 1877a: 18 (distr.); 1878: 76 (distr.); Gardiner, 1879: 213 (distr.); LeConte, 1879: 505 (distr.); Snow, 1883: 42 (distr.); Leng, 1890: 189, 190, 197; Evans, 1895b: 173 (distr.); Wickham, 1897b: 191; 1897c: 158 (distr.); 1899a: 7 (distr.); 1899b: 199 (distr.); Fall, 1901: 150 (distr.); Fall & Cockerell, 1907: 193 (distr.); Garnett, 1918: 251 (distr.); Craighead, 1923: 91, 95 (larva).
- Brachyleptura sanguinea*; Casey, 1912: 252; Leng, 1920: 273 (cat.); Munding, 1924: 317; Kirk & Knull, 1926: 24 (distr.); Fall, 1926: 202 (distr.); Hardy, 1927: C35; Leonard, 1928: 440 (distr.); Beaulne, 1932: 199 (hosts); Kirk & Balsbaugh, 1975: 97 (distr.).
- Leptura (Leptura) sanguinea*; Aurivillius, 1912: 224 (cat.); Boppe, 1921: 91.
- Strangalia (Anastrangalia) sanguinea*; Casey, 1924: 280.
- Anastrangalia sanguinea*; Chemsak, 1964: 231; Gosling & Gosling, 1976: 15, fig. 107 (biol., distr.); Linsley & Chemsak, 1976: 145, fig. 38; Hansen & Osgood, 1983: 149 (biol.); Gosling, 1984: 79 (biol.); 1986: 155 (hosts); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 104 (cat.); Yanega, 1996: 29, pl. 7, fig. 78; Linsley & Chemsak, 1997: 340 (hosts); Heffern 1998: 10 (distr.); Vlasák & Vlasakova, 2002: 205 (distr.); Chemsak, 2005: 387, pl. 25, fig. 6; Monné, M.A. & Hovore, 2006: 159 (checklist); MacRae & Rice, 2007: 245 (biol., distr.); Webster, 2016: 485; Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 133, pl. 29
- Brachyleptura boulderensis* Casey, 1912: 252; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 31, fig. 31i (holotype).
- Strangalia (Anastrangalia) boulderensis*. Casey, 1924: 280.
- Type locality** - Holotype female: United States, Colorado: Boulder County. (USNM).
- Strangalia apicata*; Criddle, 1925: 98.
- Type locality** - Lectotype male: United States, Colorado. (USNM).

### *Anoplodera (Anoploderomorpha) Pic 1901*

- Leptura (Anoploderomorpha) Pic*, 1901a: 59; Matsushita, 1933: 197
- Anoploderomorpha* Gressitt, 1939: 90; Nakane & Ohbayashi, 1957: 50; Chiang & Chen, 2001: 148
- Anoplodera (Anoploderomorpha)*; Monné, M.A. & Hovore, 2006: 159 (checklist); Danilevsky, 2014: 158
- Type-species** - *Leptura excavata* Bates, 1884 (subsequent designation, Nakane & Ohbayashi, 1957: A 244 (50)).

#### 1. *Anoplodera (Anoploderomorpha) pubera* (Say, 1827)

- Syntypes locality** - Syntypes: United States, (Depository unknown). **Distribution** - The range of this species extends from Cape Breton Island to east-central Saskatchewan, south to eastern Kansas and northern Georgia, North Carolina and Nebraska. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Juglans nigra* Linnaeus (Juglandaceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Pinus contorta* Douglas ex Loudon (Pinaceae), *Ulmus* sp. (Ulmaceae).
- Leptura pubera* Say, 1827: 279; Haldeman, 1847a: 65; LeConte, 1850a: 236; 1850b: 337; 1859c: 336; Bland, 1861: 101 (distr.); LeConte, 1873a: 221; Provancher, 1877a: 616; Leng, 1990: 191, 199; Harrington, 1890: 185 (distr.); Slossom, 1894: 3 (distr.); Hamilton, 1895: 338 (distr.); Wickham, 1897b: 192; 1897v: 159 (distr.); Smith, 1900: 292 (distr.); Knaus, 1901: 112 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 36 (distr.); Wickham, 1909a: 29 (distr.); Morris, 1909b: 414; Smith, 1910: 331; Blatchley, 1910: 1059; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Chagnon, 1917: 235 (distr.); Nicolay, 1917a: 95 (distr.); Blackman, 1918: 125 (biol.); Morris, 1919: 50; Cloudman, 1925: 33.
- Strangalepta pubera*; Casey, 1913: 257; Britton, 1920: 268 (distr.); Leng, 1920: 273 (cat.); Hatch, 1925: 579 (distr.); Kirk & Knull, 1926: 75 (distr.); Fletcher, 1926: 143 (distr.); Engelhardt, 1927: 72 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 440 (distr.); Park, 1931: 193; Beaulne, 1932: 200 (hosts); Brimley, 1938: 213 (distr.); Procter, 1946: 179 (distr.); Papp, 1955: 217 (distr.); Gosling & Gosling, 1976: 15, fig. 105 (biol., distr.); Linsley & Chemsak, 1976: 138; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984a:

73 (hosts); 1984b: 80 (biol.); 1986: 158 (hosts); Chemsak, Linsley & Noguera, 1992: 102 (cat.); MacRae, 1993: 241 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 102 (cat.); Krinsky & Godwin, 1996: 238; Yanega, 1996: 38, pl. 4, fig. 44; Linsley & Chemsak, 1997: 438 (hosts); Vlasák & Vlasakova, 2002: 207 (distr.); Chemsak, 2005: 378, pl. 25, fig. 2.

*Leptura (Leptura) pubera*; Boppe, 1921: 91.

*Anoplodera pubera*; Swaine & Hopping, 1928: 65, pl. 10, fig. 102; Mank, 1934: 80 (distr.); Chagnon, 1936: 249; Hoffmann, 1940: 59 (biol.); Knull, 1946: 170; Dillon & Dillon, 1961: 617, pl. 60, No. 13; Chagnon & Robert, 1962: 249; Bayer & Shenefelt, 1969: 8, fig. 18; Gardiner, 1970: 285 (biol.); Wilson, 1971: 61 (biol.); Perry, 1975: 59 (hosts); Laliberté, Chantal & LaRoche, 1977: 90 (biol.); Guarnieri, 2009: 14 (distr.); Webster, McCorquodale & Majka, 2009: 292 (biol., distr.); Bousquet, Laplante, Hammond & Langor, 2017: 131, pl. 28

*Brachyleptura pubera*; Kirk & Balsbaugh, 1975: 97 (distr.).

*Anoplodera (Anoploderomorpha) pubera*; Monné, M.A. & Hovore, 2006: 159 (cat.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295.

### **Bellamira LeConte 1873**

*Bellamira* LeConte, 1873b: 328; LeConte & Horn, 1883: 313; Leng, 1890: 156; Wickham, 1897b: 88; 1897c: 187; Blatchley, 1910: 1046; Casey, 1913: 248, 272; Boppe, 1921: 102; Swaine & Hopping, 1928: 10, 15; Bradley, 1930: 237; Chagnon, 1936: 243, 251; Hopping, 1937: 21; Knull, 1946: 152, 182; Chagnon & Robert, 1962: 243, 251; Arnett, 1962: 858, 878; Chemsak, 1964: 231; Bayer & Shenefelt, 1969: 6; Linsley & Chemsak, 1976: 23; Monné, M.A., 1995: 70; N. Ohbayashi, Kurihara & Niisato, 2005: 293; Chemsak, 2005: 35, 214; Monné, M.A. & Hovore, 2006: 159 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 118

**Type-species** - *Leptura scalaris* Say, 1827 (original designation).

#### **1. *Bellamira scalaris* (Say, 1826)**

**Type locality** – Holotype: United States, New Jersey: Point Breeze. (Depository unknown).

**Distribution** - Northeast North America to Florida and South Dakota. In Canada ranges from the Nova Scotia peninsula to the Fort McMurray area in northeastern Alberta. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Betula alleghaniensis* Britton, *B. lenta* Linnaeus, *B. nigra* Linnaeus (Betulaceae), *Chamaecyparis obtusa* (Siebold & Zuccarini) Endlicher (Cupressaceae), *Fagus ferruginea* Aiton, *Quercus* sp. (Fagaceae), *Carya* sp. (Juglandaceae), *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Tilia americana* Linnaeus (Malvaceae), *Picea glehnii* Masters, *P. jezoensis* Carrière, *P. polita* Carrière, *Pinus contorta* Douglas ex Loudon, *P. densiflora* Siebold & Zuccarini, *P. thunbergii* Parlato, *Tsuga sieboldii* Carrière (Pinaceae), *Populus* sp., *Salix* sp. (Salicaceae), *Cryptomeria japonica* D. Don (Taxodiaceae).

*Leptura scalaris* Say, 1827: 278; Haldeman, 1847a: 65; LeConte, 1859c: 335; Horn, 1868: 124 (distr.).

*Strangalia scalaris*; LeConte, 1850a: 327.

*Bellamira scalaris*; LeConte, 1873b: 328; Schaupp, 1878: 20 (distr.); 1880: 84 (biol.); Packard, 1881: 129; LeConte & Horn, 1883: 213; Townsend, 1885: 70 (distr.); Dimmock, 1885: 283 (hosts); Harrington, 1887: 30; Leng, 1890: 156; Packard, 1890: 387, 486 (biol.); Hamilton, 1895: 338 (distr.); Slosson, 1895a: 6 (distr.); Evans, 1895b: 173 (distr.); Beutenmuller, 1896: 77 (hosts); Wickham, 1897b: 187; 1897c: 157 (distr.); Smith, 1900: 292; Klages, 1901: 273 (distr.); Ouellet, 1902: 122 (distr.); Dury, 1902: 161 (distr.); Laurent, 1903: 339 (distr.); Felt, 1906: 467; Davis, 1908: 53; Adams, 1909: 200 (distr.); Leng, 1910: 77 (distr.); Smith, 1910: 331; Blatchley, 1910: 1051, fig. 444; Fisher & Kirk, 1912: 313 (distr.); Casey, 1913: 248, 272; Morris, 1916b: 297; Chagnon, 1917: 234 (distr.); Blackman, 1918: 130 (biol.); Boppe, 1921: 102, pl. 8, fig. 7; Champlain, 1922: 98 (paras.); Craighead, 1923: 90, pl. 1, fig. 5, pl. 17, fig. 4, pl. 22, figs 5, 7, pl. 31, fig. 6 (larva); Munding, 1924: 319 (distr.); Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 112 (distr.); Leonard, 1928: 442 (distr.); Beaulne, 1932: 200 (hosts); Chagnon, 1936: 251, pl. 16, fig. 8; Sherman, 1936: 127 (distr.); Hopping, 1937: 21, pl. 6; Daviault, 1937: 118; Brimley, 1938: 213 (distr.); Townes, 1944: 773 (paras.); Loding,

1945: 117 (distr.); Knull, 1946: 182, pl. 6, fig. 23; Procter, 1946: 179 (biol.); Alexander, 1958: 45 (distr.); Townes & Townes, 1960: 573 (paras.); Chagnon & Robert, 1962: 251, pl. 16, fig. 8; Gardiner, 1966: 202, 207, figs 8, 43; Bayer & Shenefelt, 1960: 10, fig. 20; Gardiner, 1970: 287 (biol.); Wilson, 1971: 62 (biol.); Perry, 1975: 59 (hosts); Stein & Tigestad, 1976: 6, fig. 2; Linsley & Chemsak, 1976: 23, figs 8, 9; Gosling & Gosling, 1976: 7, fig. 83 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 91 (biol.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1986: 155 (hosts); Chemsak, Linsley & Noguera, 1992: 90 (cat.); MacRae, 1993: 239 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 70 (cat.); Yanega, 1996: 30, pl. 5, figs 60a-c; Linsley & Chemsak, 1997: 350 (hosts); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Sikes & Webster, 2005: 320 (distr.); Chemsak, 2005: 214, pl. 16, figs 2, 3; Rice & Veal, 2006: 258 (distr., hosts); Monné, M.A. & Hovore, 2006: 159 (checklist); Sama, 2007: 102, figs 1, 3; Majka, McCorquodale & Smith, 2007: 259 (distr.); Lingafelter, 2007: 32, 139, 2 figs, pl. 8c (hosts); Ohbayashi, 2008: 409; Guarnieri, 2009: 14 (distr.); Holt, 2013: 243 (biol., distr.); Steury & MacRae, 2014: 9 (distr.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295; Bousquet, Laplante, Hammond & Langor, 2017: 118, pl. 22

*Strangalia (Bellamira) scalaris*; Aurivillius, 1912: 244 (cat.); Saalas, 1936: 80 (morphol.).

*Toxotus coarctatus* Haldeman, 1847a: 59.

*Strangalia coarctata*; LeConte, 1850a: 327.

**Type locality** – Holotype: United States, Pennsylvania. (MCZN).

### ***Brachyleptura* Casey 1913**

*Brachyleptura* Casey, 1913: 247, 251; Chemsak, 1964: 231; Linsley & Chemsak, 1976: 67; Monné, M.A., 1995: 109; Chemsak, 2005: 40, 414-417; Monné, M.A. & Hovore, 2006: 159 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 136

**Type-species** - *Leptura vagans* Olivier, 1795 (original designation).

#### **1. *Brachyleptura brevis* (Kirby, 1837)**

**Type locality** - Holotype: Canada. (BMNH) **Distribution** - From Nova Scotia and Prince Edward Island to Minnesota, south to Florida. **Host plants** - *Pinus contorta* Douglas ex Loudon, *P. resinosa* Aiton, *P. rigida* Miller, *Tsuga* sp. (Pinaceae).

*Leptura brevis* Kirby in Richardson, 1837: 182; Haldeman, 1847a: 65; Bethune, 1872: 114.

*Leptura vagans* var. *brevis*; Hamilton, 1893a:274 (distr.); 1893b: 326 (distr.)

*Leptura (Leptura) vagans* ab. *brevis*; Boppe, 1921: 91

*Brachyleptura brevis*; Bousquet, Laplante, Hammond & Langor, 2017: 136, pl. 30 (syn.)

*Brachyleptura champlaini* Casey, 1913: 254; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 170; Frost, 1979: 345 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 79 (biol.); 1985: 167 (hosts); 1986: 155 (hosts); Glaser, 1992: 153 (distr.); Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 110 (cat.); Yanega, 1996: 30, pl. 6 figs 70a, b; Krinsky & Godwin, 1996: 238; Linsley & Chemsak, 1997: 350 (hosts); Peck & Thomas, 1998: 120 (distr.); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Chemsak, 2005: 416, pl. 27, fig. 2; Monné, M.A. & Hovore, 2006: 157 (checklist); Lingafelter, 2007: 24, 25, 139, 2 figs, pl. 5g (hosts); Majka, McCorquodale & Smith, 2007: 259 (distr.); Webster, McCorquodale & Majka, 2009: 293 (biol., distr.); Holt, 2013: 243 (biol., distr.); Lingafelter *et al.*, 2014: 39, fig. 41e (holotype); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.)

**Type locality** - Holotype female: United States, Pennsylvania: Carlisle Junction. (USNM).

*Anoplodera vagans*; Swaine & Hopping, 1928: 63; Knull, 1946: 169; Dillon & Dillon, 1961: 616, pl. 61, No. 5 (not Olivier, 1795).

*Brachyleptura vagans*; Gosling & Gosling, 1976: 14 (not Olivier, 1795).

#### **2. *Brachyleptura circumdata* (Olivier, 1795)**

**Type locality** - Holotype female: Amérique Septentrionale. (MNHN). **Distribution** - The range of this species extends from New Brunswick to Minnesota, south to northeastern Texas

- and northern Georgia and North Carolina. **Host plants** - *Heracleum lanatum* Michaux (Apiaceae), *Betula* sp. (Betulaceae), *Picea* sp. (Pinaceae).
- Leptura circumdata* Olivier, 1795: 32, pl. 4, fig. 98; Schoenherr, 1817: 477; Haldeman, 1847a: 65; LeConte, 1850a: 337; 1873: 219; Provancher, 1877a: 615; Horn, 1886a: 139; Leng, 1890: 189, 197; Hamilton, 1895: 338 (distr.); Smith, 1900: 292 (distr.); Ulke, 1903: 26, 50 (distr.); Wickham, 1909a: 29 (distr.); Smith, 1910: 331 (distr.); Lovell, 1915: 114; Blackman, 1918: 130 (biol.); Nicolay, 1919: 69 (distr.).
- Brachyleptura circumdata*; Casey, 1913: 251; Leng, 1920: 273 (cat.); Mundinger, 1924: 317; Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 439 (distr.); Beaulne, 1932: 199 (hosts); Loding, 1933: 148 (distr.); Gosling & Gosling, 1976: 14 (distr.); Linsley & Chemsak, 1976: 174; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 110 (cat.); Yanega, 1996: 30, pl. 6, fig. 31; Krinsky & Godwin, 1996: 238; Linsley & Chemsak, 1997: 350 (hosts); Heffern, 1998: 10 (distr.); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Chemsak, 2005: 417, 426, pl. 27, fig. 7; Monné, M.A. & Hovore, 2006: 159 (checklist); Rice & Veal, 2006: 258 (distr., hosts); Lingafelter, 2007: 24, 140, 2 figs, pl. 5f (hosts); Guarnieri, 2009: 14 (distr.); Webster, McCorquodale & Majka, 2009: 293 (biol., distr.); Holt, 2013: 243 (biol., distr.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 137
- Leptura (Leptura) circumdata*; Boppe, 1921: 91.
- Strangalia (Anastrangalia) circumdata*; Casey, 1924: 280.
- Anoplodera circumdata*; Swaine & Hopping, 1928: 64, pl. 10, fig. 99; Knull, 1946: 169; Chagnon & Robert, 1962: 250; Bayer & Shenefeldt, 1969: 8, fig. 17; Wilson, 1971: 61 (biol.).
- Brachyleptura subquadrata* Casey, 1913: 251; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 328, fig. 165 i (holotype).
- Strangalia (Anastrangalia) subquadrata*; Casey, 1924: 280.
- Type locality** - Holotype female: United States, Colorado. (USNM).

### 3. *Brachyleptura dehiscens* (LeConte, 1859)

- Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - In British Columbia, it is found from Vancouver Island to the Shuswap Lake area, north to the Skeena River to northern Sierra Nevada of California. **Host plants** - *Pinus ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).
- Leptura dehiscens* LeConte, 1859a: 291; 1859b: 89; 1869: 371 (distr.); 1873a: 219; Leng, 1890: 189, 197; Fall, 1901: 150 (distr.); Morris, 1916b: 300; Garnett, 1918: 251 (distr., hosts); Hopping, 1928: 7.
- Brachyleptura dehiscens*; Casey, 1913: 253; Knaus, 1914: 91; Leng, 1920: 272 (cat.); Casey, 1924: 280; Hardy, 1926b: 28, pl. 4, fig. 11; Keen, 1929: 69; Linsley & Chemsak, 1976: 171; Cope, 1984: 28 (hosts); Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 110 (cat.); Linsley & Chemsak, 1997: 350 (hosts); Chemsak, 2005: 417, 420, pl. 17, fig. 3; Monné, M.A. & Hovore, 2006: 159 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 137, pl. 30
- Leptura (Leptura) dehiscens*; Boppe, 1921: 91.
- Anoplodera dehiscens*; Swaine & Hopping, 1928: 63, pl. 10, fig. 97; Canova, 1936: 128 (distr., hosts); Hardy, 1942: 10; 1944: 16 (distr.); Hatch, 1971: 135, pl. 15, fig. 3; Penrose & Westcott, 1974: 72 (biol.).

### 4. *Brachyleptura rubrica* (Say 1824)

- Syntypes localities** - Syntypes: United States, Missouri, Pennsylvania. (Depository unknown). **Distribution** - Eastern North America eastern Nebraska, south to southern Mississippi and central Florida. In Canada, it occurs from the Nova Scotia peninsula to southern Ontario. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Betula* sp., *Ostrya virginiana* (Miller) K. Koch (Betulaceae), *Carpinus caroliniana* Walter ssp. *virginiana* (Marshall) J.J. Furlow (Corylaceae), *Castanea* sp., *Fagus ferruginea* Aiton, *Quercus montana* Willd. (Fagaceae), *Carya* sp. (Juglandaceae), *Liriodendron tulipifera* Linnaeus



- (Magnoliaceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Platanus occidentalis* Linnaeus (Platanaceae), *Prunus* sp. (Rosaceae).
- Leptura rubrica* Say, 1824: 418; LeConte, 1850a: 336; Emmons, 1854: 127, pl. 8, fig. 10; LeConte, 1859d: 49 (distr.); 1859c: 197; Bland, 1861: 101 (distr.); Horn, 1868: 124 (distr.); LeConte, 1873a: 219; Provancher, 1877a: 615; Horn, 1889: 199 (syn.); Leng, 1890: 189, 197; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 191 (distr.); 1897c: 158; Smith, 1900: 292; Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Wickham, 1909a: 29 (distr.); Smith, 1910: 331; Blatchley, 1910: 1057; Banks, 1912: 106; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Johnson, 1915: 315 (distr.); Chagnon, 1917: 235 (distr.); Blackman, 1918: 127 (biol.); Wenzel & Wenzel, 1918: 360; Nicolay, 1919: 69 (distr.); Cushman & Rohwer, 1921: 520 (paras.); Craighead, 1923: 92, 97, pl. 17, fig. 1, pl. 22, fig. 4 (larva); Cloudman, 1925: 33; Engelhardt, 1928: 252 (distr.); Goldman, 1933: 92; Moennich, 1934: 98.
- Brachyleptura rubrica*; Casey, 1913: 251; Britton, 1920: 268 (distr.); 1927, 1924: 16, 29, 111; Munding, 1924: 317; Kirk & Knull, 1926: 24 (distr.); Fletcher, 1926: 143 (distr.); Brues, 1927: 76 (hosts); Procter, 1927: 111 (distr.); Leonard, 1928: 439 (distr.); Ware, 1929: 368 (distr.); Frost & Dietrich, 1929: 436; Park, 1931: 193; Beaulne, 1932: 199 (hosts); Loding, 1933: 148 (distr.); Brimley, 1938: 212 (distr.); Loding, 1945: 116; Gosling & Gosling, 1976: 14 (biol., distr.); Linsley & Chemsak, 1976: 169; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 80 (biol.); 1986: 155 (hosts); Chemsak, Linsley & Noguera, 1992: 91 (cat.); MacRae, 1993: 241 (distr.); Shimomura, 1994: 164 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 110 (cat.); Krinsky & Godwin, 1996: 238; Yanega, 1996: 31, pl. 6, fig. 68; Linsley & Chemsak, 1997: 350 (hosts); Heffern, 1998: 24; Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Chemsak, 2005: 416, pl. 17, fig. 1; Monné, M.A. & Hovore, 2006: 159 (checklist); MacRae & Rice, 2007: 246 (distr., hosts); Lingafelter, 2007: 23, 140, 2 figs, pl. 5e (hosts); Guarnieri, 2009: 14 (distr.); McDowell, 2011: 412 (biol.); Holt, 2013: 243 (biol., distr.); Steury & MacRae, 2014: 9 (distr.); Vlasák, 2014: 317 (hosts); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 137, pl. 30.
- Strangalia (Anastrangalia) rubrica*; Casey, 1924: 280.
- Anoplodera rubrica*; Swaine & Hopping, 1928: 63, pl. 10, fig. 96; Knull, 1932: 63; Chagnon, 1936: 249; Knull, 1946: 168; Procter, 1946: 178; Dillon & Dillon, 1961: 616, pl. 51, No. 2; Chagnon & Robert, 1962: 249; Bayer & Shenefelt, 1969: 8, fig. 19; Kirk, 1970: 77; Wilson, 1971: 61; Laliberté, Chantal & LaRochelle, 1977: 90 (biol.).
- Leptura erythroptera* Germar, 1823: 522 (not Hagenbach, 1822).
- Type locality** - Holotype: America Septentrionali (Depository unknown).

##### 5. *Brachyleptura vagans* (Olivier, 1795)

- Type locality** - Holotype female: Amérique Septentrionale. (MNHN). **Distribution** - Eastern North America to Wisconsin and Florida. **Host plants** - *Betula* sp. (Betulaceae), *Carya* sp., *Juglans nigra* Linnaeus (Juglandaceae), *Pinus* sp., *Tsuga* sp. (Pinaceae).
- Leptura vagans* Olivier, 1795: 31, pl. 4, fig. 46; Haldeman, 1847a: 64; LeConte, 1850a: 337; Bland, 1861: 101; LeConte, 1873a: 219; Horn, 1876: 170 (syn.); Provancher, 1877a: 615, 620; Schaupp, 1880: 84 (biol.); Horn, 1886a: 139; Leng, 1890: 189, 197; Packard, 1890: 486; Chittenden, 1894: 98 (hosts); Hamilton, 1895: 338 (distr.); Beutenmuller, 1896: 77 (hosts); Wickham, 1897b: 191; 1897c: 158 (distr.); Harrington, 1899: 108 (distr.); Smith, 1900: 292 (distr.); Ulke, 1903: 26, 50 (distr.); Felt, 1906: 427, 440, fig. 97; Morris, 1909b: 417; Davis, 1909: 96 (distr.); Leng, 1910: 77 (distr.); Blatchley, 1910: 1058; Smith, 1910: 331; Fisher & Kirk, 1912: 313 (distr.); Banks, 1912: 306; Lovell, 1915: 115; Notman, 1916: 166 (distr.); Chagnon, 1917: 235 (distr.); Blackman, 1918: 127; 1932; Britton, 1920: 268 (distr.); Cushman & Rohwer, 1921: 520 (paras.); Craighead, 1923: 92, 97 (larva); Cloudman, 1925: 26, 33; Engelhardt, 1928: 252 (distr.).
- Pachyta vagans*; Haldeman, 1847a: 374.
- Brachyleptura vagans*; Casey, 1913: 247, 253; Leng, 1920: 272 (cat.); Casey, 1924: 280; Kirk & Knull, 1926: 24 (distr.); Procter, 1927: 11 (distr.); Leonard, 1928: 439 (distr.); Beaulne, 1932:

- 199 (hosts); Barrett, 1932: 289 (hosts); Loding, 1933: 148 (distr.); Wolcott & Montgomery, 1933: 155 (distr.); Brimley, 1938: 212 (distr.); Loding, 1945: 116 (distr.); Gibson & Carrillo, 1959: 119 (distr.); Linsley & Chemsak, 1976: 173; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 81 (cat.); MacRae, 1993: 241 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 111 (cat.); Yanega, 1996: 31, pl. 6, figs 69a,b; Linsley & Chemsak, 1997: 350 (hosts); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Chemsak, 2005: 417, 425, pl. 27, fig. 6; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 24, 25, 140, 2 figs, pl. 5h (hosts); Guarnieri, 2010: 20 (distr.); Holt, 2013: 244 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.)
- Anoplodera vagans*; Swaine & Hopping, 1928: 63, pl. 10, fig. 98; Chagnon, 1936: 250, pl. 16, fig. 6; Knull, 1946: 169; Procter, 1946: 178; Dillon & Dillon, 1961: 616, pl. 51, No. 4; Chagnon & Robert, 1962: 250, pl. 16, fig. 6; Bayer & Shenefelt, 1969: 8, fig. 19; Gardiner, 1970: 286 (biol.); Kirk, 1970: 77; Wilson, 1971: 61 (biol.); Baker, 1972: 197; Perry, 1975: 59 (hosts); Laliberté, Chantal & LaRoche, 1977: 90 (biol.).
- Brachyleptura cuneatula* Casey, 1913: 253; Leng, 1920: 272 (cat.); Lingafelter *et al.*, 2014: 49, fig. 51s (lectotype).
- Type locality** - Lectotype: United States, Wisconsin: Bayfield. (USNM).
- Brachyleptura fusella* Casey, 1913: 254; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 68, fig. 73o (lectotype).
- Type locality** - Lectotype male: United States, (USNM).
- Brachyleptura puella* Casey, 1913: 254; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 304, fig. 137s (lectotype).
- Type locality** - Lectotype male: United States. (USNM).
- Brachyleptura puella tetrica* Casey, 1913: 255; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 304, fig. 137u (holotype).
- Type locality** - Holotype male: United States. (USNM).

### ***Charisalia* Casey 1913**

- Charisalia* Casey, 1913: 247, 256; Swaine & Hopping, 1928: 10,37; Bradley, 1930: 237; Knull, 1946: 152, 163; Chemsak, 1964: 232; Linsley & Chemsak, 1976: 27; Monné, M.A., 1995: 71; Chemsak, 2005: 35, 218; Monné, M.A. & Hovore, 2006: 161 (checklist);
- Type-species** - *Stenura americana* Haldeman, 1847 (original designation).

#### **1. *Charisalia americana* (Haldeman, 1847)**

- Type locality** - Holotype: United States, Pennsylvania. (MCZN). **Distribution** - This species ranges from Maine to Wisconsin and Nebraska, south to Oklahoma and northern Florida. In Canada, it is known from the Lake Ontario region and from Saint Joseph Island, Sault Ste. Marie. **Host plants** - *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Nyssa sylvatica* Marshall (Nyssaceae).
- Stenura americana* Haldeman, 1847a: 63.
- Strangalia americana*; LeConte, 1850a: 331.
- Leptura americana*; Gemminger in Gemminger & Harold, 1872: 2864 (cat.); LeConte, 1873a: 217; Leng, 1890: 188, 194; Wickham 1897c: 158 (distr.); Smith, 1900: 292 (distr.); Dury, 1902: 161 (distr.); Wickham, 1909a: 29 (distr.); Blatchley, 1910: 1056; Smith, 1910: 331; Craighead, 1923: 91, 96, pl. 14, fig. 7.
- Charisalia americana*; Casey, 1913: 247, 256; Leng, 1920: 273 (cat.); Kirk & Knull, 1926: 25 (distr.); Swaine & Hopping, 1928: 37, pl. 12, fig. 9; Leonard, 1928: 440 (distr.); Ware, 1929: 368 (distr.); Knull, 1930: 85 (hosts); Beaulne, 1932: 199 (hosts); Cooper, 1935: 152 (distr.); Knull, 1946: 163, pl. 8, fig. 29; Linsley & Chemsak, 1976: 28; Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 80 (biol.); 1986: 155 (distr.); Glaser, 1992: 154 (distr.); Chemsak, Linsley & Noguera, 1992: 92 (cat.); MacRae, 1993: 239 (distr.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 71 (cat.); Yanega, 1996: 32, pl. 5, figs 53a, b; Linsley & Chemsak, 1997: 354 (hosts); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 121 (distr.); Sykes & Webster, 2005: 320 (distr.); Chemsak, 2005: 218, pl. 16, fig. 5;

Monné, M.A. & Hovore, 2006: 161 (checklist); Rice & Veal, 2006: 258 (distr.); MacRae & Rice, 2007: 246 (distr.); Lingafelter, 2007: 34, 140, 2 figs, pl. 8h (hosts); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 118, pl. 23  
*Strangalia (Strangalia) americana*; Aurivillius, 1912: 242 (cat.); Boppe, 1921: 100.  
*Strangalia (Charisalia) americana*; Saalas, 1936: 80 (morphol.).

### ***Choriolaus* Bates, 1885**

*Choriolaus* Bates, 1885: 283; Boppe, 1921: 107; Chemsak, 1964: 232; Linsley & Chemsak, 1971: 6; Chemsak & Linsley, 1976a: 38 (key spp.); Linsley & Chemsak, 1976: 33; Chemsak, 2005: 225 (rev.); Monné, M.A., 2006: 117 (cat.); Monné, M. A., 2012: 121; Monné, M.A. & Hovore, 2006: 161 (checklist);

**Type-species** - *Choriolaus latescens* Bates, 1885 (subsequent designation, Chemsak, 1964: 232).

*Euryptera (partim)*; LeConte, 1873b: 328; LeConte & Horn, 1883: 313; Boppe, 1921: 106; Casey, 1924: 285; Hopping, 1937: 26; Knull, 1946: 184.

#### **1. *Choriolaus sabinoensis* (Knull, 1954)**

**Type locality** - Holotype female: United States, Arizona: Santa Catalina Mountains, Sabino Canyon. (FMNH). **Distribution** - Arizona (Santa Catalina, Baboquivari, Peloncillos and Pajarito Mts.). **Host plants** - *Quercus* sp. (Fagaceae).

*Euryptera sabinoensis* Knull, 1954: 129; Linsley, 1961b: 138 (type); Chemsak, 1977: 175 (type).

*Megachoriolaus sabinoensis*; Linsley, 1970: 129; Chemsak & Linsley, 1974: 35.

*Choriolaus sabinoensis*; Chemsak & Linsley, 1976: 39; Chemsak, Linsley & Noguera, 1992: 93. (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 51 (cat.); Chemsak, 2005: 159, pl. 16, fig. 10; Monné, M.A. & Hovore, 2006: 161 (checklist);

### ***Cyphonotida* Casey, 1913**

*Cyphonotida* Casey, 1913: 247, 260; Swaine & Hopping, 1928: 10, 15; Chemsak, 1964: 232; Linsley & Chemsak, 1976: 133; Chemsak, 2005: 374 (rev.); Monné, M.A., 2006: 120 (cat.); Monné, M.L. & Monné, M.A., 2008: 39; Monné, M.A., 2012: 121; Monné, M.A. & Hovore, 2006: 162 (checklist);

**Type-species** - *Ophistomis ventralis* Horn, 1894 (original designation).

#### **1a. *Cyphonotida rostrata rostrata* (Bates, 1872)**

**Type locality** - Lectotype male: Colombia. (MNHN). **Distribution** - United States (Texas), Mexico (Baja California, Jalisco, Guerrero, Oaxaca, Sinaloa, Veracruz), Guatemala, El Salvador, Nicaragua, Colombia, Guiana, Ecuador, Brazil (Rondônia), Bolivia (Chuquisaca, Tarija). **Host flowers** - *Croton* sp. (Euphorbiaceae), *Coccoloba* sp. (Polygonaceae), *Bumelia celastrina* Kunth (Sapotaceae).

*Ophistomis rostratus* Bates, 1872: 183; Chemsak, 1967c: 82 (lect.).

*Cyphonotida rostrata*; Linsley & Chemsak, 1971: 24; Giesbert & Hovore, 1998: 18.

*Cyphonotida rostrata rostrata*; Giesbert & Hovore, 1998: 19 (syn.); Turnbow, Cave & Thomas, 2003: 19 (distr.); Chemsak, 2005: 374; Monné, M.A., 2006: 120 (cat.); Hovore, 2006: 374 (distr.); Monné, M.A. & Hovore, 2006: 162 (checklist); Noguera *et al.*, 2007: 312 (distr.); Monné, M. L. & Monné, M.A., 2008: 39, fig. 1 (distr.); Swift *et al.*, 2010: 33 (distr.); Maes *et al.*, 2010b: 7, 8 figs (distr.); Perger & Guerra, 2013: 214 (distr.); Gutiérrez & Noguera, 2015: 137 (distr.); Noguera *et al.*, 2017: 3 (distr.); Lingafelter, Wappes & Ledezma Arias, 2017: 12, 1 fig. (distr.); Audureau & Roguet, 2018: 89 (distr.).

*Ophistomis laevicollis* Bates, 1880: 39; Lameere, 1883: 26 (cat.); Bates, 1885: 279 (distr.).

*Cyphonotida laevicollis*; Linsley & Chemsak, 1976: 134; Chemsak, Linsley & Mankins, 1980: 34 (distr.); Chemsak, Linsley & Noguera, 1992: 94; Monné, M.A., & Giesbert, 1994: 163 (checklist); Chemsak & Noguera, 1995: 64 (distr.).

*Cyphonotida laevicollis laevicollis*; Linsley & Chemsak, 1976: 136; Hovore, Penrose & Neck, 1987: 309 (distr.); Maes *et al.*, 1994: 26 (distr.); Noguera & Chemsak, 1996: 403 (distr.); Maes, 1998: 909 (distr.).

**Type locality** - Holotype female: Guatemala, Sacatepéquez: Capetillo. (BMNH).

**1b. *Cyphonotida rostrata borealis* Linsley & Chemsak, 1976**

**Type locality** - Holotype male: United States, Arizona: Santa Rita Mts., Madera Canyon. (CASC). **Distribution** - United States (Arizona, New Mexico), Mexico (Chihuahua, Nuevo León). **Host flowers** - *Baccharis* sp., *Brickellia* sp., *Guardiola* sp. (Asteraceae), *Petalostemon candidus* Michaux (Fabaceae), *Bumelia* sp. (Sapotaceae).

*Cyphonotida laevicollis borealis* Linsley & Chemsak, 1976: 135, fig. 35; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Noguera & Chemsak, 1996: 403 (cat.).

*Ophistomis laevicollis*; Casey, 1891: 4 (not Bates, 1880); Hamilton *in* Leng & Hamilton, 1896: 175 (not Bates, 1880); Hopping, 1937: 21, pl. 3 (not Bates, 1880); Vogt, 1949: 143 (distr., not Bates, 1880); Linsley, Knull & Statham, 1961: 25 (distr., not Bates, 1880); Toledo *et al.*, 2002: 529 (distr., not Bates, 1880).

*Cyphonotida ventralis*; Casey, 1913: 260 (not Horn, 1894).

*Ophistomis laevicollis* var. *ventralis*; Leech & Green, 1955: 28 (biol.).

*Cyphonotida rostrata borealis*; Monné, M.A., & Giesbert, 1994: 163 (checklist); Giesbert & Hovore, 1998: 19; Chemsak, 2005: 376, pl. 24, fig. 12; Monné, M.A., 2006: 120 (cat.); Monné, M.A. & Hovore, 2006: 162 (checklist);

**1c. *Cyphonotida rostrata texana* Giesbert & Hovore, 1998**

**Type locality** - Holotype male: United States, Texas: Cameron County, Brownsville-Southmost, Sabal Palm Grove. (EMEC). **Distribution** - United States (Texas), Mexico (Tamaulipas). **Host flowers** - *Clematis* sp. (Ranunculaceae), *Serjania* sp. (Sapindaceae), *Bumelia* sp. (Sapotaceae). *Cissus* sp. (Vitaceae).

*Cyphonotida rostrata texana* Giesbert & Hovore, 1998: 19; Chemsak, 2005: 375, pl. 24, fig. 11; Monné, M.A. & Hovore, 2006: 162 (checklist); García Morales *et al.*, 2015:111 (distr.).

**1d. *Cyphonotida rostrata ventralis* (Horn, 1894)**

**Type locality** - Lectotype female: Mexico, Baja California: El Taste. (CASC). **Distribution** - Mexico (Baja California).

*Ophistomis ventralis* Horn, 1894: 401; Hamilton *in* Leng & Hamilton, 1896: 175; Skinner, 1905: 291 (distr.); Schaeffer, 1908: 330 (distr.); Garnett, 1918: 252 (distr.).

*Cyphonotida ventralis*; Casey, 1913: 247

*Ophistomis* (*Cyphonotida*) *ventralis*; Saalas, 1936: 80.

*Ophistomis laevicollis ventralis*; Linsley, 1942: 52.

*Cyphonotida laevicollis ventralis*; Linsley & Chemsak, 1976: 136; Hovore, 1988: 28 (distr.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Noguera & Chemsak, 1996: 403 (cat.).

*Cyphonotida rostrata ventralis*; Giesbert & Hovore, 1998: 19; Monné, M.A., 2006: 120 (cat.).

***Dorcasina* Casey 1913**

*Leptura* (*Dorcasina*) Casey, 1913: 269.

*Dorcasina*; Chemsak, 1964: 232; Linsley & Chemsak, 1976: 63; Monné, M.A., 1995: 80; Chemsak, 2005: 37, 272; Monné, M.A. & Hovore, 2006: 162 (checklist);

**Type-species** - *Leptura matthewsi* LeConte, 1869 (original designation).

**1. *Dorcasina grossa* (LeConte 1873)**

**Type locality** - Holotype female: United States, California. (MCZN). **Distribution** - Sierra Nevada of California. **Host plants** - *Calocedrus decurrens* (Torrey) Florin (Cupressaceae), *Pinus ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae), *Sequoia sempervirens* (D. Don) Endlicher (Taxodiaceae).

*Leptura grossa* LeConte, 1873a: 225; Leng, 1890: 189, 196; Fall, 1901: 150 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 250 (distr.); Essig, 1926: 453 (hosts).

- Judolia grossa*; Aurivillius, 1912: 227 (cat.); Boppe, 1921: 94.  
*Leptura (Dorcasina) grossa*; Leng, 1920: 274 (cat.).  
*Anoplodera grossa*; Swaine & Hopping, 1928: 46, pl. 5, fig. 54; Canova, 1936: 128 (distr., hosts); Hatch, 1971: 129.  
*Dorcasina grossa*; Hovore & Giesbert, 1976: 351 (hosts); Linsley & Chemsak, 1976: 64; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 80 (cat.); Linsley & Chemsak, 1997: 366 (hosts); Chemsak, 2005: 272, 274, pl. 19, fig. 5; Monné, M.A. & Hovore, 2006: 162 (checklist);

## 2. *Dorcasina matthewsii* (LeConte, 1869)

- Type locality** - Holotype female: Canada, British Columbia: Vancouver's Island. (MCZN).  
**Distribution** - British Columbia (from Vancouver Island to the Okanagan Valley) to coastal central California. **Host plants** - *Calocedrus decurrens* (Torrey) Florin, *Thuja plicata* Donn ex D. Don (Cupressaceae), *Sequoia sempervirens* (D. Don) Endlicher (Taxodiaceae).  
*Leptura Matthewsii* LeConte, 1869: 384.  
*Leptura Mathewsi*; Gemminger in Gemminger & Harold, 1872: 2867 (cat.); Beaulne, 1932: 200 (hosts).  
*Leptura Mathewsi*; LeConte, 1873a: 218.  
*Leptura matthewsii*; Leng, 1890: 189, 196; Fall, 1901: 150 (distr.); Garnett, 1918: 250 (distr.).  
*Judolia Mathewsi*; Aurivillius, 1912: 227 (cat.); Boppe, 1921: 94.  
*Leptura (Dorcasina) mathewsi*; Casey, 1913: 270.  
*Leptura mathewsi*; Hardy, 1926b: 30, pl. 4, fig. 14; Essig, 1926: 453 (hosts); Hardy & Preece, 1927a: 189 (hosts).  
*Anoplodera mathewsi*; Swaine & Hopping, 1928: 46, pl. 5, fig. 43; Linsley & Usinger, 1934: 103 (distr.); Doane *et al.*, 1936: 173; Canova, 1936: 128; DeLeon, 1952: 80 (hosts); Hatch, 1971: 129, pl. 14, fig. 5.  
*Dorcasina mathewsi*; Linsley & Chemsak, 1976: 63, fig. 16; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 80 (cat.); Linsley & Chemsak, 1997: 366 (hosts); Chemsak, 2005: 272, pl. 19, fig. 4; Monné, M.A. & Hovore, 2006: 162 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 122, pl. 23  
*Leptura (Dorcasina) macrocera* Casey, 1913: 270; Lingafelter *et al.*, 2014: 94, 368, fig. 103o (lectotype).  
**Type locality** - Lectotype: United States, California: Mendocino County, Gualala. (USNM).

## *Etorofus Matsushita, 1933*

- Etorofus Matsushita*, 1933: 204; Svacha & Lawrence, 2014: 156; Danilevsky, 2014: 293; Bousquet, Laplante, Hammond & Langor, 2017: 124 (key spp.)  
**Type species** - *Etorofus variicornis* Matsushita, 1933 (original designation).

### 1. *Etorofus anthracinus* (LeConte, 1875)

- Syntypes locality** - Syntypes male and female: United States, Oregon. (MCZN).  
**Distribution** - West central Oregon to southern Sierra Nevada and southwestern California. Canada, British Columbia. **Host plants** - *Abies concolor* Gordon & Glen (Pinaceae).  
*Leptura anthracina* LeConte, 1875: 17; Swaine & Hopping, 1928: 26, pl. 2, fig. 23; Doane *et al.*, 1936: 271; Canova, 1936: 130 (distr.); Hatch, 1971: 126, pl. 14, fig. 1; Cope, 1984: 30 (biol.); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Linsley & Chemsak, 1997: 389 (hosts); Heffern, Vlasák & Alten, 2017: 125 (hosts)  
*Leptura (Leptura) anthracina*; Linsley & Chemsak, 1976: 102; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 88 (cat.); Chemsak, 2005: 318, 331, pl. 22, fig. 8 (biol.); Monné, M.A. & Hovore, 2006: 164 (checklist);  
*Etorofus anthracinus*; Bousquet, Laplante, Hammond & Langor, 2017: 125  
*Leptura subcostata* Fall, 1907: 249; Garnett, 1918: 251.  
*Strangalia (Strangalia) subcostata*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100; Hardy, 1926b: 29, pl. 4, fig. 15.  
**Type locality** - Holotype female: United States, California: Lake Tahoe. (MCZN).

## 2. *Etorofus deletus* (LeConte, 1850)

**Type locality** - Holotype: United States, Massachusetts. (MCZN). **Distribution** – Canada (New Brunswick), United States (Northeastern states: Massachusetts, New Hampshire, Pennsylvania and New Jersey). **Host plants** - *Thuja occidentalis* Linnaeus (Cupressaceae), *Pinus rigida* Miller (Pinaceae).

*Strangalia deleta* LeConte, 1850a: 328; Casey, 1913: 258; Leng, 1920: 273 (cat.); Boppe, 1921: 100; Kirk & Knull, 1926: 25 (distr.); Frost, 1929: 14 (distr.); Cooper, 1935: 152 (distr.).

*Leptura deleta*; LeConte, 1873a: 216; Leng, 1890: 187, 193; Smith, 1900: 292; Evans, 1906: 99 (distr.); Smith, 1910: 331 (distr.); Lovell, 1915: 114; Frost, 1920: 27 (biol.); Swaine & Hopping, 1928: 30, pl. 3, fig. 32.

*Pedostrangalia deleta*; Webster, 2016: 485;

*Leptura (Leptura) obliterateda deleta*; Linsley & Chemsak, 1976: 100; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 90 (cat.); Chemsak, 2005: 328, pl. 22, figs 3, 4; Monné, M.A. & Hovore, 2006: 164 (checklist); Webster, McCorquodale & Majka, 2009: 294 (distr., hosts); Vlasák, 2014: 316 (hosts).

*Leptura obliterateda deleta*; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Yanega, 1996: 35, pl. 6, fig. 64; Vlasák & Vlasakova, 2002: 206 (distr.); Lingafelter, 2007: 32, 141, 2 figs, pl. 8b.

*Etorofus deletus*; Bousquet. Laplante, Hammond & Langor, 2017: 125, pl. 26

## 3. *Etorofus obliteratedus* (Haldeman, 1847)

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** – Canada in British Columbia, it is found over the southern half of the province, including Haida Gwaii and Vancouver Island, north to the Nass River region to coast ranges of California, to Idaho and Montana. **Host plants** - *Abies grandis* (Lambert) Lindley, *A. nobilis* Lindley, *Picea engelmanni* Engelmann, *Pinus contorta* Douglas ex Loudon, *P. ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga menziesii* (Mirbel) Franco, *P. taxifolia* (Poiret) Britton, *Tsuga mertensiana* (Bongard) Carrière (Pinaceae), *Sequoia sempervirens* (D. Don) Endlicher (Taxodiaceae).

*Stenura obliterateda* Haldeman, 1847a: 62.

*Strangalia obliterateda*; LeConte, 1850a: 328; 1854a: 19; Casey, 1913: 259; Leng, 1920: 273 (cat.); Boppe, 1921: 100; Casey, 1924: 179; Hardy, 1926b: 29, pl. 5, fig. 30; Essig, 1926: 452 (biol.); Hardy & Preece, 1927a: 189 (hosts); 1927b: 62 (biol., hosts); Beaulne, 1932: 200 (hosts); Moore, 1936: 39 (distr.).

*Leptura obliterateda*; LeConte, 1857: 23; 1869: 371 (distr.); 1873: 216; Holland, 1888: 91 (distr.); Wickham, 1890: 35 (distr.); Leng, 1890: 187, 193; Keen, 1895: 219 (distr.); Wickham, 1897c: 167 (distr.); Harrington, 1899: 108 (distr.); Fall, 1901: 150 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 248 (distr., hosts); Craighead, 1923: 91, figs (larva); Swaine & Hopping, 1928: 29, pl. 3, figs 30, 31, pl. 12, fig. 3; Cushman, 1930: 13 (paras.); Doane *et al.*, 1936: 171 (hosts); Canova, 1936: 180 (distr., hosts); Hatch, 1938: 187; Bedard, 1938: 193 (hosts); Hardy, 1942: 10 (biol.); Kimmey & Furniss, 1943: 26, fig. 6f; Townes, 1944: 772 (paras.); Hardy, 1945: 83, fig. 30; 1948: 32; Townes, 1950: 108 (paras.); DeLeon, 1952: 81 (hosts); Keen, 1952: 196 (hosts); Clark, 1956: 41 (distr.); Townes & Townes, 1960: 466 (paras.); Linsley, 1963: 168, fig. 2; Chapman, 1964: 3 (biol.); Ross, 1968: 11 (biol.); Hatch, 1971: 127, pl. 16, fig. 3; Penrose & Westcott, 1974: 72 (biol.); Deyrup, 1977: 181 (paras.); Furniss & Carolin, 1977: 296, fig. 176 (hosts); Chemsak, Linsley & Noguera, 1992: 96 (cat.).

*Leptura obliterateda obliterateda*; Gressitt, 1947: 192; Linsley & Chemsak, 1997: 289 (hosts); Monné, M.A. & Hovore, 2006: 164 (checklist); Rice, MacRae & Merickel, 2017:

*Anoplodera obliterateda*; Hardy, 1957: D65 (distr.).

*Leptura (Leptura) obliterateda*; Linsley & Chemsak, 1976: 97.

*Leptura (Leptura) obliterateda obliterateda*; Linsley & Chemsak, 1976: 98; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 89 (cat.); Heffern, 1998: 11 (distr.); Chemsak, 2005: 326, pl. 12, fig. 1.

*Etorofus obliteratedus*: Bousquet. Laplante, Hammond & Langor, 2017: 125, pl. 25

*Leptura (Stenura) obliterata* var. *perductor*; LeConte, 1870: 402 (syn.)

*Strangalia perductor*; Casey, 1913: 258; Leng, 1920: 273 (cat.).

**Type locality** - Holotype: Canada, British Columbia. (BMNH).

*Strangalia idahoensis* Casey, 1913: 259; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 78, 370, fig. 84w (lectotype).

**Type locality** - Lectotype male: United States, Idaho: Bonner County, Priest Lake. (USNM).

#### 4. *Etoforus plagifer* (LeConte, 1873)

**Type locality** - Holotype female: United States: California-Nevada: Lake Tahoe, Sierra Nevada. (MCZN). **Distribution** - Rocky Mts. to south central British Columbia and the southern Sierra Nevada. **Host plants** - *Picea* sp., *Pinus contorta* Douglas ex Loudon, *P. ponderosa* Douglas ex Lawson & P. Lawson, *P. strobus* Linnaeus (Pinaceae).

*Leptura plagifera* LeConte, 1873a: 224; Wickham, 1890: 35 (distr.); Leng, 1890: 187, 194; Fall, 1901: 150 (distr.); Garnett, 1918: 249 (distr.); Craighead, 1923: 91, 95 (larva); Swaine & Hopping, 1928: 28, pl. 2, fig. 25; Doane *et al.*, 1936: 171 (distr.); Canova, 1936: 131 (distr., hosts); Hatch, 1971: 126, pl. 14, fig. 2; Chemsak, Linsley & Noguera, 1992: 86 (cat.); Linsley & Chemsak, 1997: 390 (hosts); Heffern, 1998: 24 (distr.); Rice, MacRae & Merickel, 2017: 670 (distr.)

*Strangalia (Strangalia) plagifera*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100.

*Strangalia plagifera*; Casey, 1913: 258; Leng, 1920: 273 (cat.); Keen, 1929: 69; Beaulne, 1932: 200 (hosts).

*Leptura (Leptura) plagifera*; Linsley & Chemsak, 1976: 106; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 90 (cat.); Chemsak, 2005: 318, 337, pl. 22, fig. 12 (biol.); Monné, M.A. & Hovore, 2006: 164 (checklist);

*Etoforus plagifer*; Bousquet. Laplante, Hammond & Langor, 2017:126

#### 5. *Etoforus plebejus* (Randall, 1838)

**Syntypes localities** - Syntypes: United States, Maine: Hallowel & Augusta. (MCZN).

**Distribution** - This species ranges from eastern Newfoundland to southeastern Manitoba, south at least to North Carolina and Michigan. **Host plants** - *Picea rubens* Sargent, *Pinus contorta* Douglas ex Loudon, *P. rigida* Miller *P. strobus* Linnaeus (Pinaceae).

*Leptura plebeja* Randall, 1838: 28; LeConte, 1873a: 216; Austin, 1874: 271 (distr.); Provancher, 1877a: 614; Leng, 1890: 187; Hamilton, 1890: 214; Wickham, 1897b: 189; 1897c: 158; Smith, 1900: 292; Blatchley, 1910: 1055; Smith, 1910: 331; Chagnon, 1917: 235 (distr.); Blackman, 1918: 127; Morris, 1921: 14 (distr.); Swaine & Hopping, 1928: 28, pl. 2, fig. 28; Chagnon, 1936: 252; Knull, 1946: 159; Chagnon & Robert, 1962: 252; Bayer & Shenefelt, 1969: 11, fig. 21; Gardiner, 1970: 284 (biol.); Wilson, 1971: 60 (biol.); Perry, 1975: 59 (hosts); Gosling & Gosling, 1976: 12, fig. 98 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 94 (biol.); Gosling, 1984: 80 (biol.); 1986: 156 (hosts); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Yanega, 1996: 35, pl. 6, figs 65a,b; Linsley & Chemsak, 1997: 390 (hosts); Vlasák & Vlasakova, 2002: 206 (distr., hosts); MacRae & Rice, 2007: 247 (biol., distr.); Steury & MacRae, 2014: 9 (distr.).

*Strangalia plebeja*; LeConte, 1850b: 236 (distr.); 1850b: 333; Casey, 1913: 258; Boppe, 1921: 100; Munding, 1924: 318; Hatch, 1925: 580 (distr.); Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 441 (distr.); Procter, 1946: 179.

*Leptura (Leptura) plebeja*; Linsley & Chemsak, 1976: 101; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 90 (cat.); Chemsak, 2005: 317, 328, pl. 22, fig. 5; Monné, M.A. & Hovore, 2006: 164 (checklist);

*Pedostrangalia plebeja*; Webster, 2016: 485;

*Etoforus plebejus*; Bousquet. Laplante, Hammond & Langor, 2017: 126, pl. 26

#### 6. *Etoforus propinquus* (Bland, 1865)

**Type locality** - Lectotype male: United States, Colorado Territory. (ANSP). **Distribution** - British Columbia south to the Sierra Nevada in central California, and through the Rocky Mountains to southern Arizona and southern New Mexico, including northwestern Nebraska

**Host plants** - *Abies* sp., *Picea engelmanni* Engelmann, *Pinus contorta* Douglas ex Loudon, *P. jeffreyi* Balfour, *P. monticola* Douglas ex D. Don, *P. ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Leptura propinqua* Bland, 1865: 384; LeConte, 1873a: 216; 1876: 520 (distr.); Snow, 1877a: 19 (distr.); Horn, 1880a: xii; Cockerell, 1890: 38 (distr.); Leng, 1890: 187, 193; Townsend, 1895: 48 (distr.); Wickham, 1901: 151; Fall, 1901: 150 (distr.); Knaus, 1903: 176 (distr.); Skinner, 1903: 40 (distr.); Garnett, 1918: 248 (distr.); Craighead, 1923: 91, 95 (larva); Swaine & Hopping, 1928: 28, pl. 2, fig. 29, pl. 12, fig. 2; Doane *et al.*, 1936: 171 (hosts); Knowlton & Thatcher, 1936: 279 (distr.); Canova, 1936: 131 (distr., hosts); Moore, 1937: 89 (distr.); Hardy, 1944: 16 (distr.); 1948: 32; Knowlton & Wood, 1950: 11 (distr.); Hardy, 1955: B50; Clark, 1956: 41 (distr.); Hatch, 1971: 126, pl. 14, fig. 3; Penrose & Westcott, 1974: 72 (biol.); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Linsley & Chemsak, 1997: 390 (hosts); Rice, MacRae & Merickel, 2017: 670 (distr.)

*Strangalia (Strangalia) propinqua*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100.

*Strangalia propinqua*; Casey, 1913: 259; Leng, 1920: 273 (cat.); Hardy, 1927a: C25; 1927b: C36; Keen, 1929: 69; Beaulne, 1932: 200 (hosts); Papp, 1955: 217 (distr.).

*Leptura (Leptura) propinqua*; Linsley & Chemsak, 1976: 107; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 91 (cat.); Heffern, 1998: 11 (distr.); Chemsak, 2005: 318, 338, pl. 23, fig. 1; Monné, M.A. & Hovore, 2006: 164 (checklist);

*Etoforus propinquus*; Bousquet. Laplante, Hammond & Langor, 2017: 126, pl. 26

*Strangalia regularis* Casey, 1913: 259; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 309, fig. 143a (holotype).

**Type locality** - Holotype female: United States. (USNM).

*Strangalia minuscula* Casey, 1913: 260; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 100. 370, fig. 110e (lectotype).

**Type locality** - Lectotype: United States, Colorado. (USNM).

### 7. *Etoforus soror* (LeConte, 1873)

**Syntypes locality** - Syntypes male and female: United States, California. (MCZN).

**Distribution** - Sierra Nevada of California. **Host plants** - *Pinus jeffreyi* Balfour, *P. ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Leptura soror* LeConte, 1873a: 223; Wickham, 1890: 35 (distr.); Leng, 1890: 187, 193; Fall, 1901: 150 (distr.); Garnett, 1918: 248 (distr., hosts); Craighead, 1923: 95 (larva); Hardy, 1949: K25, K44; 1950: 86.

*Strangalia (Strangalia) soror*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100.

*Strangalia soror*; Casey, 1913: 260; Leng, 1920: 273 (cat.); Hardy, 1926b: 29, pl. 5, fig. 31; Essig, 1926: 452, fig. 353 (biol.); Keen, 1929: 69; Beaulne, 1932: 200 (hosts); Jaques, 1951: 257.

*Leptura obliterated ab. soror*; Swaine & Hopping, 1928: 29, pl. 3, fig. 30; Doane *et al.*, 1936: 172 (biol., distr.); Hatch, 1971: 127, pl. 17, fig. 3.

*Leptura obliterated soror*; Gressitt. 1947: 192.

*Strangalina soror*; Swan & Papp, 1972: 450, fig. 960.

*Leptura (Leptura) obliterated soror*; Linsley & Chemsak, 1976: 99, fig. 24; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 90 (cat.); Chemsak, 2005: 327, pl. 22, fig. 2; Monné, M.A. & Hovore, 2006: 162 (checklist);

*Leptura obliterated soror*; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Linsley & Chemsak, 1997: 390 (hosts); Monné, M.A. & Hovore, 2006: 164 (checklist); MacRae & Rice, 2007: 247 (biol., distr.).

*Etoforus soror*. Bousquet, Laplante, Hammond & Langor, 2017: 18

### 8. *Etoforus subhamatus* (Randall, 1838)

**Type locality** - Holotype: United States, New Hampshire: in the notch White Mountains.

(MCZN). **Distribution** - Northeastern North America to Tennessee and Minnesota. In Canada, it is found from Cape Breton Island to the Sudbury District in Ontario, north to the Gaspé area in Quebec. **Host plants** - *Picea rubens* Sargent, *Pinus strobus* Linnaeus, *Tsuga canadensis* (Linnaeus) Carrière (Pinaceae).



*Leptura subhamata* Randall, 1838: 44; LeConte, 1873a: 216; Provancher, 1877a: 614; Schaupp, 1878: 20 (distr.); 1880: 84 (biol.); Horn, 1885a: 6 (syn.); Leng, 1890: 187; Hamilton, 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 190, fig. 29; 1897c: 158 (distr.); Harrington, 1897: 73 (hosts); Smith, 1900: 292; Ulke, 1903: 26, 50 (distr.); Felt, 1904: 171; 1906: 650, 675, fig. 675 (biol.); Morris, 1909b: 417; Smith, 1910: 331 (distr.); Blatchley, 1910: 1055, fig. 450; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Morris, 1916b: 300; Chagnon, 1917: 235 (distr.); Blackman, 1918: 130; Frost, 1920: 27 (biol.); Craighead, 1923: 91, 94, pl. 14, fig. 9; Mundinger, 1924: 318; Cloudman, 1925: 33; Swaine & Hopping, 1928: 28, pl. 2, figs 26, 27, pl. 12, fig. 1; Chagnon, 1936: 253; Knull, 1946: 158; Fattig, 1947: 18; Dillon & Dillon, 1961: 610, pl. 60 No. 10, 12; Chagnon & Robert, 1962: 253; Bayer & Shenefelt, 1969: 11; Gardiner, 1970: 284 (biol.); Kirk, 1970: 78; Wilson, 1971: 59 (biol.); Gosling & Gosling, 1976: 12, fig. 97 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 94 (biol.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1986: 176 (hosts); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Yanega, 1996: 36, pl. 5, figs 59a, b; Linsley & Chemsak, 1997: 390 (hosts); Vlasák & Vlasakova, 2002: 206 (hosts); Rice & Veal, 2006: 259 (distr.); Lingafelter, 2007: 32, 141, 2 figs, pl. 8a (hosts); Guarnieri, 2009: 15 (distr.); Leavengood & Chapman, 2014: 2 (distr.).

*Strangalia subhamata*; Haldeman, 1847a: 61; LeConte, 1850a: 328; Casey, 1913: 258; Leng, 1920: 273 (cat.); Boppe, 1921: 100; Champlain, Kirk & Knull, 1925: 107; Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 111 (distr.); Criddle, 1928: 97 (distr.); Leonard, 1928: 441 (distr.); Beaulne, 1932: 200 (hosts); Brimley, 1938: 213 (distr.); Procter, 1946: 179 (distr.); Jaques, 1952: 257, fig. 609.

*Leptura (Leptura) subhamata*; Linsley & Chemsak, 1976: 96; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 91 (cat.); Chemsak, 2005: 317, 323, pl.21, fig.12; Monné, M.A. & Hovore, 2006: 164 (checklist);

*Etoforus subhamatus*; Bousquet. Laplante, Hammond & Langor, 2017: 126, pl. 25

*Pedostrangalia subhamata*; Webster, 2016: 485;

*Leptura interrupta* Newman, 1841: 72; LeConte, 1850a: 340.

**Type locality** - Holotype: United States, (BMNH).

*Stenura elegans* Haldeman, 1847a: 63.

*Strangalia elegans*; LeConte, 1850a: 329; Casey, 1913: 258; Leng, 1920: 273 (cat.); Casey, 1924: 279; Mundinger, 1924: 318; Leonard, 1928: 441 (distr.).

*Leptura subhamata* form *elegans*; Leng, 1890: 93.

*Strangalia (Strangalia) subhamata* ab. *elegans*; Boppe, 1921: 100.

*Strangalia subhamata* var. *elegans*; Kirk & Knull, 1926: 25 (distr.).

**Iconotype locality** - Iconotype: United States. (MCZN).

*Stenura armata* Haldeman, 1847a: 63.

*Strangalia armata*; Morris, 1909b: 410 (biol.).

**Type locality** - Holotype: United States, Pennsylvania. (MCZN).

## 9. *Etoforus vitiosus* (LeConte, 1854)

**Syntypes localities** - Syntypes: United States, Oregon: Fort Vancouver & Prairie Paso. (MCZN). **Distribution** - From Haida Gwaii to the Rocky Mountains in Alberta, south at least to northeastern California (Trinity County, CNC) and the Sierra Nevada (El Dorado County)

*Strangalia vitiosa* LeConte, 1854a: 18; Casey, 1913: 259.

*Leptura vitiosa*; LeConte, 1857: 23, 63.

*Strangalia (Strangalia) oblitterata* ab. *Vitiosa*; Boppe, 1921: 100.

*Etoforus vitiosus*; Bousquet. Laplante, Hammond & Langor, 2017: 126, pl. 25:

### ***Grammoptera* Dejean, 1835**

*Grammoptera* Dejean, 1835: 356; Audinet-Serville, 1835: 215; Thomson, 1864: 141; Chenu, 1870: 332; Boppe, 1921: 83; Swaine & Hopping, 1928: 11, 19; Bradley, 1930: 236; Chagnon, 1936: 243, 251; Doane *et al.*, 1936: 171; Knull, 1946: 152, 154; Dillon & Dillon, 1961: 607, 608; Arnett, 1962: 857, 876; Chagnon & Robert, 1962: 243, 251; Chemsak, 1964: 232; Bayer & Shenefelt, 1969: 6, 11; Hatch, 1971: 124, 125; Villiers, 1974: 212, 215; Linsley & Chemsak, 1976: 38; Svacha & Danilevsky, 1989: 103 (larva); Chemsak, 2005: 234 (rev.); Monné, M.A., 2006: 122 (cat.); Monné, M.A. & Hovore, 2006: 163 (checklist); Bousquet & Bouchard, 2013: 82; Bousquet, Laplante. Hammond & Langor, 2017: 119 (key spp.)

**Type-species** - *Leptura praeusta* Fabricius, 1787 (subsequent designation, Westwood, 1840).

*Parallelina* Casey, 1913: 247, 255; Chemsak, 1964: 234.

**Type-species** - *Strangalia molybdica* LeConte, 1851 (original designation).

*Fallaciomorpha* Pic 1900: 37.

**Type-species** - *Grammoptera angustata* Pic, 1892 (original designation).

#### **1. *Grammoptera exigua* (Newman 1841)**

**Type locality** - United States, New York: Trenton Falls. (BMNH). **Distribution** -From southern Quebec, as far north as the Quebec City area, to southern Manitoba, south to Missouri and Georgia. **Host plants** - *Tilia americana* Linnaeus (Malvaceae), *Ceanothus americanus* Linnaeus (Rhamnaceae), *Populus* sp. (Salicaceae).

*Leptura exigua* Newman, 1841: 73; LeConte, 1873a: 217; Horn, 1885a: 6 (syn.); 1888: 301; Townsend, 1889: 233 (distr.); Hamilton, 1889b: 32; 1890: 215; Leng, 1890: 188, 194; Hamilton, 1895: 338 (distr.); Leng & Hamilton, 1896: 174; Wickham, 1897b: 190; Ouellet, 1902: 122; Dury, 1902: 161 (distr.); Chagnon, 1905: 35 (distr.); Blatchley, 1910: 1056; Woodruff, 1915: 73 (biol.); Gibson, 1917: 50 (distr.); Nicolay, 1917a: 94 (distr.); Chagnon, 1917: 234 (distr.); Craighead, 1923: 91 (larva).

*Strangalia (Strangalia) exigua*; Aurivillius, 1912: 243 (cat.); Boppe, 1921: 100.

*Parallelina exigua*; Casey, 1913: 255; Britton, 1920: 268 (distr.); Leng, 1920: 273 (cat.); Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 440 (distr.).

*Grammoptera exigua*; Swaine & Hopping, 1928: 21, pl. 1, fig. 13; Knull, 1930: 85 (hosts); Chagnon, 1936: 251; Knull, 1946: 154, pl. 8, fig. 31; Fattig, 1947: 17; Dillon & Dillon, 1961: 608, pl. 50, No. 9; Chagnon & Robert, 1962: 251; Bayer & Shenefelt, 1969: 11; Gardiner, 1970: 284 (biol., paras.); Wilson, 1971: 59 (biol.); Gosling & Gosling, 1976: 9 (distr.); Linsley & Chemsak, 1976: 41; Laliberté, Chantal & LaRochelle, 1977: 93 (biol.); Turnbow & Franklin, 1980: 347; Gosling, 1984: 71 (hosts); Chemsak, Linsley & Noguera, 1992: 95 (cat.); MacRae, 1993: 239 (distr.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 72 (cat.); Yanega, 1996: 33, pl. 4, fig. 50; Linsley & Chemsak, 1997: 380 (hosts); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 236, pl. 17, fig. 7; Monné, M.A. & Hovore, 2006: 163 (checklist); Rice & Veal, 2006: 258 (distr., hosts); Guarnieri, 2009: 15 (distr.); Karns, 2015: 4; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 119

*Leptura saucia* LeConte, 1862: 40; 1873a: 217; Harrington, 1884: 73 (distr.); 0: 15 (distr.).

**Syntypes locality** - Syntypes: United States, Middle States. (MCZN).

## 2. *Grammoptera haematites* (Newman, 1841)

**Syntypes locality** - Syntypes: United States, New York: Trenton Falls. (BMNH).

**Distribution** – Found in Canada from New Brunswick and the Gaspé peninsula to the Fort McMurray area in northeastern Alberta, south to Arkansas and northern Georgia. **Host plants** - *Acer* sp. (Aceraceae), *Cornus* sp. (Cornaceae), *Carpinus* sp. (Corylaceae), *Quercus* sp. (Fagaceae), *Carya* sp. (Juglandaceae).

*Leptura haematites* Newman, 1841: 73; LeConte, 1873a: 217; Provancher, 1877b: 332 (distr.); Horn, 1885a: 6; Hamilton, 1889b: 32; Leng, 1890: 186, 188, 194; Smith, 1900: 292 (distr.); Ouellet, 1902: 122 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 35 (distr.); Lovell, 1915: 114; Chagnon, 1917: 234 (distr.); Nicolay, 1917a: 94 (distr.); 1919: 69 (distr.); Britton, 1920: 268 (distr.).

*Strangalia (Strangalia) nana* ab. *haematites*; Aurivillius, 1912: 243 (cat.).

*Parallelina nana* var. *haematites*; Casey, 1913: 255; Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 440 (distr.); Brimley, 1938: 213 (distr.).

*Grammoptera haematites*; Swaine & Hopping, 1928: 21, pl. 1, fig. 14; Chagnon, 1936: 251; Knull, 1946: 154; Chagnon & Robert, 1962: 251; Bayer & Shenefelt, 1969: 11, fig. 21; Wilson, 1971: 99 (biol.); Linsley & Chemsak, 1976: 45; Gosling & Gosling, 1976: 9 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 93 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); MacRae, 1993: 239 (distr.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 73 (cat.); Krinsky & Godwin, 1996: 238; Yanega, 1996: 33, pl. 4, fig. 51; Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 206 (distr., hosts); Chemsak, 2005: 236, 241, pl. 17, fig. 8; Monné, M.A. & Hovore, 2006: 162 (checklist); Rice & Veal, 2006: 259 (distr., hosts); MacRae & Rice, 2007: 246 (biol., distr.); Lingafelter, 2007: 33, 140, 2 figs, pl. 8d; Holt, 2013: 244 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.); Webster, 2016: 485; Bousquet, Laplante, Hammond & Langor, 2017: 120.

*Parallelina haematites*; Beaulne, 1932: 199 (hosts).

*Leptura nana* Newman, 1841: 73; LeConte, 1873a: 217 (type). Horn, 1888: 301 (syn.); Hamilton, 1889a: 108; Leng, 1890: 215; Hamilton, 1890: 215; 1895: 338 (distr.); Wickham, 1897b: 190; Chagnon, 1917: 235 (distr.); Blackman, 1918: 126 (biol.).

*Strangalia nana*; LeConte, 1850a: 332; Aurivillius, 1912: 243 (cat.); Boppe, 1921: 100.

*Parallelina nana*; Casey, 1913: 255; Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 440 (distr.); Brimley, 1938: 213 (distr.).

*Leptura nana* var. *haematites*; Hamilton, 1890: 215; Leng, 1890: 215; Leng & Hamilton, 1896: 174; Wickham, 1897b: 190; Smith, 1910: 331.

**Type locality** - Holotype: United States, New York: Trenton Falls. (BMNH).

## 3. *Grammoptera militaris* (Chevrolat, 1855)

**Type locality** - Holotype female: United States, Rocky Mountains. (BMNH). **Distribution** -

Central California to northern Mexico, Baja California. **Host plants** - *Acer macrophyllum* Pursh (Aceraceae), *Rhus* sp. (Anacardiaceae), *Quercus* sp. (Fagaceae), *Juglans* sp. (Juglandaceae), *Umbellularia* (Lauraceae)

*Leptura militaris* Chevrolat, 1855: 187; LeConte, 1857: 23 (distr.).

*Strangalia (Strangalia) molybdica* ab. *militaris*; Aurivillius, 1912: 243 (cat.).

*Parallelina molybdica militaris*; Leng, 1920: 272 (cat.).

*Grammoptera militaris*; Tyson, 1966: 203 (hosts); Linsley & Chemsak, 1976: 41, figs 12, 13; Hovore, 1988: 28 (distr.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Noguera & Chemsak, 1996: 403 (distr.); Linsley & Chemsak, 1997: 380 (hosts); Monné, M.A., 2002: 37 (cat. hosts); Chemsak, 2005: 239, pl. XVII, fig. 6; Monné, M.A., 2006: 122 (cat.); Monné, M.A. & Hovore, 2006: 162 (checklist);

*Leptura molybdica*; LeConte, 1873a: 218 (*partim*).

*Grammoptera molybdica*; Swaine & Hopping, 1928: 20, pl. 1, fig. 12 (*partim*).

## 4. *Grammoptera molybdica* (LeConte, 1851)

**Syntypes locality** - Syntypes: United States, California: San Francisco. (MCZN). **Distribution** - Yukon Territory to Idaho and southern California, and Colorado. In Canada, it occurs from the Klondike region in west-central Yukon Territory south to southern Vancouver Island, east to the Rocky Mountains in southeastern British Columbia. **Host plants** - *Aesculus californica* (Spach) Nuttall (Hippocastanaceae).  
*Strangalia molybdica* LeConte, 1851: 101; 1857: 23 (distr.); 1873: 218; Leng, 1890: 188, 195; Fall, 1901: 149 (distr.); Garnett, 1918: 249 (distr.); Boppe, 1921: 100.  
*Parallelina molybdica*; Casey, 1913: 247, 255; Leng, 1920: 273 (cat.); Hardy, 1927b: C36; Moore, 1937: 88 (distr.).  
*Grammoptera molybdica*; Swaine & Hopping, 1928: 20, pl. 1, fig. 11; Doane *et al.*, 1936: 271; Canova, 1936: 130 (distr.); Leech, 1955: 40 (hosts); Hatch, 1971: 125; Linsley & Chemsak, 1976: 40, fig. 11; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 73 (cat.); Linsley & Chemsak, 1997: 380 (hosts); Chemsak, 2005: 235, pl. 17, fig. 5; Monné, M.A. & Hovore, 2006: 162 (checklist); MacRae & Rice, 2007: 247 (biol., distr); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 120, pl. 23

##### 5. *Grammoptera rhodopus* (LeConte, 1874)

**Syntypes locality** - Syntypes: United States, California. (MCZN). **Distribution** - Oregon to southern California, and western Nevada. **Host plants** - *Lithocarpus densiflora* Rehder (Fagaceae), *Rhamnus californica* Eschscholtz (Rhamnaceae).  
*Leptura rhodopus* LeConte, 1874: 68.  
*Leptura subargentata* form *rhodopus*; Leng, 1890: 195; Garnett, 1918: 249 (hosts).  
*Strangalia (Strangalia) subargentata* ab. *rhodopus*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100.  
*Parallelina rhodopus* Casey, 1913: 255.  
*Parallelina subargentata rhodopus*; Leng, 1920: 273 (cat.); Moore, 1937: 89 (distr.).  
*Grammoptera rhodopus*; Swaine & Hopping, 1928: 21; Canova, 1936: 130 (distr.); Linsley & Chemsak, 1976: 39 (syn.); Cope, 1984: 29 (hosts); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 74 (cat.); Linsley & Chemsak, 1997: 380 (hosts); Chemsak, 2005: 235, pl. 17, fig. 4; Monné, M.A. & Hovore, 2006: 162 (checklist);  
*Parallelina campanifera* Casey, 1913: 256; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 36, fig. 37c.  
*Grammoptera campanifera*; Swaine & Hopping, 1928: 20, pl. 1, fig. 10.  
**Type locality** - Holotype female: United States, California: Mokelumne Hill, Calaveras County. (USNM).

##### 6. *Grammoptera ruficeps* (LeConte 1862)

**Type locality** - Holotype: United States, Upper Georgia. (MCZN). **Distribution** - United States (Georgia, Massachusetts). **Host plants** - *Cornus* sp. (Cornaceae).  
*Leptura ruficeps* LeConte, 1862: 40; 1873a: 217;  
*Leptura subargentata* form *ruficeps*; Leng, 1890: 195; Blatchley, 1910: 1057; Garnett, 1918: 249  
*Strangalia (Strangalia) subargentata* ab. *ruficeps*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100  
*Grammoptera ruficeps*; Swaine & Hopping, 1928: 22, pl. 1, fig. 16; Knoll, 1946: 155; Wilson, 1971: 59; Yanega, 1996: 33, pl. 4, fig. 49; Vlasák & Vlasakova, 2002: 206 (distr.).

##### 7. *Grammoptera subargentata* (Kirby, 1837)

**Type locality** - Holotype: North America, 65 degrees. (BMNH). **Distribution** - Boreal North America, western Newfoundland to central Alaska to northeastern California, New Mexico, North Carolina ad Alabama. **Host plants** - *Rhus glabra* Linnaeus (Anacardiaceae), *Lithocarpus densiflora* Rehder, *Quercus densiflora* Hooker & Arnott (Fagaceae), *Populus trichocarpa* Torrey & A. Gray (Salicaceae).  
*Leptura subargentata* Kirby, 1837: 184; Haldeman, 1847a: 65; LeConte, 1857: 23; Bethune, 1872: 116; LeConte, 1873a: 217; Austin, 1874: 271 (distr.); Horn, 1876: 170; Provancher,

- 1877a: 614; Snow, 1877a: 19 (distr.); LeConte, 1879: 505 (distr.); Horn, 1885a: 9 (syn.); Hamilton, 1889b: 32; Wickham, 1890: 35 (distr.); Leng, 1890: 195; Cockerell, 1890: 38 (distr.); Harrington, 1890: 185 (distr.); Wickham, 1893: 2 (distr.); 1897b: 190 (distr.); 1897a: 158 (distr.); Harrington, 1899: 108 (distr.); Fall, 1901: 150 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Fall & Cockerell, 1907: 193 (distr.); Adams, 1909: 200 (distr.); Morris, 1909b: 416; Blatchley, 1910: 1056; Lovell, 1915: 114; Chagnon, 1917: 235 (distr.); Blackman, 1918: 130 (biol.); Garnett, 1918: 249 (distr.).
- Strangalia subargentata*; LeConte, 1850a: 236 (distr.); 1850b: 331; Boppe, 1921: 100; Saalas, 1936: 80.
- Grammoptera subargentata*; Mannerheim, 1853: 251; Hamilton, 1894a: 31 (distr.); Swaine & Hopping, 1928: 21, pl. 1, fig. 15, pl. 13, fig. 34; Mank, 1934: 80 (distr.); Chagnon, 1936: 251; Canova, 1936: 130 (distr., hosts); Doane *et al.*, 1936: 271; Knowlton & Thatcher, 1936: 279 (distr.); Knull, 1946: 155; Knowlton & Wood, 1950: 11 (distr.); Chagnon & Robert, 1962: 251; Gardiner, 1970: 284 (biol.); Horning & Barr, 1970: 36; Wilson, 1971: 59 (biol.); Hatch, 1971: 125; Linsley & Chemsak, 1976: 46, fig. 14 (syn.); Gosling & Gosling, 1976: 9 (biol.); Perry, 1977: 98 (distr.); Laliberté, Chantal & LaRochelle, 1977: 93; Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1986: 156 (hosts); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Glaser, 1992: 1554 (distr.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 74 (cat.); Yanega, 1996: 33, pl. 4, fig. 48; Linsley & Chemsak, 1997: 380 (hosts); Heffern, 1998: 10 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 236, 243, pl. 17, fig. 9; Monné, M.A. & Hovore, 2006: 162 (checklist); Majka, McCorquodale & Smith, 2007: 260 (distr.); Lingafelter, 2007: 33, 140, 2 figs, pl. 8e (hosts); Webster, McCorquodale & Majka, 2009: 294 (distr.); Webster, 2016: 485; Rice, MacRae & Merickel, 2017: 670 (distr.); Klingeman *et al.*, 2017: 295 (distr.)
- Parallelina subargentata*; Casey, 1913: 255; Hardy, 1926b: 29; Essig, 1926: 452; Kirk & Knull, 1926: 24 (distr.); Flechter, 1926: 143 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 440 (distr.); Brimley, 1938: 213 (distr.); Procter, 1946: 178 (distr.).
- Leptura similis* Kirby, 1837: 185; Haldeman, 1847a: 65; Bethune, 1872: 116; LeConte, 1873a: 217; Horn, 1876: 170 (syn); Snow, 1877a: 19 (distr.).
- Strangalia similis*; LeConte, 1850a: 331.
- Leptura subargentata* var. *similis*; Harrington, 1890: 185 (distr.); Leng, 1890: 195; Garnett, 1918: 249; Fall, 1926: 202 (distr.).
- Parallelina similis*; Casey, 1913: 255.
- Type locality** - Holotype: North America, 65 degrees. (BMNH).
- Leptura rufibasis* LeConte, 1862: 40.
- Leptura subargentata* form *rufibasis*; Leng, 1890: 195.
- Syntypes locality** - Syntypes: North America, Hudson's Bay Territory, about Methy Lake (MCZN).
- Leptura quebecensis* Couper, 1864: 88; Becker, 1974: 68 (lectotype).
- Type locality** - Lectotype male: Canada, Québec. (Depository unknown).
- Parallelina filicornis* Casey, 1913: 255; Lingafelter *et al.*, 2014: 62, fig. 62g.
- Grammoptera filicornis*; Swaine & Hopping, 1928: 22, pl. 1, fig. 17; Canova, 1936: 130 (distr.); Hardy, 1942: 10 (biol.); Knull, 1946: 155; Hardy, 1948: 32 (distr.); Clark, 1956: 41 (distr.); Hardy, 1957: D65; Hatch, 1971: 125.
- Type locality** - Holotype male: United States, Washington. (USNM).
- Idiopidonia* Swaine & Hopping 1928**
- Idiopidonia* Swaine & Hopping, 1928: 15; Bradley, 1930: 236; Knull, 1946: 151; Arnett, 1962: 857, 876; Chemsak, 1964: 232; Linsley & Chemsak, 1976: 66; Monné, M.A., 1995: 81; Chemsak, 2005: 37,40,276; Monné, M.A. & Hovore, 2006: 163 (checklist);
- Type-species** - *Leptura pedalis* LeConte, 1861 (original designation).

### 1. *Idiopidonia pedalis* (LeConte 1861)

**Syntypes locality** - Syntypes: United States, Lake Superior. (MCZN). **Distribution** - Northeastern Canada, western Newfoundland to the Kenora District in northwestern Ontario to Great Lakes region, Central States and Appalachian region south to northwestern Georgia.

*Leptura pedalis* LeConte, 1861: 355; 1873: 221; Austin, 1874: 271 (distr.); Provancher, 1877a: 615; Leng, 1890: 189, 199; Evans, 1895b: 173 (distr.); Wickham, 1897b: 191; 1897c: 158 (distr.); Lovell, 1915: 114; Boppe, 1921: 91; Mundinger, 1924: 318; Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 112 (distr.); Leonard, 1928: 442 (distr.); Saalas, 1936: 78 (morphol.); Brimley, 1938: 213 (distr.); Procter, 1946: 179 (distr.).

*Leptura (Trachysida) pedalis*; Casey, 1913: 271; Hatch, 1925: 580 (distr.).

*Idiopidonia pedalis*; Swaine & Hopping, 1928: 19, pl. 1, fig. 8, pl. 13, fig. 33; Knull, 1946: 153, pl. 5, fig. 17; Chemsak, 1964: 232; Wilson, 1971: 59 (biol.); Linsley & Chemsak, 1976: 66; Gosling & Gosling, 1976: 10 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 94 (biol.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1986: 156 (biol.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 81 (cat.); Yanega, 1996: 34, pl. 4, fig. 43; Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 276, pl. 19, fig. 6; Monné, M.A. & Hovore, 2006: 163 (checklist); Lingafelter, 2007: 30, 140, 2 figs, pl. 7h.; Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.)

### **Judolia Mulsant, 1863**

*Judolia* Mulsant, 1863: 496; Casey, 1913: 247, 249; 1924: 282; Planet, 1924: 86; Chemsak, 1964: 232; Villiers, 1974: 214, 216; Linsley & Chemsak, 1976: 47; Chemsak, 2005: 244 (rev.); Monné, M.A., 2006: 123 (cat.); Monné, M.A. & Hovore, 2006: 163 (checklist); Monné, M.A., 2012: 121.

*Judolia (Judolia)*; Boppe, 1921: 94; Bousquet, Laplante, Hammond & Langor, 2017: 120 (key spp.)

**Type-species** - *Leptura 6-maculata* Linnaeus, 1758 (subsequent designation, Casey, 1913: 247).

#### **1. *Judolia cordifera* (Olivier, 1795)**

**Type locality** - Holotype female: Amérique Septentrionale. (Depository unknown).

**Distribution** - Canada (Quebec)?, Eastern United States from New England to Georgia.

**Host plants** - *Castanea mollissima* Blume, *C. sativa* Miller (Fagaceae).

*Leptura cordifera* Olivier 1795: 25, pl. 4, fig. 41; Horn, 1886: 125 (distr.); LeConte, 1873a: 218; Provancher, 1877b: 332 (distr.); Lugger, 1884: 204 (hosts); Horn, 1886: 139; Leng, 1890: 186, 196; Hamilton, 1895: 338 (distr.); Smith, 1900: 292 (distr.); Ulke, 1903: 26, 50 (distr.); Felt, 1906: 720; Leng, 1910: 77 (distr.); Smith, 1910: 331; Banks, 1912: 106; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Johnson, 1915: 315 (distr.); Morris, 1915: 21 (hosts); 1916b: 300; Chagnon, 1917: 234 (distr.); Nicolay, 1917a: 94 (distr.); Blackman, 1918: 128 (biol.)

*Pachyta cordifera*; Haldeman, 1847a: 59; Emmons, 1854: 128, pl. 8, fig. 12.

*Strangalia cordifera*; LeConte, 1850a: 332; 1850b: 336; Bland, 1861: 101 (distr., hosts).

*Judolia cordifera*; Casey, 1913: 249; Leng, 1920: 272 (cat.); Britton, 1920: 268 (distr.); Boppe, 1921: 94; Kirk & Knull, 1926: 24 (distr.); Fletcher, 1926: 143 (distr.); Leonard, 1928: 439 (distr.); Jones, 1932: 353 (biol.); Brimley, 1938: 212 (distr.); Loding, 1945: 116 (distr.); Gibson & Carrillo, 1959: 119 (distr.); Gosling & Gosling, 1976: 9 (distr.); Linsley & Chemsak, 1976: 51; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); MacRae, 1993: 240 (distr.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 75 (cat.); Yanega, 1996: 34, pl. 8, fig. 85; Krinsky & Godwin, 1996: 238; Linsley & Chemsak, 1997: 385 (hosts); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 246, 250, pl. 17, fig. 12; Monné, M.A. & Hovore, 2006: 163 (checklist); Lingafelter, 2007: 37, 140, 2 figs. pl. 9h (hosts); Staines, 2008: 146 (distr.); Guarnieri, 2009: 15 (distr.); Holt, 2013: 244 (distr.); Steury & MacRae, 2014: 9 (distr., hosts); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 121

*Anoploclera cordifera*; Swaine & Hopping, 1928: 50, pl. 6, fig. 62; Doane *et al.*, 1936: 173; Knull, 1946: 165; Dillon & Dillon, 1961: 615, pl. 61, No. 6; Kirk, 1970: 77; Wilson, 1971: 60 (biol.); Swan & Papp, 1972: 450, fig. 957.

*Pachyta cordifera* var. *lunaris* Haldeman, 1847a: 59.

*Judolia cordifera lunaris*; Leng, 1920: 272 (cat.).

**Type locality** - Holotype: United States, Pennsylvania. (MCZN).

*Judolia deceptiva* Casey, 1924: 283; Lingafelter *et al.*, 2014: 50, fig. 53q (holotype).

**Type locality** - Holotype female: United States, Massachusetts: Framingham. (USNM).

*Judolia longior* Casey, 1924: 284; Lingafelter *et al.*, 2014: 92, fig. 101c (holotype).

**Type locality** - Holotype male: United States, Pennsylvania: Carlisle Junction. (USNM).

## 2. *Judolia gaurotoides gaurotoides* (Casey, 1893)

**Type locality** - Holotype female: United States, Utah. (USNM). **Distribution** - Southwestern Utah to Montana and Rocky Mts. of Oregon. Canada, ranges from southeastern Saskatchewan to southeastern Alberta.

*Leptura gaurotoides* Casey, 1893: 592; Leng & Hamilton, 1896: 174.

*Judolia gaurotoides*; Aurivillius, 1912: 227 (cat.); Casey, 1913: 249; Linsley & Chemsak, 1976: 49; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Lingafelter *et al.*, 2014: 69, fig. 73w (holotype).

*Judolia (Judolia) gaurotoides*; Boppe, 1921: 94.

*Anoploclera instabilis* ab. *gaurotoides*; Hatch, 1971: 129.

*Judolia gaurotoides gaurotoides*; Linsley & Chemsak, 1976: 50; Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 76 (cat.); Chemsak, 2005: 248, pl. 17, fig. 10; Monné, M.A. & Hovore, 2006: 63 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 121, pl. 24

*Judolia vivarium* Casey, 1924: 282; Lingafelter *et al.*, 2014: 345, fig. 183w (holotype).

**Type locality** - Holotype female: United States, Wyoming: Yellowstone National Park, Norris Geyser Basin. (USNM).

*Anoploclera knulli* Swaine & Hopping, 1928: 46, pl. 6, fig. 63; Canova, 1936: 128 (distr.); Ruetter, 1970: 18 (types); Hatch, 1971: 129.

**Type locality** - Holotype: United States, Wyoming: Yellowstone National Park. (CNCI).

### 2a. *Judolia gaurotoides auripilis* Linsley & Chemsak 1976

**Type locality** - Holotype male: United States, California: Placer County, Cisco. (CASC).

**Distribution** - From southern Oregon, down the Sierra Nevada of California.

*Judolia gaurotoides auripilis* Linsley & Chemsak, 1976: 50; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 76; Chemsak, 2005: 249, pl. 17, fig. 11; Monné, M.A. & Hovore, 2006: 163 (checklist);

## 3. *Judolia impura* (LeConte 1857)

**Type locality** - Holotype: United States, California: Sacramento. (MCZN). **Distribution** - Oregon to central California. **Host plants** - *Calocedrus decurrens* (Torrey) Florin (Cupressaceae), *Sequoia sempervirens* (D. Don) Endlicher (Taxodiaceae).

*Leptura impura* LeConte, 1857: 64; 1873a: 218; Provancher, 1877a: 614; Leng, 1890: 188, 195; Fall, 1901: 150 (distr.); Garnett, 1918: 250 (distr.).

*Judolia impura*; Aurivillius, 1912: 227 (cat.); Casey, 1913: 249; Leng, 1920: 272 (cat.); Essig, 1926: 452 (biol.); Linsley & Chemsak, 1976: 59; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 76 (cat.); Linsley & Chemsak, 1997: 385 (hosts); Chemsak, 2005: 247, 263, pl. 18, figs 10, 11; Monné, M.A. & Hovore, 2006: 163 (checklist);

*Judolia (Judolia) impura*; Boppe, 1921: 94.

*Anoploclera impura*; Swaine & Hopping, 1928: 52, pl. 6, fig. 67; Canova, 1936: 128 (hosts); Doane *et al.*, 1936: 273 (hosts); DeLeon, 1952: 80 (hosts); Hatch, 1971: 130, pl. 14, fig. 10.

## 4. *Judolia instabilis* (Haldeman, 1847)

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - Southern California to southern Arizona and south along Sierra Madre to Mexico (Baja California, Durango). In Canada this species ranges from western Manitoba to southwestern British Columbia, north to the Klondike region in west-central Yukon Territory and Northwest Territories. **Host plants** - *Pinus ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Pachyta instabilis* Haldeman, 1847a: 59.

*Strangalia instabilis*; LeConte, 1850a: 332.

*Leptura instabilis*; LeConte, 1857: 23 (distr.); 1873a: 218; Austin, 1874: 271 (distr.); Snow, 1877a: 19 (distr.); Leng, 1890: 196; Fall, 1901: 149 (distr.); Fletcher & Gibson, 1909: 109; Garnett, 1918: 250 (distr.).

*Judolia instabilis*; Aurivillius, 1912: 227 (cat.); Casey, 1913: 249; 1924: 284; Saalas, 1936: 79; Linsley & Chemsak, 1976: 52, fig. 15; Turnbow & Franklin, 1980: 347; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 385 (hosts); Heffern 1998: 10 (distr.); Monné, M.A., 2002: 37 (cat. hosts); Chemsak, 2005: 252, pl. XVIII, fig. 1; Monné, M.A., 2006: 123 (cat.); Monné, M.A. & Hovore, 2006: 164 (checklist); Gutiérrez & Noguera, 2015: 137 (distr.); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 121, pl. 24

*Anoploclera instabilis*; Swaine & Hopping, 1928: 47, pl. 5, figs 55, 56; pl. 12, fig. 14; Canova, 1936: 128 (hosts); Doane *et al.*, 1936: 173 (biol.); Fox, 1943: 206; Knowlton, 1945: 110; Hardy, 1948: 32 (distr.); Knowlton & Wood, 1950: 11 (distr.); Rockwood, 1951: 152 (hosts); Linsley, Knull & Statham, 1961: 25; Gardiner, 1970: 285 (biol.); Horning & Barr, 1970: 37; Hatch, 1971: 129, pl. 14, figs 8, 8a, pl. 20, figs 1-12.

*Anoploclera (Judolia) instabilis*; Linsley & Ross, 1940: 76 (distr.).

*Strangalia convexa* LeConte, 1850a: 332.

*Leptura convexa*; LeConte, 1857: 23 (distr.); Snow, 1877a: 19 (distr.); Popenoe, 1877: 33 (distr.); Snow, 1878: 76 (distr.); Townsend, 1895: 48; Leng, 1910: 77 (distr.).

*Leptura instabilis* v. *convexa*; Wickham, 1909a: 29 (distr.).

*Judolia instabilis* ab. *convexa*; Aurivillius, 1912: 227 (cat.).

*Judolia convexa*; Casey, 1913: 249.

*Anoploclera convexa*; Canova, 1936: 127 (distr.).

**Type locality** - Holotype: United States, Oregon. (MCZN).

*Leptura quadrata*; Horn, 1886b: xiii (not LeConte, 1873).

*Leptura flaviventris* Schaeffer, 1908: 342; Lingafelter *et al.*, 2014: 63, figs 68g, h (holotype).

*Judolia flaviventris*; Aurivillius, 1912: 227 (cat.); Casey, 1913: 249.

*Anoploclera flaviventris*; Swaine & Hopping, 1928: 48; Linsley, Knull & Statham, 1961: 25, fig. 21

**Type locality** - Holotype female: United States, Arizona: Huachuca Mts. (USNM).

*Judolia pacifica* Casey, 1913: 249; Lingafelter *et al.*, 2014: 293, figs 125o, p (holotype).

**Type locality** - Holotype male: United States, California. (USNM).

*Judolia trajecta* Casey, 1913: 250; Lingafelter *et al.*, 2014: 334, figs 172g, h (holotype).

**Type locality** - Holotype male: United States, Colorado: Boulder Co. (USNM).

##### 5. *Judolia montivagans montivagans* (Couper, 1864)

**Type locality** - Holotype male: Canada, Québec: St. Catharines Bay, mouth of Saguenay River, Northeast of Québec City. (Depository unknown). **Distribution** - Alaska to Labrador, Rocky Mts. to New Mexico and eastern United States. **Host plants** - *Abies* sp., *Picea* sp., *Pinus* sp., *Pseudotsuga taxifolia* (Poiret) Britton (Pinaceae), *Populus trichocarpa* Torrey & A. Gray, *Salix* sp. (Salicaceae).

*Leptura montivagans* Couper, 1864: 87; Becker, 1974: 78 (lectotype).

*Judolia montivagans*; Linsley & Chemsak, 1976: 54; Gosling & Gosling 1976: 10, fig. 87 (biol., distr.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Lingafelter, 2007: 28, 141, 2 figs, pl. 6k (hosts); O'Neill, Fultz & Ivie, 2008: 30 (biol.).

*Judolia montivagans montivagans*; Linsley & Chemsak, 1976: 54; Hansen & Osgood, 1983: 149 (biol.); Gosling, 1986: 156 (hosts); Monné, M.A., & Giesbert, 1994: 165 (checklist);



Monné, M.A., 1995: 77 (cat.); Yanega, 1996: 34, pl. 8, figs 88a, b; Linsley & Chemsak, 1997: 385 (hosts); Heffern, 1998: 10 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 254, pl. 18, fig. 2; Monné, M.A. & Hovore, 2006: 164 (checklist); Webster, 2016: 485; Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 122, pl. 24

*Leptura sexmaculata* Kirby, 1837: 182; Haldeman, 1847a: 65 (not Linnaeus, 1758); Bethune, 1872: 114; LeConte, 1873a: 218; Austin, 1874: 271 (distr.); Horn, 1876: 170; Provancher, 1877a: 618; Horn, 1886b: xiv; Hamilton, 1889a: 146; Leng, 1890: 185, 196; Harrington, 1890: 185 (distr.); Hamilton, 1894b: 396; Slossom, 1894: 3 (distr.); Harrington, 1894b: 15 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 190; 1897c: 158 (distr.); 1899: 199 (distr.); Ouellet, 1902: 122 (distr.); Adams, 1909: 200 (distr.); Morris, 1915: 19 (hosts); Gibson, 1917: 150; Chagnon, 1917: 235 (distr.); Garnett, 1918: 250 (distr.).

*Strangalia sexmaculata*; LeConte, 1850b: 236; 1850a: 333.

*Leptura (Judolia) sexmaculata*; Fauvel, 1889: 150.

*Judolia sexmaculata*; Aurivillius, 1912: 227 (cat.); Casey, 1913: 247; Leng, 1920: 272 (cat.); Boppe, 1921: 94; Carr, 1923: 197; Munding, 1924: 317; Kirk & Knull, 1926: 24 (distr.); Essig, 1926: 452 (biol.); Procter, 1927: 111 (distr.); Hardy, 1971: C35; Leonard, 1928: 439 (distr.); Procter, 1946: 178 (distr.).

*Anoploclera sexmaculata*; Swaine & Hopping, 1928: 49, pl. 6, fig. 57; Brown, 1930: 244 (distr.); Mank, 1934: 80 (distr.); Canova, 1936: 129 (distr., hosts); Chagnon, 1936: 250 (distr.); Doane *et al.*, 1936: 273 (biol.); Hardy, 1948: 32 (distr.); Clark, 1956: 41 (distr.); Linsley, Knull & Statham, 1961: 27 (distr.); Bayer & Shenefelt, 1969: 7, fig. 19; Gardiner, 1970: 286 (biol.); Wilson, 1971: 60 (biol.); Hatch, 1971: 130, pl. 14, fig. 6; Laliberté, Chantal & LaRochelle, 1977: 90 (biol.); Miliczky & Osgood, 1979: 133 (biol.).

**Syntypes locality** - Syntypes: Amerique Septentrionale, latitude 65 (BMNH)

*Judolia seminigra* Casey, 1924: 283; Lingafelter *et al.*, 2014: 317, fig. 151w (holotype).

*Judolia barberi seminigra*; Kirk & Balsbaugh, 1975: 97.

**Type locality** - Holotype male: United States, Idaho: Bonner County, Priest Lake. (USNM).

### 5a. *Judolia montivagans barberi* (Fall, 1907)

**Type locality** - Holotype male: United States, California: Humboldt County, Fieldbrook. (MCZN). **Distribution** - Southwestern Oregon to southern Sierra Nevada and coastal northern California. **Host plants** - *Picea sitchensis* (Bongard) Carr (Pinaceae).

*Leptura barberi* Fall, 1907: 150; Garnett, 1918: 250 (distr.).

*Strangalia (Strangalia) Barberi*; Aurivillius, 1912: 242 (cat.); Boppe, 1921: 100.

*Strangalia barberi*; Leng, 1920: 273 (cat.); Essig, 1926: 452.

*Anoploclera barberi*; Swaine & Hopping, 1928: 50, pl. 6, fig. 61; Canova, 1936: 127 (hosts); Doane *et al.*, 1936: 173 (biol.); Hatch, 1971: 130.

*Judolia montivagans barberi*; Linsley & Chemsak, 1976: 55; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 77 (cat.); Linsley & Chemsak, 1997: 385 (hosts); Chemsak, 2005: 255, pl. 18, fig. 3; Monné, M.A. & Hovore, 2006: 164 (checklist); MacRae & Rice, 2007: 247 (biol., distr.).

### 6. *Judolia quadrata* (LeConte, 1873)

**Type locality** - Holotype female: Canada, Saskatchewan. (MCZN). **Distribution** - This boreal species ranges from western Quebec to northwestern Alaska, south to southeastern British Columbia and the Lake Superior, Yukon and Northwest Territories.

*Leptura quadrata* LeConte, 1873a: 225.

*Judolia instabilis* ab. *quadrata*; Aurivillius, 1912: 227 (cat.); Boppe, 1921: 94.

*Judolia quadrata*; Casey, 1913: 249; Linsley & Chemsak, 1976: 55; Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 78 (cat.); Yanega, 1996: 35, pl. 8, figs 86a, b; Heffern, 1998: 11 (distr.); Chemsak, 2005: 246, 256, pl. 18, figs 4, 5; Monné, M.A. & Hovore, 2006: 164 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 122, pl. 24

*Anoploclera quadrata*; Swaine & Hopping, 1928: 46.

### 7. *Judolia scapularis* (Van Dyke, 1920)

**Type locality** - Holotype male: United States, California: Havilah. (CASC). **Distribution** - North central California coastally to southern California, and southeastward to western Nevada to north central Arizona and northern Mexico (Baja California).

*Leptura scapularis* Van Dyke, 1920: 43.

*Judolia scapularis*; Leng & Mutchler, 1927: 41 (cat.); Linsley & Chemsak, 1976: 56; Hovore, 1988: 28 (distr.); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 78 (cat.); Noguera & Chemsak, 1996: 403 (cat.); Chemsak, 2005: 258, pl. XVIII, fig. 6; Monné, M.A., 2006: 123 (cat.); Monné, M.A. & Hovore, 2006: 164 (checklist);

*Anoploclera scapularis*; Swaine & Hopping, 1928: 51; Linsley, 1940: 257.

*Anoploclera (Judolia) scapularis*; Linsley & Ross, 1940: 76 (distr.).

*Leptura isabellae* Hopping, 1922: 162; Ruetter, 1970: 20 (type).

*Judolia isabellae*; Leng & Mutchler, 1927: 41 (cat.).

*Anoploclera isabellae*; Swaine & Hopping, 1928: 51, pl. 6, fig. 65.

**Type locality** - Holotype male: United States, California: Isabella. (CNCI).

### 8. *Judolia sexspilota* (LeConte, 1859)

**Syntypes locality** - Syntypes male and female: United States, California: Fort Tejon. (MCZN). **Distribution** - Coastal southern California to Mexico, northern Baja California.

**Host plants** - *Juniperus californica* Afonso Carrillo (Cupressaceae)

*Leptura 6-spilota* LeConte, 1859b: 80.

*Leptura sexspilota*; LeConte, 1873a: 218; Leng, 1890: 196; Horn, 1894: 339 (distr.); Fall, 1901: 149 (distr.); Garnett, 1918: 250 (distr.).

*Judolia sexspilota*; Aurivillius, 1912: 228 (cat.); Casey, 1913: 249; Davis, 1932: 85 (distr.); Linsley & Chemsak, 1976: 57; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Noguera & Chemsak, 1996: 403 (cat.); Chemsak, 2005: 259, pl. XVIII, fig. 7; Monné, M.A., 2006: 124 (cat.); Monné, M.A. & Hovore, 2006: 164 (checklist);

*Anoploclera sexspilota*; Swaine & Hopping, 1928: 51, pl. 6, fig. 64; Moore, 1937: 89 (distr.).

*Anoploclera (Judolia) 6-spilota*; Linsley, 1942: 52.

*Judolia minuta* Casey, 1924: 284; Lingafelter *et al.*, 2014: 100, figs 110g, h (holotype).

**Type locality** - Holotype female: United States, Texas. (USNM).

### 9. *Judolia swainei swainei* (Hopping, 1922)

**Type locality** - Holotype male: United States, California: Tulare Co, Kaweah. (CNCI).

**Distribution** - Santa Inez Mts. to San Bernardino Mts. and central Sierra Nevada foothills, Mexico (Baja California).

*Leptura swainei* Hopping, 1922: 163; Ruetter, 1970: 20 (type).

*Judolia swainei*; Leng & Mutchler, 1927: 41; Linsley & Chemsak, 1976: 58; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Noguera & Chemsak, 1996: 403 (cat.); Chemsak, 2005: 261, pl. XVIII, fig. 8; Monné, M.A., 2006: 124 (cat.).

*Anoploclera swainei*; Swaine & Hopping, 1928: 51, pl. 6, fig. 66.

*Judolia swainei swainei*; Linsley & Chemsak, 1976: 58; Hovore, 1988: 18 (distr.); Monné, M.A. & Hovore, 2006: 164 (checklist);

### 9a. *Judolia swainei jacintana* (Linsley, 1940)

**Type locality** - Holotype female: United States, California: Piñon Flats, San Jacinto Mountains. (CASC). **Distribution** - United States (California: San Jacinto Mts.).

*Anoploclera jacintana* Linsley, 1940: 256, fig. 2.

*Judolia swainei jacintana*; Linsley & Chemsak, 1976: 58; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 78 (cat.);

Chemsak, 2005: 262; Monné, M.A. & Hovore, 2006: 164 (checklist); MacRae & Rice, 2007: 247.

### ***Leptura* Linnaeus 1758**

*Leptura* Linnaeus, 1758: 397; Fabricius, 1775: 196; 1776: 55; Olivier, 1792: 508; 1795: 1; Latreille, 1807: 41; Lamarck, 1817: 310; Audinet-Serville, 1835: 317; Blanchard, 1845: 164; Haldeman, 1847a: 62; LeConte, 1850a: 336; 1854b: 219; Thomson, 1861: 152; 1864: 141, 407; Lacordaire, 1868: 445; Chenu, 1870: 331; LeConte, 1873b: 328; Girard, 1873: 736; Provancher, 1877a: 580; LeConte & Horn, 1883: 313; Leng, 1890: 185; Wickham, 1897b: 88; 1897c: 188; Blatchley, 1910: 1046; Casey, 1913: 248, 286; Boppe, 1921: 86; Craighead, 1923: 91; Swaine & Hopping, 1928: 11, 25; Bradley, 1930: 237; Chagnon, 1936: 252; Knull, 1946: 152, 157; Dillon & Dillon, 1961: 210; Chagnon & Robert, 1962: 252; Arnett, 1962: 858, 886; Chemsak, 1964: 233; Hatch, 1971: 124; Linsley & Chemsak, 1976: 91; Monné, M.A., 1995: 88; Monné, M.A. & Hovore, 2006: 164 (checklist);

*Leptura (Stenura)*; LeConte, 1873a: 215; Provancher, 1877a: 613; Leng, 1890: 185.

#### **1. *Leptura abdominalis* (Haldeman, 1847)**

**Type locality** - Holotype: United States. (MCZN). **Distribution** - Eastern United States to Florida and Texas. **Host plants** - *Chamaecyparis thyoides* (Linnaeus) Britton, Sterns & Poggenburg, *Juniperus* sp. (Cupressaceae), *Taxodium distichum* (Linnaeus) Richard (Taxodiaceae).

*Stenura abdominalis* Haldeman, 1847a: 63.

*Typocerus abdominalis*; LeConte, 1850a: 335.

*Leptura abdominalis*; LeConte, 1873a: 216; Horn, 1880a: xi (syn.); LeConte, 1880: xxiv (hosts); Townsend, 1885: 70 (distr.); Leng, 1890: 187, 194; Beutenmuller, 1896: 78 (hosts); Smith, 1900: 292 (distr.); Felt, 1906: 755 (hosts); Smith, 1910: 331; Schaeffer, 1912: 206 (distr.); Engelhardt, 1928: 252 (biol., distr.); Swaine & Hopping, 1928: 27, pl. 2, fig., 24; Knull, 1930: 85 (hosts, paras.); Gosling & Gosling, 1976: 12 (distr.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Yanega, 1996: 35, pl. 6, figs 63a-c; Linsley & Chemsak, 1997: 389 (hosts); Monné, M.A. & Hovore, 2006: 164 (checklist); MacRae & Rice, 2007: 247 (biol., distr.); Lingafelter, 2007: 32, 141, 2 figs, pl. 7k (hosts); Vlasák, 2014: 317 (hosts).

*Strangalia abdominalis*; Casey, 1913: 258; Leng, 1920: 273 (cat.); Boppe, 1921: 100; Champlain & Knull, 1926: 206 (hosts); Loding, 1933: 148 (distr.); Brimley, 1938: 213 (distr.); Loding, 1945: 1178 (distr.).

*Leptura (Leptura) abdominalis*; Linsley & Chemsak, 1976: 101; Monné, M.A., 1995: 88 (cat.); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 101 (distr.); Chemsak, 2005: 307, 330, pl. 22, figs 6, 7; Holt, 2013: 244 (distr.).

*Leptura atrovittata* Bland 1864: 255.

**Type locality** - Holotype female: United States, New Jersey. (ANSP).

#### **2. *Leptura hovorei* Linsley & Chemsak, 1976**

**Type locality** - Holotype male: United States, California: 9 miles South of Fairview, Tulare County. (CASC). **Distribution** - Western south central California. **Host plants** - *Abies concolor* Gordon & Glen, *Pinus jeffreyi* Balfour, *P. sabiniana* Douglas ex D. Don (Pinaceae).

*Leptura (Leptura) hovorei* Linsley & Chemsak, 1976: 103, fig. 25; Monné, M.A., 1995: 898 (cat.); Chemsak, 2005: 318, 333, pl. 22, fig. 9 (biol., distr., hosts).

*Leptura hovorei*; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A. & Hovore, 2006: 164 (checklist); Swift, 2008: 5 (distr., hosts).

#### **3. *Leptura kerniana* Fall, 1907**

**Type locality** - Holotype male: United States, California: Kern River. (MCZN). **Distribution** - Oregon to southern California. **Host plants** - *Abies* sp., *Pinus coulteri* D. Don, *P. ponderosa* Douglas ex Lawson & P. Lawson, *P. sabiniana* Douglas ex D. Don (Pinaceae).

*Leptura kerniana* Fall, 1907: 249; Garnett, 1918: 249 (distr.); Swaine & Hopping, 1928: 27; Linsley & Chemsak, 1976: 107; Cope, 1984: 30 (hosts); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 89 (cat.); Linsley & Chemsak, 1997: 389 (hosts); Chemsak, 2005: 319, 340, pl. 23, fig. 2 (biol., distr., hosts); Monné, M.A. & Hovore, 2006: 164 (checklist);  
*Strangalia (Strangalia) kerniana*; Aurivillius, 1912: 243 (cat.); Boppe. 1921: 100.

#### 4. *Leptura pacifica* (Linsley, 1940)

**Type locality** - Holotype female: United States, California: Pinon Flats, southeastern margin of San Jacinto Mountains, Riverside County. (CASC). **Distribution** - United States (Southern California). **Host plants** - *Quercus john-tuckeri* K.C. Nixon & C.H. Muller (Fagaceae).

*Strangalia pacifica* Linsley, 1940: 255, fig. 1.

*Leptura (Leptura) pacifica*; Linsley & Chemsak, 1976: 103, fig. 26; Monné, M.A., 1995: 90 (cat.); Chemsak, 2005: 318, 334, pl. 22, fig. 10; Monné, M.A. & Hovore, 2006: 164 (checklist);

*Leptura pacifica*; Skiles, Hovore & Giesbert, 1978: 107 (biol.); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Swift, 2008: 5 (distr., hosts); Haack, Keena & Eyre, 2017: 76 (biol.)

#### 5. *Leptura sequoiae* (Hopping, 1934)

**Type locality** - Holotype male: United States, California: Sequoia National Park. (CNCI). **Distribution** - Sierra Nevada & northern Coast ranges. **Host plants** - *Quercus* sp. (Fagaceae).

*Neobellamira sequoiae* Hopping, 1934: 115; 1937: 23, pl. 5; Ruetten, 1970: 20 (type).

*Leptura (Leptura) sequoiae*; Linsley & Chemsak, 1976: 105; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 91 (cat.); Chemsak, 2005: 318, 336, pl. 22, fig. 11 (biol., hosts); Monné, M.A. & Hovore, 2006: 164 (checklist);

#### *Lepturobosca* Reitter, 1912

*Leptura (Lepturobosca)* Reitter, 1912: 17; Sama, 2003: 25. Danilevsky, 2014: 290; Bousquet. Laplante, Hammond & Langor, 2017: 139

**Type species** - *Leptura virens* Linnaeus, 1758 (monotypy)

*Leptura (Cosmosalia)* Casey, 1913: 267

*Cosmosalia*; Casey, 1924: 281; Chemsak, 1964: 232; Linsley & Chemsak, 1976: 181; Monné, M.A., 1995: 113; Chemsak, 2005: 40, 433; Monné, M.A. & Hovore, 2006: 162 (checklist);

**Type-species** - *Leptura chrysocoma* Kirby, 1837 (original designation).

#### 1. *Lepturobosca chrysocoma* (Kirby, 1837)

**Syntypes locality** - Syntypes: Canada, Saskatchewan, Nova Scotia, Cumberland House. (BMNH). **Distribution** - Yukon Territory to Newfoundland, California to New Mexico and northern Mexico. **Host plants** - *Alnus* sp. (Betulaceae), *Picea nigra* Link, *Pinus contorta* Douglas ex Loudon, *P. flexilis* James, *P. jeffreyi* Balfour, *P. ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae), *Populus trichocarpa* Torrey & A. Gray (Salicaceae).

*Leptura chrysocoma* Kirby, 1837: 179, pl. 5, fig. 1; Haldeman, 1847a: 65; LeConte, 1850b: 236; 1850b: 339; 1869: 371 (distr.); Bethune, 1872: 112; LeConte, 1873a: 220; Horn, 1876: 170; Provancher, 1877a: 615, 620 (biol.); Snow, 1877a: 19 (distr.); 1878: 76 (distr.); 1883: 42 (distr.); Holland, 1888: 91 (distr.); Wickham, 1890: 35 (distr.); Leng, 1890: 190, 198; Harrington, 1890: 185 (distr.); 1894b: 15 (distr.); Hanham, 1894: 352 (biol.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 191; 1897c: 158 (distr.); 1899: 7 (distr.); Harrington, 1899: 108 (distr.); Wickham, 1900: 598 (distr.); Fall, 1901: 150 (distr.); Knaus, 1902: 149 (distr.); MacGillivray & Houghton, 1902: 252 (distr.); Chagnon, 1905: 36 (distr.); Fall & Cockerell,

- 1907: 193 (distr.); Wright & Coolidge, 1908: 68 (distr.); Adams, 1909: 201 (distr.); Lovell, 1915: 78 (biol.); 1915: 144; Morris, 1915: 19 (hosts); Notman, 1916: 166 (distr.); Chagnon, 1917: 234 (distr.); Garnett, 1918: 251 (distr.); Boppe, 1921: 90; Craighead, 1923: 91, 94, pl. 14, fig. 3 (larva); Mundinger, 1924: 318; Hardy, 1926b: 30; Kirk & Knull, 1926: 25 (distr.); Essig, 1926: 453 (hosts); Procter, 1927: 112 (distr.); Leonard, 1928: 441 (distr.); Tanner, 1928: 278 (distr.); Criddle, 1928: 97 (distr.); Fletcher, 1929: 259 (distr.); Knowlton, 1930: 75 (distr.); Beaulne, 1932: 200 (hosts); Chagnon, 1939: 86 (distr.); Procter, 1946: 179; Hardy, 1955: B50; 1957: D65.
- Leptura (Cosmosalia) chrysocoma*: Casey, 1913: 267; Leng, 1920: 274 (cat.); Hatch, 1925: 580 (distr.); Webster, 2016: 485.
- Anoploclera chrysocoma*: Swaine & Hopping, 1928: 62, pl. 9, fig. 94; Brown, 1934: 229 (distr.); Mank, 1934: 80 (distr.); Canova, 1936: 127 (distr., hosts); Knowlton & Thatcher, 1936: 281 (distr.); Chagnon, 1936: 249; Doane *et al.*, 1936: 275 (biol.); Lange, 1937: 175 (biol.); Malkin, 1941: 290 (distr.); Hardy, 1942: 10; Townes, 1944: 772 (paras.); Hardy, 1945: 92, pl. 5, fig. 28 (biol.); Carl & Hardy, 1945: C36; Knull, 1946: 168; Hardy, 1948: 32; 1949: K44 (distr.); Knowlton & Wood, 1950: 11 (distr.); Clark, 1956: 41 (distr.); Gardiner, 1957: 251; Linsley, Knull & Statham, 1961: 25 (distr.); Chagnon & Robert, 1962: 249; Gardiner, 1966: 202, 207, figs 5, 37; Bayer & Shenefelt, 1969: 8, fig. 17; Gardiner, 1970: 285 (biol.); Wilson, 1971: 61 (biol.); Hatch, 1971: 135, pl. 17, fig. 4; Penrose & Westcott, 1974: 72 (biol.); Kirk & Balsbaugh, 1975: 97 (distr.); Gosling & Gosling, 1976: 17 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 89 (biol.); Furniss & Carolin, 1977: 295 (biol.); Miliczky & Osgood, 1979: 133 (biol.).
- Cosmosalia chrysocoma*: Chemsak, 1964: 232; Linsley & Chemsak, 1976: 181, figs 48, 49; Hansen & Osgood, 1983: 149 (biol.); Gosling, 1986: 255 (hosts); Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 113 (cat.); Yanega, 1996: 32, pl. 9, fig. 102; Linsley & Chemsak, 1997: 356 (hosts); Heffern, 1998: 10 (distr.); Vlasák & Vlasakova, 2002: 205 (distr.); Chemsak, 2005: 434, pl. 27, fig. 11; Monné, M.A. & Hovore, 2006: 162 (checklist); Majka, McCorcuodale & Smith, 2007: 259 (distr.); MacRae & Rice, 2007: 246 (distr., biol.); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.); Rice, MacRae & Merickel, 2017: 670 (distr.).
- Lepturobosca chrysocoma*: Bousquet. *Laplante, Hammond & Langor*, 2017: 138, pl. 30
- Leptura auripilis* LeConte, 1850a: 339.
- Leptura (Cosmosalia) auripilis*: Casey, 1913: 267; Leng, 1920: 273 (cat.).
- Cosmosalia auripilis*: Casey, 1924: 281.
- Type locality** - Holotype: United States, New Mexico: Santa Fe. (MCZN).
- Leptura (Cosmosalia) aureola* Casey, 1913: 268; Leng, 1920: 274 (cat.); Lingafelter *et al.*, 2014: 22, 368, fig. 22o (lectotype).
- Type locality** - Lectotype female: United States, Colorado. (USNM).
- Cosmosalia auripilis densepilosa* Casey, 1924: 281; Lingafelter *et al.*, 2014: 23, fig. 23g (holotype).
- Type locality** - Holotype female: United States, Utah: North Fork, Provo Canyon. (USNM).
- 2. *Lepturobosca nigrolineata* (Bland, 1865)**
- Type locality** - Holotype: United States, Colorado Territory. (ANSP). **Distribution** - United States (Colorado and New Mexico).
- Leptura nigrolineata* Bland, 1865: 383; LeConte, 1873a: 220; Provancher, 1877a: 615, 621; Horn, 1880a: xii; Snow, 1885: 68 (distr.); Leng, 1890: 190, 198 (distr.); Wickham, 1900: 598 (distr.); 1901: 151; Van Dyke, 1906: 227 (distr.); Fall & Cockerell, 1907: 193 (distr.); Boppe, 1921: 91; Papp, 1955: 117 (distr.).
- Leptura (Cosmosalia) nigrolineata*: Casey, 1913: 267; Leng, 1920: 274 (cat.).
- Anoploclera nigrolineata*: Swaine & Hopping, 1928: 63, pl. 10, fig. 95; Canova, 1936: 128 (distr.); Hatch, 1971: 135, pl. 15, fig. 2.
- Cosmosalia nigrolineata nigrolineata*: Monné, M.A., 1995: 114 (cat.); Heffern, 1998: 10 (distr.); Rice, MacRae & Merickel, 2017: 670 (distr.).
- Leptura nigrolineata truxali* Papp, 1955: 217.

*Cosmosalia nigrolineata truxali*; Linsley & Chemsak, 1976: 185; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 114 (cat.).

**Type locality** - Holotype male: United States, New Mexico: Sangre de Cristo Range, Truchas Mountains. (ANSP).

### ***Lepturopsis* Linsley & Chemsak 1976**

*Lepturopsis* Linsley & Chemsak, 1976: 158; Monné, M.A., 1995: 107; Chemsak, 2005: 39, 404; Monné, M.A. & Hovore, 2006: 164 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 135

**Type-species** - *Leptura dolorosa* LeConte, 1861 (original designation)

#### **1. *Lepturopsis biforis* (Newman, 1841)**

**Type locality** - Holotype: United States, New York: Trenton Falls. (BMNH). **Distribution** - This species ranges from Cape Breton Island to the western side of Lake Superior in northwestern Ontario, south to Mississippi and southern North Carolina. **Host plants** - *Castanea* sp. (Fagaceae), *Pinus* sp., *Tsuga* sp. (Pinaceae), *Populus* sp. (Salicaceae).

*Leptura biforis* Newman, 1841: 70; Haldeman, 1847a: 64; LeConte, 1850a: 338; 1873: 220; Leng, 1890: 190; Laurent, 1893: 7 (distr.); Hamilton, 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b : 191; Chagnon, 1905: 35 (distr.); Morris, 1908: 447 (biol.); 1909a: 61 (biol.); 1909b: 417; Leng, 1910: 77 (distr.); Dickerson, 1911: 207 (distr.); Fisher & Kirk, 1912: 313 (distr.); Lovell., 1915: 114; Frost, 1916: 389; Chagnon, 1917: 234 (distr.); Blackman, 1918: 131; Britton, 1920: 268 (distr.); Boppe, 1921: 90; Morris, 1921: 14 (biol.); Craighead, 1923: 91, 93 (larva); Kirk & Knull, 1926: 25 (distr.); Fletcher, 1926: 143 (distr.); Procter, 1927: 112 (distr.); Leonard, 1928: 442 (distr.); Beaulne, 1932: 200 (hosts); Brimley, 1938: 213 (distr.); Procter, 1946: 179 (distr.).

*Leptura (Dorcasina) biforis*; Casey, 1913: 271; Leng, 1920: 274 (cat.).

*Anoplodera biforis*; Swaine & Hopping, 1928: 59, pl. 9, fig. 90; Knull, 1932: 63; Chagnon, 1936: 250, pl. 16, fig. 4; Knull, 1946: 167; Dillon & Dillon, 1961: 615, pl. 60, No. 18; Chagnon & Robert, 1962: 250, pl. 16, fig. 4; Bayer & Shenefelt, 1969: 7, fig. 16; Kirk, 1970: 77; Wilson, 1971: 60 (biol.); Baker, 1972: 197; Gosling & Gosling, 1976: 16, fig. 113 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 89 (biol.).

*Lepturopsis biforis*; Linsley & Chemsak, 1976: 161; Perry, 1977: 98 (distr.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1986: 156 (hosts); Chemsak, Linsley & Noguera, 1992: 97 (cat.); Monné, M.A., & Giesbert, 1994: 166 (checklist); Monné, M.A., 1995: 107 (cat.); Yanega, 1996: 36, pl. 7, fig. 82; Linsley & Chemsak, 1997: 391 (hosts); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 404, pl. 26, fig. 8; Monné, M.A. & Hovore, 2006: 164 (checklist); Lingafelter, 2007: 29, 141, 2 figs, pl. 7f (hosts); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 135, pl. 30

*Leptura (Dorcasina) laurentica* Casey, 1913: 217; Leng, 1920: 274 (cat.); Lingefelter *et al.*, 2014: 88, fig. 96i (holotype).

*Leptura laurentica*; Leonard, 1928: 442 (distr.).

**Type locality** - Holotype male: United States, New York: Bluff Point on Lake Champlain, 3 miles below Plattsburg. (USNM).

#### **2. *Lepturopsis dolorosa* (LeConte, 1861)**

**Type locality** - Holotype: United States, East of Fort Colville. (MCZN). **Distribution** - British Columbia north to Haida Gwaii and east to the Okanagan Valley South to central California. **Host plants** - *Pseudotsuga menziesii* (Mirbel) Franco, *P. mucronata* Rafinesque, *P. taxifolia* (Poiret) Britton (Pinaceae).

*Leptura dolorosa* LeConte, 1861: 355; 1869: 371; 1873a: 220; Leng, 1890: 189, 198; Fall, 1901: 150 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 251 (distr.); Boppe, 1921: 91; Hardy & Preece, 1926: 36 (biol., hosts); Hardy, 1926b: 30, pl. 4, fig. 10.

*Leptura (Cosmosalia) dolorosa*; Casey, 1913: 267; Leng, 1920: 274 (cat.).  
*Anoplodera dolorosa*; Swaine & Hopping, 1928: 59, pl. 9, fig. 89; Canova, 1936: 128 (distr., hosts); Hardy, 1942: 10 (biol.); 1945: 90, fig. 10; 1949: K25, K 44; 1955: B50; 1957: D65; Hatch, 1971: 134; Penrose & Westcott, 1974: 72 (biol.).  
*Lepturopsis dolorosa*; Linsley & Chemsak, 1976: 159, fig. 43; Chemsak, Linsley & Noguera, 1992: 97 (cat.); Monné, M.A., & Giesbert, 1994: 166 (checklist); Monné, M.A., 1995: 108 (cat.); Linsley & Chemsak, 1997: 391 (hosts); Chemsak, 2005: 404, pl. 26, fig. 7; Monné, M.A. & Hovore, 2006: 164 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 136, pl; 30

### ***Lycochoriolaus* Linsley & Chemsak, 1976**

*Lycochoriolaus* Linsley & Chemsak, 1976: 34; Chemsak, 2005: 227 (rev.); Monné, M. A., 2006: 125 (cat.); Monné, M.A. & Hovore, 2006: 165 (checklist); Monné, M.L. & Monné, M.A., 2008: 42 (key South American spp.); Monné, M.A., 2012: 121.  
**Type-species** - *Leptura lateralis* Olivier, 1795 (original designation).

#### **1. *Lycochoriolaus lateralis* (Olivier, 1795)**

**Type locality** - Holotype female: Amérique septentrionale. (MNHN). **Distribution** - Southeastern and Gulf States from North Carolina to Florida and eastern Texas to southern Mexico (Oaxaca, Tamaulipas, Veracruz, Chiapas).

*Leptura lateralis* Olivier, 1795: (73) 22, pl. 3, fig. 37; Schoenherr, 1817: 487.

*Typocerus lateralis*; LeConte, 1850a: 335.

*Euryptera lateralis*; LeConte, 1873b: 328; Bates, 1885: 284; Horn, 1886a: 139; 1889: 199 (syn.); Packard, 1889: 225; Leng, 1890: 213; Belon, 1897: 342; Ulke, 1903: 26 (distr.); Wickham, 1909b: 402 (distr.); Blatchley, 1910: 31 (distr.); Kirk & Knull, 1926: 26 (distr.); Hopping, 1937: 27, pl. 6; Brimley, 1938: 214 (distr.); Loding, 1945: 118 (distr.); Knull, 1946: 184, pl. 27, fig. 116; Sherman, 1946: 127 (distr.); Linsley, 1961b: 134.

*Euryptera lateralis lateralis*; Knull, 1954: 129; Kirk, 1970: 79.

*Choriolaus lateralis*; Linsley & Chemsak, 1971: 12

*Lycochoriolaus lateralis*; Linsley & Chemsak, 1976: 35; Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 97 (cat.); Noguera & Chemsak, 1998: 403; Monné, M.A., & Giesbert, 1994: 166 (checklist); Chemsak, 2005: 228, pl. XVI, figs 11, 12, pl. XVII, fig. 1; Monné, M.A., 2006: 125 (cat.); Monné, M.A. & Hovore, 2006: 165 (checklist); Lingafelter, 2007: 34, 141, 2 pls., pl. 8i; García Morales *et al.*, 2015:111 (distr.); Bezark, 2019a: 409 (distr.)

*Leptura distans* Germar, 1823: 524.

*Typocerus distans*; LeConte, 1850a: 335.

*Euryptera distans*; Lacordaire, 1868: 455.

**Type locality** - Holotype: United States, Kentucky. (ZMHB).

*Euryptera flavatra* Blatchley, 1914: 92; 1922: 31 (distr.).

*Euryptera lateralis flavatra*; Knull, 1954: 129.

*Euryptera lateralis* var. *flavatra*; Linsley, 1961b: 134.

**Type locality** - Holotype: United States, Florida: near Dunedin. (IUBC).

*Euryptera subintegra* Casey, 1924: 285; Brimley, 1938: 214 (distr.); Lingafelter *et al.*, 2014: 328, figs 164i, j (holotype).

**Type locality** - Holotype female: United States, North Carolina: Southern Pines (USNM).

### ***Megachoriolaus* Linsley, 1970**

*Megachoriolaus* Linsley, 1970: 128; Linsley & Chemsak, 1971: 3; Chemsak & Linsley, 1974: 35; 1976: 41; Linsley & Chemsak, 1976: 28; Chemsak, 2005: 219 (rev.); Monné, M.A., 2006: 127 (cat.); Monné, M.L. & Monné, M.A., 2008: 46 (key South American spp.); Monné, M.A., 2012: 121.

**Type-species** - *Megachoriolaus chemsaki* Linsley, 1970 (original designation).

#### **1. *Megachoriolaus cruentus* (Martin, 1930)**

**Type locality** - Holotype female: United States, Arizona: Huachuca Mountains (Carr Canyon). (CASC). **Distribution** - Mountains of southeastern Arizona. **Host plants** - *Quercus* sp. (Fagaceae).

*Euryptera cruenta* Martin, 1930: 70; Linsley, 1961b: 138.

*Euryptera cruentata*; Hopping, 1937: 27 (error).

*Euryptera cruneta*; Knull, 1954: 129 (error).

*Megachoriolaus cruentus*; Chemsak & Linsley, 1974: 35; 1976: 41; Linsley & Chemsak, 1976: 29; Chemsak, Linsley & Noguera, 1992: 97 (cat.); Monné, M.A., & Giesbert, 1994: 166 (checklist); Monné, M.A., 1995: 48 (cat.); Linsley & Chemsak, 1997: 395 (hosts); Giesbert & Hovore, 1998: 21; Chemsak, 2005: 220, pl. 16, fig. 6; Monné, M.A. & Hovore, 2006: 165 (checklist); Monné, M.L. & Monné, M.A., 2008: 46.

## 2. *Megachoriolaus ignitus* (Schaeffer, 1908)

**Type locality** - Holotype female: United States, Arizona: Huachuca Mountains. (USNM).

**Distribution** - Southern Arizona Mountains (Santa Rita, Huachuca, Chiricahua, Piñaleno).

**Host plants** - *Quercus* sp. (Fagaceae).

*Leptura ignita* Schaeffer, 1908: 341; Boppe, 1921: 91.

*Cyphonotida ? ignita*; Leng, 1920: 273 (cat.).

*Euryptera ? ignita*; Swaine & Hopping, 1928: 65.

*Euryptera ignita*; Hopping, 1937: 27; Knull, 1954: 129; Linsley, 1961b: 138; Linsley, Knull & Statham, 1961: 25 (distr.).

*Megachoriolaus ignitus*; Linsley, 1970: 128; Chemsak & Linsley, 1974: 35; 1976: 41; Linsley & Chemsak, 1976: 31, fig. 10; Chemsak, Linsley & Noguera, 1992: 97 (cat.); Monné, M.A., & Giesbert, 1994: 166 (checklist); Monné, M. A., 1995: 48 (cat.); Linsley & Chemsak, 1997: 395 (hosts); Giesbert & Hovore, 1998: 20 (syn.); Chemsak, 2005: 220, pl. 16, fig. 9; Monné, M.A. & Hovore, 2006: 165 (checklist); Monné, M.L. & Monné, M.A., 2008: 46; Lingafelter *et al.*, 2014: 78, fig. 85 c (holotype).

*Euryptera breviceps* Linsley, 1961b: 139.

*Megachoriolaus breviceps*; Linsley, 1970: 128; Chemsak & Linsley, 1974: 35; 1976: 30; Linsley & Chemsak, 1976: 30; Chemsak, Linsley & Noguera, 1992: 97 (cat.); Monné, M. A., 1995: 48 (cat.).

**Type locality** - Holotype male: United States, Arizona: Huachuca Mountains. (CASC).

## 3. *Megachoriolaus texanus* (Knull, 1941)

**Type locality** - Holotype female: United States, Texas: Davis Mts. (FMNH). **Distribution** - United States (Texas: Davis Mts.). **Host plants** - *Quercus* sp. (Fagaceae).

*Euryptera texana* Knull, 1941: 388, fig. 1; 1954: 129; Linsley, 1961b: 133; Chemsak, 1977: 175 (types).

*Megachoriolaus texanus*; Linsley, 1970: 129; Chemsak & Linsley, 1974: 35; 1976: 41; Linsley & Chemsak, 1976: 31; Chemsak, Linsley & Noguera, 1992: 97 (cat.); Monné, M.A., & Giesbert, 1994: 166 (checklist); Monné, M.A., 1995: 49 (cat.); Giesbert & Hovore, 1998: 21; Chemsak, 2005: 221, pl. 16, fig.s 7, 8; Monné, M.A. & Hovore, 2006: 165 (checklist); Monné, M. L. & Monné, M.A., 2008: 46.

## *Nealosterna* Podany 1961

*Alosterna (Nealosterna)* Podany, 1961: 27; 1963: 47

*Nealosterna*; Linsley & Chemsak, 1976: 85; Monné, M.A., 1995: 86; Chemsak, 2005: 37, 310; Monné, M.A. & Hovore, 2006: 166 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 123 (key spp.)

**Type-species** - *Leptura capitata* Newman, 1841 (monotypy).

## 1. *Nealosterna capitata* (Newman, 1841)

**Syntypes locality** - Syntypes: United States, New York: Trenton Falls. (BMNH).

**Distribution** - This species ranges from Nova Scotia to Wisconsin and Iowa, south to Arkansas, Mississippi, and Georgia. In Canada, it is known from Cape Breton Island to the



- Sault Ste. Marie area in Ontario. **Host plants** - *Betula alleghaniensis* Britton (Betulaceae), *Quercus velutina* Lamarck (Fagaceae).
- Leptura capitata* Newman, 1841: 71; LeConte, 1873a: 217; Provancher, 1877a: 614; Horn, 1885a: 6; Leng, 1890: 188, 194; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 190; Ouellet, 1902: 122 (distr.); Macgillivray & Houghton, 1902: 252 (distr.); Morris, 1909b: 416 (biol.); Blatchley, 1910: 1056; Lovell, 1915: 114; Chagnon, 1917: 234 (distr.).
- Grammoptera capitata*; Haldeman, 1847a: 65.
- Strangalia capitata*; LeConte, 1850a: 331; Boppe, 1921: 100.
- Charisalia capitata*; Casey, 1913: 256; Leng, 1920: 273 (cat.); Kirk & Knull, 1926: 25 (distr.); Leonard, 1928: 440 (distr.); Beaulne, 1932: 199; Brimley, 1938: 213 (distr.); Procter, 1946: 178 (distr.); Knull, 1946: 156.
- Alosterna capitata*; Swaine & Hopping, 1928: 23, pl. 1, fig., 19, pl. 13, fig. 36; Chagnon, 1936: 251; Chagnon & Robert, 1962: 251; Kirk, 1970: 78; Wilson, 1971: 59 (biol.); Laliberté, Chantal & LaRochelle, 1977: 89 (biol.).
- Alosterna (Nealosterna) capitata*; Podany, 1961: 28; 1963: 47.
- Nealosterna capitata*; Linsley & Chemsak, 1976: 88; Turnbow & Franklin, 1980: 339 (distr.); Hansen & Osgood, 1983: 149; Gosling, 1984: 80 (biol.); 1986: 156 (hosts); Chemsak, Linsley & Noguera, 1992: 89 (cat.); MacRae, 1993: 241; Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 86 (cat.); Yanega, 1996: 36, pl. 5, fig. 52; Linsley & Chemsak, 1997: 403 (hosts); Schiefer, 1998: 121 (distr.); Burne, 1998: 393 (distr.); Vlasák & Vlasakova, 2002: 207 (distr.); Chemsak, 2005: 310, pl. 21, fig. 7; Monné, M.A. & Hovore, 2006: 166 (checklist); Rice & Veal, 2006: 259 (distr.); Lingafelter, 2007: 26, 141, 2 figs, pl. 6d (hosts); MacRae & Rice, 2007: 247 (distr., hosts); Guarnieri, 2009: 15 (distr.); Steury & MacRae, 2014: 9 (distr., hosts); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 123, pl. 24

## 2. *Nealosterna rubida* (LeConte, 1873)

- Type locality** - Holotype: United States, California. (MCZN). **Distribution** - From Vancouver Island and the Lower Mainland in southwestern British Columbia south to southern California. **Host plants** - *Abies* sp., *Tsuga* sp. (Pinaceae).
- Leptura rubida* LeConte, 1873a: 224; Leng, 1890: 187; Hamilton, 1895: 338 (distr.); Fall, 1901: 150 (distr.); Garnett, 1918: 249 (distr.).
- Strangalia (Strangalia) rubida*; Aurivillius, 1912: 244 (cat.); Boppe, 1921: 100
- Strangalepta rubida*; Casey, 1913: 257; Leng, 1920: 273 (cat.).
- Strangalepta (Alosterna) rubida*; Hardy, 1927b: C36.
- Alosterna rubida*; Swaine & Hopping, 1928: 23, pl. 1, fig. 18, pl.13, fig. 35; Canova, 1936: 127 (distr.); Hatch, 1971: 126.
- Alosterna (Alosterna) rubida*; Podany, 1961: 28; 1963: 47.
- Nealosterna rubida*; Linsley & Chemsak, 1976: 86, fig. 20 (syn.); Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 87 (cat.); Linsley & Chemsak, 1997: 403 (hosts); Chemsak, 2005: 310, pl. 21, figs 5, 6; Monné, M.A. & Hovore, 2006: 166 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 123, pl. 24
- Strangalepta keeni* Casey, 1913: 257; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 84, fig. 92a (holotype).
- Alosterna keeni*; Swaine & Hopping, 1928: 24; Canova, 1936: 127 (distr.); Podany, 1961: 28; 1963: 47; Hatch, 1971: 126.
- Type locality** - Holotype male: Canada, British Columbia: Inverness. (USNM).

## *Neobellamira* Swaine & Hopping 1928

- Neobellamira* Swaine & Hopping, 1928: 15; Bradley, 1930: 237; Hopping, 1934: 115; 1937: 22; Arnett, 1962: 858, 878; Chemsak, 1964: 233; Hatch, 1971: 124; Linsley & Chemsak, 1976: 4; Monné, M.A., 1995: 58; Chemsak, 2005: 35, 190; Monné, M.A. & Hovore, 2006: 166 (checklist)6
- Type- species** - *Strangalia delicata* LeConte, 1874 (original designation).

### 1. *Neobellamira delicata delicata* (LeConte 1874)

**Syntypes locality** - Syntypes: United States, California. (MCZN). **Distribution** - Western Oregon to southern Sierra Nevada along west side, coastally to San Luis, Obispo County, California. **Host plants** - *Juglans californica* s. Watson, *J. regia* Linnaeus (Juglandaceae), *Fremontodendron californicum* (Torrey) Coville (Sterculiaceae)  
*Strangalia delicata* LeConte, 1874: 68; Leng, 1890: 157; Fall, 1901: 149 (distr.); Garnett, 1918: 252.  
*Strangalia (Strangalina) delicata*; Aurivillius, 1912: 245 (cat.).  
*Strangalina delicata*; Boppe, 1921: 103.  
*Neobellamira delicata*; Swaine & Hopping, 1928: 15; Hopping, 1934: 115; Hatch, 1971: 127, pl. 14, fig. 4; Linsley & Chemsak, 1976: 4; Chemsak, Linsley & Noguera, 1992: 98 (cat.).  
*Ophistomis delicata*; Barrett, 1932: 291 (hosts); Moore, 1937: 89 (distr.).  
*Neobellamira delicata delicata*; Linsley & Chemsak, 1976: 5, figs 1, 2; Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 58 (cat.); Linsley & Chemsak, 1997: 403 (hosts); Chemsak, 2005: 191, pl. 14, fig. 10; Monné, M.A. & Hovore, 2006: 166 (checklist); MacRae & Rice, 2007: 247 (biol., distr.); Heffern, Vlasak & Alten, 2017: 748 (hosts)

#### 1a. *Neobellamira delicata australis* Linsley & Chemsak, 1976

**Type locality** - Holotype male: United States, California: Mt. Laguna, San Diego Co. (CASC). **Distribution** - Southern California. **Host plants** - *Alnus rhombifolia* Nuttall (Betulaceae), *Quercus kelloggii* Newberry (Fagaceae), *Juglans* sp. (Juglandaceae), *Fraxinus excelsior* Linnaeus (Oleaceae).  
*Neobellamira delicata australis* Linsley & Chemsak, 1976: 5, fig. 2; Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 59 (cat.); Chemsak, 2005: 192, pl. 14, figs 11, 12; Monné, M.A. & Hovore, 2006: 166 (checklist); Swift, 2008: 5 (distr., hosts); Vlasák, 2014: 318 (hosts).

#### *Orthochoriolaus* Linsley & Chemsak, 1976

*Orthochoriolaus* Linsley & Chemsak, 1976: 36; Chemsak, 2005: 230 (rev.); Monné, M.A., 2006: 132 (cat.); Monné, M.A. & Hovore, 2006: 166 (checklist); Monné, M.A., 2012: 122.  
**Type-species** - *Euryptera chihuahuae* Bates, 1885 (original designation).

### 1. *Orthochoriolaus chihuahuae* (Bates, 1885)

**Type locality** - Holotype female: Mexico, Chihuahua: Pinos Altos. (BMNH). **Distribution** - United States (southern Arizona), Mexico (Chihuahua, Jalisco).  
*Euryptera chihuahuae* Bates, 1885: 285; Belon, 1897: 342; Linsley, 1961b: 135.  
*Choriolaus chihuahuae*; Linsley & Chemsak, 1971: 8 (syn.).  
*Orthochoriolaus chihuahuae*; Linsley & Chemsak, 1976: 37; Hovore & Giesbert, 1976: 351 (biol.); Chemsak, Linsley & Noguera, 1992: 98 (cat.); Noguera & Chemsak, 1996: 403 (cat.); Chemsak, 2005: 230, pl. XVII, fig. 2; Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 2006: 132 (cat.); Monné, M.A. & Hovore, 2006: 166 (checklist);  
*Euryptera huachucae* Schaeffer, 1905: 164; 1908: 330 (distr.); Saalas, 1936: 80; Hopping, 1937: 28; Knull, 1954: 129; Linsley, 1961b: 136; Linsley, Knull & Statham, 1961: 25 (distr.); Lingafelter *et al.*, 2014: 77, figs 83s, t (syntype); Bezark, 2019a: 405 (distr.)  
**Syntypes locality** - Syntypes male and female: United States, Arizona: Huachuca Mts., Miller's Cañon. (USNM).  
*Euryptera batesi* Linsley, 1961b: 134.  
**Type locality** - Holotype male: Mexico, Chihuahua: Pinos Altos. (BMNH).

#### *Ortholeptura* Casey, 1913

*Ortholeptura* Casey, 1913: 204; Linsley, 1942: 51; Chemsak, 1964: 233; Linsley & Chemsak, 1976: 129; Chemsak, 2005: 368 (rev.); Monné, M.A., 2006: 132 (cat.); Monné, M.A. &

Hovore, 2006: 166 (checklist); Monné, M.A., 2012: 122; Bousquet, Laplante, Hammond & Langor, 2017: 1130

**Type-species** - *Ortholeptura oculea* Casey, 1913 (original designation) [= *Leptura valida* LeConte, 1857].

### 1. *Ortholeptura insignis* (Fall, 1907)

**Syntypes locality** - Syntypes male and female: United States, California: Monterey. (MCZN). **Distribution** - Coastal California from Mendocino to Monterey County and Guadalupe Island, Baja California. **Host plants** - *Alnus rubra* Bongard (Betulaceae), *Lithocarpus densiflora* Rehder (Fagaceae), *Pinus contorta* Douglas ex Loudon, *P. insignis* Douglas ex Loudon, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Leptura insignis* Fall, 1907: 251; Garnett, 1918: 252 (distr.); Essig, 1958: 453 (biol.).

*Ortholeptura insignis*; Casey, 1913: 205; Blaisdell, 1925: 341 (distr.); Keen, 1929: 69; Linsley, 1942: 51; Leech, 1966: 10, figs 11-13 (pupa); Linsley & Chemsak, 1976: 130, figs 33, 34; Cope, 1984: 32 (hosts); Hovore, 1988: 28 (distr.); Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 413 (hosts); Monné, M.A., 2002: 39 (cat. hosts); Chemsak, 2005: 369, pl. XXIV, fig. 4; Monné, M.A., 2006: 132 (cat.); Monné, M.A. & Hovore, 2006: 166 (checklist);

*Anoplodera insignis*; Swaine & Hopping, 1928: 56, pl. 8, fig. 80, pl. 12, fig. 17; Linsley, 1934b: 59 (distr.); Canova, 1936: 128 (distr., hosts)

### 2. *Ortholeptura obscura* (Swaine & Hopping, 1928)

**Type locality** - Holotype female: United States, Washington: Blue Mountains. (USNM).

**Distribution** - Blue Mountains, Washington, Oregon and Idaho. **Host plants** - *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Anoplodera obscura* Swaine & Hopping, 1928: 56, pl. 8, fig. 81; Hatch, 1971: 133, pl. 14, fig. 18.

*Ortholeptura obscura*; Linsley & Chemsak, 1976: 133; Penrose, 1979: 160 (biol.); Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 99 (cat.); Chemsak, 2005: 369, 372, pl. 24, figs 9, 10; Monné, M.A. & Hovore, 2006: 166 (checklist); Lingafelter *et al.*, 2014: 110, fig. 121a (holotype).

### 3. *Ortholeptura valida* (LeConte, 1857)

**Type locality** - Holotype female: United States, Oregon: Shoalwater Bay. (MCZN).

**Distribution** - Pacific Coast from British Columbia to southern California, Mexico (Baja California). **Host plants** - *Calocedrus decurrens* (Torrey) Florin (Cupressaceae), *Abies concolor* Gordon & Glen, *A. magnifica* A. Murray, *Pinus flexilis* James, *P. jeffreyi* Balfour, *P. ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga menziesii* (Mirbel) Franco, *P. taxifolia* (Poiret) Britton, *Tsuga mertensiana* (Bongard) Carrière (Pinaceae).

*Leptura valida* LeConte, 1857: 64, pl. 2, fig. 14; 1869: 371; 1873a: 222; Leng, 1890: 192, 200; Fall, 1901: 149 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 252 (distr.); Craighead, 1923: 92, 98 (larva, pupa).

*Ortholeptura valida*; Casey, 1913: 205; Hardy, 1926b: 28, pl. 4, fig. 1; 1927: C35; Keen, 1929: 69; Beaulne, 1932: 199 (hosts); Leech, 1963: 150, fig. 1; Linsley & Chemsak, 1976: 131; Cope, 1984: 32 (hosts); Hovore, 1988: 28 (distr.); Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 413 (hosts); Monné, M.A., 2002: 39 (cat. hosts); Chemsak, 2005: 371, pl. XXIV, fig. 8; Monné, M.A., 2006: 132 (cat.); Monné, M.A. & Hovore, 2006: 166 (checklist); Ray *et al.*, 2011: 173 (pherom); Bousquet, Laplante, Hammond & Langor, 2017: 131, pl. 28

*Anoplodera valida*; Swaine & Hopping, 1928: 55, pl. 8, fig. 79; Canova, 1936: 129 (distr., hosts); Doane *et al.*, 1936: 174 (biol.); Clark, 1956: 41 (distr.); Tyson, 1966: 202 (hosts); Hatch, 1971: 132, pl. 14, fig. 17.

*Ortholeptura oculea* Casey, 1913: 204; Lingafelter *et al.*, 2014: 291, figs 123a, b (holotype).

**Type locality** - Holotype male: United States, California: Truckee. (USNM).

***Pseudostrangalia* Swaine & Hopping, 1928**

*Pseudostrangalia* Swaine & Hopping, 1928: 24; Bradley, 1930: 236; Knull, 1946: 152, 157; Arnett, 1962: 857, 876; Chemsak, 1964: 234; Bayer & Shenefelt, 1969: 6; Linsley & Chemsak, 1976: 89; Monné, M.A., 1995: 87; Chemsak, 2005: 37, 313; Monné, M.A. & Hovore, 2006: 166 (checklist);

**Type-species** - *Leptura cruentata* Haldeman, 1847 (original designation).

**1. *Pseudostrangalia cruentata* (Haldeman, 1847)**

**Type locality** - Holotype: United States, Pennsylvania. (MCZN). **Distribution** - Eastern North America from Canada to Texas and Iowa. In Canada, it is found in the Lower Great Lakes/St. Lawrence Lowland region, as far north as the Montreal area

*Stenura cruentata* Haldeman, 1847a: 64; LeConte, 1850a: 332; Bland, 1861: 101 (distr.);

*Leptura cruentata*; Gemminger in Gemminger & Harold, 1872: 2865 (cat.); LeConte, 1873a: 217; Leng, 1890: 186, 194; Wickham, 1897b: 189; Smith, 1900: 292 (distr.); Knaus, 1903: 189 (distr.); Davis & Joutel, 1905: 99 (distr.); Blatchley, 1910: 1055; Cloudman, 1925: 33.

*Strangalia cruentata*; Casey, 1913: 258; Leng, 1920: 273 (cat.); Boppe, 1921: 100; Kirk & Knull, 1926: 25 (distr.); Leonard, 1928: 441 (distr.).

*Pseudostrangalia cruentata*; Swaine & Hopping, 1928: 24, pl. 1, fig. 9, pl. 13, fig. 38; Knull, 1946: 157, pl. 4, fig. 13; Bayer & Shenefelt, 1969: 12, fig. 22; Gosling & Gosling, 1976: 11 (distr.); Linsley & Chemsak, 1976: 89, fig. 21; Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); Rice, Turnbow & Hovore, 1985: 21 (distr.); Hovore, Penrose & Neck, 1987: 309 (distr.); Chemsak, Linsley & Noguera, 1992: 99 (cat.); MacRae, 1993: 241 (distr.); Lingafelter & Horner, 1993: 279 (distr.); Monné, M.A., & Giesbert, 1994: 169 (checklist); Monné, M.A., 1995: 87 (cat.); Yanega, 1996: 37, pl. 4, fig. 46; Schiefer, 1998: 121 (distr.); Chemsak, 2005: 314, pl. 21, fig. 8; Monné, M.A. & Hovore, 2006: 168 (checklist); MacRae & Rice, 2007: 248 (distr.); Lingafelter, 2007: 35, 141, 2 figs, pl. 9a; Bousquet. Laplante, Hammond & Langor, 2017: 123, pl. 25

*Strangalia maneei* Casey, 1914: 367; Leng, 1920: 273 (cat.); Brimley, 1928: 213; Lingafelter *et al.*, 2014: 95, fig. 104 u (holotype).

**Type locality** - Holotype: United States, North Carolina: Southern Pines. (USNM).

***Pygoleptura* Linsley & Chemsak, 1976**

*Pygoleptura* Linsley & Chemsak, 1976: 59; Monné, M.A., 1995: 79; Chemsak, 2005: 37, 264; Monné, M.A. & Hovore, 2006: 168 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 122 (key spp.)

**Type-species** - *Leptura nigrella* Say, 1826 (original designation).

**1. *Pygoleptura brevicornis* (LeConte, 1873)**

**Type locality** - Holotype female: United States, Nevada: Virginia City. (MCZN).

**Distribution** - Alaska to southern California and Oregon. **Host plants** - *Abies concolor* Gordon & Glen, *A. magnifica* A. Murray, *Pinus contorta* Douglas ex Loudon, *P. ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Leptura brevicornis* LeConte, 1873a: 226; Horn. 1886b: xiv; Leng, 1890: 186, 196; Garnett, 1918: 250 (distr., hosts); Essig, 1926: 453 (hosts); Keen, 1929: 59; Swan & Papp, 1972: 449.

*Strangalia (Strangalia) brevicornis*; Aurivillius, 1912: 242 (cat.); Boppe, 1921: 100.

*Leptura (Trachysida) brevicornis*; Leng, 1920: 274 (cat.).

*Anoplodera brevicornis*; Swaine & Hopping, 1928: 44, pl. 5, fig. 51; Canova, 1936: 127 (hosts); Doane *et al.*, 1936: 172 (hosts); Tyson. 1966: 202 (hosts); Hatch, 1971: 128.

*Pygoleptura brevicornis* Linsley & Chemsak, 1976: 62; Cope, 1984: 34 (hosts); Chemsak, Linsley & Noguera, 1992: 100 (cat.); Monné, M.A., 1995: 79 (cat.); Linsley & Chemsak, 1997: 428 (hosts); Chemsak, 2005: 265, 270, pl. 19, fig. 3; Monné, M.A. & Hovore, 2006: 168 (checklist);

## 2. *Pygoleptura carbonata* (LeConte, 1861)

**Type locality** - Holotype: United States, Washington Territory. (MCZN). **Distribution** – Southern British Columbia to California and Idaho. **Host plants** - *Populus trichocarpa* Torrey & A. Gray (Salicaceae).

*Leptura* (*Stenura*) *carbonata* LeConte, 1861: 355.

*Leptura carbonata*; Gemminger in Gemminger & Harold, 1872: 2864 (cat.); LeConte, 1873a: 219; Provancher, 1877a: 614; Snow, 1878: 76 (distr.); 1883: 42 (distr.); Leng, 1890: 189, 197; Fall, 1901: 150 (distr.); Fall & Cockerell, 1907: 193 (distr.); Garnett, 1918: 251 (distr.).

*Strangalia* (*Strangalia*) *carbonata*; Aurivillius, 1912: 242 (cat.); Boppe, 1921: 100.

*Leptura* (*Cosmosalia*) *carbonata*; Casey, 1913: 267; Leng, 1920: 273 (cat.).

*Anoploclera carbonata* Swaine & Hopping, 1928: 43, pl. 5, figs 49, 50; Canova, 1936: 127 (hosts); Stace-Smith, 1948: 38; Hatch, 1971: 128.

*Pygoleptura carbonata*; Linsley & Chemsak, 1976: 60; Chemsak, Linsley & Noguera, 1992: 100 (cat.); Monné, M.A., & Giesbert, 1994: 169 (checklist); Monné, M.A., 1995: 79 (cat.); Linsley & Chemsak, 1997: 428 (hosts); Chemsak, 2005: 265, pl. 18, fig. 12; Monné, M.A. & Hovore, 2006: 168 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 122, pl. 23

## 3. *Pygoleptura nigrella nigrella* (Say, 1827)

**Syntypes locality** - Syntypes: United States. (Depository unknown). **Distribution** - Central Alaska to eastern Newfoundland and northern United States to Arizona and the Black Hills in western South Dakota. **Host plants** - *Abies* sp., *Larix laricina* (Duroi) K. Koch, *L. occidentalis* Nuttall, *Picea glauca* (Moench) Voss, *Pinus banksiana* Lambert, *P. contorta* Douglas ex Loudon, *P. resinosa* Aiton, *P. strobus* Linnaeus, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Leptura nigrella* Say, 1827: 279; LeConte, 1859c: 335; Saunders, 1868: 13 (distr.); LeConte, 1873a: 219; Snow, 1877a: 19 (distr.); Provancher, 1877a: 614; Snow, 1883: 42 (distr.); Leng, 1890: 189; Harrington, 1890: 185 (distr.); Hamilton, 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 191; 1897c: 158 (distr.); Slossom, 1906: 325 (distr.); Fall & Cockerell, 1907: 193 (distr.); Adams, 1909: 200 (distr.); Frost, 1916: 389; Chagnon, 1917: 235 (distr.); Garnett, 1918: 251; Carr, 1923: 197; Craighead, 1923: 91, pl. 17, fig. 3 (larva); Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 112 (distr.); Leonard, 1928: 441 (distr.); Chagnon, 1939: 83 (distr.); Procter, 1946: 179 (distr.).

*Stenura nigrella*; Haldeman, 1847a: 63.

*Strangalia nigrella*; LeConte, 1850b: 236 (distr.); 1850a: 333; Boppe, 1921: 100.

*Leptura* (*Cosmosalia*) *nigrella*; Casey, 1913: 267; Leng, 1920: 273 (cat.); Hatch, 1925: 580 (distr.).

*Anoploclera nigrella*; Swaine & Hopping, 1928: 44, pl. 5, fig. 42; Brown, 1930: 244 (distr.); Mank, 1934: 80 (distr.); Chagnon, 1936: 249 (distr.); Doane *et al.*, 1936: 173; Canova, 1936: 128 (distr., hosts); Hardy, 1944: 16 (distr.); Knull, 1946: 165; Hardy, 1948: 32 (distr.); Clark, 1956: 41 (distr.); Townes & Townes, 1960: 575 (paras.); Chagnon & Robert, 1962: 249; Bayer & Shenefelt, 1969: 7, fig. 18; Gardiner, 1970: 285 (hosts); Wilson, 1971: 60 (biol.); Baker, 1972: 197; Gosling & Gosling, 1976: 16 (distr.); Laliberté, Chantal & LaRoche, 1977: 89 (biol.).

*Pygoleptura nigrella*; Linsley & Chemsak, 1976: 61; Chemsak, Linsley & Noguera, 1992: 100 (cat.); O'Neill, Fultz & Ivie, 2008: 30 (distr., biol.); Rice, MacRae & Merickel, 2017: 670 (distr.)

*Pygoleptura nigrella nigrella*; Linsley & Chemsak, 1976: 61; Gosling, 1986: 157 (hosts); Drouin, 1991: 175 (distr.); Monné, M.A., & Giesbert, 1994: 169 (checklist); Monné, M.A., 1995: 79 (cat.); Yanega, 1996: 37, pl. 6, figs 66a, b; Linsley & Chemsak, 1997: 428 (hosts); Heffern, 1998: 11 (distr.); Chemsak, 2005: 265, pl. 19, fig. 1; Monné, M.A. & Hovore, 2006: 168 (checklist); Majka, McCorcuodale & Smith, 2007: 260 (distr.); Majka & Ogden, 2010: 13, figs 2, 4 (distr.); Webster, 2016: 485; Bousquet, Laplante, Hammond & Langor, 2017: 122, pl. 23

*Leptura lacustris* Casey, 1891: 43; Leng & Hamilton, 1896: 175; Wickham, 1897b: 193 (distr.); Boppe, 1921: 91; Lingafelter *et al.*, 2014: 85, 368, fig. 93g (lectotype).

*Brachyleptura lacustris*; Casey, 1913: 251; Leng, 1920: 273; Munding, 1924: 317; Leonard, 1928: 440 (distr.).

*Strangalia (Anastrangalia) lacustris*; Casey, 1924: 280.

**Type locality** - Lectotype: United States, Michigan: Marquette. (USNM).

*Leptura (Cosmosalia) praestans* Casey, 1913: 267; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 302, fig. 135s.

*Leptura praestans*; Engelhardt, 1927: 73 (distr.).

*Anoplodera nigrella* ab. *praestans*; Hatch, 1971: 128.

**Type locality** - Holotype female: United States, Colorado. (USNM).

*Anoplodera nigrella* ab. *nigrita* Hatch, 1971: 128.

*Strangalia (Anastrangalia) serricornis* Casey, 1924: 279; Lingafelter *et al.*, 2014: 318, 370, fig. 153i (lectotype).

*Strangalia serricornis*; Leng & Mutchler, 1927: 41 (cat.).

**Type locality** - Holotype female: United States, Michigan: Marquette. (USNM).

### 3a. *Pygoleptura nigrella oregonensis* Linsley & Chemsak, 1976

**Type locality** - Holotype male: United States, Oregon: Oasis Spring, Crater Lake National Park. (CASC). **Distribution** - Oregon to California.

*Pygoleptura nigrella oregonensis* Linsley & Chemsak, 1976: 62; Chemsak, Linsley & Noguera, 1992: 100 (cat.); Monné, M.A., & Giesbert, 1994: 169 (checklist); Monné, M.A., 1995: 80 (cat.); Chemsak, 2005: 269, pl. 19, fig. 2; Monné, M.A. & Hovore, 2006: 168 (checklist);

### *Stenelytrana* Gistel, 1848

*Stenelytrana* Gistel, 1848b: 132 (*nomem nov. pro Stenura* Dejean, 1835); Monné, M.A., 2006: 134 (cat.); Monné, M.A. & Hovore, 2006: 168 (checklist); Monné, M.A., 2012: 122; Bousquet, Laplante, Hammond & Langor, 2017: 123

*Leptura (Stenelytrana)*; Chemsak, 2005: 316.

*Stenura* Dejean, 1835: 381, not *Stenura* Cuvier, 1829, Aves; Chemsak, 1964: 233.

*Leptura (Stenura)*; Linsley & Chemsak, 1976: 92.

**Type-species** - *Leptura emarginata* Fabricius, 1787 (subsequent designation, Chemsak, 1964: 233).

*Leptura (Megaleptura)* Casey, 1913: 267.

**Type-species** - *Leptura emarginata* Fabricius, 1787 (subsequent designation, Chemsak, 1964: 233).

### 1. *Stenelytrana emarginata* (Fabricius 1787)

**Syntypes locality** - Syntypes: Cayenne. (HUMG). **Distribution** - Eastern United States to Texas and Kansas. In Canada, it occurs in the Lower Great Lakes/St. Lawrence Lowland region, as far north as the Montreal area **Host plants** - *Acer* sp. (Aceraceae), *Betula* sp. (Betulaceae), *Celtis* sp. (Cannabaceae), *Castanea* sp., *Fagus ferruginea* Aiton, *Quercus palustris* Du Roi, *Q. velutina* Lamarck, *Q. falcata* Michaux (Fagaceae), *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Salix nigra* Marshall (Salicaceae), *Ulmus americana* Linnaeus, *U. fulva* Michaux (Ulmaceae).

*Leptura emarginata* Fabricius, 1787: 158; Gmelin, 1790: 1869; Fabricius, 1793: 341; Olivier, 1795: 5, pl. 3, fig. 26; 1797: 514; Fabricius, 1801: 356; Schoenherr, 1817: 477; LeConte, 1858: 41 (distr.); Lacordaire, 1868: 448; LeConte, 1873a: 216; Provancher, 1877a: 614; Popenoe, 1877: 33 (distr.); Lugger, 1884: 204 (hosts); Leng, 1890: 186, 192; Hamilton, 1895: 338 (distr.); Beutenmuller, 1896: 77 (hosts); Hopkins, 1896: 46 (biol.); Wickham, 1897b: 189; Smith, 1900: 292 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Felt, 1906: 436, 724; Smith, 1910: 331; Blatchley, 1910: 1055; Daecke, 1911: 478 (hosts); Leng, 1911: 215 (distr.); Fisher & Kirk, 1912: 313 (distr.); Dow, 1914: 65; Morse, 1915: 212; Nicolay, 1919: 69 (distr.); Britton, 1920: 268 (distr.); Craighead, 1923: 91, 96, pl. 7, fig. 8 (larva); Champlain, Kirk & Knull, 1925: 107 (hosts); Kirk & Knull, 1926: 25 (distr.); Swaine &

Hopping, 1928: 26, pl. 2, fig. 22; Leonard, 1928: 441 (distr.); Beaulne, 1932: 200; Davis, 1932: 213 (distr.); Loding, 1933: 148 (distr.); Knull, 1934: 210 (hosts); Sherman, 1946: 127 (distr.); Fattig, 1947: 18 (distr.); Alexander, 1958: 47 (distr.); Dillon & Dillon, 1961: 610, pl. 51, No. 3; Bayer & Shenefelt, 1969: 11; Wilson, 1971: 59 (biol.); Swan & Papp, 1972: 449, fig. 954; Gosling & Gosling, 1976: 12 (distr.); Turnbow & Franklin, 1980: 340 (distr.); Arnett, 1985: 369, fig. 24.205; Glaser, 1992: 153 (distr.); Yanega, 1996: 35, pl. 5, fig. 61; Linsley & Chemsak, 1997: 389 (hosts); Vlasák & Vlasakova, 2002: 206 (distr.).

*Stenura emarginata*; Dejean, 1835: 355 (cat.); Haldeman, 1847a: 62.

*Strangalia emarginata*; LeConte, 1850a: 328; Bland, 1861: 101 (distr.); Boppe, 1921: 100.

*Leptura (Megaleptura) emarginata*; Casey, 1913: 267; Leng, 1920: 273 (cat.); Chemsak, Linsley & Noguera, 1992: 96 (cat.); MacRae, 1993: 241 (distr.).

*Megaleptura emarginata*; Chemsak, 1964: 233.

*Leptura (Stenura) emarginata*; Linsley & Chemsak, 1976: 93, fig. 22; Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 92 (cat.); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 121 (distr.).

*Leptura (Stenelytrana) emarginata*; Chemsak, 2005: 316, pl. 21, fig. 9.

*Stenelytrana emarginata*; Monné, M.A. & Hovore, 2006: 168 (cat.); MacRae & Rice, 2007: 248 (distr., hosts); Lingafelter, 2007: 35, 141, 2 figs, pl. 8j (hosts); Holt, 2013: 244 (distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 124, pl. 25

## 2. *Stenelytrana gigas* (LeConte, 1873)

**Syntypes locality** - Syntypes: United States, Texas. (MCZN). **Distribution** - United States (Texas), northern Mexico (Chihuahua, Nuevo León, Tamaulipas). **Host plants** - *Quercus emoryi* Torr., *Q. hypoleuca* A. Camus (Fagaceae), *Populus* sp., *Salix nigra* (Salicaceae).

*Leptura gigas* LeConte, 1873a: 223; Popenoe, 1877: 33 (distr.); Leng, 1890: 192; Swaine & Hopping, 1928: 26, pl. 2, fig. 21; Vogt, 1949: 143 (hosts, distr.).

*Strangalia (Strangalia) gigas*; Aurivillius, 1912: 243 (cat.).

*Leptura (Megaleptura) gigas*; Casey, 1913: 267.

*Leptura (Stenura) gigas*; Linsley & Chemsak, 1976: 96, fig. 22; Hovore, 1983: 383 (biol.); Hovore, Penrose & Neck, 1987: 309 (biol.); MacKay, Zak & Hovore, 1987: 365 (distr., hosts); Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 166 (checklist); Lingafelter & Horner, 1993: 179 (distr.); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 389 (hosts); Monné, M.A., 2002: 38 (cat. hosts).

*Leptura (Stenelytrana) gigas*; Chemsak, 2005: 322, pl. XXI, fig. 11.

*Stenelytrana gigas*; Monné, M.A., 2006: 134 (cat.); Monné, M.A. & Hovore, 2006: 169 (checklist); Gutiérrez & Noguera, 2015: 137 (distr.); García Morales *et al.*, 2015: 111 (distr.).

## 3. *Stenelytrana splendens* (Knull, 1935)

**Type locality** - Holotype female: United States, Arizona: Globe. (FMNH), **Distribution** - United States (Arizona).

*Leptura splendens* Knull, 1935: 191; Chemsak, 1977: 176 (type).

*Leptura (Stenura) splendens*; Linsley & Chemsak, 1976: 94, fig. 23; Monné, M.A., & Giesbert, 1994: 166 (checklist); Monné, M.A., 1995: 93 (cat.).

*Leptura (Megaleptura) splendens*; Chemsak, Linsley & Noguera, 1992: 96 (cat.).

*Leptura (Stenelytrana) splendens*; Chemsak, 2005: 316, 320, pl. 21, fig. 10.

*Stenelytrana splendens*; Monné, M.A. & Hovore, 2006: 169 (cat.).

## *Stenostrophia* Casey 1913

*Stenostrophia* Casey, 1913: 248, 264; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 108; Monné, M.A., 1995: 93; Chemsak, 2005: 38, 341, 342; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 126 (key spp.)

**Type-species** - *Leptura tribalteata* LeConte, 1873 (original designation).

## 1. *Stenostrophia amabilis* (LeConte 1857)

**Type locality** - Holotype: United States, Washington: Steilacoom, Pierce County (southwest of Tacoma). (MCZN). **Distribution** - This species ranges from southern British Columbia, including Vancouver Island, as far north as the Tweedsmuir Provincial Park area (Map 184), south to the northern part of the Sierra Nevada in California. **Host plants** - *Pinus jeffreyi* Balfour, *P. ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Leptura amabilis* LeConte, 1857: 64; 1873a: 217; Leng, 1890: 187, 194; Van Dyke, 1920: 44 (distr.).

*Strangalia (Strangalia) amabilis*; Aurivillius, 1912: 242 (cat.); Leng, 1920: 273 (cat.); Boppe, 1921: 100; Hardy, 1926b: 29.

*Anoplodera amabilis*; Swaine & Hopping, 1928: 49, pl. 6, fig. 60; Canova, 1936: 127 (distr., hosts); Hatch, 1971: 130, pl. 14, fig. 11; Penrose & Westcott, 1974: 72 (biol.).

*Stenostrophia amabilis*; Linsley & Chemsak, 1976: 114; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 93 (cat.); Linsley & Chemsak, 1997: 436 (hosts); Chemsak, 2005: 342, 348, pl. 23, fig. 7; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 127, pl. 26

## 2. *Stenostrophia coquilletti* (Linell, 1897)

**Type locality** - Holotype male: United States, California: Wilson's Peak, Los Angeles County. (USNM). **Distribution** - Central to southern California.

*Leptura coquilletti* Linell, 1897: 398; Fall, 1901: 149; Garnett, 1918: 249 (distr.).

*Judolia Coquilletti*; Aurivillius, 1912: 227 (cat.); Boppe, 1921: 94.

*Stenostrophia coquilletti*; Casey, 1913: 264; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 109, fig. 27; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 94 (cat.); Chemsak, 2005: 342, pl. 23, fig. 3; Monné, M.A. & Hovore, 2006: 168 (checklist); Lingafelter *et al.*, 2014: 46, fig. 48e (holotype).

*Anoplodera coquilletti*; Swaine & Hopping, 1928: 49, pl. 6, fig. 59.

*Anoplodera amabilis* var. *coquilletti*; Moore, 1938: 89 (distr.).

## 3. *Stenostrophia tribalteata tribalteata* (LeConte, 1873)

**Type locality** - Holotype male: United States, California: Inyo County, Owen's Valley. (MCZN). **Distribution** - East side of Sierra Nevada to west central Nevada.

*Leptura tribalteata* LeConte, 1873a: 224; Leng, 1890: 188, 195; Hamilton, 1892: 298 (syn.); Leng & Hamilton, 1896: 174 (syn.); Fall, 1901: 349 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 249 (distr.).

*Judolia tribalteata*; Aurivillius, 1912: 228 (cat.); Boppe, 1921: 94.

*Stenostrophia tribalteata*; Casey, 1913: 248; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 110; Chemsak, Linsley & Noguera, 1992: 102 (cat.).

*Anoplodera tribalteata*; Swaine & Hopping, 1928: 49, pl. 6, fig. 58; Doane *et al.*, 1936: 173; Canova, 1936: 129 (distr.).

*Anoplodera amabilis* var. *tribalteata*; Moore, 1937: 89 (distr.).

*Stenostrophia tribalteata tribalteata*; Linsley & Chemsak, 1976: 111, fig. 128; Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 94 (cat.); Chemsak, 2005: 345, pl. 23, fig. 4; MacRae & Rice, 2007: 249 (biol., distr.).

*Stenostrophia tribalteata sierrae* Linsley & Chemsak, 1976: 113, fig. 28; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., 1995: 94 (cat.); Chemsak, 2005: 347, pl. 23, fig. 6; Monné, M.A. & Hovore, 2006: 168 (checklist); MacRae & Rice, 2007: 248 (biol., distr.).

**Type locality** - Holotype: United States, California: Strawberry, Tuolumne County. (CASC).

### 3a. *Stenostrophia tribalteata serpentina* (Casey, 1891)

**Type locality** - Holotype female; United States, Idaho. (USNM). **Distribution** - Ranges from southern British Columbia, north to the Hanceville area in the Chilcotin District, south to southern Oregon and central Nevada, and east to western Wyoming.

*Leptura serpentina* Casey, 1891: 41; Hamilton, 1892: 160 (distr.); Leng & Hamilton, 1896: 174

*Judolia tribalteata* ab. *serpentina*; Aurivillius, 1912: 228 (cat.); Boppe, 1921: 94

*Stenostrophia serpentina*; Casey, 1913: 264



*Anoplodera serpentina*; Horning & Barr, 1970: 37

*Stenostrophia tribalteata serpentina*; Linsley & Chemsak, 1976: 111, fig. 28; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 94 (cat.); Chemsak, 2005: 346, pl. 23, fig. 5; Monné, M.A. & Hovore, 2006: 168 (checklist); Lingafelter *et al.*, 2014: 318, fig. 153 c (holotype); Rice, MacRae & Merickel, 2017: 671 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 127, pl. 26

### ***Stictoleptura (Stictoleptura) Casey 1924***

*Brachyleptura (Stictoleptura) Casey*, 1924: 280.

*Stictoleptura*; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 139; Monné, M.A., 1995: 102; Chemsak, 2005: 39, 281; Monné, M.A. & Hovore, 2006: 169 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 131, (key spp., *nomen protectum*)

*Nephropis* Gosse, 1840 (*nomen oblitum*)

**Type-species** - *Leptura cribripennis* LeConte, 1859 (original designation).

#### **1. *Stictoleptura canadensis canadensis* (Olivier, 1795)**

**Type locality** - Holotype female: Canada. (MNHN). **Distribution** - This subspecies ranges from eastern Newfoundland to western Ontario, north to the Goose Bay area in Labrador, south to southern central Illinois, and through the Appalachian Mountains to northern Georgia westward to Minnesota. **Host plants** - *Acer* sp. (Aceraceae), *Ostrya* sp. (Betulaceae), *Abies* sp., *Larix laricina* (DuRoi) K. Koch, *Picea glauca* (Moench) Voss, *Pinus strobus* Linnaeus, *Tsuga canadensis* (Linnaeus) Carrière (Pinaceae), *Populus trichocarpa* Torrey & A. Gray (Salicaceae).

*Leptura canadensis* Olivier, 1795: 8, pl. 3, fig. 27; Fabricius, 1801: 357; Illiger, 1805: 122; Schoenherr, 1817: 480; Kirby, 1837: 181; Haldeman, 1847a: 64; LeConte, 1850b: 236 (distr.); 1850a: 336; Reed, 1868: 19 (distr., Horn, 1868: 125 (distr.)); Bethune, 1872: 113; LeConte, 1873a: 219; Austin, 1874: 271 (distr.); Horn, 1876: 170; Schaupp, 1878: 20 (distr.); Packard, 1881: 240; Smith, 1882: 25; Horn, 1886: 139; Lintner, 1888: 23; Packard, 1889: 225; Townsend, 1889: 233 (distr.); Wickham, 1890: 35 (distr.); Packard, 1890: 871, fig. 297; Leng, 1890: 185, 197; Harrington, 1890: 185 (distr.); Hamilton, 1893a: 274 (distr.); 1893b: 326 (distr.); Slossom, 1894: 3 (distr.); Hamilton, 1894b: 396; 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Beutenmuller, 1896: 78 (hosts); Wickham, 1897b: 191; 1897c: 158 (distr.); Harrington, 1899: 158 (distr.); Hopkins, 1904: 37 (biol.); Chagnon, 1905: 35 (distr.); Knaus, 1906: 331 (distr.); Felt, 1906: 650 (biol.); Fall & Cockerell, 1907: 193 (distr.); Morris, 1909b: 417; Adams, 1909: 200 (distr.); Blatchley, 1910: 1057; Daecke, 1914: 90 (hosts); Lovell, 1915: 114; Notman, 1916: 166 (distr.); Chagnon, 1917: 234 (distr.); Blackman, 1918: 128; Britton, 1920: 268 (distr.); Boppe, 1921: 90; Forbes, 1922: 345, pl. 35, fig. 65 (morphol.); Craighead, 1923: 92, 97, pl. 22, fig. 3, pl. 28, fig. 2; Cloudman, 1925: 33; Hopping, 1928: 7; Saalas, 1936: 78, fig. 10 (morphol.); Craighead, 1950: 265, fig. 56E (larva).

*Brachyleptura canadensis*; Casey, 1913: 251; Leng, 1920: 273 (cat.); Hatch, 1925: 579; Kirk & Knull, 1926: 24 (distr.); Brues, 1927: 77; Procter, 1927: 111 (distr.); Leonard, 1928: 439 (distr.); Beaulne, 1932: 199 (hosts).

*Brachyleptura (Stictoleptura) canadensis*; Casey, 1924: 280.

*Anoplodera canadensis*; Swaine & Hopping, 1928: 61, pl. 9, fig. 93, pl. 12, fig. 15; Mank, 1934: 80 (distr.); Chagnon, 1936: 249, pl. 16, fig. 3; Doane *et al.*, 1936: 175; Palmerlee, 1941: 377 (hosts); Knull, 1946: 168, pl. 6, fig. 22; Procter, 1946: 178; Knowlton & Wood, 1950: 11 (distr.); Gardiner, 1957: 251; Gibson & Carrillo, 1959: 119 (distr.); Dillon & Dillon, 1961: 616, pl. 61, No. 1; Chagnon & Robert, 1962: 249, pl. 16, fig. 3; Gardiner, 1966: 207, fig. 36; Bayer & Shenefelt, 1969: 8, fig. 17; Gardiner, 1970: 285 (biol.); Wilson, 1971: 60 (biol.); Baker, 1972: 196 (biol.); Penrose & Westcott, 1974: 233 (hosts); Kirk & Balsbaugh, 1975: 97 (distr.); Furniss & Carolin, 1977: 295 (biol.); Laliberté, Chantal & LaRochelle, 1977: 89 (biol.).

- Stictoleptura canadensis*; Linsley & Chemsak, 1976: 139, fig. 36; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Glaser, 1992: 153 (distr.); Lingafelter, 2007: 23, 141, 2 figs, pl. 5d (hosts).
- Stictoleptura canadensis canadensis*; Linsley & Chemsak, 1976: 140, fig. 36; Gosling, 1986: 157 (hosts); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 102 (cat.); Yanega, 1996: 38, pl. 6, fig. 67a,b; Linsley & Chemsak, 1997: 437 (hosts); Vlasák & Vlasakova, 2002: 207 (distr., hosts); Chemsak, 2005: 383, pl. 25, fig. 3; Monné, M.A. & Hovore, 2006: 169 (checklist); Majka, McCorcuodale & Smith, 2007: 260 (distr.); Leavengood & Chapman, 2014: 2 (distr.); Webster, 2016: 485; Bousquet. Laplante, Hammond & Langor, 2017: 132, pl. 28
- Leptura erythroptera* Kirby, 1837: 180 (not Hagenbach, 1822, not Germar, 1823); Haldeman, 1847a: 64; LeConte, 1850a: 336; Bethune, 1872: 113; Wickham, 1890: 35 (distr.); Evans, 1895b: 173 (distr.); Klingeman *et al.*, 2017: 295 (distr.); DiGirolomo & Dodds, 2017: 409 (hosts).
- Leptura canadensis* var. *erythroptera*; Horn, 1876: 170; Schaupp, 1878: 20 (distr.); Hamilton, 1889a: 146; Wickham, 1897b: 19c1; 1897: 167 (distr.); Harrington, 1899: 158 (distr.).
- Anoploclera canadensis* var. *erythroptera*; Hatch, 1971: 134.
- Type locality** - Holotype: Canada, Nova Scotia. (BMMH).
- Leptura annulata* Gory, 1844: 254, pl. 46, figs. 8, 8<sup>a</sup>.
- Type locality** - Holotype female: Amérique du Nord. (Depository unknown).
- Leptura tenuicornis* Haldeman, 1847a: 64.
- Leptura canadensis* var. *tenuicornis*; Wickham, 1897c: 167 (distr.).
- Type locality** - Holotype: United States. (MCZN).
- Leptura cinnamoptera* Haldeman, 1847a: 64 (not Randall, 1838).
- Brachyleptura canadensis cinnamoptera*; Leng, 1920: 273 (cat.).
- Leptura (Leptura) canadensis* ab. *cinnamoptera*; Boppe, 1921: 90.
- Brachyleptura canadensis* var. *cinnamoptera*; Munding, 1924: 317 (distr.); Leonard, 1928: 439 (distr.).
- Type locality** - Holotype: United States. (MCZN).

#### 1a. *Stictoleptura canadensis arizonensis* Linsley & Chemsak, 1976

- Type locality** - Holotype male: United States, Arizona: Catalina Mts. 18 Hk Hy. (CASC).
- Distribution** - United States (Arizona and New Mexico). **Host plants** - *Pinus* sp. (Pinaceae).
- Stictoleptura canadensis arizonensis* Linsley & Chemsak, 1976: 144, fig. 36; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 103 (cat.); Chemsak, 2005: 385, pl. 15, fig. 5; Monné, M.A. & Hovore, 2006: 169 (checklist);

#### 1b. *Stictoleptura canadensis cribripennis* (LeConte, 1859)

- Type locality** - Holotype: United States, Nebraska: Platte River. (MCZN). **Distribution** - Ranges from eastern Manitoba to Vancouver Island, as far north as the Lake Athabasca area in northeastern Alberta, south to the northern part of the Sierra Nevada in California and through the Rocky Mountains to southern New Mexico. **Host plants** - *Ostrya* sp. (Betulaceae), *Quercus garryana* Douglas (Fagaceae), *Abies grandis* (Lambert) Lindley, *Larix laricina* (Duroi) K. Koch, *Picea* sp., *Pinus contorta* Douglas ex Loudon, *P. strobus* Linnaeus, *Pseudotsuga menziesii* (Mirbel) Franco, *Tsuga heterophylla* (Rafinesque) Sargent (Pinaceae), *Populus tremuloides* Michaux, *P. trichocarpa* Torrey & A. Gray, *Salix* sp. (Salicaceae).
- Leptura cribripennis* LeConte, 1859d: 21; 1861: 355 (distr.); Bland, 1861: 101 (distr.); LeConte, 1869: 371 (distr.); Snow, 1877a: 19 (distr.); 1883: 42 (distr.).
- Leptura canadensis cribripennis*; LeConte, 1876: 520.
- Leptura canadensis* var. *cribripennis*; Hamilton, 1889a: 146; Harrington, 1899: 108 (distr.); Fall & Cockerell, 1907: 193 (distr.); Schaeffer, 1908: 330 (distr.); Boppe, 1921: 90.
- Brachyleptura cribripennis*; Casey, 1913: 251; Leng, 1920: 273 (cat.); Hardy, 1926b: 29, pl. 5, fig. 42.

*Anoplodera canadensis* race *cribripennis*; Doane *et al.*, 1936: 175; Knowlton & Thatcher, 1936: 281 (distr.).

*Anoplodera canadensis cribripennis*; Clark, 1956: 41 (distr.).

*Stictoleptura canadensis cribripennis*; Linsley & Chemsak, 1976: 142, figs 36, 37; Cope, 1984: 35 (hosts); Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 103 (cat.); Linsley & Chemsak, 1997: 437 (hosts); Heffern, 1998: 11 (distr.); Chemsak, 2005: 384, pl. 25, fig. 4; Monné, M.A. & Hovore, 2006: 169 (checklist); Rice, MacRae & Merickel, 2017: 671 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 132, pl. 28

*Leptura coccinea* LeConte, 1873a: 226.

*Leptura (Cosmosalia) coccinea*; Casey, 1913: 267; Leng, 1920: 274 (cat.).

**Type locality** - Holotype female: United States, California. (MCZN).

*Leptura canadensis* var. *ebena* Leng, 1890: 185, 197.

*Brachyleptura cribripennis ebena*; Leng, 1920: 273 (cat.).

*Anoplodera canadensis* race *ebena*; Doane *et al.*, 1936: 175; Knowlton & Thatcher, 1936: 281 (distr.); Knowlton & Wood, 1950: 11 (distr.); Clark, 1956: 41 (distr.).

**Type locality** - Type: United States. (Public Museum of Staten Island).

*Brachyleptura (Stictoleptura) cribripennis divisa* Casey, 1924: 281; Lingafelter *et al.*, 2014: 48, 365, fig. 50i (lectotype).

**Type locality** - Lectotype male: United States, Idaho: Bonner County, Priest Lake (USNM).

### ***Strangalepta* Casey 1913**

*Strangalepta* Casey, 1913: 247, 257; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 136; Monné, M.A., 1995: 101; Chemsak, 2005: 39, 377; Monné, M.A. & Hovore, 2006: 170 (checklist)

**Type species** - *Leptura vittata* Olivier, 1797 (original designation) (= *Leptura abbreviata* Germar, 1823)

#### **1. *Strangalepta abbreviata* (Germar, 1823)**

*Leptura vittata* Olivier, 1795: 30, pl. 4, fig. 45; 1797: 523; Schoenherr, 1817: 496; Haldeman, 1847a: 64; 1847b: 374; LeConte, 1850a: 337; Emmons, 1854: 126, pl. 8, fig. 13; Bland, 1861: 101 (distr., hosts); LeConte, 1873a: 221; Horn, 1876: 170 (syn.); Provancher, 1877a: 615; Schaupp, 1880: 84 (biol.); Snow, 1881: 76 (distr.); Horn, 1886: 139; 1889: 199 (syn.); Leng, 1890: 185, 199; Harrington, 1890: 185 (distr.); Hamilton, 1895: 338 (distr.); Evans, 1895a: 142 (distr.); 1895b: 173 (distr.); Wickham, 1897b: 192; 1897c: 158 (distr.); Smith, 1900: 292 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 35 (distr.); Morris, 1909b: 417; Wickham, 1909a: 29 (distr.); Leng, 1910: 77 (distr.); Blatchley, 1910: 1059; Smith, 1910: 331; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 78 (biol.); 1915: 115; Johnson, 1915: 315 (distr.); Chagnon., 1917: 235 (distr.); Nicolay, 1917a: 95 (distr.); Blackman & Stage, 1918: 73 (biol.); Blackman, 1918: 126 (biol.); Nicolay, 1919: 69 (distr.); Cushman & Rohwer, 1921: 520 (paras.); Boppe, 1921: 91; Craighead, 1923: 92, pl. 17, fig. 12 (larva); Cloudman, 1925: 34; (preoccupied).

*Strangalepta vittata*; Casey, 1913: 247; Leng, 1920: 273 (cat.); Britton, 1920: 268 (distr.); Munding, 1924: 318; Hatch, 1925: 579 (distr.); Kirk & Knull, 1926: 25 (distr.); Fletcher, 1926: 143 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 440 (distr.); Wolcott & Montgomery, 1933: 156; Loding, 1933: 148 (distr.); Goldman, 1933: 91; Saalas, 1936: 78 (morphol.); Brimley, 1938: 213 (distr.); Townes, 1944: 772 (paras.); Loding, 1945: 117 (distr.); Procter, 1946: 179; Papp, 1955: 217 (distr.); Linsley & Chemsak, 1976: 137.

*Anoplodera vittata*; Swaine & Hopping, 1928: 65, pl. 10, fig. 103, pl. 12, fig., 16; Chagnon, 1936: 250, pl. 16, fig. 7; Knull, 1946: 170; Gibson & Carrillo, 1959: 119 (distr.); Townes & Townes, 1960: 568 (paras.); Dillon & Dillon, 1961: 617, pl. 51, No. 19; Chagnon & Robert, 1962: 250, pl. 16, fig. 7; Bayer & Shenefelt, 1969: 8, fig. 19; Gardiner, 1970: 286 (biol.); Kirk, 1970: 77; Wilson, 1971: 61 (biol.); Baker, 1972: 197; Gosling & Gosling, 1976: 15 (distr.); Laliberté, Chantal & LaRoche, 1977: 90; Miliczky & Osgood, 1979: 133 (biol.).

**Type locality** - Holotype male: Canada. (MNHN)

*Leptura abbreviata* Germar, 1823: 523.

**Type locality** - Holotype, America Septentrionali (SM S D). **Distribution** - Canada and United States. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Fagus grandifolia* Ehrhart, *Quercus rubra* Linnaeus (Fagaceae), *Picea* sp. (Pinaceae).

*Strangalepta abbreviata*; Linsley & Chemsak, 1976: 137; Turnbow & Franklin, 1980: 339 (distr.); 2, 1983: 149 (distr.); Gosling, 1984: 80 (biol.); 1986: 157 (hosts); Hovore, Penrose & Neck, 1987: 23 (distr.); Chemsak, Linsley & Noguera, 1992: 103 (cat.); MacRae, 1993: 241 (distr.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 101 (cat.); Yanega, 1996: 38, pl. 15, figs 182a, b; Krinsky & Godwin, 1996: 238; Linsley & Chemsak, 1997: 438 (hosts); Vlasák & Vlasakova, 2002: 207 (distr., hosts); Chemsak, 2005: 378, pl. 25, fig. 1; Monné, M.A. & Hovore, 2006: 170 (checklist); Lingafelter, 2007: 28, 31, 142, 2 figs, pl.7d (hosts); Majka, McCorcuodale & Smith, 2007: 260 (distr.); Guarnieri, 2010: 24 (distr.); McDowell, 2011: 412; Holt, 2013: 244 (distr., biol.); Steury & MacRae, 2014: 9 (biol., distr.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 131, pl. 28

**Type locality** - Holotype: America Septentrionali. (SMTD). **Distribution** - This species ranges from Cape Breton Island to the Swan River area in westcentral Manitoba, south to Louisiana and northern Georgia and Nebraska. **Host plants** - *Acer* sp. (Aceraceae), *Betula alleghaniensis* Britton (Betulaceae), *Juniperus* sp. (Cupressaceae), *Castanea* sp., *Quercus* sp. (Fagaceae), *Abies* sp., *Larix laricina* (Duroi) K. Koch, *Picea* sp., *Pinus rigida* Miller, *Tsuga canadensis* (Linnaeus) Carrière (Pinaceae), *Populus* sp. (Salicaceae).

*Leptura semivittata* Kirby, 1837: 183; Haldeman, 1847a: 65; Bethune, 1872: 115.

**Type locality** - Holotype: Canada. (BMNH).

*Leptura gulosa* Kirby, 1837: 184; Haldeman, 1847a: 65; LeConte, 1850a: 340; Bethune, 1872: 115.

*Strangalepta vittata gulosa*; Leng, 1920: 273 (cat.).

**Type locality** - Holotype: Canada, Nova Scotia. (BMNH).

*Leptura nitidipennis* Provancher, 1877a: 616.

**Syntypes locality** - Syntypes: Canada, Québec. (Musée de la Province du Québec).

*Anoplodera vittata* var. *saratogensis* Rau, 1935: 63; Hennessey, 1990: 467 (type).

**Type locality** - Holotype male: United States, New York: Saratoga Springs. (Staten Island Institute of Arts and Sciences).

### ***Strangalia* Dejean, 1835**

*Strangalia* Dejean, 1835: 355; Audinet-Serville, 1835: 220; LeConte, 1850a: 327; 1854b: 219; Thomson, 1861: 144, 154; 1864: 141; Lacordaire, 1868: 450; Chenu, 1870: 331; Girard, 1873: 737; LeConte, 1873a: 211; 1873b: 328; Redtenbacher, 1874: 432; Provancher, 1877a: 29; 1877b: 331; LeConte & Horn, 1883: 313; Leng, 1890: 157; Casey, 1891: 39; Wickham, 1897b: 187; Blatchley, 1910: 1051; Casey, 1913: 247, 258; Boppe, 1921: 95; Swaine & Hopping, 1928: 13, 15; Linsley, 1938: 107 (syn.); Knull, 1946: 152, 182; Chemsak, 1964: 235; 1969: 2; Linsley & Chemsak, 1971: 23; 1976: 7; Chemsak & Linsley, 1976b: 216; Villiers, 1980: 154; Giesbert, 1985: 273 (key spp.); 1986: 140; Monné, M.L. & Monné, M. A., 2005: 228 (key spp.); Chemsak, 2005: 193 (rev.); Monné, M.A., 2006: 134 (cat.); Monné, M.A. & Hovore, 2006: 170 (checklist); Monné, M.L. & Monné, M.A., 2008: 48 (key South American spp.); Bousquet & Bouchard, 2013: 94; Bousquet, Laplante, Hammond & Langor, 2017: 117 (key spp.)

**Type-species** - *Leptura luteicornis* Fabricius, 1775 (subsequent designation, Thomson, 1860: 154).

*Ophistomis* Thomson, 1857: 319; 1861a: 154; 1864: 140; Lacordaire, 1868: 451; Bates, 1870: 311; 1880: 38; Casey, 1913: 248, 275; Boppe, 1921: 103; Bradley, 1930: 236; Arnett, 1962: 858, 878; Chemsak, 1964: 233.

*Capito* Gistel, 1848b: xi (unjustified new name not in prevailing usage).

*Ophistomis* Gemminger *in* Gemminger & Harold, 1872: 2875 (unjustified emend., cat.).

**Type-species** - *Ophistomis flavocinctus* Thomson, 1861 (subsequent designation, Thomson, 1864: 140).

*Strangalia (Strangalina) Aurivillius*, 1912: 245 (*nomem nov. pro Strangalia*).

*Strangalina*; Boppe, 1921: 102; Swaine & Hopping, 1928: 13, 16; Bradley, 1930: 236; Hopping, 1937: 23; Dillon & Dillon, 1961: 597, 622; Arnett, 1962: 858, 878; Chemsak, 1964: 235; Bayer & Shenefelt, 1969: 5, 12.

### 1. *Strangalia acuminata* (Olivier, 1795)

**Type locality** - Holotype male: Amérique Septentrionale. (MNHN). **Distribution** - This species ranges from southern New Hampshire to southern Wisconsin, south to northern Louisiana and northern Florida and Canada, Ontario. **Host plants** - *Alnus* sp., *Ostrya virginiana* (Miller) K. Koch (Betulaceae), *Viburnum dentatum* Linnaeus (Caprifoliaceae), *Carpinus* sp. (Corylaceae), *Quercus* sp. (Fagaceae), *Hamamelis virginiana* Linnaeus (Hamamelidaceae), *Physocarpus* sp. (Rosaceae).

*Leptura acuminata* Olivier, 1795: 20, pl. 3, fig. 35; Schoenherr, 1817: 488.

*Strangalia acuminata*; LeConte, 1850a: 330; Bland, 1861: 101 (distr.); Lacordaire, 1868: 451; LeConte, 1873a: 212; Horn, 1885a: 6 (syn.); 1886: 139; Leng, 1890: 157; Hamilton, 1895: 338 (distr.); Smith, 1900: 291 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Evans, 1906: 99 (distr.); Knaus, 1906: 106 (distr.); Smith, 1910: 330; Blatchley, 1910: 1051; Banks, 1912: 106; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 115; Johnson, 1915: 315 (distr.); Nicolay, 1919: 68 (distr.); Craighead, 1923: 92 (larva); Knull, 1934: 210 (hosts); 1946: 183, pl. 5, fig. 18; Linsley & Chemsak, 1976: 22; Gosling & Gosling, 1976: 7 (distr.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); Arnett, 1985: 369, fig. 24.204; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 59 (cat.); Yanega, 1996: 39, pl. 6, fig. 62; Krinsky & Godwin, 1996: 239; Linsley & Chemsak, 1997: 438 (hosts); Peck & Thoms, 1998: 120 (distr.); Schiefer, 1998: 22 (distr.); Burne, 1998: 393 (distr.); Vlasák & Vlasakova, 2002: 207 (distr., hosts); Senchina, 2005: 329, fig. 3 (biol.); Chemsak, 2005: 196, 213, pl. 16, fig. 1; Monné, M.A. & Hovore, 2006: 170 (checklist); Lingafelter, 2007: 38, 142, 2 figs, pl. 10a; Staines, 2008: 147 (distr.); Guarnieri, 2009: 15 (distr.); Holt, 2013: 244 (biol., distr.); Steury & MacRae, 2014: 10 (distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 117, pl. 23

*Strangalia (Strangalina) acuminata*; Aurivillius, 1912: 245 (cat.).

*Ophistomis acuminata*; Leng, 1920: 274 (cat.); Britton, 1920: 268 (distr.); Champlain, Kirk & Knull, 1925: 108 (hosts); Kirk & Knull, 1926: 26 (distr.); Leonard, 1928: 443 (distr.); Davis, 1932: 213 (distr.); Beaulne, 1932: 200 (hosts); Loding, 1933: 148 (distr.); Brimley, 1938: 214 (distr.); Loding, 1945: 118 (distr.).

*Strangalina acuminata*; Boppe, 1921: 103; Hopping, 1937: 24, pl. 6; Dillon & Dillon, 1961: 622, pl. 62, No. 3; Wilson, 1971: 62 (biol.); Swan & Papp, 1972: 451, fig. 961.

*Strangalia emaciata* Newman, 1841: 68; Haldeman, 1847a: 61.

**Type locality** - Holotype: United States. (BMNH).

*Strangalia unicolor* Haldeman, 1847a: 62; LeConte, 1850a: 330; Lacordaire, 1868: 451.

*Strangalia (Strangalina) acuminata* ab. *unicolor*; Aurivillius, 1912: 245 (cat.).

*Ophistomis acuminata unicolor*; Leng, 1920: 274 (cat.); Brimley, 1938: 214 (distr.).

*Strangalina acuminata* ab. *unicolor*; Boppe, 1921: 103.

*Strangalia acuminata unicolor*; Kirk, 1970: 78.

**Type locality** - Holotype: United States, Pennsylvania. (MCZN).

### 2. *Strangalia antennata* Schaeffer, 1908

**Syntypes locality** - Syntypes female: United States, Arizona: Huachuca Mountains. (USNM). **Distribution** - Mountains of southeastern Arizona. **Host plants** - *Quercus* sp. (Fagaceae).

*Strangalia antennata* Schaeffer, 1908: 342; Linsley & Chemsak, 1976: 19, fig. 6; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 171 (checklist);

Monné, M.A., 1995: 60 (cat.); Linsley & Chemsak, 1997: 438 (hosts); Chemsak, 2005: 196, 208, pl. 15, figs 9, 10; Monné, M.A. & Hovore, 2006: 170 (checklist);  
*Strangalia (Bellamira) antennata*; Aurivillius, 1912: 244 (cat.).  
*Bellamira antennata*; Casey, 1913: 272; Boppe, 1921: 102; Linsley. Knull & Statham, 1961: 25 (distr.).  
*Neobellamira antennata*; Hopping, 1937: 21.

### 3. *Strangalia bicolor* (Swederus, 1787)

**Type locality** - Type: America Septentrionale. (Depository unknown). **Distribution** - Eastern United States to Colorado. Canada, southern Ontario. **Host plants** - *Acer* sp. (Aceraceae), *Quercus alba* Linnaeus (Fagaceae).

*Leptura bicolor* Swederus, 1787: 197; Gmelin, 1790: 1875; Olivier, 1797: 523; Schoenherr, 1817: 488; Horn, 1868: 125 (distr.).

*Strangalia bicolor*; Haldeman, 1847a: 61; LeConte, 1850a: 329; 1859d: 197; Bland, 1861: 101 (distr.); Lacordaire, 1868: 451; LeConte, 1873b: 312; Schaupp, 1874: 34 (distr.); Townsend, 1889: 233 (distr.); Leng, 1890: 157; Hamilton, 1895: 338 (distr.); Knab, 1896: 113 (distr.); Wickham, 1897b : 187; Smith, 1900: 291 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Smith, 1910: 330; Blatchley, 1910: 1052; Leng, 1911: 215 (distr.); Banks, 1912: 106; Fisher & Kirk, 1912: 313 (distr.); Cushman & Rohwer, 1921: 521 (paras.); Craighead, 1923: 91, pl. 14, fig. 2 (larva); Knull, 1946: 183; Fattig, 1947: 21; Linsley, 9: 125 (biol.); Kirk, 1970: 78; Linsley & Chemsak, 1976: 17; Gosling & Gosling, 1976: 7, fig. 81 (distr.); Gosling, 1977: 163, fig. 1; Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 102 (cat.); MacRae, 1993: 238 (distr.); Shimomura, 1994: 163 (dist6r.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 61 (cat.); Yanega, 1996: 39, pl. 5, fig. 54; Linsley & Chemsak, 1997: 438 (hosts); Heffern, 1998: 24; Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 195, 205, pl. 15, fig 6, 7; Monné, M.A. & Hovore, 2006: 170 (checklist); Rice & Veal, 2006: 259 (distr.); Lingafelter, 2007: 34, 142, 2 figs, pl. 8g (hosts); Staines, 2008: 147 (distr.); Guarnieri, 2009: 15 (distr.); McDowell, 2011: 412 (biol.); Holt, 2013: 244 (biol., distr.); Spomer, 2014: 298, fig. 3 (distr.); Steury & MacRae, 2014: 10 (distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 117, pl. 23; Heffern, Vlasák & Alten, 2018: 748 (hosts)

*Strangalia (Strangalina) bicolor*; Aurivillius, 1912: 245 (cat.).

*Ophistomis bicolor*; Casey, 1913: 278; Kirk & Knull, 1926: 26 (distr.); Leonard, 1928: 443 (distr.); Beaulne, 1932: 200 (hosts); Brimley, 1938: 214 (distr.); Loding, 1945: 118 (distr.); Alexander, 1958: 49 (distr.).

*Strangalina bicolor*; Boppe, 1921: 103; Hopping, 1937: 25, pl. 6; Townes, 1944: 773 (paras.); Townes & Townes, 1960: 578 (paras.); Dillon & Dillon, 1961: 623, pl. 62, No. 1; Wilson, 1971: 62 (biol.).

*Leptura bicolorata* Turton, 1806: 352 (emendation).

*Leptura bicolor* Say, 1824: 418.

**Syntypes localities** - Syntypes: United States, Pennsylvania, Ohio and Mississippi. (Depository unknown).

*Ophistomis simulans* Casey, 1913: 278; Lingafelter *et al.*, 2014: 320, 368, fig. 156e (lectotype).

**Type locality** - Lectotype male: United States, Colorado. (USNM).

### 4. *Strangalia cambrei* Linsley & Chemsak 1976

**Type locality** - Holotype male: United States, Mississippi: Scott County. (CASC).  
**Distribution** - United States (Mississippi).

*Strangalia cambrei* Linsley & Chemsak, 1976: 20, fig. 7; Chemsak, Linsley & Noguera, 1992: 102 (cat.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 62 (cat.); Schiefer, 1998: 122 (distr.); Chemsak, 2005: 196, 210, pl. 15, fig. 11; Monné, M.A. & Hovore, 2006: 170 (checklist);

### 5. *Strangalia famelica famelica* Newman 1841

- Syntypes locality** - Syntypes: United States. (BMNH). **Distribution** - East of the Appalachian Mts. from Massachusetts to Florida. **Host plants** - *Betula* sp. (Betulaceae), *Castanea dentata* (Marshall) Borkhausen, *Quercus stkeellata* Wagenh. (Fagaceae).
- Strangalia famelica* Newman, 1841: 68; LeConte, 1850a: 330; Bland, 1861: 101 (biol., distr.); Lacordaire, 1868: 451; LeConte, 1873a: 212; Horn, 1885a: 6; Townsend, 1889: 233 (distr.); Leng, 1890: 157; Banks, 1912: 106; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 115; Dozier, 1918: 335 (distr.); Nicolay, 1919: 68 (distr.); Craighead, 1923: 91 (larva); Dillon & Dillon, 1961: 623, pl. 62, No. 4; Kirk, 1970: 78; Linsley & Chemsak, 1976: 12; Stein & Tigestad, 1976: 41 (distr.); Gosling & Gosling, 1976: 7 (distr.); Bouseman, 1977: 180 (biol.); Chemsak, Linsley & Noguera, 1992: 103 (cat.); Yanega, 1996: 39, pl. 5, fig. 57a-c; Vlasák & Vlasakova, 2002: 208 (distr.); Guarnieri, 2009: 15 (distr.);
- Strangalia familica*; Haldeman, 1847a: 61.
- Strangalia (Strangalina) famelica*; Aurivillius, 1912: 245 (cat.).
- Ophistomis famelica*, Casey, 1913: 276; Champlain, Kirk & Knull, 1925: 108 (hosts); Kirk & Knull, 1926: 26 (distr.); Leonard, 1928: 442 (distr.); Brimley, 1938: 214 (distr.); Knull, 1946: 183; Alexander, 1958: 49 (distr.); Gibson & Carrillo, 1959: 119 (distr.).
- Strangalina famelica*; Boppe, 1921: 103; Hopping, 1937: 25, pl. 6; Wilson, 1971: 62 (biol.).
- Strangalia famelica famelica*; Linsley & Chemsak, 1976: 13; Turnbow & Franklin, 1980: 340 (distr.); Hovore, 1983: 383 (distr.); Waters & Hyche, 1984: 284 (distr.); Monné, M.A., & Giesbert, 1994: 171 (checklist); Monné, M.A., 1995: 63 (cat.); Linsley & Chemsak, 1997: 438 (hosts); Peck & Thomas, 1998: 120 (distr.); Chemsak, 2005: 201, pl. 15, fig. 2; Monné, M.A. & Hovore, 2006: 170 (checklist); Lingafelter, 2007: 36, 142, 2 figs, pl. 9f (hosts); Holt, 2013: 244 (biol., distr.); Steury & MacRae, 2014: 10 (biol., distr.). Klingeman *et al.*, 2017: 295 (distr.)
- Strangalia obsoleta* Haldeman, 1847a: 61; LeConte, 1850a: 329; Lacordaire, 1868: 451.
- Strangalia (Strangalina) famelica* ab. *obsoleta*; Aurivillius, 1912: 245 (cat.).
- Ophistomis famelica obsoleta*; Leng, 1920: 274 (cat.).
- Type locality** - Holotype: United States, Pennsylvania. (MCZN).
- Strangalia obsoleta* var. *flaviceps* Haldeman, 1847a: 61.
- Strangalia (Strangalina) obsoleta* ab. *flaviceps*; Aurivillius, 1912: 245 (cat.).
- Ophistomis famelica flaviceps*; Leng, 1920: 274 (cat.).
- Type locality** - Holotype: United States. (MCZN).
- Strangalia familica* var. *confluenta* Haldeman, 1847a: 61.
- Strangalia famelica* var. *confluens*; Haldeman, 1847b: 374.
- Strangalia (Strangalina) famelica* ab. *confluenta*; Aurivillius, 1912: 245 (cat.).
- Syntypes locality** - Syntypes: United States. (MCZN).
- Ophistomis ochreipennis* Casey, 1913: 278; Lingafelter *et al.*, 2014: 291, fig. 122 g (lectotype).
- Type locality** - Lectotype: United States. (USNM).

## 6. *Strangalia luteicornis* (Fabricius, 1775)

- Type locality** - Holotype: United States, Carolina. (BMNH). **Distribution** - Eastern North America from Ontario to Florida to Kansas and Texas. In Canada, it is known from the Montreal area in southern Quebec to the Windsor area in southern Ontario. **Host plants** - *Betula nigra* Linnaeus (Betulaceae), *Viburnum dentatum* Linnaeus (Caprifoliaceae), *Carpinus caroliniana* Walter (Corylaceae), *Vaccinium corymbosum* Linnaeus (Ericaceae), *Fagus ferruginea* Aiton, *F. grandifolia* Ehrhart, *Quercus* sp. (Fagaceae), *Lindera benzoin* (Linnaeus) Blume (Lauraceae), *Prunus virginiana* Linnaeus (Rosaceae), *Ulmus* sp. (Ulmaceae), *Vitis* sp. (Vitaceae).
- Leptura luteicornis* Fabricius, 1775: 197; Zimsen, 1964: 183 (type).
- Leptura luteicornis*; Fabricius, 1781: 248; 1787: 160; 1793: 345; Olivier, 1795: 20, pl. 3, fig. 34; 1797: 520; Fabricius, 1801: 361; Schoenherr, 1817: 488; Horn, 1868: 125 (distr.).
- Strangalia luteicornis*; Dejean, 1835: 355; Audinet-Serville, 1835: 221; Haldeman, 1847a: 61; LeConte, 1850a: 329; Bland, 1861: 101 (biol., distr.); Thomson, 1864: 141; Lacordaire, 1868: 451; Rogers, 1872: 119 (distr.); LeConte, 1873a: 212; Popenoe, 1877: 33 (distr.); Provancher, 1877b: 331 (distr.); Smith, 1882: 25; Horn, 1886: 139; Townsend, 1889: 233 (distr.); Leng,

1890: 157; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 187; Smith, 1900: 291 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Wickham, 1909a: 29 (distr.); Leng, 1910: 77 (distr.); Blatchley, 1910: 1052, fig. 449; Smith, 1910: 330 (distr.); Banks, 1912: 106; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 115; Johnson, 1915: 315 (distr.); Morris, 1915: 21; 1916b: 299 (biol.); Chagnon, 1917: 234 (distr.); Rohwer, 1917: 158 (paras.); Blackman, 1928: 127 (biol.); Nicolay, 1919: 68 (distr.); Craighead, 1923: 91, pl. 14, fig. 1, pl. 30, fig. 4 (larva); Frost, 1937: 202 (distr.); Hoffmann, 1940: 59 (biol.); Smith *et al.*, 1943: 314; Knull, 1946: 184 (biol.); Fattig, 1947: 20 (distr.); Kirk, 1970: 78 (distr.); Gosling & Gosling, 1976: 7, fig. 79 (distr.); Linsley & Chemsak, 1976: 10, figs 3, 4; Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 103 (cat.); Lingafelter & Horner, 1993: 178 (distr.); MacRae, 1993: 239 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., & Giesbert, 1994: 172 (checklist); Monné, M.A., 1995: 65 (cat.); Yanega, 1996: 39, pl. 5, fig. 56; Krinsky & Godwin, 1996: 239 (distr.); Browne & Peck, 1996: 2159 (distr.); Linsley & Chemsak, 1997: 439 (hosts); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 195, 198, pl. 15, fig. 1; Monné, M.A. & Hovore, 2006: 170 (checklist); MacRae & Rice, 2007: 249 (distr., hosts); Lingafelter, 2007: 36, 142, 2 figs, fig. 9e (hosts); Staines, 2008: 147 (distr.); Guarnieri, 2010: 24 (distr.); McDowell, 2011: 412 (biol.); Holt, 2013: 244 (biol., distr.); Hart, Cope & Ivie, 2013: 134, fig. 3 (distr.); Steury & MacRae, 2014: 10 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 118, pl. 23

*Strangalia (Strangalina) luteicornis*; Aurivillius, 1912: 245 (cat.); Saalas, 1936: 80 (morphol.)

*Ophistomis luteicornis*; Casey, 1913: 275; Britton, 1920: 268 (distr.); Champlain, Kirk & Knull, 1925: 108 (hosts); Kirk & Knull, 1926: 26 (distr.); Leonard, 1928: 443 (distr.); Frost & Dietrich, 1929: 436 (distr.); Park, 1931: 191; Beaulne, 1932: 200 (hosts); Brimley, 1938: 214 (distr.); Loding, 1945: 118 (distr.); Alexander, 1958: 49 (distr.); Gibson & Carrillo, 1959: 119 (distr.).

*Strangalina luteicornis*; Boppe, 1921: 103; Rohwer, 1921: 457 (paras.); Swaine & Hopping, 1928: 13; Hopping, 1937: 26, pl. 6; Townes, 1944: 773 (paras.); Townes & Townes, 1960: 486 (paras.); Dillon & Dillon, 1961: 623, pl. 62, No. 2; Bayer & Shenefelt, 1969: 12, fig. 23; Wilson, 1971: 62 (biol.).

*Ophistomis eversa* Casey, 1913: 277; Lingafelter *et al.*, 2014: 58, 368, fig. 62k (lectotype).

**Type locality** - Lectotype male: United States, Illinois. (USNM).

*Ophistomis carolinae* Casey, 1913: 277; Lingafelter *et al.*, 2014: 37, fig. 38o (holotype).

**Type locality** - Holotype male; United States, South Carolina. (USNM).

### 7. *Strangalia occidentalis* Linsley & Chemsak, 1976

**Type locality** - Holotype male: Mexico, Chihuahua: 15 mi N Temoris. (CASC). **Distribution** - United States (Arizona), Mexico (Chihuahua, Sonora).

*Strangalia occidentalis* Linsley & Chemsak, 1976b: 15, fig. 5; Chemsak, Linsley & Noguera, 1992: 103 (cat.); Monné, M.A., & Giesbert, 1994: 172 (checklist); Monné, M.A., 1995: 66 (cat.); Noguera & Chemsak, 1996: 404 (cat.); Monné, M.A., 2006: 141 (cat.); Monné, M.A. & Hovore, 2006: 170 (checklist); Gutiérrez & Noguera, 2015: 137 (distr.).

### 8. *Strangalia sexnotata* Haldeman, 1847

**Type locality** - Holotype: United States. (MCZN). **Distribution** - Virginia to Florida west to Arizona.

*Strangalia sexnotata* Haldeman, 1847a: 61; LeConte, 1850a: 329; Lacordaire, 1868: 451; LeConte, 1873b: 312; Snow, 1883: 42 (distr.); Leng, 1890: 158; Casey, 1891: 39; Hamilton, 1896: 174 (syn.); Fall & Cockerell, 1907: 193 (distr.); Kirk, 1970: 78; Linsley & Chemsak, 1976: 17, fig. 4; Turnbow & Franklin, 1980: 340 (distr.); Glaser, 1986: 355 (distr.); Chemsak, Linsley & Noguera, 1992: 103 (cat.); Lingafelter & Horner, 1993: 178 (distr.); MacRae, 1993: 239 (distr.); Monné, M.A., 1995: 68 (cat.); Yanega, 1996: 39, pl. 5, figs 55a-b; Heffern, 1998: 11 (distr.); Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 196, m207, pl. 15, fig. 8; Monné,



- M.A. & Hovore, 2006: 170 (checklist); MacRae & Rice, 2007: 249 (biol., distr.); Lingafelter, 2007: 39, 142, 2 figs, pl. 10b; Holt, 2013: 244 (distr.).
- Strangalia (Strangalina) sexnotata*; Aurivillius, 1912: 245 (cat.).
- Ophistomis sexnotata*; Casey, 1913: 275; Brimley, 1938: 214 (distr.); Loding, 1945: 118 (distr.); Alexander, 1958: 49 (distr.).
- Strangalina sexnotata*; Boppe, 1921: 103; Hopping, 1937: 26, pl. 6.
- Strangalia montana* Casey, 1891: 40; Fall & Cockerell, 1907: 193 (distr.).
- Strangalia (Strangalina) sexnotata* ab. *montana*; Aurivillius, 1912: 245 (cat.).
- Ophistomis montana*; Casey, 1913: 275; Lingafelter et al., 2014: 101, fig. 111m (holotype).
- Type locality** - Holotype female: United States, New Mexico: Las Vegas. (USNM).
- Ophistomis texana* Casey, 1913: 276; Alexander, 1958: 49 (distr.); Lingafelter et al., 2014: 332, 368, fig. 169o (lectotype).
- Type locality** - Lectotype: female: United States, Texas. (USNM).
- Ophistomis evanescens* Casey, 1913: 276; Alexander, 1958: 49 (distr.); Lingafelter et al., 2014: 58, fig. 62i (holotype).
- Type locality** - Holotype male: United States, Texas: Harris County. (USNM).

### 9. *Strangalia solitaria* Haldeman 1847

- Type locality** - Holotype: United States, Alabama. (MCZ|N). **Distribution** - Canada (Ontario), United States (Western side of the Appalachians to the Great Plains and Alabama and Texas). **Host plants** - *Betula* sp. (Betulaceae), *Quercus* sp. (Fagaceae).
- Strangalia famelica* var. *solitaria* Haldeman, 1847a: 61.
- Strangalia famelica* var. *solitaria*; Haldeman, 1847b: 374.
- Strangalia (Strangalina) famelica* ab. *solitaria*; Aurivillius, 1912: 245 (cat.).
- Ophistomis famelica solitaria*; Leng, 1920: 274 (cat.).
- Strangalina famelica* ab. *solitaria*; Boppe, 1921: 103.
- Strangalia famelica solitaria*; Linsley & Chemsak, 1976: 14; Hovore, 1983: 383 (distr.); Gosling, 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 103 (cat.); MacRae, 1993: 238 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., & Giesbert, 1994: 172 (checklist) Monné, M.A., 1995: 63 (cat.); Yanega, 1996: 39, pl. 5, figs 58a-c; Linsley & Chemsak, 1997: 439 (hosts); Chemsak, 2005: 202, pl. 15, fig. 3; Monné, M.A. & Hovore, 2006: 170 (checklist); McDowell, 2011: 412 (biol.); Holt, 2013: 244 (biol., distr.); Klingeman et al., 2017: 295 (distr.)
- Strangalia solitaria*; Schiefer, 1998: 122 (distr.); Bousquet, Laplante. Hammond & Langor, 2017: 118

### 10. *Strangalia strigosa* Newman, 1841

- Syntypes locality** - Syntypes: United States, Florida: St. John's Bluff. (BMNH).
- Distribution** - United States (Florida and Georgia).
- Strangalia strigosa* Newman, 1841: 69; Lacordaire, 1868: 451; LeConte, 1873a: 212; Horn, 1885a: 6; Leng, 1890: 157; Castle & Laurent, 1896: 303 (distr.); Wickham, 1909a: 29 (distr.); 1909b: 402 (distr.); Dozier, 1918: 335 (distr.); Linsley & Chemsak, 1976: 21; Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 103 (cat.); Monné, M.A., & Giesbert, 1994: 172 (checklist); Monné, M.A., 1995: 68 (cat.); Browne & Peck, 1996: 2159 (distr.); Peck & Thomas, 1998: 120 (distr.); Chemsak, 2005: 196, 211, pl. 15, fig. 12; Monné, M.A. & Hovore, 2006: 172 (checklist); Lingafelter, 2007: 36, 142, 2 figs, pl. 9d.
- Strangalia (Strangalina) strigosa*; Aurivillius, 1912: 245 (cat.).
- Ophistomis strigosa*; Leng, 1920: 274 (cat.).
- Strangalina strigosa*. Boppe, 1921: 103, pl. 8, fig., 6; Hopping, 1937: 26, pl. 6.

### 11. *Strangalia virilis* LeConte, 1873

- Syntypes locality** - United States, Texas. (MCZN). **Distribution** - United States (Texas and Oklahoma). **Host plants** - *Quercus nigra* Linnaeus (Fagaceae).
- Strangalia virilis* LeConte, 1873a: 212; Leng, 1890: 157; Casey, 1891: 39; Linsley & Chemsak, 1976: 14; Hovore, 1983: 383 (biol.); Hovore, Penrose & Neck, 1987: 308 (distr., hosts);

Chemsak, Linsley & Noguera, 1992: 103 (cat.); Lingafelter & Horner, 1993: 178 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist) Monné, M.A., 1995: 69 (cat.); Linsley & Chemsak, 1997: 439 (hosts); Chemsak, 2005: 195, 203, pl. 15, fig. 4; Monné, M.A. & Hovore, 2006: 171 (checklist); Heffern, Vlasák & Alten, 2017: 748 (hosts)

*Strangalia (Strangalina) virilis*; Aurivillius, 1912: 245 (cat.).

*Ophistomis virilis*; Casey, 1913: 275; Alexander, 1958: 49 (distr.);

*Strangalina virilis*; Boppe, 1921: 103.

### ***Strophiona* Casey, 1913**

*Strophiona* Casey, 1913: 248, 264; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 175; Monné, M.A., 1995: 112; Chemsak, 2005: 40, 428; Monné, M.A. & Hovore, 2006: 172 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 137, (key spp.)

**Type-species** - *Leptura laeta* LeConte, 1857 (original designation).

#### **1. *Strophiona laeta* (LeConte, 1857)**

**Syntypes localities** - Syntypes: United States, California: Sacramento. Washington: Steilacoom. (MCZN). **Distribution** - This species ranges from Vancouver Island and the Lower Mainland of British Columbia, south to southern California, and east to New Mexico.

**Host plants** - *Castanopsis chrysophylla* (Douglas) A. de Candolle, *Notholithocarpus densiflorus* (Hook. & Arn.), *Quercus* sp. (Fagaceae).

*Leptura laeta* LeConte, 1857: 64; 1859b: 80 (distr.); 1869: 371 (distr.); 1873a: 218; Rivers, 1886: 7; Leng, 1890: 186, 195; Harrington, 1899: 108 (distr.); Fall, 1901: 149 (distr.); Garnett, 1918: 249 (distr.).

*Judolia laeta*; Aurivillius, 1912: 227 (cat.); Boppe, 1921: 94

*Strophiona laeta*; Casey, 1913: 248, 265; Leng, 1920: 273 (cat.); Essig, 1926: 453 (biol.); Hardy, 1926b: 29, pl. 5, fig. 36; Davis, 1932: 85 (distr.); Linsley & Chemsak, 1976: 177; Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert, 1994: 173 (checklist) Monné, M.A., 1995: 112 (cat.); Linsley & Chemsak, 1997: 439 (hosts); Chemsak, 2005: 429, pl. 27, fig. 9; Monné, M.A. & Hovore, 2006: 172 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 137, pl. 30

*Anoplodera laeta*; Swaine & Hopping, 1928: 52; Canova, 1936: 128 (distr.); Doane *et al.*, 1936: 174 (biol.); Moore, 1937: 89 (distr.); Hardy, 1942: 10 (biol.); 1945: 92; 1957: D65 (distr.); Leech, 1959: 42 (hosts); Linsley, Knull & Statham, 1961: 25 (distr., hosts); Hatch, 1971: 131.

*Strophiona ostenta* Casey, 1913: 265; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 293, fig. 125i (holotype).

**Type locality** - Holotype female: United States, New Mexico. (USNM).

#### **2. *Strophiona nitens* (Forster, 1771)**

**Type locality** - Holotype: America Septentrionale. (LSUK). **Distribution** - Eastern ranges from Prince Edward Island to southeastern Manitoba, south to northern Kansas and northern Florida and Colorado. **Host plants** - *Acer saccharum* Marshall (Aceraceae), *Castanea* sp., *Fagus ferruginea* Aiton, *Quercus alba* Linnaeus, *Q. prinus* Linnaeus (Fagaceae), *Carya* sp., *Juglans nigra* Linnaeus (Juglandaceae).

*Leptura nitens* Forster, 1771: 45; Horn, 1861: 30 (hosts); Bland, 1861: 101 (biol., distr.); LeConte, 1873a: 218; Horn, 1889: 199 (syn.); Leng, 1890: 185, 195; Hamilton, 1891a: 130 (syn); 1893b: 326 (distr.); 1893a: 274 (distr.); 1895: 338 (distr.); Wickham, 1897b: 190; 1897c: 158 (distr.); Chittenden, 1897: 72 (paras.); Smith, 1900: 292 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 35 (distr.); Stevenson, 1905: 91 (biol.); Felt, 1906: 702; Wickham, 1909a: 29 (distr.); Smith, 1910: 331; Blatchley, 1910: 1056, fig. 451; Fisher & Kirk, 1912: 313 (distr.); Rohwer, 1913: 534 (paras.); Lovell, 1915: 114; Chagnon, 1917: 235 (distr.); Nicolay, 1919: 69 (distr.); Rohwer, 1921: 441 (paras.); Craighead, 1923: 92, figs (larva); Cloudman, 1925: 33; Goldman, 1933: 90, pl. 5, fig. 29-31 (morphol.).

*Strangalia nitens*; LeConte, 1852: 176 (syn.).

*Argaleus nitens*; Packard, 1872: 93 (distr.); Horn, 1873: 717; Packard, 1888: 143 (distr.).

*Judolia nitens*; Aurivillius, 1912: 227 (cat.); Boppe, 1921: 94.

*Strophiona nitens*; Casey, 1913: 265; Leng, 1920: 273 (cat.); Britton, 1920: 268 (distr.); Hatch, 1925: 580 (distr.); Kirk & Knull, 1926: 25 (distr.); Leonard, 1928: 441 (distr.); Ware, 1929: 368 (distr.); Frost & Dietrich, 1929: 436 (distr.); Beaulne, 1932: 199 (hosts); Brimley, 1938: 213 (distr.); Loding, 1945: 117 (distr.); Gosling & Gosling, 1976: 15, fig. 110 (biol., distr.); Linsley & Chemsak, 1976: 176, fig. 46; Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); MacRae, 1993: 242 (distr.); Shimomura, 1994: 164 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist) Monné, M.A., 1995: 112 (cat.); Krinsky & Godwin, 1996: 239; Yanega, 1996: 39, pl. 9, fig. 101; Linsley & Chemsak, 1997: 439 (hosts); Peck & Thomas, 1998: 121 (distr.); Hefferm, 1998: 11 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 428, pl. 27, fig. 8; Monné, M.A. & Hovore, 2006: 172 (checklist); Lingafelter, 2007: 27, 142, 2 figs, pl. 6e (hosts); Majka, McCorquodale & Smith, 2007: 260 (distr.); Guarnieri, 2009: 16 (distr.); Webster, McCorquodale & Majka, 2009: 295 (biol., distr.); Holt, 2013: 244 (distr.); Sponer, 2014: 299 (distr.); Steury & MacRae, 2014: 10 (distr.); Webster, 2016: 485; Haack, 2017: 117; Klingeman *et al.*, 2017: 295 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 138, pl. 30

*Anoplodera nitens*; Swaine & Hopping, 1928: 52, pl. 7, fig. 68; Chagnon, 1936: 249, pl. 16, fig. 2; Doane *et al.*, 1936: 174; Frost, 1937: 202 (distr.); Townes, 1944: 773 (paras.); Procter, 1946: 178 (biol.); Knull, 1946: 165; Craighead, 1950: 251 (biol.); Linsley, 1958: 107; Townes & Townes, 1960: 509 (paras.); Dillon & Dillon, 1961: 615, pl. 60, No. 17; Chagnon & Robert, 1962: 249, pl. 16, fig. 2; Bayer & Shenefelt, 1969: 7, fig. 18; Kirk, 1970: 77; Wilson, 1971: 60 (biol.); Baker, 1972: 196 (biol.); Laliberté, Chantal & LaRochelle, 1977: 90 (biol.); White, 1985: 283 (biol.).

*Leptura quagga* Germar, 1823: 521.

*Strangalia quagga*; LeConte, 1850a: 332.

**Type locality** - Holotype: America Septentrionali. (SMTD).

*Leptura zebra* Provancher, 1877a: 614.

*Strophiona bellina* Casey. 1913: 265; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 27, fig. 27s.

**Type locality** - Holotype male: United States, Colorado. (USNM).

### 3. *Strophiona tigrina* Casey, 1913

**Type locality** - Holotype male: United States, California: Los Angeles. (USNM).

**Distribution** - United States (Washington) to Mexico (northern Baja California). **Host plants** - *Quercus* sp. (Fagaceae).

*Strophiona tigrina* Casey, 1913: 266; Linsley & Chemsak, 1976: 179; Hovore, 1988: 19 (distr., hosts); Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 113 (cat.); Noguera & Chemsak, 1996: 404 (cat.); Linsley & Chemsak, 1997: 440 (hosts); Monné, M.A., 2002: 40 (cat. hosts); Chemsak, 2005: 432, fig. XXVII, fig. 10; Monné, M.A., 2006: 145 (cat.); Monné, M.A. & Hovore, 2006: 172 (checklist); Lingafelter *et al.*, 2014: 333, figs 171e, f (holotype).

*Anoplodera tigrina*; Swaine & Hopping, 1928: 52, pl. 7, fig. 69.

*Strophiona reducta* Casey, 1913: 266; Lingafelter *et al.*, 2014: 309, figs 142q, r (holotype).

**Type locality** - Holotype male; United States, California. (USNM).

*Anoplodera laeta*; Swaine & Hopping, 1928: 52, pl. 7, fig. 70; Hatch, 1971: 16, pl. 14, fig. 12 (part).

### *Toxoleptura* Miroshnikov 1998

*Toxoleptura* Miroshnikov 1998: 411; Bousquet. Laplante, Hammond & Langor, 2017: 136

**Type-species** - *Pachyta vexatrix* Mannerheim, 1853 (original designation).

#### 1. *Toxoleptura pernigra* (Linell 1897)

**Type locality** - United States, California: Wilson's Peak, Los Angeles County. (USNM).

**Distribution** - Mountains of southern California.

*Leptura pernigra* Linell, 1897: 397; Fall, 1901: 149 (distr.); Garnett, 1918: 251 (distr.); Boppe, 1921: 91.

*Brachyleptura pernigra*; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 172; Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 110 (cat.); Chemsak, 2005: 417, 423, pl. 27, fig. 5; Lingafelter *et al.*, 2014: 297, fig. 130 e (holotype).

*Anoplodera pernigra*; Swaine & Hopping, 1928: 64, pl. 10, fig. 100.

*Toxoleptura pernigra*; Bousquet. Laplante, Hammond & Langor, 2017: 136

## 2. *Toxoleptura vexatrix* (Mannerheim 1853)

**Syntypes locality** - United States, Alaska: Peninsula Kenai, ad castellum Nicolajevsk, and ad rivulos flumen Tschunuktnu. (FINH) **Distribution** - Alaska to southern Sierra Nevada and central coastal California. In Canada, from Vancouver Island to the Okanagan Valley, north to the Stikine River area in northwestern British Columbia.

*Pachyta vexatrix* Mannerheim, 1853: 250; LeConte, 1857: 6, 23 (distr.).

*Leptura vexatrix*; Horn, 1886b: xiv; Henshaw, 1887: 218; Leng, 1890: 185, 196; Hamilton, 1894a: 31 (distr.); Fall, 1901: 150 (distr.); Van Dyke, 1906: 227; Garnett, 1918: 250 (distr.); Van Dyke, 1920: 45 (distr.); Fall, 1926: 202 (distr.).

*Judolia vexatrix*; Aurivillius, 1912: 228 (cat.); Casey, 1913: 249; Boppe, 1921: 94.

*Brachyleptura vexatrix*; Linsley & Chemsak, 1976: 171; Chemsak, Linsley & Noguera, 1992: 91 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 112 (cat.); Chemsak, 2005: 417, 422, pl. 27, fig. 4; Monné, M.A., & L. Hovore, 2006: 59 (checklist)

*Toxoleptura vexatrix*; Bousquet. Laplante, Hammond & Langor, 2017: 136, pl. 30

*Leptura quadrillum* LeConte, 1859b: 88; 1859a: 291 (distr.); 1869: 371 (distr.); 1873a: 220; Wickham, 1890: 35 (distr.); Leng, 1890: 190, 198; Holland, 1900: 423 (distr.); Garnett, 1918: 251 (distr.); Boppe, 1921: 91.

*Judolia quadrillum*; Casey, 1913: 249; Hardy, 1926b: 28, pl. 4, fig. 8.

**Syntypes locality** - United States, Washington Territory, Shoalwater Bay. (MCZN).

*Judolia convolvens* Casey, 1913: 250; Lingafelter *et al.*, 2014: 46, 367, fig. 48c (lectotype).

**Type locality** - United States, California: Siskiyou County. (USNM)

## *Trachysida* Casey, 1913

*Trachysida* Casey, 1913: 271; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 114; Monné, M. A., 1995: 95; Chemsak, 2005: 38, 350; Monné, M.A. & Hovore, 2006: 172 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 127 (key spp.)

**Type-species** - *Leptura mutabilis* Newman, 1841 (original designation).

## 1. *Trachysida aspera aspera* (LeConte, 1873)

**Syntypes locality** - Syntypes: Canada, British Columbia, Vancouver Island. (MCZN).

**Distribution** - From Central Alaska to the Lake Athabasca area in northeastern Alberta, south to northern New Mexico along the Rocky Mountains and to southern Oregon. **Host plants** - *Betula* sp. (Betulaceae), *Picea* sp., *Pinus contorta* Douglas ex Loudon, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae), *Populus deltoides* Bartram ex Marshall, *Salix* sp. (Salicaceae).

*Leptura aspera* LeConte, 1873a: 228; Snow, 1877a: 19 (distr.); Provancher, 1877b: 332 (distr.); Leng, 1890: 215; Harrington, 1890: 186 (distr.); Leng, 1890: 192, 200; Townsend, 1895: 48 (distr.); Evans, 1906: 99 (distr.); Fall & Cockerell, 1907: 193 (distr.); Nicolay, 1917a: 95 (distr.); Garnett, 1918: 252 (distr.); Boppe, 1921: 90; Craighead, 1923: 92, 99 (larva); Kirk & Knull, 1926: 25 (distr.); Hardy, 1927b: C36; Beaulne, 1932: 200 (hosts).

*Leptura (Trachysida) aspera*; Casey, 1913: 271; Leng, 1920: 274 (cat.).

*Anoplodera aspera*; Swaine & Hopping, 1928: 56, pl. 8, fig. 82; DeLeon, 1934: 57 (hosts); Mank, 1934: 80 (distr.); Doane *et al.*, 1936: 175 (biol.); Canova, 1936: 127 (hosts); Bedard, 1938: 193 (hosts); Leech, 1947: 106; Hardy, 1948: 32; 1955: B50 (distr.); Clark, 1956: 41 (distr.); Howden, 1959: 158 (distr., hosts); 1966: 1189; Gardiner, 1970: 285 (biol.); Hatch, 1971: 133; Harling, Snyder & Coletti, 1977: 35.

- Trachysida aspera*; Linsley & Chemsak, 1976: 116; Gosling & Gosling, 1976: 15 (distr.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.).
- Trachysida aspera aspera*; Linsley & Chemsak, 1976: 117; Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 95 (cat.); Linsley & Chemsak, 1997: 444 (hosts); Heffern, 1998: 11 (distr.); Chemsak, 2005: 353, pl. 23, fig. 9; Monné, M.A. & Hovore, 2006: 172 (checklist); Rice, MacRae & Merickel, 2017: 671 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 127, pl. 26
- Leptura aspera* var. *parkeri* Hippisley, 1922: 66.
- Anoplodera aspera* var. *parkeri*; Clark, 1956: 41 (distr.); Hatch, 1971: 133.
- Type locality** - Holotype male: Canada, British Columbia: 3.5 miles southwest of Terrace ("West Lodge"). (MCZN).

### 1a. *Trachysida aspera brevifrons* (Howden, 1959)

- Type locality** - Holotype male; Canada, Québec, Mt. Lavall. (CNCI). **Distribution** - This subspecies ranges from southern Labrador to the Yellowknife area in southern Northwest Territories, south to northern Illinois and southern New York to Minnesota. **Host plants** - *Abies* sp., *Picea rubens* (Pinaceae).
- Anoplodera brevifrons* Howden, 1959: 158; Ruetter, 1970: 18 (types); Gosling & Gosling, 1976: 17 (biol., distr.); Laliberté, Chantal & LaRoche, 1977: 89 (biol.).
- Trachysida aspera brevifrons*; Linsley & Chemsak, 1976: 118; Gosling, 1986: 158 (hosts); Drouin, 1992: 175 (distr.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 95 (cat.); Yanega, 1996: 40, pl. 7, fig. 76; Linsley & Chemsak, 1997: 444 (hosts); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 355, pl. 23, fig. 12; Monné, M.A. & Hovore, 2006: 172 (checklist); Webster, McCorquodale & Majka, 2009: 95 (distr.); Webster, 2016: 485; Bousquet. Laplante, Hammond & Langor, 2017: 128, pl. 26

### 1b. *Trachysida aspera rufescens* Linsley & Chemsak, 1976

- Type locality** - Holotype male: United States, California: Santa Cruz County, Felton. (CASC). **Distribution** - Coastal central California. **Host plants** - *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).
- Trachysida aspera rufescens* Linsley & Chemsak, 1976: 117; Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 95 (cat.); Chemsak, 2005: 354, pl. 23, figs 10, 11; Monné, M.A. & Hovore, 2006: 172 (checklist);

### 2. *Trachysida mutabilis* (Newman, 1841)

- Syntypes locality** - Syntypes: United States, New York: Trenton Falls. (BMNH).
- Distribution** - From eastern Newfoundland to the Fort Liard area in southwestern Northwest Territories, south to Arkansas, Mississippi, southern Alabama, and northern Georgia. **Host plants** - *Acer pensylvanicum* Linnaeus (Aceraceae), *Alnus acuminata* Kunth, *A. incana* Linnaeus, *A. serrulata* (Aiton) Willd., *Quercus rubra* Linnaeus *Betula alleghaniensis* Britton, *B. lenta* Linnaeus, *Betula nigra* Linnaeus, *Ostrya virginiana* (Miller) K. Koch (Betulaceae), *Cornus florida* Linnaeus (Cornaceae), *Carpinus* sp. (Corylaceae), *Castanea* sp., *Fagus ferruginea* Aiton, *Quercus alba* Linnaeus (Fagaceae), *Carya ovata* (Miller) K. Koch (Juglandaceae), *Hamamelis virginiana* Linnaeus (Hamamelidaceae), *Sassafras albidum* (Nuttall) Nees (Lauraceae), *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Amelanchier canadensis* Medikus, *Prunus serotina* Ehrhart (Rosaceae), (Rosaceae), *Populus deltoides* Bartram ex Marshall, *P. grandidentata* Michaux, *Salix* sp. (Salicaceae), *Ulmus* sp. (Ulmaceae).
- Leptura mutabilis* Newman, 1841: 71; LeConte, 1850b: 236; 1850a: 340; Bland, 1861: 101 (distr.); LeConte, 1873a: 223; Henshaw, 1874: 23 (distr.); Austin, 1874: 271 (distr.); Provancher, 1877a: 616; Snow, 1883: 42 (distr.); Horn, 1885a: 6; Harrington, 1890: 186 (distr.); Leng, 1890: 186, 192, 200; Harrington, 1894b: 15 (distr.); Slossom, 1894: 3 (distr.); Evans, 1895b: 173 (distr.); Hamilton, 1895: 339 (distr.); Wickham, 1897b: 192; 1897c: 159

(distr.); Smith, 1900: 292 (distr.); Dury, 1902: 161 (distr.); Ouellet, 1902: 122 (distr.); MacGillivray & Houghton, 1902: 252 (distr.); Ulke, 1902: 26, 50 (distr.); Chagnon, 1905: 36 (distr.); Fall & Cockerell, 1907: 193 (distr.); Morris, 1909b: 414; Adams, 1909: 201 (distr.); Blatchley, 1910: 1052; Smith, 1910: 332; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Laurent, 1916: 44 (hosts); Johnson, 1916: 119 (distr.); Chagnon, 1917: 234 (distr.); Nicolay, 1917a: 95 (distr.); Blackman, 1918: 124 (biol.); Wenzel & Wenzel, 1918: 360; Nicolay, 1919: 69 (distr.); Britton, 1920: 268 (distr.); Boppe, 1921: 91; Champlain, 1922: 95 (paras.); Craighead, 1923: 92, 98 (larva); Mundinger, 1924: 318; Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 112 (distr.); Criddle, 1928: 97 (distr.); Leonard, 1928: 442 (distr.); Cooper, 1930: 24; Beaulne, 1932: 200 (hosts); Saalas, 1936: 78 (morphol.); Daviault, 1937: 119 (biol.); Brimley, 1938: 213 (distr.); Kaston, 1938: 239; Procter, 1946: 179.

*Stenura mutabilis*; Haldeman, 1847b: 374.

*Strangalia mutabilis*; Melsheimer, 1853: 114 (cat.).

*Leptura (Trachysida) mutabilis*; Casey, 1913: 271; Leng, 1920: 274 (cat.); Hatch, 1925: 580 (distr.).

*Anoplodera mutabilis*; Swaine & Hopping, 1928: 57, pl. 8, fig. 83, pl. 12, fig. 13; Knull, 1930: 102 (hosts); 1932: 63; 1934: 210 (hosts); Chagnon, 1936: 250; Knull, 1946: 166; Fattig, 1947: 17 (distr.); Howden, 1959: 157 (lectotype); Dillon & Dillon, 1961: 615, pl. 61 No. 7, 8; Chagnon & Robert, 1962: 250; Howden, 1966: 1189; Gardiner, 1966: 207, fig. 39; Bayer & Shenefelt, 1969: 7, fig. 17; Gardiner, 1970: 285 (biol.); Wilson, 1971: 60 (biol.); Baker, 1972: 197; Laliberté, Chantal & LaRoche, 1977: 89 (biol.); Miliczky & Osgood, 1979: 133 (biol.).

*Trachysida mutabilis*; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 115; Gosling & Gosling, 1976: 14 (biol., distr.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 80 (biol.); 1986: 158 (hosts); Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 95 (cat.); Krinsky & Godwin, 1996: 239 (hosts); Yanega, 1996: 40, pl. 7, figs. 77a, b; Linsley & Chemsak, 1977: 444 (hosts); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr., hosts); Chemsak, 2005: 350, pl. 23, fig. 8; Monné, M.A. & Hovore, 2006: 172 (checklist); Rice & Veal, 2006: 259 (distr.); Majka, McCorcuodale & Smith, 2007: 260 (distr.); Lingafelter, 2007: 30, 142, 2 figs, pl. 7g; Holt, 2013: 244 (biol., distr.); Steury & MacRae, 2014: 10 (distr.); Vlasák, 2014: 18 (hosts); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 128, pl. 26

*Nivellia mutabilis*; Stein & Tagestad, 1976: 24.

*Stenura luridipennis* Haldeman, 1847a: 63.

*Leptura mutabilis* var. *luridipennis*; Wickham, 1897b: 192; 1897c: 159 (distr.); Gibson, 1917: 150 (distr.); Mundinger, 1924: 318; Leonard, 1928: 442 (distr.).

*Leptura (Trachysida) mutabilis luridipennis*; Leng, 1920: 274 (cat.); Hatch, 1925: 580 (distr.).

**Syntypes locality** - Syntypes: United States, Pennsylvania. (MCZN).

*Leptura quadricollis* LeConte, 1850a: 339; 1873a: 223; Leng, 1890: 192, 200; Smith, 1900: 292 (distr.); Smith, 1910: 332; Boppe, 1921: 91.

*Leptura (Trachysida) ? quadricollis*; Casey, 1913: 271.

**Type locality** - Holotype: United States, Vermont. (MCZN).

*Leptura laetifia* Provancher, 1877a: 615.

**Type locality** - Holotype: Canada, Québec. (Musée de la Province du Québec).

*Leptura (Leptura) mutabilis* ab. *Provancheri* Aurivillius, 1912: 223 (cat., *nom. nov.*).

*Leptura (Trachysida) mutabilis provancheri*; Leng, 1920: 274 (cat.).

### ***Trigonarthris* Haldeman, 1847**

*Trigonarthris* Haldeman, 1847a: 65; Swaine & Hopping, 1928: 13; Chemsak, 1964: 235; Linsley & Chemsak, 1976: 162; Monné, M.A., 1995: 108; Chemsak, 2005: 40, 407; Monné, M.A. & Hovore, 2006: 172 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 133 (key spp.)

**Type-species** - *Leptura proxima* Say, 1824 (monotypy).

*Leptura (Cercolia)* Casey, 1913: 268

*Cercolia* Casey, 1924: 281; Chemsak, 1964: 232.

**Type-species** - *Leptura proxima* Say, 1824 (subsequent designation, Chemsak, 1964: 232)

### 1. *Trigonarthris atrata* (LeConte, 1850)

**Type locality** - Holotype: United States, Georgia. (MCZN). **Distribution** - Southeastern United States to Texas and Nebraska.

*Leptura atrata* LeConte, 1850a: 339; 1873a: 220; Horn, 1884: 148; Loding, 1933: 148 (distr.); 1945: 117 (distr.).

*Leptura (Leptura) proxima* ab. *atrata*; Aurivillius, 1912: 223 (cat.); Boppe, 1921: 91.

*Leptura (Cercolia) proxima atrata*; Leng, 1920: 274 (cat.).

*Anoplodera atrata*; Swaine & Hopping, 1928: 59, pl. 9, fig. 51; Alexander, 1958: 55 (distr.).

*Trigonarthris atrata*; Linsley & Chemsak, 1976: 163, fig. 44 (syn.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); MacRae, 1993: 241 (distr.); Lingafelter & Horner, 1993: 180 (distr.); Shimomura, 1994: 138 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 108 (cat.); Yanega, 1996: 40, pl. 7, fig. 79; Peck & Thomas, 1998: 121 (distr.); Heffern, 1998: 11 (distr.); Schiefer, 1998: 122 (distr.); Chemsak, 2005: 408, pl. 26, fig. 10; Monné, M.A. & Hovore, 2006: 172 (checklist); Lingafelter, 2007: 26, 142, 2 figs, pl. 6g; Holt, 2013: 244 (distr.).

*Anthophilax liebecki* Hopping, 1922: 164; Ruetter, 1970: 18 (type).

*Anoplodera liebecki*; Swaine & Hopping, 1928: 59; Alexander, 1948: 55 (distr.).

**Type locality** - Holotype male: United States, Texas. (CNCI).

### 2. *Trigonarthris proxima* (Say, 1824)

**Syntypes locality** - Syntypes: United States, Missouri. (Depository unknown). **Distribution**

- Cape Breton Island to southern Manitoba, south to central Texas and South Carolina. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Castanea* sp. (Fagaceae), *Hamamelis virginiana* Linnaeus (Hamamelidaceae), *Carya* sp. (Juglandaceae); *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Tilia americana* Linnaeus (Malvaceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Ulmus americana* Linnaeus (Ulmaceae).

*Leptura proxima* Say, 1824: 420; LeConte, 1850b: 236 (distr.); 1850a: 338; 1859c: 198; 1873a: 220; Austin, 1874: 271 (distr.); Horn, 1876: 170 (syn.); Provancher, 1877a: 615; Popenoe, 1877: 33 (distr.); Schaupp, 1880: 84 (biol.); Horn, 1884: 148 (syn.); Harrington, 1884: 47 (biol.); 1890: 185 (distr.); Leng, 1890: 190; Davis, 1891: 65 (biol.); 1892: 80; Slossom, 1894: 3 (distr.); Hanham, 1894: 352 (distr.); Hamilton, 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 191; 1897c: 158 (distr.); Harrington, 1899: 108 (distr.); Smith, 1900: 292 (distr.); Slossom, 1900: 322 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26, 50 (distr.); Chagnon, 1905: 36 (distr.); Felt, 1906: 727; Wickham, 1909a: 29 (distr.); Morris, 1909b: 417; Adams, 1909: 201 (distr.); Smith, 1910: 331 (distr.); Blatchley, 1910: 1058; Leng, 1911: 215 (distr.); Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Johnson, 1916: 119 (distr.); Morris, 1915: 19 (hosts); Nicolay, 1917a: 94 (distr.); Chagnon, 1917: 235 (distr.); Blackman, 1918: 126 (biol.); Morris, 1919: 50; Rohwer, 1921: 444 (paras.); Boppe, 1921: 91; Craighead, 1923: 91, 943, pl. 4, fig. 4, pl. 22, fig. 1 (larva); Cloudman, 1925: 33; Kirk & Knull, 1926: 25 (distr.); Procter, 1927: 112 (distr.); Criddle, 1928: 97 (distr.); Leonard, 1928: 441 (distr.); Beaulne, 1932: 200 (hosts); Saalas, 1936: 78 (morphol.); Brimley, 1938: 213 (distr.); Savely, 1939: 383 (hosts); Loding, 1945: 117 (distr.); Procter, 1947: 179 (distr.).

*Leptura (Cercolia) proxima*; Casey, 1913: 269; Hatch, 1925: 580 (distr.).

*Cercolia proxima*; Casey, 1924: 281.

*Anoplodera proxima*; Swaine & Hopping, 1928: 60, pl. 9, fig. 92, pl. 12, fig. 11; Knull, 1930: 101 (hosts); Chagnon, 1936: 250, pl. 16, fig. 5; Doane *et al.*, 1936: 175 (hosts); Canova, 1936: 128 (distr.); Chagnon, 1937: 279; Townes, 1944: 773 (paras.); Knull, 1946: 167; Fattig, 1947: 17 (distr.); Townes & Townes, 1960: 140, 527 (paras.); Dillon & Dillon, 1961: 616, pl. 60, No. 19; Chagnon & Robert, 1962: 250, pl. 16, fig. 5; Townes & Townes, 1962: 496 (paras.); Bayer & Shenefelt, 1969: 89, fig. 18; Gardiner, 1970: 285 (biol.); Kirk, 1970: 77; Hatch, 1971: 134, pl. 14, fig. 16; Wilson, 1971: 60 (biol.); Baker, 1972: 197; Kirk & Balsbaugh, 1975: 97 (distr.); Laliberté, Chantal & LaRochelle, 1977: 90

*Trigonarthris proxima*; Haldeman, 1847a: 65; Linsley & Chemsak, 1976: 165; Gosling & Gosling, 1976: 15 (biol., distr.); Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1984: 80 (biol.); 1986: 158 (hosts); Chemsak, Linsley & Noguera, 1992: 104 (cat.); MacRae, 1993: 241 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 108 (cat.); Yanega, 1996: 40, pl. 7, figs 81a-d; Linsley & Chemsak, 1997: 446 (hosts); Vlasák & Vlasakova, 2002: 208 (distr., hosts); Taber & Fleenor, 2005: 118; Chemsak, 2005: 408, 412, pl. 26, fig. 11; Monné, M.A. & Hovore, 2006: 172 (checklist); Lingafelter, 2007: 26, 143, 2 figs, pl. 6h (hosts); Majka, McCorquodale & Smith, 2007: 260 (distr.); Guarnieri, 2009: 16 (distr.); Webster, McCorquodale & Majka, 2009: 295 (biol., distr.); Holt, 2013: 245 (biol., distr.); Steury & MacRae, 2014: 10 (distr.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 133, pl. 28

*Cercolia kempiana* Casey, 1924: 281; Lingafelter *et al.*, 2014: 84, fig. 92e.

*Leptura kempiana*; Leonard, 1928: 442.

**Type locality** - Holotype female: United States, New York, Lake George. (USNM).

### 3. *Trigonarthris subpubescens* (Kirby, 1837)

**Type locality** - Holotype: Canada. (BMNH). **Distribution** - The range of this species extends from Cape Breton Island to the Kootenay region in southeastern British Columbia, south to east-central Texas, central Florida and North Dakota. **Host plants** - *Acer rubrum* Linnaeus (Aceraceae), *Betula alleghaniensis* Britton (Betulaceae), *Fagus ferruginea* Aiton, *F. grandifolia* Ehrhart, *Quercus* sp. (Fagaceae), *Carya* sp. (Juglandaceae), *Tilia americana* Linnaeus (Malvaceae), *Nyssa aquatica* Linnaeus, *N. sylvatica* Marshall (Nyssaceae), *Picea rubra* H. A. Dietrich, *Pinus contorta* Douglas ex Loudon (Pinaceae), *Prunus serotina* Ehrhart (Rosaceae), *Populus deltoides* Bartram ex Marshall, *Salix nigra* Marshall (Salicaceae), *Ulmus americana* Linnaeus (Ulmaceae).

*Leptura subpubescens* Kirby, 1837: 180; Haldeman, 1847a: 65; Emmons, 1854: 127, pl. 8, fig. 11; Bethune, 1872: 112

*Trigonarthris subpubescens*; Monné, M.A. & Hovore, 2006: 171 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 134, pl. 28 (syn)

*Leptura (Cercolia) minnesotana* Casey, 1913: 269; Leng, 1920: 274 (cat.); Hatch, 1925: 580 (distr.).

*Cercolia minnesotana*; Casey, 1924: 281.

*Anoplodera minnesotana*; Swaine & Hopping, 1928: 60; Knull, 1929: 145 (distr.); 1932: 63; 1934: 210 (hosts); 1946: 167; Gardiner, 1966: 202, 207, figs 4, 38; Bayer & Shenefelt, 1969: 8, 9, fig. 17; Gardiner, 1970: 285 (biol.); Hatch, 1971: 134; Wilson, 1971: 60 (biol.); Baker, 1972: 197; Perry, 1975: 59 (hosts); Stein & Tagestad, 1976: 3 (distr.); Gosling & Goslings, 1976: 17 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 89 (biol.).

*Trigonarthris minnesotana*; Linsley & Chemsak, 1976: 162; Gosling, 1984: 80 (biol.); 1986: 158 (hosts); Chemsak, Linsley & Noguera, 1992: 104 (cat.); MacRae, 1993: 241 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 108 (cat.); Yanega, 1996: 40, pl. 7, figs 80a-c; Linsley & Chemsak, 1997: 446 (hosts); Peck & Thomas, 1998: 121 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 408, pl. 26, fig. 9; Monné, M.A. & Hovore, 2006: 172 (checklist); Rice & Veal, 2006: 260 (distr.); Lingafelter, 2007: 26, 142, 2 figs, pl. 6f (hosts); Holt, 2013: 244 (distr.); Vlasák, 2014: 318 (hosts); Lingafelter *et al.*, 2014: 100, 368, fig. 100a (lectotype) Webster, 2016: 485.

**Type locality** - Lectotype male: United States, Wisconsin: Bayfield. (USNM).

### *Typocerus* LeConte, 1850

*Typocerus* LeConte, 1850a: 333; 1854b: 219; Thomson, 1861: 143, 153; LeConte, 1873a: 213; 1873b: 328; Provancher, 1877a: 580, 611; LeConte & Horn, 1883: 313; Leng, 1890: 158; Wickham, 1897b: 187; 1897c: 88; Blatchley, 1910: 1046, 1052; Casey, 1913: 248, 272; Craighead, 1923: 90; Swaine & Hopping, 1928: 13, 30; Bradley, 1930: 237; Chagnon, 1936: 252; Knull, 1946: 252; Dillon & Dillon, 1961: 611; Chagnon & Robert, 1962: 243, 252; Arnett, 1962: 858, 876; Chemsak, 1964: 235; Bayer & Shenefelt, 1969: 6, 12; Hatch, 1971:



124; Linsley & Chemsak, 1976: 67; Monné, M.A., 1995: 81; Chemsak, 2005: 37, 278, 282; Monné, M.A. & Hovore, 2006: 173 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 128 (key spp.)

*Strangalia (Typocerus)*; Aurivillius, 1912: 246; Boppe, 1921: 101

**Type-species** - *Leptura zebrata* Fabricius, 1801 (= *Leptura zebra* Olivier, 1795) (subsequent designation, Thomson, 1861: 153)

### 1. *Typocerus acuticauda acuticauda* Casey, 1913

**Type locality** - Lectotype male: United States, Massachusetts. (USNM). **Distribution** - Eastern North America from Nova Scotia peninsula to southernmost Ontario to Florida westward to Nebraska. **Host plants** - *Quercus* sp. (Fagaceae), *Salix nigra* Marshall (Salicaceae).

*Typocerus acuticauda* Casey, 1913: 274; Johnson, 1915: 319; Britton, 1920: 268 (distr.); Leng, 1920: 274 (cat.); Munding, 1924: 319; Procter, 1927: 112 (distr.); Swaine & Hopping, 1928: 32, pl. 3, fig. 34; Leonard, 1928: 442 (distr.); Knull, 1929: 144 (distr.); Loding, 1933: 148 (distr.); 1945: 117 (distr.); Procter, 1946: 179 (distr.); Knull, 1946: 160; Fattig, 1947: 19 (distr.); Alexander, 1958: 51 (distr.); Kirk, 1970: 78; Wilson, 1971: 60 (biol.); Gosling & Gosling, 1976: 10, fig. 90 (distr.); Linsley & Chemsak, 1976: 73; Laliberté, Chantal & LaRochelle, 1977: 99 (biol.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); Staines, 2008: 147 (distr.); McDowell, 2011: 412 (biol.).

*Typocerus acuticauda acuticauda*; Linsley & Chemsak, 1976: 74; Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); MacRae, 1993: 240 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 81 (cat.); Yanega, 1996: 41, pl. 9, fig. 99; Peck & Thomas, 1998: 121 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 287, pl. 19, fig. 10; Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 39, 143, 2 figs, pl. 10d; Holt, 2013: 245 (biol., distr.); Steury & MacRae, 2014: 10 (biol., distr.); Vlasák, 2014: 316 (hosts); Lingafelter *et al.*, 2014: 10, 370, fig. 9a (lectotype); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 129, pl. 27

*Typocerus thoracicus* Casey, 1913: 274; Leng, 1920: 274 (cat.); Lingafelter *et al.*, 2014: 333, fig. 170s (holotype).

**Type locality** - Holotype male: United States. (USNM).

#### 1a. *Typocerus acuticauda standishi* Knull, 1938

**Type locality** - Holotype female: United States, Texas. (FMNH). **Distribution** - From Kansas to Texas and east to Mississippi.

*Typocerus standishi* Knull, 1938: 141, pl. 1, fig. 1; Alexander, 1958: 51 (distr.); Chemsak, 1977: 179 (types).

*Typocerus acuticauda standishi*; Linsley & Chemsak, 1976: 74; Chemsak, Linsley & Noguera, 1992: 104 (cat.); Lingafelter & Horner, 1993: 179 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 81 (cat.); Schiefer, 1998: 122 (distr.); Chemsak, 2005: 288, pl. 19, fig. 11; Monné, M.A. & Hovore, 2006: 173 (checklist); Holt, 2013: 245 (biol., distr.).

*Typocerus oklahomensis* Hopping, 1940: 33 (part).

**Type locality** - Allotype female; United States, Oklahoma: Latimer County. (CASC).

### 2. *Typocerus badius* (Newman, 1841)

**Syntypes locality** - Syntypes: United States, Florida: In the hammocks near St. John's Bluff. (BMNH). **Distribution** - Central Florida to Georgia. **Host plants** - *Quercus* sp. (Fagaceae).

*Leptura badia* Newman, 1841: 69; Haldeman, 1847b: 375.

*Typocerus badius*; LeConte, 1850a: 335; 1873a: 213; Horn, 1885a: 6; Leng, 1890: 158; Wickham, 1909a: 29 (distr.); Casey, 1913: 272; Leng, 1920: 274 (cat.); Swaine & Hopping, 1928: 33, pl. 3, fig. 37; Brimley, 1938: 213; Loding, 1945: 117 (distr.); Fattig, 1947: 19 (distr.); Linsley & Chemsak, 1976: 76; Turnbow & Hovore, 1979: 220 (biol., hosts.); Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert,

1994: 173 (checklist); Monné, M.A., 1995: 82 (cat.); Linsley & Chemsak, 1997: 447 (hosts); Peck & Thomas, 1998: 121 (distr.); Chemsak, 2005: 280, 291, pl. 20, figs 1, 2; Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 38, 143, 2 figs, pl. 91 (hosts); MacRae & Rice, 2007: 249 (biol., distr.); Holt, 2013: 245 (distr.).

*Strangalia (Typocerus) badia*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101.

### 3. *Typocerus balteatus balteatus* Horn, 1878

**Syntypes localities** - Syntypes male and female: United States, Colorado, Arizona. (ANSP).

**Distribution** - Central Saskatchewan to south-central Alberta, south to east-central California, southern Arizona, and New Mexico. **Host plants** - *Chrysothamnus viscidiflorus* (Hooker) Nuttall (Asteraceae) *Typocerus balteatus* Horn, 1878: 55; Casey, 1913: 272; Leng, 1920: 274 (cat.); Swaine & Hopping, 1928: 34, pl. 4, fig. 41; Knowlton & Thatcher, 1936: 279 (distr.); Canova, 1936: 132 (distr.); Knowlton & Wood, 1950: 11 (distr.); Barr & Penrose, 1969: 94 (distr.); Hatch, 1971: 127; Linsley & Chemsak, 1976: 80, fig. 19; Chemsak, Linsley & Noguera, 1992: 104 (cat.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 82 (cat.); Linsley & Chemsak, 1997: 447 (hosts); Heffern, 1998: 11 (distr.); Chemsak, 2005: 299, pl. 20, fig. 8.

*Leptura balteata*; Lameere, 1883: 24 (cat.).

*Strangalia (Typocerus) balteata*; Aurivillius, 1912: 2467 (cat.); Boppe, 1921: 101.

*Typocerus balteatus balteatus*; Lewis, 2001: 11; Monné, M.A. & Hovore, 2006: 173 (checklist); MacRae & Rice, 2007: 249 (biol., distr.); Rice, MacRae & Merickel, 2017: 571 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 129, pl. 27

#### 3a. *Typocerus balteatus diana* Lewis, 2001

**Type locality** - Holotype male: United States, Texas: El Paso County, 19 miles East of El Paso (on Highway 180). (EMEC). **Distribution** - Southwestern Texas.

*Typocerus balteatus diana* Lewis, 2001: 11, 2 figs; Chemsak, 2005: 300, pl. 20, figs 9, 10; Monné, M.A., & Hovore, 2006: 173 (cat.).

### 4. *Typocerus confluens* Casey, 1913

**Type locality** - Lectotype male: United States, Kansas, Hamilton County. (USNM).

**Distribution** - Canada (Manitoba), central United States, Indiana to Colorado, Arizona, New Mexico to North Dakota. **Host plants** - *Acer negundo* Linnaeus (Aceraceae), *Carpinus* sp. (Corylaceae), *Fagus* sp. (Fagaceae), *Juglans nigra* Linnaeus (Juglandaceae).

*Typocerus confluens* Casey, 1913: 272; Knaus, 1914: 91; Leng, 1920: 274 (cat.); Swaine & Hopping, 1928: 36, pl. 4, fig. 45; Hendrickson, 1930: 104; Alexander, 1958: 41 (distr.); Kirk & Balsbaugh, 1975: 97 (distr.); Stein & Tigestad, 1976: 46, fig. 20; Linsley & Chemsak, 1976: 71; Chemsak, Linsley & Noguera, 1992: 104 (cat.); MacRae, 1993: 240 (distr.); Monné, M.A., 1995: 82 (cat.); Yanega, 1996: 41, pl. 9, figs 97a, b; Heffern, 1998: 11 (distr.); Chemsak, 2005: 279, 283, pl. 19, fig. 8; Rice & Veal, 2003: 260 (distr.); Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter *et al.*, 2014: 43, 370, fig. 45q (lectotype); Bousquet. Laplante, Hammond & Langor, 2017: 30, pl. 27

*Typocerus caligans* Casey, 1913: 273; Knaus, 1914: 91; Leng, 1920: 274 (cat.); Alexander, 1958: 41 (distr.); Lingafelter *et al.*, 2014: 35, 370, fig. 36s (lectotype).

**Type locality** - Lectotype male: United States, Kansas. (USNM).

### 5. *Typocerus deceptus* Knull, 1929

**Type locality** - Holotype female: United States, Pennsylvania: Clark's Valley, North of Harrisburg. (FMNH). **Distribution** - Pennsylvania to Indiana & South Carolina. **Host plants** - *Quercus* sp. (Fagaceae).

*Typocerus deceptus* Knull, 1929: 144; 1946: 162, pl. 6, fig. 19; Alexander, 1958: 51 (distr.); Ruetter, 1970: 22 (paratypes); Linsley & Chemsak, 1976: 79; Chemsak, 1977: 179 (types); Bouseman, 1977: 179 (biol., distr.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1983: 187 (biol., distr.); 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 104 (cat.); Shimomura, 1994: 164 (distr.); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné,

M.A., 1995: 82 (cat.); Yanega, 1996: 41, pl. 9, fig. 100; Peck & Thomas, 1998: 121 (distr.); Schiefer, 2001: 335 (distr.); Chemsak, 2005: 281, 295, pl. 20, fig. 5; Rice & Veal, 2006: 260 (distr.); Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 39, 143, 2 figs, pl. 10c; McDowell, 2011: 412 (biol.); Holt, 2013: 245 (biol., distr.); Vlasák, 2014: 317 (hosts); Klingeman *et al.*, 2017: 295 (distr.)

#### 6. *Typocerus fulvocinctus* Knull, 1956

**Type locality** - Holotype female: United States, Florida: Sebring. (FMNH). **Distribution** - United States (Central Florida).

*Typocerus fulvocinctus* Knull, 1956: 338; Chemsak, 1977: 179 (type); Monné, M.A., & Giesbert, 1994: 173 (checklist); Monné, M.A., 1995: 82 (cat.); Peck & Thomas, 1998: 121 (distr.); Chemsak, 2005: 282, 307, pl. 21, fig. 3; Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 36, 14u3, 2 figs, pl. 9c.

*Typocerus flavocinctus*; Linsley & Chemsak, 1976: 84; Chemsak, Linsley & Noguera, 1992: 104 (cat., error).

#### 7. *Typocerus gloriosus* Hopping, 1922

**Type locality** - Holotype male: United States, New Mexico, McKinley County, Fort Wingate. (CNCI), **Distribution** - United States (Colorado, Utah, New Mexico and Arizona). **Host plants** - *Juniperus osteosperma* (Torrey) Little (Cupressaceae)

*Typocerus gloriosus* Hopping, 1922: 166; Swaine & Hopping, 1928: 36, pl. 4, fig. 48; Ruetter, 1970: 22 (type); Linsley & Chemsak, 1976: 80; Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 82 (cat.); Heffern, 1998: 12 (distr.); Chemsak, 2005: 281, 297, pl. 20, figs 6, 7; Monné, M.A. & Hovore, 2006: 173 (checklist); Heffern, Vlasák & Alten, 2018: 748 (hosts)

#### 8. *Typocerus lugubris* (Say, 1824)

**Syntypes locality** - Syntypes: United States, Missouri, banks of the lower part of the Missouri. (Depository unknown). **Distribution** - Eastern North America from southern Canada to Florida, westward to Kansas and Texas. It is known in Canada only from the Great Lakes area in southern Ontario **Host plants** - *Quercus alba* Linnaeus (Fagaceae), *Pinus* sp. (Pinaceae).

*Leptura lugubris* Say, 1824: 419; LeConte, 1859c: 198.

*Stenura lugubris*; Haldeman, 1847a: 63.

*Typocerus lugubris*; LeConte, 1850a: 334; LeConte, 1873a: 213; Townsend, 1889: 233 (distr.); Leng, 1890: 159; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 188; Smith, 1900: 292 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Wickham, 1909a: 29 (distr.); Morris, 1909b: 417 (distr.); Smith, 1910: 331; Blatchley, 1910: 1053; Leng, 1911: 215 (distr.); Fisher & Kirk, 1912: 313 (distr.); Banks, 1912: 106; Casey, 1913: 272; Morris, 1919: 50; Leng, 1920: 274 (cat.); Morris, 1921: 13; Leonard, 1928: 442 (distr.); Swaine & Hopping, 1928: 33, pl. 3, fig. 38; Ware, 1929: 368 (distr.); Loding, 1933: 148 (distr.); Brimley, 1938: 213 (distr.); Loding, 1945: 117 (distr.); Knull, 1946: 161; Fattig, 1947: 19 (distr.); Alexander, 1958: 51 (distr.); Dillon & Dillon, 1961: 611, pl. 60, No. 15; Bayer & Shenefelt, 1969: 13, fig. 23; Gosling & Gosling, 1976: 10, fig. 93 (biol., distr.); Linsley & Chemsak, 1976: 85; Bouseman, 1977: 180 (biol.); Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 80 (biol.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); MacRae, 1993: 240 (distr.); Shimomura, 1994: 164 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 83 (cat.); Yanega, 1996: 41, pl. 4, fig. 45; Linsley & Chemsak, 1997: 447 (hosts); Peck & Thomas, 1998: 121 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 2872, 308, pl. 21, fig. 4; Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 33, 143, 2 figs, pl. 8f (hosts); Staines, 2008: 147 (distr.); Guarnieri, 2009: 16 (distr.); McDowell, 2011: 242 (biol.); Holt, 2013: 245 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 130, pl. 27

*Strangalia (Typocerus) lugubris*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101.

### 9. *Typocerus lunulatus lunulatus* (Swederus, 1787)

**Type locality** - Holotype: Promont. bonae Spei. (Depository unknown). **Distribution** - Pennsylvania to Kansas and Florida. **Host plants** - *Pinus* sp. (Pinaceae).

*Leptura lunulata* Swederus, 1787: 197; Gmelin, 1790: 1875; Schoenherr, 1817: 498.

*Strangalia (Typocerus) lunulata*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101.;

*Typocerus lunulata*; Brimley, 1938: 213 (distr., Loding, 1945: 117 (distr.); Alexander, 1958: 51 (distr.); Kirk, 1970: 78; Linsley & Chemsak, 1976: 83; Chemsak, Linsley & Noguera, 1992: 105 (cat.); Peck & Thomas, 1998: 121 (distr.); Lingafelter. 2007: 36, 143, 2 figs, pl. 9b (hosts).

*Typocerus lunulatus lunulatus*; Linsley & Chemsak, 1976: 86 (syn.); Turnbow & Franklin, 1980: 340 (distr.); Rice, 1981: 461 (distr.); MacRae, 1993: 240 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 83 (cat.); Yanega, 1996: 41, pl. 8, fig. 90; Linsley & Chemsak, 1997: 447 (hosts); Schiefer, 1998: 122 (distr.); Chemsak, 2005: 305, pl. 21, fig. 1; Monné, M.A. & Hovore, 2006: 173 (checklist); MacRae & Rice, 2007: 249 (biol., distr.); Holt, 2013: 245 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.)

*Leptura arcuata* Olivier, 1795: 32, pl. 4, fig. 47; Schoenherr, 1817: 491.

**Type locality** - Holotype female: Amérique Septentrionale. (MNHN).

*Leptura lunata* Fabricius, 1801: 360; Schoenherr, 1817: 486; Horn, 1886: 139; Zimsen, 1964: 183 (type); Horn, 1886: 139.

*Stenura lunata* Haldeman, 1847a: 63

*Typocerus lunatus*; LeConte, 1850a: 334; 1873b: 313; Leng, 1890: 159; Ulke, 1903: 26 (distr.); Leng, 1910: 77 (distr.); Fisher & Kirk, 1912: 313 (distr.); Banks, 1912: 106; Casey, 1913: 272; Dozier, 1920: 366 (distr.); Leng, 1920: 274 (cat.); Craighead, 1923: 92, pl. 14, fig. 5 (larva); Kirk & Knull, 1926: 26 (distr.); Swaine & Hopping, 1928: 33, pl. 3, fig. 39, pl. 12, fig. 5; Engelhardt, 1928: 252 (distr.); Knull, 1946: 161; Fattig, 1947: 19 (distr.).

*Typocerus lunatus lunatus*; Hoffman, 1958: 218, figs 1-3; Wray, 1967: 47 (distr.).

**Syntypes locality** - Syntypes: United States, Carolina). (ZMUC).

*Typocerus lunatus fractus* Hoffman, 1958: 220, figs 2,3; Wray, 1967: 46 (distr.); Lingafelter *et al.*, 2014: 93, fig. 102k (holotype).

**Type locality** - Holotype: United States, Virginia: Blacksburg. (USNM).

### 9a. *Typocerus lunulatus texanus* Linsley & Chemsak, 1976

**Type locality** - Holotype male: United States, Texas: Angelina County, 10 miles North of Lufkin. (AMNH). **Distribution** - Arkansas, Louisiana, Texas, Oklahoma, Mississippi.

*Typocerus lunulatus texanus* Linsley & Chemsak, 1976: 84; Chemsak, Linsley & Noguera, 1992: 105 (cat.); MacRae, 1993: 240 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 83 (cat.); Yanega, 1996: 42, pl. 8, fig. 91; Schiefer, 1998: 122 (distr.); Chemsak, 2005: 306, pl. 21, fig. 2; Monné, M.A. & Hovore, 2006: 173 (checklist);

### 10. *Typocerus octonotatus* (Haldeman, 1847)

**Type locality** - Holotype: United States, Alabama. (MCZN). **Distribution** - Eastern North America from northern Vermont to central Montana, north to southcentral Saskatchewan, south to central Texas and northern Georgia, Florida, New Mexico and Wyoming. **Host plants** - *Agropyron smithii* Rydberg, *Andropogon scoparius* Michaux, *Sorghastrum avenaceum* (Michaux) Nash, *S. nutans* Nash, *Sporobolus airoides* Torrey (Poaceae).

*Stenura 8-notata* Haldeman, 1847a: 62.

*Stenura octonotata*; Casey, 1924: 278.

*Typocerus octonotatus*; Linsley & Chemsak, 1976: 72, fig. 18; Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); MacRae, 1993: 240 (distr.); Lingafelter & Horner, 1993: 178 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 83 (cat.); Yanega, 1996: 42, pl. 9, figd 96a, b; Linsley & Chemsak, 1997: 448 (hosts); Heffern, 1998: 12 (distr., hosts); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 279, 285, pl. 19, fig. 9; Monné, M.A. &

- Hovore, 2006: 173 (checklist); Holt, 2013: 245 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet. *Laplante, Hammond & Langor*, 2017: 130, pl. 27
- Typocerus sinuatus*; LeConte, 1850a: 335; 1858: 41 (distr.); 1859d: 49 (distr.); Horn, 1868: 124 (distr.); LeConte, 1873a: 214; Provancher, 1877a: 612; Popenoe, 1877: 33 (distr.); Snow, 1877a: 19 (distr.); 1878: 67 (distr.); 1883: 42 (distr.); Horn, 1885a: 6; Townsend, 1889: 233; Leng, 1890: 159; Robertson, 1891: 571 (hosts); Ulke, 1903: 26 (distr.); Fall & Cockerell, 1907: 93 (distr.); Wickham, 1909a: 29 (distr.); Blatchley, 1910: 1023; Banks, 1912: 106; Casey, 1913: 272; Leng, 1920: 274 (cat.); Wade, 1922: 27 (larva); Ortenburger & Hatch, 1926: 147 (distr.); Swaine & Hopping, 1928: 36, pl. 4, figs 46, 46; Hendrickson. 1928: 136 (biol.); Ware, 1929: 368 (distr.); Hendrickson, 1930: 105; Lacy, 1931: 497; Goldman, 1933: 92, pl. 5, figs 21-24; Whelan, 1936: 114; Brimley, 1938: 213 (distr.); Smith *et al.*, 1943: 314; Loding, 1945: 117 (distr.); Knull, 1946: 162; Dillon & Dillon, 1961: 614, pl. 61, No. 9; Bayer & Shenefelt, 1969: 12, fig. 23; Kirk, 1970: 78; Wilson, 1971: 60 (biol.); Kirk & Balsbaugh, 1975: 97 (distr.); Rogers, 1977: 834 (biol.). (not Newman, 1841).
- Strangalia (Typocerus) sinuata*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101.
- Typocerus arapahoe* Casey, 1924: 278; Lingafelter *et al.*, 2104: 19, 370, pl. 18w (lectotype).
- Type locality** - Lectotype female: United States, Colorado: Wray (USNM).

### 11. *Typocerus serraticornis* Linsley & Chemsak, 1976

- Type locality** - Holotype male: United States, Nevada, Humboldt County, Winnemucca. (CASC). **Distribution** - United States (Nevada, Utah, New Mexico and Idaho). **Host plants** - *Oryzopsis hymenoides* (Roemer & Schultes) Ricker (Poaceae).
- Typocerus serraticornis* Linsley & Chemsak. 1976: 69, fig. 17; Penrose. 1979: 159 (biol.,distr.); Bechtel, Hanks & Rust, 1983: 474 (distr.); Robertson, 1988: 228, figs 1-13, 15-16, 19, 24-32 (biol.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 84 (cat.); Heffern, 1998: 12 (distr.); Chemsak, 2005: 278, 282, pl. 19, fig. 7; Monné, M.A. & Hovore, 2006: 173 (checklist); Rice, MacRae & Merickel, 2017: 671 (distr.)

### 12. *Typocerus sinuatus* (Newman, 1841)

- Type locality** - Holotype: United States, Florida: St. John's Bluff . (BMNH). **Distribution** - Middle and southeastern states to New Mexico and Colorado.
- Leptura sinuata* Newman, 1841: 70.
- Typocerus sinuata*; Alexander, 1958: 51 (distr.).
- Typocerus sinuatus*; Linsley & Chemsak, 1976: 81; Gosling & Gosling, 1976: 10, fig. 89 (biol., distr.); Stein & Tigestad, 1976: 46 (distr.); Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Glaser, 1992: 154 (distr.); Lingafelter & Horner, 1993: 179 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 84 (cat.); Yanega, 1996: 42, pl. 9, fig. 95; Heffern, 1998: 12 (distr.); Peck & Thomas, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 208 (distr.); Chemsak, 2005: 281, 301, pl. 20, fig. 11; Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 378, 143, 2 figs, pl. 9i; Klingeman *et al.*, 2017: 295 (distr.)
- Typocerus brunnicomis* LeConte, 1873a: 214; 1876: 520 (distr.); Snow, 1877a: 19 (distr.); 1883: 42 (distr.); Leng, 1890: 159; Fall & Cockerell, 1907: 193 (distr.); Casey, 1913: 272; Leng, 1920: 274 (cat.).
- Strangalia (Typocerus) brunnicomis*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101.
- Syntypes locality** - Syntypes male: United States, Texas. (MCZN).
- Typocerus brunnicomis inflatus* Knull, 1959: 47; Ruetter, 1970: 22 (paratype); Chemsak, 1977: 179 (type).
- Type locality** - Holotype male: United States, North Carolina: Southern Pines. (FMNH).

### 13. *Typocerus sparsus* LeConte, 1878

- Type locality** - Holotype female: United States, Michigan: Lake Superior, Escanaba. (MCZN). **Distribution** - This species ranges from western New Brunswick to the Prince

Albert area in central Saskatchewan, south to Wisconsin, Michigan, and Maine. **Host plants** - *Pinus* sp. (Pinaceae).

*Typocerus sparsus* LeConte, 1878: 614; Leng, 1890: 59; Hamilton, 1893a: 274 (distr.); 1893: 326 (distr.); Wickham, 1897b: 188; Morris, 1909b: 417; Blatchley, 1910: 1052; Casey, 1913: 272; Swaine & Hopping, 1928: 34, pl. 4, fig. 40, pl. 12, fig. 6; Brown, 1934: 229 (distr.); Chagnon, 1936: 252, pl. 16, fig. 11; Knull, 1946: 161, pl. 27, fig. 118; Chagnon & Robert, 1962: 252, pl. 16, fig. 11; Gardiner, 1966: 201, figs 3, 35 (biol.); Bayer & Shenefelt, 1969: 13, fig. 24; Gardiner, 1970: 284 (biol.); Stein & Tagestad, 1976: 47 (distr.); Linsley & Chemsak, 1976: 872; Gosling & Gosling, 1976: 10, fig. 92 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 100 (biol.); Gosling, 1986: 158 (hosts); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 84 (cat.); Yanega, 1996: 42, pl. 8, fig. 92; Linsley & Chemsak, 1997: 448 (hosts); Chemsak, 2005: 281, 303, pl. 20, fig. 12; Monné, M.A. & Hovore, 2006: 173 (checklist); Webster, 2016: 485; Bousquet. Laplante, Hammond & Langor, 2017: 130, pl. 27

*Strangalia (Typocerus) sparsa*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101; Saalas, 1936: 80 (morphol.).

#### 14. *Typocerus velutinus velutinus* (Olivier, 1795)

**Type locality** - Holotype female: Amérique Septentrionale. (MNHN). **Distribution** - From Cape Breton Island to southern Manitoba, south to southeastern Nebraska, Arkansas, Mississippi, northern Georgia, and southern South Carolina. **Host plants** - *Alnus serrulatus*, *Betula alleghaniensis* Britton, *B. lenta* B., *populifolia* (Betulaceae), *Juiperus virginiana* Linnaeus (Cupressaceae), *Fagus grandifolia*, *Quercus alba* Linnaeus, *Q. ilicifolia*, *Q. stellata* (Fagaceae). *Castanea dentata* (Marshall), Borkhausen, *Quercus* sp. (Fagaceae), *Sassafras albidum* (Nuttall) Nees (Lauraceae), *Carya* sp. (Juglandaceae), *Liriodendron tulipifera* Linnaeus (Magnoliaceae), *Populus deltoides* Bartram ex Marshall, *Pinus rigida* Miller (Pinaceae). *Salix exigua* Nuttall (Salicaceae).

*Leptura velutina* Olivier, 1795: 18, pl. 3, fig. 32; Newman, 1841: 69; Weiss & Dickerson, 1921: 140 (hosts).

*Stenura velutina*; Haldeman, 1847a: 62; 1847b: 374.

*Strangalia velutina*; Melsheimer, 1853: 114 (cat.).

*Typocerus velutinus*; LeConte, 1873a: 213 (syn.); Horn, 1876: 170 (syn.); Provancher, 1877a: 612; Popenoe, 1877: 33 (distr.); Snow, 1878: 67 (distr.); 1883: 42 (distr.); Smith, 1882: 25; Lameere, 1884: cccxxii (distr.); Harrington, 1884: 47; Horn, 1885a: 6 (syn.); 1886: 139; Leng, 1890: 159; Hamilton, 1893: 274 (distr.); 1895: 338 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 188; 1897c: 157 (distr.); Smith, 1900: 292; Dury, 1902: 161 (distr.); Ulke, 1903: 26 (distr.); Chagnon, 1905: 36 (distr.); Felt, 1906: 436 (distr.); Fall & Cockerell, 1907: 193 (distr.); Wickham, 1909a: 29 (distr.); Smith, 1910: 331; Blatchley, 1910: 1053; Banks, 1912: 206; Fisher & Kirk, 1912: 313 (distr.); Casey, 1913: 248, 272; 1913: 274; Johnson, 1915: 315 (distr.); Chagnon, 1917: 234 (distr.); Dozier, 1918: 335 (distr.); Blackman, 1918: 128 (biol.); Nicolay, 1919: 69 (distr.); Britton, 1920: 268 (distr.); Dozier, 1920: 366 (distr.); Craighead, 1923: 91, pl. 14, fig. 4, pl. 22, fig. 2 (larva); Blackman & Stage, 1924: 16 (biol.); Munding, 1924: 319; Hatch, 1925: 580 (distr.); Kirk & Knull, 1926: 26 (distr.); Champlain & Kirk, 1926: 290 (biol.); Procter, 1927: 112 (distr.); Leonard, 1928: 442 (distr.); Swaine & Hopping, 1928: 35, pl. 4, fig. 43; Criddle, 1928: 97 (distr.); Ware, 1929: 368 (distr.); Knowlton, 1930: 75 (distr.); Park, 1931: 190; Champlain & Knull, 1932: 256; Knull, 1932: 63 (biol.); Beaulne, 1932: 200 (hosts); Whelan, 1936: 114; Chagnon, 1936: 252, pl. 16, fig. 10; Frost, 1937: 202 (distr.); Brimley, 1938: 213 (distr.); 1941: 121; Wray & Brimley, 1943: 130 (distr.); Loding, 1945: 117 (distr.); Procter, 1946: 179 (biol.); Knull, 1946: 162; Fattig, 1947: 19; Alexander, 1958: 51 (distr.); Gibson & Carrillo, 1959: 119 (distr.); Dillon & Dillon, 1961: 611, pl. 60 No. 14; Chagnon & Robert, 1962: 252, pl. 16, fig. 10; Bayer & Shenefelt, 1969: 12, fig. 24; Gardiner, 1970: 285; Kirk, 1970: 78; Wilson, 1971: 60 (biol.); Swan & Papp, 1972: 450, fig. 956; Kirk & Balsbaugh, 1975: 97 (distr.); Gosling & Gosling, 1976: 10 (biol., distr.); Linsley & Chemsak, 1976: 77 (syn.); Laliberté, Chantal & LaRochelle, 1977: 100 (biol.); Bouseman, 1977: 180 (biol.); Dailey, Graves & Kingsolver, 1978: 226; Frost,

- 1979: 347 (biol.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); McDowell, 2011: 412 (biol.); Steury & MacRae, 2014: 10 (distr.); Vlasák, 2014: 318 (hosts).
- Typocerus velutinus velutinus*; Linsley & Chemsak, 1976: 77; Turnbow & Franklin, 1980: 340 (distr.); Gosling, 1984: 81 (biol.); 1986: 158 (hosts); MacRae, 1993: 240 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 85 (cat.); Yanega, 1996: 42, pl. 9, figs 98a-c; Linsley & Chemsak, 1997: 448 (hosts); Schiefer, 1998: 123 (distr.); Vlasák & Vlasakova, 2002: 208 (distr., hosts); Chemsak, 2005: 293, pl. 20, fig. 3; Monné, M.A. & Hovore, 2006: 173 (checklist); MacRae & Rice, 2007: 249 (distr., hosts); Lingafelter, 2007: 39, 143, 2 figs, pl. 10e; Guarnieri, 2009: 16 (distr.); Holt, 2013: 245 (biol., distr.); Webster, 2016: 485; Klingeman *et al.*, 2017: 295 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 130, pl; 27
- Strangalia (Typocerus) velutina*; Aurivillius, 1912: 346 (cat.); Boppe, 1921: 101, pl. 8, fig. 5.
- Leptura fugax* Fabricius, 1798: 153; 1801: 359; Zimsen, 1964: 183 (type).
- Stenura fugax*; Haldeman, 1847a: 62; 1847b: 374.
- Typocerus fugax*; LeConte, 1850b: 334; 1852: 176; Urban, 1859d: 320; Bland, 1861: 101 (biol., distr.); Rogers, 1872: 119 (distr.).
- Strangalia fugax*; Melsheimer, 1853: 114 (cat.)
- Type locality** - Holotype: America. (ZMUC).
- Leptura tenuior* Kirby. 1837: 181; Haldeman, 1847: 65; Bethune, 1872: 113.
- Strangalia tenuior*; LeConte, 1850a: 333.
- Type locality** - Holotype: Canada. (BMNH).
- Typocerus manitobensis* Swaine & Hopping, 1928: 35, pl. 4, fig. 44; Ruetter, 1970: 22 (type).
- Type locality** -Holotype: Canada, Manitoba: Victoria Beach. (CNCI).

#### 14a. *Typocerus velutinus nobilis* (Newman, 1841)

- Syntypes locality** - Syntypes: United States, Florida: In the hammocks near St. John's Bluff. (BMNH). **Distribution** - Florida to Georgia, southwest to Louisiana, Oklahoma and Texas.
- Leptura nobilis* Newman, 1841: 69.
- Typocerus nobilis*; LeConte, 1850a: 335.
- Typocerus velutinus nobilis*; Linsley & Chemsak, 1976: 70 (syn.); Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 85 (cat.); Peck & Thomas, 1998: 121 (distr.); Schiefer, 1998: 123 (distr.); Chemsak, 2005: 294, pl. 20, fig. 4; Monné, M.A. & Hovore, 2006: 173 (checklist); Holt, 2013: 245 (biol., distr.).
- Typocerus trimaculatus* Champlain & Knull, 1922a: 304; Swaine & Hopping, 1928: 35; Loding, 1945: 117 (distr.); Fattig, 1947: 20 (distr.); Alexander, 1958: 51 (distr.); Chemsak, 1977: 179 (types).
- Type locality** - Holotype male: United States, Louisiana: New Roads. (FMNH).
- Typocerus oklahomensis* Hopping, 1940: 33 (part).
- Toxotus oklahomensis*; Alexander, 1958: 51 (distr.).
- Type locality** - Holotype male: United States, Oklahoma: Latimer County. (CASC)

#### 15. *Typocerus zebra* (Olivier, 1795)

- Type locality** - Holotype female: Amérique Septentrionale. (MNHN). **Distribution** - Eastern United States from Florida to Texas. **Host plants** - *Pinus contorta*, *Pinus echinata* Miller, *Pinus inops* Solander, *P. virginiana* (Pinaceae).
- Leptura zebra* Olivier, 1795: 19, pl. 3, fig. 33; Newman, 1841: 70; Johnson, 1915: 315 (distr.).
- Stenura zebra*; Haldeman, 1847a: 62.
- Typocerus zebra*; Leng, 1908: 242 (syn.); Gahan, 1908: 143 (syn.); Casey, 1913: 272; Morris, 1921: 13; Hatch, 1925: 580 (distr.); Kirk & Knull, 1926: 25 (distr.); Leonard, 1928: 442 (distr.); Whelan, 1936: 114; Brimley, 1938: 213 (distr.); 1941: 121; Wray & Brimley, 1943: 180 (distr.); Loding, 1945: 117 (distr.); Knull, 1956: 160; Fattig, 1947: 10 (distr.); Howden & Vogt, 1951: 591 (hosts); Kirk, 1970: 78; Wilson, 1971: 60 (biol.); Gosling & Gosling, 1976: 10 (distr.); Linsley & Chemsak, 1976: 75, fig. 18; Frost, 1979: 347 (biol.); Turnbow & Franklin, 1980: 340 (distr.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); MacRae, 1993:

- 240 (distr.); Lingafelter & Horner, 1993: 179 (distr.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 86 (cat.); Yanega, 1996: 42, pl. 8, fig. 93; Browne & Peck, 1996: 2159 (distr.); Linsley & Chemsak, 1997: 448 (hosts); Peck & Thomas, 1998: 121 (distr.); Schiefer, 1998: 123 (distr.); Vlasák & Vlasakova, 2002: 209 (distr.); Chemsak, 2005: 280, pl. 19, fig. 12; Monné, M.A. & Hovore, 2006: 173 (checklist); Lingafelter, 2007: 38, 143, 2 figs, pl. 9k (hosts); Guarnieri, 2010: 24 (distr.); Holt, 2013: 245 (biol., distr.); Klingeman *et al.*, 2017: 295 (distr.)
- Strangalia (Typocerus) zebra*; Aurivillius, 1912: 246 (cat.); Boppe, 1921: 101.
- Leptura zebrata* Fabricius, 1801: 364; Illiger, 1805: 125; Latreille, 1807: 42; Zimsen, 1964: 184 (type).
- Strangalia zebrata*; Melsheimer, 1853: 114 (cat.).
- Typocerus zebratus*; LeConte, 1850a: 334; 1852: 176; 1873a: 213; Provancher, 1877b: 312; Smith, 1882: 25; Snow, 1883: 42 (distr.); Townsend, 1885: 70 (distr.); Horn, 1885a: 6 (syn.); Leng, 1890: 159; Packard, 1890: 80, fig. 28; Hamilton, 1895: 338 (distr.); Beutenmuller, 1896: 77 (hosts); Castle & Laurent, 1896: 301 (distr.); Wickham, 1897b: 188, fig. 28; Smith, 1900: 292 (distr.); Ulke, 1903: 26 (distr.); Felt, 1906: 72; Fall & Cockerell, 1907: 193 (distr.); Leng, 1910: 77 (distr.); Smith, 1910: 331; Chagnon, 1917: 234 (distr.); Dozier, 1918: 335 (distr.); Craighead, 1923: 92 (larva); Swaine & Hopping, 1928: 32, pl. 3, fig 35, 36; Beaulne, 1932: 200 (hosts); Dillon & Dillon, 1961: 611, pl. 60, No. 16.
- Syntypes locality** - Syntypes: United States, Carolina. (ZMUC).
- Leptura carolina* Weber, 1801: 91.
- Strangalia carolina*; Melsheimer, 1853: 114 (cat.)
- Type locality** - Holotype: United States, Carolina. (ZMUC).
- Leptura aurigera* Newman, 1841: 70; Horn, 1885a: 5 (syn.).
- Syntypes locality** - Syntypes: United States, New York: Trenton Falls. (BMNH).

### ***Xestoleptura* Casey 1913**

- Xestoleptura* Casey, 1913: 248, 260; 1924: 285; Chemsak, 1964: 236; Linsley & Chemsak, 1976: 150; Monné, M.A., 1995: 105; Chemsak, 2005: 39, 392; Monné, M.A. & Hovore, 2006: 173 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 134 (key spp.)
- Type- species** - *Xestoleptura corusca* Casey, 1913 (= *Leptura crassicornis* LeConte, 1873) (original designation).

#### **1. *Xestoleptura behrensii* (LeConte, 1873)**

- Type locality** - Holotype female: United States, California: Mendocino. (MCZN).
- Distribution** - British Columbia (from Haida Gwaii and Vancouver Island east to the Okanagan Valley) to coastal central California. **Host plants** - *Picea sitchensis* (Bongard) Carr, *Pseudotsuga menziesii* (Mirbel) Franco, *P. taxifolia* (Poiret) Britton (Pinaceae).
- Leptura Behrensii* LeConte, 1873a: 227; Keen, 1895: 219 (distr.); Boppe, 1921: 90.
- Leptura behrensii*; Leng, 1890: 191; Fall, 1901: 150 (distr.); Garnett, 1918: 252 (distr.)
- Xestoleptura behrensi*; Casey, 1913: 261; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 154, fig. 41; Deyrup, 1977: 182 (hosts); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 105 (cat.); Linsley & Chemsak, 1997: 450 (hosts); Chemsak, 2005: 398, pl. 26, fig. 4; Monné, M.A. & Hovore, 2006: 173 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 135, pl; 29
- Anoplodera behrensii*; Swaine & Hopping, 1928: 54, pl. 7, fig. 76; Canova, 1936: 127 (distr., hosts); Doane *et al.*, 1936: 174 (distr.); Hardy, 1950: 85 (distr.); Hatch, 1971: 132, pl. 14, fig. 9.

#### **2. *Xestoleptura cockerelli* (Fall, 1907)**

- Type locality** - Holotype male: United States, New Mexico: Beulah. (MCZN). **Distribution** - United States (Colorado Plateau). **Host plants** - *Pinus* sp. (Pinaceae).
- Leptura cockerelli* Fall, 1907: 251; Boppe, 1921: 91.
- Xestoleptura cockerelli*; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 151; Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist);



Monné, M.A., 1995: 105 (cat.); Linsley & Chemsak, 1997: 450 (hosts); Heffern, 1998: 12 (distr.); Chemsak, 2005: 393, pl. 25, fig. 12, pl. 26, fig. 1; Monné, M.A. & Hovore, 2006: 173 (checklist);

*Anoplodera cockerelli*; Swaine & Hopping, 1928: 55, pl. 8, fig. 78, pl. 9, fig. 89.

### 3. *Xestoleptura crassicornis* (LeConte, 1873)

**Type locality** - Holotype female; United States, California. (MCZN). **Distribution** - Canada (British Columbia, British Columbia from the Okanagan Valley and the Lytton area), Washington to Idaho and Sierra Nevada to southern California. **Host plants** - *Abies* sp., *Pinus* sp. (Pinaceae).

*Leptura crassicornis* LeConte, 1873a: 227; Wickham, 1890: 35 (distr.); 1897a: 167 (biol.); Harrington, 1899: 108 (distr.).

*Xestoleptura crassicornis*; Casey, 1913: 260; Leng, 1920: 273 (cat.); Linsley & Chemsak, 1976: 156, fig. 42; Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 105 (cat.); Linsley & Chemsak, 1997: 450 (hosts); Chemsak, 2005: 394, 400, pl. 26, fig. 5; Monné, M.A. & Hovore, 2006: 173 (checklist); Rice, MacRae & Merickel, 2017: 671 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 135, pl. 29

*Anoplodera crassicornis*; Swaine & Hopping, 1928: 53, pl. 7, figs 71, 72; Doane *et al.*, 1936: 174; Canova, 1936: 127 (distr.); Hatch, 1971: 131, pl. 14, figs 14, 14a; Penrose & Westcott, 1974: 72 (biol.).

*Xestoleptura corusca* Casey, 1913: 261; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 46, 370, fig. 49a (lectotype).

**Type locality** - Lectotype male: United States, California: Grant Forest. (USNM).

### 4. *Xestoleptura crassipes* (LeConte, 1857)

**Type locality** - Holotype female: United States, Washington: Steilacoom, Pierce County (southwest of Tacoma). (MCZN) **Distribution** - From the Skeena River in western British Columbia to the Banff area in the Rocky Mountains of Alberta, south to northern Colorado and southern California. **Host plants** - *Thuja plicata* Donn ex D. Don (Cupressaceae), *Chrysolepis* sp., *Lithocarpus densiflora* Rehder, *Quercus* sp. (Fagaceae), *Umbellularia californica* (Hooker & Arnott) Nuttall (Lauraceae), *Eucalyptus globulus* Labillardière (Myrtaceae), *Abies grandis* (Lambert) Lindley, *Larix laricina* (DuRoi) K. Koch, *Pinus ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga menziesii* (Mirbel) Franco, *P. taxifolia* (Poiret) Britton, *Tsuga* sp. (Pinaceae), *Salix* sp. (Salicaceae), *Sequoia sempervirens* (D. Don) Endlicher (Taxodiaceae).

*Leptura crassipes* LeConte, 1857: 65; 1873a: 221; Rivers, 1886: 7; Wickham, 1890: 35; Leng, 1890: 189, 198; Wickham, 1897b: 167 (biol.); Fall, 1901: 149 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 251 (distr., hosts); Craighead, 1923: 92 (larva).

*Xestoleptura crassipes*; Casey, 1913: 263; 1924: 285 (syn.); Hardy, 1926b 29, pl. 5, figs 46, 47; Essig, 1926: 453, fig. 354; Hardy & Preece, 1926: 35 (hosts); 1927: 63 (hosts); Kirk & Balsbaugh, 1975: 97 (distr.); Linsley & Chemsak, 1976: 156; Frost, 1979: 347 (biol.); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 106 (cat.); Linsley & Chemsak, 1997: 451 (hosts); Heffern, 1998: 12 (distr.); Chemsak, 2005: 394, 402, pl. 26, fig. 6; Monné, M.A. & Hovore, 2006: 173 (checklist); Vlasák, 2014: 318 (hosts); Rice, MacRae & Merickel, 2017: 671 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 135, pl. 29

*Anoplodera crassipes*; Swaine & Hopping, 1928: 54, pl. 7, figs. 74, 75; Exline & Hatch, 1934: 450; Canova, 1936: 128 (distr., hosts); Doane *et al.*, 1936: 174 (biol.); Moore, 1937: 89 (distr.); Hardy, 1942: 10 (biol.); Leech, 1947: 105; Hardy, 1948: 32 (distr.); 1949: K25, K44; DeLeon, 1952: 81 (hosts); Hardy, 1955: B50; Clark, 1956: 41 (distr.); Hardy, 1957: D65 (distr.); Linsley, 1958: 107; MacSwain, 1958: 104 (hosts); Ross, 1967: 23; Hatch, 1971: 132, pl. 14, figs 15, 15a; Penrose & Westcott, 1974: 72 (biol.).

*Leptura xanthogaster* LeConte, 1859b: 88; 1859a: 291 (distr.).

**Type locality** - Holotype male: United States, Washington Territory: Shoalwater Bay. (MCZN).

*Leptura fasciventris* LeConte, 1861: 355; 1869: 371 (distr.).

**Type locality** - Holotype: United States, California. (MCZN).

*Xestoleptura vancouveri* Casey, 1913: 263; Lingafelter *et al.*, 2014: 340, fig. 78g (holotype).

**Type locality**- Holotype female: Canada, British Columbia: Vancouver Island. (USNM).

*Xestoleptura muliebris* Casey, 1913: 263; Lingafelter *et al.*, 2014: 102, fig. 113g (holotype).

**Type locality** - Holotype female: United States, California. (USNM).

*Xestoleptura crassipes shastana* Casey, 1913: 263; Lingafelter *et al.*, 2014: 47, fig. 50a (holotype).

**Type locality** - Holotype male: United States, California: Mount Shasta. (USNM).

##### 5. *Xestoleptura octonotata* (Say, 1824)

**Type locality** - Holotype: United States, Mississippi, on the Mississippi. (Depository unknown). **Distribution** - This species ranges from New Hampshire to Iowa (Rice and Veal 2006: 260), south to southeastern Tennessee and southwestern North Carolina in the Appalachian Mountains. In Canada, it is known only from the Great Lakes area in southern Ontario. **Host plants** - *Quercus alba* Linnaeus (Fagaceae).

*Leptura 8-notata* Say, 1824: 419; Haldeman, 1847a: 65; LeConte, 1850a: 337; 1859c: 197; Bland, 1861: 101 (distr., hosts); Saunders, 1868: 13 (distr.).

*Leptura octopunctata*; Emmons, 1854: 127 (error).

*Leptura octonotata*; Gemminger *in* Gemminger & Harold, 1872: 2868 (cat.); LeConte, 1873a: 221; Horn, 1885a: 6 (syn); Leng, 1890: 189, 199; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 191; 1897c: 158 (distr.); Smith, 1900: 292 (distr.); 1910: 331; Blatchley, 1910: 1058; Daecke, 1911: 477; Fisher & Kirk, 1912: 313 (distr.); Lovell, 1915: 114; Johnson, 1915: 315 (distr.); Chagnon, 1917: 235 (distr.); Morris, 1921: 13; Boppe, 1921: 91; Saalas, 1936: 78 (morphol.).

*Xestoleptura octonotata*; Casey, 1913: 260; Leng, 1920: 273 (cat.); Britton, 1920: 268 (distr.); Kirk & Knull, 1926: 25 (distr.); Leonard, 1928: 441 (distr.); Brimley, 1938: 213 (distr.); Gibson & Carrillo, 1959: 119 (distr.); Gosling & Gosling, 1965: 15, fig. 108 (biol., distr.); Linsley & Chemsak, 1976: 153; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 339 (distr.); Arnett, 1985: 369, fig. 24.206; Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 106 (cat.); Yanega, 1996: 43, pl. 9, fig. 94; Linsley & Chemsak, 1997: 451 (hosts); Vlasák & Vlasakova, 2002: 209 (distr.); Chemsak, 2005: 394, pl. 26, fig. 3; Monné, M.A. & Hovore, 2006: 173 (checklist); Rice & Veal, 2006: 260 (distr.); Lingafelter, 2007: 28, 143, 2 figs, pl. 7a (hosts); Guarnieri, 2009: 16 (distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 135

*Anoplodera octonotata*; Swaine & Hopping, 1928: 55, pl. 7, fig. 77, pl. 12, fig. 12; Knull, 1946: 166, pl. 27, fig. 115; Dillon & Dillon, 1961: 615, pl. 61, No. 10; Bayer & Shenefelt, 1969: 7, fig. 19; Kirk, 1970: 77; Wilson, 1971: 60 (biol.).

*Leptura stictica* Newman, 1841: 72.

**Syntypes locality** - Syntypes: United States, New York: Trenton Falls. (BMNH).

*Leptura 4-punctata* Haldeman, 1847a: 64.

*Leptura octonotata* var. *quadripunctata*; Gemminger *in* Gemminger & Harold, 1872: 2868 (cat.); Aurivillius, 1912: 223 (cat.); Boppe. 1921: 91.

*Xestoleptura octonotata quadripunctata*; Leng, 1920: 273 (cat.).

**Type locality** - Holotype: United States, Pennsylvania. (MCZN).

##### 6. *Xestoleptura tibialis* (LeConte, 1850)

**Type locality** - Holotype: United States, Lake Superior, St. Ignace. (MCZN). **Distribution** - British Columbia to northwestern California, Rocky Mountains, northeastward to Labrador and Newfoundland. **Host plants** - *Abies* sp., *Larix laricina* (Duroi) K. Koch, *L. occidentalis* Nuttall, *Picea engelmanni* Engelmann, *Pinus strobus* Linnaeus (Pinaceae).

- Leptura tibialis* LeConte, 1850b: 236; 1850a: 339; 1873a: 221; Austin, 1874: 271; Leng, 1890: 191; Adams, 1909: 201 (distr.); Sherman, 1910: 195 (distr.); Boppe, 1921: 81; Fall, 1926: 202 (distr.).
- Xestoleptura tibialis*; Leng, 1920: 273 (cat.); Casey, 1924: 285; Hardy, 1926b: 29; 1927: C24; Linsley & Chemsak, 1976: 151, fig. 40; Gosling, 1986: 158 (hosts); Chemsak, Linsley & Noguera, 1992: 105 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist); Monné, M.A., 1995: 107 (cat.); Yanega, 1996: 43, pl. 8, figs 83a-b; Linsley & Chemsak, 1977: 451 (hosts); Chemsak, 2005: 393, pl. 26, fig. 2; Monné, M.A. & Hovore, 2006: 173 (checklist); MacRae & Rice, 2007: 250 (biol., distr.); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.); Webster, McCorquodale & Majka, 2009: 295 (distr.); Webster, 2016: 485; Rice, MacRae & Merickel, 2017: 671 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 135, pl. 29
- Anoplodera tibialis*; Swaine & Hopping, 1928: 53, pl. 7, fig. 53; Mank, 1934: 80 (distr.); Canova, 1936: 129 (distr., hosts); Doane *et al.*, 1936: 174; Hardy, 1944: 16 (distr.); Carl & Hardy, 1945: C36; Hardy, 1948: 32; 1955: B50; Gardiner, 1970: 286 (biol.); Hatch, 1971: 131, pl. 14, fig. 13; Penrose & Westcott, 1974: 72 (biol.); Gosling & Gosling, 1976: 17, fig. 114 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 90 (biol.).
- Leptura hirtella* LeConte, 1873a: 226; Austin, 1874: 271; Leng, 1890: 190; Sherman, 1910: 195 (distr.).
- Xestoleptura hirtella*; Leng, 1920: 273 (cat.).
- Type locality** - Holotype male: Canada, Labrador. (MCZN).
- Xestoleptura columbica* Casey, 1913: 261; Leng, 1920: 273 (cat.); Lingafelter *et al.*, 2014: 43, fig. 44w (holotype).
- Type locality** - Holotype female: Canada, British Columbia. (USNM).
- Leptura miquelonensis* Pic, 1921: 11.
- Type locality** - Holotype: Saint-Pierre et Miquelon. (MNHN).
- Xestoleptura pictipennis* Casey, 1924: 285; Lingafelter *et al.*, 2014: 229, 370, fig. 131s (lectotype).
- Type locality** - Lectotype female: United States, Idaho; Bonner County, Priest Lake. (USNM).

## **RHAGIINI Kirby, 1837**

Rhagiadae Kirby, 1837: 178.

Rhagiidae Gistel, 1848a: (9).

Rhagiaires Planet, 1924

Rhagii Boppe, 1921: 14

Rhagiini; Bousquet *et al.*, 2009: 22; Bouchard *et al.*, 2011: 463; Dutrillaux & Dutrillaux, 2018: 47 (cytogenetics); Zamoroka, 2022: 301 (*sensu novo*)

**Type-genus:** *Rhagium* Fabricius, 1775

**Type-species:** *Cerambyx inquisitor* Linnaeus, 1758 designated by Westwood (1838: 41).  
Stenocoridae Hope, 1834: 106

**Type-genus:** *Stenocorus* Geoffroy *sensu* Hope, 1834 (= *Phoracantha* Newman, 1840)

Comment. Because the type genus was misidentified when Hope established his family-group name, the case is to be referred to the Commission for a ruling (Article 65.2.1). In fact, an application should be made to the Commission to reject the name for both the Principles of Homonymy and Priority. (Bousquet *et al.*, 2009: 22).

Toxotaires Mulsant, 1839: 230. (based on *Toxotus* Dejean, 1821). *Nomen nudum*.

Comment. This name is unavailable under Article 11.7 (not subsequently Latinized and attributed to Mulsant, 1839).

Pachytes Motschulsky, 1849: 60 (based on *Pachyta* Dejean, 1821). *Nomen nudum*.

Comment. This name is unavailable under Article 11.7 (not subsequently Latinized and attributed to Motschulsky 1849).

Toxoti LeConte and Horn, 1883: 313.

**Type-genus:** *Toxotus* Dejean, 1821.

**Type-species:** *Leptura meridiana* Linnaeus, 1758 designated by Westwood (1838: 41).

Comment. This family-group name is a junior homonym of Toxotidae Günther, 1860 (based on *Toxotes* Cuvier and Cloquet, 1816 [Perciformes]). The case is to be referred to the Commission for a ruling to remove the homonymy (Article 55.3.1).

Pachytini Portevin, 1934: 119 (key), 129.

**Type-genus:** *Pachyta* Dejean, 1821.

**Type-species:** *Leptura octomaculata* Fabricius, 1792 designated by Westwood (1838: 41).

### ***Pachyta* Dejean, 1821**

*Pachyta* Dejean, 1821: 112; Audinet-Serville, 1835: 213; Laporte, 1840: 502; Blanchard, 1845: 164; LeConte, 1850b: 235; Thomson, 1864: 142, 408; Lacordaire, 1868: 427, 439; Chenu, 1870: 331; LeConte, 1873b: 328; LeConte & Horn, 1883: 313; Leng, 1890: 97; 1890: 65; Wickham 1897a: 88; Blatchley, 1910: 1046; Boppe, 1921: 63; Craighead, 1923: 88; Bradley, 1930: 235; Doane *et al.*, 1936: 176; Chagnon, 1936: 245; Hopping, 1937: 17; Linsley, 1938: 109; Chagnon & Robert, 1962: 241; Arnett, 1962: 857, 877; Chemsak, 1964: 233; Podany, 1964: 42; Hatch, 1971: 125; Linsley & Chemsak, 1972: 65; Monné, M.A., 1995: 25; Chemsak, 2005: 32, 93; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 104 (key spp.)

**Type-species** - *Leptura 4-maculata* Linnaeus, 1758 (subsequent designation, Westwood, 1840: 41).

*Argaleus* LeConte, 1850a: 319; 1854b: 218; Thomson, 1861: 144, 166; Lacordaire, 1868: 439; Swaine & Hopping, 1928: 10; Linsley, 1938: 109; Chemsak, 1964: 231

**Type-species** - *Argaleus nitens* LeConte, 1850 (= *Pachyta liturata* Kirby, 1837) subsequent designation, Swaine & Hopping, 1928:10).

*Acmaeops*; Thomson, C. G. 1866 (not LeConte, 1850).

*Anthophilax*; Blessig, 1873 (not LeConte, 1850)

*Neopachyta* Bedel, 1906: 93 (*nom.nov.*).

**Type-species** -

*Linsleyana* Podany, 1964: 42

**Type-species** - *Pachyta armata* LeConte, 1873 (original designation).

### **1. *Pachyta armata* LeConte, 1873**

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - This species ranges from British Columbia to the Sierra Nevada in east-central California. It is recorded also from northwestern Montana. In British Columbia, it occurs mostly over the western half of the province, including Vancouver Island, as far north as the Portland Inlet area. **Host plants** - *Pinus monticola* Douglas ex D. Don, *Tsuga mertensiana* (Bongard) Carrière (Pinaceae).

*Pachyta armata* LeConte, 1873a: 207; Leng, 1890: 97; 1920: 271 (cat.); Boppe, 1921: 63; Hardy, 1927a: C24 (biol.); Canova, 1936: 131 (distr., hosts); Doane *et al.*, 1936: 276; Hopping, 1937: 17, pl. 3; Hardy, 1944: 15; 1948: 32 (distr.); 1955: B50; Clark, 1956: 41 (distr.); Hatch, 1971: 139; Linsley & Chemsak, 1972: 67, fig. 23; Furniss & Carolin, 1977: 297 (biol.); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 25 (cat.); Linsley & Chemsak, 1997: 414 (hosts); Chemsak, 2005: 96, pl. 7, fig. 5; Monné, M.A. & Hovore, 2006: 167 (checklist); Swift, 2008: 6 (biol., distr., hosts); Bousquet. Laplante, Hammond & Langor, 2017: 104, pl. 17

*Pachyta (Linsleyana) armata*; Podany, 1964: 52, pl. 3, fig. 4

## 2. *Pachyta lamed lamed* (Linnaeus, 1758)

**Syntypes locality** - Syntypes: Sweden, Roslagia. (UZI). **Distribution** - North and middle Europe, Siberia, and Boreal North America. **Host plants** - *Abies* sp., *Larix koreana* Nakai, *L. olgensis* A. Henry var. *amurensis* (Kolesnikov ex Dylis) Kitagawa, *Picea abies* Linnaeus, *P. glehnii* Masters, *P. jezoensis* Carrière, *Pinus armandii* Franchet, *P. massoniana* D. Don, *P. sylvestris* Linnaeus, *P. tabulaeformis* Hortulanorum ex C. Koch (Pinaceae).

*Cerambyx lamed* Linnaeus, 1758: 391; 1761: 187; 1767: 630.

*Stenocorus lamed*; Fabricius, 1775: 178; 1781: 226; 1787: 143; 1793: 293.

*Pachyta lamed*: Zetterstedt, 1828: 376; Linsley & Chemsak, 1972: 66; Furniss & Carolin, 1977: 297 (biol.); Chemsak, Linsley & Noguera, 1992: 99 (cat. ); Chemsak, 2005: 94; Monné, M.A. & Hovore, 2006: 165 (checklist);

*Leptura pedella* DeGeer, 1775: 129, pl. 4, fig. 10.

**Type locality** - Type: Sweden. (NHRS).

*Leptura spadicea* Paykull, 1800: 103.

**Type locality** - Holotype: Sweden. (NHRS).

### 2a. *Pachyta lamed liturata* Kirby, 1837

**Syntypes locality** - Syntypes: North America, latitudes 54 and 65 degrees. (BMNH). **Distribution** - From Newfoundland to western Alaska, north to the Inuvik area in northern Northwest Territories, south to east-central California in the Sierra Nevada, southern Arizona, southern Colorado and Pennsylvania. **Host plants** - *Abies grandis* (Lambert) Lindley, *Picea* sp., *Pinus* sp., *Pseudotsuga menziesii* (Mirbel) Franco, *P. taxifolia* (Poiret) Britton (Pinaceae).

*Pachyta liturata* Kirby, 1837: 178; Haldeman, 1847a: 60; LeConte, 1850a: 340; Mannerheim, 1852: 367; Bethune, 1872:111; Horn, 1876: 170; LeConte, 1876: 520 (distr.); Snow, 1877a: 19 (distr.); Provancher, 1877a: 608; Smith, 1885: 62 DD; Leng, 1890: 97; Harrington, 1890: 185 (distr.); Hamilton, 1894a: 31 (distr.); Townsend, 1895: 48 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 171; 1899b: 199 (distr.); Harrington, 1899: 108 (distr.); Holland, 1900: 423 (distr.); Schwarz, 1900: 535 (distr.); Fall, 1901: 148 (distr.); Skinner, 1903: 40 (distr.); Fall & Cockerell, 1907: 193 (distr.); Sherman, 1910: 194 (distr.); Blatchley, 1910: 1049; Schwarz, 1910: 183 (distr.); Garnett, 1918: 212 (distr.); Fall, 1926: 202 (distr.); Hardy, 1926a: 5; Essig, 1926: 452, fig. 352 (biol.); Mank, 1934: 80 (distr.); Knowlton, 1934: 86; Canova, 1936: 131 (distr., hosts); Chagnon, 1936: 245; Knowlton & Thatcher, 1936: 279 (distr.); Doane *et al.*, 1936: 176; Chagnon & Robert, 1962: 245.

*Leptura liturata*; LeConte, 1857: 6.

*Argaleus lituratus*; LeConte, 1861: 356 (syn.); Lacordaire, 1868: 440.

*Evodinus lituratus*; Aurivillius, 1912: 188 (cat.); Boppe, 1921: 72; Saalas, 1922: 63 (morphol.).

*Pachyta lamed liturata*; Linsley & Chemsak, 1972: 77, fig. 22; Gosling & Gosling, 1976: 3 (distr.); Laliberté, Chantal & LaRoche, 1977: 96 (biol.); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 26 (cat.); Yanega, 1996: 36, pl. 8, figs 89a,b; Linsley & Chemsak, 1997: 414 (hosts); Heffern, 1998: 9 (distr.); Chemsak, 2005: 95, pl. 8 figs, 2, 3; Monné, M.A. & Hovore, 2006: 167 (checklist); MacRae & Rice, 2007: 248 (distr.); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.); Bousquet, Laplante, Hammond & Langor, 2017: 104, pl. 17; ; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Argaleus nitens* LeConte. 1850a: 319; 1850b: 235; Linsley, 1938: 109.

**Type locality** - Holotype: Canada, Ontario, (Nord du Lac Supérieur), Mouth of Pic River. (MCZN).

*Pachyta conflagrata* Motschulsky, 1860: 147.

*Pachyta lamed* var. *conflagrata*; Aurivillius, 1912: 184 (cat.); Boppe, 1921: 64.

**Syntypes locality** - Syntypes male and female: United States, Alaska. (ZMUM)

*Pachyta (Pachyta) lamed americana* Podany, 1964: 50, pl. 1, figs 13-25, pl. 2, figs 2, 64, pl. 3 fig. 1.

**Type locality** - Holotype: Canada, Ontario: Ottawa. (Collection C. Podany, Muséum de Benátky n. Jiz.).

### ***Rhagium (Rhagium) Fabricius 1775***

*Stenocorus* Geoffroy, 1762: 221 Official Index of Rejected and Invalid Works by the International Commission on Zoological Nomenclature (Opinion 228, 1954).

*Rhagium* Fabricius, 1775: 182; Audinet-Serville, 1835: 205; Laporte, 1840: 500; Blanchard, 1845: 164; Haldeman, 1847a: 58; LeConte, 1850a: 319; Emmons, 1854: 125; LeConte, 1854b: 219; Thomson, 1861: 144, 156; 1864: 144, 409; Lacordaire, 1868: 428; LeConte, 1873b: 328; 1874: 190; Provancher, 1877a: 580; LeConte & Horn, 1883: 313; Bates, 1885: 277; Leng, 1890: 65; Wickham, 1897b: 88; Blatchley, 1910: 1046; Gressitt, 1953: 207; Arnett, 1962: 857; Podany, 1964: 5; Chemsak, 1964: 234; Linsley & Chemsak, 1972:84; Monné, M.A., 1995: 30 (cat.); Chemsak, 2005: 33, 118; Monné, M.A. & Hovore, 2006: 168 (checklist); Zamoroka, 2022: 301

**Type-species** - *Cerambyx inquisitor* Linnaeus, 1758 (subsequent designation, Curtis, 1839).

*Hargium* Samouelle, 1819: 210

*Rhagium (Hargium)*; Casey, 1913: 194

**Type-species** - *Cerambyx inquisitor* Linnaeus, 1758 (monotypy).

*Allorhagium* Kolbe, 1884: 270

*Rhagium (Allorhagium)* Gressitt, 1953: 207

**Type-species** - *Cerambyx inquisitor* Linnaeus, 1758 (monotypy).

### **1. *Rhagium inquisitor inquisitor* (Linnaeus) 1758**

**Syntypes locality** - Syntypes: Sweden. (LSUK). **Distribution** - Holarctic ; boreal in North America, Mexico (Michoacán, Guerrero). **Host plants** - *Betula* sp. (Betulaceae), *Fagus sylvatica* Linnaeus, *Quercus* sp. (Fagaceae), *Abies concolor* Gordon & Glen, *A. grandis* (Lambert) Lindley, *A. holophylla* Maximowicz, *A. lasiocarpa* Hooker, *A. magnifica* A. Murray, *A. nephrolepis* (Trautvetter) Maximowicz, *A. numidica* De Lannoy ex Carrière, *Cedrus atlantica* Manetti, *Keteleeria fortunei* Carrière, *Larix europaea* de Candolle, *L. kaempferi* Fortune ex Gordon, *L. occidentalis* Nuttall, *Picea abies* Linnaeus, *P. engelmanni* Engelman, *P. excelsa* Link, *P. glauca* (Moench) Voss, *P. jezoensis* Carrière, *P. koraiensis* Nakai, *P. orientalis* Carrière, *P. sitchensis* (Bongard) Carr, *Pinus armandii* Franchet, *P. ayacahuite* Ehrenberg ex Shlechtendal, *P. contorta* Douglas ex Loudon, *P. coulteri* D. Don, *P. densiflora* Siebold & Zuccarini, *P. echinata* Miller, *P. inops* Solander, *P. insignis* Douglas ex Loudon, *P. jeffreyi* Balfour, *P. koraiensis* Siebold & Zuccarini, *P. monticola* Douglas ex D. Don, *P. nigra calabrica* (Loudon) E. Murray, *P. palustris* Miller, *P. ponderosa* Douglas ex Lawson & P. Lawson, *P. radiata* D. Don, *P. resinosa* Aiton, *P. rigida* Miller, *P. sabiniana* Douglas ex D. Don, *P. strobus* Linnaeus, *P. sylvestris* Linnaeus, *P. yunnanensis* Franchet, *Pseudotsuga menziesii* (Mirbel) Franco, *Tsuga* sp. (Pinaceae).

*Cerambyx inquisitor* Linnaeus, 1758: 393; 1761: 190; 1767: 630.

*Rhagium inquisitor*; Fabricius, 1775: 182; 1781: 229; 1787: 145; 1793: 304; 1801: 313; Laporte, 1840: 500; LeConte, 1857: 23 (distr.); Hamilton, 1894a: 31; 1894b: 396; 1895: 338 (distr.); Gardiner, 1957: 251, figs 4, 12, 15; Tyson, 1966: 206 (hosts); Gardiner, 1966: 209, fig. 6; 1970: 286 (biol.); Hatch, 1971: 138; Linsley & Chemsak, 1972: 85, fig. 29 (syn.); Perry, 1975: 59 (hosts); Kirk & Balsbaugh, 1975: 98 (distr.); Gosling & Gosling, 1976: 5 (distr., hosts); Furniss & Carolin, 1977: 297; Laliberté, Chantal & LaRoche, 1977: 97; Skiles, 1978: 14 (hosts); Turnbow & Franklin, 1980: 338 (distr.); Gosling, 1986: 157 (hosts); Chemsak, Linsley & Noguera, 1992: 100 (cat.); MacRae, 1993: 238 (distr., hosts); Monné, M.A., 1995: 31 (cat.); Noguera & Chemsak, 1996: 403 (distr.); Yanega, 1996: 37, pl. 2, fig. 24; Linsley & Chemsak, 1997: 428 (hosts); Peck & Thomas, 1998: 120 (distr.); Vlasák & Vlasakova, 2002: 207 (distr.); Sikes & Webster, 2005: 327 (distr.); Chemsak, 2005: 119, pl. 9, figs 2,3; Monné, M.A. & Hovore, 2006: 168 (checklist); Lingafelter, 2007: 29, 141, 2 figs, pl. 4e (hosts); O'Neill, Fultz & Ivie, 2008: 33 (distr.); Guarnieri, 2009: 15 (distr.); 2010: 24 (distr.); Costello, Jacobi & Negrón, 2013: 151 (hosts); Steury & MacRae, 2014: 9 (distr.); Webster, 2016: 486; Bousquet, Laplante, Hammond & Langor, 2017: 104, pl. 18; Hanks & Wang, 2017: 105; Klingeman *et al.*, 2017: 296 (distr.); Rice, MacRae & Milliken, 2017: 670 (distr.)

*Rhagium (Hargium) inquisitor*; Aurivillius, 1912: 164 (cat.).

*Stenocorus inquisitor*; Hopping, 1937: 9, pl. 4; Knull, 1946: 174, pl. 7, fig. 25; Fattig, 1947: 13 (distr.); ing: 32; Knowlton & Wood, 1950: 11 (distr.); Howden & Vogt, 1951: 591 (hosts); Beal, Haliburton & Knight, 1952: 110 (biol.); Thomas, 1955: 340; Dillon & Dillon, 1961: 618; Wilson, 1971: 61.

*Rhagium inquisitor inquisitor*; Monné, M.A., & Giesbert, 1994: 169 (checklist); Schiefer, 1998: 121 (distr.); Heffern, 1998: 9 (distr., hosts); Holt, 2013: 245 (distr., hosts).

*Cerambyx nubecula* Bergsträsser, 1778: 25.

**Type locality** - ?

*Rhagium indagator* Fabricius, 1787: 145..

**Syntypes locality** - Syntypes: Germania. (ZMUC).

*Rhagium minutum* Fabricius, 1787: 146; Chevrolat, 1851: 664 (syn.).

**Syntypes locality** - Syntypes: Germany, Schleswig-Holstein, Kiel. (BMNH).

*Cerambyx (Rhagium) exilis* Gmelin, 1790: 1844.

**Type locality** - Holotype: locality unknown. (NHRS).

*Stenocorus lineatus* Olivier, 1795: 13, pl. 3, fig. 22; Lacordaire, 1868: 430; Provancher, 1877a: 605; Chagnon, 1936: 244, pl. 15, fig. 5; Canova, 1936: 131 (distr., hosts); Leech, 1947: 108 (biol.); Craighead, 1950: 232; Clark, 1956: 41 (distr.); Townes & Townes, 1960: 140 (paras.); Chagnon & Robert, 1962: 244, pl. 15, fig. 5;

*Rhagium lineatum*; Audinet-Serville, 1835: 307; Harris, 1838: 95; 1841: 93; Haldeman, 1847a: 58; LeConte, 1850b: 235; 1850a: 319; Emmons, 1854: 126, pl. 10, fig. 1; Fitch, 1858: 715 (biol.); LeConte, 1860: 316 (syn.); Horn, 1861: 30 (biol.); Bland, 1861: 100 (distr., hosts); LeConte, 1869: 371; Dimmock, 1871: 15; Packard, 1872: 501; Fuller, 1875: 97 (biol.); Moody, 1875: 96 (biol.); Planchard, 1875: 96 (biol.); Andrews, 1875: 80 (distr.); Horn, 1876: 169; LeConte, 1879: 505 (distr.); Riley, 1880: 239 (biol.); Harrington, 1881: 33 (hosts); Packard, 1881: 162, 226, 236; Riley, 1883: 259 (biol.); Bates, 1885: 277 (distr.); Schwarz, 1886a: 29 (biol.); 1886b: 27 (biol.); Horn, 1886: 138; Mann, 1886: 27 (distr.); Holland, 1888: 91 (distr.); Riley & Howard, 1889: 190 (biol.); Townsend, 1889: 233 (distr.); Harrington, 1890: 185 (distr.); Packard, 1890: 704, 830, 862, pl. 21, figs 1,2, fig. 242; Leng, 1890: 65; Hopkins, 1893: 195; Chittenden, 1893: 248; Hanham, 1894: 352 (distr.); Slosson, 1894: 3 (distr.); Chittenden, 1895: 419; Keen, 1895: 219 (distr.); Townsend, 1895: 48 (distr.); Laurent, 1895: 323 (distr.); Evans, 1895b: 173 (distr.); Beutenmuller, 1896: 77 (hosts); Slosson, 1896: 263 (distr.); Wickham,

1897b: 170; Hopkins, 1899: 439 (biol.); Warren, 1899: 296 (distr.); Smith, 1900: 291 (distr.); Fall, 1901: 148 (distr.); Ulke, 1903: 26, 50 (distr.); Hopkins, 1904: 37 (biol.); Wenzel, 1905: 159 (distr.); Felt, 1906: 335; Fall & Cockerell, 1907: 193 (distr.); Morris, 1908: 443; Smith, 1910: 330; Blatchley, 1910: 1048, fig. 445; Fisher & Kirk, 1912: 312 (distr.); Engelhardt, 1912: 221 (distr.); Morris, 1915: 19; Chagnon, 1917: 233; Woodruff, 1917: 85; Hess, 1917: 64 (morphol.); Nicolay, 1917a: 94; Garnett, 1918: 212 (distr.); Nicolay, 1919: 68 (biol.); Britton, 1920: 267 (distr.); Hess, 1920: 367, figs 61-66; Craighead, 1923:88 (larva); Mundinger, 1924: 316; Essig, 1926: 451, fig. 351; Kirk & Knoll, 1926: 23 (distr.); Fletcher, 1926: 143 (distr.); Hardy, 1926a: 4, pl. 5, fig. 29; Hardy & Preece, 1926: 35 (hosts); Hardy, 1927a: C24; Procter, 1927: 111; Tanner, 1927: 33, figs 165-166; 1928: 277 (distr., hosts); Leonard, 1928: 437 (distr.); Keen, 1929: 64 (biol.); Pack, 1930: 219 (distr.); Beaulne, 1932: 198 (hosts); Ingles, 1933: 59 (biol.); Wolcott & Montgomery, 1933: 155 (biol.); Easterling, 1934: 131; Mank, 1934: 80 (distr.); Herrick, 1935: 251 (hosts); Knowlton & Thatcher, 1936: 279 (distr.); Lange, 1937: 173 (hosts); Brimley, 1938: 211 (distr.); Chagnon, 1939: 86 (distr.); Savely, 1939: 333 (biol.); Palmerlee, 1941: 377 (hosts); Loding, 1945: 16 (distr.); Procter, 1946: 177 (biol.); Hardy, 1955: B50; Gibson & Carrillo, 1959: 118 (distr.); Ross, 1967: 24; 1968: 11 (biol.);

*Hargium lineatum*; Kirby, 1837: 178

*Hargium (Rhagium) lineatum*; Bethune, 1872: 96 (distr.);

*Rhagium (Hargium) lineatum*; Casey, 1912: 196; Podany, 1964: 23, pl. 6, fig. 1

*Rhagium (Hargium) inquisitor* var. *lineatum*; Aurivillius, 1912: 165 (cat.)

**Type locality** - Holotype: Amérique. (Depository unknown).

*Rhagium investigator* Mulsant, 1839: 227; Mannerheim, 1852: 367 (hosts); LeConte, 1857: 23 (distr.); LeConte, 1869: 371

**Type locality** - Holotype: France. (MNHN).

*Rhagium (Hargium) californicum* Casey, 1913: 195; Lingafelter *et al.*, 2014: 35, 369, fig. 36i (lectotype).

**Type locality** - Lectotype female; United States, California: Sacramento. (USNM).

*Rhagium (Hargium) crassipes* Casey, 1913: 195; Lingafelter *et al.*, 2014: 47, fig. 49u (lectotype).

**Type locality** - Holotype male: United States, Massachusetts, Medford. (USNM).

*Rhagium (Hargium) parvicorne* Casey, 1913: 195; Lingafelter *et al.*, 2014: 296, fig. 128o (holotype).

**Type locality** - Holotype female: United States, Massachusetts, Malden. (USNM).

*Rhagium (Hargium) boreale* Casey, 1913: 195; Lingafelter *et al.*, 2014: 31, fig. 31k (holotype).

**Type locality** - Holotype male: United States, Wisconsin: Bayfield. (USNM).

*Rhagium (Hargium) cariniventre* Casey, 1913: 196; Podany, 1964: 33, pl. 7, fig. 4; Lingafelter *et al.*, 2014: 37, 369, fig. 38m (lectotype).

**Type locality** - Lectotype male: United States, Pennsylvania: State College. (USNM).

*Rhagium (Hargium) thoracicum* Casey, 1913: 196; Lingafelter *et al.*, 2014: 333, fig. 170 k (holotype).

**Type locality** - Holotype female: United States, New Mexico: Las Vegas.(USNM).

*Rhagium (Hargium) montanum* Casey, 1913: 197; Podany, 1964: 31, pl. 2, fig. 25, pl. 7, fig. 3; Lingafelter *et al.*, 2014: 101, 369, fig. 111w (lectotype).

**Type locality** - Lectotype female: United States, Colorado: Boulder County, Fraser. (USNM).

*Rhagium (Hargium) mexicanum* Casey, 1913: 197; Podany, 1964: 35, pl. 2, fig. 25, pl. 7, fig. 6; Lingafelter *et al.*, 2014: 98, 369, fig. 98a (lectotype).

**Type locality** - Lectotype female: Mexico, Guerrero. (USNM).



*Rhagium (Hargium) inquisitor inquisitor* var. *sudetica* Plavilstshikov, 1915: 46.

**Syntypes locality** - Syntypes: Tcheck Republic, Bohemia: Sudetes, (ZMUM).

*Rhagium Iberonis* Ericson, 1916: 240

**Type locality** - Holotype: Spain, Navarra. (Skara - Västergötlands museum).

*Rhagium (Hargium) canadense* Podany, 1964: 30, pl. 2, fig. 19, pl. 7, figs 1,2;

**Type locality** - Holotype male: Canada, British Columbia: Marming Park (CNCI).

*Rhagium (Hargium) americanum* Podany, 1964: 32, pl. 6, fig. 6.

**Type locality** - Holotype female: North America. (SMFT).

*Rhagium (Hargium) quadricostatum* Podany, 1964: 34, pl. 2, fig. 17; pl. 7, fig. 5.

**Type locality** - Holotype male: Canada, Norwest Territory. (Collection C. Podaný, Muséum de Benátky n. Jiz.).

*Rhagium papayanum* Podany, 1978: 4.

**Type locality** - Holotype male: Mexico, Papayo. (Collection C. Podaný, Muséum de Benátky n. Jiz.)

*Rhagium mexicanum nigra* Podany, 1978: 4.

**Type locality** - Holotype male: Mexico, Papayo. (Collection C. Podaný, Muséum de Benátky n. Jiz.)

### **STENOCORINI Thomson, 1861**

Stenocorini; Zamoroka, 2022: 302

Stenocoridae Hope, 1834: 106

**Type-genus:** *Stenocorus* Geoffroy sensu Hope, 1834 (= *Phoracantha* Newman, 1840)

Comment. Because the type genus was misidentified when Hope established his family-group name, the case is to be referred to the Commission for a ruling (Article 65.2.1). In fact, an application should be made to the Commission to reject the name for both the Principles of Homonymy and Priority. (Bousquet *et al.*, 2009: 22).

Toxotaires Mulsant, 1839: 230. (based on *Toxotus* Dejean, 1821). *Nomen nudum*. Comment. This name is unavailable under Article 11.7 (not subsequently Latinized and attributed to Mulsant, 1839).

Pachytes Motschulsky, 1849: 60 (based on *Pachyta* Dejean, 1821). *Nomen nudum*.

Comment. This name is unavailable under Article 11.7 (not subsequently Latinized and attributed to Motschulsky 1849).

Toxoti LeConte and Horn, 1883: 313.

**Type-genus:** *Toxotus* Dejean, 1821.

**Type-species:** *Leptura meridiana* Linnaeus, 1758 designated by Westwood (1838: 41).

Comment. This family-group name is a junior homonym of Toxotidae Günther, 1860 (based on *Toxotes* Cuvier and Cloquet, 1816 [Perciformes]). The case is to be referred to the Commission for a ruling to remove the homonymy (Article 55.3.1).

Pachytini Portevin, 1934: 119 (key), 129.

**Type-genus:** *Pachyta* Dejean, 1821.

**Type-species:** *Leptura octomaculata* Fabricius, 1792 designated by Westwood (1838: 41).

Enoploderini Althoff and Danilevsky, 1997: 9 (based on *Enoploderes* Faldermann, 1837). *Nomen nudum*.

Comment. This name is unavailable under Article 13.1 (no description or indication).

Rhamnusiini Althoff and Danilevsky, 1997: 9 (based on *Rhamnusium* Latreille, 1829).

*Nomen nudum*.

### ***Stenocorus (Stenocorus) Geoffroy 1762***

*Stenocorus* Geoffroy, 1762: 221; Fabricius, 1775: 178; Lepeletier & Audinet-Serville, 1825: 481; LeConte, 1873b: 328; Casey, 1913: 205; Boppe, 1921: 64; Hopping, 1928: 7; Chemsak, 1964: 234; Hatch, 1971: 124; Linsley & Chemsak, 1972: 44; Monné, M.A., 1995: 19; Chemsak, 2005: 31, 67; Monné, M.A. & Hovore, 2006: 169 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 105 (key spp.)

*Stenocorus (Stenocorus)*; Casey, 1913: 207

*Stenochorus*; Reitter, 1913: 177

**Type-species** - *Leptura meridiana* Linnaeus, 1758 (Plavilstshikov, 1936 designation, ICNZ, 1994, Opinion 1754)

*Toxotus* Dejean, 1821: 112; Audinet-Serville, 1835: 211; Westwood, 1839: 41; LeConte, 1850a: 320; 1854b: 219; Thomson, 1861: 144; 1864: 142, 408; Lacordaire, 1868: 438; Chenu, 1870: 330; Girard, 1873: 735; LeConte, 1873b: 328; Provancher, 1877a: 580, 606; LeConte & Horn, 1883: 313; Leng, 1890: 675; Wickham, 1897b: 87; Blatchley, 1910: 1045; Swaine &

**RHAMNUSIINI Sama, 2009** (nec Rhamnusiini Althoff and Danilevsky, 1997: 9)

Enoploderini Althoff and Danilevsky, 1997: 9 (based on *Enoploderes* Faldermann, 1837).

*Nomen nudum.*

Comment. This name is unavailable under Article 13.1 (no description or indication).

Rhamnusiini Althoff and Danilevsky, 1997: 9 (based on *Rhamnusium* Latreille, 1829).

*Nomen nudum.*

Comment. This name is unavailable under Article 13.1 (no description or indication).

***Acmaeops* LeConte, 1850**

*Acmaeops* LeConte in Agassiz, 1850b: 235; LeConte, 1850a: 321 (*partim*); 1854b: 219; Lacordaire, 1868: 441 (*partim*); LeConte, 1873a: 208; 1873b: 328 (*partim*); Provancher, 1877a: 580, 610 (*partim*); LeConte & Horn, 1883: 313 (*partim*); Leng, 1890: 104 (*partim*); Wickham, 1897b: 171 (*partim*); Blatchley, 1910: 1046, 1049 (*partim*); Casey, 1913: 240 (*partim*); Swaine & Hopping, 1928: 9, 14 (*partim*); Bradley, 1930: 236; Chagnon, 1936: 247 (*partim*); Linsley, 1938: 109; Knull, 1946: 151, 179 (*partim*); Arnett, 1962: 857 (*partim*); Chagnon & Robert, 1962: 243 (*partim*); Chemsak & Linsley, 1963: 82 (*partim*); Chemsak, 1964: 231; Hatch, 1971: 125; Linsley & Chemsak, 1972: 95; Villiers, 1974: 210, 212; Svacha & Danilevsky, 1989: 86 (larva); Chemsak, 2005: 128 (rev.); Monné, M.A., 2006: 114 (cat.); Monné, M.A. & Hovore, 2006: 158 (checklist); Monné, M.A., 2012: 123; Bousquet, Laplante, Hammond & Langor, 2017: 110 (key spp.)

**Type-species** - *Leptura proteus* Kirby, 1837 (subsequent designation, Casey, 1913: 219)

**1. *Acmaeops discoideus* (Haldeman, 1847)**

**Type locality** - Holotype: United States. (MCZN), **Distribution** - This species ranges from Nova Scotia to the Upper Peninsula of Michigan, south to eastern Oklahoma and the Florida Panhandle. It is known in Canada from three localities: on the Nova Scotia peninsula, in New Brunswick, and southern Quebec North America. **Host plants** - *Pinus contorta* Douglas ex Loudon, *P. resinosa* Aiton, *P. strobus* Linnaeus (Pinaceae).

*Pachyta discoidea* Haldeman, 1847a: 60.

*Acmaeops discoideus*; LeConte, 1850b: 235 (distr.); 1850a: 323; 1873a: 221; Leng, 1890: 106; Smith, 1900: 291 (distr.); Ulke, 1903: 26, 50 (distr.); Smith, 1910: 330; Blatchley, 1910: 1050; Casey, 1913: 245; Nicolay, 1919: 68 (distr.); Leng, 1920: 272 (cat.); Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 438 (distr.); Loding, 1933: 148 (distr.); Brimley, 1938: 212 (distr.); Loding, 1945: 116 (distr.); Knull, 1946: 181, pl. 7, fig. 26; Linsley & Chemsak, 1972: 98; Perry, 1975: 59 (hosts); Gosling & Gosling, 1976: 5 (distr.); Perry, 1977: 98 (distr., hosts); Turnbow & Franklin, 1980: 338 (distr.); Arnett, 1985: 368, fig. 24.203; Chemsak,

Linsley & Noguera, 1992: 90 (cat.); MacRae, 1993: 238 (distr.); Monné, M.A., & Giesbert, 1994: 159 (checklist); Monné, M.A., 1995: 35 (cat.); Yanega, 1996: 29, pl. 7, fig. 74; Linsley & Chemsak, 1997: 338 (hosts); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 205 (distr.); Chemsak, 2005: 2129, pl. 10, figs 1, 2; Monné, M.A. & Hovore, 2006: 158 (checklist); MacRae & Rice, 2007: 245 (distr.); Lingafelter, 2007: 28, 138, 2 figs, pl. 7b (hosts); Webster, McCorquodale & Majka, 2009: 292 (distr.); Webster *et al.* 2012: 312 (biol., distr.); Holt, 2013: 245 (distr.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 110, pl. 20

*Acmaeops (Pseudodinoptera) discoidea*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

## 2. *Acmaeops proteus proteus* (Kirby, 1837)

**Syntypes locality** - Syntypes: North America, latitudes 54 and 65 degrees. (BMMH).

**Distribution** - Alaska to Newfoundland south to North Carolina; south through Rocky Mountain region to the mountains of southern Arizona and the Sierra Madre Occidental, Mexico, and south from western Canada along Pacific mountain chains to southern California. **Host plants** - *Abies* sp., *Picea glauca* (Moench) Voss, *Pinus resinosa* Aiton, *P. strobus* Linnaeus, *Tsuga* sp. (Pinaceae).

*Leptura proteus* Kirby, 1837: 186; Haldeman, 1847a: 65; 1847b: 374.

*Acmaeops proteus*; LeConte, 1850b : 235 (distr.); 1850a: 323; Saunders, 1868: 13 (distr.); Lacordaire, 1868: 442; Bethune, 1872: 116; LeConte, 1873a: 210; Austin, 1874: 271 (distr.); Horn, 1876: 170; Provancher, 1877a: 610; Snow, 1878: 76 (distr.); Smith, 1885: 62DD (distr.); Harrington, 1890: 185 (distr.); Leng, 1890: 106; Cockerell, 1890: 37 (distr.); Casey, 1891: 38 (syn.); Slosson, 1894: 3 (distr.); Harrington, 1894b: 15 (distr.); Evans, 1895b: 173 (distr.); Chagnon, 1897: 124 (distr.); Wickham, 1897: 172; 1897b: 157 (distr.); 1899: 199 (distr.); 1899: 123 (distr.); 1900: 598 (distr.); Holland, 1900: 423 (distr.); Schwarz, 1900: 535 (distr.); Skinner, 1903: 40 (distr.); Chagnon, 1905: 35 (distr.); Fall & Cockerell, 1907: 193 (distr.); Davis, 1909: 42 (distr.); Adams, 1909: 200 (distr.); Sherman, 1910: 195 (distr.); Blatchley, 1910: 1050; Schwarz, 1910: 183 (distr.); Frost, 1912: 306 (distr.); Casey, 1913: 245; Chagnon, 1917: 234 (distr.); Gibson, 1917: 150 (distr.); Nicolay, 1917a: 94 (distr.); Garnett, 1918: 213 (distr.); Leng, 1920: 272 (cat.); Morris, 1920: 73 (distr.); Fall, 1926: 202 (distr.); Kirk & Knull, 1926: 24 (distr.); Criddle 1928: 97 (distr.); Brown, 1930: 244 (distr.); Beaulne, 1932: 199 (hosts); Brown, 1934: 229 (distr.); Knowlton, 1934: 86 (distr.); Chagnon, 1936: 247 (distr.); Canova, 1936: 126 (distr.); Morley, 1939: 244 (biol.); Chagnon, 1939: 86 (distr.); Knull, 1946: 180; Procter, 1946: 177 (distr.); Hardy, 1948: 32 (distr.); Smith, 1950: 66; 1953: 41; Gardiner, 1954: 190, figs 1-5; Hicks, 1955: 165 (distr.); Clark, 1956: 41 (distr.); Gardiner, 1957a: 249, figs 11, 15 (biol.); 1957b: 2 (biol.); Gardiner & MacLeod, 1959: 62 (paras.); Linsley, Knull & Statham, 1961: 25 (distr.); Chagnon & Robert, 1962: 247; Gardiner, 1970: 287 (biol.); Hatch, 1971: 143, pl. 19, fig. 3; Wilson, 1971: 62 (biol.); Linsley & Chemsak, 1972: 96; Gosling & Gosling, 1976: 5 (biol., distr.); Furniss & Carolin, 1977: 295 (biol.); Laliberté, Chantal & LaRoche, 1977: 98 (biol.); Gosling, 1986: 154 (hosts); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Linsley & Chemsak, 1997: 338 (hosts); Chemsak, 2005: 129, pl. 9, fig. 12; Lingafelter, 2007: 25, 30, 139, 2 figs, pl. 5i (hosts); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.).

*Acmaeops (Pseudodinoptera) proteus*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Acmaeops proteus proteus*; Linsley & Chemsak, 1972: 98; Monné, M.A., & Giesbert, 1994: 159 (checklist); Monné, M.A., 1995: 35 (cat.); Yanega, 1996: 29, pl. 7, figs 73a, b; Heffern, 1998: 8 (distr.); Androw & Keeney, 1999: 4 (distr.); Vlasák & Vlasakova, 2002: 205 (distr.); Monné, M.A. & Hovore, 2006: 156 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 110, pl. 20

*Pachyta sublineata* Haldeman, 1847a: 60.

**Syntypes locality** - Syntypes: United States, Pennsylvania, Lake Superior. (MCZN).

*Acmaeops gibbula* LeConte, 1861: 356; Casey, 1913: 245.

*Acmaeops proteus* form *gibbula*; LeConte, 1879: 505 (distr.).

**Syntypes locality** - Syntypes: United States, Washington Territory. (MCZN).

*Acmaeops pinicola* Schaeffer, 1908: 341; Casey, 1913: 245; Lingafelter et al., 2014: 300, fig. 133a (holotype).

*Acmaeops (Pseudodinoptera) pinicola*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

**Type locality** - Holotype female: United States, Arizona: Huachuca Mountains, Carn's Peak. (USNM).

*Acmaeops parkeri* Casey, 1913: 242; Lingafelter et al., 2014: 295, fig. 127u (holotype).

**Type locality** - Holotype female: United States, Colorado: Boulder County. (USNM).

*Acmaeops lacustrina* Casey, 1913: 242; Lingafelter et al., 2014: 85, fig. 93c (holotype).

**Type locality** - Holotype male: United States, Lake Superior. (USNM).

*Acmaeops obsoleta* Casey, 1913: 243; Lingafelter et al., 2014: 110, fig. 121m (holotype).

**Type locality** - Holotype female: United States, Colorado. (USNM).

*Acmaeops puncticeps* Casey, 1913: 243; Lingafelter et al., 2014: 306, 365, fig. 139q (lectotype).

**Type locality** - Lectotype male: United States, Colorado. (USNM).

*Acmaeops aurora* Casey, 1913: 244; Lingafelter et al., 2014: 23, fig. 23o (holotype).

**Type locality** - Holotype male: United States, Colorado: Boulder County; (USNM).

*Acmaeops coloradensis* Casey, 1913: 244; Lingafelter et al., 2014: 42, 365, fig. 44k (lectotype).

*Acmaeops subpilosa coloradensis*; Canova, 1936: 127 (distr.).

**Type locality** - Lectotype: United States, Colorado, Fraser. (USNM).

*Acmaeops cavicollis* Casey, 1913: 244; Munding, 1924: 317; Leonard, 1928: 438 (distr.); Lingafelter et al., 2014: 38, 265, fig. 39u (lectotype).

**Type locality** - Lectotype: United States, Maine, Paris. (USNM).

*Acmaeops scutellata* Casey, 1924: 276; Lingafelter et al., 2014: 316, fig. 151e (holotype).

**Type locality** - Holotype female: United States, Idaho, Bonner County, Priest Lake. (USNM).

### ***Acmaeopsoides* Linsley & Chemsak, 1976**

*Acmaeopsoides* Linsley & Chemsak, 1976: 166; Monné, M.A., 1995: 109; Chemsak, 2005: 40. 413; Monné, M.A. & Hovore, 2006: 158 (checklist);

**Type-species** - *Pachyta rufula* Haldeman, 1847 (original designation).

#### **1. *Acmaeopsoides rufula* (Haldeman, 1847)**

**Type locality** - Holotype: United States, Michigan: Lake Superior, Eagle Harbor. (MCZN).

**Distribution** - This species ranges from Cape Breton Island to central British Columbia, north to the Lake Athabasca area near the borders of Northwest Territories, Alberta, and Saskatchewan. It is known in the United States only from the Upper Peninsula of Michigan.

**Host plants** - *Picea mariana* Britton, Sterns & Poggenburg (Pinaceae).

*Pachyta rufula* Haldeman, 1847a: 60.

*Leptura rufula*; LeConte, 1850b: 236 (distr.); 1850a: 338; 1873a: 220; Leng, 1890: 190; Boppe, 1921: 91.

*Acmaeops rufula*; Swaine & Hopping, 1928: 95; Gardiner, 1970: 288 (biol.); Gosling & Gosling, 1976: 6 (biol., distr.); Gosling, 1986: 155 (hosts).

*Acmaeopsoides rufula*; Linsley & Chemsak, 1976: 167, fig. 45; Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 159 (checklist); Monné, M.A., 1995: 109 (cat.); Yanega, 1996: 29, pl. 7, fig. 75; Chemsak, 2005: 414, pl. 26, fig. 12; Monné, M.A. & Hovore, 2006: 158 (checklist); Webster, McCorquodale & Majka, 2009: 292 (distr., hosts); Webster, 2016: 485; Bousquet, Laplante, Hammond & Langor, 2017: 115, pl. 21

### ***Anthophylax* LeConte 1850**

*Anthophylax* LeConte. 1850: 326; 1854b: 219; Thomson, 1861: 156; Lacordaire, 1868: 443; LeConte, 1873b: 328; Provancher, 1877a: 580; LeConte & Horn, 1883: 313; Leng, 1890: 65; Boppe, 1921: 67; Linsley, 1938: 108; Knoll, 1946: 176; Arnett, 1962: 857, 877; Chemsak, 1964: 231; Linsley & Chemsak, 1972: 72; Švácha & Danilevsky, 1989: 45; Monné, M.A., 1995: 27; Hoffinan, 2003: 50; Chemsak, 2005: 32, 102; Monné, M.A. & Hovore, 2006: 159 (checklist); Švácha & Lawrence, 2014: 155; Bousquet, Laplante, Hammond & Langor, 2017: 101 (key spp.)

*Anthophilax*; LeConte, 1850b: 236; Thomson, 1864: 141, 408; Provancher, 1877a: 609; Horn *in* Leng, 1890: 98; Wickham, 1897b: 171; 1897c: 88; Blatchley, 1910: 1046; Nicolay, 1917b: 38; Craighead, 1923: 85; Swaine & Hopping, 1928: 10, 14; Bradley, 1930: 235; Chagnon, 1936: 245; Hopping, 1937: 13; Chagnon & Robert, 1962: 241, 245; Hatch, 1971: 125.

**Type-species** - *Anthophilax viridis* LeConte, 1850 (subsequent designation, Thomson, 1864: 1420).

### 1. *Anthophilax cyaneus* (Haldeman, 1848)

**Type locality** - Holotype: North America. Lake Superior. (MCZN). **Distribution** - From Nova Scotia to northeastern Minnesota, south to Tennessee and northern Georgia and Michigan. In Canada, it occurs from Cape Breton Island to near the eastern edge of Lake Superior. **Host plants** - *Acer rubrum* Linnaeus, *A. spicatum* Lamarck (Aceraceae), *Betula papyrifera* Marsh (Betulaceae), *Castanea* sp., *Fagus ferruginea* Aiton (Fagaceae), *Amelanchier canadensis* Medikus (Rosaceae).

*Leptura malachiticus* Haldeman, 1847a: 64; Emmons, 1854: 27, pl. 31, fig. 7.

*Pachyta malachiticus*; Haldeman, 1847b: 374 (syn.).

*Anthophilax malachiticus*; LeConte, 1850a: 326; Lacordaire, 1868: 443; Fletcher, 1902: 107; Brimley, 1941: 121; Knull, 1942: 226; 1946: 176; Fattig, 1947: 15; Jaques, 1951: 255; Wilson, 1971: 61 (biol.).

*Anthophilax malachiticus*; LeConte, 1850b: 236; Horn *in* Leng, 1890: 98; Hamilton, 1891b: 63; Hanham, 1894: 352 (distr.); Hamilton, 1895: 338 (distr.); Slosson, 1897: 238 (distr.); Wickham, 1897b: 171; Barber, 1904: 60 (distr.); Blatchley, 1910: 1049; Barber, 1912: 212 (distr.); Shoemaker, 1916: 164 (distr.); Johnson, 1916: 119 (distr.); Notman, 1916: 166 (distr.); Nicolay, 1917b: 40; 1917a: 94; Chagnon, 1917: 233 (distr.); Britton, 1920: 267 (distr.); Hopping, 1922: 166 (distr.); Champlain, Kirk & Knull, 1925: 107; Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 439 (distr.); Beaulne, 1932: 199 (hosts); Chagnon, 1936: 245, pl. 15, fig. 9; Hopping, 1937: 15, pl. 4; Procter, 1946: 178 (distr.); Chagnon & Robert, 1962: 245, pl. 15, fig. 9; Gardiner, 1970: 286 (biol.).

**Type locality** - Holotype: United States, Pennsylvania, Somerset County. (MCZN).

*Pachyta malachiticus* var. *cyaneus* Haldeman, 1847b: 374.

*Stenura* ? *cyanea* Haldeman, 1848: 151.

*Anthophilax cyaneus*; Aurivillius, 1912: 195 (cat.); Boppe, 1921: 67; Linsley & Chemsak, 1972: 77; Gosling & Gosling, 1976: 4 (biol., distr.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1986: 155 (hosts); Drouin, 1991: 175 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Glaser, 1992: 154 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 28 (cat.); Krinsky & Godwin, 1996: 238 (hosts); Yanega, 1996: 30, pl. 3, fig. 27; Linsley & Chemsak, 1997: 344 (hosts); Vlasák & Vlasakova, 2002: 205 (distr.); Hoffman, 2003: 50 (distr.); Chemsak, 2005: 103, pl. 8, fig. 2; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 17, 139, 2 figs, pl. 3f; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 101, pl. 16

*Anthophilax cyaneus*; Casey, 1918: 416; Laliberté, Chantal & LaRochelle, 1997: 90 (biol.).

**Type locality** - Holotype: North America: Lake Superior. (MCZN)

### 2. *Anthophilax hoffmanii* Beutenmuller, 1903

**Syntypes locality** - Syntypes male and female: United States, North Carolina: Yancey County, Summits of the Black Mountains. (AMNH). **Distribution** - United States (North Carolina, Georgia and Tennessee). **Host plants** - *Abies fraseri* (Pursh) Poiret, *Picea* sp. (Pinaceae).

*Anthophilax hoffmanii* Beutenmuller, 1903: 518, pl. 49, figs 9, 10.

*Anthophilax hoffmanii*; Mutchler, 1912: 213 (type); Nicolay, 1917b: 41; Leng, 1920: 272 (cat.); Craighead, 1923: 86, pl. 11, fig. 8, pl. 22, fig. 16 (larva); Doane *et al.*, 1936: 177; Hopping, 1937: 14; Shoemaker & Stecher, 1938: 40 (distr.); Brimley, 1938: 212 (distr.); Fattig, 1947: 15 (distr.).

*Anthophylax hoffmani*; Linsley & Chemsak, 1972: 76, pl. 1; Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 28 (cat.); Linsley & Chemsak, 1997: 345 (hosts); Hoffman, 2003: 50, fig. 1 (distr.); Chemsak, 2005: 102, pl. 7, figs 11,12, pl. 8, fig. 1; Monné, M.A. & Hovore, 2006: 159  
7 (checklist); Lingafelter, 2007: 17, 139; Klingeman *et al.*, 2017: 295 (distr.)

### 3. *Anthophylax viridis* LeConte, 1850

**Type locality** - Holotype: United States, Michigan, Lake Superior, Eagle Harbor. (MCZN).

**Distribution** - Nova Scotia to northern Wisconsin, south to northern Georgia and Wisconsin. In Canada, it occurs from Cape Breton Island to the Sault Ste. Marie area in Ontario. **Host plants** - *Acer spicatum* Lamarck (Aceraceae), *Betula* sp. (Betulaceae), *Fagus ferruginea* Aiton (Fagaceae), *Picea mariana* Britton, Sterns & Poggenburg, *Pinus banksiana* Lambert (Pinaceae).

*Anthophylax viridis* LeConte, 1850a: 326; Thomson, 1861: 156; Lacordaire, 1868: 443; Boppe, 1921: 67; Linsley, 1938: 109; Knull, 1942: 226; 1946: 176; Wilson, 1971: 61 (biol.); Linsley & Chemsak, 1972: 78; Gosling & Gosling, 1976: 4 (biol., distr.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 29 (cat.); Yanega, 1996: 30, pl. 3, fig. 26; Linsley & Chemsak, 1997: 345 (hosts); Vlasák & Vlasakova, 2002: 205 (distr.); Hoffman, 2003: 50 (distr.); Chemsak, 2005: 103, pl. 8, figs 3, 4; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 17, 139, 2 figs, pl. 3g (hosts); Webster, McCorquodale & Majka, 2009: 292 (distr., hosts); Klingeman *et al.*, 2017: 295 (distr.)

*Anthophilax viridis*; LeConte, 1850b: 236; Thomson, 1864: 142; Provancher, 1877a: 609; Horn *in* Leng, 1890: 98; Wickham, 1897b: 171; Van der Wielen, 1897: 206 (distr.); Beutenmuller, 1903: 519, pl. 49, fig., 11; Blatchley, 1910: 1049; Chagnon, 1917: 233 (distr.); Nicolay, 1917b: 40; Leng, 1920: 272 (cat.); Hopping, 1922: 166 (distr.); Craighead, 1923: 86 (larva); Kirk & Knull, 1926: 24 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 439 (distr.); Burke, 1931: 101 (distr.); Beaulne, 1932: 199 (hosts); Doane *et al.*, 1936: 177; Hopping, 1937: 15 (syn.); Brimley, 1938: 212 (distr.); Procter, 1946: 178 (distr.); Chagnon & Robert, 1962: 246; Laliberté, Chantal & LaRochelle, 1977: 90 (biol.);

*Anthophilax viridis viridipennis* Casey, 1913: 416; Leng, 1920: 272 (cat.); Lingafelter *et al.*, 2014: 344,365, fig. 182u (lectotype).

**Type locality** - Lectotype: United States, New York, Ulster County, Slide Mt. (USNM).

### , *Centrodera* LeConte, 1850

*Centrodera* LeConte, 1850a: 325; 1854b: 219; Thomson, 1861: 145, 158; LeConte, 1862: 38, 41; Thomson, 1864: 145; 1865: 409; Lacordaire, 1868: 427, 432; LeConte, 1873b: 328; Provancher, 1877a: 580, 606; LeConte & Horn, 1883: 313; Leng, 1890: 65, 66; Wickham, 1897b: 88; Blatchley, 1910: 1046, 1048; Boppe, 1921: 33; Craighead, 1923: 82; Swaine & Hopping, 1928: 10, 14; Bradley, 1930: 235; Doane *et al.*, 1936: 175; Chagnon, 1936: 244; Hopping, 1937: 10; Knull, 1946: 151, 174; Gressitt, 1947: 191; 1953: 207; Chagnon & Robert, 1962: 241; Arnett, 1962: 857, 877; Leech, 1963: 154; Chemsak, 1964: 231; Hatch, 1971: 124; Linsley & Chemsak, 1972: 31; Chemsak, 2005: 44 (rev.); Monné, M.A. & Hovore, 2006: 160 (checklist); Monné, M.A., 2012: 123; Bousquet, Laplante, Hammond & Langor, 2017: 102 (key spp.)

**Type-species** - *Rhagium decoloratum* Harris, 1841 (subsequent designation, Thomson, 1864: 145).

*Rhamnusium*; Haldeman, 1847a: 58.

*Centrodera* (*Apatophysis*); Gressitt, 1947: 191.

*Parapachyta* Casey, 1913: 216; Chemsak, 1964: 234.

**Type-species** - *Toxotus spurcus* LeConte, 1857 (original designation).

### 1. *Centrodera autumnata* Leech, 1963

**Type locality** - Holotype male: United States, California: Marin County, Mill Valley. (CASC). **Distribution** - Coastal California from Humboldt Co. to San Diego Co.

*Centrodera autumnata* Leech, 1963: 173, figs 8-11, 13, 15, 16, 18; Ruetter, 1970: 19 (paratypes); Linsley & Chemsak, 1972: 38; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M. A., 1995: 15 (cat.); Chemsak, 2005: 46, 55, pl. 4, fig. 3; Monné, M.A. & Hovore, 2006: 160 (checklist);

## 2. *Centrodera dayi* Leech, 1963

**Type locality** - Holotype male: United States, California: Scott River at Klamath River, Siskiyou County. (CASC), **Distribution** - Cascade Mountains from Washington to central California.

*Centrodera dayi* Leech, 1963: 178, figs 4, 7, 9-11, 13-15, 17, 18; Ruetter, 1970: 19 (paratypes); Hatch, 1971: 138; Linsley & Chemsak, 1972: 37; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., 1995: 16 (cat.); Chemsak, 2005: 46, 54, pl. 4, figs 1,2; Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A. & Hovore, 2006: 160 (checklist);

## 3. *Centrodera decolorata* (Harris, 1838)

**Type locality** - Holotype female: United States, New Hampshire: Dublin. (MCZN).

**Distribution** - This species ranges from Nova Scotia to northern Minnesota, south to northern Georgia. In Canada, it occurs from the Nova Scotia peninsula to the western edge of Lake Superior in Ontario. **Host plants** - *Acer saccharinum* Linnaeus (Aceraceae), *Castanea* sp., *Fagus ferruginea* Aiton, *Quercus alba* Linnaeus, *Quercus rubra* Linnaeus (Fagaceae), *Carya* sp., *Juglans nigra* Linnaeus (Juglandaceae), *Liriodendron tulipifera* Linnaeus, *Magnolia acuminata* Linnaeus (Magnoliaceae), *Fraxinus* sp. (Oleaceae), *Malus* sp., *Prunus serotina* Ehrh. (Rosaceae).

*Rhagium decolorarum* Harris, 1838: 96; 1841: 93.

*Rhamnusium ? decoloratum*; Haldeman, 1847a: 58.

*Toxotus decoloratus*: Haldeman, 1847b: 374.

*Centrodera decolorata*; LeConte, 1850a: 325; Thomson, 1861: 158; 1864: 145; Lacordaire, 1868: 432; Provancher, 1877a: 606; Lugger, 1884: 204 (hosts); Saunders, 1887: 29 (distr.); Leng, 1890: 66; Hamilton, 1893a: 274 (distr.); 1893b: 326 (distr.); Laurent, 1893: 7 (distr.); Hamilton, 1895: 338 (distr.); Wickham, 1897b: 170, fig. 26; 1897: 157 (distr.); Harrington, 1897: 73 (hosts); Smith, 1900: 291; Ulke, 1903: 26, 50 (distr.); Felt, 1906: 456, fig. 110 (biol.); Smith, 1910: 330; Blatchley, 1910: 1048, fig. 446; Fisher & Kirk, 1912: 312 (distr.); Morris, 1915: 20 (hosts); Chagnon, 1917: 233 (distr.); Britton, 1920: 267 (distr.); Morris, 1920: 76 (distr.); Boppe, 1921: 34; Craighead, 1923: 85, pl. 11, fig. 5, pl. 14, fig. 8, pl. 22, fig. 14 (larva); Cloudman, 1925: 32 (biol.); Hatch, 1925: 579 (distr.); Kirk & Knull, 1926: 23 (distr.); Leonard, 1928: 437 (distr.); Beaulne, 1932: 199 (hosts); Barrett, 1932: 289 (hosts); Saalas, 1936: 71 (morphol.); Chagnon, 1936: 244, pl. 15, fig. 6; Hopping, 1937: 11, pl. 3; Brimley, 1938: 212 (distr.); Loding, 1945: 116 (distr.); Sherman, 1946: 127 (distr.); Procter, 1946: 177 (distr.); Knull, 1946: 174; Fattig, 1947: 14; Jaques, 1951: 255, fig. 601; Chagnon & Robert, 1962: 244, pl. 15, fig. 6; Leech, 1963: 154, 157, 184, 191, figs 20-23; Gardiner, 1970: 286 (biol.); Wilson, 1971: 61 (biol.); Linsley & Chemsak, 1972: 33; Gosling & Gosling, 1976: 34 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 91 (biol.); Turnbow & Franklin, 1980: 338 (distr.); Gosling, 1986: 155 (hosts); Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 16 (cat.); Yanega, 1996: 31, pl. 4, fig. 39; Krinsky & Godwin, 1996: 237; Linsley & Chemsak, 1997: 354 (hosts); Vlasák & Vlasakova, 2002: 205 (distr., hosts); Sikes & Webster, 2005: 320 (distr.); Chemsak, 2005: 45, pl. 3, fig. 8; Monné, M.A. & Hovore, 2006: 160 (checklist); Rice & Veal, 2006: 2589 (distr.); Lingafelter, 2007: 18, 240, 2 figs, pl. 3j (hosts); Steury & MacRae, 2014: 9 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 103, pl. 17; Klingeman *et al.*, 2017: 295 (distr.)

*Toxotus rubidus* Haldeman, 1847a: 58.

**Type locality** - Holotype: United States. (MCZN).

*Centrodera decolorata lacustris* Casey, 1913: 416; Lingafelter *et al.*, 2014: 512, 366, fig. 53u (lectotype).

**Type locality** - Lectotype: United States, Michigan, Lake Superior, Marquette. (USNM).

#### 4. *Centrodera minima* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, Colorado: Mesa Verde National Park. (CASC).

**Distribution** - Southwestern Colorado to eastern Utah.

*Centrodera minima* Linsley & Chemsak, 1972: 40; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 17 (cat.); Heffern, 1998: 8 (distr.); Chemsak, 2005: 47, 60, pl. 4, fig. 7; Monné, M.A. & Hovore, 2006: 160 (checklist);

#### 5. *Centrodera nevadica nevadica* LeConte, 1873

**Type locality** - Holotype female: United States, Nevada, Virginia City. (MCZN). **Distribution** - East side of Sierra Nevada to eastern Oregon and Idaho. **Host plants** - *Artemisia tridentata* Nuttall (Asteraceae), *Acacia farnesiana* (Linnaeus) Willdenow, *Leucaena pulverulenta* (Schlechtendal) Benth (Mimosaceae).

*Centrodera nevadica* LeConte, 1873a: 205; Leng, 1890: 66; Casey, 1891: 37; Leng, 1920: 271 (cat.); Boppe, 1921: 34; Van Dyke, 1927: 103; Canova, 1936: 129 (hosts); Hatch, 1971: 139; Linsley & Chemsak, 1972: 41, pl. 1; Chemsak, Linsley & Noguera, 1992: 92 (cat.).

*Centrodera nevadica nevadica*; Linsley & Chemsak, 1972: 41; Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 17 (cat.); Linsley & Chemsak, 1997: 354 (hosts); Chemsak, 2005: 47, 63, pl. 4, fig. 9; Monné, M. .A. & Hovore, 2006: 160 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.)

#### 5a. *Centrodera nevadica arizonica* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, Arizona, Pine Mt. Lake Lodge, Hualpai Mts., Mohave Canyon. (LACM). **Distribution** - United States (Arizona).

*Centrodera nevadica arizonica* Linsley & Chemsak, 1972: 42; Lewis, 1979: 24 (distr.); Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 17 (cat.); Chemsak 2005: 64, pl. 4, fig. 10; Monné, M.A. & Hovore, 2006: 160 (checklist);

#### 6. *Centrodera oculata oculata* Casey, 1913

**Type locality** - Holotype male: United States, California: Contra Costa County, Mount Diablo. (USNM). **Distribution** - Coastal central California and Sierra Nevada. **Host plants** - *Pinus ponderosa* Douglas ex Lawson & P. Lawson (Pinaceae).

*Centrodera oculata* Casey, 1913: 202; Canova, 1936: 129 (distr.); Linsley & Chemsak, 1972: 34; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Lingafelter *et al.*, 2014: 291, fig. 122w (holotype).

*Centrodera oculata oculata*; Linsley & Chemsak, 1972: 35, fig. 12; Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 17 (cat.); Linsley & Chemsak, 1997: 354 (hosts); Chemsak, 2005: 45, pl. 3, fig. 9; Monné, M.A. & Hovore, 2006: 160 (checklist);

*Centrodera nevadica*; Fall, 1901: 148; Garnett, 1918: 212 (distr., hosts); Doane *et al.*, 1936: 275 (biol.); Hopping, 1937: 12, pl. 3; Moore, 1937: 88 (distr.). (not LeConte, 1873).

*Centrodera arida* Van Dyke, 1927: 89.

**Type locality** - Holotype male: United States, California: Modoc County, Davis Creek. (CASC).

#### 6a. *Centrodera oculata blaisdelli* Van Dyke, 1927

**Type locality** - Holotype: United States, California: San Diego County, Cuyamaca Mountains. (CASC). **Distribution** - Coastal southern California from San Luis Obispo Co.

*Centrodera blaisdelli* Van Dyke, 1927: 102; Hopping, 1937: 12; Moore, 1937: 88 (distr.).

*Centrodera oculata blaisdelli*; Linsley & Chemsak, 1972: 35, fig. 12; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A.,



1995: 18 (cat.); Chemsak, 2005: 50, pl. 3, fig. 10; Monné, M.A. & Hovore, 2006: 160 (checklist);

#### 7. *Centrodera osburni* Knull, 1947

**Type locality** - Holotype male: United States, California: New York Mountains. (Ohio State University, Columbus). **Distribution** - Mountains of southern California and Sierra Nevada.

**Host plants** - *Ceanothus integerrimus* Hooker & Arnott (Rhamnaceae).

*Centrodera osburni* Knull, 1947: 73, pl. 1, fig. 1; Linsley & Chemsak, 1972: 40; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 18 (cat.); Chemsak, 2005: 47, 61, pl. 4, fig. 8; Monné, M.A. & Hovore, 2006: 160 (checklist);

Swift, 2008: 4 (distr., hosts).

#### 8. *Centrodera quadrimaculata* (Champlain & Knull, 1922)

**Type locality** - Holotype female: United States, Ohio: Rock Bridge. (FMNH). **Distribution** - United States (Ohio).

*Anthophilax quadrimaculatus* Champlain & Knull, 1922b: 147; Hopping, 1937: 15; Chemsak, 1977: 173 (type).

*Anthophylax quadrimaculatus*; Knull, 1946: 177; Arnett, 1985: 368, fig. 24.202.

*Centrodera quadrimaculata*; Linsley & Chemsak, 1972: 35, pl. 1; Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 18 (cat.); Yanega, 1996: 31, pl. 3, fig. 30; Chemsak, 2005: 46, 51, pl. 3, fig. 11; Monné, M.A. & Hovore, 2006: 160 (checklist); Lingafelter, 2007: 21, 140.

#### 9. *Centrodera spurca* (LeConte, 1857)

**Type locality** - Holotype female: United States, Washington: Steilacoom. (MCZN).

**Distribution** - From southern British Columbia, including Vancouver Island, north to Kakwa Provincial Park in the Rocky Mountains, south to southern California and southern New Mexico, Utah and northern Baja California. **Host plants** - *Shepherdia canadensis* Nuttall (Elaeagnaceae), *Arbutus menziesii* Pursh (Ericaceae), *Quercus wislizenii* var. *frutescens* (Engelmann) E. Murray (Fagaceae), *Amelanchier canadensis* Medikus (Rosaceae).

*Toxotus spurcus* LeConte, 1857: 63; 1860: 63; Lacordaire, 1868: 439; LeConte, 1870: 402 (syn.).

*Pachyta spurca*; Leng, 1890: 97, 98; Harrington, 1899: 108 (distr.); Fall, 1901: 148 (distr.); Wright & Coolidge, 1908: 68 (distr.); Gibson, 1917: 150 (distr.); Garnett, 1918: 212 (distr.).

*Evodinus spurcus*; Aurivillius, 1912: 188 (cat.); Boppe, 1921: 72; Saalas, 1936: 73.

*Parapachyta spurca*; Casey, 1913: 217; Hardy, 1926a: 5, pl. 4, fig. 3; 1926b: 28, pl. 4, fig. 3; Essig, 1926: 452; Beaulne, 1932: 199 (hosts); Moore, 1937: 88 (distr.); Hardy, 1945: 90. fig. 3.

*Pachyta (Parapachyta) spurca*; Doane *et al.*, 1936: 176, 177.

*Evodinus (Centrodera) spurcus*; Saalas, 1936: 82.

*Centrodera spurca*; Canova, 1936: 129 (distr., hosts); Hopping, 1937: 11; Hardy, 1942: 10 (biol.); Leech, 1963: 160, figs 1-3, 5, 6, 9-14, 18, 19, 24-28; Hatch, 1971: 138, pl. 15, fig. 10; Linsley & Chemsak, 1972: 36; Hovore, 1988: 18 (distr.); Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 18 (cat.); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 354 (hosts); Chemsak, 2005: 52, pl. III, fig. 12; Monné, M.A. & Hovore, 2006: 160 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 103, pl. 17; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Typocerus cervinus* Walker in Lord's 1866: 332.

**Type locality** - Holotype female: Canada, British Columbia. (BMNH).

#### 10. *Centrodera sublineata* LeConte, 1862

**Syntypes locality** - Syntypes: United States, Middle & Western States. (MCZN).

**Distribution** - Eastern United States, central New York to Georgia, Texas and central Nebraska.

*Centrodera sublineata* LeConte, 1862: 40; Lacordaire, 1868: 432; Leng, 1890: 66; Hamilton, 1895: 338 (distr.); Dury, 1902: 161 (distr.); Blatchley, 1910: 1049; Boppe, 1921: 34; Kirk & Knull, 1926: 23 (distr.); Hopping, 1937: 13; Brimley, 1938: 212 (distr.); Knull, 1946: 175, pl. 6, fig. 20; Fattig, 1947: 14; Linsley & Chemsak, 1972: 39; Turnbow & Franklin, 1980: 338 (distr.); Chemsak, Linsley & Noguera, 1992: 92 (cat.); MacRae, 1993: 237 (distr.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 18 (cat.); Yanega, 1996: 31, pl. 4, fig. 41; Schiefer, 1998: 121 (distr.); Chemsak, 2005: 47, 58, pl. 4, figs 5, 6; Rice & Veal, 2006: 258 (distr.); Monné, M.A. & Hovore, 2006: 160 (checklist); Lingafelter, 2007: 20, 140, 2 figs, pl. 4f; Staines, 2008: 146 (distr.); Guarnieri, 2009: 14 (distr.); Holt, 2013: 245 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 103, pl; 17; Klingeman *et al.*, 2017: 295 (distr.)

### 11. *Centrodera tenera* Casey, 1913

**Type locality** - Holotype male: United States, California: San Diego. (USNM). **Distribution** - Coastal southern California.

*Centrodera tenera* Casey, 1913: 203; Van Dyke, 1927: 103; Hopping, 1937: 13; Moore, 1937: 88 (distr.); Linsley & Chemsak, 1972: 39 (syn.); Chemsak, Linsley & Noguera, 1992: 92 (cat.); Monné, M.A., & Giesbert, 1994: 161 (checklist); Monné, M.A., 1995: 18 (cat.); Chemsak, 2005: 46, 57, pl. 4, fig. 4; Monné, M.A. & Hovore, 2006: 160 (checklist); Lingafelter *et al.*, 2014: 331, fig. 68g (holotype).

*Centrodera pilosa* Van Dyke, 1927: 101; Hopping, 1937: 13

**Type locality** - Holotype female: United States, California: Los Angeles County, Sierra Madre Mountains. (CASC).

### *Comacmaeops* Linsley & Chemsak, 1972

*Comacmaeops* Linsley & Chemsak, 1972: 88; Monné, M.A., 1995: Chemsak, 2005: 33, 121; Monné, M.A. & Hovore, 2006: 161 (checklist);

**Type-species** - *Brachysomida brunnea* Knull, 1962 (original designation).

#### 1. *Comacmaeops brunnea* (Knull, 1962)

**Type locality** - Holotype female: United States, Texas: Pine Canyon, Big Bend National Park. (CNCI). **Distribution** - United States (Texas). **Host plants** - *Quercus* sp. (Fagaceae), *Pinus cembroides* Zuccarini (Pinaceae).

*Brachysomida brunnea* Knull, 1962: 107, fig.2; Ruetze, 1970: 18 (types).

*Comacmaeops brunnea*; Linsley & Chemsak, 1972: 89; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 32 (cat.); Van Pelt, 2002: 128 (distr.); Chemsak, 2005: 121, pl. 9, figs 4, 5; Monné, M.A. & Hovore, 2006: 161 (checklist);

### *Cortodera* Mulsant, 1864

*Cortodera* Mulsant, 1864: 188; Hopping & Hopping, 1947: 220; Arnett, 1962: 857, 877; Chemsak, 1964: 232; Hatch, 1971: 125; Linsley & Chemsak, 1972: 101; Villiers, 1974: 212, 214; Svacha & Danilevsky, 1989: 95 (larva); Chemsak, 2005: 134 (rev.); Monné, M.A., 2006: 119 (cat.). Monné, M.A., 2012: 123; Monné, M.A. & Hovore, 2006: 161 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 111 (key spp.)

**Type-species** - *Grammoptera spinosula* Mulsant, 1839 (subsequent designation, Gressitt, 1951: 79).

*Acmaeops*; LeConte, 1850a: 321 (*partim*); Leng, 1890: 104 (*partim*).

*Acmaeops* (*Pseudodinoptera*); Aurivillius, 1912: 191 (cat., *partim*).

*Leptacmaeops* Casey, 1913: 219, 230; Swaine & Hopping, 1928: 11, 14; Bradley, 1930: 235; Chemsak, 1964: 232.

*Leptacmaeops* (*Leptacmaeops*); Casey, 1913: 230.

**Type-species** - *Leptura longicornis* Kirby, 1837 (original designation).

*Leptacmaeops* (*Acmaeopsilla*) Casey, 1913: 240.

*Acmaeopsilla*; Chemsak, 1964: 231.

**Type-species** - *Acmaeops falsa* LeConte, 1860 (monotypy).

**1. *Cortodera barri* Linsley & Chemsak, 1972**

**Type locality** - Holotype male: United States, Idaho: Cassia County, Cassia Creek, 4 miles West of Malta. (CASC). **Distribution** - Great Basin areas of Idaho, Nevada, and Oregon.

*Cortodera barri* Linsley & Chemsak, 1972: 120; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 37 (cat.); Chemsak, 2005: 138, 162, pl. 12, figs 7, 8; Monné, M.A. & Hovore, 2006: 161 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.)

**2. *Cortodera bivittata* Linsley & Chemsak, 1972**

**Type locality** - Holotype male: United States, Arizona: South Rim Grand Canyon. (CASC).

**Distribution** - Grand Canyon area, Arizona.

*Cortodera bivittata* Linsley & Chemsak, 1972: 121; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 37 (cat.); Chemsak, 2005: 139, 165, pl. 12, fig. 11; Monné, M.A. & Hovore, 2006: 161 (checklist);

**3. *Cortodera coniferae* Hopping & Hopping, 1947**

**Type locality** - Holotype male: Canada, British Columbia, Merritt, Midday Valley. (CNCI).

**Distribution** - From western British Columbia to western Alberta, north to Omineca Provincial Park and the Omineca Protected Area in central British Columbia, south to northwestern Montana and northeastern Oregon. **Host plants** - *Picea* sp., *Pinus* sp. (Pinaceae).

*Cortodera coniferae* Hopping & Hopping, 1947: 233; Ruetter, 1970: 19 (types); Hatch, 1971: 142; Linsley & Chemsak, 1972: 119; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 37 (cat.); Linsley & Chemsak, 1997: 356 (hosts); Heffern, 1998: 9 (distr.); Chemsak, 2005: 138, 160, pl. 12, figs 5, 6; Monné, M.A. & Hovore, 2006: 161 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 112

**4. *Cortodera cubitalis* (LeConte, 1861)**

**Type locality** - Holotype: United States, California: San Mateo. (MCZN). **Distribution** - California coast ranges from Mendocino to San Luis Obispo Cos. and central and southern Sierra Nevada. **Host plants** - *Pinus jeffreyi* Balfour (Pinaceae).

*Leptura cubitalis* LeConte, 1861: 355; 1873a: 223; Leng, 1890: 186; Fall, 1901: 150 (distr.); Garnett, 1918: 252 (distr.); Boppe, 1921: 91.

*Acmaeops cubitalis*: Van Dyke, 1906: 227.

*Lectacmaeops (Lectacmaeops) cubitalis*; Casey, 1913: 234; Tanner, 1928: 277 (distr.); Knowlton & Thatcher, 1936: 279 (distr.); Moore, 1937: 88 (distr.).

*Cortodera cubitalis*; Hopping & Hopping, 1945: 235, figs 3,4,6; Linsley & Chemsak, 1971: 113; Frost, 1979: 346 (biol.); Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 37 (cat.); Heffern, 1998: 24; Chemsak, 2005: 137, 151, pl. 11, fig. 8; Monné, M.A. & Hovore, 2006: 161 (checklist); MacRae & Rice, 2007: 246 (distr.).

*Acmaeops basalis* LeConte, 1873a: 211; Leng, 1890: 105; Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.); Canova, 1936: 126 (distr.).

*Acmaeops (Pseudodinoptera) basalis*; Aurivillius, 1912: 191 (cat.); Boppe, 1921: 77.

*Lectacmaeops (Lectacmaeops) basalis*; Casey, 1913: 231; Lange, 1937: 175 (biol.).

*Cortodera basalis*; Hopping & Hopping, 1947: 235; Hatch, 1971: 142.

**Type locality** - Holotype: United States, California. (MCZN).

*Lectacmaeops (Lectacmaeops) basalis dichroma* Casey, 1913: 231; Lingafelter et al., 2014: 26, 367, fig. 26 g (lectotype).

**Type locality** - Lectotype: United States, California: Santa Barbara. (USNM).

*Lectacmaeops (Lectacmaeops) cuneata* Casey, 1913: 232; Lingafelter et al., 2014: 49, fig. 51q (holotype).

- Type locality** - Holotype male: United States, California: Santa Barbara. (USNM).  
*Lectacmaeops (Lectacmaeops) auricollis* Casey, 1913: 232; Lingafelter *et al.*, 2014: 22, 367, fig. 22a (lectotype).
- Type locality** - Lectotype: United States, California: Calaveras County, Mokelumne Hill. (USNM).  
*Lectacmaeops (Lectacmaeops) elegantula* Casey, 1913: 232; Lingafelter *et al.*, 2014: 57, fig. 60o (holotype).
- Type locality** - Holotype male: United States, California: Calaveras County. (USNM).  
*Lectacmaeops (Lectacmaeops) quadrinotata* Casey, 1913: 233; Lingafelter *et al.*, 2014: 307, fig. 141 m (holotype).
- Type locality** - Holotype male: United States, California: Santa Cruz Mts. (USNM).  
*Lectacmaeops (Lectacmaeops) tenuis* Casey, 1913: 233; Lingafelter *et al.*, 2014: 331, fig. 168m (holotype).
- Type locality** - Holotype male: United States, California. (USNM).  
*Lectacmaeops (Lectacmaeops) temporalis* Casey, 1913: 233; Lingafelter *et al.*, 2014: 331, 367, fig. 168a (lectotype).
- Type locality** - Lectotype: United States, California: Lake County. (USNM).  
*Lectacmaeops (Lectacmaeops) minima* Casey, 1913: 234; Lingafelter *et al.*, 2014: 99, fig. 109u (holotype).
- Type locality** - Holotype female: United States, California. (USNM).

##### 5. *Cortodera falsa* (LeConte, 1859)

- Type locality** - Holotype: United States, California: Fort Tejon. (MCZN). **Distribution** - Monterey Co. and southern Sierra Nevada foothills to northern Mexico (Baja California).  
**Host plants** - *Ambrosia dumosa* (A. Gray) W.W.Payne (Asteraceae).  
*Acmaeops falsa* LeConte, 1859b: 80; 1873a: 210; Leng, 1890: 106, 109; Coquillett, 1893: 312 (biol.); Horn, 1894: 339 (distr.); Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.).  
*Acmaeops (Pseudodinoptera) falsa*; Aurivillius, 1912: 192 (cat.).  
*Leptacmaeops (Acmaeopsilla) falsa*; Casey, 1913: 240.  
*Leptacmaeops falsa*; Davis, 1932: 85 (distr.); Moore, 1937: 88 (distr.).  
*Cortodera (Acmaeopsilla) falsa*; Linsley, 1942: 52.  
*Cortodera falsa*; Linsley & Chemsak, 1972: 104, figs 33, 34; Goeden & Ricker, 1976: 48 (hosts); Hovore, 1988: 28 (distr.); Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 38 (cat.); Noguera & Chemsak, 1996: 403 (cat.); Chemsak, 2005: 141, pl. X, fig. 5; Monné, M.A., 2006: 119 (cat.); Monné, M.A. & Hovore, 2006: 161 (checklist);

##### 6. *Cortodera ferrea* Linsley & Chemsak, 1972

- Type locality** - Holotype male: United States, California: Inyo County, Westgard Pass Plateau. (CASC). **Distribution** - East central California. **Host plants** - *Pinus monophylla* Torrey & Frémont (Pinaceae).  
*Cortodera ferrea* Linsley & Chemsak, 1972: 115, fig. 38; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 38 (cat.); Chemsak, 2005: 137, 153, pl. 11, figs 9, 10; Monné, M.A. & Hovore, 2006: 161 (checklist);

##### 7. *Cortodera fraudis* Linsley & Chemsak, 1972

- Type locality** - Holotype male: United States, Nevada: Minden. (CACS). **Distribution** - West central Nevada and northeastern California.  
*Cortodera fraudis* Linsley & Chemsak, 1972: 121; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 38 (cat.); Chemsak, 2005: 139, 163, pl. 12, figs 9, 10; Monné, M.A. & Hovore, 2006: 161 (checklist);

##### 8. *Cortodera funerea* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, California, Lassen County, Norval Flats. (CASC), **Distribution** - Northeastern California. **Host plants** - *Ribes* sp. (Grossulariaceae), *Pinus contorta* Douglas ex Loudon (Pinaceae), *Prunus* sp. (Rosaceae).  
*Cortodera funerea* Linsley & Chemsak, 1972: 118, pl. 2; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 38 (cat.); Chemsak, 2005: 137, 156, pl. 12, figs 1, 2; Monné, M.A. & Hovore, 2006: 161 (checklist);

#### 9. *Cortodera impunctata* Hopping & Hopping, 1947

**Type locality** - Holotype male: United States, Washington: Wenatchee. (CASC).  
**Distribution** - United States (Central Washington to Oregon).  
*Cortodera impunctata* Hopping & Hopping, 1937: 222; Ruetter, 1970: 19 (paratypes); Hatch, 1971: 140; Linsley & Chemsak, 1972: 104; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 39 (cat.); Chemsak, 2005: 135, pl. 10, fig. 4; Monné, M.A. & Hovore, 2006: 161 (checklist);

#### 10. *Cortodera longicornis* (Kirby, 1837)

**Type locality** - Holotype: North America, latitude 65 degrees. (BMNH). **Distribution** - From southeastern Saskatchewan to Vancouver Island, north to the Peace River area in eastern British Columbia, south to northern California, southern Colorado, New Mexico and Nebraska. **Host plants** - *Pinus contorta* Douglas ex Loudon (Pinaceae).

*Leptura longicornis* Kirby, 1837: 185; Haldeman, 1847a: 65; LeConte, 1870: 399 (syn.).  
*Acmaeops longicornis*; LeConte, 1850a: 321; Bethune, 1872: 116; LeConte, 1873a: 209; Horn, 1876: 170 (syn.); Snow, 1877a: 19 (distr.); LeConte, 1879: 505 (distr.); Bates, 1885: 278 (distr.); Leng, 1890: 105; Casey, 1891: 38 (syn.); Wickham, 1897b: 172; 1899: 7; Fall, 1901: 149 (distr.); Fall & Cockerell, 1907: 193 (distr.); Knowlton, 1930: 75 (distr.); Canova, 1936: 126 (distr.); Saalas, 1936: 75 (morphol.).

*Acmaeops (Pseudodinoptera) longicornis*; Aurivillius, 1912: 192 (cat.).

*Leptacmaeops (Leptacmaeops) longicornis*; Casey, 1913: 238; Hopping, 1928: 7; Canova, 1936: 130 (distr.); Hardy, 1948: 32 (distr.).

*Cortodera longicornis*; Leech, 1947: 106; Hopping & Hopping, 1947: 231; Hatch, 1971: 141; Linsley & Chemsak, 1972: 112 (syn.); Kirk & Balsbaugh, 1975: 98 (distr.); Stein & Tigestad, 1976: 7 (distr.); White, 1985: 283; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 39 (cat.); Heffern, 1998: 9 (distr.); Chemsak, 2005: 136, 148, pl. 11, figs 4,5; Monné, M.A. & Hovore, 2006: 161 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 112, pl. 21; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Acmaeops dorsalis* LeConte, 1859d: 21.

*Leptacmaeops alticola* var. *dorsalis*; Leng, 1920: 272 (cat.).

**Type locality** - Holotype: United States, Republican Fork of Kansas River. (MCZN).

*Acmaeops vincta* LeConte, 1861: 356; 1873a: 209; Leng, 1890: 105; Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.).

*Leptacmaeops alticola* var. *vincta*; Leng, 1920: 272 (cat.).

**Syntypes locality** - Syntypes: United States, Oregon: Bitter Root Valley. (MCZN).

*Acmaeops ligata* LeConte, 1873a: 211; 1879: 505 (distr.); Leng, 1890: 105; Evans, 1906: 99 (distr.).

*Leptacmaeops (Leptacmaeops) ligata*; Casey, 1913: 239.

**Syntype locality** - Syntypes: United States, Montana. (MCZN).

*Leptacmaeops (Leptacmaeops) punctiventris* Casey, 1913: 238; Lingafelter et al., 2014: 306. 367, fig. 140k (lectotype).

**Type locality** - Lectotype: United States, New Mexico, Sandia Mountains. (USNM).

*Leptacmaeops (Leptacmaeops) alticola* Casey, 1913: 239; DeLeon, 1934: 57 (hosts); Canova, 1936: 130 (distr.); Knowlton & Thatcher, 1936: 279 (distr.); Lingafelter et al., 2014: 13, fig. 13e (holotype).

**Type locality** - Holotype female: United States, Colorado. Veta Pass. (USNM).

*Leptacmaeops suturalis* Casey, 1924: 277; Lingafelter et al., 2014: 330, 367, fig. 167a (lectotype).

**Type locality** - Lectotype: United States, California. (USNM).

*Cortodera bakeri* Hopping & Hopping, 1947: 229; Ruetter, 1970: 19 (type); Hatch, 1971: 141.

**Type locality** - Holotype: United States, Washington: Rainier National Forest. (CASC).

*Cortodera harneyensis* Hopping & Hopping, 1947: 228; Hatch, 1971: 141.

**Type locality** - Holotype: United States, Oregon: Steens Mountain, Harney County. (CACS).

*Cortodera oregonensis* Hopping & Hopping, 1947: 227, figs 1,2,5; Hatch, 1971: 141.

**Type locality** - Holotype male: United States, Oregon: Ashland. (CACS).

### 11. *Cortodera militaris militaris* (LeConte, 1850)

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - Northern Washington south to central California. **Host plants** - *Ranunculus californicus* Benth (Ranunculaceae).

*Acmaeops militaris* LeConte, 1850a: 322; 1857: 23 (distr.); 1873a: 209; Horn, 1886b: xiii; Leng, 1890: 185; 1890: 105; Fall, 1901: 149 (distr.); Garnett, 1918: 213 (distr.).

*Acmaeops (Pseudodinoptera) militaris*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Leptacmaeops (Leptacmaeops) militaris*; Casey, 1913: 235; Canova, 1936: 130 (distr.).

*Cortodera militaris*; Hopping & Hopping, 1947: 225; Knowlton & Wood, 1950: 11 (distr.); Hatch, 1971: 140 (distr.); Linsley & Chemsak, 1972: 109; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 39; Linsley & Chemsak, 1997: 356 (hosts); Chemsak, 2005: 145, pl. 10, figs 10, 11; Monné, M.A. & Hovore, 2006: 162 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 112, pl. 21

### 11a. *Cortodera militaris constans* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, California: Modoc County, Buck Creek Ranger Station. (CASC). **Distribution** - Northeastern California.

*Cortodera militaris constans* Linsley & Chemsak, 1972: 110, fig. 36; Penrose, 1979: 59 (distr.); Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Chemsak, 2005: 157, pl. 11, figs 2, 3; Monné, M.A. & Hovore, 2006: 162 (checklist);

### 11b. *Cortodera militaris variipes* (Casey, 1891)

**Type locality** - Lectotype male: United States, California. (USNM). **Distribution** - Coastal central California. **Host plants** - *Sisyrinchium* sp. (Iridaceae), *Ranunculus californicus* Benth (Ranunculaceae).

*Acmaeops variipes* Casey, 1891: 38; Leng & Hamilton, 1896: 174; Fall, 1901: 149 (distr.).

*Acmaeops (Pseudodinoptera) variipes*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.

*Leptacmaeops (Leptacmaeops) variipes*; Casey, 1913: 234.

*Cortodera militaris variipes*; Linsley & Chemsak, 1972: 110 (syn.); Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Linsley & Chemsak, 1997: 356 (hosts); Chemsak, 2005: 146, pl. 10, fig. 12, pl. 11, fig. 1; Monné, M.A. & Hovore, 2006: 162 (checklist); Lingafelter et al., 2014: 341, 365, fig. 179s (lectotype).

*Cortodera berkeleyensis* Hopping & Hopping, 1947: 226; Linsley & MacSwain, 1959: 24, pl. 8e.

**Type locality** - Holotype: United States, California: Berkeley. (CASC).

### 12. *Cortodera nitidipennis* (Casey, 1913)

**Type locality** - Lectotype: United States, Washington: Seattle. (USNM). **Distribution** - Washington to southwest Oregon.

*Lectacmeops (Lectacmaeops) nitidipennis* Casey, 1913: 236; Leng, 1920: 272 (cat.).

*Cortodera nitidipennis*; Hopping & Hopping, 1947: 231; Hatch, 1971: 141; Linsley & Chemsak, 1972: 108; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Chemsak, 2005: 136, 143, pl. 10, figs 8, 9;

Monné, M.A. & Hovore, 2006: 162 (checklist); Lingafelter *et al.*, 2014: 107, 367, fig. 118g (lectotype).

**13. *Cortodera placherensis* Hopping & Hopping, 1947**

**Type locality** - Holotype: United States, California: Placerville. (CACS). **Distribution** - Sierra Nevada to mountains of southern California. **Host plants** - *Calocedrus decurrens* (Torrey) Florin (Cupressaceae).

*Cortodera placherensis* Hopping & Hopping, 1947: 223; Ruetter, 1970: 19 (paratype); Linsley & Chemsak, 1972: 113 (syn.); Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Linsley & Chemsak, 1997: 356 (hosts); Chemsak, 2005: 137, 150, pl. 11, figs 6, 7; Monné, M.A. & Hovore, 2006: 162 (checklist);

*Cortodera sierrae* Hopping & Hopping, 1947: 224.

**Type locality** - Holotype male: United States, California: Fresno County, Huckleberry Meadow. (CACS).

**14. *Cortodera robusta* Hopping & Hopping, 1947**

**Type locality** - Holotype female: United States, Washington, Vantage. (CASC). **Distribution** - United States (Washington).

*Cortodera robusta* Hopping & Hopping, 1947: 234; Ruetter, 1970: 19 (paratype); Hatch, 1971: 142; Linsley & Chemsak, 1972: 119; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Chemsak, 2005: 138, 159, pl. 12, fig. 4; Monné, M.A. & Hovore, 2006: 162 (checklist);

**15. *Cortodera spuria* (LeConte, 1873)**

**Syntypes locality** - Syntypes male and female: United States, Oregon and Washington Territory. (MCZN). **Distribution** - Idaho to Wyoming. **Host plants** - *Ranunculus californicus* Benth (Ranunculaceae).

*Leptura spuria* LeConte, 1873a: 228; Leng & Hamilton, 1896: 174.

*Leptacmaeops (Leptacmaeops) spuria*; Casey, 1913: 239.

*Leptacmaeops spuria*; Linsley & Usinger, 1934: 105 (distr.).

*Cortodera spuria*; Linsley, 1936: 200 (hosts); Hopping & Hopping, 1947: 232; Hatch, 1971: 142; Linsley & Chemsak, 1972: 122; Chemsak, Linsley & Noguera, 1992: 93 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Heffern, 1998: 9 (distr.); Chemsak, 2005: 139, 166, pl. 12, fig. 12; Monné, M.A. & Hovore, 2006: 162 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.)

**16. *Cortodera stolidia* (Casey, 1924)**

**Type locality** - Holotype male: United States, Nevada: Las Vegas. (USNM). **Distribution** - Nevada and east side of Sierra Nevada to mountains of southern California. **Host plants** - *Juniperus* sp. (Cupressaceae), *Pinus monophylla* Torrey & Frémont. (Pinaceae).

*Lectacmaeops stolidia* Casey, 1924: 277; Knowlton & Thatcher, 1936: 279 (distr.).

*Cortodera stolidia*; Hopping & Hopping, 1947: 234; Linsley & Chemsak, 1972: 117; Hovore & Giesbert, 1976: 350 (hosts); Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 40 (cat.); Linsley & Chemsak, 1997: 356 (hosts); Chemsak, 2005: 137, 155, pl. 11, figs 11, 12; Monné, M.A. & Hovore, 2006: 162 (checklist); Lingafelter *et al.*, 2014: 234, fig. 160g.

**17. *Cortodera subpilosa* (LeConte, 1850)**

**Syntypes locality** - Syntypes: United States, Oregon. (MCZN). **Distribution** - From central British Columbia to central Alberta, south to northwestern Nebraska, northern California and Wyoming.

*Acmaeops subpilosus* LeConte, 1850a: 322; 1857: 23 (distr.);

*Acmaeops subpilosa*; LeConte, 1873a: 209; Leng, 1890: 105; Wickham, 1897b: 172; Fall, 1901: 149 (distr.); Pack, 1930: 209 (distr.); Canova, 1936: 126 (distr.);

*Acmaeops (Pseudodinoptera) subpilosa*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77

*Leptacmaeops (Leptacmaeops) subpilosa*; Casey, 1913: 235; Knowlton, 1930: 75 (distr.); Mank, 1934: 80 (distr.)

*Cortodera subpilosa* Hopping & Hopping, 1947: 231; Knowlton & Wood, 1950: 11 (distr.); Gardiner, 1970: 288 (biol.); Horning & Barr, 1970: 37 (biol.); Hatch, 1971: 142, pl. 19, fig. 2; Linsley & Chemsak, 1972: 107, fig. 35; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 162 (checklist); Monné, M.A., 1995: 41 (cat.); Chemsak, 2005: 136, pl. 10, figs 6, 7; Monné, M.A. & Hovore, 2006: 162 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 112, pl. 21; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Acmaeops lupina* LeConte, 1860: 321

*Acmaeops (Pseudodinoptera) lupina*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77

*Leptacmaeops (Leptacmaeops) lupina*; Casey, 1913: 237; Canova, 1936: 130 (distr.);

**Type locality** - Holotype: United States, Rocky Mountains. (MCZN).

*Leptacmaeops (Leptacmaeops) intermedia* Casey, 1913: 236; Lingafelter *et al.*, 2014: 82, fig. 89i (holotype).

**Type locality** - Holotype female: United States. (USNM).

*Leptacmaeops (Leptacmaeops) pugetana* Casey, 1913: 237; Lingafelter *et al.*, 2014: 305, 367, fig. 138e (lectotype).

**Type locality** - Lectotype: United States, Washington: Seattle. (USNM).

*Leptacmaeops (Leptacmaeops) quadriceps* Casey, 1913: 237; Knowlton & Thatcher, 1936: 179 (distr.); Lingafelter *et al.*, 2014: 307, 367, fig. 141a (lectotype.).

**Type locality** - Lectotype: United States, Utah. (USNM).

#### 18. *Cortodera thorpi* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, Nevada: Eureka County, 28.5 miles West of Eureka. (CASC). **Distribution** - United States (Nevada).

*Cortodera thorpi* Linsley & Chemsak, 1972: 123; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 41 (cat.); Chemsak, 2005: 139, 169, pl. 134, fig. 3; Monné, M.A. & Hovore, 2006: 162 (checklist);

#### 19. *Cortodera tuberculicollis* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, New Mexico: Fort Wingate. (CASC).

**Distribution** - Northwestern New Mexico.

*Cortodera tuberculicollis* Linsley & Chemsak, 1972: 118, pl. 2; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 41 (cat.); Chemsak, 2005: 138, 158, pl. 12, fig. 3; Monné, M.A. & Hovore, 2006: 162 (checklist);

#### 20. *Cortodera vanduzeei* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, California: Fresno County, Mt. Kaiser. (CACS). **Distribution** - Central to southern Sierra Nevada.

*Cortodera vanduzeei* Linsley & Chemsak, 1972: 122; Chemsak, Linsley & Noguera, 1992: 94 (cat.); Monné, M.A., & Giesbert, 1994: 163 (checklist); Monné, M.A., 1995: 41 (cat.); Chemsak, 2005: 139, 167, pl. 13, figs 1, 2; Monné, M.A. & Hovore, 2006: 162 (checklist);

#### *Enoploderes* Faldermann, 1837

*Enoploderes* Faldermann, 1837: 309; Nakane & Ohbayashi, 1959: A63; Kusama & Hayashi, 1971: 98; Danilevsky, 2014: 73.

**Type-species** - *Enoploderes sanguineus* Faldermann, 1837 (monotypy).

*Enoploderes (Enoploderes)*; Miroshnikov, 2000: 56.



*Pyrotrichus* LeConte, 1862: 41; Thomson, 1864: 149, 410; Lacordaire, 1868: 456; LeConte, 1873a: 727; LeConte & Horn, 1883: 312; Leng, 1890: 13; Casey, 1913: 197; Boppe, 1921: 37; Swaine & Hopping, 1928: 12; Bradley, 1930: 235; Hopping, 1937: 1; Arnett, 1962: 857; Chemsak, 1964: 234; Hatch, 1971: 124; Linsley & Chemsak, 1972: 63; Monné, M.A., 1995: 25; Chemsak, 2005: 32, 91; Monné, M.A. & Hovore, 2006: 168 (checklist);

**Type-species** - *Pyrotrichus vitticollis* LeConte, 1862 (monotypy).

*Xylostylon* Reitter, 1879: 484.

**Type-species** - *Xylostylon Lederi* Reitter, 1879 (= *Enoploderes sanguineus* Faldermann, 1837) (monotypy).

### 1. *Enoploderes vitticollis* (LeConte, 1862)

**Type locality** - Holotype: United States, California. (MCZN). **Distribution** - British Columbia (Skeena River region and the southern part of Vancouver Island) to southern California and western Nevada. **Host plants** - *Acer* sp. (Aceraceae), *Alnus* sp. (Betulaceae), *Arbutus* sp. (Ericaceae), *Quercus* sp. (Fagaceae), *Umbellularia californica* (Hooker & Arnott) Nuttall (Lauraceae), *Populus trichocarpa* Torrey & A. Gray, *Salix* sp. (Salicaceae), *Ulmus procera* Salisbury (Ulmaceae).

*Pyrotrichus vitticollis* LeConte, 1862: 41; Thomson, 1864: 149; Lacordaire, 1868: 456; Leng, 1890: 13; Fall, 1901: 148 (diistr.); Garnett, 1918: 211 (distr.); Leng, 1920: 274 (cat.); Boppe, 1921: 37, pl. 3, figs 3-3b; Essig, 1926: 454 (biol.); Hardy, 1926a: 7; Beaulne, 1932: 200 (hosts); Saalas, 1936: 83 (morphol.); Hopping, 1937: 1, pl. 1; Hardy, 1944: 16 (hosts); Linsley & Chemsak, 1972: 64, fig. 21; Hovore & Giesbert, 1976: 350 (hosts); Cope, 1984: 33 (hosts); Chemsak, Linsley & Noguera, 1992: 100 (cat.); Monné, M.A., 1995: 25 (cat.); Chemsak, 2005: 92, pl. 6, fig. 12, pl. 7, fig. 1; Monné, M.A. & Hovore, 2006: 168 (checklist); Lingafelter *et al.*, 2014: 47, fig. 50g (holotype).

*Enoploderes vitticollis*; Miroshnikov, 2000: 56, figs 3,4,9,10; Bousquet, Laplante, Hammond & Langor, 2017: 102, pl. 17; Haack, 2017: 115 (biol.)

*Pyrotrichus cribripennis* Casey, 1913: 198; Leng, 1920: 274 (cat.).

**Type locality** - Holotype female: United States, California: Los Angeles County. (USNM).

### *Gaurotes* LeConte 1850

*Gaurotes* LeConte, 1850a: 324; 1854b: 219; Thomson, 1861: 156; 1864: 142, 408; Lacordaire, 1868: 442; LeConte, 1873b: 328; Provancher, 1877a: 580, 611; LeConte & Horn, 1883: 313; Blanchard, 1884: 108; Leng, 1890: 156; Wickham, 1897b: 88; Blatchley, 1910: 1046; Casey, 1913: 217; Boppe, 1921: 69; Swaine & Hopping, 1928: 11, 14; Chagnon, 1936: 246; Hopping, 1937: 19; Knoll, 1946: 178; Dillon & Dillon, 1961: 619; Podany, 1962: 224; Chagnon & Robert, 1962: 243; Chemsak & Linsley, 1963: 82; Chemsak, 1964: 232; Linsley & Chemsak, 1972: 91; Monné, M.A., 1995: 33; Chemsak, 2005: 33, 125; Monné, M.A. & Hovore, 2006: 161 (checklist);

**Type-species** - *Rhagium cyanipennis* Say, 1824 (monotypy).

### 1. *Gaurotes cyanipennis* (Say, 1824)

**Syntypes localities** - Syntypes: United States, Pennsylvania, near Philadelphia; Arkansas, Arkansas River. (Depository unknown). **Distribution** - This species ranges from New Brunswick to northeastern Minnesota, south to northeastern Mississippi, northeastern Alabama, northern Georgia and Wisconsin. In Canada, it occurs from eastern New Brunswick to the Sault Ste. Marie area in Ontario, north to the Lac Saint-Jean area in Quebec.

**Host plants** - *Rhus glabra* Linnaeus (Anacardiaceae), *Betula* sp. (Betulaceae), *Cornus florida* Linnaeus (Cornaceae), *Castanea* sp., *Quercus rubra* Linnaeus (Fagaceae), *Juglans nigra* Linnaeus (Juglandaceae), *Morus rubra* Linnaeus (Moraceae), *Nyssa sylvatica* Marshall (Nyssaceae), *Prunus* sp. (Rosaceae).

*Rhagium cyanipenne* Say, 1824: 423; LeConte, 1859c: 200.

*Pachyta cyanipennis*; Newman, 1842: 18; Haldeman, 1847a: 60.

*Gaurotes cyanipennis*; LeConte, 1850a: 325; Bland, 1861: 100 (distr., hosts); Thomson, 1861: 156; 1864: 142; Lacordaire, 1868: 442; Austin, 1874: 271 (distr.); Provancher, 1877a: 611; Packard, 1881: 137 (biol.); Caulfield, 1881: 60 (biol.); 1882: 31 (biol.); Moffat, 1882: 58 (distr.); Planchard, 1884: 108; Horn, 1885a: 6; Leng, 1890: 156; Packard, 1890: 337, 536, fig. 126 (biol.); Hausen, 1891: 158 (biol.); Hamilton, 1893a: 274 (distr.); 1893b: 326 (distr.); 1895: 338 (distr.); Slosson, 1895b: 319 (distr.); Evans, 1895b: 173 (distr.); Beutenmuller, 1896: 77 (hosts); Wickham, 1897b: 172 (biol.); 1897c: 157 (distr.); Lugger, 1899: 204, pl. 24, fig. 125; Smith, 1900: 291 (distr.); Dury, 1902: 161 (distr.); Ulke, 1903: 26, 50 (distr.); Hopkins, 1904: 36 (biol.); Felt, 1906: 454 (biol.); Wickham, 1909a: 29 (distr.); Morris, 1909b: 416 (biol.); Smith, 1910: 330 (distr.); Blatchley, 1910: 1050, fig. 448; Fisher & Kirk, 1912: 312 (distr.); Casey, 1913: 217; Lovell, 1915: 114; Johnson, 1915: 315 (distr.); Chagnon, 1917: 234 (distr.); Nicolay, 1917a: 94 (distr.); Britton, 1920: 267 (distr.); Boppe, 1921: 70; Craighead, 1923: 88, pl. 4, fig. 1, pl. 17, fig. 6 (larva); Mundinger, 1924: 317 (biol.); Champlain, Kirk & Knull, 1925: 107 (hosts); Cloudman, 1925: 32; Kirk & Knull, 1926: 24 (distr.); Champlain & Kirk, 1926: 290; Procter, 1927: 111 (distr.); Leonard, 1928: 438 (distr.); Champlain & Knull, 1932: 256; Barrett, 1932: 290 (hosts); Beaulne, 1932: 199 (hosts); Knull, 1934: 209 (hosts); Chagnon, 1936: 246; Doane *et al.*, 1936: 177; Hopping, 1937: 20, pl. 5; Brimley, 1938: 212 (distr.); 1941: 120 (distr.); Sherman, 1946: 127 (distr.); Knull, 1946: 178; Procter, 1946: 177; Fattig, 1947: 15; Dillon & Dillon, 1961: 619, pl. 61, No. 12; Podany, 1962: 246, pl. 5, fig. 19; Chagnon & Robert, 1962: 247; Wilson, 1971: 61 (biol.); Linsley & Chemsak, 1972: 93, fig. 31; Gosling & Gosling, 1976: 5 (distr.); Laliberté, Chantal & LaRoche, 1977: 93 (biol.); Turnbow & Franklin, 1980: 338 (distr.); Rice, 1981: 461 (distr.); Gosling, 1984: 71 (hosts); 1984: 809 (biol.); 1986: 156 (hosts); Švácha & Danilevsky, 1989: 86 (larva); Chemsak, Linsley & Noguera, 1992: 94 (cat.); Glaser, 1992: 154 (distr.); MacRae, 1993: 238 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 33 (cat.); Yanega, 1996: 32, pl. 3, fig. 29; Krinsky & Godwin, 1996: 238; Linsley & Chemsak, 1997: 378 (hosts); Schiefer, 1998: 121 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Sikes & Webster, 2005: 237 (distr.); Chemsak, 2005: 125, pl. 98, figs 8, 9; Monné, M.A. & Hovore, 2006: 161 (checklist); Lingafelter, 2007: 17, 140, 2 figs, pl., 3i (hosts); Webster, McCorquodale & Majka, 2009: 294 (biol., distr.); Guarnieri, 2009: 15 (distr.); Holt, 2013: 245 (distr.); Steury & MacRae, 2014: 9 (distr.); Webster, 2016: 486; Bousquet, Laplante. Hammond & Langor, 2017: 108, pl. 20; Klingeman *et al.*, 2017: 296 (distr.)

*Pachyta Servillei* Audinet-Serville, 1835: 214; Strauch, 1861: 138.

*Gaurotes (s.str.) cyanipennis m. servillei*; Podany, 1962: 246.

**Syntypes locality** - Syntypes: Amérique Septentrionale. (BMNH).

*Pachyta Ione* Newman, 1840: 30.

*Gaurotes (s.str.) cyanipennis ab. ione*; Podany, 1962: 246.

**Syntypes locality** - Syntypes: ? (BMNH).

*Pachyta Laportii* Guérin-Méneville, 1844: 253, pl. 46, fig. 6.

**Type locality** - Type: Amérique du Nord. (Depository unknown).

*Pachyta leonardi* Haldeman, 1847a: 60.

*Gaurotes (Neogaurotes) leonardi*; Podany, 1962: 246.

**Syntypes localities** - Syntypes male: United States, Massachusetts, Pennsylvania. (JMCZN).

*Gaurotes (s.str.) cyanipennis ab. canadensis* Podany, 1962: 246; Ruetter, 1970: 20 (types).

**Type locality** - Holotype male: Canada, Ontario: Port Rowan. (CNCI).

*Gaurotes (s.str.) cyanipennis ab. aurata* Podany, 1962: 246; Ruetter, 1970: 20 (types).

**Type locality** - Holotype male: United States, North Carolina: Macon County, Wayah Bald. (CNCI).

## 2. *Gaurotes thoracica* (Haldeman, 1847)

**Type locality** - Holotype: United States, Pennsylvania. (MCZN). **Distribution** - Eastern North America.

*Pachyta thoracica* Haldeman, 1847a: 60.

*Acmaeops thoracica*; LeConte, 1850a: 324; 1850b: 235; 1873b: 208; Leng, 1890: 105; Baylis, 1919: 119 (distr.); Britton, 1920: 267 (distr.); Leonard, 1928: 438 (distr.); Knull, 1946: 181.  
*Acmaeops (Pseudodinoptera) thoracica*; Aurivillius, 1912: 192 (cat.); Boppe, 1921: 77.  
*Gaurotes thoracica*; Casey, 1913: 218; Linsley & Chemsak, 1972: 95; Gosling & Gosling, 1976: 5 (distr.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 34 (cat.); Yanega, 1996: 32, pl. 3, fig. 32; Schiefer, 2001: 335 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Morris, 2002: 211 (distr.); Chemsak, 2005: 125, pl. 9, figs 10,11; Monné, M.A. & Hovore, 2006: 161 (checklist); MacRae & Rice, 2007: 246 (distr.); Lingafelter, 2007: 19, 140, 2 figs, pl. 4c; Guarnieri, 2009: 15 (distr.); Holt, 2013: 245 (distr.); Klingeman *et al.*, 2017: 296 (distr.)

### ***Gnathacmaeops* Linsley & Chemsak, 1972**

*Gnathacmaeops* Linsley & Chemsak, 1972: 135; Monné, M.A., 1995: 45; Chemsak, 2005: 34, 186; Bousquet, Laplante. Hammond & Langor, 2017: 111  
**Type-species** - *Leptura pratensis* Laicharting, 1784 (original designation).

#### **1. *Gnathacmaeops pratensis* (Laicharting, 1784)**

**Syntype locality** - Syntypes: Austria, Tyrolen: Innsbruck. (Naturhistorika Museum, Innsbruck). **Distribution** - Boreal areas of Holarctic Region; in North America extending over taiga forests of Alaska and Canada and southward through the Appalachian mountains to northwestern Georgia, the Rocky Mountains to central New Mexico and southern Arizona, and the Pacific mountain chains to southern California. **Host plants** - *Acer pictum* var. *truncatum* (Bunge) Chin S. Chang (Aceraceae), *Picea abies* Linnaeus, *Pinus sylvestris* Linnaeus (Pinaceae).

*Leptura pratensis* Laicharting, 1784: 172.

*Acmaeops pratensis*; LeConte, 1873a: 210; Horn, 1876: 170 (syn.); LeConte, 1876: 520 (distr.); Provancher, 1877a: 610; Kraatz, 1879: 85; LeConte, 1879: 505 (distr.); Snow, 1883: 42 (distr.); Harrington, 1883: 59; Holland, 1888: 90 (distr.); Fauvel, 1889: 150 (distr.); Hamilton, 1889a: 145; Harrington, 1890: 185 (distr.); Leng, 1890: 106; Cockerell, 1890: 38 (distr.); Hanham, 1894: 352 (distr.); Hamilton, 1894a: 31 (distr.); 1894b: 396 (distr.); Townsend, 1895: 48 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 171; 1897c: 157 (distr.); Slosson, 1897: 238 (distr.); Wickham, 1899b: 199 (distr.); 1900: 598 (distr.); Fall, 1901: 149 (distr.); Knaus, 1902: 152 (distr.); MacGillivray & Houghton, 1902: 252 (distr.); Skinner, 1903: 40 (distr.); Houghton, 1905: 51 (distr.); Fall & Cockerell, 1907: 193 (distr.); Sherman, 1910: 194 (distr.); Blatchley, 1910: 1050; Casey, 1913: 241; Lovell, 1915: 114; Notman, 1916: 166 (distr.); Chagnon, 1917: 234 (distr.); Garnett, 1918: 213 (distr.); Munding, 1924: 317 (distr.); Fall, 1926: 202 (distr.); Engelhardt, 1927: 73 (distr.); Leonard, 1928: 438; Beaulne, 1932: 199 (hosts); Mank, 1934: 80 (distr.); Brown, 1934: 229 (distr.); Doane *et al.*, 1936: 177; Chagnon, 1936: 247; Canova, 1936: 126 (distr.); Saalas, 1936: 74, pl. 7, fig. 87 (morphol.); Hatch, 1939: 49 (distr.); Chagnon, 1939: 86 (distr.); Smith *et al.*, 1943: 315, fig. 314; Knull, 1946: 180; Hardy, 1948: 32 (distr.); Knowlton & Wood, 1950: 11 (distr.); Hicks, 1955: 165 (distr.); Clark, 1956: 41 (distr.); Chagnon & Robert, 1962: 247; Gardiner, 1970: 287 (biol.); Wilson, 1971: 62; Hatch, 1971: 143; Monné, M.A. & Hovore, 2006: 156 (checklist); Webster, 2016: 486; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Gnathacmaeops pratensis*; Linsley & Chemsak, 1972: 136; Gosling & Gosling, 1976: 7 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 93 (biol.); Chemsak, Linsley & Noguera, 1992: 95 (cat.); Monné, M.A., & Giesbert, 1994: 164 (checklist); Monné, M.A., 1995: 45 (cat.); Yanega, 1996: 32, pl. 7, fig. 72; Linsley & Chemsak, 1997: 379 (hosts); Heffern, 1998: 9 (distr.); Burne, 1998: 393 (distr.); Vlasák & Vlasakova, 2002: 206 (distr.); Chemsak, 2005: 186, pl. 14, figs 7, 8; MacRae & Rice, 2007: 246 (distr.); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.); Bousquet, Laplante. Hammond & Langor, 2017: 111, pl. 20;

*Leptura strigilata* Fabricius, 1793: 341; Germar, 1825: 11, pl. 11, figs a,b; Zimsen, 1964: 182 (type).

*Acmaeops strigilata*; LeConte, 1850ba: 235; 1850: 323; 1869: 371 (distr.); 1870: 399 (syn.); Snow, 1877a: 19 (distr.).

**Type locality** - Holotype: Sweden. (Depository unknown).

*Leptura lateralis* Estlund, 1796: 127, pl. 5, fig. 1. (not Olivier, 1795).

**Type locality** - Sweden.

*Leptura longiceps* Kirby, 1837: 187; Haldeman, 1847a: 65.

*Acmaeops longiceps*; LeConte, 1850a: 324; Bethune, 1872: 118.

**Syntypes locality** - Syntypes: America Septentrionalis, latitudes 54 and 65 degrees. (BMNH).

*Leptura semimarginata* Randall, 1838: 30.

**Type locality** - Holotype: United States, Maine: Abbott, between the Kennebec river and Penobscot county. (MCZN).

*Pachyta strigilata* var. *suturalis* Mulsant, 1839: 246.

**Type locality** - Holotype: France, Basses-Alpes (Alpes-de-Haute-Provence). (MNHN).

*Pachyta fulvipennis* Mannerheim, 1853: 251.

*Leptura fulvipennis*; LeConte, 1857: 23.

**Type locality** - Holotype: United States, Alaska: Peninsula Kenai, ad rivulos flumen Tschunuktnu peninsulae Kenai. (MZHF).

*Acmaeops (Acmaeops) pratensis* var. *obscuripennis* Pic, 1901b: 24

**Syntypes locality** - Syntypes: France, Pyrénées. (MNHN).

### ***Neanthophylax* Linsley & Chemsak, 1972**

*Neanthophylax* Linsley & Chemsak, 1972: 78; Monné, M.A., 1995: 29; Chemsak, 2005: 32, 108; Monné, M.A. & Hovore, 2006: 166 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 101 (key spp.)

**Type-species** - *Anthophylax tenebrosus* LeConte, 1873 (original designation).

#### **1. *Neanthophylax mirificus* (Bland, 1865)**

**Type locality** - Lectotype female: United States, Colorado Territory. (ANSP). **Distribution** - This species ranges from central British Columbia and the Rocky Mountains in Alberta, south to Colorado, Utah, and eastern Oregon, Mexico, Costa Rica?. **Host plants** - *Abies* sp., *Picea* sp., *Pinus contorta* Douglas ex Loudon, *Pinus monticola* Douglas ex D. Don, *Pinus ponderosa* Douglas ex Lawson & P. Lawson, *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Anthophylax ? mirificus* Bland, 1865: 382.

*Anthophylax mirificus*; Gemminger in Gemminger & Harold, 1872: 2863 (cat.); Horn, 1880a: xi, xii; Saalas, 1936: 75; Knowlton & Wood, 1950: 11 (distr.).

*Anthophylax mirificus*; LeConte, 1873a: 208; Packard, 1881: 244 (biol.); Horn in Leng, 1890: 98; Leng, 1890: 110 (syn.); Packard, 1890: 858, fig. 292 (biol.); Beutenmuller, 1896: 77 (hosts); Nicolay, 1917b: 42 (distr.); Hopping, 1922: 165; Carr, 1923: 197 (distr.); Pack, 1930: 220 (distr.); DeLeon, 1934: 57; Doane *et al.*, 1936: 77; Hopping, 1937: 16, pl. 4; Ross, 1968: 11 (biol.); Hatch, 1971: 139, pl. 15, fig. 13.

*Neanthophylax mirificus*; Linsley & Chemsak, 1972: 83; Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 29 cat.); Noguera & Chemsak, 1996: 403 (cat.); Linsley & Chemsak, 1997: 402 (host); Heffern, 1998: 9 (distr.); Monné, M.A., 2002: 38 (cat. hosts); Chemsak, 2005: 116, pl. VIII, fig. 12, pl. IX, fig. 1; Monné, M.A., 2006: 130 (cat.); Monné, M.A. & Hovore, 2006: 166 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 102, pl. 17; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Anthophylax ? venustus* Bland, 1865: 383.

**Type locality** - Lectotype male: United States, Colorado Territory. (ANSP).

*Pachyta costaricensis* Bates, 1885: 277, pl. 20, fig. 1.

**Type locality** - Holotype male: Costa Rica, Cartago: Volcán de Irazú. (BMNH).

**2. *Neanthophylax pubicollis* Linsley & Chemsak, 1972**

**Type locality** - Holotype male: United States, Idaho: Shoshone County, Crater Peak. (CASC).

**Distribution** - United States (Idaho).

*Neanthophylax pubicollis* Linsley & Chemsak, 1982: 81; Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 29 (cat.); Chemsak, 2005: 109, 115, pl. 9, fig. 11; Monné, M.A. & Hovore, 2006: 166 (checklist); Rice, MacRae & Merickel, 2017: 670 (distr.)

**3. *Neanthophylax subvittatus* (Casey, 1891)**

**Type locality** - Lectotype male: United States, Colorado?. (USNM). **Distribution** - Colorado, Montana.

*Anthophilax subvittata* Casey, 1891: 37; Leng & Hamilton, 1896: 173 (distr.); Nicolay, 1917b: 43; Leng, 1920: 272 (cat.); Hopping, 1937: 16.

*Anthophilax subvittatus*; Aurivillius, 1912: 195 (cat.); Boppe, 1921: 67.

*Neanthophylax subvittatus*; Linsley & Chemsak, 1972: 79; Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 29 (cat.); Heffern, 1998: 9 (distr.); Chemsak, 2005: 109, pl. 8, fig. 5; Monné, M.A. & Hovore, 2006: 166 (checklist); Lingafelter *et al.*, 2014: 329, 365, fig. 166a (lectotype).

**4. *Neanthophylax tenebrosus tenebrosus* (LeConte, 1873)**

**Type locality** - Holotype female: United States, Southeastern California. (MCZN).

**Distribution** - Sierra Nevada to southern Oregon. **Host plants** - *Abies magnifica* A. Murray, *Pinus monticola* Douglas ex D. Don, *Tsuga mertensiana* (Bongard) Carrière (Pinaceae).

*Anthophilax tenebrosus* LeConte, 1873a: 208; Horn *in* Leng, 1890: 98; Fall, 1901: 49 (distr.); Nicolay, 1917b: 41; Garnett, 1918: 213 (distr.); Doane *et al.*, 1936: 177; Hopping, 1937: 16, pl. 4; Hatch, 1971: 139.

*Anthophilax tenebrosus*; Lameere, 1883: 23 (cat.); Boppe, 1921: 67

*Neanthophylax tenebrosus*; Linsley & Chemsak, 1972: 80; Chemsak, Linsley & Noguera, 1992: 98 (cat.).

*Neanthophylax tenebrosus tenebrosus*; Linsley & Chemsak, 1972: 80, fig. 27; Monné, M.A., 1995: 30 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Linsley & Chemsak, 1997: 402 (hosts); Chemsak, 2005: 112, pl. 8, fig. 6; Monné, M.A. & Hovore, 2006: 166 (checklist);

**4a. *Neanthophylax tenebrosus nigrolineatus* (Van Dyke, 1917)**

**Type locality** - Holotype male: United States, Oregon: Mt. Jefferson. (CASC). **Distribution** - Cascade Range of Oregon and Washington to British Columbia?. **Host plants** - *Pseudotsuga menziesii* (Mirbel) Franco. (Pinaceae).

*Anthophilax nigrolineatus* Van Dyke, 1917: 36; Nicolay, 1917b: 44; Leng, 1920: 272 (cat.); Canova, 1936: 29 (distr.).

*Neanthophylax tenebrosus nigrolineatus*; Linsley & Chemsak, 1972: 80; Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 30 (cat.); Linsley & Chemsak, 1997: 402 (hosts); Chemsak, 2005: 113, pl. 8, figs 7, 8; Monné, M.A. & Hovore, 2006: 166 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 102, pl. 17

**4b. *Neanthophylax tenebrosus orientalis* Linsley & Chemsak, 1972**

**Type locality** - Holotype male: United States, Utah, Provo. (CASC). **Distribution** - Colorado to Oregon.

*Neanthophylax tenebrosus orientalis* Linsley & Chemsak, 1972: 81; Chemsak, Linsley & Noguera, 1992: 98 (cat.); Monné, M.A., & Giesbert, 1994: 167 (checklist); Monné, M.A., 1995: 30 (cat.); Heffern, 1998: 9 (distr.); Chemsak, 2005: 114, pl. 8, figs 9, 10; Monné, M.A. & Hovore, 2006: 166 (checklist);

Pidoniini Zamoroka, 2022: 307

**Type genus** - *Pidonia* Mulsant, 1863

**Type species** - *Leptura lurida* Fabricius, 1793

***Pidonia (Ceratopidonia) Linsley & Chemsak, 1976***

*Pidonia (Ceratopidonia)* Linsley & Chemsak, 1976: 119; Monné, M.A., 1995: 99; Chemsak, 2005: 357, 366; Monné, M.A. & Hovore, 2006: 167 (checklist);

**Type-species** - *Pidonia quadrata* Hopping, 1931 (original designation).

**1. *Pidonia (Ceratopidonia) quadrata* Hopping, 1931**

**Type locality** - Holotype female: Canada, British Columbia: Wigwam Inn, Burrard Inlet. (CNCI). **Distribution** - Coastal Pacific Northwest from British Columbia to northwestern California. In British Columbia, it was collected on Vancouver Island, in the Lower Mainland, and in the Quesnel Lake area.

*Pidonia quadrata* Hopping, 1931: 233; Hardy, 1944: 15 (distr.); Ruetter, 1970: 21 (types); Hatch, 1971: 144; Bousquet, Laplante. Hammond & Langor, 2017: 114, pl. 22

*Pidonia (Ceratopidonia) quadrata*; Linsley & Chemsak, 1976: 126; Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 99 (cat.); Chemsak, 2005: 367, pl. 14, fig. 6; Monné, M.A. & Hovore, 2006: 167 (checklist);

***Pidonia (Pidonia) Mulsant, 1863***

*Pidonia* Mulsant, 1863: 570; Boppe, 1921: 80; Swaine & Hopping, 1928: 12; Bradley, 1930: 236; Chagnon, 1936: 241; Knull, 1946: 151; Dillon & Dillon, 1961: 608; Chagnon & Robert, 1962: 241; Arnett, 1962: 857; Chemsak, 1964: 234; Hatch, 1971: 125; Linsley & Chemsak, 1976: 118; Monné, M.A., 1995: 96; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 113 (key spp.)

*Pidnota*; Bayer & Shenefelt, 1969: 5 (error).

*Pidonia (Pidonia)*; Linsley & Chemsak, 1976: 119; Monné, M.A., 1995: 96; Chemsak, 2005: 357.

**Type-species** - *Leptura lurida* Fabricius, 1793 (subsequent designation, Swaine & Hopping, 1928: 12).

*Pseudopidonia* Pic, 1902: 21, 23; Gressitt, 1939: 89; 1951: 70.

**Type-species** - *Pseudopidonia amurensis* Pic, 1900 (monotypy?).

*Hapalosalia* Casey, 1913: 200; Chemsak, 1964: 234

**Type-species** - *Leptura vibex* Newman, 1841 (original designation).

**1. *Pidonia (Pidonia) aurata* (Horn, 1860)**

**Syntypes locality** - Syntypes male and female: United States, Western Virginia: Allegheny Ridge. **Distribution** - Atlantic States to southern Appalachian Region in northwestern Georgia.

*Leptura aurata* Horn, 1860: 570, pl. 8, fig. 5; LeConte, 1873a: 222; Leng, 1890: 192, 199; Hamilton, 1895: 339 (distr.); Dury, 1902: 161 (distr.); Leng, 1910: 77, 81 (distr.); Blatchley, 1910: 1059; Fisher & Kirk, 1912: 313 (distr.); Blackman, 1918: 131; Cloudman, 1925: 33.

*Hapalosalia aurata*; Casey, 1913: 201; Leng, 1920: 271 (cat.); Kirk & Knull, 1926: 23 (distr.); Leonard, 1928: 437 (distr.); Brimley, 1938: 211 (distr.); Sherman, 1946: 126 (distr.).

*Pidonia aurata*; Swaine & Hopping, 1928: 17, pl. 1, fig. 7; Doane *et al.*, 1936: 171; Knull, 1946: 122, pl. 5, fig. 15; Dillon & Dillon, 1961: 608, pl. 60, No.4; Kirk, 1970: 76; Wilson, 1971: 59 (biol.); Laliberté, 1978: 200; Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 338 (distr.); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M. A., 1995: 96 ( cat.); Monné, M.A. & Hovore, 2006: 167 (checklist); Yanega, 1996: 36, pl. 15, fig. 183; Lingafelter, 2007: 27, 141, 2 figs, pl. 6i; Klingeman *et al.*, 2017: 296 (distr.)

*Pidonia (Pidonia) aurata*; Linsley & Chemsak, 1976: 124; Monné, M.A., 1995: 96 (cat.); Chemsak, 2005: 258, 262, pl. 24, fig. 3.

## 2. *Pidonia (Pidonia) densicollis* (Casey, 1914)

**Type locality** - Holotype male: United States, North Carolina: Black Mountains. (USNM).

**Distribution** - Appalachian region from Pennsylvania to northwestern Georgia.

*Hapalosalia densicollis* Casey, 1914: 366; Leng, 1920: 271 (cat.); Brimley, 1938: 211 (distr.).

*Pidonia densicollis*; Swaine & Hopping, 1928: 19; Turnbow & Franklin, 1980: 338 (distr.); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M. A., 1995: 97 (cat.); Yanega, 1996: 36, pl. 15, fig. 184; Lingafelter, 2007: 27, 141, 2 figs, pl. 6j; Lingafelter *et al.*, 2014: 52, fig. 55g (holotype); Monné, M.A. & Hovore, 2006: 167 (checklist); Klingeman *et al.*, 2017: 296 (distr.)

*Pidonia (Pidonia) densicollis*; Linsley & Chemsak, 1976: 125; Monné, M.A., 1995: 97 (cat.); Chemsak, 2005: 258, 363, pl. 24, fig. 4; MacRae & Rice, 2007: 248 (distr.).

## 3. *Pidonia (Pidonia) nitidicollis* (Horn, 1860)

**Syntypes locality** - Syntypes male and female: United States, Virginia: Alleghany Ridge. (ANSP). **Distribution** - Canada, Ontario to Maryland and Virginia.

*Leptura nitidicollis* Horn, 1860: 570, pl. 8, fig. 6; 1862: 188

*Pidonia nitidicollis*; Monné, M.A. & Hovore, 2006: 167 (checklist); Bousquet, Laplante. Hammond & Langor, 2017: 114, pl. 22

## 4. *Pidonia (Pidonia) ruficollis* (Say, 1824)

**Syntypes locality** - Syntypes: United States, Kentucky. (Depository unknown). **Distribution**

- Northeastern Canada (Cape Breton Island to the western edge of Lake Superior in Ontario) to the Great Lakes Region, Central States and southern Appalachian region (South Carolina to northwest Georgia). **Host plants** - *Acer saccharinum* Linnaeus (Aceraceae), *Betula* sp. (Betulaceae), *Castanea* sp., *Fagus* sp. (Fagaceae), *Tilia americana* Linnaeus (Malvaceae), *Fraxinus* sp. (Oleaceae), *Prunus serotina* Ehrhart (Rosaceae) (Rosaceae), *Populus* sp. (Salicaceae).

*Leptura ruficollis* Say, 1824: 421; LeConte, 1859c: 199; LeConte, 1866: 348; Slosson, 1894: 3 (distr.); Hamilton, 1895: 339 (distr.); Dury, 1902: 161 (distr.); Knaus, 1903: 189 (distr.); Morris, 1908: 444 (biol.); Wickham, 1909a: 29 (distr.); Morris, 1909b: 411; Fisher & Kirk, 1912: 313 (distr.); Chapin, 1917: 30 (biol.); Chagnon, 1917: 235 (distr.).

*Grammoptera ruficollis*; Haldeman, 1847a: 66.

*Strangalia ruficollis*; LeConte, 1850a: 331.

*Hapalosalia ruficollis* Casey, 1913: 202.

*Leptura sphaericollis* var. *ruficollis*; Nicolay, 1917a: 95 (dist.); Chagnon, 1917: 235.

*Leptura sphaericollis* Say, 1827: 280; LeConte, 1850b: 236; 1850a: 338; 1859c: 336; 1866: 348; 1873: 222; Austin, 1874: 271 (distr.); Provancher, 1877a: 616; Austin, 1877: 94 (syn.); Popenoe. 1878: 83 (distr.); Horn. 1885a: 6 (distr.); Leng, 1890: 192; Harrington, 1894b: 15 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 192; Dury, 1902: 161 (distr.); Blatchley, 1910: 1059; Blackman, 1918: 131; Craighead, 1923: 92, pl. 3, fig. 9, pl. 17, fig. 9 (larva); Cloudman, 1925: 33.

*Pidonia ruficollis*; Swaine & Hopping, 1928: 18, pl. 1, figs 1, 2; Chagnon, 1936: 246; Doane *et al.*, 1936: 171; Knull, 1946: 153; Dillon & Dillon, 1961: 608, pl. 60, No. 5; Chagnon & Robert, 1962: 246; Bayer & Shenefelt, 1969: 12, fig. 22; Gardiner, 1970: 284 (biol.); Wilson, 1971: 59 (biol.); Gosling & Gosling, 1976: 13, fig. 100 (biol., distr.); Laliberté, Chantal & LaRochelle, 1977: 96 (biol.); Frost, 1979: 346 (biol.); Turnbow & Franklin, 1980: 338 (distr.); Hansen & Osgood, 1983: 149 (biol.); Gosling, 1986: 157 (hosts); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M. A., 1995: 97 (cat.); Yanega, 1996: 37, pl. 15, figs 185a, b; Linsley & Chemsak, 1997: 420 (hosts); Vlasák & Vlasakova, 2002: 207 (distr., hosts); Monné, M.A. & Hovore, 2006: 167 (checklist); Lingafelter, 2007: 28, 141, 2 figs, pl. 7c; Bousquet, Laplante. Hammond & Langor, 2017: 114, pl. 22; Klingeman *et al.*, 2017: 296 (distr.)

*Pidonia (Pidonia) ruficollis*; Linsley & Chemsak, 1976: 119; Monné, M.A., 1995: 97 (cat.); Chemsak, 2005: 358, pl. 24, fig. 1; Holt, 2013: 245 (biol., distr.); Webster, 2016: 486;

- Pidonia ruficollis* var. *sphaericollis*; Chagnon, 1936: 246; Chagnon & Robert, 1962: 246.  
*Grammoptera sphaericollis*; Haldeman, 1847a: 66.  
*Hapalosalia sphaericollis*; Casey, 1913: 202; Procter, 1927: 111 (distr.); Leonard, 1928: 437 (distr.); Beaulne, 1932: 199 (hosts); Brimley, 1938: 212 (distr.).  
*Leptura sphaericollis* form *ruficollis*; Leng, 1890: 199; Wickham, 1897b: 192 (distr.); 1897c: 150.  
*Hapalosalia sphaericollis* var. *ruficollis*; Kirk & Knoll, 1926: 23 (distr.); Leonard, 1928: 437 (distr.).  
*Pidonia sphaericollis*; Procter, 1946: 177 (distr.).  
**Syntypes locality** - Syntypes: United States, Massachusetts, Salem. (Depository unknown).  
*Leptura allecta* Newman, 1841: 72.  
*Leptura sphaericollis* var. *allecta*; Horn, 1885a: 8.  
**Syntypes locality** - Syntypes: United States, New York: near New York. (BMNH).  
*Leptura paupercula* Newman, 1841: 72.  
*Leptura sphaericollis* var. *paupercula*; Horn, 1885a: 8.  
**Syntypes locality** - Syntypes: United States, New York: near New York. (BMNH).  
*Leptura straussi* Webb, 1908: 41; Lingafelter et al., 2014: 326, fig. 162o (holotype).  
*Pidonia straussi*; Swaine & Hopping, 1928: 18, pl. 1, fig. 4.  
*Hapalosalia straussi*; Brimley, 1938: 212 (distr.).  
**Type locality** - Holotype female: United States, North Carolina: Tryon, (USNM).  
*Hapalosalia laeviceps* Casey, 1913: 201; Lingafelter et al., 2014: 85, fig. 93 m (holotype).  
**Type locality** - Holotype female: United States, Wisconsin: Bayfield. (USNM).  
*Hapalosalia vibex fragilis* Casey, 1913: 202; Lingafelter et al., 2014: 343, 367, fig. 181m (lectotype).  
**Type locality** - United States, Indiana. (USNM).  
*Hapalosalia lineicornis* Casey, 1913: 201; Lingafelter et al., 2014: 89, fig. 98o (holotype).  
**Type locality** - Holotype female: United States, Wisconsin: Bayfield. (USNM).

##### 5. *Pidonia (Pidonia) scripta* (LeConte, 1869)

- Type locality** - Canada, from Haida Gwaii to the Edmonton area in central Alberta, south to central California British Columbia: Vancouver's Island. (MCZN). **Distribution** - Pacific coast from southern Alaska to central California. **Host plants** - *Acer* sp. (Aceraceae), *Lithocarpus densiflora* Rehder, *Quercus agrifolia* Née (Fagaceae), *Umbellularia californica* (Hooker & Arnott) Nuttall (Lauraceae), *Prunus* sp. (Rosaceae).  
*Leptura scripta* LeConte, 1869: 384. 1873: 222; Holland, 1888: 91 (distr.); Wickham, 1890: 35 (distr.); Leng, 1890: 192, 199; Harrington, 1899: 108 (distr.); Fall, 1901: 150 (distr.); Gibson, 1910: 122; Garnett, 1918: 252 (distr.); Saalas, 1936: 78 (morphol.).  
*Hapalosalia scripta*; Casey, 1913: 200; Leng, 1920: 271 (cat.); Hardy, 1926b: 27, pl. 4, fig. 7.  
*Pidonia scripta*; Swaine & Hopping, 1928: 19, pl. 1, figs 5,6, pl. 13, fig. 31; Canova, 1936: 131 (distr., hosts); Doane et al., 1936: 170; Hardy, 1942: 10 (biol.); Leech, 1947: 106; Clark, 1956: 41 (distr.); Hardy, 1957: D64 (biol.); Rentz, 1964: 63 (hosts); Hatch, 1971: 145, pl. 15, figs 16, 16a; Cope, 1984: 33 (hosts); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M. A., 1995: 97 (cat.); Linsley & Chemsak, 1997: 420 (hosts); Monné, M.A. & Hovore, 2006: 167 (checklist); Vlasák, 2014: 318 (hosts); Rice, MacRae & Merickel, 2017: 670 (distr.).  
*Pidonia (Pidonia) scripta*; Linsley & Chemsak, 1976: 121, figs 129, 130; Monné, M.A., 1995: 98 (cat.); Chemsak, 2005: 360, pl. 24, fig. 2; Bousquet, Laplante. Hammond & Langor, 2017: 114, pl. 22

##### 6. *Pidonia (Pidonia) vibex* (Newman, 1841)

- Type locality** - Holotype: United States, New York: Trenton Falls. (BMNH). **Distribution** - Canada, from Cape Breton Island to the Sault Ste. Marie area in Ontario, south to at least Virginia, Maryland and North Carolina.  
*Leptura vibex* Newman, 1841: 72; LeConte, 1850a: 340; 1873: 222; Austin, 1874: 271 (distr.); Provancher, 1877a: 616; Moffat, 1882: 58 (distr.); Horn, 1885a: 6; Hamilton, 1885: 104



(syn.); Leng, 1890: 192; Hamilton, 1890: 215; Hanham, 1894: 352 (distr.); Hamilton, 1895: 339 (distr.); Wickham, 1897b: 192; 1897c: 159; Ouellet, 1902: 122 (distr.); Dury, 1902: 161 (distr.); Morris, 1909b: 414; Blatchley, 1910: 1059; Notman, 1916: 166 (distr.); Blackman, 1918: 131 (distr.).

*Hapalosalia vibex*; Casey, 1913: 201; Britton, 1920: 267 (distr.); Kirk & Knull, 1926: 23 (distr.); Fletcher, 1926: 143 (distr.); Leonard, 1928: 437 (distr.); Brimley, 1938: 211 (distr.); Malkin, 1941: 290 (distr.); Sherman, 1946: 126 (distr.).

*Hapalosalia vibex fragilis* Casey, 1913: 202; Lingafelter *et al.*, 343, fig 181 m (lectotype)

**Type locality** - Lectotype: United States, Indiana. (USNM)

*Pidonia ruficollis* var. *vibex*; Chagnon, 1936: 246; Chagnon & Robert, 1962: 246.

*Pidonia vibex*; Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M. A., 1995: 97 (cat.); Monné, M.A. & Hovore, 2006: 168 (checklist); Webster, 2016: 486; Bousquet, Laplante, Hammond & Langor, 2017: 115, pl. 22

### ***Pidonia (Thesalia) Casey, 1891***

*Thesalia* Casey, 1891: 36; 1913: 198; Boppe, 1921: 80; Chemsak, 1964: 235

*Pidonia (Thesalia)*; Linsley & Chemsak, 1976: 119; Monné, M.A., 1995: 98; Chemsak, 2005: 357; Monné, M.A. & Hovore, 2006: 167 (checklist);

**Type-species** - *Acmaeops lisa* Leng, 1890 (= *Leptura gnathoides* LeConte, 1873) (original designation).

#### **1. *Pidonia (Thesalia) gnathoides* (LeConte, 1873)**

**Type locality** - Holotype male: United States, Oregon. (MCZN). **Distribution** - From the Lower Mainland of southwestern British Columbia to central California along the coast and the Sierra Nevada

*Leptura gnathoides* LeConte, 1873a: 228; Leng, 1890: 192; Fall, 1901: 150 (distr.); Schaeffer, 1908: 342 (syn.); Garnett, 1918: 252 (distr.).

*Thesalia gnathoides*; Leng, 1920: 274 (cat.); Boppe, 1921: 80.

*Pidonia gnathoides*; Swaine & Hopping, 1928: 17, pl. 1, fig. 1; Canova, 1936: 131 (distr.); Doane *et al.*, 1936: 170; Hatch, 1971: 144, pl. 15, fig. 11; Bousquet, Laplante, Hammond & Langor, 2017: 114, pl. 22

*Pidonia (Thesalia) gnathoides*; Linsley & Chemsak, 1976: 125, fig. 31; Chemsak, Linsley & Noguera, 1992: 99; Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M. A., 1995: 96 (cat.); Monné, M.A., 1995: 98 (cat.); Chemsak, 2005: 365, pl. 24, fig. 5; Monné, M.A. & Hovore, 2006: 167 (checklist);

*Acmaeops lisa* Leng, 1890: 108.

*Thesalia lisa*; Casey, 1891: 36.

**Type locality** - Holotype: United States, Washington, (Public Museum of Staten Island).

*Thesalia rubriceps* Casey, 1913: 198; Boppe, 1921: 80; Lingafelter *et al.*, 2014: 311, fig. 145s (holotype).

**Type locality** - Holotype male: United States, California: Marin County. (USNM).

### ***Piodes* LeConte, 1850**

*Piodes* LeConte, 1850a: 318; 1854b: 219; Thomson, 1861: 380; 1864: 144, 409; LeConte, 1873b: 328; Provancher, 1878: 382; LeConte & Horn, 1883: 313; Leng, 1890: 65; 1890: 110; Boppe, 1921: 67; Swaine & Hopping, 1928: 12; Bradley, 1930: 235; Hopping, 1937: 18; Arnett, 1962: 857; Chemsak, 1964: 234; Hatch, 1971: 125; Monné, M.A., 1995: 19; Chemsak, 2005: 31, 65; Monné, M.A. & Hovore, 2006: 167 (checklist);

**Type-species** - *Piodes coriacea* LeConte, 1850 (monotypy).

#### **1. *Piodes coriacea* LeConte, 1850**

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - Known only from south-central British Columbia, Washington, northern Oregon, and southern Idaho.

*Piodes coriacea* LeConte, 1850a: 318; 1857: 62 (distr.); Thomson, 1864: 144; Provancher, 1877a: 382; Leng, 1890: 110; Leng, 1920: 272 (cat.); Boppe, 1921: 67; Canova, 1936: 131 (distr.); Hopping, 1937: 18, pl. 3; Hatch, 1971: 140; Linsley & Chemsak, 1972: 42, pl. 13; Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 19 (cat.); Chemsak, 2005: 66, pl. 4, figs 11, 12; Monné, M.A. & Hovore, 2006: 167 (checklist); Westcott *et al.*, 2006: 10 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 131, pl. 17; Rice, MacRae & Merickel, 2017: 674 (distr.)

#### **OXYMIRINI Danilevsky, 2014**

Oxymirini Danilevsky, 2014: 70; Bousquet *et al.* 2017: 100; Zamoroka, 2022: 302

#### ***Anthophylax* LeConte 1850**

*Anthophylax* LeConte. 1850: 326; 1854b: 219; Thomson, 1861: 156; Lacordaire, 1868: 443; LeConte, 1873b: 328; Provancher, 1877a: 580; LeConte & Horn, 1883: 313; Leng, 1890: 65; Boppe, 1921: 67; Linsley, 1938: 108; Knull, 1946: 176; Arnett, 1962: 857, 877; Chemsak, 1964: 231; Linsley & Chemsak, 1972: 72; Švácha & Danilevsky, 1989: 45; Monné, M.A., 1995: 27; Hoffiman, 2003: 50; Chemsak, 2005: 32, 102; Monné, M.A. & Hovore, 2006: 159 (checklist); Švácha & Lawrence, 2014: 155; Bousquet, Laplante, Hammond & Langor, 2017: 101 (key spp.); Zamoroka, 2022: 302

*Anthophilax*; LeConte, 1850b: 236; Thomson, 1864: 141, 408; Provancher, 1877a: 609; Horn *in* Leng. 1890: 98; Wickham, 1897b: 171; 1897c: 88; Blatchley, 1910: 1046; Nicolay, 1917b: 38; Craighead, 1923: 85; Swaine & Hopping, 1928: 10, 14; Bradley, 1930: 235; Chagnon, 1936: 245; Hopping, 1937: 13; Chagnon & Robert, 1962: 241, 245; Hatch, 1971: 125.

**Type-species** - *Anthophylax viridis* LeConte, 1850 (subsequent designation, Thomson, 1864: 1420.

#### **1. *Anthophylax cyaneus* (Haldeman, 1848)**

**Type locality** - Holotype: North America. Lake Superior. (MCZN). **Distribution** -From Nova Scotia to northeastern Minnesota, south to Tennessee and northern Georgia and Michigan. In Canada, it occurs from Cape Breton Island to near the eastern edge of Lake Superior. **Host plants** - *Acer rubrum* Linnaeus, *A. spicatum* Lamarck (Aceraceae), *Betula papyrifera* Marsh (Betulaceae), *Castanea* sp., *Fagus ferruginea* Aiton (Fagaceae), *Amelanchier canadensis* Medikus (Rosaceae).

*Leptura malachiticus* Haldeman, 1847a: 64; Emmons, 1854: 27, pl. 31, fig. 7.

*Pachyta malachiticus*; Haldeman, 1847b: 374 (syn.).

*Anthophylax malachiticus*; LeConte, 1850a: 326; Lacordaire, 1868: 443; Fletcher, 1902: 107; Brimley, 1941: 121; Knull, 1942: 226; 1946: 176; Fattig, 1947: 15; Jaques, 1951: 255; Wilson, 1971: 61 (biol.).

*Anthophilax malachiticus*; LeConte, 1850b: 236; Horn *in* Leng, 1890: 98; Hamilton, 1891b: 63; Hanham, 1894: 352 (distr.); Hamilton, 1895: 338 (distr.); Slosson, 1897: 238 (distr.); Wickham, 1897b: 171; Barber, 1904: 60 (distr.); Blatchley, 1910: 1049; Barber, 1912: 212 (distr.); Shoemaker, 1916: 164 (distr.); Johnson, 1916: 119 (distr.); Notman, 1916: 166 (distr.); Nicolay, 1917b: 40; 1917a: 94; Chagnon, 1917: 233 (distr.); Britton, 1920: 267 (distr.); Hopping, 1922: 166 (distr.); Champlain, Kirk & Knull, 1925: 107; Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 439 (distr.); Beaulne, 1932: 199 (hosts); Chagnon, 1936: 245, pl. 15, fig. 9; Hopping, 1937: 15, pl. 4; Procter, 1946: 178 (distr.); Chagnon & Robert, 1962: 245, pl. 15, fig. 9; Gardiner, 1970: 286 (biol.).

**Type locality** - Holotype: United States, Pennsylvania, Somerset County. (MCZN).

*Pachyta malachiticus* var. *cyaneus* Haldeman, 1847b: 374.

*Stenura* ? *cyanea* Haldeman, 1848: 151.

*Anthophylax cyaneus*; Aurivillius, 1912: 195 (cat.); Boppe, 1921: 67; Linsley & Chemsak, 1972: 77; Gosling & Gosling, 1976: 4 (biol., distr.); Turnbow & Franklin, 1980: 339 (distr.); Gosling, 1986: 155 (hosts); Drouin, 1991: 175 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Glaser, 1992: 154 (distr.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné,

M.A., 1995: 28 (cat.); Krinsky & Godwin, 1996: 238 (hosts); Yanega, 1996: 30, pl. 3, fig. 27; Linsley & Chemsak, 1997: 344 (hosts); Vlasák & Vlasakova, 2002: 205 (distr.); Hoffman, 2003: 50 (distr.); Chemsak, 2005: 103, pl. 8, fig. 2; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 17, 139, 2 figs, pl. 3f; Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 101, pl. 16

*Anthophilax cyaneus*; Casey, 1918: 416; Laliberté, Chantal & LaRochelle, 1997: 90 (biol.).

**Type locality** - Holotype: North America: Lake Superior. (MCZN)

## 2. *Anthophilax hoffmanii* Beutenmuller, 1903

**Syntypes locality** - Syntypes male and female: United States, North Carolina: Yancey County, Summits of the Black Mountains. (AMNH). **Distribution** - United States (North Carolina, Georgia and Tennessee). **Host plants** - *Abies fraseri* (Pursh) Poiret, *Picea* sp. (Pinaceae).

*Anthophilax hoffmanii* Beutenmuller, 1903: 518, pl. 49, figs 9, 10.

*Anthophilax hoffmani*; Mutchler, 1912: 213 (type); Nicolay, 1917b: 41; Leng, 1920: 272 (cat.); Craighead, 1923: 86, pl. 11, fig. 8, pl. 22, fig. 16 (larva); Doane *et al.*, 1936: 177; Hopping, 1937: 14; Shoemaker & Stecher, 1938: 40 (distr.); Brimley, 1938: 212 (distr.); Fattig, 1947: 15 (distr.).

*Anthophilax hoffmani*; Linsley & Chemsak, 1972: 76, pl. 1; Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 28 (cat.); Linsley & Chemsak, 1997: 345 (hosts); Hoffman, 2003: 50, fig. 1 (distr.); Chemsak, 2005: 102, pl. 7, figs 11,12, pl. 8, fig. 1; Monné, M.A. & Hovore, 2006: 159

7 (checklist); Lingafelter, 2007: 17, 139; Klingeman *et al.*, 2017: 295 (distr.)

## 3. *Anthophilax viridis* LeConte, 1850

**Type locality** - Holotype: United States, Michigan, Lake Superior, Eagle Harbor. (MCZN). **Distribution** - Nova Scotia to northern Wisconsin, south to northern Georgia and Wisconsin. In Canada, it occurs from Cape Breton Island to the Sault Ste. Marie area in Ontario. **Host plants** - *Acer spicatum* Lamarck (Aceraceae), *Betula* sp. (Betulaceae), *Fagus ferruginea* Aiton (Fagaceae), *Picea mariana* Britton, Sterns & Poggenburg, *Pinus banksiana* Lambert (Pinaceae).

*Anthophilax viridis* LeConte, 1850a: 326; Thomson, 1861: 156; Lacordaire, 1868: 443; Boppe, 1921: 67; Linsley, 1938: 109; Knull, 1942: 226; 1946: 176; Wilson, 1971: 61 (biol.); Linsley & Chemsak, 1972: 78; Gosling & Gosling, 1976: 4 (biol., distr.); Turnbow & Franklin, 1980: 339 (distr.); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 29 (cat.); Yanega, 1996: 30, pl. 3, fig. 26; Linsley & Chemsak, 1997: 345 (hosts); Vlasák & Vlasakova, 2002: 205 (distr.); Hoffman, 2003: 50 (distr.); Chemsak, 2005: 103, pl. 8, figs 3, 4; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 17, 139, 2 figs, pl. 3g (hosts); Webster, McCorquodale & Majka, 2009: 292 (distr., hosts); Klingeman *et al.*, 2017: 295 (distr.)

*Anthophilax viridis*; LeConte, 1850b: 236; Thomson, 1864: 142; Provancher, 1877a: 609; Horn in Leng, 1890: 98; Wickham, 1897b: 171; Van der Wielen, 1897: 206 (distr.); Beutenmuller, 1903: 519, pl. 49, fig., 11; Blatchley, 1910: 1049; Chagnon, 1917: 233 (distr.); Nicolay, 1917b: 40; Leng, 1920: 272 (cat.); Hopping, 1922: 166 (distr.); Craighead, 1923: 86 (larva); Kirk & Knull, 1926: 24 (distr.); Procter, 1927: 111 (distr.); Leonard, 1928: 439 (distr.); Burke, 1931: 101 (distr.); Beaulne, 1932: 199 (hosts); Doane *et al.*, 1936: 177; Hopping, 1937: 15 (syn.); Brimley, 1938: 212 (distr.); Procter, 1946: 178 (distr.); Chagnon & Robert, 1962: 246; Laliberté, Chantal & LaRochelle, 1977: 90 (biol.);

*Anthophilax viridis viridipennis* Casey, 1913: 416; Leng, 1920: 272 (cat.); Lingafelter *et al.*, 2014: 344,365, fig. 182u (lectotype).

**Type locality** - Lectotype: United States, New York, Ulster County, Slide Mt. (USNM).

## *Proanthophilax* Zamoroka, 2022

*Proanthophilax* Zamoroka, 2022: 297, 302

**Type species** - *Anthophylax attenuatus* (Haldeman, 1847) (original designation)

**1. *Proanthophylax attenuatus* (Haldeman, 1847)**

**Type locality** - Holotype: United States, Michigan, Lake Superior, Eagle Harbor, Kiwenaw Point. (MCZN). **Distribution** - From Cape Breton Island to western Ontario, south to northern Kentucky and Minnesota. **Host plants** - *Acer saccharinum* Linnaeus, *A. saccharum* Marshall (Aceraceae), *Betula* sp., *Ostrya virginiana* (Miller) K. Koch (Betulaceae), *Fagus ferruginea* Aiton (Fagaceae), *Populus* sp. (Salicaceae).

*Pachyta attenuata* Haldeman, 1847a: 59.

*Argaleus attenuatus*; LeConte, 1850b: 235 (distr.); 1850a: 319.

*Anthophylax attenuatus*; LeConte, 1854b: 219; Lacordaire, 1868: 443; Boppe, 1921: 67; Brimley, 1941: 121 (biol.); Knull, 1946: 177; Jaques, 1951: 255, fig. 602; Gardiner, 1966: 202, figs 7, 44; 1970: 286 (hosts); Wilson, 1971: 61 (hosts); Linsley & Chemsak, 1972: 74; Gosling & Gosling, 1976: 4, fig. 71; Gosling, 1986: 155 (hosts); Chemsak, Linsley & Noguera, 1992: 90 (cat.); Monné, M.A., & Giesbert, 1994: 160 (checklist); Monné, M.A., 1995: 28 (cat.); Yanega, 1996: 20, pl. 2, fig. 25; Linsley & Chemsak, 1997: 344 (hosts); Androw & Keeney, 1999: 3 (distr.); Vlasák & Vlasakova, 2002: 205 (distr.); Hoffman, 2003: 50 (distr.); Chemsak, 2005: 103, pl. 7, fig. 10; Monné, M.A. & Hovore, 2006: 159 (checklist); Lingafelter, 2007: 20, 139, 2 figs, pl. 4g (hosts); Webster, McCorquodale & Majka, 2009: 293 (distr.); Švácha & Lawrence, 2014: 85 (morphol.); Haack, Keena & Eyre, 2017: 72 (biol.); Klingeman *et al.*, 2017: 295 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 101, pl. 16

*Leptura attenuata*; Horn, 1868: 124 (distr.).

*Anthophilax attenuatus*; Provancher, 1877a: 609; Horn *in* Leng, 1890: 98; Slossom, 1893: 250 (distr.); 1894: 3 (distr.); Hamilton, 1895: 338 (distr.); Wickham, 1897b: 171; Youngs, 1997: 192 (biol.); Harrington, 1897: 73 (hosts); Felt, 1906: 488, fig. 122; Nicolay, 1917a: 94; 1917: 39; Chagnon, 1917: 233 (distr.); Leng, 1920: 272 (cat.); Mason, 1922: 227 (distr.); Hopping, 1922: 126 (distr.); Craighead, 1923: 85, pl. 22, figs 6, 17, pl. 28, fig. 4 (larva); Mundinger, 1924: 317 (biol.); Champlain, Kirk & Knull, 1925: 107 (hosts); Kirk & Knull, 1926: 24; Fletcher, 1926: 143 (distr.); Leonard, 1928: 439 (distr.); Beaulne, 1932: 199 (hosts); Brown, 1934: 229 (distr.); Chagnon, 1936: 245, pl. 15, fig. 8; Doane *et al.*, 1936: 177; Hopping, 1937: 15, pl.4; Procter, 1946: 178; Chagnon & Robert, 1962: 245, pl. 15, fig. 8; Laliberté, Chantal & LaRochelle, 1977: 90 (biol.).

*Proanthophylax attenuatus*; Zamoroka, 2022: 297,302

*Pachyta liturata* Kirby, 1837: 178; Haldeman, 1847a: 60; LeConte, 1850a: 340; Mannerheim, 1852: 367; Bethune, 1872:111; Horn, 1876: 170; LeConte, 1876: 520 (distr.); Snow, 1877a: 19 (distr.); Provancher, 1877a: 608; Smith, 1885: 62 DD; Leng, 1890: 97; Harrington, 1890: 185 (distr.); Hamilton, 1894a: 31 (distr.); Townsend, 1895: 48 (distr.); Evans, 1895b: 173 (distr.); Wickham, 1897b: 171; 1899b: 199 (distr.); Harrington, 1899: 108 (distr.); Holland, 1900: 423 (distr.); Schwarz, 1900: 535 (distr.); Fall, 1901: 148 (distr.); Skinner, 1903: 40 (distr.); Fall & Cockerell, 1907: 193 (distr.); Sherman, 1910: 194 (distr.); Blatchley, 1910: 1049; Schwarz, 1910: 183 (distr.); Garnett, 1918: 212 (distr.); Fall, 1926: 202 (distr.); Hardy, 1926a: 5; Essig, 1926: 452, fig. 352 (biol.); Mank, 1934: 80 (distr.); Knowlton, 1934: 86; Canova, 1936: 131 (distr., hosts); Chagnon, 1936: 245; Knowlton & Thatcher, 1936: 279 (distr.); Doane *et al.*, 1936: 176; Chagnon & Robert, 1962: 245.

*Leptura liturata*; LeConte, 1857: 6.

*Argaleus lituratus*; LeConte, 1861: 356 (syn.); Lacordaire, 1868: 440.

*Evodinus lituratus*; Aurivillius, 1912: 188 (cat.); Boppe, 1921: 72; Saalas, 1922: 63 (morphol.).

*Pachyta lamed liturata*; Linsley & Chemsak, 1972: 77, fig. 22; Gosling & Gosling, 1976: 3 (distr.); Laliberté, Chantal & LaRochelle, 1977: 96 (biol.); Chemsak, Linsley & Noguera, 1992: 99 (cat.); Monné, M.A., & Giesbert, 1994: 168 (checklist); Monné, M.A., 1995: 26 (cat.); Yanega, 1996: 36, pl. 8, figs 89a,b; Linsley & Chemsak, 1997: 414 (hosts); Heffern, 1998: 9 (distr.); Chemsak, 2005: 95, pl. 8 figs, 2, 3; Monné, M.A. & Hovore, 2006: 167 (checklist); MacRae & Rice, 2007: 248 (distr.); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.);

Bousquet. Laplante, Hammond & Langor, 2017: 104, pl., 17; ; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Argaleus nitens* LeConte. 1850a: 319; 1850b: 235; Linsley, 1938: 109.

**Type locality** - Holotype: Canada, Ontario, (Nord du Lac Supérieur), Mouth of Pic River. (MCZN).

*Pachyta conflagrata* Motschulsky, 1860: 147.

*Pachyta lamed* var. *conflagrata*; Aurivillius, 1912: 184 (cat.); Boppe, 1921: 64.

**Syntypes locality** - Syntypes male and female: United States, Alaska. (ZMUM)

*Pachyta (Pachyta) lamed americana* Podany, 1964: 50, pl. 1, figs 13-25, pl. 2, figs 2, 64, pl. 3 fig. 1.

### **STENOCORINI Thomson, 1861**

*Stenocorini*; Zamoroka, 2022: 302

### ***Stenocorus (Stenocorus) Geoffroy 1762***

*Stenocorus* Geoffroy, 1762: 221; Fabricius, 1775: 178; Lepeletier & Audinet-Serville, 1825: 481; LeConte, 1873b: 328; Casey, 1913: 205; Boppe, 1921: 64; Hopping, 1928: 7; Chemsak, 1964: 234; Hatch, 1971: 124; Linsley & Chemsak, 1972: 44; Monné, M.A., 1995: 19; Chemsak, 2005: 31, 67; Monné, M.A. & Hovore, 2006: 169 (checklist); Bousquet. Laplante, Hammond & Langor, 2017: 105 (key spp.)

*Stenocorus (Stenocorus)*; Casey, 1913; 207

*Stenochorus*; Reitter, 1913: 177

**Type-species** - *Leptura meridiana* Linnaeus, 1758 (Plavilstshikov, 1936 designation, ICNZ, 1994, Opinion 1754)

*Toxotus* Dejean, 1821: 112; Audinet-Serville, 1835: 211; Westwood, 1839: 41; LeConte, 1850a: 320; 1854b: 219; Thomson, 1861: 144; 1864: 142, 408; Lacordaire, 1868: 438; Chenu, 1870: 330; Girard, 1873: 735; LeConte, 1873b: 328; Provancher, 1877a: 580, 606; LeConte & Horn, 1883: 313; Leng, 1890: 675; Wickham, 1897b: 87; Blatchley, 1910: 1045; Swaine & Hopping, 1928: 13; Bradley, 1930: 235; Chagnon, 1936: 244; Hopping, 1937: 3; Linsley, 1938: 109; Knull, 1946: 171; Gressitt, 1953: 207; Dillon & Dillon, 1961: 128; Arnett, 1962: 857; Chagnon & Robert, 1962: 241; Chemsak, 1964: 235

**Type-species** - *Leptura meridiana* Linnaeus, 1758 (subsequent designation, Westwood, 1840).

*Endemus* Gistel, 1848: xi

**Type-species** - ?

*Toxotus (Minaderus)* Mulsant, 1862: 467

**Type-species** - *Leptura meridiana* Linnaeus, 1758 (monotypy).

### **1. *Stenocorus (Stenocorus) alteni* Giesbert & Hovore, 1998**

**Type locality** - Holotype male: United States, California: San Bernardino County, Cajon Pass. (EMEC). **Distribution** - Southwestern California. **Host plants** - *Quercus john-tuckeri* K. C. Nixon & C. H. Muller (Fagaceae).

*Stenocorus alteni* Giesbert & Hovore, 1998: 16, fig. 1; Chemsak, 2005: 69, 75, pl. 5, figs 6, 7; Monné, M.A. & Hovore, 2006: 169 (cat.); Swift, 2008: 6 (distr., hosts).

### **2. *Stenocorus (Stenocorus) copei* Linsley & Chemsak, 1972**

**Type locality** - Holotype male: United States, New Mexico: Cloudcroft (CASC).

**Distribution** - Southcentral New Mexico. **Host plants** - *Quercus gambelli* Nuttall (Fagaceae).

*Stenocorus copei* Linsley & Chemsak, 1972: 54; Chemsak, Linsley & Noguera, 1992: 101 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 20 (cat.); Chemsak, 2005: 70, 82, pl. 6, fig. 1; Monné, M.A. & Hovore, 2006: 169 (checklist);

### **3. *Stenocorus (Stenocorus) cylindricollis* (Say, 1824)**

**Syntypes locality** - Syntypes male and female: United States. (Depository unknown).

**Distribution** - Eastern North America from southern Canada? to Georgia westward to

- Oklahoma and Illinois. **Host plants** - *Rhus* sp. (Anacardiaceae), *Quercus alba* Linnaeus (Fagaceae), *Carya* sp. (Juglandaceae).
- Leptura cylindricollis* Say, 1824: 417; LeConte, 1859c: 196.
- Toxotus cylindricollis*; Haldeman, 1847a: 58; 1847b: 374 (syn.); LeConte, 1850a: 320; Cox, 1861: 46 (distr.); Bland, 1861: 100 (distr.); Lacordaire, 1868: 439; McBride, 1880: 107 (distr.); Horn, 1885a: 6 (syn.); Leng, 1890: 68; Laurent, 1893: 7 (distr.); Hamilton, 1895: 338 (distr.); Wickham, 1897b: 170; Ehrmann, 1897: 169 (hosts); Smith, 1900: 291 (distr.); Dury, 1902: 161; Blatchley, 1910: 1047; Smith, 1910: 330; Fisher & Kirk, 1912: 312 (distr.); Morris, 1916b: 300 (biol.); 1916: 21 (hosts); Baylis, 1919: 119 (distr.); Hopping, 1937: 5, pl. 2; Knull, 1946: 171, pl. 3, fig. 5; Fattig, 1947: 14 (distr.).
- Stenocorus cylindricollis*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 65; Kirk & Knull, 1926: 24 (distr.); Leonard, 1928: 438 (distr.); Beaulne, 1932: 199 (hosts); Brimley, 1938: 212 (distr.); Loding, 1945: 116 (distr.); Linsley & Chemsak, 1972: 46; Gosling & Gosling, 1976: 3 (biol., distr.); Turnbow & Franklin, 1980: 338 (distr.); Arnett, 1985: 368, fig. 23.200; Chemsak, Linsley & Noguera, 1992: 101 (cat.); MacRae, 1993: 238 (distr.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 20 (cat.); Yanega, 1996: 38, pl. 3, fig. 33; Schiefer, 1998: 122 (distr.); Chemsak, 2005: 68, pl.5, figs 1, 2; Monné, M.A. & Hovore, 2006: 169 (checklist); Lingafelter, 2007: 18, 141, 2 figs, pl. 3k (hosts); Guarneri, 2009: 15 (distr.); Holt, 2013: 246 (distr., hosts); Spomer, 2014: 299, fig. 4 (distr.); Ozdikmen, Cihan & Kaya, 2014: 697 (distr.); Bousquet. Laplante, Hammond & Langor, 2017:106, pl. 18; Klingeman *et al.*, 2017: 296 (distr.)
- Stenocorus (Anisorus) cylindricollis*; Casey, 1913: 215.
- Toxotus dives* Newman, 1841: 68.
- Type locality** - Holotype: United States, New York: Trenton Falls. (BMNH).
- Toxotus atratus* Haldeman, 1847a: 58.
- Stenocorus (Stenocorus) cylindricollis atratus*; Leng, 1920: 271 (cat.).
- Toxotus cylindricollis* var. *atratus*; Fattig, 1947: 14.
- Type locality** - Holotype: United States, Georgia. (MCZN).
- Toxotus dentipennis* Haldeman, 1847a: 58.
- Type locality** - Holotype: United States, Alabama? (MCZN).

#### 4. *Stenocorus (Stenocorus) flavolineatus* (LeConte, 1854)

- Type locality** - Holotype: United States, Oregon: found on the journey from Vancouver to Yokolt Plain. (MCZN). **Distribution** - Pacific Coast from British Columbia to northern California. In British Columbia, it is known from the Central Coast Regional District south to southernmost Vancouver Island.
- Toxotus flavolineatus* LeConte, 1854a: 18; 1857: 63; 1861: 356 (distr.); Lacordaire, 1868: 439; LeConte, 1869: 371 (distr.); Leng, 1890: 67; Garnett, 1918: 212 (distr.); Doane *et al.*, 1936: 176 (distr.); Canova, 1936: 132 (distr.); Hopping, 1937: 5, pl. 2; Hardy, 1945: 92, fig. 37.
- Toxotus flavolimbatus*; LeConte, 1857: 23; Fall, 1901: 148 (error).
- Stenocorus flavolineatus*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 65; Hardy, 1926a: 5, pl. 5 fig. 3; Hatch, 1971: 136, pl. 16, fig. 2; Linsley & Chemsak, 1972: 48; Penrose & Westcott, 1964: 22 (biol.); Chemsak, Linsley & Noguera, 1992: 101 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 20 (cat.); Giesbert & Hovore, 1998: 17; Chemsak, 2005: 69, pl. 5, fig. 5; Monné, M.A. & Hovore, 2006: 169 (checklist); Ozdikmen, Cihan & Kaya, 2014: 697 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 106, pl. 18
- Stenocorus (Stenocorus) flavolineatus*; Casey, 1913: 208.

#### 5. *Stenocorus (Stenocorus) nubifer* (LeConte, 1859)

- Type locality** - Holotype: United States, California: Tejon. (MCZN). **Distribution** - This species ranges from southwestern Alberta to southern Vancouver Island, north to the Quesnel area in British Columbia, south to southern California and southern Utah.
- Toxotus nubifer* LeConte, 1859b: 80; Lacordaire, 1868: 439; Leng, 1890: 67; Fall, 1901: 148 (distr.).

*Stenocorus nubifer*; Aurivillius, 1912: 182 (cat.); Casey, 1913: 207; Boppe, 1921: 65; Hopping, 1928: 7; Davis, 1932: 85 (distr.); Linsley & Chemsak, 1972: 59, fig. 17 (syn.); Chemsak, Linsley & Noguera, 1992: 101 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 21 (cat.); Giesbert & Hovore, 1998: 18 (syn.); Chemsak, 2005: 70, 86, pl. 6, fig. 6-8; Monné, M.A. & Hovore, 2006: 169 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 106, pl. 18; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Toxotus lateralis* Casey, 1891: 37; Fall, 1901: 148 (distr.); Hopping, 1937: 7, pl. 2; Knowlton & Wood, 1950: 11 (distr.); Lingafelter *et al.*, 2014: 86, fig. 94m (holotype).

*Stenocorus lateralis*; Aurivillius, 1912: 182 (cat.); Casey, 1913: 208; Boppe, 1921: 65.

**Type locality** - Holotype male: United States, California: summit of Mount Diablo, Contra Costa County, near San Francisco. (USNM).

*Stenocorus (Stenocorus) pacificus* Casey, 1913: 209; Hatch, 1971: 137; Lingafelter *et al.*, 2014: 2894, 369, fig. 125q (lectotype).

*Toxotus pacificus*; Hopping, 1937: 6, pl. 1.

**Type locality** - Lectotype male: United States, California: Lake County. (USNM).

*Stenocorus (Stenocorus) tenellus* Casey, 1913: 210; Lingafelter *et al.*, 2014: 331, 370, fig. 168e (lectotype).

**Type locality** - Lectotype male: United States, California: Lake County. (USNM).

*Stenocorus (Stenocorus) hesperus* Casey, 1913: 210; Lingafelter *et al.*, 2014: 75, fig. 80s (holotype).

**Type locality** - Holotype female: United States, California: Lake County. (USNM).

*Stenocorus (Stenocorus) parviceps* Casey, 1913: 210; Lingafelter *et al.*, 2014: 296, fig. 128 i (holotype).

**Type locality** - Holotype female: United States, California: Lake County. (USNM).

*Stenocorus (Stenocorus) truncatulus* Casey, 1913: 211; Lingafelter *et al.*, 2014: 336, fig. 174k (holotype).

**Type locality** - Holotype female: United States, California: Lake County. (USNM).

*Stenocorus (Stenocorus) apiciventrif* Casey, 1913: 211; Lingafelter *et al.*, 2014: 18, fig. 18q (holotype).

**Type locality** - Holotype female: United States, California: Santa Cruz Mountains. (USNM).

*Stenocorus (Stenocorus) rufipennis* Casey, 1913: 213; Lingafelter *et al.*, 2014: 312, 369, fig. 146q (lectotype).

**Type locality** - Lectotype male: United States, California. (USNM).

*Stenocorus uteanus* Casey, 1924: 273; Linsley & Chemsak, 1972: 57, figs 18, 19; Lingafelter *et al.*, 2014: 339, 369, fig. 177 s (lectotype).

*Toxotus uteanus*; Knowlton & Thatcher, 1936: 279 (distr.); Horning & Barr, 1970: 37 (biol.); Chemsak, Linsley & Noguera, 1992: 101 (cat.); Monné, M.A., 1995: 22 (cat.).

**Type locality** - Lectotype female: United States, Utah: Provo. (USNM).

*Stenocorus morio* Casey, 1924: 274; Lingafelter *et al.*, 2014: 102, 369, fig. 112u (lectotype).

*Toxotus morio*; Knowlton & Thatcher, 1936: 279 (distr.).

**Type locality** - Lectotype male: United States, Utah: Provo. (USNM).

*Stenocorus plagiatus* Casey, 1924: 273; Lingafelter *et al.*, 2014: 300, fig. 133o (holotype).

**Type locality** - Holotype female: United States, California: Placer County, Cisco. (USNM).

*Stenocorus marginellus* Casey, 1924: 274; Lingafelter *et al.*, 2014: 95, fig. 105e (holotype).

**Type locality** - Holotype male: United States, California: Mount Wilson. (USNM).

*Toxotus spinosus* Hopping, 1940: 32; Malkin, 1943: 127 (distr.);

**Type locality** - Holotype male: United States, Oregon: McMinnville. (CACS).

## 6. *Stenocorus (Stenocorus) obtusus* (LeConte, 1873)

**Type locality** - Holotype: United States, Yellowstone Basin. (MCZN). **Distribution** - Rocky Mts. from Colorado to British Columbia, Oregon, Nevada and New Mexico.

*Toxotus obtusus* LeConte, 1873a: 206; Leng, 1890: 68; Hopping, 1937: 8, pl. 1; Barr & Penrose, 1969: 94 (distr.); Gardiner, 1970: 186 (biol.).

*Stenocorus obtusus*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 65; Hatch, 1971: 137, pl. 15, fig. 8; Linsley & Chemsak, 1972: 51, fig. 14; Chemsak, Linsley & Noguera, 1992: 101 (cat.);

Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 21 (cat.); Heffern, 1998: 10 (distr.); Chemsak, 2005: 69, 79, pl. 5, figs 10,11; Monné, M.A. & Hovore, 2006: 169 (checklist); O'Neill, Fultz & Ivie, 2008: 30 (biol., distr.); Ozdikmen, Cihan & Kaya, 2014: 697 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 106, pl. 18; Rice, MacRae & Merickel, 2017: 670 (distr.)

*Stenocorus (Stenocorus) brevicollis* Casey, 1913: 214; Mank, 1934: 80 (distr.); Lingafelter *et al.*, 2014: 32, 369, fig. 32w (lectotype).

*Toxotus brevicollis*; Canova, 1936: 132 (distr.).

**Type locality** - Lectotype: United States, Washington. (USNM).

#### 7. *Stenocorus (Stenocorus) testaceus* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, Utah: Buckboard Flat Camp, 7 miles West of Monticello, San Juan County. (AMNH). **Distribution** - Southeastern Utah to Southwestern Colorado.

*Stenocorus testaceus* Linsley & Chemsak, 1972: 51, fig. 15; Chemsak, Linsley & Noguera, 1992: 101 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 22 (cat.); Chemsak, 2005: 69,78, pl. 5, fig. 9; Monné, M.A. & Hovore, 2006: 169 (checklist); Ozdikmen, Cihan & Kaya, 2014: 697 (distr.)

#### 8. *Stenocorus (Stenocorus) trivittatus* (Say, 1824)

**Syntypes locality** - Syntypes: United States, Mississippi. (Depository unknown).

**Distribution** - This species ranges from southern Manitoba to west-central Alberta, south to central Colorado and Wyoming.

*Rhagium trivittatum* Say, 1824: 422; LeConte, 1859c: 199.

*Toxotus trivittatus*; Melsheimer, 1853: 112 (cat.); Bland, 1861: 100 (distr.); 1862: 270 (distr.); Lacordaire, 1868: 439; Ouellet, 1902: 122 (distr.); Knaus, 1906: 331 (distr.); Hopping, 1937: 6.

*Stenocorus trivittatus*; Aurivillius, 1912: 182 (cat.); Britton, 1920: 267 (distr.); Boppe, 1921: 66; Fletcher, 1926: 143 (distr.); Linsley & Chemsak, 1972: 56; Stein & Tigestad, 1976: 39 (distr.); Chemsak, Linsley & Noguera, 1992: 101 (cat.); MacRae, 1993: 238; Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 22 (cat.); Yanega, 1996: 38, pl. 4, fig. 37; Heffern, 1998: 10 (distr.); Chemsak, 2005: 70, 85, pl. 6, figs 4, 5; Monné, M.A. & Hovore, 2006: 169 (checklist); Ozdikmen, Cihan & Kaya, 2014: 697 (distr.); Bousquet. Laplante, Hammond & Langor, 2017: 107, pl. 18

#### 9. *Stenocorus (Stenocorus) vestitus* (Haldeman, 1847)

**Type locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - British Columbia to southern California and Utah. **Host plants** - *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae).

*Toxotus vestitus* Haldeman, 1847a: 59; LeConte, 1850a: 321; 1857: 23 (distr.); Lacordaire, 1868: 439; LeConte, 1869: 371 (distr.); Leng, 1890: 67; Wickham, 1897b: 170; Harrington, 1899: 108 (distr.); Fall, 1901: 148 (distr.); Knaus, 1902: 150 (distr.); 1903: 176 (distr.); Fall & Cockerell, 1907: 193 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 212 (distr.); Davis, 1932: 75 (distr.); Knowlton & Thatcher, 1936: 279 (distr.); Hopping, 1937: 8, pl. 2; Hardy, 1942: 10 (biol.); Knowlton & Wood, 1950: 11 (distr.).

*Stenocorus vestitus*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 66; Hardy, 1926a: 5, pl. 5, fig. 27; 1927: C35; Hardy & Preece, 1927b: 62 (hosts); Hopping, 1928: 7 (syn.); Ware, 1929: 368 (distr.); Knowlton, 1930: 75 (distr.); Pack, 1930: 219 (distr.); Beaulne, 1932: 199 (hosts); Knowlton, 1934: 86 (distr.); Mank, 1934: 80 (distr.); Saalas, 1936: 72 (morphol.); Hardy, 1957: D65; Hatch, 1971: 137, pl. 15, figs 9, 9a; Linsley & Chemsak, 1972: 52, fig. 16; Chemsak, Linsley & Noguera, 1992: 101 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 22 (cat.); Linsley & Chemsak, 1997: 434 (hosts); Chemsak, 2005: 69, 80, pl. 5, fig. 12; Monné, M.A. & Hovore, 2006: 169 (checklist); Bousquet.



- Laplante, Hammond & Langor, 2017: 107, pl. 19; Rice, MacRae & Merickel, 2017: 671 (distr.)
- Stenocorus (Stenocorus) vestitus*; Casey, 1913: 214
- Toxotus virgatus* LeConte, 1874: 67; Harrington, 1899: 108 (distr.); Canova, 1936: 132 (distr.).
- Stenocorus virgatus*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 66.
- Stenocorus (Stenocorus) virgatus*; Casey, 1913: 209.
- Syntypes localities** - Syntypes male and female: United States, Oregon. Canada, British Columbia, Vancouver. (MCZN).
- Toxotus vestitus* var. *ater* Leng, 1890: 68.
- Stenocorus vestitus* ab. *ater*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 66; Hatch, 1971: 137.
- Type locality** -
- Stenocorus (Stenocorus) aureatus* Casey, 1913: 213; 1924: 172 (syn.); Lingafelter et al., 2014: 22, fig. 22k (holotype).
- Toxotus aureatus*; Hopping, 1937: 9, pl. 1.
- Type locality** - Holotype female: United States, California. (USNM).
- Stenocorus (Stenocorus) aureatus gilvicornis* Casey, 1913: 213; Lingafelter et al., 2014: 22, fig. 22m (holotype).
- Type locality** - Holotype male: United States, California. (USNM).
- Stenocorus (Stenocorus) sericatus* Casey, 1913: 213; Lingafelter et al., 2014: 318, fig. 152u (holotype).
- Type locality** - Holotype female: United States, California. (USNM).
- Stenocorus (Stenocorus) subpinguis* Casey, 1913: 213; Lingafelter et al., 2014: 328, fig. 165e (holotype).
- Type locality** - Holotype female: United States, Utah. (USNM).
- Stenocorus (Stenocorus) oregonensis* Casey, 1913: 214; Hatch, 1971: 137, pl. 15, fig. 7; Lingafelter et al., 2014: 292, fig. 124a (holotype).
- Toxotus oregonensis*; Canova, 1936: 132 (distr.); Hopping, 1937: 9, pl. 1.
- Type locality** - Holotype female: United States, Oregon: Bull Run, Clackamas County. (USNM).
- Stenocorus (Stenocorus) flaccidus* Casey, 1913: 212; Lingafelter et al., 2014: 63, fig. 67 m (holotype).
- Stenocorus rufipennis flaccidus*; Casey, 1924: 272.
- Type locality** - United States, California. (USNM).

#### 10. *Stenocorus (Stenocorus) vittiger* (Randall, 1838)

- Type locality** – Holotype: at the foot of Mount Bigelow, near the margin of the Dead River. (MCZN). **Distribution** - This species ranges from the Gaspé peninsula in Quebec to northeastern North Dakota, south to southwestern North Carolina. In Canada, it occurs from the Gaspé peninsula and New Brunswick to southern Ontario Southeastern Canada and northeastern United States.
- Leptura vittigera* Randall, 1838: 29
- Toxotus vittiger*; Cox, 1861: 46; Provancher, 1877a: 607; Hamilton, 1895: 338 (distr.); Wickham, 1897b: 169 (distr.); Ehrmann, 1897: 169; Smith, 1910: 220; Barber, 1912: 212; Johnson, 1915: 315; Hopping, 1937: 5, pl. 2; Brimley, 1941: 120; Knull, 1946: 172; Wilson, 1971: 61
- Stenocorus (Stenocorus) vittiger*; Casey, 1913: 208;
- Stenocorus vittiger*; Leonard, 1928: 438] Gibson & Carrillo, 1959: 118; Linsley & Chemsak, 1972: 65; Perry, 1975: 121; Gosling & Gosling, 1976: 3; Stein & Tigestad, 1976: 40; Laliberté, Chantal & LaRochelle, 1977: 99; Gosling, 1986: 157; Chemsak, Linsley & Noguera, 1972: 101 (cat.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 23 (cat.); Yanega, 1996: 38, pl. 4, fig. 36; Vlasák & Vlasakova, 2002: 207 (distr.); Chemsak, 2005: 70; Monné, M.A. & Hovore, 2006: 169 (checklist); Rice & Veal, 2006: 259; Webster, McCorquodale & Majka, 2009: 295; Bousquet, Laplante, Hammond & Langor, 2017: 107, pl. 19; Webster, 2016: 486; Klingeman et al., 2017: 296 (distr.)
- Toxotus trivittatus* var. *nigripes* Haldeman, 1847a: 58
- Type locality** - Holotype: United States, Pennsylvania (MCZN)

***Stenocorus (Eutoxotus) Casey, 1913****Stenocorus (Eutoxotus)* Casey, 1913: 206; Löbl & Smetana, 2010: 134*Eutoxotus*; Chemsak, 1964: 232.**Type-species** - *Toxotus Schaumii* LeConte, 1850 (original designation).**1. *Stenocorus (Eutoxotus) schaumii* (LeConte, 1850)****Type locality** - Holotype: United States, Ohio. (MCZN). **Distribution** - This species ranges from New Brunswick to southern Montana, south to Oklahoma, northern Alabama, and northern Georgia. In Canada, it occurs from western New Brunswick to southern Manitoba, north to the Saguenay area in Quebec. **Host plants** - *Acer* sp. (Aceraceae), *Fagus ferruginea* Aiton (Fagaceae), *Juglans nigra* Linnaeus (Juglandaceae), *Fraxinus americana* Linnaeus (Oleaceae), *Amelanchier canadensis* Medikus (Rosaceae), *Populus* sp. (Salicaceae).*Toxotus Schaumii* LeConte, 1850a: 320; 1862: 41; Provancher, 1877a: 607; Dury, 1879: 162; Hamilton, 1885: 103; Leng, 1890: 67.*Toxotus schaumii*; Hamilton, 1895: 338 (distr.); Harrington, 1897: 73 (hosts); Wickham, 1897b: 170; Dury, 1902: 161 (distr.); Ouellet, 1902: 122 (distr.); Felt, 1906: 722; Fletcher, 1907: 100 (biol.); Wickham, 1909a: 29 (distr.); Blatchley, 1910: 1047; Chagnon, 1917: 233 (distr.); Chagnon, 1936: 244; Doane *et al.*, 1936: 176; Hopping, 1937: 7, pl. 2; Brimley, 1941: 120 (biol.); Knull, 1946: 172; Chagnon & Robert, 1962: 244; Wilson, 1971: 61.*Stenocorus (Eutoxotus) schaumii*; Casey, 1913: 206; Leng, 1920: 271 (cat.).*Stenocorus Schaumi*; Boppe, 1921: 66.*Stenocorus schaumii*; Kirk & Knull, 1926: 23 (distr.); Leonard, 1928: 437 (distr.); Beaulne, 1932: 199 (hosts); Linsley & Chemsak, 1972: 47, fig. 14; Gosling & Gosling, 1976: 3 (biol., distr.); Stein & Tagedstad, 1976: 38, fig. 17; Laliberté, Chantal & LaRochelle, 1977: 99 (biol.); Aubé *et al.*, 1978: 56; Rice, 1981: 461 (hosts); Chemsak, Linsley & Noguera, 1992: 101 (cat.); Glaser, 1992: 154 (distr.); MacRae, 1992: 238 (distr.); Skillman, 1993: 210 (distr.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 22 (cat.); Yanega, 1996: 38, pl. 3, figs 34a,b; Linsley & Chemsak, 1997: 434 (hosts); Vlasák & Vlasakova, 2002: 207 (distr.); Chemsak, 2005: 68, 72, pl. 5, figs 3, 4; Monné, M.A. & Hovore, 2006: 169 (checklist); MacRae & Rice, 2007: 248 (distr.); Lingafelter, 2007: 19, 141, 2 figs, pl. 4a (hosts); Webster, McCorquodale & Majka, 2009: 295 (distr.); Holt, 2013: 246 (distr.); Webster, 2016: 486; Bousquet, Laplante, Hammond & Langor, 2017: 107, pl. 18; Klingeman *et al.*, 2017: 296 (distr.)*Toxotus Schaumii* var. *croceus* Leng, 1890: 68; Knull, 1946: 173.*Stenocorus (Eutoxotus) schaumii croceus*; Leng, 1929: 271 (cat.).*Stenocorus schaumii* var. *croceus*; Leonard, 1928: 437 (distr.).**Syntypes locality** - Syntypes male and female: United States, Vermont and northern Illinois. (Public Museum of Staten Island).***Stenocorus (Toxotopsis) Casey, 2013****Stenocorus (Toxotopsis)* Casey, 1913: 206*Toxotopsis*; Chemsak, 1964: 235**Type-species** - *Leptura cinnamoptera* Randall, 1838 (monotypy).**1. *Stenocorus (Toxotopsis) cinnamopterus* (Randall, 1838)****Type locality** - Holotype: United States, Massachusetts: Cambridge. (MCZN). **Distribution** - From the northeastern United States south to Georgia and west into Kansas. **Host plants** - *Quercus nigra* Linnaeus (Fagaceae).*Leptura cinnamoptera* Randall, 1838: 45.*Toxotus cinnamopterus*; Haldeman, 1847b: 374 (syn.); LeConte, 1850a: 321; Bland, 1861: 100 (distr., hosts); Lacordaire, 1868: 439; Popenoe, 1877: 33 (distr.); Leng, 1890: 67; Hamilton, 1895: 338 (distr.); Dury, 1902: 161 (distr.); Blatchley, 1910: 1047; Fisher & Kirk, 1912: 312

- (distr.); Doane *et al.*, 1936: 176; Hopping, 1937: 7, pl. 2; Knull, 1946: 173; Fattig, 1947: 14 (distr.).
- Stenocorus cinnamopterus*; Aurivillius, 1912: 182 (cat.); Boppe, 1921: 65; Kirk & Knull, 1926: 23 (distr.); Leonard, 1928: 437; Brimley, 1938: 212 (distr.); Alexander, 1958: 50 (distr.); Linsley & Chemsak, 1972: 49; Gosling & Gosling, 1976: 3 (biol., distr.); Perry, 1977: 98 (distr.); Turnbow & Franklin, 1980: 338 (distr.); Waters & Hyche, 1984: 284 (distr.); Chemsak, Linsley & Noguera, 1992: 201 (cat.); Glaser, 1992: 154 (distr.); MacRae, 1993: 238 (distr.); Lingafelter & Horner, 1993: 178 (distr.); Shimomura, 1994: 163 (distr.); Monné, M.A., & Giesbert, 1994: 170 (checklist); Monné, M.A., 1995: 20 (cat.); Yanega, 1996: 37, pl. 3, figs 35a,b; Peck & Thomas, 1998: 120 (distr.); Schiefer, 1998: 122 (distr.); Vlasák & Vlasakova, 2002: 207 (distr.); Chemsak, 2005: 69, pl. 5, fig. 8; Monné, M.A. & Hovore, 2006: 167 (checklist); Rice & Veal, 2006: 159 (distr.); Lingafelter, 2007: 19, 141, 2 figs, pl. 4b (hosts); Guarneri, 2009: 15 (distr.); Holt, 2013: 246 (distr., hosts); Bousquet. Laplante, Hammond & Langor, 2017: 106; Klingeman *et al.*, 2017: 296 (distr.)
- Stenocorus (Toxotopsis) cinnamopterus*; Casey, 1913: 206; Leng, 1920: 271 (cat.),  
*Toxotus aesculi* Haldeman, 1847a: 59.
- Type locality** - Holotype: United States, Carolina. (MCZN).

## SACHALINOBIINI Danilevsky, 2010

Sachalinobiini Danilevsky, 2010: 43, 136; Bouchard *et al.*, 2011: 464; Zamoroka, 2022: 302

**Type genus:** *Sachalinobia* Jakobson, 1899.

**Type-species:** *Sachalinobia retata* Jacobson, 1899 (= *Brachyta koltzei* Heyden, 1887) (original designation).

### *Sachalinobia* Jakobson, 1899

*Sachalinobia* Jakobson, 1899: 39; Boppe, 1921: 64; Gressitt, 1953: 207; Chemsak & Linsley, 1963: 86; Chemsak, 1964: 234; Linsley & Chemsak, 1972: 90; Monné, M.A., 1995: 33; Monné, M.A. & Hovore, 2006: 166 (checklist); Švácha & Lawrence, 2014: 155.

**Type-species** - *Sachalinobia retata* Jacobson, 1899 (= *Brachyta koltzei* Heyden, 1887) (original designation).

*Pseudopachyta* Swaine & Hopping, 1928: 16; Bradley, 1930: 235; Chagnon, 1936: 241; Gressitt, 1953: 207; Chagnon & Robert, 1962: 241; Arnett, 1962: 857; Chemsak, 1964: 234

**Type-species** - *Pachyta rugipennis* Newman, 1844 (original designation).

### 1. *Sachalinobia rugipennis* (Newman, 1844)

**Syntypes locality** - Syntypes: Canada. (BMNH). **Distribution** - Eastern Canada (New Brunswick, Quebec, Ontario, Nova Scotia) and northeastern United States (Maine, New Hampshire, Michigan). **Host plants** - *Abies balsamea* (Linnaeus) Miller, *Larix laricina* (DuRoi) K. Koch, *Picea glauca* (Moench) Voss, *Pinus* sp. (Pinaceae).

*Toxotus rugipennis* Newman, 1844: 476; Horn, 1885a: 6.

*Pachyta rugipennis*; LeConte, 1873a: 207; Leng, 1890: 97; Evans, 1895b: 173 (distr.); Wickham, 1897b: 170; Fletcher, 1905: 75; Chagnon, 1905: 36; 1906: 101; Frost, 1912: 307; Chagnon, 1917: 233 (distr.); Nicolay, 1917a: 94 (distr.); Leonard, 1928: 438 (distr.).

*Evodinus rugipennis*; Aurivillius, 1912: 188 (cat.); Boppe, 1921: 72; Saalas, 1936: 73 (morphol.).

*Pseudopachyta rugipennis*; Swaine & Hopping, 1928: 14; Brown, 1934: 229 (distr.); Chagnon, 1936: 245, pl. 15, fig. 7; Chagnon & Robert, 1962: 245, pl. 15, fig. 7; Wilson, 1971: 59 (biol.).

*Sachalinobia rugipennis rugipennis*; Gressitt, 1953: 207; Gardiner, 1970: 287 (biol.); Linsley & Chemsak, 1972: 91, fig. 30; Laliberté, Chantal & LaRochelle, 1977: 97 (biol.); Gosling, 1986: 157 (hosts); Drouin 1989: 28; Drouin, 1991: 172 (biol., hosts); Monné, M.A., & Giesbert, 1994: 169 (checklist); Monné, M.A., 1995: 33 (cat.); Yanega, 1996: 37, pl. 2, fig. 23; Linsley & Chemsak, 1997: 430 (hosts); Vlasák & Vlasakova, 2002: 207 (distr.).

*Sachalinobia rugipennis*; Gosling & Gosling, 1976: 5 (distr.); Shimomura, 1992: 98 (distr.); Chemsak, Linsley & Noguera, 1992: 100 (cat.); Chemsak, 2005: 123, pl. 9, figs 6,7; Monné, M.A. & Hovore, 2006: 166 (checklist); Webster, 2016: 486; Bousquet, Laplante, Hammond & Langor, 2017: 102, pl, 17

### **XYLOSTEINI Reitter, 1913**

*Xylosteina* Reitter, 1913: 5.

Xylosteini; Bouchard *et al.*, 2011: 464; Danilevsky, 2014: 66; Zamoroka, 2022: 302

**Type genus:** *Xylosteus* Frivaldszky, 1838.

**Type-species:** *Xylosteus Spinolae* Frivaldszky, 1838 (monotypy).

### ***Leptorhabdium* Kraatz, 1879**

*Leptorhabdium* Kraatz, 1879: 118; Aurivillius, 1912: 168; Boppe, 1921: 16, 33; Gressitt, 1947: 191; Chemsak, 1964: 233; Linsley & Chemsak, 1972: 29; Monné, M.A., 1995: 16; Chemsak, 2005: 31, 42; Monné, M.A. & Hovore, 2006: 164 (checklist);

**Type-species** - *Xylosteus gracilis* Kraatz, 1873 (= *Xylosteus illyricus* Kraatz, 1871) (monotypy).

*Leptorrhabdium*; Ganglbauer, 1882: 716; Reitter, 1912: 5

*Psilorhabdium* Kraatz, 1879: 118.

**Type-species** - *Psilorhabdium caucasicum* Kraatz, 1879 (monotypy).

#### **1. *Leptorhabdium pictum* (Haldeman, 1847)**

**Type locality** - Holotype: United States, Pennsylvania. (MCZN). **Distribution** - Eastern United States to Georgia. **Host plants** - *Betula alleghaniensis* Britton (Betulaceae), *Cornus florida* Linnaeus (Cornaceae), *Castanea* sp., *Quercus* sp. (Fagaceae), *Carya* sp. (Juglandaceae), *Prunus serotina* Ehrhart (Rosaceae),

*Toxotus pictus* Haldeman, 1847a: 58.

*Centrodera picta*; LeConte, 1850a: 325; Bland, 1861: 101 (distr.); Thomson, 1861: 158; Lacordaire, 1868: 432; Leng, 1890: 66; Hamilton, 1895: 338 (distr.); Smith, 1900: 291 (distr.); Ulke, 1903: 26, 50 (distr.); Leng, 1910: 77 (distr.); Smith, 1910: 330; Blatchley, 1910: 1049; Fisher & Kirk, 1912: 312 (distr.); Nicolay, 1919: 68 (distr.); Britton, 1920: 267 (distr.); Boppe, 1921: 34, pl. 2, fig. 11; Kirk & Knull, 1926: 23; Leonard, 1928: 437 (distr.); Knull, 1932: 63; Hopping, 1937: 12, pl. 3; Frost, 1937: 202 (distr.); Brimley, 1938: 212 (distr.); Knull, 1946: 175 (biol.); Fattig, 1947: 14; Leech, 1963: 205.

*Leptorhabdium pictum*; Linsley & Chemsak, 1972: 30, fig. 11; Turnbow & Franklin, 1980: 338 (distr.); Ohbayashi & Shimomura, 1986: 286, fig. 10; Chemsak, Linsley & Noguera, 1992: 96 (cat.); Monné, M.A., & Giesbert, 1994: 165 (checklist); Monné, M.A., 1995: 16 (cat.); Yanega, 1996: 35, pl. 4, fig. 38; Linsley & Chemsak, 1997: 387 (hosts); Chemsak, 2005: 43, pl. 3, figs 6,7; Monné, M.A. & Hovore, 2006: 164 (checklist); Guarnieri, 2009: 15 (distr.); Klingeman *et al.*, 2017: 296, (distr.)

### ***Pseudoxylosteus* Sama 1993**

*Pseudoxylosteus* Sama, 1993: 12; Chemsak, 2005: 30, 40; Monné, M.A. & Hovore, 2006: 168 (checklist); Bi & Ohbayashi, 2014: 7

**Type-species** - *Xylosteus ornatus* LeConte, 1873 (original designation).

#### **1. *Pseudoxylosteus ornatus* (LeConte, 1873)**

**Type-locality** - Holotype: United States, Oregon. (MCZN). **Distribution** - Sierra Nevada of California to Oregon. **Host plants** - *Abies* sp. (Pinaceae).

*Xylosteus ornatus* LeConte, 1873a: 205; Leng, 1890: 67; 1920: 271 (cat.); Boppe, 1921: 32; Canova, 1936: 132 (distr.); Hopping, 1937: 13, pl. 3; Hatch, 1971: 139, pl. 15, fig. 12; Linsley & Chemsak, 1972: 28, fig. 10; Hovore & Giesbert, 1976: 350 (hosts); Chemsak,

Linsley & Noguera, 1992: 106 (cat.); Monné, M.A., & Giesbert, 1994: 174 (checklist);  
 Monné, M.A., 1995: 15 (cat.); Linsley & Chemsak, 1997: 451 (hosts).  
*Leptorhabdium ornatum*; Gressitt, 1947: 191.  
*Pseudoxysteus ornatus*; Chemsak, 2005: 41, pl. 3 figs 4, 5; Monné, M.A. & Hovore, 2006: 168  
 (checklist);

## **NECYDALINAE Latreille, 1825**

Necydalides Latreille, 1825: 401; Guérin-Méneville, 1827: 487; Lacordaire, 1868: 469.  
 Necydalaires; Mulsant, 1839: 27, 107; Planet, 1924: 120.  
 Necydalidae; Newman, 1840: 19.  
 Necydalina; Thomson, 1859: 150; 1866: 47; Reitter, 1912: 24.  
 Necydalitae; Thomson, 1861: 159; 1864: 147.  
 Necydalites; Fairmaire *in* Jacquelin DuVal, 1864a: 232.  
 Necydalinae; Pascoe, 1869: 553, 565; Bousquet *et al.*, 2009: 22; Bouchard *et al.*, 2011:  
 465.  
 Necydalini; LeConte, 1873b: 325; LeConte & Horn, 1883: 310; Leng, 1890: 11;  
 Blatchley, 1910: 1044; Aurivillius, 1912: 256 (cat.); Craighead, 1923: 83 (larva);  
 Bradley, 1930: 228, 237; Linsley, 1940: 271; Knull, 1946: 151, 185; Gressitt, 1951:  
 123; Arnett, 1962: 856, 878; Hatch, 1971: 123; Linsley & Chemsak, 1972: 13;  
 Villiers, 1974: 208, 217; Monné, M.A., 1995a: 4 (cat.); Chemsak, 2005: 12 (rev.);  
 Monné, M.A., 2006: 147 (cat.).  
 Necydaliini; Portevin, 1927: 19; Plavilstshikov, 1936: 107, 461; Heyrovsky, 1955: 74,  
 138.

**Type-genus:** *Necydalis* Linnaeus, 1758.

**Type-species:** *Necydalis major* Linnaeus, 1758 designated by Latreille (1829: 120).

### ***Necydalis* Linnaeus, 1758**

*Necydalis* Linnaeus, 1758: 421; 1767: 641; Fabricius, 1776: 62; 1793: 350; Olivier, 1795: (69) 1;  
 Latreille, 1802: 303; Audinet-Serville, 1834a: 543; Laporte, 1840: 441; Newman, 1840: 20;  
 Haldeman, 1847a: 44; Blanchard, C. E. *in* Cuvier, 1849: 482; LeConte, 1850a: 317;  
 Thomson, 1861: 146; 1864: 149; 1865: 411; Lacordaire, 1868: 447; Girard, 1873: 732;  
 LeConte, 1873b: 325; LeConte & Horn, 1883: 310; Leng, 1890: 12; Wickham, 1897b: 87;  
 Blatchley, 1910: 1044; Van Dyke, 1923: 52 (key spp.); Bradley, 1930: 237; Linsley, 1940:  
 271; Knull, 1946: 185; Gressitt, 1951: 123; Arnett, 1962: 856, 878; Chemsak, 1964: 233;  
 Hatch, 1971: 145; Linsley & Chemsak, 1972: 14 (rev.); Villiers, 1974: 217; Chemsak, 2005:  
 13; Monné, M.A., 2006: 152 (cat.). Monné, M.A. & Hovore, 2006: 157 (checklist); Monné,  
 M.A., 2012: 124; Bousquet, Laplante, Hammond & Langor, 2017: 87 (key spp.)

**Type-species** - *Necydalis major* Linnaeus, 1758 (subsequent designation, Latreille, 1829:  
 120).

#### **1. *Necydalis acutipennis* Van Dyke, 1923**

**Type locality** - Holotype female: United States, California: Shasta County, near Castle Crags.  
 (CACS). **Distribution** - Southern Oregon to Plumas and Tulare Counties, California.

*Necydalis acutipennis* Van Dyke, 1923: 51; Doane *et al.*, 1936: 379; Linsley, 1940: 275;  
 Linsley & Chemsak, 1972: 19; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A.,  
 & Giesbert, 1994: 156 (checklist); Monné, M. A., 1995: 5 (cat.); Chemsak, 2005: 20, pl. 2,  
 figs 6,7; Monné, M.A. & Hovore, 2006: 173 (checklist);

#### **2. *Necydalis barbarae* Rivers, 1890**

**Type-locality** - Holotype male: United States, California: Santa Barbara. (CASC).  
**Distribution** - Coastal California from San Mateo and Santa Barbara Counties to San  
 Bernardino Co. **Host plants** - *Quercus agrifolia* Née, *Q. chrysolepis* Liebmann (Fagaceae).

*Necydalis barbarae* Rivers, 1890: 112; Fall, 1901: 148; Garnett, 1918: 211 (distr.); Van Dyke, 1923: 52; Doane *et al.*, 1936: 179; Linsley, 1940: 272; Nellis, 1959: 56 (distr.); Linsley & Chemsak, 1972: 15, fig. 5; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., & Giesbert, 1994: 158 (checklist); Monné, M.A., 1995: 5 (cat.); Linsley & Chemsak, 1997: 402 (hosts); Chemsak, 2005: 16, pl. 1, fig. 12, pl. 2, fig. 1; Monné, M.A. & Hovore, 2006: 157 (checklist); Swift, 2008: 5 (distr., hosts).

### 3. *Necydalis cavipennis* LeConte, 1873

**Syntypes locality** - Syntypes: United States, California: San Francisco. (MCZN)

**Distribution** - This species ranges from British Columbia south to southern California, Arizona, and northern Mexico, Baja California. In British Columbia, it occurs on Haida Gwaii, Vancouver Island, and the southwestern mainland. **Host plants** - *Alnus* sp., *Betula* sp. (Betulaceae), *Lithocarpus densiflora* Rehder, *Quercus agrifolia* Née, *Q. chrysolepis* Liebmann, *Q. garryana* Douglas, *Q. wislizenii* A. de Candolle (Fagaceae), *Eucalyptus globulus* Labillardière, *E. grandis* W. Hill ex Maiden (Myrtaceae), *Heteromeles arbutifolia* (Aiton) M. Roemer (Rosaceae).

*Necydalis cavipennis* LeConte, 1873a: 204; Lameere, 1883: 30 (cat.); Leng, 1890: 12; Fall, 1901: 148 (distr.); Schaeffer, 1908: 330 (distr.); Garnett, 1918: 211 (distr.); Craighead, 1923: 84, pl. 11, figs 1, 2, pl. 22, figs 8-10 (larva); Van Dyke, 1923: 53; Hardy, 1926a: 7; 1926b: 30; Hardy & Preece, 1927b: 64 (hosts); Doane *et al.*, 1936: 179 (hosts); Linsley, 1940: 274 (rev.); Hardy, 1942: 11 (biol.); Keen, 1952: 198 (hosts); Chemsak, 1958: 41 (hosts); Leech, 1959: 43 (key, hosts); Nellis, 1959: 56 (distr.); Linsley, Knull & Statham, 1961: 27 (distr.); Leech, 1966: 2, figs 1-10 (larva, pupa); Hatch, 1971: 146; Linsley & Chemsak, 1972: 17, fig. 6; Furniss & Carolin, 1977: 296 (biol.); Hovore, 1988: 18 (distr.); Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., & Giesbert, 1994: 158 (checklist); Monné, M.A., 1995: 5 (cat.); Noguera & Chemsak, 1996: 403 (distr.); Linsley & Chemsak, 1997: 402 (hosts); Monné, M.A., 2002: 43 (cat. hosts); Chemsak, 2005: 19, pl. II, figs 4, 5; Monné, M.A., 2006: 152 (cat.); Monné, M.A. & Hovore, 2006: 157 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 88, pl. 16

### 4. *Necydalis diversicollis diversicollis* Schaeffer, 1932

**Type locality** - Holotype female: United States, Utah: Logan. (USNM). **Distribution** - The range of this subspecies extends from southern British Columbia, including southern Vancouver Island, south along the coast to Monterey County in California. **Host plants** - *Alnus rubra* Bongard (Betulaceae), *Quercus gambelii* (Fagaceae), *Rhamnus* sp. (Rhamnaceae), *Amelanchier canadensis* Medikus (Rosaceae), *Salix* sp. (Salicaceae).

*Necydalis diversicollis* Schaeffer, 1932: 152; Linsley, 1940: 278; Knowlton & Wood, 1950: 11 (distr.); Hatch, 1971: 147; Linsley & Chemsak, 1972: 21; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Lingafelter *et al.*, 2014: 361.

*Necydalis diversicollis diversicollis*; Linsley, 1940: 278; Linsley & Chemsak, 1972: 22; Monné, M.A., & Giesbert, 1994: 158 (checklist); Monné, M.A., 1995: 5 (cat.); Linsley & Chemsak, 1997: 403 (hosts); Heffern, 1998: 8 (distr.); Chemsak, 2005: 25, pl. 2, fig. 12; Monné, M.A. & Hovore, 2006: 157 (checklist); Rice, MacRae & Merickel, 2017: 669 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 88, pl. 16

### 5. *Necydalis diversicollis californica* Linsley, 1940

**Type locality** - Holotype male : United States, California: Mt. Diablo. (CACS). **Distribution** - Coastal California from Mendocino Co. to San Luis Obispo Co. **Host plants** - *Alnus* sp. (Betulaceae), *Quercus* sp. (Fagaceae), *Eucalyptus grandis* W. Hill ex Maiden (Myrtaceae), *Rhamnus californica* Eschscholtz (Rhamnaceae), *Salix* sp. (Salicaceae).

*Necydalis diversicollis californica* Linsley, 1940: 279; Linsley & Chemsak, 1972: 22; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., & Giesbert, 1994: 158 (checklist); Monné, M.A., 1995: 5 (cat.); Linsley & Chemsak, 1997: 403 (hosts); Chemsak, 2005: 26, pl. 2, figs 1, 2; Monné, M.A. & Hovore, 2006: 157 (checklist);

### 6. *Necydalis laevicollis* LeConte, 1869

**Type locality** - Holotype: Canada, British Columbia : Vancouver's Island. (MCZN).

**Distribution** - Pacific Coast from British Columbia to Mendocino Co., California eastward to Plumas Co. and Lake Tahoe, California. . In British Columbia, it occurs on Haida Gwaii and Vancouver Island, east to the Rocky Mountain. **Host plants** - *Alnus rubra* Bongard (Betulaceae), *Arbutus menziesii* Pursh (Ericaceae), *Lithocarpus densiflora* Rehder, *Quercus* sp. (Fagaceae), *Salix* sp. (Salicaceae).

*Necydalis laevicollis* LeConte, 1869: 383; Leng, 1890: 12; Fall, 1901: 148 (distr.); Garnett, 1918: 211 (distr.); Craighead, 1923: 8; Beaulne, 1932: 201 (hosts); Doane *et al.*, 1936: 279; Moore, 1937: 89 (distr.); Linsley, 1940: 276; Hardy, 1945: 91, fig. 32; Leech, 1959: 42 (hosts); Hatch, 1971: 146, pl. 19, fig. 4; Linsley & Chemsak, 1971: 20, figs 6, 7 (syn.); Furniss & Carolin, 1977: 297 (biol.); Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., & Giesbert, 1994: 158 (checklist); Monné, M.A., 1995: 5 (cat.); Linsley & Chemsak, 1997: 403 (hosts); Chemsak, 2005: 23, pl. 2, figs 10, 11; Monné, M.A. & Hovore, 2006: 173 (checklist); Bousquet, Laplante, Hammond & Langor, 2017: 88, pl. 16

*Necydalis laevicollis laevicollis*; Linsley, 1940: 277.

*Necydalis laevicollis seminiger* Linsley, 1940: 277; Hatch, 1971: 146.

**Type locality** - Holotype male: United States, California: Crescent City. (CACS).

### 7. *Necydalis mellita* (Say, 1835)

**Syntypes locality** - Syntypes male and female: United States, Indiana.(Depository unknown).

**Distribution** - The range of this species extends from New York to eastern Nebraska, north to southern Ontario, south to Arkansas, northern Mississippi, and northern Georgia, west to Missouri and Nebraska. **Host plants** - *Castanea* sp., *Quercus* sp. (Fagaceae), *Pinus contorta* Douglas ex Loudon (Pinaceae).

*Molorchus melittus* Say, 1835: 194; Harris, 1837: 89; Chevrolat, 1838: 119; LeConte, 1859c: 664; Greene, 1918: 260.

*Necydalis melittus*; Haldeman, 1847a: 44; LeConte, 1850a: 317; White, 1855: 182; Bland, 1861: 96 (distr.); Lacordaire, 1868: 478; Pettit, 1871: 106 (distr.); LeConte, 1873b: 325; LeConte & Horn, 1883: 310; Leng, 1890: 110; 1890: 12; Wickham, 1897b: 169; Dury, 1902: 160 (distr.); Ulke, 1903: 26, 50 (distr.); Blatchley, 1910: 1044; Mutchler, 1912: 213 (distr.); Fisher & Kirk, 1912: 312 (distr.); Craighead, 1923: 84 (larva); Van Dyke, 1923: 52; Kirk & Knull, 1926a: 26 (distr.); Leonard, 1928: 443 (distr.).

*Callisphyrus melittus*; Haldeman, 1847b: 372.

*Necydalis melitta*; Hamilton, 1895: 338 (distr.); Doane *et al.*, 1936: 270; Brimley, 1938: 214 (distr.); Linsley, 1940: 273; Loding, 1945: 118 (distr.); Knull, 1946: 186, pl. 8, fig. 27; Sherman, 1946: 127 (distr.); Fattig, 1947: 21 (distr.); Linsley & Chemsak, 1972: 15; Perry, 1975: 59 (hosts); Gosling & Gosling, 1976: 2 (biol., distr.); Turnbow & Franklin, 1980: 340 (distr.); Arnett, 1985: 367; Chemsak, Linsley & Noguera, 1992: 89 (cat.); MacRae, 1993: 237 (distr.); Shimomura, 1994: 164 (distr.); Monné, M.A., & Giesbert, 1994: 158 (checklist); Monné, M.A., 1995: 6 (cat.); Yanega, 1996: 28, pl. 15, figs 175a-175b; Linsley & Chemsak, 1997: 403 (hosts); Schiefer, 1998: 121 (distr.); Chemsak, 2005: 17, pl. 2, figs 2, 3; Monné, M.A. & Hovore, 2006: 157 (checklist); Lingafelter, 2007: 40, 141, 2 figs., pl. 10g; Guarnieri, 2009: 15 (distr.); Holt, 2013: 246 (distr.); Steury & MacRae, 2014: 9 (distr.); Klingeman *et al.*, 2017: 294 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 88, pl. 16; Heffern, Vlasák & Alten, 2018: 747 (hosts); Haddad *et al.*, 2018: 3, fig. 1E

*Necydalis americanus* Haldeman, 1847a: 44.

**Type locality** - Holotype female: United States, Pennsylvania. (MCZN).

### 8. *Necydalis rudei* Linsley & Chemsak, 1972

**Type locality** - Holotype male: United States, California: Oso Flaco Lake, San Luis Obispo Canyon. (CASC). **Distribution** - Coastal southcentral California. **Host plants** - *Ericameria ericoides* (Lessing) Nuttall ex Jepson (Asteraceae).

*Necydalis rudei* Linsley & Chemsak, 1972: 19; Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., 1995: 6 (cat.); Monné, M.A., & Giesbert, 1994: 158 (checklist); Chemsak, 2005: 22, pl. 2, figs 8, 9; Monné, M.A. & Hovore, 2006: 157 (checklist);

### ***Ulochaetes* LeConte, 1854**

*Ulochaetes* LeConte, 1854c: 82; 1857: 62; Thomson, 1861: 146; 1864: 151; 1865: 411; Lacordaire, 1868: 478; LeConte, 1873b: 325; LeConte & Horn, 1883: 310; Leng, 1890: 12; Bradley, 1930: 237; Linsley, 1940: 279; Arnett, 1962: 856, 878; Chemsak, 1964: 235; Hatch, 1971: 145; Linsley & Chemsak, 1972: 23; Chemsak, 2005: 27; Monné, M.A., 2006: 157 (cat.); Monné, M.A. & Hovore, 2006: 173 (checklist); Monné, M.A., 2012: 124.

**Type-species** - *Ulochaetes leoninus* LeConte, 1854 (monotypy).

#### **1. *Ulochaetes leoninus* LeConte, 1854**

**Type locality** - Holotype: United States, Oregon: Prairie Paso. (MCZN). **Distribution** - Pacific Coast from British Columbia down Sierra Nevada Mts. to mountains of Southern California and Mexico (Baja California). **Host plants** - *Abies concolor* Gordon & Glen, *Abies grandis* (Lambert) Lindley, *Picea jeffreyi*, *Pinus contorta* Douglas ex Loudon, *P. jeffreyi* Balfour, *P. lambertiana* Douglas, *P. ponderosa* Douglas ex Lawson & P. Lawson, *P. sabiniana* Douglas ex D. Don, *Pseudotsuga menziesii* (Mirbel) Franco, *Tsuga* sp. (Pinaceae).

*Ulochaetes leoninus* LeConte, 1854c: 82; 1857: 62, pl. 2, fig. 12; Thomson, 1864: 151; Horn, 1867: 293 (biol.); LeConte, 1869: 371; Lacordaire, 1868: 479; LeConte, 1873b: 325; Riley, 1880: 239 (biol.); LeConte & Horn, 1883: 310; Leng, 1890: 12; Fletcher, 1891: 283 (distr.); Fowler, 1901: li; Fall, 1901: 148 (distr.); Wright & Coolidge, 1908: 68 (distr.); Garnett, 1918: 211 (distr.); Craighead, 1923: 83, pl. 4, fig. 3, pl. 17, figs 2, 13; pl. 23, fig. 11, pl. 29, fig. 2 (larva); Hardy & Preece, 1926: 36 (hosts); Hardy, 1926b: 30, pl. 5, fig. 34; Essig, 1926: 455, fig. 356 (biol.); Tanner, 1927: 33; Hardy & Preece, 1927b: 64; Keen, 1929: 68 (biol.); Beaulne, 1932: 201 (hosts); Doane *et al.*, 1936: 179, fig. 86 (biol.); Linsley, 1940: 280 (rev.); Hardy, 1942: 10 (biol.); 1945: 91, fig. 34 (biol.); Kevan, 1945: 231 (distr.); Keen, 1952: 196 (hosts); Duffy, 1953: 145, figs 102, 103 (larva, pupa); Hardy, 1955: B50; Linsley, 1959: 126 (mimet.); Barr & Penrose, 1969: 94 (distr.); Hatch, 1971: 146, pl. 17, fig. 6; Wilson, 1971: 80; Wasbauer, 1971: 80; Linsley & Chemsak, 1972: 23, figs 8, 9; Swan & Papp, 1972: 451, fig. 964; Furniss & Carolin, 1977: 297, fig. 178 (biol.); Hovore, 1988: 18 (distr.); Chemsak, Linsley & Noguera, 1992: 89 (cat.); Monné, M.A., & Giesbert, 1994: 159 (checklist); Monné, M.A., 1995: 6 (cat.); Noguera & Chemsak, 1996: 403 (distr.); Linsley & Chemsak, 1997: 448 (hosts); Monné, M.A., 2002: 44 (cat. hosts); Chemsak, 2005: 28, pl. III, fig. 3; Monné, M.A., 2006: 157 (cat.); Monné, M.A. & Hovore, 2006: 173 (checklist); Bouchard, 2014: 542; ; Monné, M.L., Monné, M.A. & Wang, 2017, fig. 37; Haack, Keena & Eyre, 2017: 85; Haack, 2017: 113 (hosts); Rice, MacRae & Merickel, 2017: 669 (distr.); Bousquet, Laplante, Hammond & Langor, 2017: 89, pl. 16

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