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Lectotype designations in Tetratomidae, Melandryidae, Boridae and Mycteridae, based on material in the Museum of Comparative Zoology, Harvard University (Coleoptera: Tenebrionoidea)

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Abstract. Lectotypes are designated for the following species-level taxa, based on specimens in the Museum of Comparative Zoology, Harvard University: Tetratomidae (Hallomenus scapularis Melsheimer, 1846; Hallomenus serricornis LeConte, 1878); Melandryidae (Hypulus bicinctus Horn, 1888; Dircaea liturata LeConte, 1866; Dircaea fusca LeConte, 1878; Dircaea prona LeConte, 1878; Dircaea riversi LeConte, 1884; Hypulus trifasciatus Melsheimer, 1846; Microtonus sericans LeConte, 1862; Scraptia flavicollis Haldeman, 1848; Scraptia rugosa Haldeman, 1848; Melandrya maculata LeConte, 1850; Melandrya striata var. bicolor Melsheimer, 1846; Melandrya striata var. thoracica Melsheimer, 1846; Hypulus fulminans LeConte, 1859; Microscapha arctica Horn, 1893; Microscapha clavicornis LeConte, 1866; Orchesia castanea Melsheimer, 1846; Orchesia gracilis Melsheimer, 1846; Orchesia ornata Horn, 1888; Amblyctis praesae LeConte, 1879; Dircaea sericea Haldeman, 1848; Serropalpus obsoletus Haldeman, 1848; Serropalpus substritatus Haldeman, 1848; Carebara longula LeConte, 1866; Halomenus quadripustulata Melsheimer, 1846); Mycteridae (Mycterus canescens Horn, 1879; Mycterus quadricollis Horn, 1874); and Boridae (Crymodes discicollis LeConte, 1850).

Key words. Nomenclature, Nearctic, LeConte, Horn, Melsheimer, Haldeman

Introduction

Among some smaller families of Tenebrionoidea, family-level classification has become stable only recently, due in large part to incorporation of larval-stage characters. The generic constituents of Melandryidae, Tetratomidae, Pythidae, Mycteridae, and Boridae (among others) have changed repeatedly since Melsheimer was describing beetles from eastern North America. Since then, there have not been any broad, comprehensive treatments of any of these families; species were described in small, isolated works. Notable among authors of genera and species within these beetle families were Friedrich E. Melsheimer (1784–1873), Samuel S. Haldeman (1812–1880), John L. LeConte (1825–1883), and George H. Horn (1840–1897). Specimens examined by these authors eventually were deposited in the Museum of Comparative Zoology (MCZ), Harvard University. As an integral part of a plan to revise the Nearctic fauna of Melandryidae, the author visited the MCZ in 2000 in order to examine type specimens and, where considered prudent to enhance stability of nomenclature, to designate lectotypes. Though these designations were proposed about 15 years ago, they remained unpublished (“unvalidated”). In a section called “concerning types”, Lindroth (1969: XXIX-XXX) opined on the value of types, the practice of labeling (or not) specimens as “types”, and the importance of designation of lectotypes: “Subsequent supplements and corrections of this kind have to be published before valid. This is too often neglected regarding lectotypes and it has been a common procedure in many museums to put the labels “type” and “holotype” on insect specimens in the collections of older authors who themselves never used these terms.” My goal is to stabilize the names for the species listed here, and to identify primary types, to be incorporated into future revisionary works on these families, especially Melandryidae. The ICZN (1999), particularly in Article 74 (“name-bearing types fixed subsequently from the type series (lectotypes from syntypes)”) makes specific rules and suggestions on the procedure of lectotype designation; for example, use of “lectotype by present designation” satisfies Article 74.7.
Methods

Family- and tribal-level taxa are listed in the same order as they were treated by Bouchard et al. (2011). Within tribes, genera are listed alphabetically (according to current combination), based on Nikitsky and Pollock (2008). Species are organized alphabetically by current combination (bold font). For each taxon, the following data are included: current combination, original combination, type locality, specific information on the primary type(s), and (as considered necessary) notes for clarification. The actual specimens were examined, and compared with the original descriptions (number of specimens examined, type localities, etc.). When there was no obvious indication that the author of a name based it on a single specimen, a lectotype was designated. Wherever possible (and unambiguous), paralectotypes were also designated from syntype series. Clues were often gleaned from the measurement(s), i.e. if there was a range of values given, or from geographical distribution, e.g. “known from Georgia and Michigan”. For LeConte specimens, the interpretation of the small colored discs is that indicated on the MCZ type specimen database (http://insects.oeb.harvard.edu/mcz/); more information about this system was provided by Bousquet (2012).

Data taken verbatim from the type specimens are enclosed in quotes; any information in brackets was added for clarification. Individual labels on a specimen are separated by a slash. Type localities as originally published were often vague; these are indicated for each species below as accurately as possible, in most cases directly quoted from the literature. The dorsal and lateral habitus photos of each primary type were used unaltered, as received from MCZ. All images © President and Fellows of Harvard College (used with permission).

TETRATOMIDAE Billberg, 1820

Hallomeninae Gistel, 1848

*Hallomenus (Hallomenus) scapularis* Melsheimer, 1846
(Fig. 1–2)

*Hallomenus scapularis* Melsheimer 1846: 57 (type locality: “Pennsylvania”)

*Hallomenus scapularis* lectotype (sex unknown), labeled: “Melsh. / LECTOTYPE Hallomenus scapularis Melsh. design. Pollock 2000 / MCZ TYPE 35389”. [lectotype by present designation]

*Hallomenus (Xeuxes) serricornis* LeConte, 1878
(Fig. 3–4)

*Hallomenus serricornis* LeConte 1878b: 619 (type locality: “Marquette; two specimens”)

*Hallomenus serricornis* lectotype (sex unknown), labeled: “Marquette 4.7 Mich / Type. 4782 / [handwritten] Hallomenus serricornis LeC. / LECTOTYPE Hallomenus serricornis LeC. design. Pollock 2000” [lectotype by present designation]. A second specimen, also from Marquette, labeled as PARA-LECTOTYPE. Nikitsky (1998) divided *Hallomenus* into two subgenera: *Hallomenus* Panzer, 1794 and *Xeuxes* Champion, 1889. The type species of *Xeuxes* is *X. brevicollis* Champion, which is a junior synonym of *H. serricornis*.

MELANDRYIDAE Leach, 1815

Melandryinae Leach, 1815

Dircaeini Kirby, 1837
**Abdera bicincta** (Horn, 1888)
(Fig. 5–6)

*Hypulus bicinctus* Horn 1888: 40 (type locality: “Sylvania, California”)


**Dircaea liturata** LeConte, 1866
(Fig. 7–8)

*Dircaea liturata* LeConte 1866: 66 (type locality: unknown)

*Dircaea liturata* lectotype (♂), labeled: “[pink disc = middle states; MD, DE, NY, NJ, PA, CT?, RI?] / Type 4773 / [handwritten] Dircaea liturata Lec. 4-maculata / Say / LECTOTYPE ♂ Dircaea liturata LeC. design. Pollock 2000”. [lectotype by present designation]. Multiple authors have indicated the citation for this species as LeConte’s “List of the Coleoptera of North America”, p. 66. Although this is merely a list and does not include an actual description, it does appear to be the first use of *Dircaea liturata*. LeConte did mention (twice) that his *D. liturata* was a replacement name for *Serropalpus quadrimaculatus* Say. The name is pre-occupied by *Serropalpus quadrimaculatus* Illiger, 1798 (also in *Dircaea*).

**Phloiotrya fusca** (LeConte, 1878)
(Fig. 9–10)

*Dircaea fusca* LeConte 1878b: 619 (type locality: Marquette, Michigan)

*Dircaea fusca* lectotype (♀), labeled: “Marquette 2.7 Mich / Type 4775 / [handwritten] D. fusca Lec. / LECTOTYPE ♀ Dircaea fusca LeConte design. Pollock 2000”. [lectotype by present designation]. The MCZ insect type database (http://insects.oeb.harvard.edu/mcz/Species_record.php?id=4517) lists the current combination as *Phloeotrya vaudoueri* (Mulsant). I do not know whether this synonym has been published. It is listed as *P. fusca* by Bousquet et al. (2013).

**Phloiotrya prona** (LeConte, 1878)
(Fig. 11–12)

*Dircaea prona* LeConte 1878a: 426 (type locality: Enterprise, Florida)

*Dircaea prona* lectotype (♂), labeled: “Enterprise Fla May 10 / Type 4774 / [handwritten] D. prona Lec. / LECTOTYPE ♂ Dircaea prona LeConte design. Pollock 2000”. [lectotype by present designation]. A second specimen, with identical first label as lectotype, labeled as PARLECTOTYPE.

**Phloiotrya riversi** (LeConte, 1884)
(Fig. 13–14)

*Dircaea riversi* LeConte 1884: 29 (type locality: Sylvania, California)

*Dircaea riversi* lectotype (♀), labeled: “Cala / Type 4777 / [handwritten] D. Riversi Lec / LECTOTYPE ♀ Dircaea riversi LeC. design. Pollock 2000”. [lectotype by present designation]. A second speci-
men, also with the “Cala” label is labeled as a PARALECTOTYPE. LeConte 1884: 29 gave no range of length in the original description; it is possible that both (or more) specimens were 11 mm. This species is possibly a junior synonym of P. fusca Motschulsky, 1872. Though there are relatively few names available, nomenclature of species of Phloiotrya is in need of revision.

**Hypulini Gistel, 1848**

*Hypulus simulator* Newman, 1838  
(Fig. 15–16)

*Hypulus trifasciatus* Melsheimer 1846: 56 (type locality: “Pennsylvania”). Junior subjective synonymy


*Microtonus sericans* LeConte, 1862  
(Fig. 17–18)

*Microtonus sericans* LeConte 1862: 259 (type locality: “Atlantic states”)


*Symphora flavicollis* (Haldeman, 1848)  
(Fig. 19–20)

*Scraptia flavicollis* Haldeman 1848: 100 (type locality: “New York”)

*Scraptia flavicollis* lectotype (sex unknown), labeled: “Type 8378 / [handwritten] Symphora flavicollis (Hald) / LECTOTYPE Scraptia flavicollis Hald. design. Pollock 2000”. [lectotype by present designation]

*Symphora rugosa* (Haldeman, 1848)  
(Fig. 21–22)

*Scraptia rugosa* Haldeman 1848: 100 (type locality: “Maryland”)


**Melandryini Leach 1815**

*Emmesa connectens* Newman, 1838  
(Fig. 23–24)
Melandrya maculata LeConte 1850: 232 (type locality: nothing specific, but paper dealt with “Lake Superior” Coleoptera). Junior subjective synonymy

Melandrya maculata lectotype (♂), labeled: “[pale blue disc with 2 edges cut = north shore of Lake Superior] / Type 4765 / [handwritten] Emmesa connectens Nm. M. maculata Lec. / LECTOTYPE ♂ Melandrya maculata LeC. design. Pollock 2000”. [LECTOTYPE BY PRESENT DESIGNATION], A second specimen, with similar first label as lectotype labeled as PARALECTOTYPE. LeConte (1850: 232) stated “An Emmesa connectens Nm. Ent. Mag. perperam descripta?”, thus indicating he was aware of the potential of this synonymy.

Melandrya striata Say, 1824
(Fig. 25–28)

Melandrya striata var. bicolor Melsheimer 1846: 55 (type locality: unknown). Junior subjective synonymy


Melandrya striata var. thoracica Melsheimer 1846: 55 (type locality: unknown). Junior subjective synonymy

Melandrya striata var. thoracica lectotype (sex unknown), labeled: “Melsh. / [handwritten] var. thoracica * Melsh / LECTOTYPE Melandrya striata var. thoracica (var. a) design. Pollock 2000 / MCZ TYPE 35393”. [LECTOTYPE BY PRESENT DESIGNATION]. The lectotype appears to be a teneral individual, with the elytra slightly darker than the head and pronotum.

Prothalpia holmbergi (Mannerheim, 1852)
(Fig. 29–30)

Hypulus fulminans LeConte 1859: 284 (type locality: “Oregon”). Junior subjective synonymy


Orchesiini Mulsant, 1856

Lederia arctica (Horn, 1893)
(Fig. 31–32)

Microscapha [lapsus] arctica Horn 1893: 144 (type locality: Fort Wrangel, Alaska)

Microscapha arctica lectotype (sex unknown), labeled: “Pt. Wrangel, Alaska. Wickham. / 51 / Lectotype 8041 / [handwritten] Crioscapha arctica Horn / MCZ Type 34042 / LECTOTYPE Microscapha arctica Horn design. Pollock 2000”. [LECTOTYPE BY PRESENT DESIGNATION]. A second syntype was mentioned in the original description, but is not in MCZ. This species was described in the genus “Microscapha”—clearly a lapsus, since the genus is correctly spelled as “Microscapha” later in the description. Also,
Horn (1893: 144) stated that “should it be thought advisable to separate the two [M. clavicornis and M. arctica] the name Crioscapha may be used for arctica.”

**Microscapha clavicornis** LeConte, 1866  
(Fig. 33–34)

Microscapha clavicornis LeConte 1866: 153 (type locality: “Georgia”)


**Orchesia castanea** Melsheimer, 1846  
(Fig. 35–36)

Orchesia castanea Melsheimer 1846: 57 (type locality: “Pennsylvania”)

Orchesia castanea lectotype (sex unknown), labeled: “Melsh. / LECTOTYPE (bottom) and Paralectotypes Orchesia castanea Melsh. design. D A Pollock 2000 / MCZ TYPE 35390”. [lectotype by present designation]. Laliberté (1966), who essentially revised the genus _Orchesia_ for North America, did not examine or discuss any of the Melsheimer types. Although this and the following species of _Orchesia_ were mentioned by Melsheimer (1806) in a list in a catalogue (and lacking description), they were not validated until Melsheimer (1846). Thus, the original genus for these two species is _Orchesia_, and not _Hallomenus_ (as indicated by Laliberté 1966).

**Orchesia gracilis** Melsheimer, 1846  
(Fig. 37–38)

Orchesia gracilis Melsheimer 1846: 57 (type locality: “Pennsylvania”)

Orchesia gracilis lectotype (sex unknown), labeled: “Melsh. / LECTOTYPE Orchesia gracilis Melsh. design. Pollock 2000 / MCZ TYPE 35391”. [lectotype by present designation]

**Orchesia ornata** Horn, 1888  
(Fig. 39–40)

Orchesia ornata Horn 1888: 38 (type locality: “Washington Territory”)


**Serropalpini** Latreille, 1829

**Amblyctis praeses** LeConte, 1879  
(Fig. 41–42)

Amblyctis praeses LeConte 1879: 3 (type locality: “near Buffalo”)
Amblyctis praeses lectotype (sex unknown), labeled: “O Reinecke Buffalo N.Y. / Type 4772 / [handwritten] Amblyctis praeses. Lec. / LECTOTYPE Amblyctis praeses LeConte design. Pollock 2000”. [lectotype by present designation]. A second specimen is mentioned in the original description; only 1 syntype was found in MCZ. This species is among the rarest of North American Melandryidae.

Enchodes sericea (Haldeman, 1848)
(Fig. 43–44)

Dircaea sericea Haldeman 1848: 98 (type locality: “Pennsylvania”)


Serropalpus obsoletus Haldeman, 1848
(Fig. 45–46)

Serropalpus obsoletus Haldeman 1848: 98 (type locality: “Lake Superior”)

Serropalpus obsoletus lectotype (sex unknown), labeled: “[pale blue disc = Lake Superior; also Canada and North] / Type 8381 / [handwritten] S. obsoletus Hald. / LECTOTYPE Serropalpus obsoletus Hald. design. Pollock 2000”. [lectotype by present designation]. In her revision of the Nearctic species of Serropalpus, Mank (1939) mentioned seeing specimens from the LeConte collection, but did not designate a lectotype.

Serropalpus substriatus Haldeman, 1848
(Fig. 47–48)

Serropalpus substriatus Haldeman 1848: 98 (type locality: “northeast boundary of Maine”)

Serropalpus substriatus lectotype (sex unknown), labeled: “[pale blue disc = Lake Superior; also Canada and North] / Type 8380 / [handwritten] S. substriatus Hald. / LECTOTYPE Serropalpus substriatus Hald. design. Pollock 2000”. [lectotype by present designation]

Xylitini Thomson, 1864

Rushia longula (LeConte, 1866)
(Fig. 49–50)

Carebara longula LeConte 1866: 148 (type locality: “middle states”)


Spilotus quadripustulatus (Melsheimer, 1846)
(Fig. 51–52)

Hallomenus quadripustulata Melsheimer 1846: 57 (type locality: “Pennsylvania”)


Hallomenus quadripustulata lectotype (sex unknown), labeled: “Melsh. / [irreg. red label without writing] / 4-pustulosus / LECTOTYPE Hallomenus quadripustulatus Melsh. design. Pollock 2000 / MCZ TYPE 35395”. [lectotype by present designation]. In the original description, Melsheimer indicated uncertainty in the generic placement by inclusion of “H. ? quadripustulata” leading the description. Also: “The antennae, which are somewhat thickened towards the apex, and the thorax in its outlines, differ greatly from those of the preceding species [H. scapularis], which is a true Hallomenus. It might perhaps be placed more correctly in the genus Xilita (sic).” (Melsheimer 1846: 57).

MYCTERIDAE Oken, 1843

Mycterinae Oken, 1843

Mycterus canescens Horn, 1879
(Fig. 53–54)

Mycterus canescens Horn 1879: 337 (type locality: “Keyesville, California”) [lectotype by present designation]


Mycterus quadricollis Horn, 1874
(Fig. 55–56)

Mycterus quadricollis Horn 1874: 42 (type locality: Temescal, California) [lectotype by present designation]

Mycterus quadricollis lectotype (♂), labeled: “Type 7974 / [handwritten] Mycterus quadricollis Horn / J.L. LeConte Collection / [yellow-green label] LECTOTYPE (2nd spec. from top of pin) and PARALECOTYPES Mycterus quadricollis Horn 1874; designated D.A. Pollock 1994”.

BORIDAE Thomson, 1859

Borinae Thomson, 1859

Lecontia discicollis (LeConte, 1850)
(Fig. 57–58)

Crymodes discicollis LeConte 1850: 233 (type locality: unknown, but name published in paper dealing with “Lake Superior” Coleoptera) [lectotype by present designation]

Crymodes discicollis lectotype (sex unknown), labeled: “[pale blue disc = Lake Superior; also Canada and North] / Type 4752 / [handwritten] Crymodes discicollis Lec. / LECTOTYPE Crymodes discicollis LeC. design. Pollock 2000”. The caption for the figures associated with the description of this species (plate 8, Fig. 11, 11 a–b) spelled the name as Cryphaeus discicollis (lapsus calamorum). The name Crymodes LeConte, 1850 is a junior homonym of Crymodes Guénée, 1841 (Lepidoptera: Noctuidae) (Spilman 1954).
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Literature Cited


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Figure 26–36. Dorsal and lateral habitus of newly designated lectotypes. 26. Melandrya striata var. bicolor Melsheimer, lectotype, lateral habitus. Scale line = 2.0 mm. 27–28. Melandrya striata var. thoracica Melsheimer, lectotype. 27) Dorsal habitus. 28) Lateral habitus. Scale lines = 5.0 mm. 29–30. Hypulus fulminans LeConte, lectotype. 29) Dorsal habitus. 30) Lateral habitus. Scale lines = 1.0 mm. 31–32. Microscapha arctica Horn, lectotype. 31) Dorsal habitus. 32) Lateral habitus. Scale lines = 0.5 mm. 33–34. Microscapha clavicornis LeConte, lectotype. 33) Dorsal habitus. 34) Lateral habitus. Scale lines = 1.0 mm. 35–36. Orchesia castanea Melsheimer, lectotype. 35) Dorsal habitus. 36) Lateral habitus. Scale lines = 2.0 mm.