

<http://dx.doi.org/10.11164/zootaxa.3760.3.1>  
<http://zoobank.org/urn:lsid:zoobank.org:pub:60ABBA6B-65DC-4DE1-BDF9-C2915C12854E>

## Nomenclatural notes on some checkered beetle (Coleoptera: Cleridae) types of the Natural History Museum, London (BMNH)

JOHN M. LEAVENGOOD, JR.<sup>1</sup> & BEULAH H. GARNER<sup>2</sup>

<sup>1</sup>*University of Kentucky, Department of Entomology, S-225 Agricultural Science Center Building – North, Lexington, KY 40546-0091.*  
E-mail: [tokaytokay@uky.edu](mailto:tokaytokay@uky.edu)

<sup>2</sup>*Natural History Museum, Department of life Sciences, Terrestrial Invertebrates Division, Cromwell Road, London, SW7 5BD.*  
E-mail: [b.garner@nhm.ac.uk](mailto:b.garner@nhm.ac.uk)

### Abstract

Lectotypes were designated (and holotypes and paralectotypes recognized) for 44 species of Hydnocerinae, including the type species for *Isolemidia*, *Parmius*, *Paupris*, *Allelidea*, *Blaesiopthalmus* and *Lemidia*, four species of *Enoclerus* (Clerinae), and 14 species of *Cymatodera* (Tillinae). Annotations include comments on additional type material, new type locality, previous (type series) locality, and questionable or mysterious types. *Phyllobaenus pallipes* (Gorham) and *P. rufithorax* (Gorham) are synonymized with *P. flavifemoratus* (Gorham), *P. chapini* (Wolcott) is synonymized under *P. lateralis* (Gorham), and *P. villosus* (Schenkling) is synonymized under *P. longus* (LeConte), **new synonymies**. *Phyllobaenus longus* (LeConte) is discovered in New Mexico, **new state record**.

**key words:** Hydnocerinae Biologia-Centrali Americana new synonymy Cleridae type designations

### Introduction

The subfamily Hydnocerinae has historically been in taxonomic disarray. Revisionary works are needed to establish generic limits and to serve as diagnostic tools for distinguishing species. Before this can be done, much type material must be identified and lectotypes designated. During a research trip to the Natural History Museum (London, BMNH) the primary author reviewed the type material for Hydnocerinae, designated lectotypes and recognized paralectotypes for 44 species including the type species of *Isolemidia*, *Parmius*, *Paupris*, *Allelidea*, *Blaesiopthalmus* and *Lemidia*. All species for these genera were assessed, with the exception that for *Lemidia* only specimens of *L. nitens* (Newman) received a type designation. A subsequent visit to the Museum National d’Histoire Naturelle (Paris, MNHN) permitted the recognition of additional paralectotypes from Gorham’s private collection. No type designations were made for syntypes of *Callimerus* species and allied Asian Callimerini (e.g., *Stenocallimerus*) because this group is currently under investigation by other researchers (Gerstmeier *et al.* 2012).

Most of the examined material comprised species of *Phyllobaenus* (including all species of *Hydnocera* that were not assigned to *Wolcottia* or *Isohydnocera*) and *Isolemidia* described by Gorham (1877; 1883–1886). Most species were from the organized labor Biologia Centrali-Americanica (BCA), which includes the most significant contribution to our knowledge of Central American Cleridae to date. In BCA, Gorham (1883–1886) described many species and commented on previously described taxa as well. Of the BCA material, all 44 species of Hydnocerinae received type designations (either Lectotype designation or Holotype recognition), as well as four species of *Enoclerus* and all fourteen species of *Cymatodera* (upon request by a fellow cleridologist).

All members of *Hydnocera* (excluding species later assigned to *Wolcottia* or *Isohydnocera*) are recognized as *Phyllobaenus*. Wolcott (1944) explained the status of *Hydnocera* (a junior synonym, in part, of *Phyllobaenus*) in great detail. The incorrect placement of various species created some confusion since *Phyllobaenus* has bifid tarsal unguis, whereas *Isohydnocera* has simple tarsal unguis; many species assigned to each genus based on habitus-based gestalt defy this rule (Leavengood *et al.* 2012). Despite its utilization in several faunal keys (Dillon and

## Acknowledgments

We thank the Systematics, Evolution and Biodiversity division of the Entomological Society of America and the Museum of Comparative Zoology (Harvard University) for the SysEB Student Travel Award and Ernst Mayr Award, respectively, which facilitated the senior author's trip to the BMNH. The University of Kentucky Graduate School made possible the MNHN trip with the Dissertation Enhancement Award. Our appreciation extends to Mike Thomas (FSCA) for providing guidance with the Ernst Mayr Award, Maxwell Barclay (BMNH) for a glowing letter of recommendation and early reviews of this manuscript, Nathan Lord (UNMA) and Roger Booth (BMNH) for technical advice regarding type designations, Antoine Mantilleri (MNHN) for interpretation/translation of specimen labels, and Yang Ganyan (Chinese Academy of Sciences, Beijing) for assistance in identifying Gorham's and past curators' handwriting. We also thank Vladimir Blagoderov (manager of the Sackler Biological Imaging Lab, BMNH) for orienting the senior author with the imaging equipment and software.

## References

- Blackburn, T. (1891) Further notes on Australian Coleoptera, with descriptions of new genera and species. Part X. *Transactions of the Royal Society of Southern Australia*, 14 (2), 292–345.
- Corporaal, J.B. (1950) *Cleridae. Coleopterorum Catalogus*, Supplementa pars 23, Uitgeverij Dr. W. Junk's–Gravenhage, 1–373.
- Dillon, E.S. & Dillon, L.S. (1972) *A manual of common beetles of eastern North America. Vol. I*. Dover Publications, Inc., New York, NY. 434 pp.
- Döbler, H. (1982) Katalog der in den Sammlungen der Abteilung Taxonomie der Insekten des Institutes für Pflanzenschutzforschung, Bereich Eberswalde (ehemals Deutsches Entomologisches Institut), aufbewahrten Typen - XX. *Beiträge Entomologische*, 32 (2), 393–435.  
<http://dx.doi.org/10.1002/mmnd.19880350423>
- Downie, N.M. & Arnett, Jr. R.H. (1993) *The beetles of northeastern North America. Volume II*. Sandhill Crane Press, Gainesville, Florida, 831 pp.
- Dybas, H.S. (1951) Albert Burke Wolcott, 1869–1950. *The Coleopterists' Bulletin*, 5 (3), 33–38.
- Ekis, G. (1975) Taxonomic and nomenclatural status of clerid taxa described by Massimiliano Spinola (1780–1857) (Coleoptera: Cleridae). *Bollettino dell Museo di Zoologia dell' Universita di Torino*, 1, 1–80.
- Gerstmeier, R., Yang, G. & Leavengood, Jr. J.M. (2012) *Callimerus* of the Himalaya (Insecta: Coleoptera: Cleridae: Hydnocerinae). In: Hartmann, M. & Weipert, J. (Hrsg.), *Biodiversität und Naturausstattung im Himalaya IV*. Verein der Freunde und Förderer des Naturkundemuseums Erfurt e.V., Erfurt, pp. 391–398.
- Gorham, H.S. (1877) Descriptions of new species of Cleridae. *Transactions of the Royal Entomological Society of London*, 18 (3), 245–263.  
<http://dx.doi.org/10.1111/j.1365–2311.1877.tb02914.x>
- Gorham, H.S. (1882–1883) Insecta, Coleoptera, Cleridae. *Biologia Centrali–Americana* 3 (2), 113–168 (1882), 169–224 (1883).
- Gunter, N.L., Leavengood, Jr., J.M., Bartlett, J.S., Chapman, E.G. & Cameron, S.L. (2013) A molecular phylogeny of the checkered beetles and a description of Epiclininae subfam. nov. (Coleoptera: Cleroidea: Cleridae). *Systematic Entomology*, 38 (3), 626–636.  
<http://dx.doi.org/10.1111/syen.12019>
- International Commission of Zoological Nomenclature [ICZN] (1999) *International code of zoological nomenclature [the Code]*. Fourth edition. The International Trust for Zoological Nomenclature, c/o Natural History Museum, London, 306 pp. [Online version. Available from: <http://www.iczn.org/iczn/index.jsp> (accessed 11 December 2012)]
- Knull, J.N. (1951) The checkered beetles of Ohio (Coleoptera: Cleridae). *Ohio Biological Survey Bulletin*, 8 (42), 268–350.
- Kolibáč, J. (1998) Classification of the subfamily Hydnocerinae Spinola, 1844 (Coleoptera: Cleridae). *Acta Musei Moraviae Scientiae Biologicae*, 83, 127–210.
- Leavengood, Jr., J.M. (2008) *The checkered beetles (Coleoptera: Cleridae) of Florida*. Thesis M.S., University of Florida, 206 pp. Available from: [http://etd.fcla.edu/UF/ufe0023794/leavengood\\_j.pdf](http://etd.fcla.edu/UF/ufe0023794/leavengood_j.pdf) (accessed 11 December 2012)
- Leavengood, Jr. J.M. (2010) Superfamily Cleroidea, Chapter IV: Where do they live? In: Barrett Viedma, J. (Ed.), *Methods for Catching Beetles*, Collection Naturalia Scientific Editions, Montevideo, Asunción, Uruguay, pp. 205–210.
- Leavengood, Jr., J.M., Gemmill, R.M., Raber, B. & Quinn, M. (2012) Notes on the identification, distribution and natural history of *Phyllobaenus corticinus* (Gorham, 1883) (Coleoptera: Cleridae: Hydnocerinae) including the first report from the United States. *Coleopterists Bulletin*, 66 (4), 351–356.  
<http://dx.doi.org/10.1649/072.066.0410>

- LeConte, J.L. (1884) Short studies of North American Coleoptera (No. 2). *Transactions of the American Entomological Society*, 12, 1–32.  
<http://dx.doi.org/10.2307/25076447>
- Newman, E. (1838) Entomological notes. *Entomological Magazine*, 56, 168–181, 372–402, 483–500.
- Newman, E. (1840) Descriptions of some new species of coleopterous insects. *Annals and Magazine of Natural History*, 4, 362–368.
- Newman, E. (1841) Entomological notes. *The Entomologist*, (1), 3, 33–37.
- Newman, E. (1842) List of insects collected at Port Philip, New South Wales, by Edmund Thomas Higgins, Esq. *The Entomologist*, 23, 361–369, 401–405.
- Opitz, W. (2002) Family 73. Cleridae. In: Arnett, Jr. R.H., Thomas, M.C., Skelley, P.E. & Frank, J.H. (Eds.), *American Beetles*. Vol. 2. CRC Press, Boca Raton, Florida, pp. 267–280.
- Opitz, W. (2010) Classification, natural history, phylogeny and subfamily composition of the Cleridae and generic content of the subfamilies. *Entomologica Basiliensis et Collectionis Frey*, 32, 31–128.
- Pascoe, F.P. (1860) On some new or little-known genera and species of Coleoptera. *Journal of Entomology*, 1, 44–64.  
<http://dx.doi.org/10.5962/bhl.title.24970>
- Say, T. (1825) Descriptions of new species of coleopterous insects inhabiting the United States. *Journal of the Academy of Natural Sciences of Philadelphia*, 5, 160–204.
- Schenkling, S. (1907) Neue Cleriden von Zentral-Amerika nebst Bemerkungen über die Beziehungen der mittel-amerikanischen Cleriden zu denen des übrigen Amerika. *Deutsche Entomologische Zeitschrift*, 1907, 297–307.  
<http://dx.doi.org/10.1002/mmnd.48019070313>
- Schenkling, S. (1908) Die Cleriden des Deutschen Entomol. National-Museums. (Coleoptera). Nachtrag III. *Deutsche Entomologische Zeitschrift*, 1908, 701–707.  
<http://dx.doi.org/10.1002/mmnd.48019080606>
- Sharp, D. (1877) Descriptions of some new species, and indications of new genera of Coleoptera from New Zealand. *The Entomologist's Monthly Magazine*, 13–14, 265–276.
- Spinola, M.M. (1841) Monographie des Terediles. Tableau synoptique des Clairons. *Revue Zoologique pat la Société Cuvierienne*, 4, 70–76.
- Spinola, M.M. (1844) *Essai monographique sur les Clérites Insectes Coléoptères*. Imprimerie des frères Ponthenier, Genes, Tomes 1 and 2, 602 pp.
- Waterhouse, G.R. (1839) Descriptions of some new species of exotic insects. *Transactions of the Entomological Society of London*, 2 (3) First Series, 188–196.  
<http://dx.doi.org/10.1111/j.1365-2311.1836.tb00323.x>
- Westcott, R.L. & Merickel, F.W. (2011) In memoriam. William Frederick Barr (1920–2011). *The Coleopterists' Bulletin*, 66 (2), 100–104.  
<http://dx.doi.org/10.1649/072.066.0201>
- Wolcott, A.B. (1910) Notes on some Cleridae of Middle and North America, with descriptions of new species. *Field Museum of Natural History Publications, Zoological Series*, 7 (10), 339–401.
- Wolcott, A.B. (1927) A review of the Cleridae of Costa Rica. *Coleopterological Contributions*, 1 (10), 1–104.
- Wolcott, A.B. (1944) A generic review of the subfamily Phyllobaeninae. *Journal of the New York Entomological Society*, 52, 121–152.