

Nomenclatural changes for selected Mordellidae (Coleoptera) in North America

John A. Jackman

Department of Entomology
Texas A&M University
College Station, Texas, 77843-2475, USA

and

Wenhua Lu

The Conservation Agency
6 Swinburne Street
Jamestown, RI 02835, USA

Abstract. New nomenclatural changes are presented for selected North American mordellid beetles (Coleoptera: Mordellidae). The following five genera are newly recorded from the United States: *Mordellaria* Ermisch 1950, *Falsomordellistena* Ermisch 1941, *Mordellina* Schilsky 1908, *Mordellochroa* Emery 1876, and *Pseudotolida* Ermisch 1950. The following species are transferred from *Tomoxia* and represent new combinations: *Mordellaria borealis* (LeConte 1862), *Mordellaria fascifera* (LeConte 1878), *Mordellaria latipalpis* (Ray 1946), *Mordellaria serval* (Say 1835), and *Mordellaria undulata* (Melsheimer 1845). The following species are transferred from *Mordellistena* and represent new combinations: *Falsomordellistena hebraica* (LeConte 1862) and *Falsomordellistena pubescens* (Fabricius 1798); *Mordellina blatchleyi* (Liljeblad 1945), *Mordellina pilosella* (Ray 1947), *Mordellina pustulata* (Melsheimer 1845), *Mordellina ustulata* (LeConte 1862), and *Mordellina wickhami* (Liljeblad 1945); *Mordellochroa scapularis* (Say 1824); *Pseudotolida arida* (LeConte 1862), *Pseudotolida knausi* (Liljeblad 1945), and *Pseudotolida lutea* (Melsheimer 1845). *Mordellina ustulata* (LeConte 1862) represents a return to species rank after being treated as a subspecies of *Mordellistena andreae* LeConte 1862. There are a total of 17 genera of Mordellidae in America north of Mexico.

Introduction

The latest revision of the Mordellidae in North America was published by Liljeblad (1945). The latest catalog of North American mordellids was completed by Bright (1986) and was subsequently updated by Jackman (1991) resulting in 12 genera recognized in North America north of Mexico. Jackman (1991) suggested that some of the North American species have not been correctly assigned to genera as European and Oriental authorities understand them. Consequently, we continue to investigate the generic placement of North American mordellids.

Although various authors have added to the work, Franciscolo (1957) prepared the most comprehensive study for the world genera. In this paper we propose nomenclatural changes that are justified based on our current understanding of the genera. The characters used in the key by Franciscolo (1957, 1965, 1967) provide the basis for the nomenclatural changes. We transfer five species from *Tomoxia* to *Mordellaria*. From *Mordellistena*,

we transfer two species to *Falsomordellistena*, five species to *Mordellina*, one species to *Mordellochroa*, and three to *Pseudotolida*. Our work increases the number of genera in America north of Mexico from 12 to 17 total. Further study will likely justify additional nomenclatural reassignments.

Mordellaria Ermisch 1950

Mordellaria contains about 14 species in Africa, Japan, Chile, Taiwan, and now North America. No worldwide key to species is available. Takakuwa (1985) provided a key to species in Japan and Taiwan. The keys to species by Liljeblad (1945) and Ray (1946) will separate species in North America even though these species are treated in *Tomoxia*.

Mordellaria has the scutellum triangular or more or less rounded at the apex. Male genitalia of the genus (e.g., Lu et al. 1997) are very different from those of *Tomoxia* redefined by Franciscolo (1982). These characters separate it from *Tomoxia*, which has the scutellum quadrilateral or trapezoidal. Based on these characters, five North Ameri-

can species are here transferred from *Tomoxia*: *Mordellaria borealis* (LeConte 1862); *Mordellaria fascifera* (LeConte 1878); *Mordellaria latipalpis* (Ray 1946); *Mordellaria serval* (Say 1835); and *Mordellaria undulata* (Melsheimer 1845), [NEW COMBINATIONS].

***Falsomordellistena* Ermisch 1941**

Falsomordellistena contains about 25 species and is found primarily in Japan, Taiwan, China, and now North America. Hatayama (1985) provided a key to species in Japan and Taiwan.

Falsomordellistena has the penultimate tarsomeres of the fore and middle legs emarginate, more or less bilobed, and usually dilated; the apical palpomere of the maxilla is securiform or scalene in both sexes; the eyes are small, oval shaped, and sometimes slightly emarginate behind the antenna; eye facets are fine. Based on these characters, two North American species are here transferred from *Mordellistena*: *Falsomordellistena hebraica* (LeConte 1862); and *Falsomordellistena pubescens* (Fabricius 1798), [NEW COMBINATIONS]. Both of the North American species have the elytra patterned.

***Mordellina* Schilsky 1908**

This genus contains about 45 species found in Europe, Africa, China, Japan, Taiwan, and now North America. Ermisch (1968) and Franciscolo (1967) provided keys to African species. Hatayama (1985) provided a key to species in Japan and Taiwan. Batten (1976) provided a key to the species in the Netherlands.

Mordellina has the penultimate tarsomeres of the fore and middle legs transversely truncate at the apex, or very moderately emarginate, neither dilated nor bilobed; the apical palpomere of the maxilla is securiform, scalene, or cultriform, with sharp or sometimes rounded angles in both sexes; the eyes are large, shape unusually broad, emarginate behind the antenna; eye facets are coarse, and never smaller than 0.022 mm in diameter. Based on these characters, five North American species are here transferred from *Mordellistena*: *Mordellina blatchleyi* (Liljeblad 1945); *Mordellina pilosella* (Ray 1947); *Mordellina pustulata* (Melsheimer 1845); *Mordellina ustulata* (LeConte 1862); and *Mordellina wickhami* (Liljeblad 1945), [NEW COMBINATIONS]. This restores species rank to

M. ustulata, which has been treated as a subspecies of *Mordellistena andreae* LeConte 1862 (Liljeblad 1945).

***Mordellochroa* Emery 1876**

Mordellochroa has at least six species worldwide and is found in Japan, Mongolia, Poland, Hungary, and probably Russia. Batten (1977) provided a key to the Palearctic species, Kaszab (1979) and Horák (1993) provided keys for the species in Hungary, and Borowiec (1996) provided a key to species in Poland.

Mordellochroa has the penultimate tarsomeres of the fore and middle legs transversely truncate at the apex, or very moderately emarginate, neither dilated nor bilobed; the apical palpomere of the maxilla is malleiform in males and securiform or scalene in the females. Based on these characters, one species is here transferred from *Mordellistena*: *Mordellochroa scapularis* (Say 1824), [NEW COMBINATION]. This species has black elytra with humeral spots reddish to yellow and the lateral ridges on the hind tibia quite short.

***Pseudotolida* Ermisch 1950**

Pseudotolida has fewer than 10 species in Japan, China, Taiwan, Guatemala, and Brazil. Franciscolo (1982) provided a key to some species. Shiyake (1995, 1997) compared the genus to other related genera.

Pseudotolida has the penultimate tarsomeres of the fore and middle legs deeply emarginate, more or less bilobed and usually strongly dilated; the apical palpomere of the maxilla is malleiform in males and securiform in females. Based on these characters, three North American species are here transferred from *Mordellistena*: *Pseudotolida arida* (LeConte 1862); *Pseudotolida knausi* (Liljeblad 1945); and *Pseudotolida lutea* (Melsheimer 1845), [NEW COMBINATIONS].

Acknowledgments

We thank Jan Horák for pointing out that *Mordellistena scapularis* (Say) belongs in *Mordellochroa*.

Bibliography

- Batten, R.** 1976. De Nederlandse soorten van de keverfamilie Mordellidae. Zoologische Bijdragen, 19: 3-37.

- Batten, R.** 1977. *Mordellochroa* species of the Western Palaearctic region (Coleoptera, Mordellidae). *Entomologische Berichten*, 37: 21-26.
- Borowiec, L.** 1996. Mordellidae. *Miastkowate* (Insecta: Coleoptera). *Fauna Polski*, Tom 18, 189 pp. Polska Akademia Nauk, Muzeum I Instytut Zoologii, Warszawa.
- Bright, D. E.** 1986. A catalog of the Coleoptera of America North of Mexico, Family: Mordellidae. USDA, ARS, Agriculture Handbook 529-125, 22 pp.
- Emery, M. C.** 1876. Essai monographique sur les Mordellides de L'Europe et des Contrées Limitrophes. *L'Abeille*, 14: 1-128.
- Ermisch, K.** 1941. Tribus Mordellistenini (Col. Mordell.) (8. Beitrag zur Kenntnis der Mordelliden). *Mitteilungen der Münchener Entomologischen Gesellschaft*, 31: 710-726.
- Ermisch, K.** 1950. Die Gattungen der Mordelliden der Welt (16. Beitrag zur Kenntnis der Mordelliden). *Entomologische Blätter*, 46: 34-92.
- Ermisch, K.** 1968. Contributions à la connaissance de la faune entomologique de la Côte-D'Ivoire (J. Decelle, 1961-1964). 19. Coleoptera Mordellidae. (55. Beitrag zur Kenntnis der Mordelliden). *Musee Royal de L-Afrique Centrale, Tervuren, Belgique Annales, Serie in-8, Sciences Zoologiques*, 165: 257-287.
- Fabricius, J. C.** 1798. *Supplementum entomologiae systematicae, Hafniae*, 572 pp.
- Franciscolo, M.** 1957. A monograph of the South African genera and species of Mordellidae. Part 1. Morphology, subfamily Ctenidiinae and tribe Stenaliini. *In South African Animal Life, Results of the Lunds University Expedition in 1950-1951*, 4: 207-291.
- Franciscolo, M.** 1965. A monograph of the South African genera and species of Mordellidae. Part 2. Tribe Mordellini. *In South African Animal Life, Results of the Lunds University Expedition in 1950-1951*, 11: 244-458.
- Franciscolo, M.** 1967. A monograph of the South African genera and species of Mordellidae. Part 3. Tribe Mordellistenini. *In South African Animal Life, Results of the Lunds University Expedition in 1950-1951*, 13: 67-203.
- Franciscolo, M.** 1982. Mordellidae (Coleoptera: Heteromera) from Rennell and Bellona Islands (Solomons). *In T. Wolff* (ed.), *The Natural History of Rennell Island, British Solomon Islands*, University of Copenhagen, 8: 49-72.
- Hatayama, T.** 1985. Mordellidae: Tribe Mordellistenini. *In Y. Kurosawa et al.* (eds.), *The Coleoptera of Japan in Color*. Hoikusha, Osaka, 387-397.
- Horák, J.** 1993. Mordellidae, Scaptiidae. *In J. Jelnek* (ed.), *Check-list of Czechoslovak Insects IV (Coleoptera)*. *Seznam eskoslovensk ch brouk. Folia Heyrovskyana, Suppl. I*, 111-112, 115.
- Jackman, J. A.** 1991. Notes on the nomenclature of Mordellidae of America north of Mexico. *Coleopterists Bulletin*, 45(4): 323-330.
- Kaszab, Z.** 1979. Felemás lábfejézes bogarak II. Heteromera II. Mordellidae. *Magyarország Alatlavilaga, Fauna Hungaria, Akadémiai Kiado, Budapest*, 9(2): 1-100.
- Leconte, J. L.** 1862. Synopsis of the Mordellidae of the United States. *Proceedings of the Natural Sciences of Philadelphia*, 14: 43-51.
- Leconte, J. L.** 1878. Additional descriptions of new species, pp. 373-434. *In E. A. Schwarz* (ed.), *The Coleoptera of Florida*. *Proceedings of the American Philosophical Society*, 17: 373-472.
- Liljeblad, E.** 1945. Monograph of the family Mordellidae (Coleoptera) of North America, north of Mexico. *Miscellaneous Publications, Museum of Zoology, University of Michigan*, No. 62, 229 pp.
- Lu, W., J. A. Jackman and P. W. Johnson.** 1997. Male genitalia and phylogenetic relationships in North American Mordellidae (Coleoptera). *Annals of the Entomological Society of America*, 90(6): 742-767.
- Melsheimer, F. E.** 1845. Descriptions of new species of Coleoptera of the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 2: 213-223, 302-318.
- Ray, E.** 1946. Studies on North American Mordellidae, III (Coleoptera). *Pan-Pacific Entomologist*, 22(3): 90-99.
- Ray, E.** 1947. Studies on North American Mordellidae, V (Coleoptera). *Pan-Pacific Entomologist*, 23(3): 121-131.
- Say, T.** 1824. Descriptions of coleopterous insects collected in the late expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under command of Major Long. *Journal of the Academy of Natural Sciences of Philadelphia*, 3(2): 238-282, 298-331, 403-464; 4(1): 83-99.
- Say, T.** 1835. Descriptions of North American coleopterous insects and observations on some already described. *Boston Journal of Natural History*, 1(2): 151-203.

- Schilsky, J.** 1908. XII. Beitrag zur deutschen Käferfauna. Deutsche Entomologische Zeitschrift, 604-608.
- Shiyake, S.** 1995. A taxonomic study on the genus *Tolidopalpus*, with description of a new species (Coleoptera: Mordellidae). Bulletin of the Osaka Museum of Natural History, 49: 11-18.
- Shiyake, S.** 1997. Two new species of the genus *Tolidopalpus* from the Philippines (Coleoptera, Mordellidae). Entomological Review of Japan, 52(1): 51-54.
- Takakuwa, M.** 1985. Mordellidae: Tribe Mordellini. In Y. Kurosawa et al. (eds.), The Coleoptera of Japan in Color. Hoikusha, Osaka: 376-387.