

## Type species designations and other nomenclatural notes on Palaearctic Melolonthinae and Cetoniinae (Coleoptera: Scarabaeoidea: Scarabaeidae)

ALEŠ SMETANA<sup>1</sup> & ANDREW B. T. SMITH<sup>2</sup>

<sup>1</sup>Agriculture and Agri-Food Canada, Biodiversity, Central Experimental Farm, K. W. Neatby Building, Ottawa, ON, K1A 0C6, CANADA, smetanaa@agr.gc.ca

<sup>2</sup>Research Division, Canadian Museum of Nature, P.O. Box 3443, Station D, Ottawa, ON, K1P 6P4, CANADA, asmith@mus-nature.ca

### Abstract

The nomenclatural status and correct spelling of several genus-group and species-group names of Palaearctic scarab beetles are discussed. Type species are designated for the following genus-group names of Palaearctic Melolonthinae: *Brachydema* Fairmaire, 1881 (type species *Brachydema lamberti* Fairmaire, 1884), *Microtrichia* Brenske, 1900 (type species *Phytalus eurytomus* Burmeister, 1855), *Pseudohoplia* Reitter, 1890 (type species *Hoplia gabriellina* Fairmaire, 1887), and *Sparophysa* Burmeister, 1855 (type species *Pachydema bullata* Burmeister, 1855). Type species are designated for the following genus-group names of Palaearctic Cetoniinae: *Melanosa* Mulsant & Rey, 1871 (type species *Cetonia morio* Fabricius, 1781), *Pachnotosia* Reitter, 1891 (type species *Cetonia marmorata* Fabricius, 1792), *Polydomia* Thomson, 1880 (type species *Macronota cervina* Wallace, 1867), *Potosia* Mulsant & Rey, 1871 (type species *Cetonia floricola* Herbst, 1790), and *Tetragonus* Gory & Percheron, 1833 (type species *Agestrata dehaani* Gory & Percheron, 1833). The following genus-group names were determined to be unavailable: “*Microtrogus*” Mikšić, 1965, “*Paramonotropus*” Medvedev, 1951, “*Sinoliocola*” Alexis & Delpont, 1998. Clarifications are made on the nomenclature and correct spelling of several other genus-group and species-group names.

**Key words:** Palaearctic Region, scarab beetles, type species, nomenclature

### Introduction

During the preparations for the upcoming volume 3 of The Catalogue of Palaearctic Coleoptera, several nomenclatural problems in Scarabaeoidea become known. These predominantly have to do with the need for type species designations of genus-group names and incorrect subsequent spellings or unjustified emendations of spellings of names that are in prevailing usage and should now be considered the correct spellings. The

purpose of this paper is to clarify and comment on the nomenclature of several names of Palearctic Melolonthinae and Cetoniinae.

### Type species designations

#### Melolonthinae: Hopliini

***Pseudohoplia* Reitter, 1890.** Reitter (1890: 375) established the new genus *Pseudohoplia* (currently a subgenus of *Hoplia* Illiger, 1803) for two species: *Hoplia campestris* Fairmaire, 1887 and *Hoplia gabriellina* Fairmaire, 1887, without designating the type species. Following Recommendation 69A.10 of the ICZN (1999), *Hoplia gabriellina* Fairmaire, 1887 is hereby designated as the type species of *Pseudohoplia*.

#### Melolonthinae: Pachydemini

***Brachydema* Fairmaire, 1881.** Fairmaire (1881: 86) established the new genus *Brachydema* (currently a junior synonym of *Tanyproctus* Ménétriés, 1832) for “la plupart des espèces syriennes”, without designating the type species. Subsequently, Fairmaire (1884: 177) associated for the first time three species with *Brachydema*: *Brachydema carcelii* Fairmaire, 1884; *Brachydema lamberti* Fairmaire, 1884; and *Brachydema verryi* Fairmaire, 1884. Following Recommendation 69A.10 of the ICZN (1999), *Brachydema lamberti* Fairmaire, 1884 is hereby designated as the type species of *Brachydema*.

***Sparophysa* Burmeister, 1855.** Burmeister (1855: 442) established the new subgenus *Sparophysa* (currently a junior synonym of *Pachydema* Laporte, 1832) for two species: *Pachydema bullata* Burmeister, 1855 and *Pachydema immatura* Burmeister, 1855, without designating the type species. Following Recommendation 69A.10 of the ICZN (1999), *Pachydema bullata* Burmeister, 1855 is hereby designated as the type species of *Sparophysa*.

#### Melolonthinae: Rhizotrogini

***Microtrichia* Brenske, 1900.** Brenske (1900: 341) established a new genus *Microtrichia* (currently a junior synonym of *Sophrops* Fairmaire, 1887). He included four species in the genus: *Holotrichia parva* Brenske, 1892; *Holotrichia singhalensis* Brenske, 1892; *Microtrichia puttalama* Brenske, 1900; and *Phytalus eurystomus* Burmeister, 1855; without designating the type species. One of the originally included species was *Phytalus eurystomus* Burmeister, 1855, which is hereby designated as the type species of *Microtrichia*.

#### Cetoniinae: Cetoniini

***Melanosa* Mulsant & Rey, 1871.** Mulsant and Rey (1871: 431) established *Melanosa* as a subgenus of *Cetonia* Fabricius, 1775 and included *Cetonia morio* Fabricius, 1781 and *Cetonia oblonga* Gory & Percheron, 1833 in it, without designating the type species.

Following Recommendation 69A.10 of the ICZN (1999), *Cetonia morio* Fabricius, 1781, the first species listed, is hereby designated as the type species of *Melanosa*. Having the same type species, *Melanosa* becomes a junior objective synonym of *Netocia* Costa, 1852.

***Pachnotosia* Reitter, 1891.** Reitter (1891: 56) established *Pachnotosia* as a subgenus of *Potosia* Mulsant & Rey, 1871. He included three species: *Cetonia brevitarsis* Lewis, 1879; *Cetonia marmorata* Fabricius, 1792; and *Potosia ganglbaueri* Reitter, 1891; without designating a type species. Following Recommendation 69A.10 of the ICZN (1999), *Cetonia marmorata* Fabricius, 1792, the first species listed, is hereby designated as the type species of *Pachnotosia*. *Pachnotosia* is currently considered to be a junior synonym of *Liocola* Thomson, 1859.

***Polydomia* Thomson, 1880.** Thomson (1880: 278) established a new genus *Polydomia* (currently a junior synonym of *Taeniodera* Burmeister, 1842) and included four species, *Macronota cervina* Wallace, 1867; *Taeniodera cinerea* Burmeister, 1842; *Macrotona clathrata* Gory & Percheron, 1833; and *Macrotona marmorata* Wallace, 1867 in it, without designating the type species. Following Recommendation 69A.10 of the ICZN (1999), *Macronota cervina* Wallace, 1867 is hereby designated as the type species of *Polydomia*.

***Potosia* Mulsant & Rey, 1871.** Mulsant and Rey (1871: 413) established *Potosia* as a subgenus of *Cetonia* Fabricius, 1775. They included *Cetonia affinis* Andersch, 1797; *Cetonia angustata* Germar, 1817; *Cetonia cardui* Gyllenhal, 1817; *Cetonia floricola* Herbst, 1790; *Cetonia marmorata* Fabricius, 1792; and *Scarabaeus speciosissimus* Scopoli, 1786 in it. No type species was validly designated. Some authors, such as Medvedev (1964: 162) and Mikšić (1987: 193), list *Cetonia cuprea* Fabricius, 1775 as the type species of *Potosia*. However, this is incorrect because *Cetonia cuprea* was not originally included in the subgenus. *Cetonia floricola* Herbst, 1790, one of the originally included species, is hereby designated as the type species of *Potosia*. *Cetonia floricola* is a junior synonym of *Potosia metallica metallica* Herbst, 1782.

***Tetragonus* Gory & Percheron, 1833.** Gory and Percheron (1833: 42, 304) established the new genus *Tetragonus* and included three species, *Cetonia chinensis* Fabricius, 1775; *Agestrata dehaani* Gory & Percheron, 1833 (spelled “dehaan”); and *Agestrata splendens* Gory & Percheron, 1833 in it, without designating the type species. Following Recommendation 69A.10 of the ICZN (1999), *Agestrata dehaani* Gory & Percheron, 1833, the first species listed, is hereby designated as the type species of *Tetragonus*. *Tetragonus* is currently considered to be a junior synonym of *Agestrata* Eschscholtz, 1829 and is a junior homonym of *Tetragonus* Geyer, 1832 (Lepidoptera).

## Type species clarification

### Cetoniinae: Cetoniini

***Anthracophora* Burmeister, 1842.** Burmeister (1842: 623) established a new genus

*Anthracophora* and included *Anthracophora rusticola* Burmeister, 1842 and *Cetonia atromaculata* Fabricius, 1792 (currently a junior synonym of *Cetonia crucifera* Olivier, 1789) in it, without designating the type species. Arrow (1910: 109) designated *Anthracophora rusticola* as the type species of *Anthracophora*. This was a valid type species designation, therefore all subsequent type species designations listing *Cetonia crucifera* as the type species of *Anthracophora* are not valid.

Kraatz (1898: 406) established the genus *Poecilophilites* for *Anthracophora rusticola*, which becomes the type species of *Poecilophilites* by monotypy. Having the same type species, *Poecilophilites* becomes a junior objective synonym of *Anthracophora*.

### Synonymy clarifications

#### Melolonthinae: Hopliini

***Euchromoplia* Medvedev, 1952.** Medvedev (1952: 235) erected the subgenus *Euchromoplia* within the genus *Hoplia* and designated *Scarabaeus aureolus* Pallas, 1781 (now *Hoplia aureola*) as the type species. Previously, Miyhara (1941: 2) erected the genus *Victoria* with the type species *Victoria maritomnium* Miyhara, 1941, by monotypy. *Victoria* Miyhara, 1941 is a junior homonym of *Victoria* Warren, 1897 (Lepidoptera) and is therefore permanently invalid. *Victoria maritomnium* is now considered to be a junior synonym of *Hoplia communis* Waterhouse, 1875. Since *Hoplia aureola* and *H. communis* are considered to be in the same subgenus, the valid name for this subgenus is *Euchromoplia* with *Victoria* placed as an invalid synonym.

***Hyperis* Dejean, 1833.** Dejean (1833: 167) erected this genus for a single species: *Hoplia eversmanni* Faldermann, 1832 (the type species by monotypy). *Hoplia eversmanni* is now a junior synonym of *Hoplia paupera* Krynicki, 1832. The name *Hyperis* has not been used as valid in over a century.

Medvedev (1952: 229) established the subgenus *Xenoplia* and designated *Hoplia paupera* Krynicki, 1832 as the type species. Since the type species of *Hyperis* and *Xenoplia* are synonyms, these generic names are also synonyms. Therefore *Hyperis* is a valid subgenus of *Hoplia* Illiger with *Xenoplia* placed as a junior synonym. *Xenoplia* Medvedev, 1952 is also a junior homonym of *Xenoplia* Warren, 1894 (Lepidoptera).

#### Melolonthinae: Rhizotrogini

***Pseudosymmachia* Dalla Torre, 1913.** Fairmaire (1887a: 107) established the new genus *Metabolus* for *Metabolus tumidifrons* Fairmaire, 1887, which is the type species of *Metabolus* by monotypy. Later in the same year, Fairmaire (1887b: 316) included another species; *Metabolus impressifrons* Fairmaire, 1887; in the genus. *Metabolus* Fairmaire is a junior homonym of *Metabolus* Bonaparte, 1854 (Aves). Paulsen and Smith (2003: 254) established *Ablotemus* as a replacement name for *Metabolus* Fairmaire.

Brenske (1892: 151) established the genus *Symmachia* for *Symmachia chinensis*

Brenske, 1892, which is the type species of *Symmachia* by monotypy. *Symmachia* is a junior homonym of *Symmachia* Hübner, 1819 and *Symmachia* Sodovsky, 1837 (both Lepidoptera). Dalla Torre (1913: 224) replaced *Symmachia* Brenske, 1892 with *Pseudosymmachia*, with *Symmachia chinensis* Brenske, 1892 automatically becoming the type species. Moser (1915: 148) synonymized *Symmachia chinensis* with *Metabolus impressifrons*.

Since *Pseudosymmachia impressifrons* and *P. tumidifrons* are considered to be cogenetic, *Pseudosymmachia* is the valid name of the genus with *Metabolus* Fairmaire, 1887, *Symmachia* Brenske, 1892, and *Ablotemus* Paulsen & Smith, 2003 as invalid synonyms.

### Unavailable genus-group names

#### Melolonthinae: Rhizotrogini

***Microtrogus*.** Mikšić (1965: 46) attempted to establish *Microtrogus* as a new subgenus of the genus *Miltotrogus* Reitter, 1902. He included in it *Melolontha pilicollis* Gyllenhal, 1817 and *Rhizotrogus fallax* Marseul, 1879, without designating the type species. Since no type species was designated in the original publication, this name is unavailable and must not be used.

***Paramonotropus*.** Medvedev (1951: 499) attempted to establish the genus *Paramonotropus* for two species: *Monotropus staudingeri* Schaufuss, 1861 and *Rhizotrogus laticollis* Pérez-Arcas, 1874, without designating the type species. Since no type species was designated in the original publication, this name is unavailable and must not be used. The species that Medvedev considered to be in *Paramonotropus* were subsequently placed in the genus *Monotropus* Erichson, 1848.

#### Cetoniinae: Cetoniini

***Sinoliocola*.** Alexis and Delpont (1998: 165) attempted to establish the genus *Sinoliocola* for four species: *Cetonia brevitarsis* Lewis, 1879; *Cetonia cathaica* Bates, 1890; *Cetonia speculifera* Swartz, 1817; and *Protaetia himalayana* Mikšić, 1987; without designating the type species. Since no type species was designated in the original publication, this name is unavailable and must not be used.

### Spelling

In the following cases, unjustified emendations (Article 33.2.3) in prevailing use should be deemed justified emendations (Article 33.2.3.1):

**Cetoniinae**

## Original spelling

*Agestrata dehaan* Gory & Percheron, 1833: 1304  
*Cetonia aupick* Gory & Percheron, 1833: 232  
*Cetonia dalman* Gory & Percheron, 1833: 195  
*Cetonia doguerau* Gory & Percheron, 1833: 230  
*Cetonia godet* Gory & Percheron, 1833: 229  
*Cetonia jousselein* Gory & Percheron, 1833: 56  
*Cetonia macleaai* Kirby, 1819: 408  
*Cetonia savigny* Gory & Percheron, 1833: 56  
*Goliathus melly* Gory & Percheron, 1833: 195

## Justified emendation

*Agestrata dehaani*  
*Cetonia aupicki*  
*Cetonia dalmani*  
*Cetonia dogueraui*  
*Cetonia godeti*  
*Cetonia jousselini*  
*Cetonia macleayi*  
*Cetonia savignyi*  
*Goliathus mellyi*

In the following cases, incorrect subsequent spellings (Article 33.3) that are in prevailing use should be deemed to be the correct original spelling (Article 33.3.1):

## Original spelling

*Dicranocephalus* Hope, 1831: 24  
*Thamnastopeos* Kraatz in Brenske, 1883: 28

## Correct original spelling to be used

*Dicronocephalus*  
*Thaumastopeus*

**Acknowledgements**

This publication was supported, in part, by an NSF/BS&I grant (DEB-0342189) to A. B. T. Smith and F. C. Ocampo and an NSERC-PDF award to ABTS.

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