



Identities of *Tenebrio* Linnaeus types at Uppsala, and the resulting changes in old darkling beetle names (Insecta: Coleoptera: Tenebrionidae)

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Abstract

In this paper, five names used for darkling beetles (Insecta: Coleoptera: Tenebrionidae) in the Linnaeus collection at the Museum of Zoology, Uppsala University (UUMZ) are evaluated based on specimen examinations, modern species concepts, and review of the original species diagnoses. The types are of species described in *Systema Naturae* (*Tenebrio caraboides* L., 1758, *Tenebrio gibbus* L., 1760, *Tenebrio gigas* L., 1767, and *Tenebrio muricatus* L., 1758) and *Museum Ludovicae Ulrica* (*Tenebrio spinosus* L., 1764). *Tenebrio caraboides* L., 1758, refers to a composite type series consisting of two UUMZ paralectotypes, identified herein as *Pachychila hispanica* Solier, 1835, and *gaditana* Rosenhauer, 1856, and the lectotype in the Linnean Collection, Natural History Museum, London (BMNH), for the ground beetle *Cychnus caraboides* (L. 1758). The three specimens in the De Geer Collection, Swedish Museum of Natural History, Stockholm (NHRS), under *Tenebrio gibbus* L., 1760, are determined as *Psammodes gibbus* (L., 1760), **comb. nov.**; this includes the “lost” type of Linnaeus, whereas the UUMZ Linnaeus specimen is not a type and identified as an undetermined species of *Amnodeis* Miller, 1858, similar to *A. giganteus* Reiche & Saulcy, 1857. The type of *Tenebrio spinosus* L., 1764, represents an Egyptian species, *Akis spinosus* (L., 1764), which has often been misidentified as *Akis trilineata* Herbst, 1799, a West Mediterranean species. The holotype of *Tenebrio muricatus* L., 1758, is *Adesmia muricatus* (L., 1758), **comb. nov.**, a species appearing in recent publications as *Adesmia austera* Baudi di Selve, 1881, **syn. nov.** Two Linnean specimens preserved with the UUMZ types under the unpublished names “*Tenebrio impressus*” and “*Tenebrio variolosus*” are an undetermined species of *Erodius* Fabr., 1775, and *Pimelia fornicata* Herbst, 1799, respectively. *Psammodes gibbus* (L., 1760), **comb. nov.**, is the valid name for *Psammodes striatus* (Fabr., 1775), **syn. nov.**, a South African species. *Pimelia gibba* Fabr., 1787, and *Tenebrio gibbus* Pallas, 1781, are synonyms, making the current combination and attribution for this species name *Moluris gibbus* (Pallas, 1781). *Pimelia simplex* Solier, 1836, is restored as valid, resulting in changes for three subspecies names: *Pimelia simplex simplex* Solier, 1836, **stat. rest.**, *Pimelia simplex oasis* Koch, 1941, **comb. nov.**, and *Pimelia simplex substriata* Koch, 1941, **comb. nov.** Two new synonyms are recognized for *Centorus elongatus* (Herbst 1797): *Calcar variabilis* Gebien, 1906, **syn. nov.** (an unavailable subsequent usage of *Tenebrio variolosus* Fabr., 1801), and *Tenebrio variolosus* Fabr., 1801, **syn. nov.**

Key words: darkling beetles, Linnean types, *Tenebrio*, new combinations, new synonymies, Uppsala University

Introduction

After Linnaeus produced *Systema Naturae* (1758) and *Museum Ludovicae Ulrica Regina* (1764), rare publications by Carl Peter Thunberg (1743–1828), including *Museum Naturalium Academiae upsaliensis* (1787), *Novas Insectorum species* (1791), *Coleoptera Capensia antennis fusiformis* (1821 a), *Opatrum insecti genus* (1821) and *Coleoptera Capensia antennis filiformis* (1827) provided some of the first contributions to our knowledge of Mediterranean and South African insects. They describe darkling beetles collected or obtained by the students of Carl von Linnaeus, namely Thunberg, Peter Försskål (1732–1763, sometimes transcribed “Förskål” (Nordestam, 2007) and Daniel Solander (1733–1782).

The short descriptions, obscurity of these publications, and difficulty in locating type material have been impediments in reaching correct interpretations of the described Mediterranean and South African insect