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Two new species of the genus *Zorochros* (Coleoptera: Elateridae: Negastriinae) from Korea

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Abstract

Two new species of the genus *Zorochros* are described from Korea: *Zorochros* (*Zorochros*) *coreanus* **sp. nov.** and *Z.* (*Z.*) *mansusanensis* **sp. nov.**, belonging to the *Z.* (*Z.*) *alysidotus* species group and *Z.* (*Z.*) *meridionalis* species group, respectively. A key to the Eurasian species for the *Z. alysidotus* group (nine species) and the *Z. meridionalis* group (five species) is provided with illustrations of the two new species and their closely allied species, *Z.* (*Z.*) *mesatiaticus* Dolin and *Z.* (*Z.*) *gurjevae* Dolin from Kazakhstan.

Key words: Elateridae, Negastriinae, *Zorochros* (*Zorochros*) *coreanus* **sp. nov.**, *Zorochros* (*Z.*) *mansusanensis* **sp. nov.**, Korea

Introduction

The genus *Zorochros* Thompson 1859 (type species: *Elater demustoides* Herbst 1806) belonging to the subfamily Negastriinae Nakane et Kishii 1956, comprises 139 species throughout the world, with 82 species in the Palaearctic, 49 species in the Orient, five species in the Nearctic, one species in Australia, and two species in Ethiopia (Arimoto 1987; Cate *et al*. 2002; Dolin 1995, 1996, 1998, 1999, 2002, 2003; Dolin and Atamuradov 1994; Dolin and Agajev 1993; Dolin and Cate 1998; Dolin and Mertlik 2002; Kishii 1976, 1994, 1999; Laibner 2000; Leseigneur 1970, 1972; Mertlik 1998; Ôhira 1970, 1971, 1973, 1977, 1988; Ôhira and Becker 1973, 1974; Platia 1994; Platia and Gudenzi 1998, 1999; Schimmel and Tarnawski 2012; Stibick 1971, 1990; Van Zwaluwenburg 1959).

The name *Zorochrus*, erroneously replaced the name *Zorochros* by Thomson (1864), has been used in subsequent taxonomic studies for a long time. Using of this incorrect subsequent spelling of the genus name was corrected in accordance with the ICZN, art. 33.3 by Schimmel and Tarnawski (2012).

Zorochros can be distinguished from other related genera of Negastriinae; *Negastrius*, *Fleutiauxellus*, *Oedostethus*, *Quasimus*, and *Yukoana* by the presence of large, distinct granules distributed on the anteromedian region of pronotum, double pleurosternal sutures, an inwardly bent prosternal process, and a mesosternum without carination around the mesocoxal cavities (Ôhira 1988). These small beetles typically inhabit sandy and gravelly soils along rivers, streams and banks, and the larvae are both carnivorous and necrophagous (Laibner 2000, Ôhira 1988; Schimmel and Tarnawski 2012).

Taxonomically, the genus has been confused with other genera, such as *Cryptohypnus*, *Hypnoidus*, *Hypolithus*, and *Negastrius*, in previous works. Leseigneur (1970) revised 13 species of European *Zorochros* in comparison with the related genera, and proposed to subdivide the genus into three morphologically distinct species groups. *Zorochros alysidotus* group was determined by lacking carinated ridge on the hind angle of the pronotum; *Z. meridionalis* group by flat pronotum and elytra , similar to Melsheimeri group by Horn (1891), and *Z. crux* group by a convex pronotum and elytra. Stibick (1971), in his framework on the generic classification of the Negastriinae, grouped *Zorochros* with *Madadicus* Stibick 1971, *Proquasimus* Fleutiaux 1932, and *Pronegastrius* Ôhira 1963, based on ‘the presence of rough granules and tubercules on the dorsal surface of pronotum, the carinae of pronotal

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- Pronotum granulate on anterior median part, without median smooth median line 4

4 2nd and 3rd antennomeres subequal (Fig. 2D); granules on surface of pronotum more widely spread near anterior margin, forming a triangular granulate area (Fig. 3H); prosternum with minute granules on the anteromedian part; scutellum convex (Fig. 2D, H) (Turan-Persian subregion: Kazakhstan) ..... *Z.* (*Z.*) *gurjevae* Dolin 1995

- 2nd antennomere 1.2 times longer than 3rd one (Fig. 2C); granules on surface of pronotum densely distributed near anterior margin, forming a longitudinal granulate line (Fig. 3C, G); prosternum with distinctly and widely granules on the anteromedian part; scutellum flat (Fig. 2G) (East Asian subregion: Korea) ..... *Z.* (*Z.*) *mansusanensis* **sp. nov.**

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