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Revision of the Seashore-dwelling Subgenera *Emplenota* Casey and *Triochara* Bernhauer (Coleoptera: Staphylinidae: genus *Aleochara*) from Japan

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Abstract

The Japanese species of the seashore-dwelling subgenera *Emplenota* Casey and *Triochara* Bernhauer of the genus *Aleochara* Gravenhorst are revised. Five species are recognised in *Emplenota*, of which three are described as new species: *Aleochara (Emplenota) segregata* n. sp., *A. (E.) hayamai* n. sp. and *A. (E.) yamato* n. sp. The remaining known species *A. (E.) fucicola* Sharp and *A. (E.) puetzi* (Assing) are redescribed. Three species recognised in *Triochara*, *Aleochara (Triochara) trisulcata* Weise, *A. (T.) zerchei* (Assing) and *A. (T.) nubis* (Assing) are redescribed. All species are keyed. For some species ecological data are reported. The phylogenetic relationships of the Japanese species are discussed, and the distributions of all species are mapped.

Key words: biodiversity, coastal environment, identification key, Palaearctic, redescription, supratidal zones, sympatric species, taxonomy

Introduction

Recent studies have revealed the worldwide coastal staphylinid diversity (Moore & Legner, 1976; Hammond, 2000; Frank & Ahn, 2011), and the subfamily Aleocharinae is represented by 187 species throughout the world, representing the largest number of coastal staphylinid beetles (Frank & Ahn, 2011). The genus *Aleochara* Gravenhorst, 1802 is represented by 16 coastal species belonging to four subgenera (Frank & Ahn, 2011).

Aleochara comprises more than 450 species, and is distributed worldwide, except for Antarctica (e.g., Bernhauer & Scheerpeltz, 1926; Klimaszewski, 1984; Maus *et al.*, 2001). Most species are found near fly-infested habitats such as carrion, animal droppings, or decaying plant material. Most *Aleochara* species are characterised by unusual life histories, i. e., the parasitoid larvae use cyclorrhapheous fly puparia as hosts. Thus, they act as important natural enemies of many dipteran species (e.g., Klimaszewski, 1984; Klimaszewski & Jansen, 1993; Maus *et al.*, 2001). Because of their importance in biological control, quite a few studies have been conducted on some species to clarify their biology (Maus *et al.*, 2001). There are, however, several issues still remaining to be solved with regard to the taxonomy, systematics, phylogeny and life history of *Aleochara*. Numerous unpublished synonyms, lack of adequate keys for specific identification, use of superficial, and often useless, external characteristics, and a lack of pictures or illustrations pose major difficulties (Klimaszewski, 1984). Recent studies clarified the fauna of East Asian *Aleochara* partially such as the subgenus *Xenochara* Mulsant & Rey, 1874 in South Korea (Park & Ahn, 2010), the subgenus *Aleochara* Gravenhorst, 1802 in mainland China (Luo & Zhou, 2012), and some littoral subgenera (Assing, 1995; Ahn *et al.*, 2000; Park & Ahn, 2004). In spite of these efforts, the current situation is still far from adequately worked out in Asia. Knowledge of the Japanese *Aleochara* fauna is also incomplete; to date, only 22 species have been recorded (Smetana, 2004; Yamamoto & Maruyama, 2009). Furthermore, many problems remain in the taxonomy of the Japanese *Aleochara*, such as doubtful interpretation of most species due to the absence of modern revisions of type material.