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Original article

A taxonomic review of *Enochrus* Thomson (Coleoptera: Hydrophilidae) in Korea

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ABSTRACT

A taxonomic review of Korean *Enochrus* Thomson is presented. Five species are recognized, one of which, (*Enochrus bicolor* Fabricius) is reported for the first time in Korea. Habitus and scanning electron microscope photographs, a key, and diagnoses of the known species are provided.

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Introduction

The water scavenger beetle genus *Enochrus* Thomson contains 223 described species worldwide (Jia and Short 2013), and 52 species occur in the Palaearctic region (Hansen 2004). Four species have been recorded in Korea (Kim et al 1994; Jung et al 2011) and 20 species in China, nine species in Japan and 10 species in the far east of Russia (Hansen 2004; Jia and Wang 2010).

Members of *Enochrus* are characterized by a combination of the following features: maxillary palpomere 2 curved outward; elytra with sutural stria; mesoventrite with a longitudinal and acute process; meso- and metatarsus with five tarsomeres; meso- and metatarsomere 1 shortest; and metafemur with hydrofuge pubescence on ventral part (Komarek 2003).

In this paper, we report five species in the Korean fauna, one of which (*Enochrus bicolor* Fabricius) is reported for the first time in Korea. Habitus and scanning electron microscope (SEM) photographs, a key, and diagnoses of the species are provided.

Materials and methods

To identify Korean *Enochrus* more reliably, we compared them with type series and voucher specimens in the National History Museum (NHM), London, United Kingdom. The specimens used in this study are deposited in Chungnam National University Insect Collection (CNUIC), Daejeon, Korea and Ehime University Museum (EUMJ), Matsuyama, Japan. Habitus photographs and SEM photographs were prepared based on our former study (Lee and Ahn 2015). The terms of taxonomic characters and measurements of specimens mainly followed Komarek (2004) and Archangelsky et al (2005). Hansen (2004) published a checklist of the genus with detailed synonymies and distributional data, therefore, we focused on the published Korean records for species synonyms to avoid redundancy. Abbreviations of provinces are: CB—Chungcheongbuk-do; CN—Chungcheongnam-do; GB—Gyeongsangbuk-do; GG—Gyeonggi-do; GN—Gyeongsangnam-do; GW—Gangwon-do; JB—Jeollabuk-do; JN—Jeollanam-do; and JJ—Jeju-do.

Systematic accounts

Genus *Enochrus* Thomson, 1859*Enochrus* Thomson, 1859: 18.

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Key to the species of Korean *Enochrus*

1. Apical margin of sternite VII rounded (Figures 1D, 2D, and 3D) ----- 2
 - Apical margin of sternite VII emarginate (Figures 4D and 5D) ----- 4
2. Elytron without longitudinal stria except sutural line ----- 3
 - Elytron with 10 longitudinal striae (Figure 1B) ----- 3
 - *Enochrus (Holcophilydrus) simulans* (Sharp)
3. Body length more than 6.0 mm and convex dorsally -----
 - *Enochrus (Lumetus) bicolor* Fabricius
 - Body length less than 4.0 mm and strongly convex dorsally -----
 - *Enochrus (Lumetus) subsignatus* (Harold)
4. Apical part of maxillary palpomere 4 dark brown. -----
 - *Enochrus (Methydrus) esuriens* (Walker)
 - Maxillary palpomere 4 yellowish brown -----
 - *Enochrus (Methydrus) uniformis* Sharp

Subgenus *Holcophilydrus* Kniž, 1912

Holcophilydrus Kniž, 1912: 168.

***Enochrus (Holcophilydrus) simulans* (Sharp 1873)**
(Figures 1, 6A, and 7A)

Philhydrus simulans Sharp, 1873: 59.

Enochrus (Holcophilydrus) simulans: Kniž, 1924: 201.

Enochrus simulans: Kwon & Suh, 1986: 101; Kim et al, 1994: 135;

Lee, 1995: 15; Kim & Kim, 1996: 126; Hua, 2002: 44; Hansen, 2004:

49; Kim et al, 2004: 116; Park et al, 2008: 252; Cho & Park, 2010: 96.

Enochrus umbratus: Kamiya, 1940: 135; Lee et al, 1992: 57; Kim et al,

1994: 135; Lee, 1994: 19; Hansen, 2004: 46; Cho & Park, 2010: 96.

Enochrus simulans umbratus: Lee et al, 1988: 74; Yoon, 1988: 629.

Diagnosis. Length 4.8–6.0 mm. Body rounded oval; dorsal surface yellowish brown to reddish brown, slightly convex; ventral surface dark brown. Width of frons about 4.0 times as wide as eye. Mentum (Figure 1A) with compact long setae on anterior part.

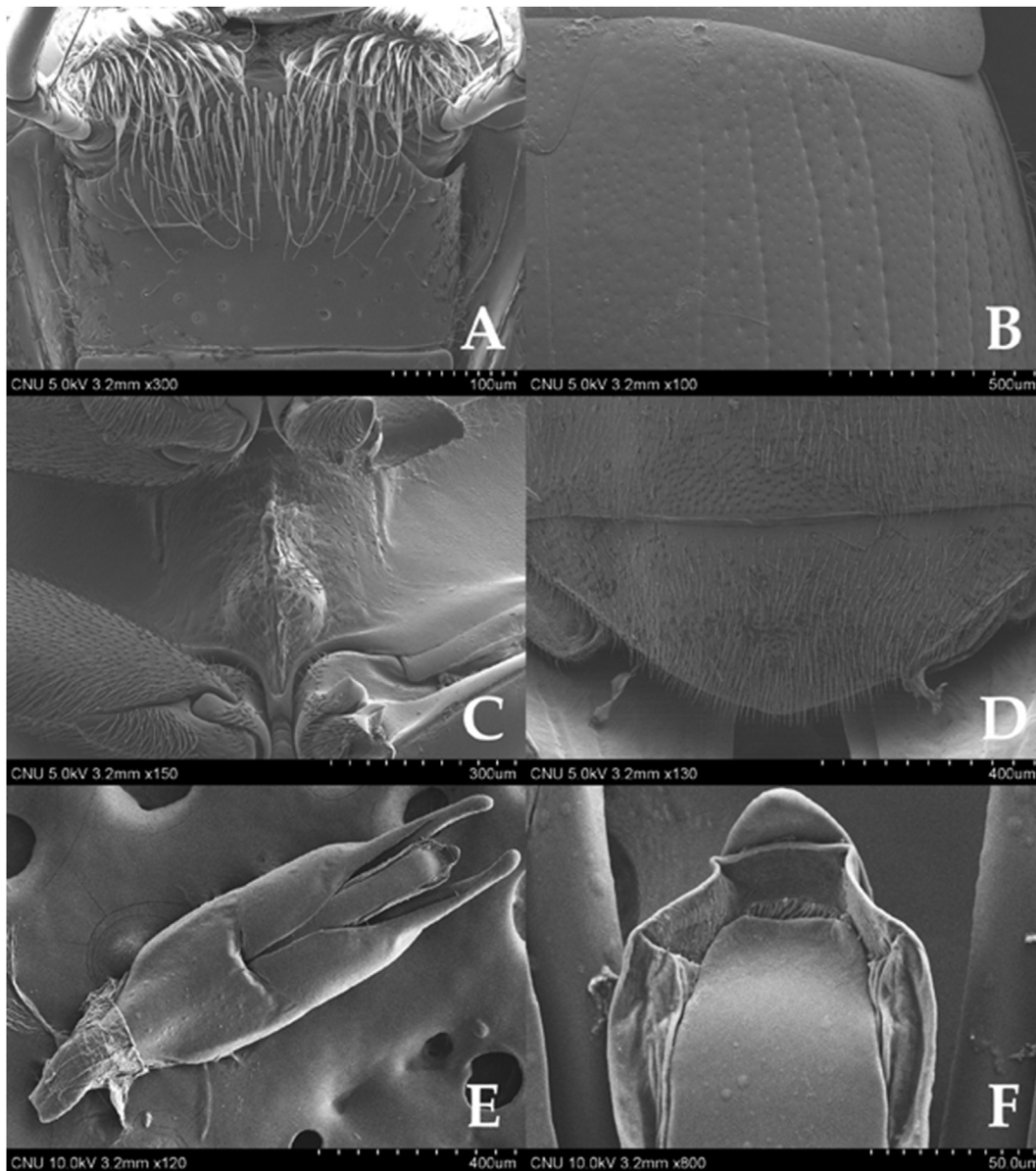


Figure 1. *Enochrus (H.) simulans* (Sharp): A, Mentum (ventral aspect); B, anterior part of elytron (dorsal aspect); C, mesoventral process (ventral aspect); D, apical part of sternite VII (ventral aspect); E, aedeagus (dorsal aspect); F, apical part of aedeagus (dorsal aspect).

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