

Note on *Miridiba castanea* (Waterhouse) (Coleoptera: Scarabaeidae: Melolonthinae) from Jeju Island, Korea.

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Abstract

The genus *Miridiba* Reitter, 1902 is an Asian genus comprising 75 valid species, distributed from the Oriental to the Palearctic region. In Korea, *M. castanea* (Waterhouse, 1875) is the only recorded species in the genus, based on the literature and the examination of three female specimens collected from Jeju Island, the southernmost island of the country. Here, additional sampling records from Jeju Island are reported, along with the first morphological examination of male specimens from Korea. Diagnosis, photographs of morphological characters, and sampling site information are provided.

초록

밤색풍뎅이속(*Miridiba* Reitter, 1902)은 75 종이 속한 아시아 지역의 풍뎅이 속으로 동양구에서 구북구까지 분포한다. 한국에서는 밤색풍뎅이(*M. castanea* (Waterhouse, 1875)) 한 종이 서식하며, 문헌을 통해 기록되어 오다, 2000년대 들어 암컷 표본 세 개체의 표본이 확인되었다. 본 연구는 제주도에서의 본 종의 추가 채집기록을 보고한다. 한국산 수컷 개체의 표본을 처음으로 검경하였으며, 진단형질과 그 사진, 채집지 정보도 함께 제공한다.

Keywords: *Miridiba*, Melolonthinae, Jeju Island, Scarabaeidae.

Introduction

The genus *Miridiba* Reitter, 1902 is a phytophagous chafer in Asian continent, distributed from the Oriental to the Palearctic regions (Coca-Abia, 2008; Gao & Coca-Abia, 2021). As a result of the recent taxonomic revision and the description of the new species, *Miridiba* comprises 75 valid species in nine morphotype groups (Gao & Coca-Abia, 2021; Pham et al. 2022; Wang, 2024). Species of this genus can be distinguished by well-developed posterior frontal carina, pubescent longitudinal carina on protibia, medial tooth on tarsal claw, and branched parameres (Coca-Abia, 2008; Kim, 2011; Gao & Coca-Abia, 2021). In Korea, *M.*

castanea (Waterhouse, 1875) is the only recorded species of the genus, with limited specimen information. Although *M. castanea* was cited as a Korean species in some literature (Stebnicka, 1980; Kobayashi, 1982; ESK & KSAE, 1994), based on 1900's records (Heyden, 1887; Okamoto, 1924; Morita, 1936), no Korean specimens were taxonomically examined, with lack of diagnosis on Korean population. Kim (2011) examined three female specimens from Jeju Island (two from Udo Island and one from Hallim) for the first time and provided a brief diagnosis of the female. In this study, additional sampling records of the male specimens from Jeju Island are reported, together with a diagnosis of the male, photographs of the habitus and morphological characters, and information on the sampling sites.

Materials & Methods

Two male adults were collected from Jeju Island, using light traps in 2024 July (Fig. 1). The specimens were examined under an Olympus SZ51 stereoscopic microscope (Olympus, Tokyo, Japan). Male genitalia were dissected and cleared in 10% KOH for 12 hours. Photographs were taken using a Canon EOS 6D Mark II DSLR camera equipped with an EF 100 mm f/2.8 L macro lens and MP-E 65mm f/2.8 1-5× Macro Photo lens (Canon, Tokyo, Japan). Morphological terms follow Coca-Abia (2008) and Gao & Coca-Abia (2021). All materials are deposited in Lee's private collection (LP: Bucheon, Korea).

Taxonomic Accounts

Family Scarabaeidae Latreille 1802 풍뎅이과

Subfamily Melolonthinae MacLeay, 1819 검정풍뎅이아과

Tribe Melolonthini Leach, 1819 왕풍뎅이족

Subtribe Rhizotrogina Burmeister, 1855

Genus *Miridiba* Reitter, 1902 밤색풍뎅이속

Myribida castanea (Waterhouse, 1875)

밤색풍뎅이 (Fig. 2)

Holotrichia castanea Waterhouse, 1875: 104.

Type locality. Japan (Kawachi).

Diagnosis (male). Body length 19.3–19.8 mm. Dorsum glabrous, reddish brown, with a subtle sheen. Antenna 9-segmented; three segmented club longer than scape. Clypeus anterior margin moderately sinuate at middle. Frontal carina moderately developed. Head and pronotum puncture oval shaped, densely scattered. Pronotum anterior angles acute; long setae sparsely distributed along lateral margins. Elytra surface smooth except for thickened elytral suture, lacking distinct striae. Protibia tridentate, with moderately developed dorsal carina; inner spur inserted midway between second and third outer teeth. Tarsal claws with distinct tooth at

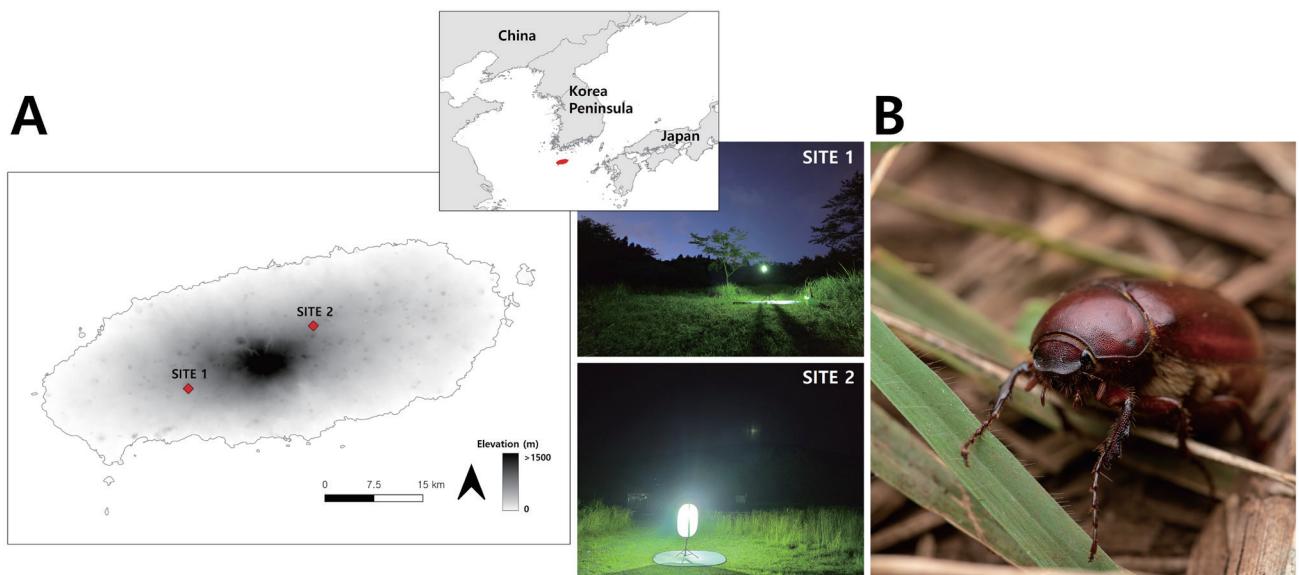


Figure 1. (A) Sampling sites of *Miridiba castanea* on Jeju Island. (B) Male of *M. castanea*, attracted by mercury light trap.

middle. Male genitalia (Fig. 2D–F): Parameres with dorsal branches gently curved; apices of dorsal branches extending beyond those of ventral branches. Ventral surfaces of dorsal branches and dorsal surfaces of ventral branches with sparse granule and short setae.

Materials examined. [LP] 1♂, South Korea, Jeju Island, Jeju-si, Gaeori Parasite Cone (N 33°25'25" E 126°36'27", alt. 646 m), 04.VII.2025, leg. J. Lee; 1♂, South Korea, Jeju Island, Seogwipo-si, Andeok-myeon (N 33°19'13" E 126°24'07", alt. 554 m), 06.VII.2025, leg. J. Lee.

Distribution: Korea (Jeju Island), China (Beijing, Chongqing, Gansu, Liaoning, Shanxi, Sichuan), Japan (Honshu, Kyushu, Shikoku, Goto Islands, Oki Islands).

Habitat. Both sites where the species were collected using light traps feature grassland in the mid-mountain areas (중산간, 中山間) of Jeju Island (Fig. 1A). Although no morphological diagnosis was provided, Yang et al. (2006) also reported collecting this species using pitfall traps in mid-mountain areas (elevation: 250–650 m) near the 5·16 Road, which is consistent with the environment of the present study. Considering habitat information reported by Kobayashi & Matsumoto (2011) and the collecting data of the specimens examined by Kim (2011) (Udo Island and Hallim in Jeju Island), this species appears to be widely distributed in well-preserved grasslands, ranging from lowland coastal areas to mid-mountain areas of Jeju Island.

Remark. This species is common and widely distributed species in Japan and in the temperate regions of China (Gao & Coca-Abia, 2021), whereas the distribution in Korea appears to be restricted to Jeju Island, with only a few reported specimens. Inland records from the Korean Peninsula (Morita, 1936; Kim and Kim, 1971) are considered doubtful, as noted by Kim (2011).

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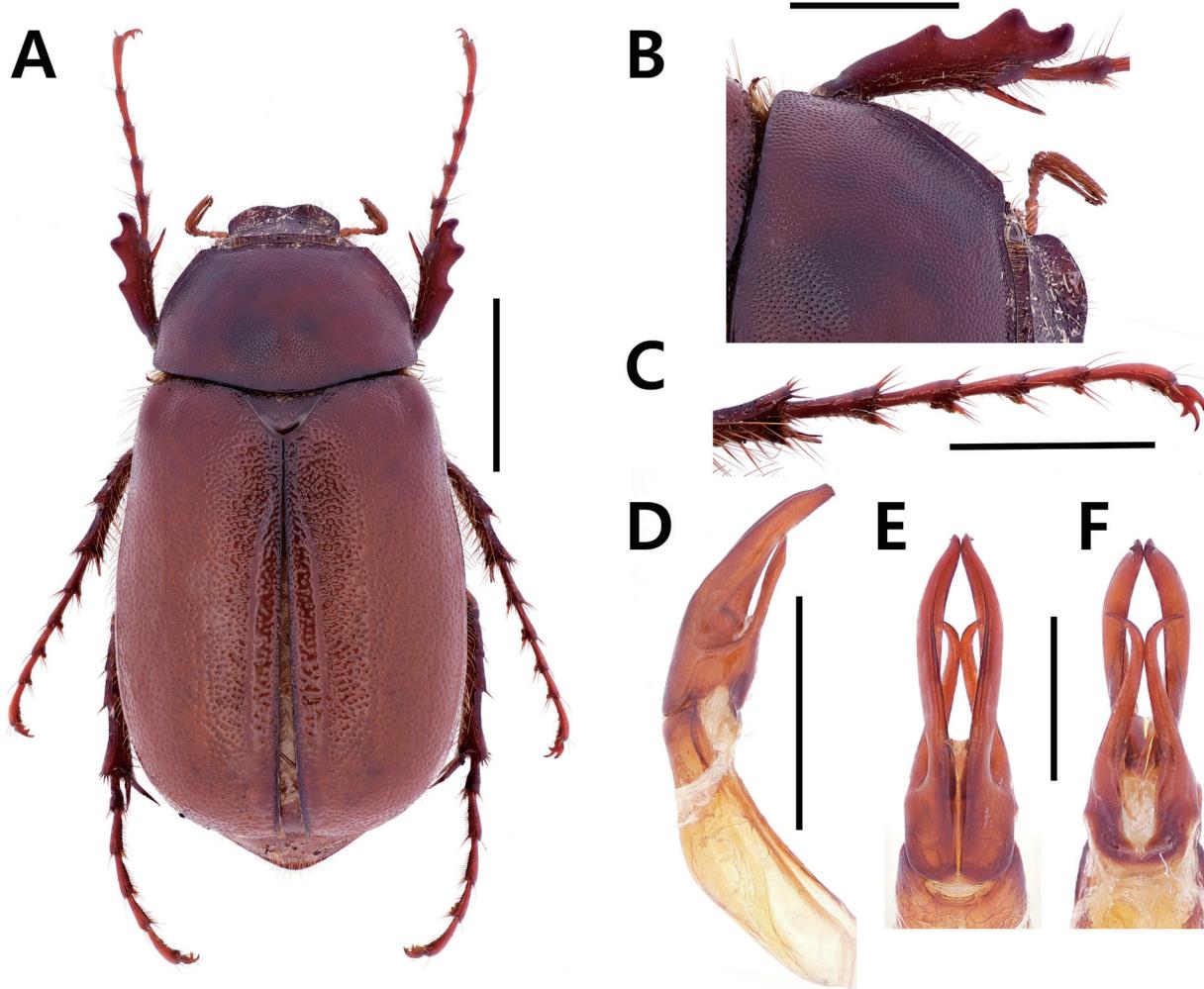


Figure 2. Male of *Miridiba castanea*. (A) Dorsal habitus. (B) Enlarged view of antenna, frontal carina, pronotum, and protibia. (C) Mid leg and tarsal claws. Male genitalia: (D) lateral view; (E) dorsal view; (F) ventral view. Scale bar: 5 mm (A); 2.5 mm (B, C, D); 1 mm (E, F).

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