

[研究文章 Research Article]

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Notes on *Lycocerus Gorham* and *Stenothemus Bourgeois* of Taiwan (Coleoptera: Cantharidae)

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Abstract. Supplementary descriptions and information on the morphology of *Lycocerus yitingi* Hsiao & Okushima, 2016, *Stenothemus gemini* Hsiao, Okushima & Yang, 2016 and *S. mamorui* Okushima & M. Satô, 1999 are provided.

Key words: Soldier beetles, Cantharinae, variation, Asia

Introduction

Cantharidae are a diverse group of soft-bodied and often brightly colored beetles. Presently, 181 species and subspecies of Cantharidae have been documented in Taiwan (Satô *et al.* 2014; Taiwan Catalogue of Life, 2020). In this article, additional morphological information of *Lycocerus yitingi* Hsiao & Okushima, 2016, *Stenothemus gemini* Hsiao, Okushima & Yang, 2016 and *S. mamorui* Okushima & M. Satô, 1999 is given.

Materials and methods

Materials examined in this paper were deposited in the following collections: TARI (Taiwan Agricultural Research Institute, Wufeng, Taichung, Taiwan); TFRI (Taiwan Forestry Research Institute, Zhongzheng, Taipei, Taiwan); YHC (Y. Hsiao's private collection, Taichung, Taiwan). The terminology used in the morphological descriptions and methods used for specimen and figure preparation follows that of Hsiao (2015) and Hsiao *et al.* (2016a).

Results

Subfamily Cantharinae 菊虎亞科

Tribe Cantharini 菊虎族

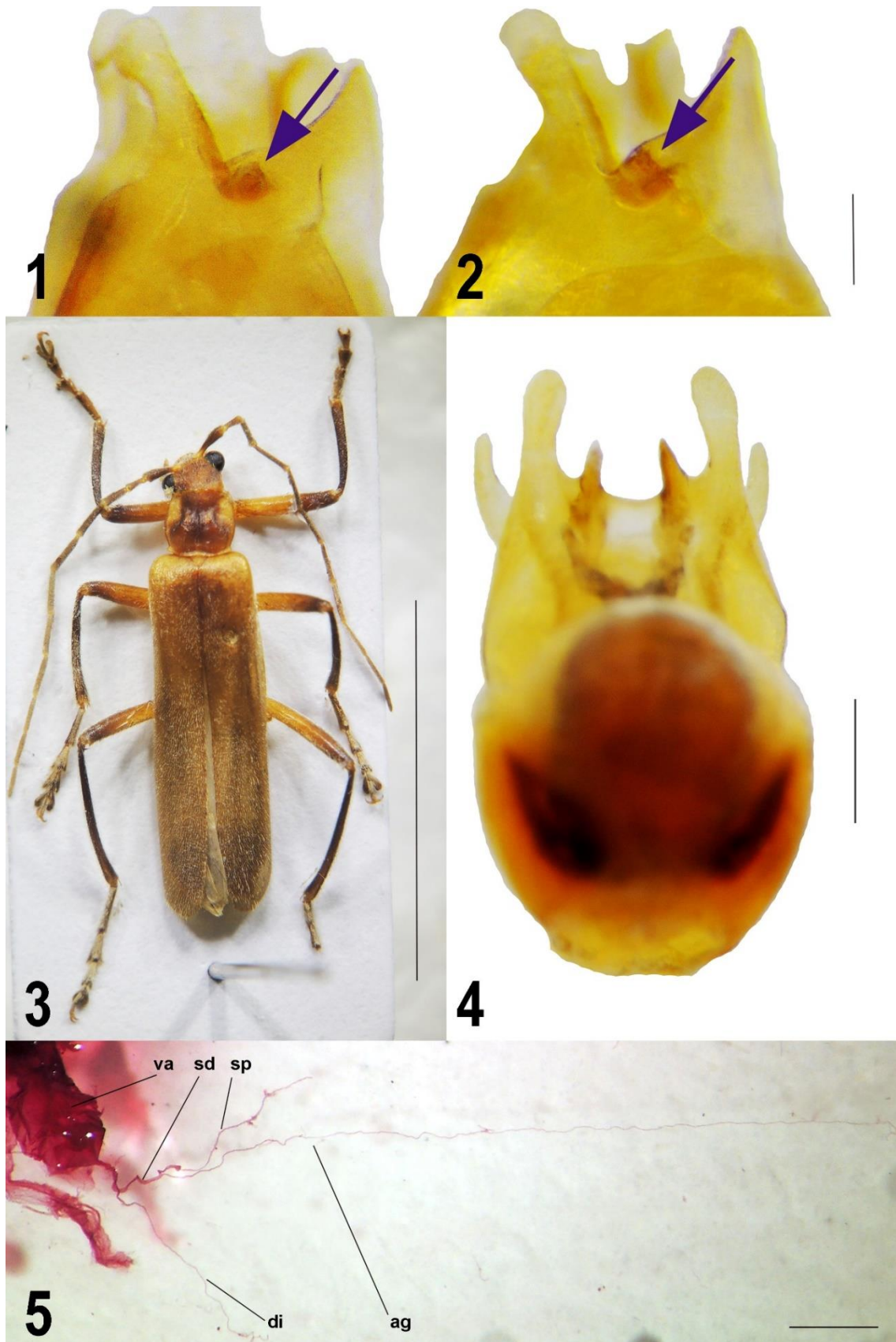
奕霆紋繪異菊虎 *Lycocerus yitingi* Hsiao & Okushima, 2016 (Figs. 1–2)

Lycocerus yitingi Hsiao & Okushima in Hsiao *et al.* 2016: 11.

Material examined. TAIWAN: 2♂♂1♀, Antung, Hualien, 14–17.II.1984, K.-C. Chou & C.-C. Pan leg. (TARI); 1♂, Tahanshan, Pingtung, 17.III.2014., Y.-T. Chung leg. (TARI); 1♂1♀, Tahanshan, Pingtung, 28.II.2018, Y. Hsiao leg. (YHC).

Remarks. Hsiao *et al.* (2016a) examined several specimens, including a single male, whose coloration differed slightly from that of *L. yitingi* type material they had seen; these are listed under 'Other material' in Hsiao *et al.* (2016a, p. 11). These specimens, some of which were also collected from around Hualien and Pingtung, were described as being almost completely orange-yellow, and having only indistinct black areas across the vertex, pronotum, legs, elytral sutures and lateral margins. However, in the absence of additional male specimens, the authors were unsure if these specimens represented a distinct taxon, or were simply color variants of *L. yitingi*. I herein have examined additional male specimens from these localities, and I have confirmed that these specimens are indeed color variants of *L. yitingi*. Furthermore, Hsiao *et al.* (2016a) stated that *L. yitingi* can be separated from its closest congener, *L. pictus* (Wittmer, 1983), by the apically truncated laterophyse (Fig. 1). Nevertheless, one specimen from the type locality was

found to have an apically pointed laterophyse (Fig. 2), which implies that this character cannot be the sole criterion for differentiating these two species.



Figures 1–5. 1–2 - Laterophyses of the aedeagus of *Lycocerus yitingi* Hsiao & Okushima, 2016; 3 - Habitus of *Stenothemus gemini* Hsiao, Okushima & Yang, 2016, dorsal view; 4 - Male genitalia of *S. gemini* Hsiao, Okushima & Yang, 2016, aedeagus in dorsal

view; 5 - Female genitalia of *S. mamorui* Okushima & M. Satô, 1999, scale bars: 1–2 - 0.1 mm; 3 - 5 mm; 4 - 0.5 mm; 5 - 1.0 mm. The abbreviations are as follows: ag—accessory gland; di—diverticulum; sd—spermathecal duct; sp—spermatheca; va—vagina.

雙子狹胸菊虎 *Stenothemus gemini* Hsiao, Okushima & Yang, 2016 (Figs. 3–4)

Stenothemus gemini Hsiao, Okushima & Yang, 2016: 111.

Material examined. TAIWAN: 1♂, Guanwu, Hsinchu, 15.XI.1990, Y.-B. Fan leg. (TFRI);

Remarks. Hsiao *et al.* (2016b) mentioned that this species differs from its closest congeners by its aedeagal dorsal plate, which has thin processes along its inner sides, parallel to each other. However, one specimen from the same county as that of the type locality reveals that these processes can also take a more oblique form, such that their apices converge slightly (Fig. 4). Additionally, this specimen exhibits lighter coloration across the usually dark areas of head and pronotum, representing another color variant within this species (Fig. 3).

棕背狹胸菊虎 *Stenothemus mamorui* Okushima & M. Satô, 1999 (Fig. 5)

Stenothemus mamorui Okushima & M. Satô, 1999: 137.

Remarks. One erratum was present in the female description and illustration of Hsiao *et al.* (2016b). The spermatheca was mislabeled as the accessory gland in figure 38, and thus the proposed diagnostic difference of this character compared with *S. lupus* Hsiao, Okushima & Yang (2016) should be removed. The description of female genitalia is herein corrected and illustrated as follows: spermatheca with a thin and spiral tube, about as long as diverticulum; accessory gland thin, spiralling and very long (Fig. 5).

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臺灣產異菊虎屬和狹胸菊虎短記（鞘翅目：菊虎科）

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摘要: 本篇文章提供奕霆紋繪異菊虎 *Lycocerus yitingi* Hsiao & Okushima, 2016、雙子狹胸菊虎 *Stenothemus gemini* Hsiao, Okushima & Yang, 2016 和棕背狹胸菊虎 *Stenothemus mamorui* Okushima & M. Satô, 1999 之形態學補述和資訊。

關鍵詞: 菊虎、菊虎亞科、變異、亞洲