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Description of two new species of the genus *Stenothemus* from Taiwan (Coleoptera: Cantharidae)

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Abstract

Two new species of the genus *Stenothemus* Bourgeois are described from Taiwan, under the names of *S. seediq* **sp. nov.** and *S. cou* **sp. nov.** Both species are provided with photos of habitus and illustrations of aedeagi, the seventh abdominal ventrites of females, and a distribution map for both the new species is presented. A key for the identification of *Stenothemus* species from Taiwan is given.

Key words: Soldier beetles, taxonomy, new species, key to species, Asia

Introduction

Bourgeois (1907) separated three species from the genus *Themus* Motschulsky to establish *Stenothemus* Bourgeois and designated *Themus harmandi* Bourgeois, 1902 as the type species. The members of *Stenothemus* are characterized by a subquadrate pronotum which is somewhat constricted shortly before the posterior angles, simple claws, and a strongly swollen and globular basal part of laterophyses of the aedeagus. To date, four species of *Stenothemus* have been described from Taiwan, *S. owadai* Okushima & M. Satô, 1997, *S. wittmeri* Okushima & M. Satô, 1999, *S. taiwanus* Okushima & M. Satô, 1997 and *S. mamorui* Okushima & M. Satô, 1999. These species appear mainly in late summer to winter and exhibit obvious phototaxis at night (Okushima & Satô, 1997, 1999; Hsiao & Yang, 2014; Hsiao, 2014).

During my study on the Taiwanese fauna of Cantharidae two unknown *Stenothemus* species were discovered. After a careful examination, they are obviously new to science and will be described in the present paper.

Material and methods

The terminology used in the descriptions followed that of Okushima & Satô (1997). The aedeagi were detached from the body and kept in 20% KOH for several minutes, cleaned in 75% alcohol and observed using an Olympus BX50 compound microscope. After observation, the aedeagi were glued on a separate card on the same pin or beside the specimen or preserved in a Genitalia Vial (products of BioQuip, USA) with glycerol, and pinned underneath the specimen. The female abdomens were removed, and the seventh abdominal ventrites were observed under a cover glass using a Leica M205 C stereomicroscope, and then were glued on a separate card on the same pin. The habitus photos were taken by Canon EOS 5D Mark II digital camera with a Canon EF 100mm f/2.8 USM Macro Lens. Line figures and measurements were prepared by the method of Hsiao & Yang (2014). The specimens were measured when they were fresh or after softened in hot water. The distribution map was prepared using SimpleMappr (Shorthouse, 2010), based on the label data of all the specimens examined.

The type specimens of the new species described in this paper are deposited in the following institutions and private collection: BMNH (Natural History Museum, London, United Kingdom); NCHU (National Chung Hsing University, Taichung, Taiwan); NMNS (National Museum of Natural Science, Taichung, Taiwan); TARI (Taiwan Agricultural Research Institute, Wufeng, Taichung, Taiwan); YHC (author's personal private collection).

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A key to the species of *Stenothemus* from Taiwan

1. Pronotum with distinct dark marking; aedeagus: dorsal plate of each paramere very narrow or with a thin process on the inner side 2
- Pronotum without distinct dark marking; aedeagus: dorsal plate of each paramere long-triangular or curved outwards 4
2. Elytra with irregularly blackish spots; aedeagus: inner side of dorsal plate without process . . . . . *S. wittmeri* Okushima & M. Satô, 1999
- Elytra without any spots; aedeagus: inner side of dorsal plate with a pair of thin processes 3
3. Elytra completely dark brown; aedeagus: the thin processes of dorsal plate touched apically. . . . . *S. mamorui* Okushima & M. Satô, 1999
- Elytra completely yellowish brown; aedeagus: the thin processes of dorsal plate separated . . . . . *S. taiwanus* Okushima & M. Satô, 1997
4. Lateral margins of pronotum distinctly arcuate, especially behind the middle part; elytra without any spots; aedeagus: laterophyses somewhat longer and less curved . . . . . *S. owadai* Okushima & M. Satô, 1997
- Lateral margins of pronotum feebly arcuate; elytra with round black spots; aedeagus: laterophyses somewhat shorter and more curved 5
5. Interocular space slightly wider, ratio of an eye diameter to interocular space 1:3.10 in male, 1:3.80 in female; aedeagus: each dorsal plate curved outwards; posterior margin of the female seventh abdominal ventrite form a middle lobe with obvious twin projections . . . .*S. cou* **sp. nov.**
- Interocular space slightly narrower, ratio of an eye diameter to interocular space 1:2.85 in male, 1:2.90 in female; aedeagus: each dorsal plate long-triangular and not curved; posterior margin of the female seventh ventrite with a pair of horn-like processes in middle. . . . . .*S. seediq* **sp. nov.**

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