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Record of the red blister beetle, *Synhoria maxillosa* (Fabricius, 1801) (Coleoptera: Meloidae) from Ubon Ratchathani Province, Thailand, with a review of literature on the biology and distribution of the beetle

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Hawkeswood, T.J. & Sommung, B. (2018). Record of the red blister beetle, *Synhoria maxillosa* (Fabricius, 1801) (Coleoptera: Meloidae) from Ubon Ratchathani Province, Thailand, with a review of literature on the biology and distribution of the beetle. *Calodema*, 600: 1-4.

Abstract: In this note, we record the red blister beetle, *Synhoria maxillosa* (Fabricius, 1801) (Coleoptera: Meloidae) from the farming district of Ubon Rathchathani (Ubon), Ubon Ratchathani Province, north-eastern Thailand, which appears to be the first record of the species from this Province. Its habitat at Ubon is described. Papers referring to its taxonomy, biology and distribution are reviewed.

Key words: *Synhoria maxillosa*, Coleoptera, Meloidae, new province record, distribution, Thailand.

Introduction

The red blister beetle, *Synhoria maxillosa* (Fabricius, 1801) (Coleoptera: Meloidae) (Figs. 1,2) is a poorly known coleopteran from south-east Asia which also has been recently recorded from Australia for the first time (Bologna *et al.*, 2013). It has been known for over 200 years (Fabricius, 1801; Gahan, 1908) but appears rare and inadequately studied except for the research of Ishida (1982) and Takestuka (1984, 1986) in Japan (cited under another synonym for the species). There are no published studies on its ecology or biology in Thailand and the only reference is the one by Ek-Amnuay (2008) who did not mention the fact that his record appears to be the first for the species from Thailand. Males (about 20-22 mm long) have mandibles which are extremely enlarged and possess a head wider at the temples than at the eyes (e.g. Mohamedsaid, 1982). The larvae of *Synhoria* are known as triungulins (Fig. 4) and they live in the nests of bees (Anthophoridae and Apidae), where they feed on nectar and pollen brought to the nests by the bees (e.g. Gess, 1981; Roubik, 1989; Bologna & Pinto, 2001, 2002). The triungulin of *S. maxillosa* was first described by Cros (1924) from Sumatra (as *Cissites*).

Observations

During the morning of 12 August 2017 [10.43 AM, Thailand time], one of us (BS) observed a single specimen of *S. maxillosa* (Fabricius, 1801) crawling over dead, fallen leaves on the ground in an old rubber plantation [*Hevea brasiliensis* Muell. Arg, Euphorbiaceae] near the city of Ubon Ratchathani (Ubon), Ubon Ratchathani Province, north-eastern Thailand. The rubber plantation was almost devoid of vegetation and only comprised mostly dead fallen leaves from the rubber trees (Fig. 3). The habitat around the rubber plantation comprised mostly of introduced species including fruit trees, weeds and sprinkling of native tree species. There is long established farmland with various crops such as rice (*Oryza sativa* L., Poaceae), guava (*Psidium guajava* L., Myrtaceae), coconut (*Cocos nucifera* L., Arecaceae), banana (*Musa paradisiaca* L., Musaceae), rambutan (*Nephelium lappaceum* L., Sapindaceae), durian (*Durio zibethinus* L., Malvaceae), cassava (*Manihot esculenta* Crantz, Euphorbiaceae).

Discussion

This appears to be the first record of *S. maxillosa* from Ubon Ratchathani, the most eastern province of Thailand. The only other records of the species from Thailand are those by Ek-Amnuay (2008) who recorded the species (cited as *Cissites maxillosa*) from only two Provinces, namely Kamphaeng Saen district (Nakhon Pathom) and Bangkhen district (Bangkok). As noted above these are the first records of the species from Thailand as far as we are aware. Our record from Ubon Ratchathani is over 500 km distance from Ek-Amnuay's records. The species appears

to be widely distributed in nearby Malaysia (Mohamedsaid, 1982); in Kuala Lumpur (16 February 1940), a specimen was discovered dropping from a roof, and somewhere in Sarawak, on 14 April 1963, a specimen was caught flying indoors at night. Adults therefore appear to be active both diurnally and nocturnally.



Fig. 1. Adult of *Synhoria maxillosa* (Fabricius, 1801) crawling on the ground amongst dead leaves and other debris on 17 August 2017 at 10.43 AM (Thailand time), within a dark rubber plantation, *Hevea brasiliensis* Muell. Arg. (Euphorbiaceae) within the farming district near Ubon Ratchathani, Ubon Ratchathani Province, north-eastern Thailand. (Photograph: B. Sommung). **Fig. 2.** Closer view of the same adult beetle resting on a stick within the rubber plantation. (Photograph: B. Sommung).



Fig. 3. View of the rubber plantation near Ubon Ratchathani, Ubon Ratchathani Province, north-eastern Thailand, July 2017. Note cleared understory and deep mat of dead leaves from the rubber trees on the ground, a good habitat for many species of fauna. (Photograph: T.J. Hawkeswood).

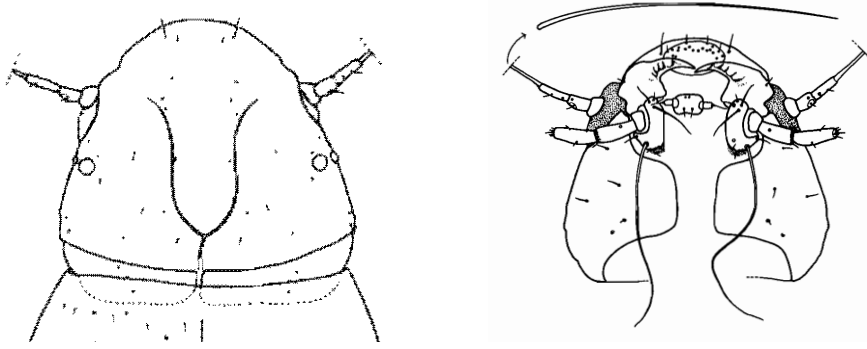


Fig. 4. Left. Dorsal surface of the head of a probable *Synhoria* sp. triungulin larva (from Bologna & Laurenzi, 1994). Right: Ventral surface of the head of a probable *Synhoria* sp. triungulin larva (from Bologna & Laurenzi, 1994).

The beetle was wandering around inside the rubber plantation near where its potential hosts *Xylocopa* bees (Apidae) have been found being predated upon by *Oecophylla smaragdina* ants (Hawkeswood & Sommung, 2017). Triungulin larvae of *S. maxillosa* live inside the nests of *Xylocopa* species (e.g. *X. appendiculata*, *X. aestuans*: Bologna & Laurenzi, 1994 and references therein). It would be interesting to study the triungulin relationship of *S. maxillosa* with *Xylocopa confusa* Pérez, 1901 in Thailand if ever the opportunity arises.

Acknowledgement

We would like to thank an anonymous referee for reviewing the paper before publication.

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Date of publication: 24 January 2018

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(Published as hard paper copy edition as well as electronic pdf)