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A PECULIAR NEW SPECIES OF THE GENUS *ANTINIA* PASCOE (COLEOPTERA: CURCULIONIDAE: ENTIMINAE) FROM MALAYSIAN MOSS FORESTS, WITH NOTES ON THE SYMPATRIC WEEVILS AND BEETLE OF SIMILAR APPEARANCE

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ABSTRACT

A new species of the genus *Antinia* Pascoe is described under the name of *A. viridis* n. sp. from the Cameron Highlands, Pahang, Malaysia. The species found in the highest elevation (alt. 1,500-1,700 m) among congeners so far known, and superficially resembles to other weevils and a longhorn beetle sympatrically occurring in the mountainous moss forest.

Key words: Coleoptera, Curculionidae, *Antinia*, new species, Malaysia, moss forest, camouflage

ABSTRAK

Spesies baru dari genus *Antinia* Pascoe diperihalkan di bawahnama *A. viridis* n. sp. yang berasal dari Cameron Highlands, Pahang, Malaysia. Species ini didapati di ketinggian yang tertinggi (alt. 1,500-1,700 m) di antara pokok-pokok kogener. Kini dikenalpasti secara spesifiknya menyerupai kumbang bubut dan kumbang bertanduk panjang yang berkongsi wujud di kawasan pergunungan hutan lumut.

Kata kunci: Coleoptera, Curculionidae, *Antinia*, spesies baru, Malaysia, hutan lumut, penyamaran

INTRODUCTION

In the mountainous rainforests (more than ca. 1,500 m in altitude) of tropical Asia, trees and shrubs are heavily covered with lichens and mosses, and constitute moss forests. Within such environment, some insects, especially of orthopteroids are known to have cryptic feature as a camouflage to the habitat. Some weevils are also known to have a cryptic camouflage to such special habitat. The New Guinean genus *Gymnophorus* (*Symbiopholus*) is an example famous for the unique cryptic feature covered by cryptogamic plants on the dorsal surface (Gressitt 1966). The Malaysian species of the genus *Pinacopus* is recently reported to have cryptic feature as an adaptation to mossy background (Kojima & Morimoto 2002). Interestingly, the cryptic feature similar to the *Pinacopus* weevil is seen in other weevils as well as a longhorn beetle occurring sympatrically in the Cameron Highlands.

In this paper, we treat one of the weevils probably involving the cryptic camouflage complex. The weevil is assigned to the entimine genus *Antinia* Pascoe though a little strange at first appearance among congeners. *Antinia* belongs to the tribe Dermatodini (Alonso-Zarazaga & Lyal 1999) provided with not functional hind wings, and consists of five species from China (1 sp.), Vietnum (1 sp.), Malaysia (2 spp.) and Java (1 sp.) (Kania and Dabrowska, 1995; Kania & Stojczew, 2001). This is

the third species from Malaysia having affinity with two other Malaysian species, and is discovered from the highest altitude so far known habitats among congeners.

Antinia viridis, sp. nov.
(Figs. 1-15)

Male. Length: 6.5-9.2 mm; width: 2.1-3.0 mm.

Black, with dense scaling sometimes except posterior half of elytral sides almost bare in old individual, scales bicolorous, blackish brown and green metallic; elytra with a faint Y-shaped dark patch behind middle on 1st to 4th intervals (Fig.1). In quite old individual, integument covered with dark thin waxy layer dorsally.

Head (Figs. 3 & 4) with a shallow transverse impression behind eyes and a narrow median sulcus obscure by scaling, and set with curved spatulate erect setae. Rostrum 1.3-1.4 times as long as broad, gradually widening from base to apex; dorsum with an indefinite median costa and a weak longitudinal impression on each side of it. Antennae (Fig. 5) with scape reaching a little before middle of eye; funicle with 1st segment 1.7-1.8 times as long as broad, 2nd segment a little shorter than 1st, 3rd to 7th segments subequal in length.

Prothorax almost as long as broad, gently rounded laterally and widest before middle, a little narrower at apex than at base; dorsum moderately rugose, with a very faint median sulcus, inequalities concealed by scaling, each bearing curved recumbent spatulate seta, which is removed and the elevations are bare and shiny in old individual. Scutellum rounded and scaled. Elytra about 1.7 times as long as broad, broadest before middle, sharply acuminate at apex, which is mostly visible from above, dorsal outline faintly depressed at base and very weakly rising from there to behind middle; striae weak, with elongate separated punctures, which becoming narrower and smaller posteriorly and each with a very thin recumbent seta; intervals weakly convex, equally raised, without tubercles, each with a row of curved recumbent spatulate setae in middle. Legs clothed mostly with

grayish recumbent scale-like setae; tibiae with sharp wide-spaced teeth on lower edge; claws each slightly uneven in length.

Venter with 1st and basal 2nd ventrites depressed in middle, bearing hairs in middle replaced by spatulate setae at sides, 5th ventrite with a broad depression bare of scaling and set with long hairs.

Terminalia as illustrated (Figs. 6-10); aedeagus pointed at apex, with a median keel ventrally, inner sac with a long sclerite weakly bifurcate basally.

Female. Length: 7.8-10.2 mm; width 2.7-3.6 mm. Differs from male in the following points: ventrites flattened without depression and bearing spatulate setae, which are not replaced by hairs. Terminalia as illustrated (Figs. 11-15); bursa copulatrix with a pair of sclerites, each of which is subtriangular in lateral view.

Distribution. Peninsular Malaysia: Pahang (Cameron Highlands).

HOLOTYPE. Male. MALAYSIA: PAHANG, Cameron Highlands, G. Perdah-G. Jasar, 9. iii. 2003, H. Kojima (UKM).

PARATYPES. MALAYSIA: PAHANG, Camreon Highlands, same data as holotype, 3 males and 1 female (UKM & ELKU); G. Jasar, 8. iv. 1976, M. Hata, 1 female (ELKU); G. Jasar, 2. iii. 1989, K. Matsumoto, 1 male (ELKU); G. Jasar, 15-22. iv. 1998, H. Yoshitake, 2 females (ELKU); Tanah Rata-G. Jasar, 28. iii. 2002, H. & M. Kojima, 3 males (ELKU); G. Jasar – G. Perdah. 28. iii. 2002, H. & M. Kojima, 2 males and 2 females (UKM & ELKU); G. Beremban (Trail 7), 12. iii. 2003, H. Kojima, 2 males and 2 females (UKM & ELKU); same locality as holotype, 14. iii. 2003, N. Takahashi, 1 male (ELKU).

ETYMOLOGY. This new species, *viridis*, is named referring to the green body colour of the species; *viridis* is a Latin word meaning green.

REMARKS. This species is related to *Antinia eupleura* Pascoe,

1871 and *A. pendleburyi* Marshall, 1932 known from Penang and Langkawi I., northwestern coast of the Peninsular Malaysia, respectively in sharing with the following features: scutellum distinct; elytra oblong ovate, claws asymmetrical and aedeagus with median keel ventrally. However, present species is easily distinguishable from them by the more elongate body form with the green metallic scaling and the less convex elytra at first appearance.

Key to the Malaysian Species

1(2): Rostrum moderately long, 1.3-1.4 times as long as broad. Elytra about 1.7 times as long as broad. Integument mainly covered with metallic green scales. Pahang (Cameron Highlands). ..... *viridis* Kojima, sp. nov.

2(1): Rostrum short, 1.2 times or less as long as broad. Elytra about 1.5 times as long as broad. Integument mainly covered with light brown scales.

3(4): Antennae with 1st and 2nd segments of funicle subequal in length. Elytra distinctly convex, dorsal outline rising from base to top of declivity; striae wide, with separately rounded punctures; interval 3 bears a tubercles at the top of the declivity. Integument with light brown scales except sides of elytra with green metallic scales. Length: 8.5-11.0 mm; width: 3.0-4.0 mm. Penang; Thailand (Khao Chong)[1]. ..... *eupleura* Pascoe

4(3): Antennae with 1st segment of funicle a little longer than 2nd. Elytra not so convex, dorsal outline rising from base to one-fourth and thence almost flat to top of declivity; striae narrow and elongately punctate; intervals evenly convex, without tubercles. Integument with dense sandy

[1] This species as well as the genus is recorded from Thailand for the first time (**new distribution record**). Specimens examined. 1 male, Khao Chong, S. Thailand, 1.i.1964, H. Watanabe; 3 males and 1 female, 25-26.vi.1965, Y. Miyatake (ELKU).

brown scales. Length: 5.0-8.5 mm; width: 2.0-3.7 mm. Kedah (Langkawi I.). ..... *pendleburyi* Marshall[2]

DISCUSSION

General appearance of the present new species is somewhat strange in *Antinia*. The body is more elongate and less convex than other congeners and provided with green metallic scales almost entirely, not partly as *A. eupleura*. In the mountainous rainforest where this species occurs, there are other weevils and a longhorn beetle superficially resembling in their habitus and coloration (Kojima & Morimoto 2002). They are weevils in the genera *Pinacopus* Marshall (Curculionidae: Molytinae) and *Morphocera* Jordan (Anthribidae: Anthribinae), and a longhorn beetle in the genus *Obages* Pascoe (Cerambycidae: Lamiinae). The first and the last species are apterous. They must constitute a cryptic and mimetic group by the adaptation to and camouflage in the environment of their habitat in such moss forests of the Cameron Highlands as Gunung Jasar, G. Perdah and G. Beremban, where leaves and branches are thickly covered with lichens and mosses. Thus, *Antinia viridis* is peculiar among congeners by acquisition of a cryptic coloration like other cohabitants in the same environment.

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[2] Data from the original description (Marshall, 1932).

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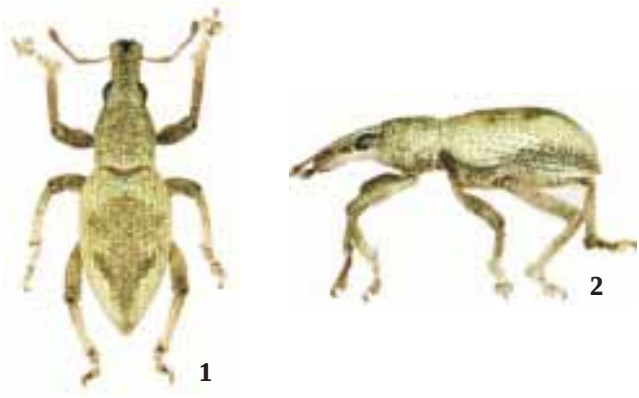
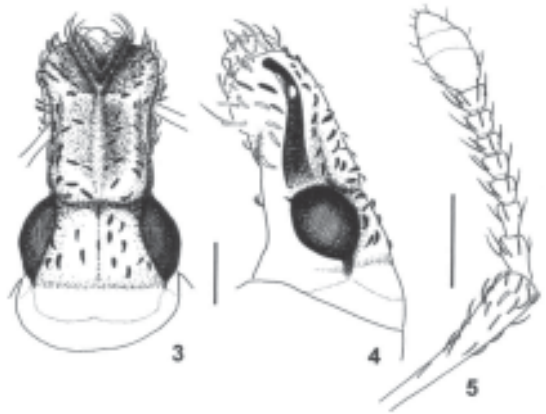
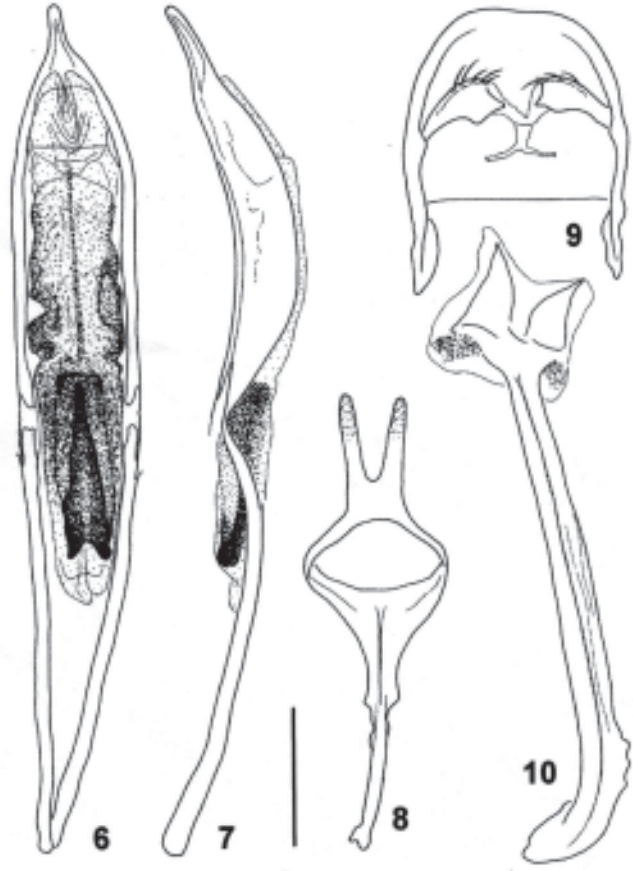


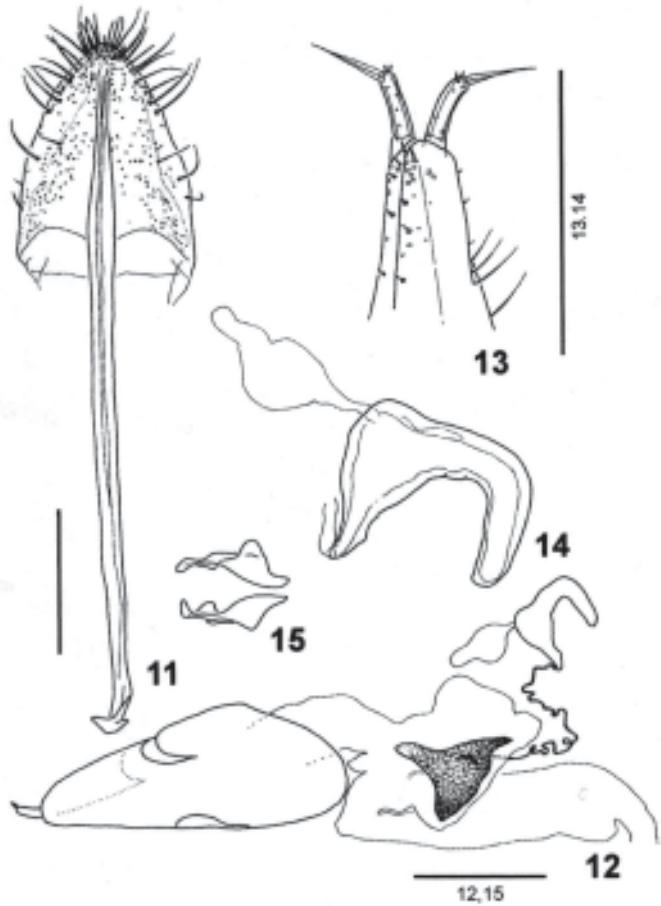
Figs. 1-2. Habitus photographs of *Antinia viridis* n.sp., male. 1, from dorsal view; 2, from lateral view



Figs. 2-5. *Antinia viridis* n.sp., male. 3, head from dorsal view; 4, head from lateral view; 5, antenna. Scale = 0.5mm



Figs. 6-10. Male terminalia of *Antinia viridis* n. sp. 6, aedeagus from dorsal view; 7, aedeagus from lateral view; 8, tegmen from dorsal view; 9, tergite 8 and sternite 8 from ventral view; 10, spiculum gastrale from ventral view. Scale = 0.5 mm



Figs. 11-15. Female terminalia of *Antinia viridis* n. sp. 11, sternite 8 from ventral view; 12, genitalia from lateral view; 13, apical part of hemisternites from dorso-lateral view; 14, spermatheca; 15, sclerites of bursa from dorsal view. Scale = 0.5 mm.