

***Chyoromera ommata* gen. et sp. nov., a New Genus and Species of Ochyromerini (Coleoptera, Curculionidae, Curculioninae) from the Bornean Rainforest, East Malaysia**

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Abstract *Chyoromera ommata* gen. et sp. nov. of the curculionine weevil tribe Ochyromerini (Coleoptera, Curculionidae) is described from the Lambir Hills National Park, Sarawak, East Malaysia. Adult weevils were captured by collision traps with chemical attractants of floral-fragrances, which were set from the ground to canopy layer of a lowland rainforest.

Floral-fragrance chemicals are known to be useful as attractants for sampling flower-visiting beetles not only in temperate forests but also in tropical rainforests by field trials conducted in Japan and Malaysia (MAETÔ *et al.*, 1995). Field trials using the white or yellow colored plastic collision traps (Sankei Chemicals Co., Ltd.; 25 cm in diameter, 42 cm in height) with fragrance chemicals have been conducted in many Japanese forests (IWATA & MAKIHARA, 1994; MIZOTA & IMASAKA, 1997, etc.), whereas field trials in tropical forests are still rather limited. Previous preliminary field trials using the aforementioned traps in Malaysian forests showed selective attractions to flower-visiting beetles of the families Scarabaeidae, Mordellidae, Cerambycidae and Curculionidae (FUKUYAMA *et al.*, 1994; MAETÔ *et al.*, 1995). In Curculionidae, the tribe Ochyromerini was one of the most dominant taxa attracted to the traps in Malaysia not only in previous studies mentioned, as well as in our recent survey (WATANABE *et al.*, 2017).

Ochyromerini comprises members of “flower weevils”, some of which are regarded to be involved in pollinations of several basal angiosperm families, such as Magnoliaceae and Annonaceae (CALDARA *et al.*, 2014). Ochyromerine weevils are extraordinary rich in the Old World tropics though little is known about their exact diversity.

A large number of ochyromerine weevils were collected by the collision traps with fragrance chemicals set from the ground to canopy layer at the Canopy Biology Plot (4°20'N, 113°50'E, 150–250 m above sea level) in a lowland dipterocarp forest in the Lambir Hills National Park, Sarawak, East Malaysia. These traps have three different durations as follows: 20–28 December 2007, 5–15 March 2008, and 12–21 August 2008.

For each duration, two sets of traps, one composed of seven white-colored traps and the other of seven yellow-colored traps, were set at the ground level (2 m in height) and at the canopy layer ranging from 25–45 m above the ground, respectively (28 traps in total).

Among them, a peculiar weevil representing a new genus is dealt with in this paper. The weevil is probably related to the genus *Ochyromera* PASCOE, 1876 in the appearance, but the structures of eyes, abdominal ventrites and aedeagus are quite characteristic among the tribe.

Chyoromera WATANABE et KOJIMA, gen. nov.

Type species: *Chyoromera ommata* gen. et sp. nov.

Head semiglobular, constricted just behind eyes. Eyes large, convex, coarsely faceted, and contiguous each other dorsally. Forehead between eyes linear, with row of fine subrecumbent, decurved setae. Rostrum slightly arcuate in lateral view, longer in female than in male, provided with subrecumbent hairs along beneath; antennal scrobes each running obliquely beneath basal part of eye. Antennae inserted slightly behind (female) or before (male) middle of rostrum; scape reaching middle of eyes when retracted; funicle 7-segmented; club oblong ovate.

Prothorax slightly wider than long, with weak constriction at base and apex, and rounded laterally. Scutellum linguulate. Elytra weakly rounded laterally, separately rounded at apices, apical part of male pygidium visible in caudal view when in repose. Legs with front femora swollen, much greater than mid and hind ones, each armed with triangular tooth, which is provided with row of erect setae along oblique outer margin between base of tooth and apex of femur, mid and hind femora similar to each other, each provided with a few erect setae near apex beyond tooth; front tibiae evenly curved, provided with decurved erect setae on basal 2/3 along inner margin, dilated internally near apex, mid and hind tibiae slightly sinuate internally, similar to each other except uncus much reduced in size on hind pair; tarsi with 1st segment longer than broad, claws widely divergent, each with triangular basal process.

Prosternum with coxae located in middle. Mesosternal process about 1/5 as wide as coxa. Venter with 1st ventrite flattened in middle in male or slightly inflated in female, posterior margin of 2nd ventrite broadly curved posteriorly on sides, posterior margins of 3rd and 4th ventrites hardly curved on sides, 5th ventrite nearly as long as 3rd and 4th ventrites combined.

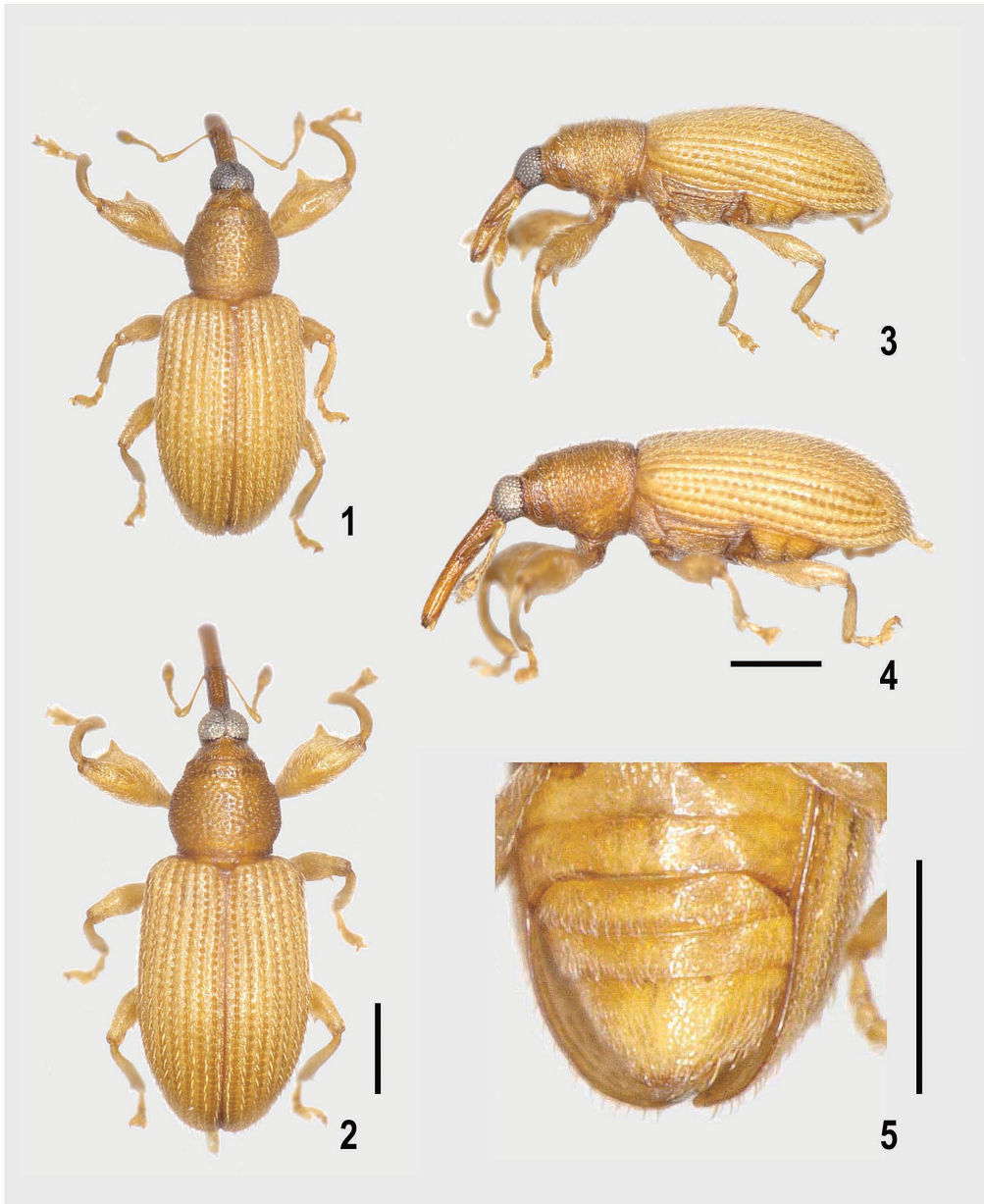
Terminalia as illustrated (Figs. 6–10); aedeagal body sinuate and asymmetrical; internal sac with bistalked sclerite basally. Tegmen ringed, with apodeme longer than width of tegmental ring. Spiculum gastrale straight and symmetrical. Spermatheca comma-shaped, duct and gland close to each other. Female sternite 8 with apodeme slender and asymmetrical.

Etymology. The name is an anagram of the name of the related genus *Ochyromera* PASCOE. The gender is feminine.

Comments. *Chyoromera* gen. nov. is very similar to *Ochyromera* PASCOE by having the 7-segmented antennal funicle and swollen front femora which are much greater than mid and hind pairs. However, *Chyoromera* is characterized by having a combination of the following features: eyes coarsely faceted and contiguous; posterior margin of 2nd abdominal ventrite broadly curved posteriorly on sides, whereas those of 3rd and 4th ventrites hardly curved, and aedeagal body asymmetrical. In *Ochyromera*, the eyes are more or less separated, posterior margins of 2nd to 4th ventrites are curved posteriorly on sides almost in the same degree, and aedeagal body is symmetrical (cf. KOJIMA & MORIMOTO, 1995, 1996).

Presently, this genus is monotypic, but the second author has a single specimen of another *Chyoromera* species from Chiang Mai, northern Thailand, which is very similar to the type species. We will withhold here to record and describe it until additional specimens are obtained.

Distribution. East Malaysia (Sarawak).



Figs. 1–5. *Chyoromera ommata* gen. et sp. nov. — 1, 3 & 5, Holotype, male; 2 & 4, paratype, female. — 1 & 2, Habitus, dorsal view; 3 & 4, ditto, lateral view; 5, abdominal ventrites, latero-ventral view. Scales: 0.5 mm.

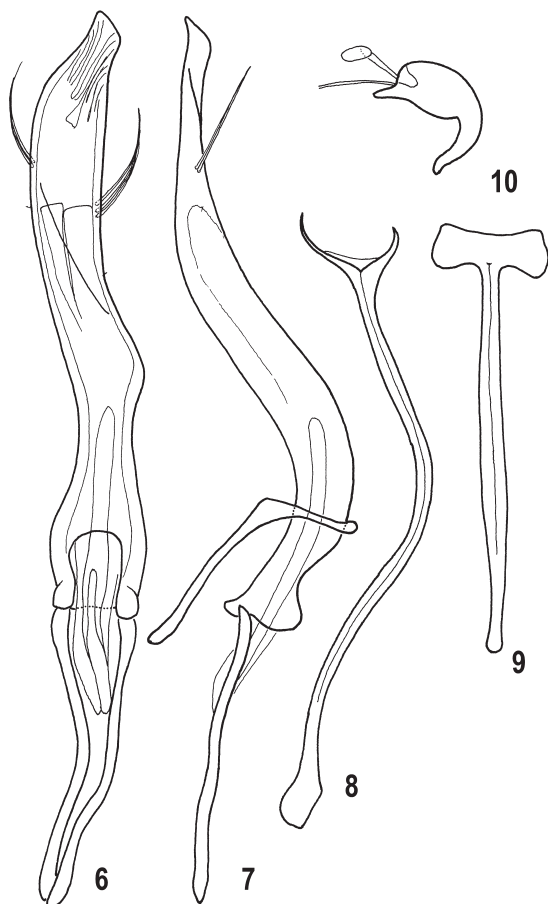
Chyoromera ommata WATANABE et KOJIMA, sp. nov.

(Figs. 1–10)

Ochyromerini gen. et sp. indet. 1: WATANABE *et al.*, 2017: 494.

M a l e. Length: 1.9–2.3 mm; width: 0.8–0.9 mm.

Derm yellowish to light reddish brown, head and rostrum slightly darker, clothed with fine recumbent setae.



Figs. 6–10. Male and female terminalia of *Chyoromera ommata* gen. et sp. nov. — 6, Aedeagus, dorsal view; 7, ditto, lateral view; 8, apodeme of female sternite 8, ventral view; 9, spiculum gastrale, dorsal view; 10, spermatheca, lateral view. Scale: 0.5 mm.

Rostrum nearly as long as pronotum; dorsum subconfluently punctate behind level between antennal insertions, with fine recumbent setae throughout. Antennae inserted slightly before middle of rostrum; scape nearly as long as funicle and 1st segment of club combined; funicle with 1st segment about 1.5 times as long as broad, 2nd slightly shorter than 1st, 3rd to 5th subequal in length, slightly longer than broad and slightly shorter than 2nd; 6th and 7th subequal in length, nearly as long as 2nd; club about twice as long as broad.

Prothorax 1.1–1.2 times as wide as long, widest at or slightly behind middle; dorsum densely punctate, each puncture furnished with slightly stout subrecumbent seta. Scutellum clothed with fine recumbent setae. Elytra 1.6 times as long as wide, widest at or slightly behind middle; intervals each with row of slightly stout suberect setae.

Terminalia as illustrated (Figs. 6, 7 & 9); aedeagal body twice as long as its apodemes; spiculum gastrale 2/3 of length of aedeagal body.

F e m a l e. Length: 1.8–2.4 mm; width: 0.7–1.0 mm.

Resembles male except rostrum longer than pronotum (13 : 10), dorsum shiny on apical half,

Table 1. Number of males and females of *Chyoromera ommata* gen. et sp. nov. collected in three months using white (W) and yellow (Y) collision traps at heights of 25–45 m (H) and 2 m (L) above the ground.

	Dec. 2007				Mar. 2008				Aug. 2008				Total
	HW	HY	LW	LY	HW	HY	LW	LY	HW	HY	LW	LY	
Male	1	1	0	0	1	0	0	0	5	8	0	0	16
Female	0	0	0	0	2	2	0	0	99	106	2	4	215
Total	1	1	0	0	3	2	0	0	104	114	2	4	231

thinly clothed with setae, and antennae inserted slightly behind middle of rostrum.

Terminalia as illustrated (Figs. 8 & 10); spermatheca with ramus and collum not differentiated.

Type series. Holotype: male, Canopy Biology Plot, Lambir Hills National Park, Sarawak, East Malaysia, 12–16.VIII.2008 (Chemical attractant trap; yellow, canopy walkway). Paratypes: 1 female, same locality as the holotype, 24–28.XII.2007 (yellow, canopy walkway); 1 male, 24–28.XII.2007 (white, canopy walkway); 1 female, 5–10.III.2008 (yellow, canopy layer); 1 male, 5–10.III.2008 (white, canopy layer); 1 female, 7–10.III.2008 (white, canopy layer); 1 female, 10–15.III.2008 (white, canopy layer); 1 female, 13–15.III.2008 (yellow, canopy walkway); 5 males and 48 females, same data as the holotype; 2 females, same data as the holotype (white, ground level); 3 males and 51 females, same data as the holotype (white, canopy walkway); 2 males and 57 females, 16–21.VIII.2008 (yellow, canopy walkway); 2 males and 46 females, 16–21.VIII.2008 (white, canopy walkway); 2 females, 17–22.VIII.2008 (white, canopy layer); 1 female, 17–22.VIII.2008 (yellow, canopy layer); 4 females, 16–21.VIII.2008 (yellow, ground level).

Etymology. The specific name is derived from the characteristic eyes.

Type depositary. The holotype and half of the paratypes will be deposited in the Forest Research Centre, Kuching, Sarawak, Malaysia. The remaining paratypes will be preserved in the Laboratory of Entomology, Tokyo University of Agriculture, Atsugi, Kanagawa, Japan.

Biology. All the specimens were captured by the collision traps with chemical attractants of floral-fragrances setting from the ground to canopy levels. Chemicals used were linalool and benzyl acetate. The total number of individuals captured was much higher in the canopy and its relevant layers than in the ground level. In addition, the number was the remarkably much higher in August than in other months. However, no significant difference was found between white and yellow traps in the total number of individuals captured (Table 1). Host plant association of this new species is uncertain.

Distribution. East Malaysia (Sarawak).

Comments. Most of the examined specimens were teneral. The sex ratio was extremely female-biased in the type series (Table 1), however, the reason is uncertain.

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要 約

渡部美佳・小島弘昭・Paulus MELENG・市岡孝朗：東マレーシア・ボルネオ熱帯雨林からのアシプトゾウムシ族の新属新種，*Chyoromera ommata* gen. et sp. nov. (鞘翅目ゾウムシ科ゾウムシ亜科)。———ボルネオの低地熱帯雨林において地上約2 m付近から高さ25–45 mの林冠に設置した訪花性誘引剤を用いた衝突誘引式トラップ(白色および黄色)でもっとも多く採集されたアシプトゾウムシ族 Ochyromerini の分類学的検討を行ったところ、本族の既知属とは明らかに異なる未記載種が含まれていたため、*Chyoromera ommata* gen. et sp. nov. として命名、記載した。本新属は触角中間節が7節で、前腿節が中・後腿節に比べ発達し、大きな歯を備える点で一見 *Ochyromera* 属に似る。しかし、複眼が大きく発達して隣接することや、腹部第2腹節後縁が側方で後方に大きくカーブすること、雄交尾器挿入器が左右非対称であることなどから *Ochyromera* をはじめとするアシプトゾウムシ族の他属との顕著な差異が認められた。本種の成虫は地上付近に比べ林冠部にセットしたトラップで、また、3月と12月に行った調査に比べ8月に行った調査で、捕獲された個体数が圧倒的に多かったが、白色と黄色のトラップ間での総個体数の差はほとんど見られなかった。さらに、得られた個体の性比が著しく雌に偏っていた。

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