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Eusynnada, a resurrected genus of Ochyromerina (Coleoptera: Curculionidae: Curculioninae: Tychiini), with description of a second species from India and Thailand

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Abstract

Eusynnada is resurrected as a valid genus of Ochyromerina and includes the type species *E. plaxoides* Heller and a related second new species, *E. canariumi* **sp. nov.**, from Andaman Island (India) and Thailand.

Key word: taxonomy, new taxa, Ochyromerina, *Canarium*, Burseraceae, *Neolamarckia*, Rubiaceae

Introduction

Eusynnada was established by Heller (1925) for *E. plaxoides* from Sumatra as a genus having species in which the funicle is 6-segmented. However, Voss (1937) recognized this genus as belonging in the Ochyromerina and as having 7 segments in the funicle and described three new species from Java. Later, he (1953) added a species from Fukien (China). He also (1947) established a subgenus *Persynnada* based on a species having 6 segments in the funicle from Ceylon. Kojima & Morimoto (1995) treated *Eusynnada* and *Persynnada* as genera having 6 segments in the funicle based on their respective original descriptions and synonymized each with *Endaeus* Schoenherr, 1826. Recently, we examined the type species of *Eusynnada* and recognized that the species has 7 segments in the funicle and confirmed its peculiarity among ochyromerine genera.

In this paper, we recognize *Eusynnada* as an independent genus and describe a second species from Andaman Island, India and Thailand as the first representative of the genus from these countries.

Type depository. The type material of the new species herein described is deposited in the Laboratory of Entomology, Tokyo University of Agriculture, Atsugi, Japan (TUA) and the National Pusa Collection, Division of Entomology, Indian Agricultural Research Institute, New Delhi, India (NPC).

Genus *Eusynnada* Heller, 1925, stat. res.

Eusynnada Heller, 1925: 226 (type species: *E. plaxoides* Heller, 1925; Prionomerini); Voss, 1937: 136 (Java; Anthonominae: Prionomerini: Ochyromerina); Voss, 1953: 55 (China: Fukien; Anthonominae: Endaeini); Voss, 1958: 109.
Endaeus: Kojima & Morimoto, 1995: 559 (as a junior synonym; Tychiinae: Ochyromerini); Alonso-Zarazaga & Lyal, 1999: 85 (catalogue; Curculioninae: Tychiini: Ochyromerina).

Redescription. Derm glossy, thinly clothed with fine setae. Head semiglobular, without constriction behind eyes. Eyes very large and convex, the distance between them narrower on ventral side than on dorsal one, maximum width between outer margins of eyes as wide as apex of pronotum. Rostrum much longer in female than in male; antennal scrobes different in sexes: running obliquely to lower part of eye in male or dorsal carina of scrobe

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running to upper part of eye in female. Antennae with scape reaching apical part of eye; funicle 7-segmented, basal two segments longer than broad, third to seventh transverse; club ovate, with basal two segments subequal in length.

Prothorax strongly rounded laterally, with basal and weak apical constrictions. Scutellum tongue-shaped. Elytra weakly rounded laterally, separately rounded at apices; ultimate and penultimate striae very close to each other beyond metepisternum. Pygidium broadly exposed when in repose in male. Legs with front femora abruptly swollen around middle, much wider than middle and hind femora, each armed with triangular tooth, provided with erect setae along external margin, middle and hind femora similar to each other, provided with few erect setae along external margin of tooth; front tibiae curved, provided with erect setae along inner margin on basal half, dilated internally near apex, middle and hind tibiae weakly sinuate internally, similar to each other except uncus much reduced in size in hind pair; tarsi robust, claws moderately divergent, each with triangular basal process.

Venter with metasternum weakly depressed in middle in male; posterior margin of second ventrite more broadly curved posteriorly at sides than third and fourth ventrites; first ventrite behind coxae and second to fourth ventrites each subequal in length. Fifth ventrite much shorter than length third and fourth ventrites combined.

Tergum of abdomen with pair of scrapers for stridulation on anterior margin of seventh tergite.

Terminalia as illustrated (Figs. 18–30); aedeagal apodemes shorter than body, tegmen open dorsally; sternite 8 paired and narrow, spiculum gastrale symmetrical, shorter than aedeagal body; hemisternites of ovipositor with short styli, slightly longer than broad; spermatheca comma-shaped, duct and gland close to each other and invaginated into collum at bases; sternite 8 with apodeme slender.

Comments. Though Heller (1924) described "pygidium obtegentia", the male abdominal ventrites of the paratype are so unnaturally bent upward that the pygidium is concealed by the elytra. The pygidium is broadly, almost vertically exposed in the male when in repose.

Eusynnada was synonymised with *Endaeus* Schoenherr, 1826 by Kojima & Morimoto (1995), however, the genus is quite different from *Endaeus* and other ochyromerine genera by the combination of the following features: glossy derm thinly covered with fine setae; very large and convex eyes more close to each other in ventral than in dorsal view; antennal scrobes different in males and females; antennal funicle 7-segmented; pygidium broadly exposed in male; front femora abruptly swollen, each armed with large triangular tooth and second ventrite more broadly curved caudad at sides than third and fourth ventrites.

Voss (1937, 1943, 1953) described three species, *E. lata*, *E. testacea* and *E. rubella* from Java, *E. stictica*, from Fukien, and *E. ceylonica*, under the subgenus *Persynnada* from Ceylon. However, they differ from the typical *Eusynnada* defined here. The three Javanese species may be placed among *Ochyromera* and its allies judging from the original description. *Eusynnada stictica*, of which the type was examined by the senior author, is very close to *Ochyromera suturalis* Kojima & Morimoto, 1996 from Japan and *O. ligustri* Warner, 1961 from the USA. *Eusynnada ceylonica* may be placed among *Endaeus* and its allies due to the 6-segmented funicle. Thus, all species described by Voss will be removed from *Eusynnada*. Their taxonomic position will be settled after all the types are studied.

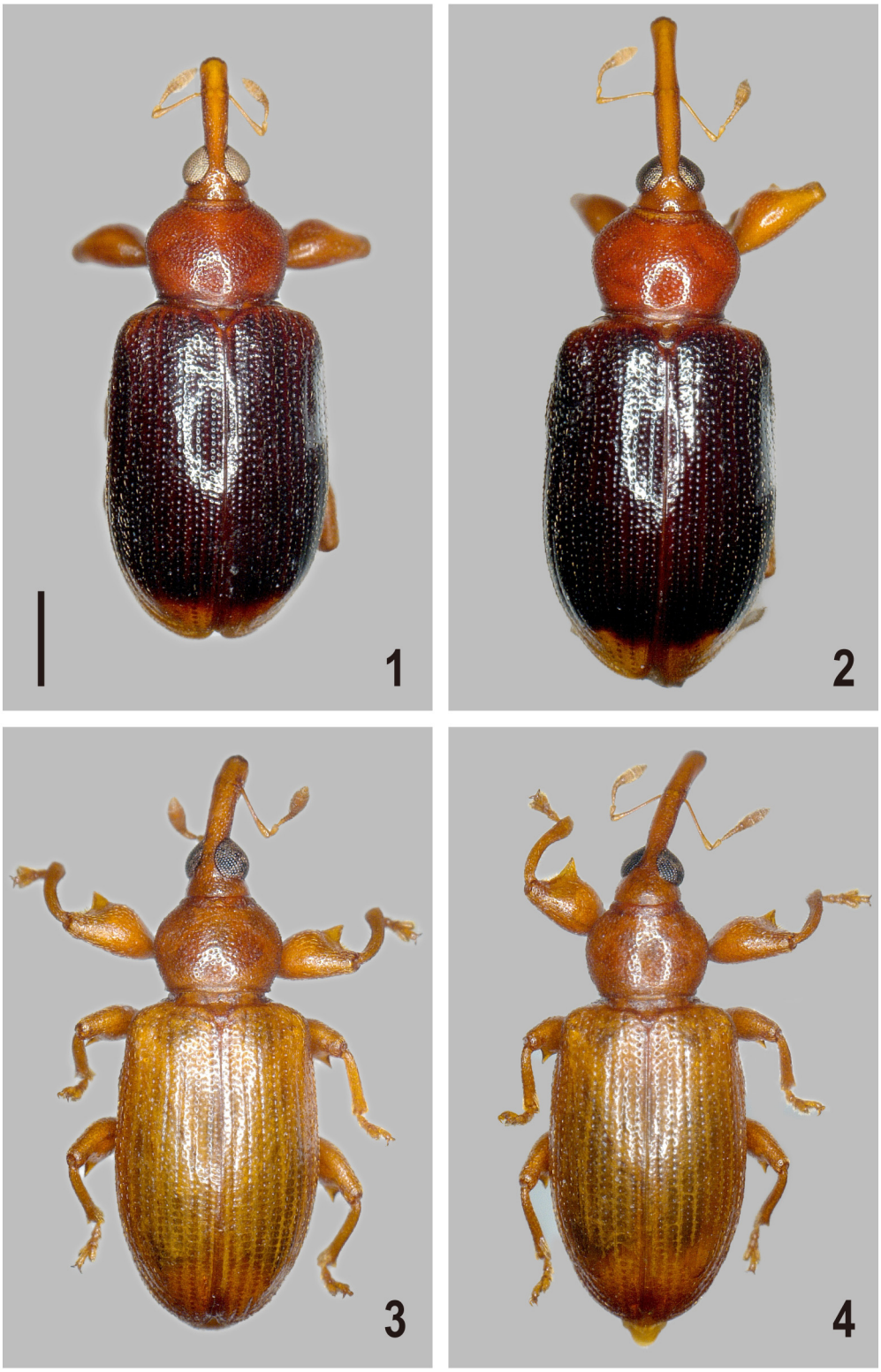
Eusynnada may be related to *Aedenus* Voss, 1937 and *Katsurazo* Kojima, 1997 by having large, convex eyes, antennal funicle 7-segmented, and the broadly exposed pygidium in the male. However, *Aedenus* differs from *Eusynnada* by the front femora, which are not differentiated from the middle and hind femora. *Katsurazo* differs from *Eusynnada* by having unusual male antennae.

Distribution. Andaman Island (India), Thailand, Indonesia (Sumatra, Java). New records are India and Thailand.

Key to species of *Eusynnada* Heller

1. Derm bicolorous, reddish brown, with black elytra excepting reddish brown apical, lateral and (faintly) basal margins. Prothorax 1.4 times as wide as long. Elytra 1.5 times as long as wide. Front tibiae distinctly angulate ventrally near apex in male. Length: 5.3–5.6 mm . . . . . *E. plaxoides* Heller

1'. Derm concolorous reddish brown. Prothorax 1.3 times as wide as long. Elytra 1.6 times as long as wide. Front tibiae slightly angulate ventrally near apex in both sexes. Length: 4.4–4.8 mm . . . . . *E. canariumi* **sp. nov.**



FIGURES 1–4. Habitus photographs of *Eusynnada* spp., dorsal view (1, 3, male; 2, 4, female).1, 2, *E. plaxoides* Heller (1, paratype; 2, holotype); 3, 4, *E. canariumi* **sp. nov.** (3, holotype; 4, paratype). Scale: 5 mm.

FIGURES 5–8. Habitus photographs of *Eusynnada* spp., lateral view (5, 7, male; 6, 8, female). 5, 6, *E. plaxoides* Heller (5, paratype; 6, holotype); 7, 8, *E. canariumi* **sp. nov.** (7, holotype; 8, paratype). Scale: 5 mm.

***Eusynnada plaxoides* Heller**
(Figs. 1, 2, 5, 6, 9–12, 14–23)

Eusynnada plaxoides Heller, 1925: 226 (Sumatra); Voss, 1937: 136 (Java).

Redescription. Male. Length: 5.3 mm; width: 2.4 mm.

Derm reddish to light reddish brown, antennae and tarsi yellowish brown, elytra black except apical, lateral and faintly basal margins.

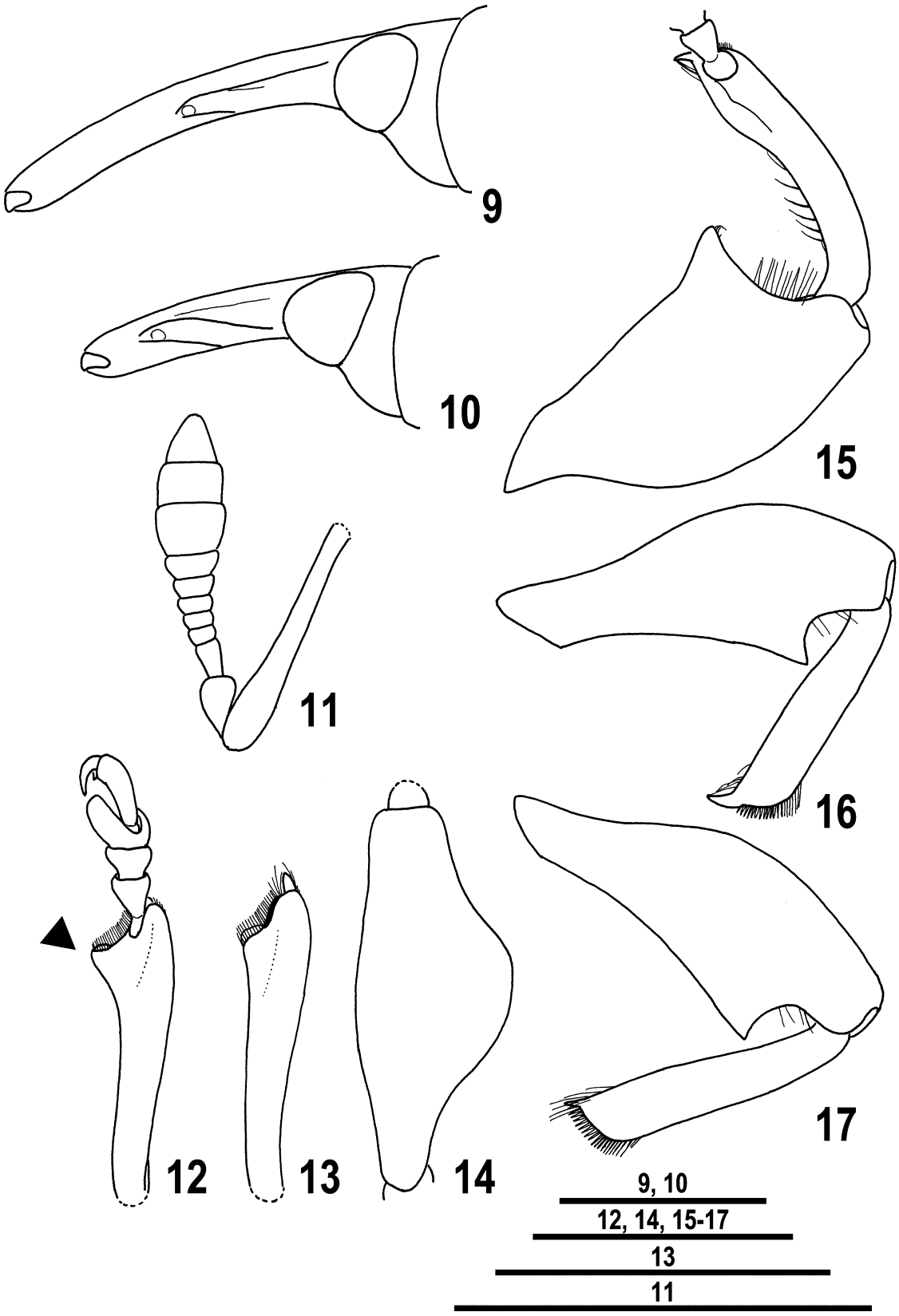
Head with fine, separate punctures; front of head between eyes 3/5 as wide as base of rostrum. Rostrum shorter than pronotum (4 : 5), slightly arcuate in lateral view; dorsum subconfluently punctate and sulcate behind position of antennal insertion, which is at apical third of rostrum. Antennae with scape nearly as long as funicle and with first segment of club combined; funicle with first segment about 1.5 times as long as broad, second 3/5 times as long as first, third to fifth subequal in length, nearly half as long as second, sixth and seventh subequal in length, slightly longer than fifth; club nearly as long as basal five segments of funicle combined.

Prothorax 1.4 times as wide as long, widest before middle; dorsum finely punctate, each puncture with fine recumbent pale seta, interstices between punctures about as wide as diameter. Scutellum hardly punctate, thinly clothed with fine recumbent pale setae. Elytra 1.5 times as long as wide, widest at middle; intervals flat, much wider than striae, each with 1–2 irregular rows of small punctures, each of which bears fine recumbent pale seta; striae punctate, punctures larger than those of intervals, septa between punctures almost of same height as intervals. Legs clothed with fine recumbent setae; front tibiae dilated internally on apical fourth, each distinctly dentate ventrally near apex, with inner setose fringe along anterior margin.

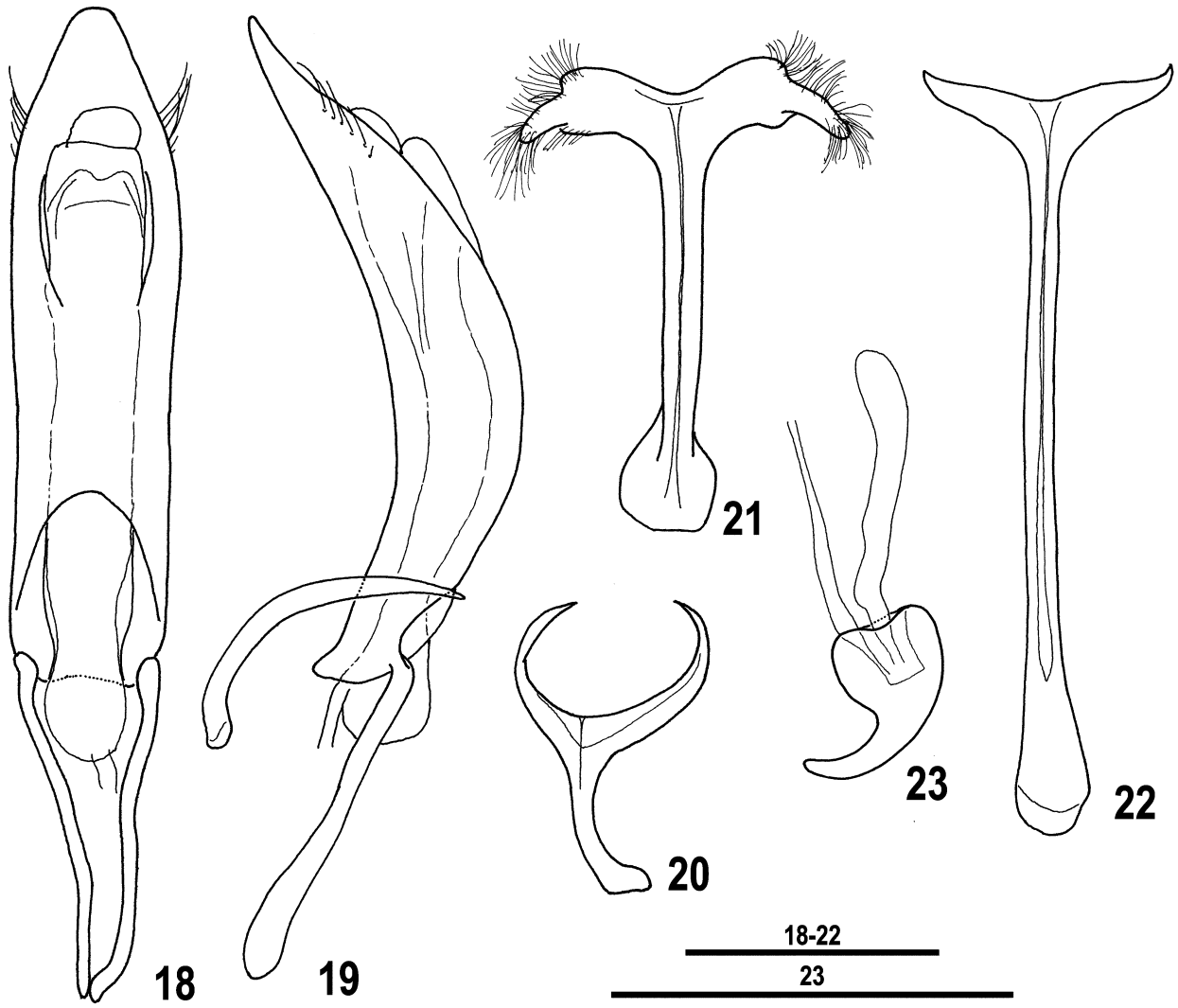
Underside clothed with fine recumbent setae. Prosternum with distance between coxae and submarginal sulcus greater than that between this sulcus and anterior margin. Mesosternal process about 1/3 as wide as coxa. Venter with first ventrite slightly depressed in middle.

Terminalia as illustrated (Figs. 18–20); aedeagal body tapered and rounded at caudal margin, apodeme slightly less than half the length of body.

Female. Length: 5.6 mm; width: 2.5 mm.



FIGURES 9–17. Features of *Eusynnada* spp. (9–12, 14–17, *E. plaxoides* Heller; 13, *E. canariumi* **sp. nov.**; 9, female; 10–17, male). 9, 10, head, lateral view; 11, antenna, dorsal view; 12, front tibia and tarsi, external view (triangular mark shows distinct dentation); 13, front tibia, external view; 14, femur, caudal view; 15, front femur and tibia, ventral view; 16, middle femur and tibia, ventral view; 17, hind femur and tibia, ventral view. Scale: 1 mm.



FIGURES 18–23. Male and female terminalia of *Eusynnada plaxoides* Heller (18–21, male; 22, 23, female). 18, aedeagus, dorsal view; 19, aedeagus and tegmen, lateral view; 20, tegmen, dorsal view; 21, spiculum gastrale, ventral view; 22, sternite 8, ventral view; 23, spermatheca. Scale: 0.5 mm.

Resembles male except rostrum longer than pronotum (13 : 10), dorsum punctate, but not sulcate behind position of antennal insertion, which is slightly behind middle of rostrum; antennae with first segment of funicle about twice as long as broad; front tibiae slightly dentate ventrally near apex and venter with first ventrite flattened in middle.

Specimens examined. Male holotype and female paratype, (Museum für Tierkunde, Dresden), labeled "Bandar Baroe, 850 M, Sumatra's O. K., 12. 9. 21, J. B. Corporaal".

Distribution. Indonesia (Sumatra, Java). Record from Java is based on Voss (1937).

***Eusynnada canariumi* sp. nov.**
(Figs. 3, 4, 7, 8,13, 24–30)

Description. Male. Length: 4.4–4.8 mm; width: 1.9–2.0 mm.

Male. Very similar to *E. plaxioides* except derm concolorous reddish brown except antennae and tarsi slightly paler; rostrum slightly shorter than pronotum (9 : 10); antennae inserted at middle in female; prothorax 1.3 times as wide as long; elytra 1.6 times as long as wide; front tibiae slightly dentate ventrally near apex; aedeagal body truncate at caudal margin, apodemes short, about 1/3 of aedeagal body.

Female. Resembles male except rostrum longer than pronotum (13–15 : 10); antennae inserted at middle of rostrum.

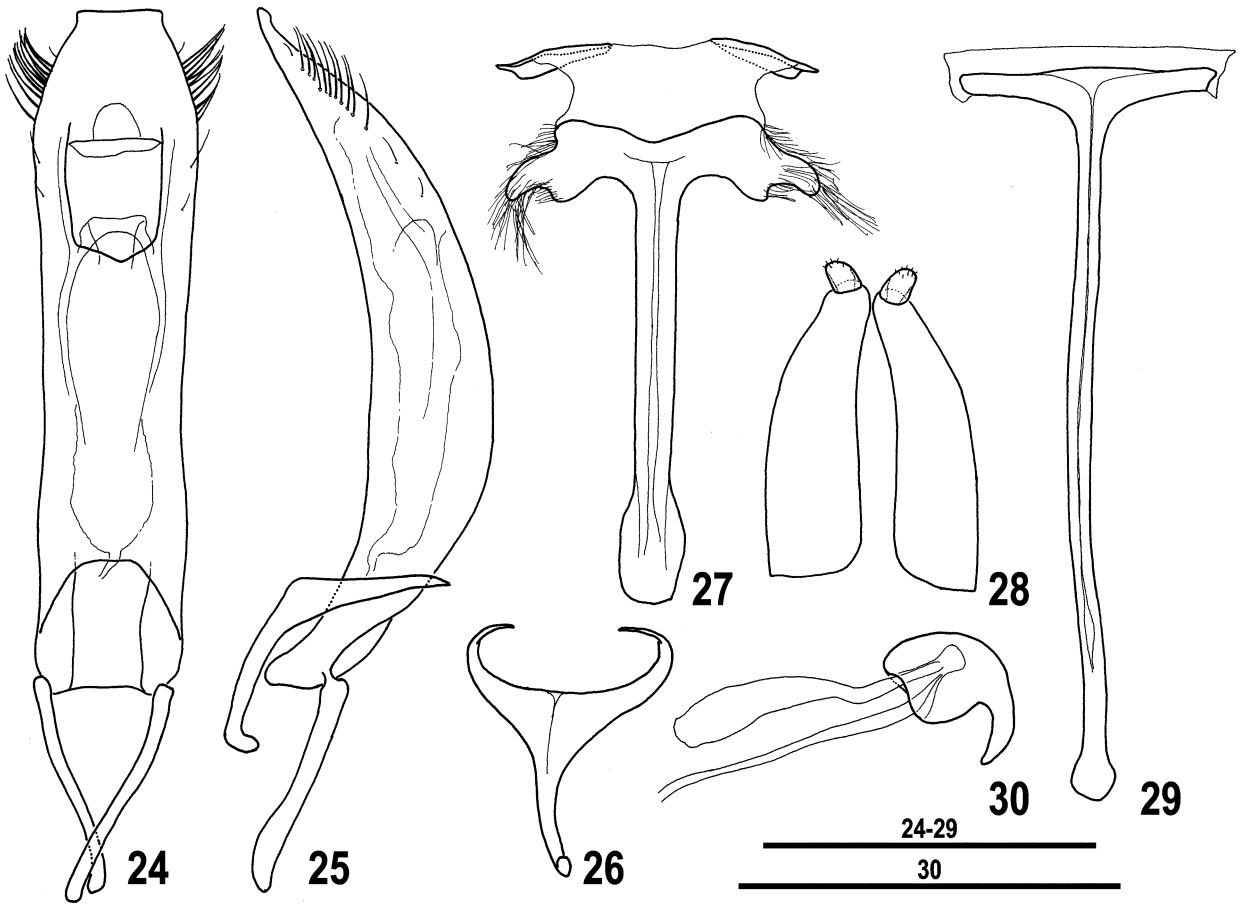
Type series. Holotype: male, Doi Suthep-Doi Pui, Thailand, 4–7.vii.1995, H. Kojima (TUA). Paratypes, 3 males and 2 females, same data as the holotype; 1 male and 5 females, Port Blair, S. Andaman, India, 16.xii.1991, Venna (NPC) [teneral].

Etymology. This species is named after the plant genus *Canarium* on which weevils were collected.

Biology. Weevils were collected from *Canarium euphyllum* Kurz. (Burseraceae) on Andaman Island. Weevils were also captured on a flowering tree probably belonging to *Neolamarckia* sp. (Rubiaceae) in Thailand by using an insect net with a long handle, which is about 6 m in length.

Distribution. Andaman Island (India), Thailand.

Comment. This new species is easily separable from the type species by the coloration.



FIGURES 24–30. Male and female terminalia of *Eusynnada canariumi* **sp. nov.** (24–27, male; 28–30, female). 24, aedeagus, dorsal view; 25, aedeagus and tegmen, lateral view; 26, tegmen, dorsal view; 27, sternite 8 and spiculum gastrale, dorsal view; 28, hemisternite, dorsal view; 29, sternite 8, ventral view; 30, spermatheca. Scale: 0.5 mm.

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