

A New Species of the Genus *Hoshihananomia* (Coleoptera,
Mordellidae) from Taiwan, with Redescriptions of
Two Allied Japanese Species

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Abstract A new mordellid beetle, *Hoshihananomia masatakai* is described from Taiwan, and two allied Japanese species (*H. splendens* (MIWA) and *H. trichopalpis* NOMURA) are redescribed.

Introduction

Recently, the first author of this paper had an opportunity to examine Asian mordellid materials deposited in the collection of the Museum für Naturkunde der Humbolt-Universität, Berlin, and found an undescribed species of the genus *Hoshihananomia* KÔNO from Taiwan. After this examination, he fortunately collected additional materials of the species in a field survey of Taiwan. At a glance, the species is similar to *H. splendens* and *H. trichopalpis*, both of which are distributed in Japan, but can be clearly distinguished from them by several distinctive features described further in the text.

In the present study, the authors are going to describe a new species of the genus *Hoshihananomia* from Taiwan, and to redescribe the two allied Japanese species.

The following abbreviations for institutions and measurements are used in the present study. Institutions: KPM – Kanagawa Prefectural Museum of Natural History, Odawara; MNHUB – Museum für Naturkunde der Humbolt-Universität, Berlin; NSMT – National Science Museum, Tokyo; SEHU – Systematic Entomology, Hokkaido University Museum, Hokkaido University, Sapporo. Measurements: BL – length

from anterior angle of pronotum to apices of elytra; AL – antennal length; HL – length from apex of clypeus to posterior margin of head capsule; HW – maximal width of head; PL – length of pronotum along mid line; PW – maximal width of pronotum; EL – maximal length of elytra; EW – maximal width between outer margins of elytra; PYL – length of pygidium; ASL – length of anal sternite.

Hoshihananomia masatakai TSURU et TAKAKUWA, sp. nov.

(Figs. 1 A-C, 2, 5 A, D, 6)

Type series. Holotype: ♂, Chihpen, Peinan Hsiang, Taitung Hsien, Taiwan, 4-VI-2006, T. TSURU leg. (HUM). Paratypes: Taiwan: 1♂, same data as the holotype (HUM); 1♂, “Taihorin, VI. 09, H. SAUTER S. G.” [Talin, Talin Hsiang, Chiai Hsien, VI-1909, H. SAUTER leg.] (MNHUB); 1♀, “Kosempo, IV. 10, H. SAUTER S. G.” [Chiasien, Chiasien Hsiang, Kaohsiung Hsien, IV-1910, H. SAUTER leg.] (MNHUB).

Distribution. Taiwan.

Etymology. The specific name of this new species is dedicated to the late Dr. Masataka SATÔ for his invaluable contribution to the clarification of the coleopteran fauna of Taiwan.

Diagnosis. *Hoshihananomia masatakai* is similar to *H. splendens* (MIWA, 1933) and *H. trichopalpis* NOMURA, 1975 in general appearance, but can be distinguished from them by the arcuate band of pronotum, the long and sharply pointed pygidium, the stout fore tibia of male, and the differently shaped male genitalia.

Description. Male. Body slender, widest near posterior 1/3 of pronotum. Coloration:— Black in ground colour; mouth-parts blackish brown except for black mandibles, maxillary palpi and labial palpi. Almost all of body densely covered with black, yellow and yellowish orange recumbent pubescence as follows: head completely yellow; pronotum black, ornamented with four pairs of yellowish orange maculations:— 1st narrow facing along the antero-lateral corner; 2nd arcuate band, running from the posterior end of 1st to near the medial axis along the anterior margin; 3rd oval spot near the postero-lateral corner; 4th thick band, running from just behind the 3rd spot to near the medial axis close to the posterior margin, sometimes connected with each other in the middle. Scutellum black. Elytra black with six pairs of yellowish orange spots: 1st the smallest and quadrate, situated at the lateral sides of humeral corners; 2nd oval, at about proximal 1/5 of middle part; 3rd oblong, at lateral side, just behind the 2nd; 4th oval, at about proximal 2/5 close to suture; 5th circular, at about proximal 3/5 of middle part; 6th the largest and comma-shaped, at about proximal 4/5. Pygidium black with yellowish orange pubescence in about basal 1/4 of lateral sides, frequently in about basal 4/5. Ventral surface of meso- and metathoraces yellowish orange. Hind coxa black except for yellowish orange anterior corner. Abdominal sternite ornamented as follows: 1st sternite yellowish orange except for black posterior corners; 2nd and 3rd sternites black except for yellowish orange anterior margins; 4th sternite yellowish orange except for black medio-posterior portion; anal sternite black except for yellowish orange

anterior corners. Legs black: dorsal surface of each tibia and tarsus pale yellow; middle and hind femora yellowish orange.

Structure:— Head moderately convex, about 1.39 times as wide as long. Eyes oval, very sparsely clothed with short and erect hairs; the diameter of each facet about 0.02 mm. Tempora extremely narrow, a little narrower than the diameter of a facet. Antennae (Fig. 2 A) short, about 0.80 times as long as width of head, clearly serrate in 5–10th segments: 1st and 2nd segments cylindrical, a little longer than wide; 3rd and 4th a little longer than 2nd, thin as compared with the others, broadened to the apices; 5th the longest, about 1.62 times as long as wide; 6th slightly shorter than 5th, about 1.50 times as long as wide; each of 7–10th about 1.27 times as long as wide; 11th oval, about 1.78 times as long as wide, slightly broadened at inner margin; proportional lengths of segments from base to apex: 6 : 5 : 7 : 6.5 : 8.5 : 8 : 7 : 6.5 : 6.5 : 6.5 : 8. Maxillary palpi (Fig. 2 B) showing remarkable sexual dimorphism as male character states: each of all segments densely covered with long and erect hairs on ventral surface and around margin except for apical margin of terminal segment; 2nd and 3rd distinctly broadened; terminal segment dolabriform, its apical margin being a little longer than inner one.

Pronotum about 1.76 times as long as wide, 1.57 times as long as head; lateral sides arcuate in dorsal view, rectangular in lateral view; antero- and postero-lateral corners rounded. Scutellum subtrapezoidal, about 1.67 times as wide as long, subtruncate at apex. Elytra about 1.88 times as long as wide, 2.20 times as long as pronotum, widest just behind humeri, attenuate posteriad with slightly excavated sides, rounded at each apex.

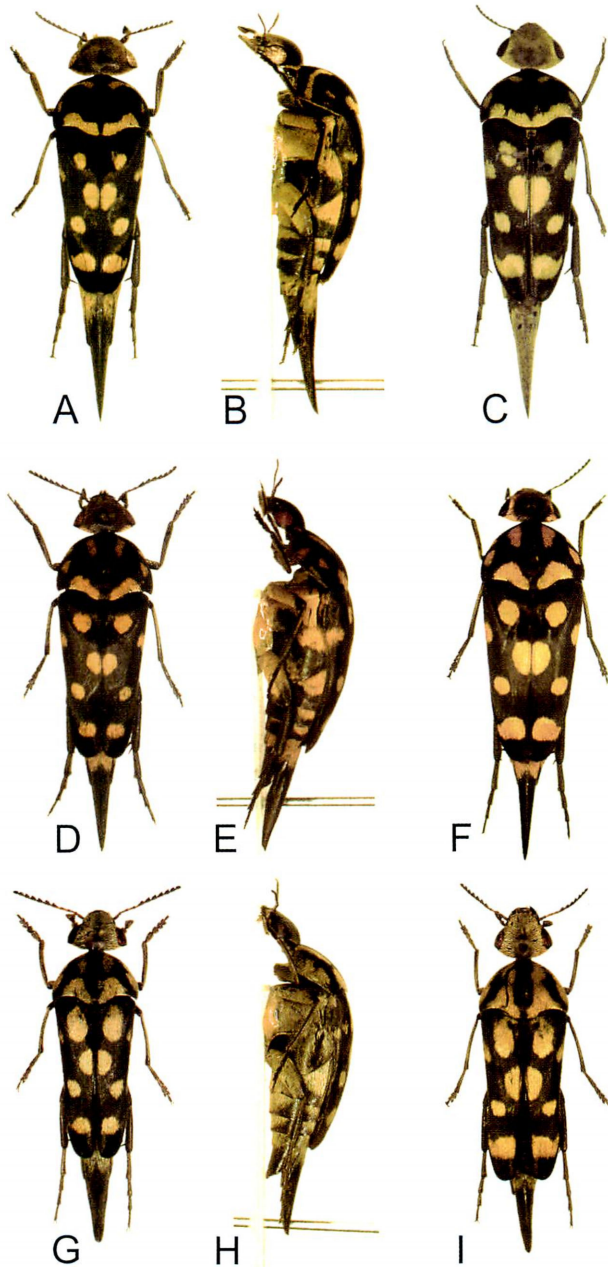
Pygidium (Fig. 2 D) long and slender, about 0.75 times as long as elytra, 2.10 times as long as anal sternite, slightly curved dorsad, sharply pointed at apex. Anal sternite about 1.70 times as long as basal width, widely protrudent at apical 1/5, with apex rounded.

Fore leg (Fig. 2 C) showing remarkable sexual dimorphism as male character states: ventral surface of femur, tibia and basal four segments of tarsus densely covered with long and erect hairs; tibia stout, about 5.92 times as long as wide; tarsus broadened laterally in basal four segments: 1st segment about twice as long as wide; 2nd a little longer than wide; 3rd almost as long as wide; 4th a little wider than long, deeply emarginate at apical margin.

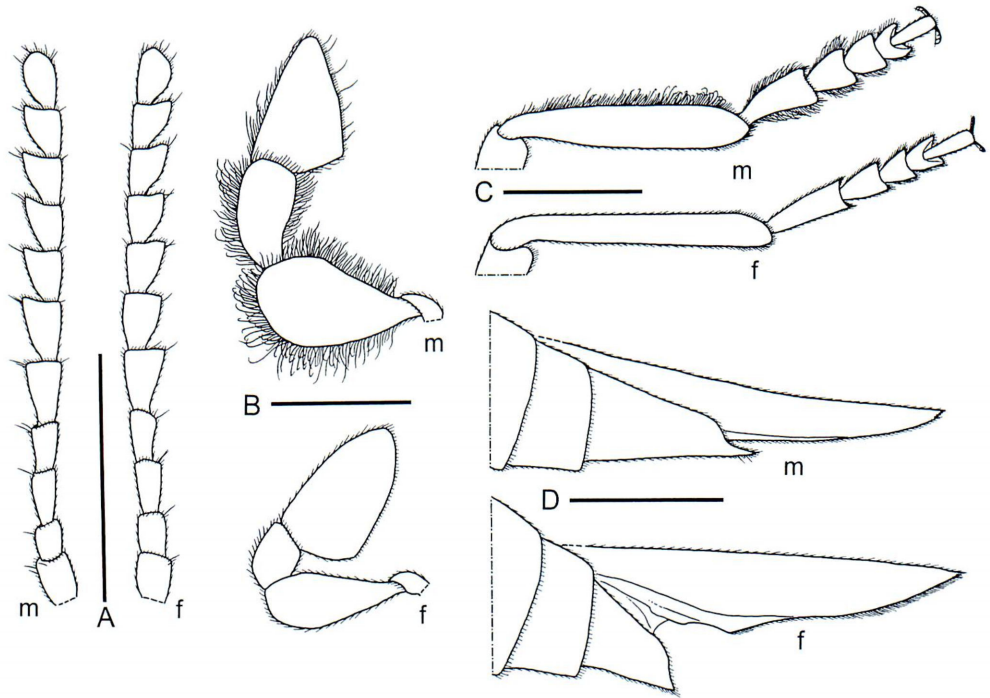
Eighth sternite (Fig. 5 A) elongated campanulate, about 1.82 times as long as wide, trifurcate at apical margin; lateral projections long and narrow, slightly curved inwards, densely covered with long setae; median projection long and narrow, clearly over 2/3 of lateral projections, covered with long hairs, truncated at apex.

Ninth sternite (Fig. 5 D) arrow-shaped, about 0.68 times as long as eighth sternite; arrowhead large and wide, about 0.26 times as long as total length, slightly projected at apex; two patches of short hairs present on the middle of arrowhead.

Parameres slender as compared with those of other members of the group, well sclerotized except for dorsal branch of right paramere. Left paramere (Fig. 6 A) slightly curved ventrad, bifurcate at apex; inner appendage subspatulate, moderately convergent to the apex, with apex clearly exceeding the tip of main lobe. Right paramere (Fig. 6 B)



Figs. 1. Habitus of *Hoshihananomia* spp. — A, *H. masatakai* TSURU et TAKAKUWA, sp. nov., holotype, ♂, dorsal view; B, ditto, lateral view; C, ditto, paratype, ♀, dorsal view; D, *H. splendens* (MIWA), ♂, dorsal view; E, ditto, lateral view; F, ditto, ♀, dorsal view; G, *H. trichopalpis* NOMURA, ♂, dorsal view; H, ditto, lateral view; I, ditto, ♀, dorsal view.



Figs. 2. *Hoshihananomia masatakai* TSURU et TAKAKUWA, sp. nov., holotype, ♂ and paratype, ♀.
 — A, m: right antenna, dorsal view; f: left antenna, ditto; B, right maxillary palpus, ventral view; C, left fore tibia and tarsus, dorsal view; D, 6th sternite, anal sternite and pygidium, lateral view; m, male; f, female. (Scales: 0.5 mm for B; 1 mm for A and C; 2 mm for D.)

about 1.24 times as long as left one; dorsal branch long and narrow, weakly sclerotized, slightly curved ventrad in inner view, undulate in ventral view, with apex broadened; ventral branch stoutest at bifurcation area, moderately curved dorsad in inner view, not exceeding the tip of dorsal branch, with apex sharply pointed; dorso-marginal process situated at 4/5 from bifurcation.

F e m a l e. Similar in general appearance to male, but different from it mainly in the following respects: body stouter, with yellowish orange pubescence paler; dorsal maculations more broadened; maxillary palpi covered with short pubescence, not broadened at 2nd and 3rd segments; fore legs slender, covered with short pubescence; pygidium straight and stout in lateral view; anal sternite shorter with apex widely rounded. Proportion of body: HW/HL 1.36; AL/HW 0.76; PW/PL 1.81; PL/HL 1.58; EL/EW 1.90; EL/PL 2.31; PYL/L 0.63; PYL/ASL 3.98.

Measurement. **M a l e:** BL 8.1–9.5 mm; AL 2.23 mm; HL 1.93–2.09 mm; HW 2.68–2.91 mm; PL 2.91–3.32 mm; PW 3.73–4.09 mm; EL 6.45–7.27 mm; EW 3.45–3.82 mm; PYL 4.82–5.45 mm; ASL 2.36–2.64 mm. **F e m a l e:** BL 9.5 mm; AL 2.25 mm; HL 2.18 mm; HW 2.97 mm; PL 3.44 mm; PW 4.39 mm; EL 7.93 mm; EW 4.18 mm; PYL

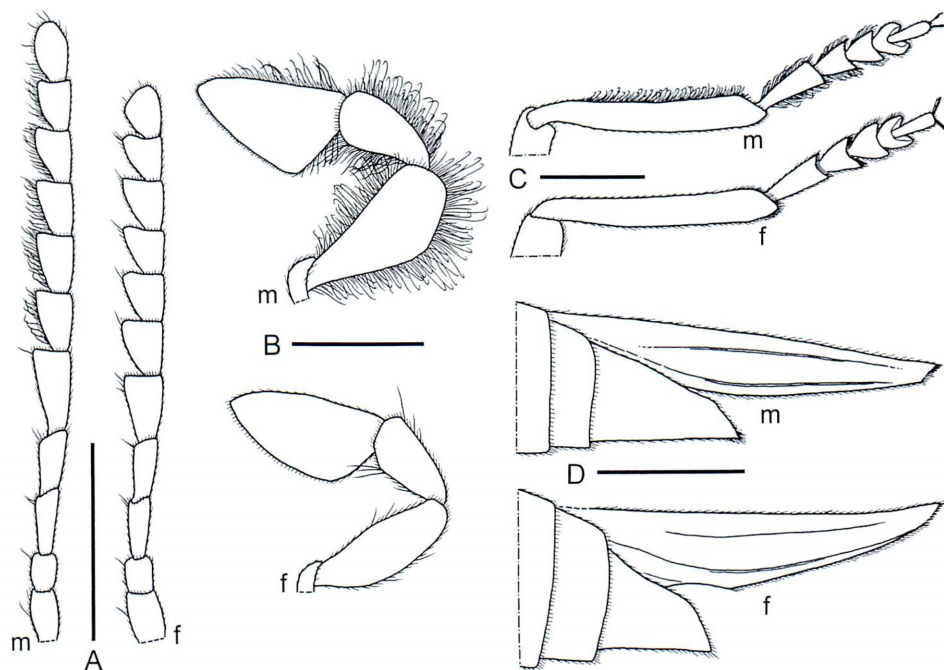


Fig. 3. *Hoshihananomia splendens* (MIWA). — A, Right antenna, dorsal view; B, left maxillary palpus, ventral view; C, left fore tibia and tarsus, dorsal view; D, 6th sternite, anal sternite and pygidium, lateral view; m, male; f, female. (Scales: 0.5 mm for B; 1 mm for A and C; 2 mm for D.)

4.97 mm; ASL 1.25 mm.

Biological notes. In a survey of the first author, adults of *Hoshihananomia masatakai* were collected by sweeping from the flowers of *Lithocarpus* sp. (Fagaceae).

Hoshihananomia splendens (MIWA, 1933)

(Figs. 1 D-F, 3, 5 B, E, 7)

Mordella splendens MIWA, 1933, 10, fig. 3 (original description). — KONO, 1933, 29 (*Mordella*, list); 1935, 125 (*Hoshihananomia*, combination); 1936, 30, fig. 22 (*Hoshihananomia*, description). — NOMURA, 1966, 47 (*Hoshihananomia*, list and additional record). — TAKAKUWA, 1976, 17 (*Hoshihananomia*, list and additional record with biological notes); 1985 b, 384, pl. 66, fig. 13 (*Hoshihananomia*, description with biological notes).

Type material. Not examined.

Specimens examined. 1♂, Hidori River, Iriomote-jima Is., 25-VI-1975, R. YANO leg. (KPM); 1♂, ditto, 26-VI-1975, R. YANO leg. (KPM); 1♀, Otake, Ishigaki-jima Is., 3-VI-2001, T. TSURU leg. (HUM); 1♀, Yonehara, Ishigaki-jima Is., 14-V-1992, H. YOSHITAKE leg. (HUM); 1♀, Shirahama, Iriomote-jima Is., 17~19-VI-1972, T.

KOBAYASHI leg. (KPM).

Distribution. Japan: Ryukyu Isls. (Ishigaki-jima and Iriomote-jima).

Diagnosis. *Hoshihananomia splendens* is similar to *H. masatakai* and *H. trichopalpis* in general appearance, but can be distinguished from them by the antenna of male which is densely covered with long hairs on ventral surface, and the differently shaped male genitalia.

Redescription. Male genitalia:— Eighth sternite (Fig. 5 B) campanulate, about 1.60 times as long as wide, trifurcate at apical margin; lateral projections short and wide, densely covered with long setae; median projection remarkably short and wide, covered with long hairs, widely truncated at apex.

Ninth sternite (Fig. 5 E) arrow-shaped, about 0.80 times as long as eighth sternite; arrowhead small, about 0.19 times as long as total length, lobed at apex; two patches of short hairs present on the middle of arrowhead.

Parameres well sclerotized except for dorsal branch of right paramere. Left paramere (Fig. 7 A) almost straight, bifurcate at apex; inner appendage subspatulate, with apex widely rounded, clearly exceeding the tip of main lobe. Right paramere (Fig. 7 B) slightly longer than left one; dorsal branch long and narrow, weakly sclerotized, almost straight in inner view, bent laterally at base in ventral view, with apex broadened; ventral branch constricted at bifurcation area, moderately curved dorsad in inner view, slightly exceeding the tip of dorsal branch, with apex rounded; dorso-marginal process situated just behind the apex.

Measurement. M a l e: BL 8.6–9.8 mm; AL 2.84–3.05 mm; HL 2.00–2.11 mm; HW 2.64–2.87 mm; PL 3.09–3.41 mm; PW 3.91–4.30 mm; EL 6.82–7.55 mm; EW 3.64–4.09 mm; PYL 4.50–5.05 mm; ASL 1.91–2.14 mm. F e m a l e: BL 10.3–11.9 mm; AL 2.73–2.82 mm; HL 2.45–2.55 mm; HW 3.09–3.34 mm; PL 3.86–4.09 mm; PW 4.91–5.25 mm; EL 8.64–9.11 mm; EW 4.77–4.98 mm; PYL 4.84–5.36 mm; ASL 1.36–1.64 mm.

Biological notes. TAKAKUWA (1976, 1985 b) reported that adults came onto logs of *Hibiscus tiliaceus* L. (Malvaceae) or on the leaves on the ridge of forests.

Hoshihananomia trichopalpis NOMURA, 1975

(Figs. 1 G–I, 4, 5 C, F, 8)

Hoshihananomia trichopalpis NOMURA, 1975, 30, pl. 5, figs. 5 & 6, text fig. 2 (original description). ——— TAKAKUWA, 1985 a, 5, pl. 2, fig. 6 (description); 1985 b, 384, pl. 66, fig. 14 (description with biological notes); 2004, 76 (additional record with biological notes).

Type material. Holotype: Japan: ♂, “Tsutsujiyama, Chichijima, Bonin Is., July, 2, 1972, Y. KUSUI” [Mt. Tsutsuji-yama, Chichi-jima Is., Ogasawara Isls., 2–VII–1972, Y. KUSUI leg.] (NSMT).

Specimens examined. 1♂, Hyôgi-daira, Haha-jima Is., Ogasawara Isls., 30–VI–1976, Y. KUROSAWA leg. (KPM); 1♀, Mt. Chibusa-yama, Haha-jima Is., Ogasawara Isls., 22–VI–1976, S. SHINONAGA leg. (KPM).

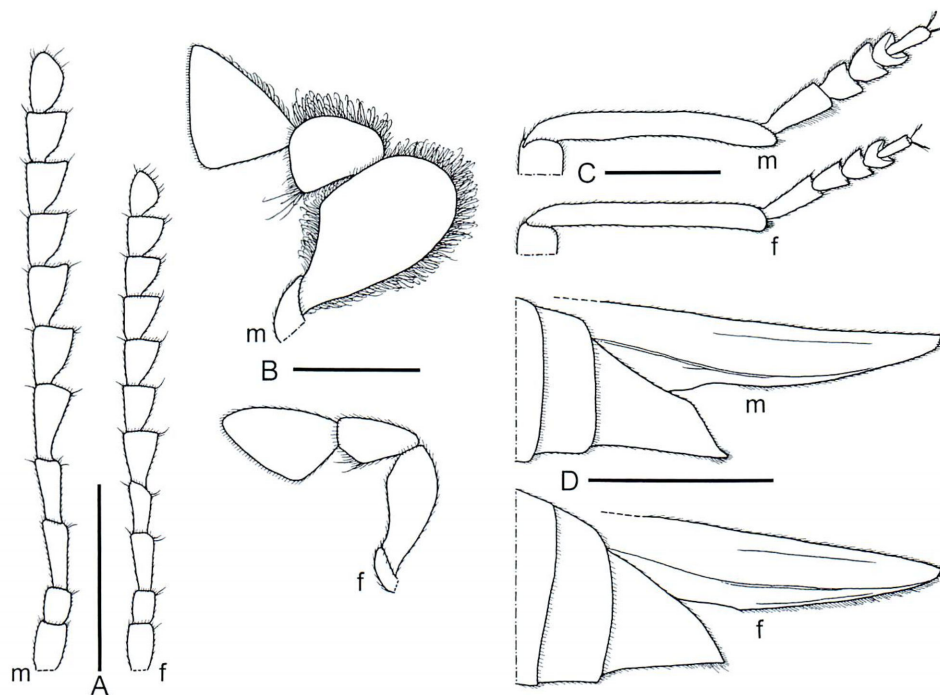


Fig. 4. *Hoshihananomia trichopalpis* NOMURA. — A, Left antenna, dorsal view; B, left maxillary palpus, ventral view; C, left fore tibia and tarsus, dorsal view; D, 6th sternite, anal sternite and pygidium, lateral view; m, male; f, female. (Scales: 0.5 mm for B; 1 mm for A and C; 2 mm for D.)

Distribution. Japan: Ogasawara Isls. (Chichi-jima, Haha-jima, Ani-jima and Otô-to-jima).

Diagnosis. *Hoshihananomia trichopalpis* is similar to *H. masatakai* and *H. splendens* in general appearance, but can be distinguished from them by the expanded yellowish orange maculations on dorsal surface, slightly curved fore tibia of male, stout pygidium, the apex of which is truncated in dorsal view, and the differently shaped male genitalia.

Redescription. Male genitalia:— Eighth sternite (Fig. 5 C) campanulate, about 1.53 times as long as wide, trifurcate at apical margin; lateral projections long and narrow, strongly curved inwards, densely covered with long setae; median projection moderate in length as compared with that in the above two species, covered with long hairs, truncated at apex.

Ninth sternite (Fig. 5 F) arrow-shaped, about 0.76 times as long as eighth sternite; arrowhead about 0.26 times as long as total length, with apex rounded; two patches of short hairs present on the middle of arrowhead.

Parameres well sclerotized except for dorsal branch of right paramere. Left paramere (Fig. 8 A) almost straight, bifurcate at apex; inner appendage subspatulate,

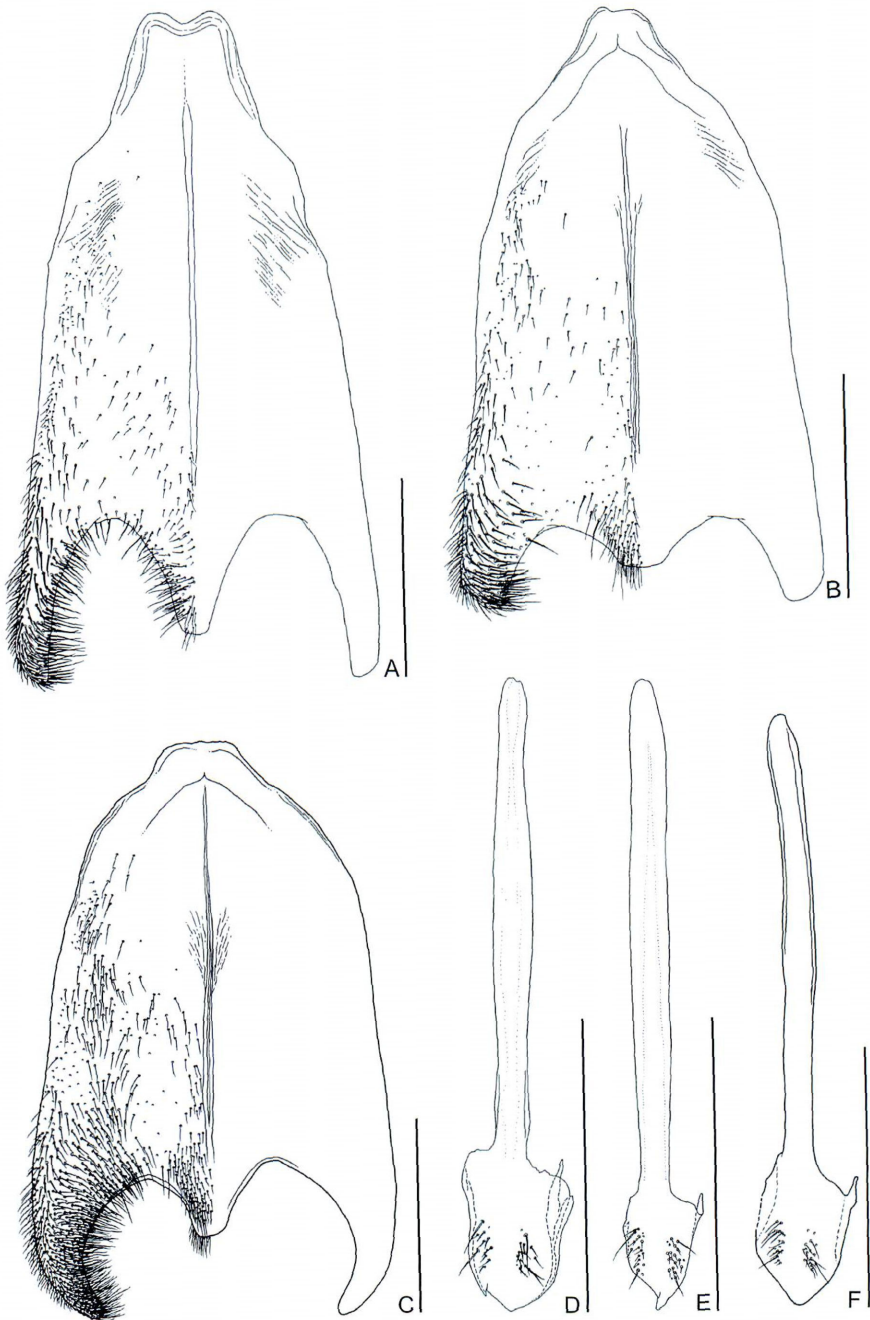


Fig. 5. Eighth sternites (A-C) and ninth sternites (D-F) of *Hoshihananomia* spp., male. — A, D, *H. masatakai* TSURU et TAKAKUWA, sp. nov., holotype; B, E, *H. splendens* (MIWA); C, F, *H. trichopalpis* NOMURA. (Scales: 1 mm.)

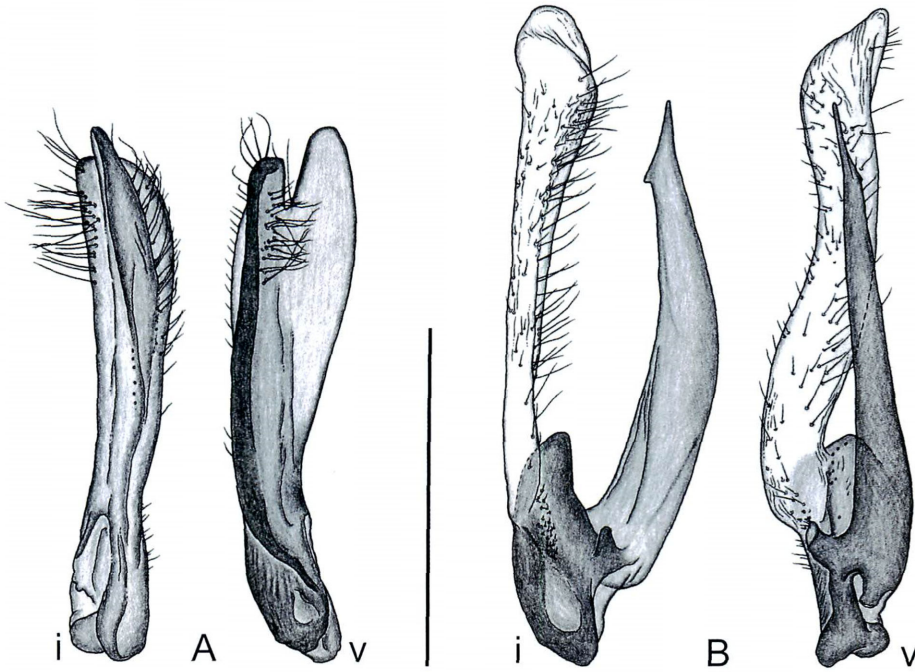


Fig. 6. Parameres of *Hoshihananomia masatakai* TSURU et TAKAKUWA, sp. nov., holotype. — A, Left paramere; B, right paramere; i, inner view; v, ventral view. (Scale: 1 mm.)

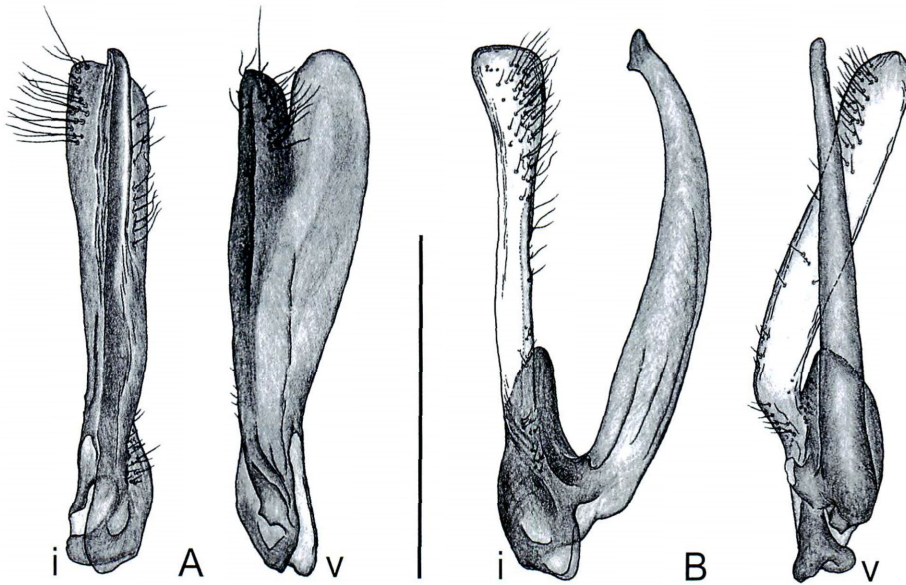


Fig. 7. Parameres of *Hoshihananomia splendens* (MIWA). — A, Left paramere; B, right paramere; i, inner view; v, ventral view. (Scale: 1 mm.)

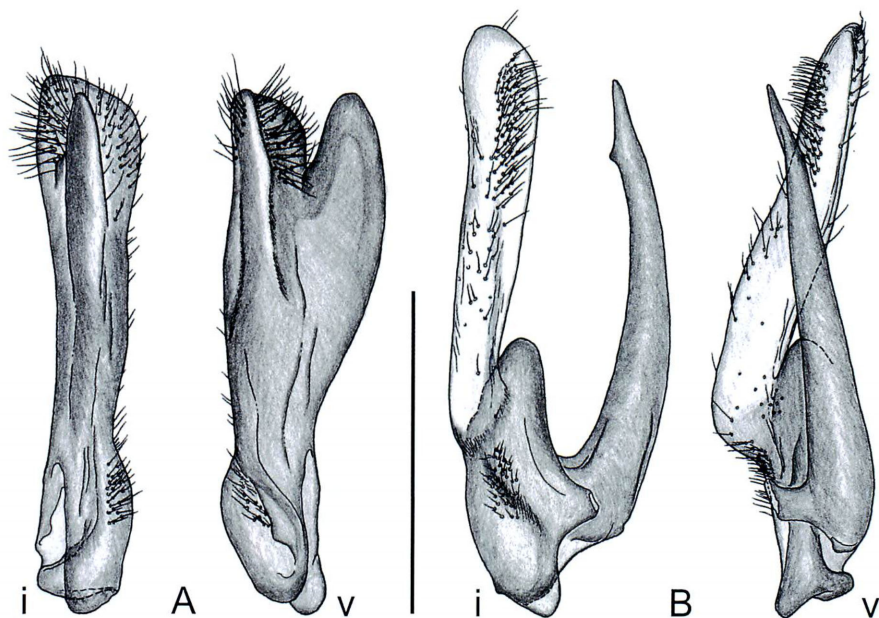


Fig. 8. Parameres of *Hoshihananomia trichopalpis* NOMURA. — A, Left paramere; B, right paramere; i, inner view; v, ventral view. (Scale: 1 mm.)

emarginate at inner margin, moderately tapered to the apex, with apex not exceeding the tip of main lobe. Right paramere (Fig. 8 B) about 1.12 times as long as left; dorsal branch weakly sclerotized, almost straight in inner view, bent laterally at base in ventral view, with apex flattened; ventral branch stoutest at bifurcation, moderately curved dorsad in inner view, not exceeding the tip of dorsal branch, with apex pointed; dorso-marginal process situated at 4/5 from bifurcation.

Measurement. Male: BL 8.0–8.6 mm; AL 2.77–3.27 mm; HL 1.82–2.00 mm; HW 2.37–2.62 mm; PL 2.73–3.00 mm; PW 3.36–3.73 mm; EL 5.64–6.88 mm; EW 3.16–3.45 mm; PYL 3.64–3.91 mm; ASL 1.55–1.56 mm. Female: BL 9.2 mm; AL 2.64 mm; HL 2.05 mm; HW 2.55 mm; PL 3.14 mm; PW 3.86 mm; EL 7.41 mm; EW 3.73 mm; PYL 3.73 mm; ASL 1.23 mm.

Biological notes. TAKAKUWA reported that adults came on the flowers of *Terminalia catappa* L. (Combretaceae) (1985 b), or on the standing dead tree of *Cinnamomum pseudo-pedunculatum* HAYATA (Lauraceae) (2004).

Acknowledgements

We wish to express our hearty gratitude to Dr. Shun-Ichi UÉNO (NSMT) for reading the manuscript. Additionally, we are deeply indebted to Dr. Bernd JAEGER (MNHUB) and Shûhei NOMURA (NSMT) for loan of materials. Hearty thanks are also

due to Dr. Hiraku YOSHITAKE for his kindness in offering valuable materials used for this study. In closing, we are grateful for the 21st Century COE grant by the Japanese Ministry of Education, Culture, Sports, Science and Technology for the “Neo-Science of Natural History” Program (Leader: Hisatake OKADA).

要 約

鶴 智之・高桑正敏：台湾産ホシハナノミ属の1新種，ならびに日本産同系統2種の再記載。——台湾産のホシハナノミ属の大型美しい1新種，*Hoshihananomia masatakai* TSURU et TAKAKUWA を記載した。本種は，琉球列島南部に分布するヤエヤマキボシハナノミ *H. splendens* MIWA および小笠原諸島に分布するオガサワラキボシハナノミ *H. trichopalpis* NOMURA とともに特異なグループを形成するので，あわせてこれら日本産の2種を再記載した。このグループは，鞘翅の中央紋の外後方に1対の明瞭な黄～橙色円紋を現す点で，東アジアにおける他の同属種から容易に区別される。

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