

Notes on Elaterid Beetles (Coleoptera, Elateridae) from East Asia (IV) Four New Species of Elaterid Beetles from Japan

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Abstract Four new species, *Megapenthes yoshihisai*, *M. ootsuboi*, *Agaripenthes yakuensis*, and *Ampedus (Ampedus) yutakai*, are described from Japan.

Through the courtesy of my colleagues, I have recently had an opportunity to examine a number of elaterid beetles from Japan. After careful examination, I have found that they include four new species which are described below.

Before going further, I wish to express sincere gratitude to Dr. Hitoo ÔHIRA in Okazaki for his continuous guidance, and Dr. Takashi KISHII in Takatsuki for his useful suggestion. My thanks are also due to Messrs, Kôichi ARIMOTO in Fukuoka, Hiroyoshi HIRAMATSU in Wakayama, Yutaka ISHIKAWA in Maruko-machi, Ryou NODA in Kurume, Hirofumi OOTSUBO in Kagoshima, Yuji TSUTSUMIUCHI in Usuki and Yoshihisa KUSUI in Yuasa for their kindly offering the specimens used in this study.

The holotypes of new taxa are deposited in the collection of the Osaka Museum of Natural History.

Megapenthes yoshihisai sp. nov.

(Figs. 1, 5, 9–10)

Male. Length about 7.9 mm, width about 1.9 mm. Body slender and subfusiform, convex above and a little shining. Head and elytra black except for basal portions of elytra yellowish brown; pronotum black to blackish brown with posterior angles yellowish brown; antennae black with basal three segments dark brown; scutellum dusky brown to black; mouth parts yellowish brown to brown except for apical portions of mandible blackish brown; most parts of ventral surfaces reddish yellow with seventh sternite of abdomen blackish brown; legs dusky yellow.

Dorsal surface clothed with black and recumbent setae; ventral surface with reddish yellow and recumbent setae.

Head gently convex between eyes and almost flattened and subvertical between antennae; surface rather coarsely and densely punctate; clypeal margin well ridged, rounded and more or less impressed at the middle. Antennae rather long; extending beyond posterior angles of pronotum at least by apical segments; basal segment robust and subclavate; the second short, subglobular and slightly longer than wide; the third subcylindrical and almost as long as the second; the fourth triangular and about 2.6 times as long as the third; from fourth to tenth clearly serrate.

Pronotum subtrapezoidal, about 1.1 times as long as the median width, with sides nearly parallel in basal halves, then weakly arcuate and clearly convergent towards anterior angles; disc moderately convex, surface micro-reticulate, moderately densely and shallowly punctate, each

puncture forming like umbilicus; lateral margins narrowly rimmed in basal halves; posterior angles projecting posteriad, each with a distinct carina above.

Scutellum subvertical, triangular and obtusely pointed apex; surface micro-reticulate, coarsely and weakly granulated.

Elytra about 2.8 times as long as its width, with sides almost straight and gradually convergent from base to apical third, then rounded and convergent towards apices, which are divergent and clearly emarginated; striae well defined, deeply and regularly punctate; intervals flattened, micro-reticulate and distinctly granulated in basal portions.

Legs slender, with tarsi and claws simple.

Prosternal process slightly incurved just behind procoxal cavities in lateral aspect, then extending towards obtusely pointed apex.

Male genitalia as illustrated (Figs. 9–10); median lobe longer than lateral lobes, gradually narrowed towards obtusely pointed apex; each apical portion of lateral lobes semicircular and furnished with some long setae.

F e m a l e. Unknown.

Type series. Holotype; ♂, Nagakumo-tôge, Tatsugô-chô, Ôshima-gun, Amami-Ôshima Is., Kagoshima Pref., the Ryukyus, Southwest Japan, 15–VII–2009, Y. KUSUI leg.

Etymology. The specific name is dedicated to Dr. Yoshihisa KUSUI, who found this new species.

Notes. This new species is similar to *Megapenthes taichii* KISHII, 1975 from Amami-Ôshima Is., but can be distinguished from the latter by the following points: 1) the body is larger; 2) the antennae are distinctly shorter; 3) lateral margins of pronotum narrowly rimmed in basal halves; 4) the male genital apparatus clearly different in structures.

Megapenthes ootsuboi sp. nov.

(Figs. 2, 6, 11–12)

M a l e. Length about 7.8–9.5 mm, width about 1.8–2.4 mm. Body elongate, almost parallel-sided, moderately convex and a little shining. Colour brown to dusky brown except for basal portion of pronotum, basal portion of elytra and legs yellowish brown.

Body surfaces clothed with golden yellow and recumbent setae all over.

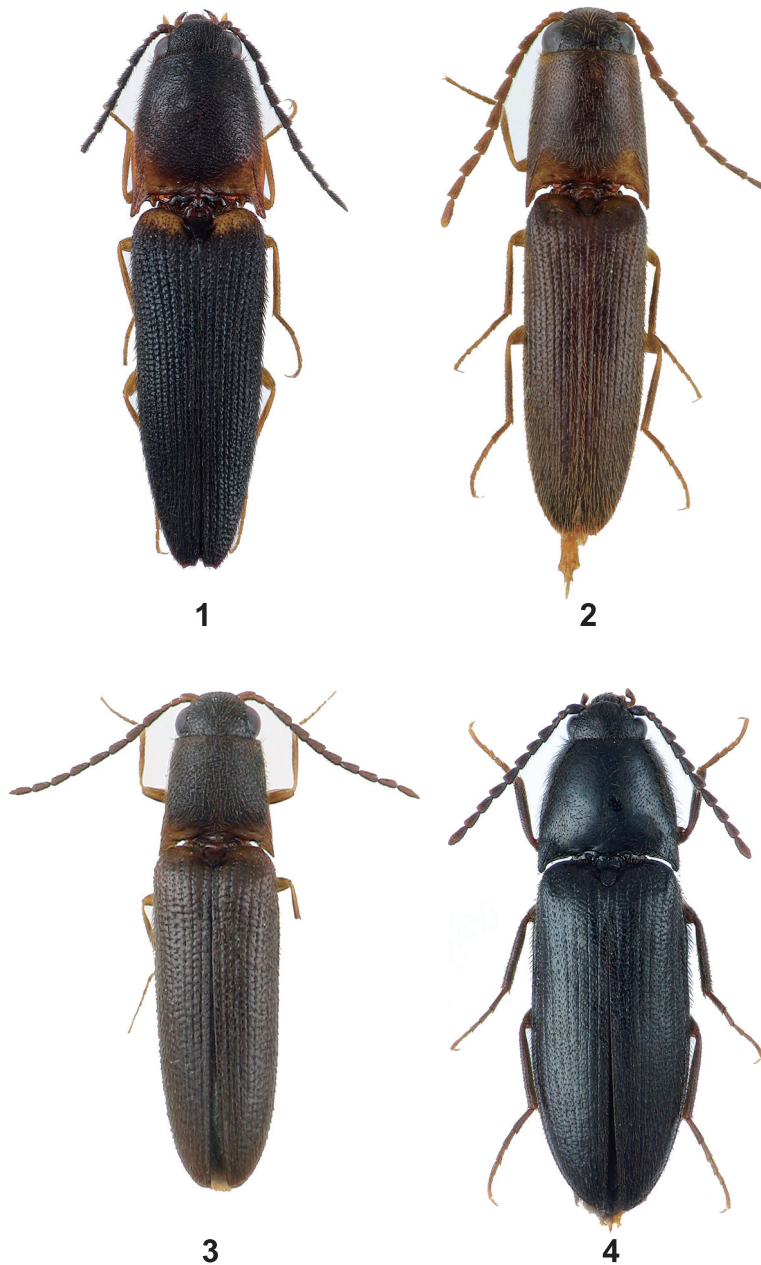
Head moderately convex between eyes and almost flattened and subvertical between antennae; surface coarsely and contiguously punctate; clypeal margin well ridged, rounded and more or less impressed at the middle.

Antennae rather long, extending beyond posterior angles of pronotum at least by apical two segments; basal segment robust and subclavate; the second short, subglobular and slightly longer than its wide; the third subcylindrical and almost as long as the second; the fourth triangular and about 3.1 times as long as the third; from fourth to tenth clearly serrate.

Pronotum subquadrate, about 1.1 times as long as the median width, with sides almost straight and slightly convergent from base to anterior angles; disc gently convex, surfaces micro-reticulate, rather sparsely punctate, the punctures smaller and sparser than those of head; posterior angles projecting posteriad, each with a distinct carina above.

Scutellum subvertical, triangular and obtusely pointed apex; surface micro-reticulate.

Elytra about 2.8 times as long as its basal width, with sides almost parallel in basal third, then rounded and convergent towards apices, which are transversely truncated; striae well defined,



Figs. 1–4. Habitus of Elaterinae spp. Holotypes. — 1, *Megapenthes yoshihisai* sp. nov.; 2, *Megapenthes ootsuboi* sp. nov.; 3, *Agaripenthes yakuensis* sp. nov.; 4, *Ampedus (Ampedus) yutakai* sp. nov.

deeply and regularly punctate; intervals rather flattened, micro-reticulate and distinctly granulated in basal portions.

Legs slender, with tarsi and claws simple.

Prosternal process clearly incurved just behind procoxal cavities in lateral aspect, then

extending towards obtusely pointed apex.

Male genitalia as illustrated (Figs. 11–12); median lobe distinctly longer than lateral lobes, almost parallel-sided from base to near apex, then rounded convergent towards obtusely pointed apex; each apical portion of lateral lobes semicircular and furnished with some long setae.

F e m a l e. Length 8.8–10.5 mm, width 2.0–2.5 mm. Similar to male in general structures, but body larger and antennae shorter.

Type series. Holotype: ♂, Asan [阿三], Isen-chô, Ôshima-gun, Tokuno-shima Is., Kagoshima Pref., the Ryukyus, Southwest Japan, 10–VII–2007, H. OOTSUBO leg. Paratypes: 1 ♂, San, Tokunoshima-chô, Ôshima-gun, Tokuno-shima Is., 27–VI–2008, H. OOTSUBO leg.; 1 ♂, Hatsuno, Setouchi-chô, Amami City, Amami-Ôshima Is., Kagoshima Pref., the Ryukyus, Southwest Japan, 13–VII–1977, N. YAMAMOTO leg.; 1 ♂, 2 ♀♀, Mt. Akatsuchi-yama, Uken-son, Amami City, 27–29–VI–1998, I. MATOBA leg.; 1 ♀, Naze-chinase, Amami City, 10–13–VII–2010, R. NODA leg.; 1 ♀, Naze-chinase, Amami City, 10–13–VII–2010, K. ARIMOTO leg.

Etymology. The specific name is dedicated to Mr. Hirofumi OOTSUBO, who is the collector of the holotype.

Notes. The new species is similar to *Megapenthes taichii* KISHII, 1975 known from Amami-Ôshima Is., but can be distinguished from the latter by the following points: 1) the body is distinctly larger; 2) the antennae are shorter; 3) the male genital apparatus clearly different in structures.

Agaripenthes yakuensis sp. nov.

(Figs. 3, 7, 13–14)

M a l e. Length 3.5–3.8 mm, width 0.8–0.9 mm. Body elongate, a little shining except for pronotum rather opaque. Head and pronotum black to blackish brown except for basal portion of pronotum including posterior angles yellowish brown; elytra dusky brown with basal portion yellowish brown; scutellum yellowish brown; antennae blackish brown with basal three segments yellowish brown; most parts of ventral surfaces brown to blackish brown; legs yellowish brown.

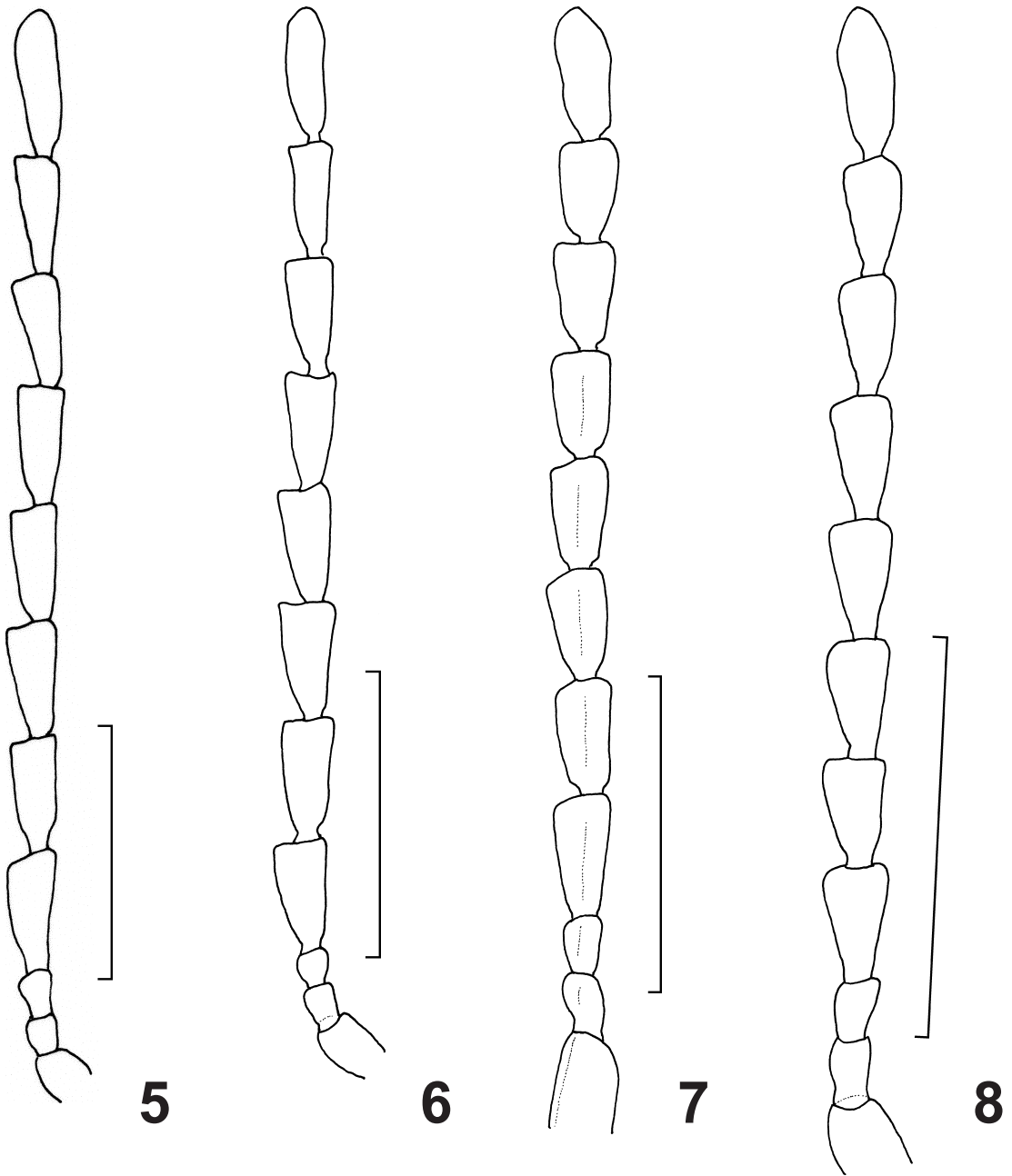
Body surfaces clothed with yellowish brown and recumbent setae all over.

Head moderately convex between eyes and almost flattened and subvertical between antennae; surface coarsely and densely punctate, each puncture forming like umbilicus; clypeal margin ridged, rounded and weakly impressed at the middle; eyes large and prominent. Antennae elongate; extending beyond posterior angles of pronotum at least by apical two segments; basal segment robust and subclavate with a median longitudinal carina on outer surface; the second short, subglobular and slightly longer than wide; the third subcylindrical and almost as long as the second; the fourth triangular and about twice as long as the third; from fourth to tenth clearly serrate, from second to eighth bearing a median longitudinal ridge on each outer surface.

Pronotum subtrapezoidal, almost as long as median width, with sides almost straight and gradually convergent from base to anterior angles; disc gently convex, surface shagreened, rather densely and umbilicately punctate, the punctures slightly smaller and sparser than those of head; posterior angles projecting posteriad and pointed apicad, each with a distinct carina above.

Scutellum subvertical, triangular and obtusely pointed apicad; surface micro-reticulate.

Elytra about 2.8 times as long as its basal width, with sides almost straight and gradually convergent from base to apical third, then rounded and convergent towards apices; striae well defined, deeply punctate; intervals rather flattened, irregularly and transversely rugose.



Figs. 5–8. Right antenna. — 5, *Megapenthes yoshihisai* sp. nov.; 6, *M. ootsuboi* sp. nov.; 7, *Agaripenthes yakuensis* sp. nov.; 8, *Ampedus (Ampedus) yutakai* sp. nov. — Scales: 1 mm for figs. 5, 6, 8; 0.5 mm for fig. 7.

Legs slender, with tarsi and claws simple.

Prosternal process weakly incurved just behind procoxal cavities in lateral aspect, then projecting towards apex, with apical portion obliquely truncated.

Male genitalia as illustrated (Figs. 13–14); median lobe distinctly longer than lateral lobes, almost parallel in basal two-thirds, then gradually convergent towards obtusely pointed apex; each apical portion of lateral lobes semicircular and furnish with some setae.

F e m a l e. Unknown.

Type series. Holotype: ♂, Yakusugi-land, Yakushima-chô, Yaku-shima Is., Kagoshima Pref. Southwest Japan, 4–VIII–2008, Y. KUBOTA leg. Paratype: 1 ♂, Yodogawa-tozanguchi, Yakushima-chô, Yaku-shima Is., 4–VIII–2009, Y. KUBOTA leg.

Etymology. This specific name is taken from the distributional area, Yaku-shima Is.

Notes. This new species is similar to *Agaripenthes helovolus* (CANDÈZE, 1873) from Japan, but can be distinguish from the latter by the following points: 1) the pronotum blackish brown and the elytra dusky brown whereas that of *A. helovolus* is yellow to yellowish brown; 2) the antennae blackish brown with basal three segments yellowish brown; 3) the punctures on the pronotal disc are denser; 4) the intervals of elytra rugoser.

Ampedus (Ampedus) yutakai sp. nov.

(Figs. 4, 8, 15–16)

M a l e. Length 7.5–8.0 mm, width 2.2–2.3 mm. Body elongate, subparallel-sided, rather flattened above and shining. Colour black; antennae blackish brown except for basal segment black; legs blackish brown with tarsi and claws brown.

Dorsal surfaces clothed with black and recumbent setae; ventral surfaces with yellowish brown and recumbent setae.

Head slightly convex between eyes; surface smooth, coarsely and rather densely punctate; clypeal margin well ridged, rounded and impressed at the middle. Antennae short; extending beyond posterior angles of pronotum at least by apical segments; basal segment robust and subclavate; the second short, subglobular and about 1.1 times as long as its width; the third obconical and about 1.3 times as long as the second; the fourth triangular and about 1.6 times as long as the third; from fourth to tenth clearly serrate.

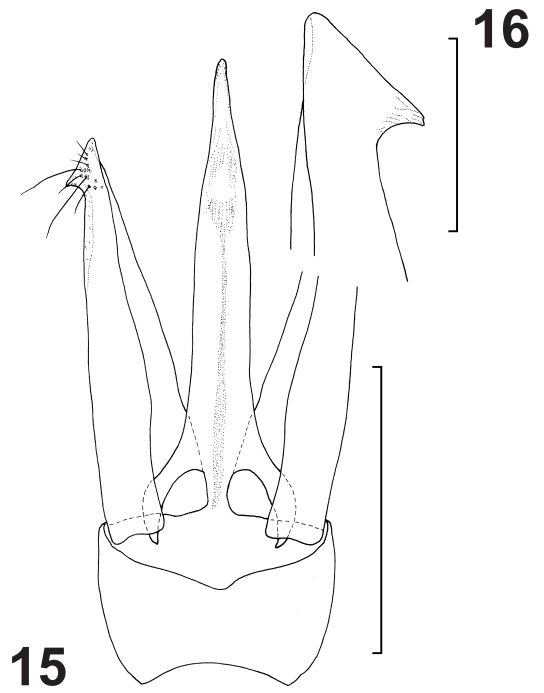
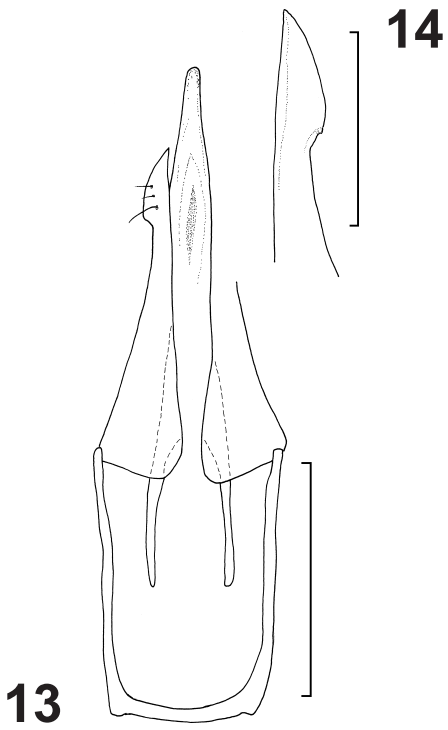
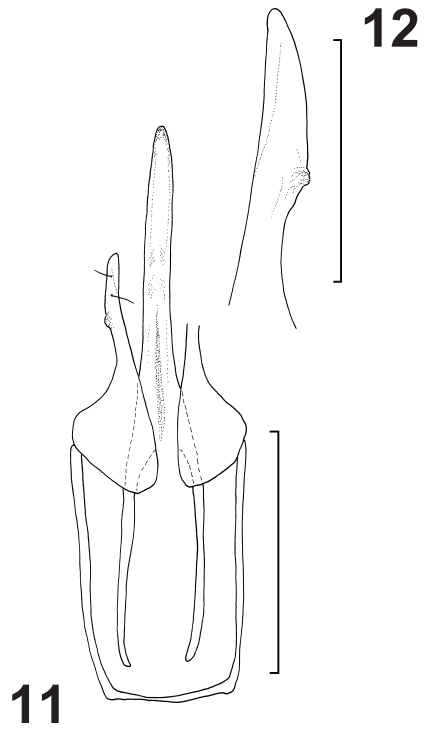
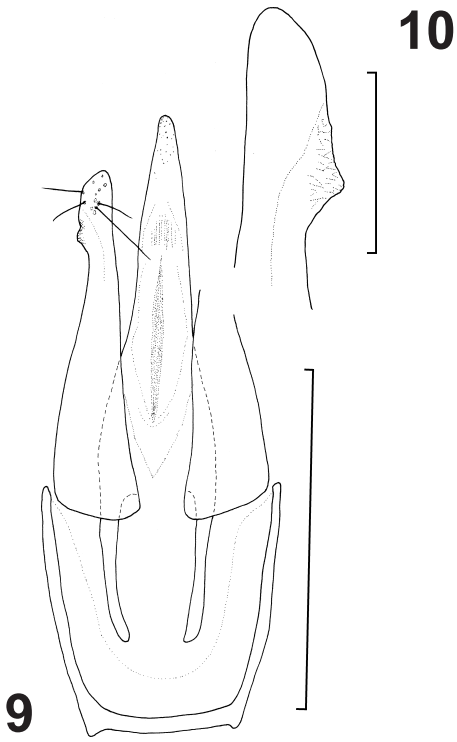
Pronotum subtrapezoidal, about 0.9 times as long as median width, with sides almost straight and slightly convergent in basal halves, then weakly arcuate and clearly convergent towards anterior angles; disc gently convex, surface smooth and rather sparsely punctate; posterior angles projecting posteriad and obtusely pointed apically, each with a rather short carina above.

Scutellum ligulate; surface micro-reticulate and rugosely punctate.

Elytra about 2.4 times as long as its basal width, almost parallel in basal halves, then rounded and convergent towards apices; striae defined, deeply and regularly punctuate; intervals flattened, surfaces irregularly and tranversely rugose, sparsely and unevenly punctuate.

Legs slender, tarsi and claws simple.

Prosternal process distinctly incurved just behind procoxal cavities in lateral aspect, then



extending posteriad, with apical underside weakly emarginate.

Male genitalia as illustrated (Figs. 15–16); median lobe slender and a little longer than lateral lobes, almost parallel-sided in basal halves, then gradually narrowed towards pointed apex; each apical portion of lateral lobes triangularly expanded, furnished with some long setae.

Female. Length 8.0–8.3 mm, width 2.2–2.5 mm. Similar to male in general structures, but the body more robust and antennae shorter.

Type series. Holotype: ♂, Mugikusa-tôge, 2,100 m in alt., Sakuho-chô, Nagano Pref., Central Japan, 5–VII–2005, Y. ISHIKAWA leg. Paratypes: 1 ♂, Sirakoma-ike, 2,100 m in alt., Sakuho-chô, Nagano Pref., 29–VI–2000, Y. ISHIKAWA leg.; same locality and collector as the holotype, but different dates, 2 ♂♂, 28–VI–2002, 1 ♂, 29–VI–2002, 1 ♂, 6–VII–2002, 3 ♀♀, 9–VII–2002, 1 ♂, 21–VI–2003, 1 ♂, 5–VII–2003, 1 ♂, 16–VII–2003, 1 ♂, 26–VI–2003, 1 ♂, 16–VII–2003.

Etymology. The specific name is dedicated to Mr. Yutaka ISHIKAWA, who found this species.

Notes. This new species is similar to *Ampedus (Ampedus) houwau* KISHII, 1990, from Central Japan, but can be distinguished from the latter by the following points: 1) the body is smaller; 2) the punctures on the head are distinctly sparser; 3) the antennae shorter; 4) the third segment of each antenna are obconical whereas those of *A. (A.) houwau* are triangular.

要 約

有本久之：東アジア産コメツキムシ科甲虫（第4報）：日本産コメツキムシの4新種。——日本から発見されたコメツキムシの4新種をそれぞれ、*Megapenthes yoshihisai*（クスイツヤケシコメツキ）、*M. ootsuboi*（オオツヤケシコメツキ）、*Agaripenthes yakuensis*（ヤククロホソキコメツキ）、*Ampedus (Ampedus) yutakai*（タカネクロコメツキ）と命名して記載した。*M. yoshihisai*は*M. taichii*に似るが、体はより大型で幅広い、触角は明らかに短く、また前胸側縁の後半部分は狭く縁取られるなどの違いにより区別できる。*M. ootsuboi*は*M. taichii*によく似るが、体はより大型、触角は短く、雄交尾器の形状の相違により明瞭に区別できる。*A. yakuensis*は*A. helovolus*によく似るが、体は黒褐色、前胸背板はより密に点刻されるなどにより区別できる。*A. (A.) yutakai*は*A. (A.) houwau*に似るが、体はより小型、頭部の点刻はより疎らに印する、触角は明らかに短く第3節は倒円錐形をしているなどの点で区別できる。

References

- KISHII, T., 1969. Some new forms of Elateridae in Japan (IV). *Bull. Heian High School, Kyoto*, (14): 1–10.
 ———— 1990. Notes on Elateridae from Japan and its adjacent area (9) (Coleoptera). *Ibid.*, (34): 1–16.
 ———— 2006. A revisional study on *Megapenthes shirozui* (Coleoptera: Elateridae) and its allied species from Japan, with descriptions of four new taxa. *Ent. Rev. Japan*, **61**: 55–68.
- MAKIHARA, H., & H. ÔHIRA, 2005. Notes on the elaterid-beetles from Ogasawara Islands in the collection of Forestry and Forest Products Research Institute (FFPRI). *Bull. FFPRI*, **4**: 53–64.
 ———— 2006. Supplementary notes on the elaterid-beetles (Coleoptera: Elateridae) of the Ogasawara Islands held in the collection of the Forestry and Forest Products Resarch Institute (FFPRI), including a description of a new species. *Ibid.*, **5**: 93–97.
- ÔHIRA, H., 1968. The Elateridae of the Ryukyu Archipelago, V (Coleoptera). *Kontyû, Tokyo*, **36**: 134–143.

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