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Three New Species of the Genus *Batrisodellus* (Coleoptera, Pselaphidae) from Japan

Tsutomu TANABE

Zoological Institute, Faculty of Science, Hokkaido University,
Sapporo, 060 Japan

and

Takehiko NAKANE

Nirenokidai, 2–19–502, Asahigaoka-chô, 32–73, Chiba, 281 Japan

Abstract The genus *Batrisodellus* is redescribed, and three new species of the genus, *Batrisodellus risor*, *B. coprea*, and *B. cerberus* are described from Japan.

The genus *Batrisodellus* was established by JEANNEL (1958) for the Japanese species, *Batrisodes nipponensis* RAFFRAY 1909.

In this paper, we are going to redescribe this genus, and to describe three new species of this genus from Japan. The holotypes are deposited in the collection of T. NAKANE. The paratypes are deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo, and in that of T. TANABE.

Genus *Batrisodellus* JEANNEL

Batrisodellus JEANNEL, 1958, Mém. Mus. Hist. nat., Paris, (N.S., A), 18: 37–38; type species: *Batrisodes nipponensis* RAFFRAY, 1909.

Description. Male:— Length 2.1–2.8 mm (from apical margin of frons to the tip of abdomen).

Head slightly longer than wide; frons roundly projected forward, convex and heavily punctured laterally; vertex convex, smooth, enclosed with a \cap -shaped gutter which is terminated in a pit at each side, with a fovea at middle and a short longitudinal carina from median carina to base; eyes convex, moderate in size.

Antennae half length of body; 1st segment robust, subcylindrical, and emarginated apically; 2nd–8th subglobular, small; 9th–10th projected ventrally, 10th somewhat wider than 9th; 11th largest, depressed in basal half of ventral face, with a spine at base of ventral face.

Pronotum smooth, slightly wider than head, widest at middle, with a median gutter and a pair of lateral longitudinal gutters, a pair of longitudinal carinae in the middle between median and lateral gutters, a short mediobasal longitudinal carina which runs from posterior edge of median gutter to basal margin, and with two

pairs of foveae on base.

Elytra convex, smooth, subtrapezoidal, widest at basal 2/3, wider than pronotum, with three pairs of foveae on base.

Abdomen with five visible tergites and sternites; first visible tergite with two pairs of longitudinal carinae; inner carinae short, robust, and located at each side of base; outer carinae long, slightly sinuate.

Legs: Prefemur with a sensory organ on anterior face; mesofemur with a spine at middle of posterior face; mesotibia with a small denticle at middle of posterior face; metatibia with a calcar.

Male genitalia boat-shaped, with a short rod-like process at middle of basal margin.

Female:— Agreeing with males in somatic features except for the following characters: 9th–10th antennal segments simple; 11th fusiform, without modification and smaller; mesotibia without a denticle.

Distribution. Japan.

Remarks. In the original description of this genus, JEANNEL gave account of the shape of pronotum, elytra, legs, and male genitalia. However, frons, vertex, antennae and abdomen were not mentioned. They are fully described in this paper.

Batrisodellus risor TANABE et NAKANE, n. sp.

(Figs. 1–12)

Diagnosis. Different from all the other species of *Batrisodellus* in having robust and truncated male genitalia.

Description. Male:— Body from above as in Fig. 1. Length 2.3–2.4 mm (from apical margin of frons to the tip of 3rd abdominal segment).

Color: Dark reddish brown; mouthparts and legs paler.

Head: As given in generic description.

Antennae: Ventral faces of 9th–10th antennal segments (Fig. 2) somewhat projected on ventral face; spine on 11th (Fig. 2) small, arcuate.

Pronotum (Fig. 4) as long as wide, broadly convex on lateral face in apical half. All gutters, carinae and foveae distinct; median gutter 3/4 length of disc, progressively deepened backward; lateral carinae half length of disc, with an acute spine at posterior edge; lateral gutters half length of disc, terminated in a posterior depression, with an acute spine at posterior edge.

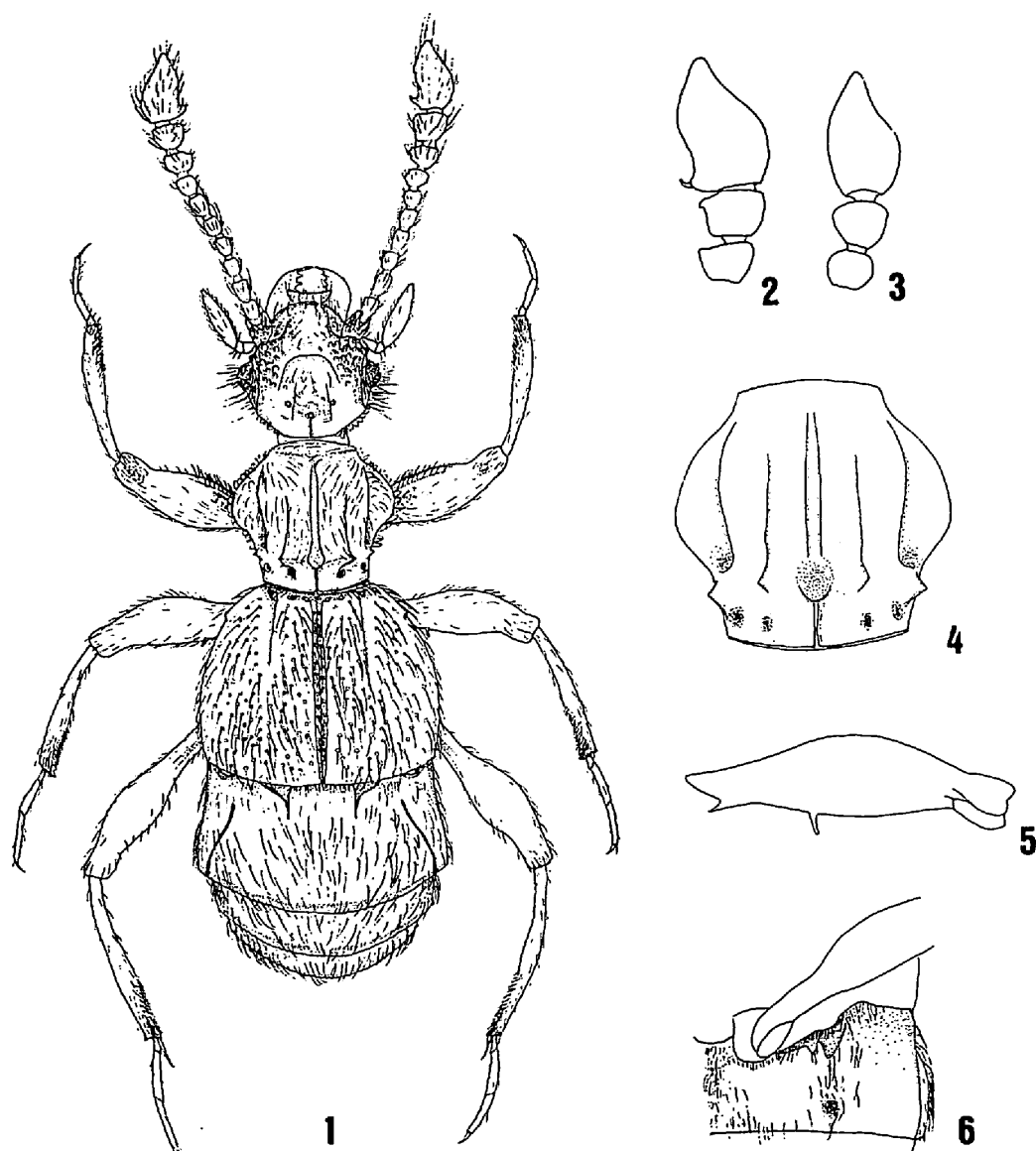
Elytra: Humeral regions slightly elevated, with a small spine.

Abdomen slightly wider than elytra, coarsely punctured; pygidium simple.

Legs moderately long; mesofemoral spine (Fig. 5) small.

Male genitalia (Figs. 7–9) boat-shaped, truncated, subsymmetrical, robust; dorsally, lateral margins sinuate, and subparallel, and right anterior angle shortly projected.

Female:— Length 2.1–2.2 mm; agreeing with males in somatic features ex-

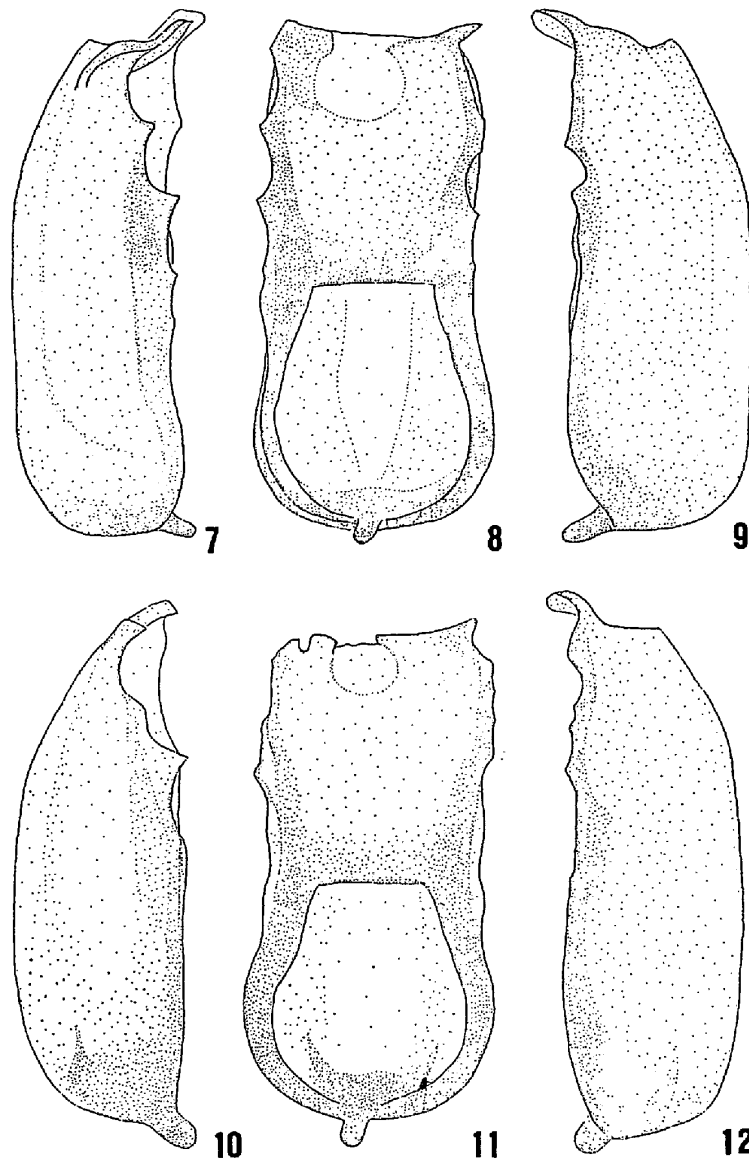


Figs. 1-6. *Batrisodellus risor* n. sp.; 1, male, dorsal view; 2, 9th-11th antennal segments of male, lateral view; 3, 9th-11th antennal segments of female, lateral view; 4, pronotum, dorsal view; 5, right mesofemur of male, posterior view; 6, 1st visible sternite of male from Is. Yaku-shima, ventral view.

cept for 9th-10th antennal segments (Fig. 3) subglobular.

Variation. Males from Is. Yaku-shima have a pair of foveae on the 1st visible sternite (Fig. 6), but its male genitalia (Figs. 10-12) are similar to those of males from Is. Kuchi-no-erabu-jima.

Specimens examined. 1 male (holotype), Honmura, Is. Kuchi-no-erabu-jima, 17-XI-1985, T. TANABE leg. 1 male (paratype) and 1 female (paratype), locality as above, 16-XI-1985, T. TANABE leg. 1 male (paratype), Mukaehama, Is. Kuchi-no-



Figs. 7–12. *Batrisodellus risor* n. sp.; 7, male genitalia of a specimen from Is. Kuchi-no-erabu-jima, right lateral view; 8, the same, dorsal view; 9, the same, left lateral view; 10, male genitalia of a specimen from Is. Yaku-shima, right lateral view; 11, the same, dorsal view; 12, the same, left lateral view.

erabu-jima, 16–XI–1985, T. TANABE leg. 1 male (paratype), Miyanoura, Is. Yaku-shima, 23–IV–1985, T. TANABE & N. FURUSAWA leg. 1 female (paratype), Hanayama, 700 m alt., Is. Yaku-shima, 12–XI–1985, T. TANABE leg. 1 male (paratype), Shiratani, Is. Yaku-shima, 23–IV–1985, T. TANABE leg.

Distribution. Is. Yaku-shima, and Is. Kuchi-no-erabu-jima, off the southern coast of Kyushu, Japan.

Remarks. The present specimens were collected under thick fallen leaf layers.

Batrisodellus coprea TANABE et NAKANE, n. sp.

(Figs. 13-19)

Diagnosis. Different from all the other species of *Batrisodellus* in having strongly convex pygidium, and apically extended male genitalia.

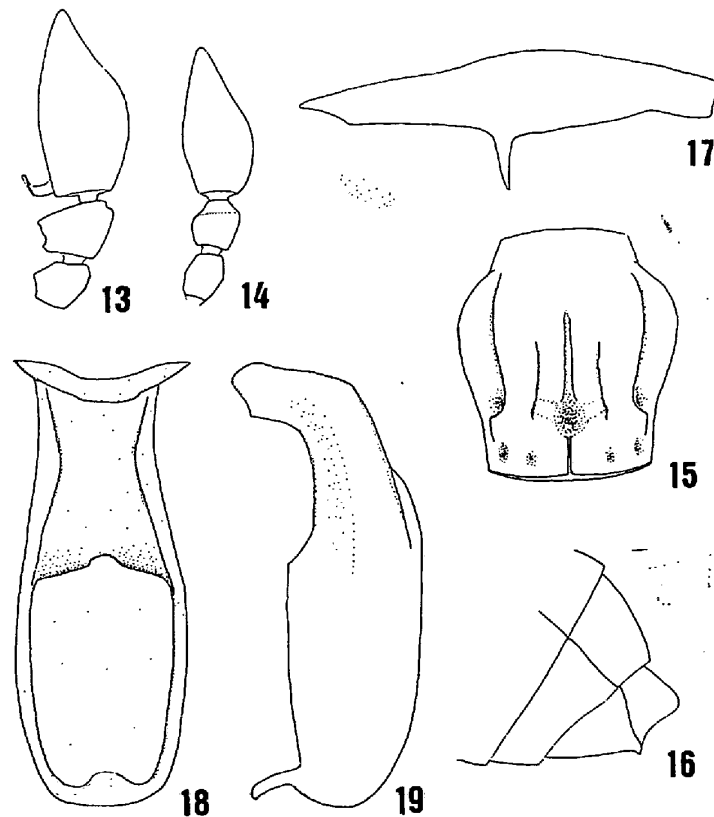
Description. Male:— Length 2.8 mm (from apical margin of frons to the tip of pygidium).

Color: Reddish brown; mouthparts and legs paler.

Head: Vertexal median fovea and carina obscure.

Antennae: Spine on 11th antennal segment (Fig. 13) large, dentiform and arcuate.

Pronotum (Fig. 15) as long as wide, broadly convex on lateral face in middle; median gutter obscure, half length of disc, deepened progressively backward; lateral carinae obscure, 1/3 length of disc, with an acute spine at posterior edge; lateral gutter half length of disc, terminated in posterior depression, with an acute spine at posterior edge; mediobasal carina obscure.



Figs. 13-19. *Batrisodellus coprea* n. sp.; 13, 9th-11th antennal segments of male, lateral view; 14, 9th-11th antennal segments of female, lateral view; 15, pronotum, dorsal view; 16, 3rd-5th visible abdominal segments of male, lateral view; 17, right mesofemur of male, posterior view; 18, male genitalia, dorsal view; 19, the same, lateral view.

Elytra: Humeral regions not elevated, without spine.

Abdomen smooth, slightly narrower than elytra; pygidium (Fig. 16) strongly convex.

Legs relatively long; mesofemoral spine (Fig. 17) large.

Male genitalia (Figs. 18–19) boat-shaped, subsymmetrical, truncated, relatively fragile; dorsally, lateral margins simple, subparallel, somewhat extended in apex; laterally, strongly arcuate in apical half.

Female:— Length 2.5 mm; agreeing with males in somatic features except for 9th–10th antennal segments (Fig. 14) subglobular, not modified.

Specimens examined. 3 males (holotype and paratype) and 3 females (paratypes), Kugô-dô Cave, Gifu-ken, Honshu, 1972, M. TANAKA leg.

Distribution. Kugô-dô Cave, Gifu-ken, Honshu, Japan.

Batrisodellus cerberus TANABE et NAKANE, n. sp.

(Figs. 20–27)

Diagnosis. Different from all the other species of *Batrisodellus* in having pronotum without median gutter, and acuminate and fragile male genitalia.

Description. Male:— Length 2.5–2.7 mm (from apical margin of frons to the tip of pygidium).

Color: Reddish brown; mouthparts and legs paler.

Head: Vertexal median fovea and carina obscure.

Antennae (Fig. 20): 9th–10th antennal segments transverse, projected on ventral face; 11th relatively slender.

Pronotum (Fig. 22) as long as wide, broadly convex on lateral face in middle; median gutter degenerated, scarcely visible; lateral gutter obscure, half length of disc, terminated in a posterior depression, without a spine at posterior edge; lateral and mediobasal carinae weak.

Elytra: Humeral regions not elevated, without spine.

Abdomen as wide as elytra, smooth; pygidium (Fig. 23) simple.

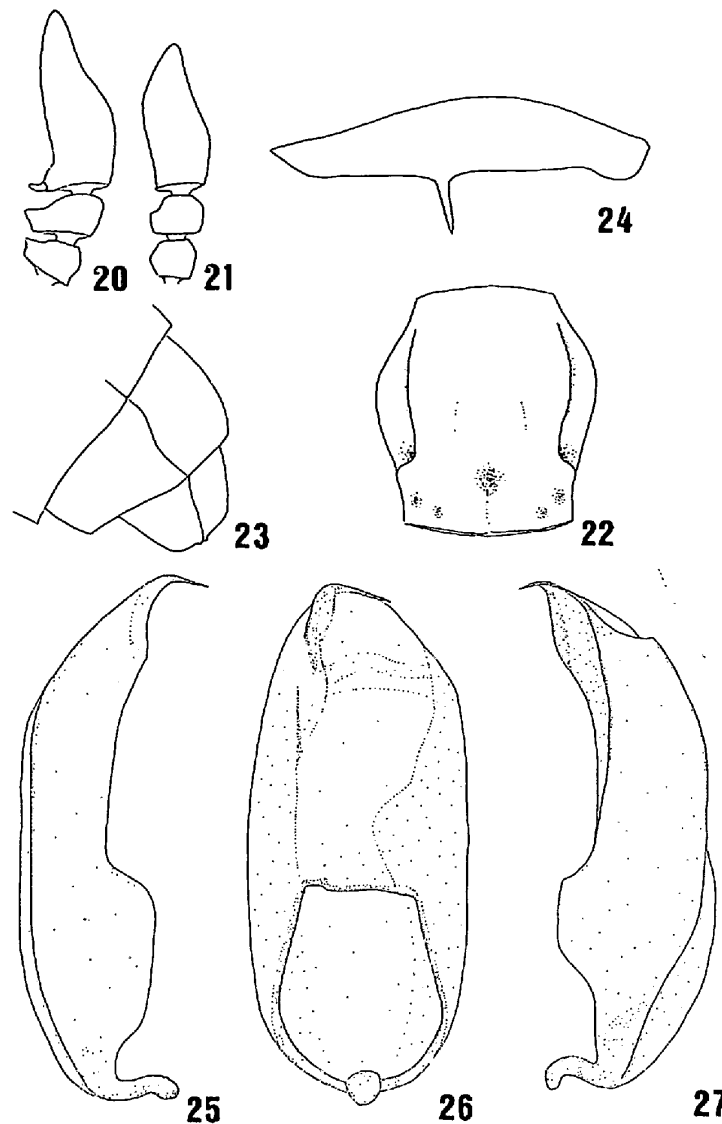
Legs relatively long; mesofemoral spine (Fig. 24) large.

Male genitalia (Figs. 25–27) boat-shaped, subsymmetrical, acuminate, relatively fragile; dorsally, outline fusiform.

Female:— Length 2.5–2.6 mm; agreeing with males in somatic features except for 9th–10th antennal segments (Fig. 21) simple.

Specimens examined. 6 males (holotype and paratypes) and 5 females (paratypes), Gongen-dô Cave, Ryûgatake-chô, Amakusa-gun, Kumamoto-ken, Kyushu, 6–IV–1985, T. TANABE leg.

Distribution. Gongen-dô Cave, Ryûgatake-chô, Amakusa-gun, Kumamoto-ken, Kyushu, Japan.



Figs. 20-27. *Batrisodellus cerberus* n. sp.; 20, 9th-11th antennal segments of male, lateral view; 21, 9th-11th antennal segments of female, lateral view; 22, pronotum, dorsal view; 23, 3rd-5th visible abdominal segments, lateral view; 24, right mesofemur of male, posterior view; 25, male genitalia, right lateral view; 26, the same, dorsal view; 27, the same, left lateral view.

Acknowledgments

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支部活動報告

四国支部 第 29 回大会は、平成元年 7 月 22 日、愛媛大学農学部で開催され、参加者は正・準会員あわせて 31 名で、次の講演があった。

1) 宮前川 (松山市) の水生昆虫について: 桑田一男 (新田高校); 2) ポアソン乱数を使ったシミュレーションによる $m/m=1$ の検定方法: 中村寛志 (瀬戸内短大); 3) マツ生立木におけるマツノマダラカミキリ成虫の後食について: 若林武志・岡本秀俊 (香川大農); 4) ヒゲナガホソコバネカミキリ蛹の検索: 小島圭三 (高知市); 5) 四国南限ブナ帯の蛾類について: 増井武彦 (香川公害センター); 6) *Plotina* 属とその近縁属 (鞘翅目, テントウムシ科) の地理的分布について: 宮武睦夫 (愛媛大農).

イクスカーションとしては、その夜の面河村大成地区におけるヒメボタルの観察と、翌 23 日の石鎚山付近での採集会を行なった。