

Three New Blackish Species of the Genus *Podabrus*
(Coleoptera, Cantharidae) from Central and
Northeastern Honshu, Japan

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Abstract Three new blackish species of the genus *Podabrus* are described from central and northeastern Honshu in Japan. One of them, named *Podabrus (Asiopodabrus) kusamai*, obviously belongs to the *P. (A.) kadowakii* group. The remainders, named *P. (A.) masatoi* and *P. (A.) tsuchikawai*, form two new lineages in the *P. (A.) macilentus* group, because of their peculiar male genitalia.

Introduction

The genus *Podabrus* WESTWOOD, 1840 comprises the largest number of species in the Japanese Cantharidae. The subgenus *Asiopodabrus* WITTMER, 1982 occupies the most part of this genus, 61 species having been known up to the present from the Japanese territory (TAKAHASHI, 1998). Of these, several species possess almost black elytra. They closely resemble each other in general appearance, though consisting of various lineages from the systematic viewpoint.

In this paper, I am going to describe three new blackish species of the subgenus. One of them doubtless resembles *P. (A.) kadowakii* NAKANE et MAKINO, 1989, so that it should belong to the *P. (A.) kadowakii* group. The remainders certainly belong to the *P. (A.) macilentus* group in view of general conformation of their male genitalia. However, the genitalic organs are so peculiar that no close relatives of them are known at the present time. I will therefore recognize two new lineages in the *P. (A.) macilentus* group for the two new species.

Before going further, I wish to express my deep gratitude to Prof. Dr. Masataka SATÔ of Nagoya Women's University for his continuous guidance on my study of the Cantharidae, and to Dr. Masatoshi TAKAKUWA of the Kanagawa Prefectural Museum of Natural History, Odawara, for his critically reading the manuscript of this paper. Cordial thanks are also due to Messrs. Masato HINAKURA of Tokyo, Isao KIRIYAMA of Gifu, Isao MAKIBAYASHI of Ohmiya, Kouichi SATÔ of Utsunomiya, Haruo TAKIZAWA of Hasuda, Kôji TSUCHIKAWA of Yokohama and Shigeo TSUYUKI of Zushi for their kind help in providing me with valuable materials. I would like to dedicate this short paper to the memory of the late Dr. Keiichi KUSAMA for his kind guidance in the entomology while I stayed in Shizuoka City about twenty years ago.

Materials and Methods

The male genitalia described in this paper were dipped in 10% KOH solution at 90°C for about 10 minutes to remove membrane, protein, etc. After that, they were sketched in 50% glycerin.

Type depositories. All the holotypes to be designated in this paper are preserved in the collection of the Kanagawa Prefectural Museum of Natural History, Odawara. The paratypes are preserved in the collections of Dr. M. SATÔ, Mr. I. KIRIYAMA and mine.

Descriptions

Podabrus (Asiopodabrus) kusamai sp. nov.

[Japanese name: Kusama-kubibosojôkai]

(Figs. 1, 4)

Male. Relatively small species. Body almost brownish black; head before eyes, antennal segments 1–2, both sides of pronotal margin, prosternum, coxae, and inner sides of fore femora and fore tarsi yellowish brown. Elytra somewhat lustrous.

Head scattered with fine punctures in front, closely punctate behind eyes, and somewhat rugosely so on neck. Antennae relatively short, reaching basal fourth of elytra; comparative length of each segment as follows:— 1.87: 1.7: 1: 1.25: 1.28: 1.2: 1.2: 1.2: 1.28: 1.22: 1.43.

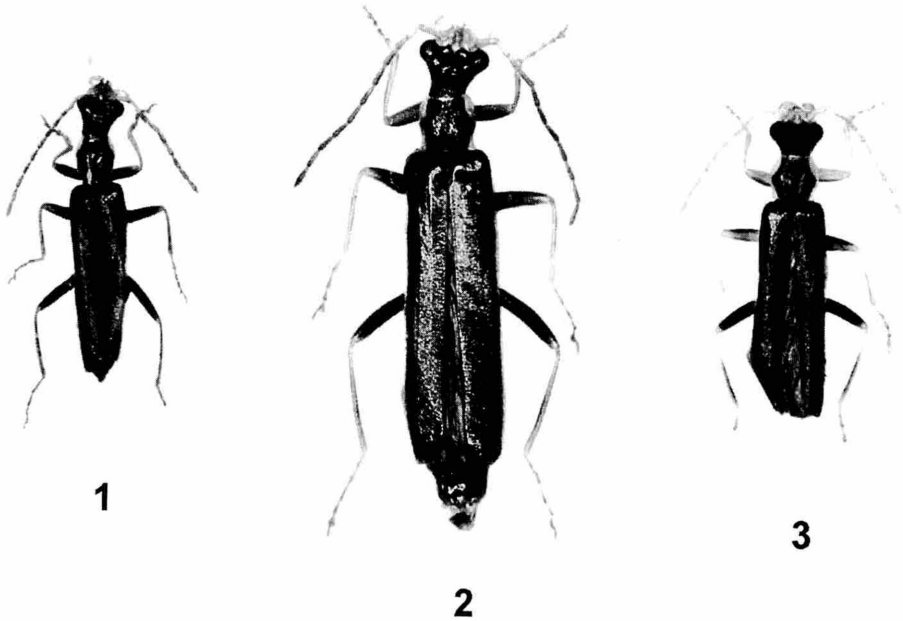
Pronotum relatively narrow, clearly narrower than head, widest at middle; PW/HW 0.81 (0.81–0.92), PW/PL 1.04 (0.93–1.07), PW/PA 1.4 (1.34–1.57), PW/PB 1.08 (1.06–1.13); surface closely covered with small punctures, though the punctures become somewhat larger on basal half and in anterior marginal area; frontal and basal margins nearly straight, lateral ones slightly sinuate, anterior angles a little angulate and posterior ones slightly prominent; disc well elevated except for lateral margins, though slightly and circularly concave in basal half. Elytra relatively short, wider than pronotum; EW/PW 1.44 (1.36–1.56), EL/EW 3.21 (3.05–3.27). Front and middle claws cleft, inner teeth of hind ones enlarged, triangularly projected apicad.

Male genitalia somewhat elongate; laterophyses long and slender, with rounded apices; ventral process somewhat long, with clearly rounded apices, inner sides slightly concave; dorsal process very short (Fig. 4).

Length: 4.4 (4.4–5.1) mm; breadth: 0.9 (0.9–1.1) mm.

Female. Not discriminated from those of other related species.

Type series. Holotype: ♂, Mugikusa-pass, Mt. Yatsugatake, Nagano Pref., 21–VII–1990, S. TSUYUKI leg. Paratypes: 1 ♂, Mt. Tsubakuronoatama, Nirasaki-shi, Yamana-shi Pref., 2–VIII–1986, S. TSUYUKI leg.; 1 ♂, Nigorigo, Osaka-cho, Gifu Pref., 28–VII–1986, I. KIRIYAMA leg.; 3 ♂♂, same locality as above, 31–VII–1992, I. KIRIYAMA leg.; 3 ♂♂, same locality as above, 1–VII–1997, I. KIRIYAMA leg.; 7 ♂♂, Mt. Oikeyama, Kami-mura, Nagano Pref., 1–VI–1998, I. KIRIYAMA leg.; 1 ♂, upper stream above Iwanadome, Azumi-mura, Nagano Pref., 21–VI–1998, K. TAKAHASHI leg.; 1 ♂, Mt.



Figs. 1–3. Habitus of *Podabrus (Asiopodabrus)* spp. — 1, *P. (A.) kusamai* sp. nov., ♂ holotype; 2, *P. (A.) masatoï* sp. nov., ♂ holotype; 3, *P. (A.) tsuchikawai* sp. nov., ♂ holotype.

Nangetsusan, Chausudake, Nasu-machi, Tochigi Pref., 21–VI–1998, H. TAKIZAWA leg.; 4 ♂♂, Ekô-line, Mt. Zao, Miyagi Pref., 15–VII–1995, K. TAKAHASHI leg.

Distribution. Japan (central and northeastern Honshu, mostly subalpine zone).

Remarks. The present new species is closely related to *P. (A.) kadowakii* NAKANE et MAKINO, 1989 from the Oki Islands and *P. (A.) kasugensis* NAKANE et MAKINO, 1989 from Mt. Kasuga, Nara Prefecture, but can be distinguished from the former by the shorter dorsal process of the male genitalia, and from the latter by the more lustrous elytra. Judging from the structure of the male genitalia, this new species should be included in the *P. (A.) kadowakii* group.

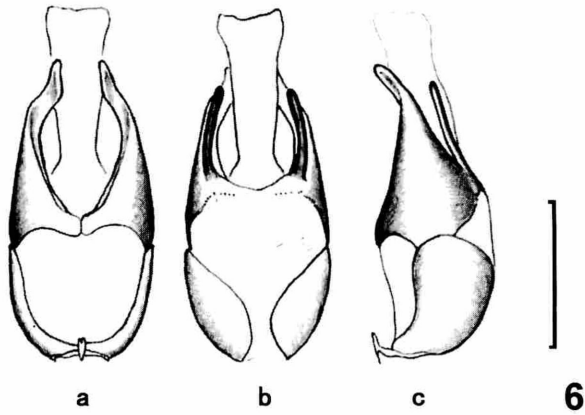
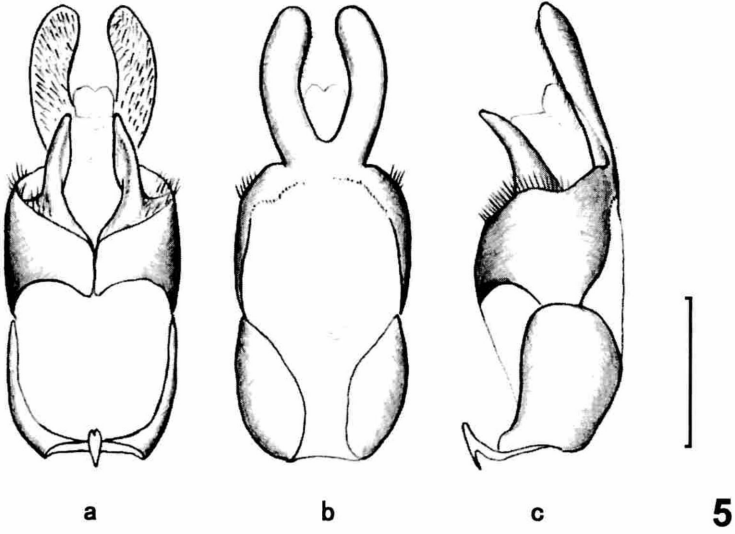
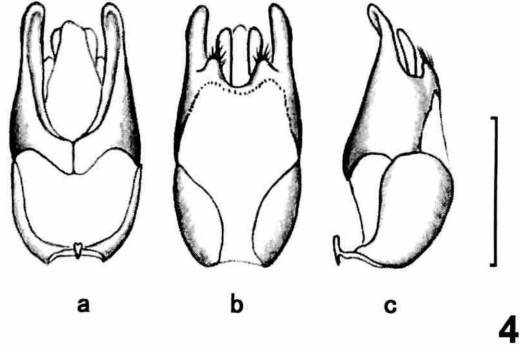
***Podabrus (Asiopodabrus) masatoï* sp. nov.**

[Japanese name: Masato-kubibosojôkai]

(Figs. 2, 5)

Male. Medium-sized species. Body almost brownish black; head before eyes,

Figs. 4–6. Male genitalia of *Podabrus (Asiopodabrus)* spp. — 4, *P. (A.) kusamai* sp. nov.; 5, *P. (A.) masatoï* sp. nov.; 6, *P. (A.) tsuchikawai* sp. nov.; a: ventral view, b: dorsal view, c: lateral view. (Scales 0.5 mm.)



antennal segments 1–2, pronotal margin, coxae, trochanters, and lateral and posterior margins of abdominal segments yellowish brown; inner sides of fore femora, and fore and mid tibiae brown.

Head scattered with fine punctures in front, densely punctate behind eyes, and rugosely so on neck. Antennae slender, reaching basal third of elytra; comparative length of each segment as follows:— 2.15: 1.11: 1: 1.51: 1.61: 1.6: 1.51: 1.64: 1.58: 1.39: 1.78.

Pronotum relatively narrow, clearly narrower than head, widest at middle; PW/HW 0.82 (0.76–0.85), PW/PL 1.05 (1.01–1.05), PW/PA 1.47 (1.39–1.48), PW/PB 1.02 (1.01–1.07); surface closely covered with moderate punctures, though the punctures become larger on basal half; lateral margins sinuate, anterior angles a little angulate and posterior ones prominent; disc well elevated except for lateral margins, though slightly and circularly concave in basal half. Elytra somewhat slender, wider than pronotum; EW/PW 1.58 (1.56–1.66), EL/EW 3.50 (3.41–3.83). Front and middle claws cleft, inner teeth of hind ones enlarged, triangularly projected apicad.

Male genitalia elongate; ventral process short, with somewhat acute apices; dorsal process long and robust, V-shaped, gently curved inwards, densely provided with long hairs on inner sides (Fig. 5).

Length: 7.0 (6.9–7.8) mm; breadth: 1.4 (1.4–1.5) mm.

Female. Not discriminated from those of other related species.

Type series. Holotype: ♂, Nakagoshodani, Miyada-mura, Nagano Pref., 23–VI–1995, M. HINAKURA leg. Paratypes: 2 ♂♂, Shirabidaira, Miyada-mura, Nagano Pref., 22–VI–1996, K. TAKAHASHI leg.; 1 ♂, Akigami, Asahi-mura, Gifu Pref., 29–VI–1995, I. KIRIYAMA leg.; 1 ♂, Nigorigo, Osaka-machi, Gifu Pref., 27–VI–1971, I. KIRIYAMA leg.

Distribution. Japan (central Honshu, upper part of the *Fagus crenata* zone).

Remarks. The present new species is very similar in external appearance to *P. (A.) hozumii* NAKANE et MAKINO, 1989 from Mt. Kiso-Ontake, *P. (A.) taoi* TAKAHASHI, 1992 from Tsukui, Kanagawa Prefecture, and other medium-sized blackish species, but can be easily distinguished from them by the robust dorsal process of the male genitalia.

The specific name is given after Mr. Masato HINAKURA, who first found this unique species having peculiar male genitalia, and kindly entrusted me with the study.

***Podabrus (Asiopodabrus) tsuchikawai* sp. nov.**

[Japanese name: Tsuchikawa-kubibosojōkai]

(Figs. 3, 6)

Male. Relatively small species. Body almost brownish black; head before eyes, antennal segments 1–2, pronotal margin, prosternum, coxae, trochanters, fore femora, basal halves of mid femora, basal fourth of hind femora and fore tarsi yellowish brown; antennal segments 3–11, fore tarsi and mid tibiae dark yellowish brown.

Head scattered with fine punctures in front, densely punctate behind eyes, and closely so on neck. Antennae relatively short, reaching basal fourth of elytra; comparative length of each segment as follows:— 1.79: 1: 1.16: 1.12: 1.22: 1.22: 1.19: 1.19: 1.19: 1.13: 1.43.

Pronotum relatively narrow, clearly narrower than head, widest at middle; PW/HW 0.88 (0.8–0.88), PW/PL 1.04 (0.93–1.04), PW/PA 1.55 (1.46–1.55), PW/PB 1.14 (1.06–1.14); surface closely covered with fine punctures, the punctures becoming somewhat larger on basal half and in anterior marginal area; lateral margins slightly sinuate, anterior angles a little angulate and posterior ones slightly prominent; disc well elevated except for lateral margins, though slightly and circularly concave with a vague longitudinal furrow in basal half. Elytra relatively short, clearly wider than pronotum; EW/PW 1.4 (1.4–1.44), EL/EW 3.1 (3.05–3.1). Front and middle claws cleft, inner teeth of hind ones enlarged, triangularly projected apicad.

Male genitalia somewhat elongate; ventral process conjoining lateral sides of parameres, apices narrowly rounded; dorsal process very long and slender, broadly U-shaped, gently curved inwards (Fig. 6).

Length: 4.7 (4.7–5.1) mm; breadth: 1.0 (1.0–1.1) mm.

Female. Not discriminated from those of other related species.

Type series. Holotype: ♂, Inugoeji–Mt. Ohmuro, Tanzawa Mts., Kanagawa Pref., 29–VI–1997, K. TSUCHIKAWA leg. Paratypes: 1 ♂, Yatakezawa, Ohtaki-mura, Saitama Pref., 4–VII–1978, K. SASAKI leg.; 1 ♂, Mt. Tenso, Tokyo Met., 15–VI–1977, M. TOMOKUNI leg. (M. SATO's collection).

Distribution. Japan (central Honshu, the *Fagus crenata* zone).

Remarks. The present new species is very similar to *P. (A.) malthinoides* KIESENWETTER, 1874, *P. (A.) kadowakii* NAKANE et MAKINO, 1989 from the Oki Islands and other small blackish species, but can be easily distinguished from them by the very long slender dorsal process of the male genitalia.

要 約

高橋和弘：本州中部および東北部に産する黒いクビボソジョウカイ類の3新種。——本州中部および東北部から、クビボソジョウカイ属 *Asiopodabrus* 亜属に属する全体がほぼ黒色の3新種を記載した。うち1種は既知種であるカドワキクビボソジョウカイにひじょうに近縁で *kadowakii* group に属する。残りの2種は *macilentus* group に属するが、いずれもきわめて特異な交尾器をもち、明らかにこの種群の中の新しい系統を形成するものと認められる。

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