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Two Natural Hybrids of the *Acoptolabrus* Species (Coleoptera, Carabidae) from South Korea

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Abstract Two natural hybrids between *Carabus* (*Acoptolabrus*) *changeonleei* and *C.* (*A.*) *constricticollis chiricola* are recorded from the Chiri-san Mountains in Kyŏngsangnam-do, South Korea. Interspecific hybrid in the subgenus *Acoptolabrus* is reported for the first time.

Early in the summer of 1989, I made a short collecting trip to the Chiri-san Mountains in Kyŏngsangnam-do, South Korea, where I had opportunities to collect two strange specimens of carabid beetles belonging to the subgenus *Acoptolabrus* of the genus *Carabus* (s. lat.), with characters intermediate between *C.* (*A.*) *changeonleei* ISHIKAWA et KIM and *C.* (*A.*) *constricticollis chiricola* KWON et LEE. They are considered to be natural hybrids of the above two species, and their morphological features will be described in the following lines.

The measurement of body parts in ordinary individuals of *C.* (*A.*) *changeonleei* and *C.* (*A.*) *constricticollis chiricola* was made by using 10 females randomly picked up from the specimens collected at the same collecting site as that of the two hybrids under consideration, with arithmetic mean abbreviated as M.

I am grateful to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the manuscript of this paper.

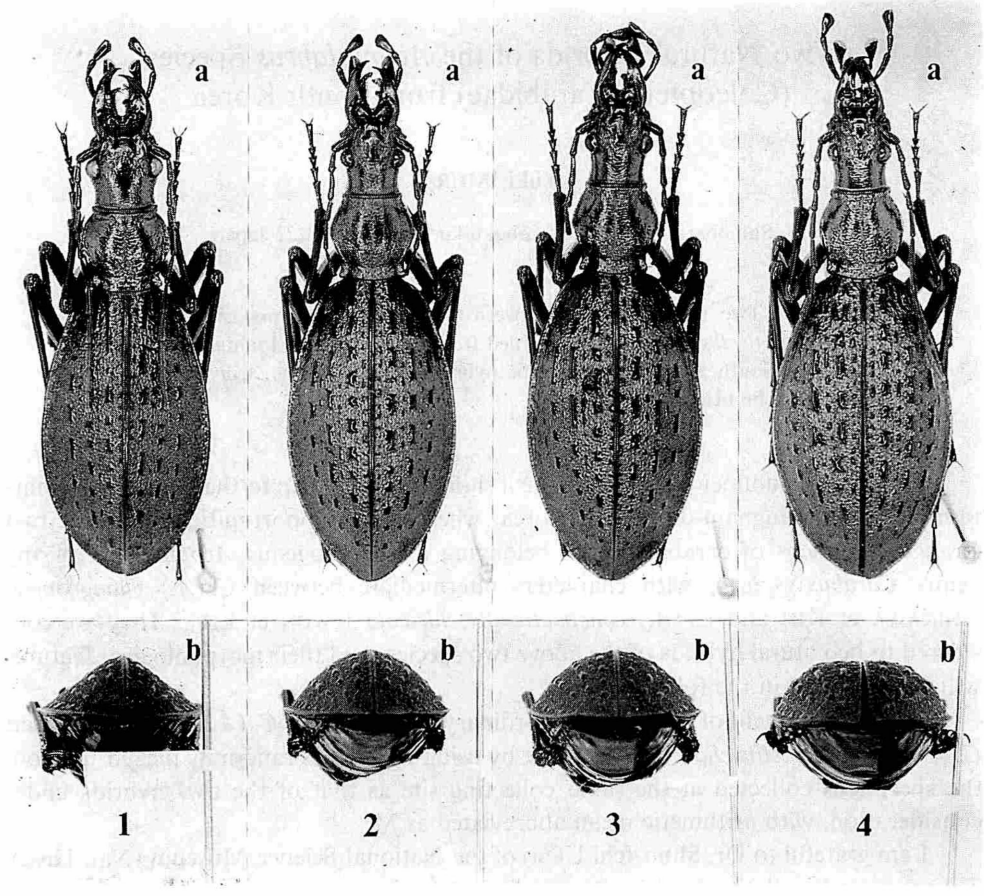
Natural Hybrid between *Carabus* (*Acoptolabrus*) *changeonleei* and *C.* (*A.*) *constricticollis chiricola*

Specimen 1 (Figs. 2, 6)

Length: 28.7 mm (from apical margin of clypeus to apices of elytra).

Head and pronotum dark reddish coppery, with the lateral margins of the latter a little greenish; elytra metallic green, though not so bluish as in *changeonleei* and not so yellowish as in *constricticollis chiricola*; venter almost as in the two parental species, though the metallic lustre is slightly duller than in ordinary individuals belonging to the same subgenus.

Head 1.37 times as long as wide (1.17–1.25, M 1.22 in *changeonleei*; 1.40–1.48, M 1.45 in *constricticollis chiricola*), with the exposed part of the neck behind eyes slenderer than in *changeonleei* and a little wider than in *constricticollis chricola*; dorsal surface of head transversely rugulose and rather distinctly punctate; anterior tooth of



Figs. 1–4. *Carabus* (*Acoptolabrus*) spp. and their natural hybrids from the Chirisan Mountains, South Korea. —— 1, *Carabus* (*Acoptolabrus*) *changeonleei* (♀); 2, natural hybrid between *C.* (*A.*) *changeonleei* and *C.* (*A.*) *constricticollis chiricola* (Specimen 1, ♀); 3, ditto (Specimen 2, ♀); 4, *C.* (*A.*) *constricticollis chiricola* (♀). a, Dorsal view; b, posterior view.

the right mandibular retinaculum as shown in Fig. 6 a, showing almost intermediate state between the two parental species; mentum as shown in Fig. 6 b, with the median tooth much shorter, robuster, and less strongly produced ventrad than in *changeonleei*, with the apex gently rounded.

Pronotum almost as wide as long (ca. 1.13 times as wide as long in *changeonleei*; ca. 1.09 times as long as wide in *constricticollis chiricola*), widest a little before the middle, with the outline almost intermediate between those of the two parental species; right margin monosetose (one central seta), left margin bisetose (two central setae), and no seta being recognised near hind angles on both sides; median longitudinal line almost the same in condition as that of *constricticollis chiricola*, and narrower and shallower than in *changeonleei*; discal surface sinuously wrinkled and transversely

striate, though more distinctly so than in *changeonleei* and a little more weakly so than in *constricticollis chiricola*.

Elytra intermediate in shape and in sculptural condition between those of the two parental species, with the widest part being a little more forewards than in *constricticollis chiricola*, and the sutural part being not so sharply ridged as in *changeonleei*, but more strongly convex above than in *constricticollis chiricola* (cf. Fig. 2 b).

Collecting data: ♀, SE slope of the Peak Ch'ŏnwangbong (at an elevation of 1,500 m alt.) on the Chiri-san Mountains, Kyŏngsangnam-do, South Korea, 7–VI–1989, Y. IMURA leg.

Specimen 2 (Figs. 3, 7)

Length: 30.4 mm (from apical margin of clypeus to apices of elytra).

Colour as in Specimen 1.

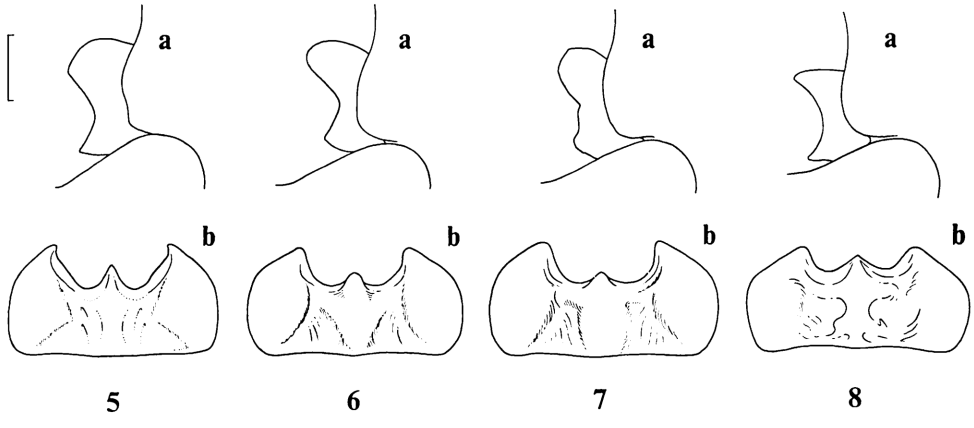
Head 1.36 times as long as wide, with the dorsal surface distinctly wrinkled but not obviously punctate; retinaculum of the right mandible as shown in Fig. 7 a, being a little different in shape from that of Specimen 1; median tooth of mentum a little shorter and a little more sharply pointed than in Specimen 1 (cf. Fig. 7 b).

Pronotum 1.02 times as long as wide, with the outline and the sculptural condition almost the same as those of Specimen 1; marginal setae of pronotum as in Specimen 1.

Elytra also the same in shape and sculptural condition as in Specimen 1.

Collecting data: ♀, same as for Specimen 1.

There are many reports of natural hybrids between two different species or even between two different subgenera belonging to the genus *Carabus* (s. lat.). Concerning



Figs. 5–8. Retinaculum of the right mandible (a, dorsal view) and mentum (ventral view) of *Carabus* (*Acoptolabrus*) spp. and their natural hybrids from the Chiri-san Mountains, South Korea. —— 5, *Carabus* (*Acoptolabrus*) *changeonleei* (♀); 6, natural hybrid between *C.* (*A.*) *changeonleei* and *C.* (*A.*) *constricticollis chiricola* (Specimen 1, ♀); 7, ditto (Specimen 2, ♀); 8, *C.* (*A.*) *constricticollis chiricola* (♀). Scale: 0.5 mm for a, 1 mm for b.

the group of *Damaster* – *Coptolabrus* – *Acoptolabrus* of East Asia, two natural hybrids between the subgenera *Damaster* and *Acoptolabrus* (IMURA, 1989, pp. 67–71) and a natural hybrid between *C.* (*Coptolabrus*) *smaragdinus* and *C.* (*C.*) *jankowskii* (CASALE *et al.*, 1989, pp. 157–162) have hitherto been reported. However, interspecific hybrid in the subgenus *Acoptolabrus* has not been known until now.

Carabus (*Acoptolabrus*) *changeonleei* and *C.* (*A.*) *constricticollis chiricola* occur almost sympatrically in the high altitudinal area of the Chiri-san Mountains, though the population density of the two species is extremely low in comparison with the other species distributed on the same mountain range. Although I have made consecutive survey of carabid beetles on the Chiri-san Mountains from 1987 to '90 and in '94, I had only two opportunities to collect such hybrids, and the reproductive isolation between the two species is usually considered complete. A natural hybridization may, therefore, occur only in case when their isolation mechanism is broken down accidentally for some reason, as has been suggested by me in the subgenera *Damaster* and *Acoptolabrus* of Hokkaido.

要　　約

井村有希：朝鮮半島南部におけるクビナガオサムシの自然雑種．――韓国慶尚南道の智異山から，チリサンクビナガオサムシとホソクビナガオサムシ智異山亜種との自然交雑によって生じたと思われる雑種2例を報告した．クビナガオサムシ亜属内における異種間の自然雑種が報告されるのは今回が初めてである．

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Elytra, *Tokyo*, **22** (2): 207–213, Nov. 15, 1994

New Anophthalmic Trechines of the *Trechiama tamaensis* Complex (Coleoptera, Trechinae)[1)]

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Abstract Two new species of anophthalmic trechine beetles belonging to the *Trechiama tamaensis* complex are described from the vicinities of Mt. Fuji-san under the names of *T. masaakii* and *T. tanzawanus*. The former seems most plesiomorphic of the species-complex, while the latter varies in chaetotaxial characters towards the *echigonis* complex.

In 1981, the senior author dealt with the anophthalmic trechine beetles belonging to the *tamaensis* complex of the group of *Trechiama habei*, and classified the specimens then known into three allopatric species (cf. UÉNO, 1981). Five years later, a fourth species was discovered on the Miura Peninsula and was described under the name of *T. terraenovae* (UÉNO, 1988). Two more species of the same species-complex were recently found in the vicinities of Mt. Fuji-san, one from the eastern end of the Misaka Mountains and the other from the western part of the Tanzawa Mountains. Both are chaetotaxially unusual for members of the *tamaensis* complex, and are taxonomically important in this respect. They will be described in the present paper under the names *T. masaakii* and *T. tanzawanus*.

The abbreviations used herein are the same as those explained in previous papers of the senior author's.

Before going into details, the authors wish to express their hearty thanks to Messrs. Sumao KASAHARA and Masaaki NISHIKAWA for their kindness extended to them during the course of this study, and to Naomi SONE who helped excavations on Mt. Mitsu-tôgé-yama.

1) This study is supported by the Grant-in-aid No. 06640914 for Scientific Research from the Ministry of Education, Science and Culture, Japan.

Trechiama (s. str.) ***masaakii*** S. UÉNO et SONE, sp. nov.

[Japanese name: Mitsutôgé-mekura-chibigomimushi]

(Figs. 1–4)

Length: 4.75–5.15 mm (from apical margin of clypeus to apices of elytra).

Belonging to the *tamaensis* complex of the group of *T. habei* (cf. UÉNO, 1981, 1988) and recognized at first sight on the presence of preapical pore on elytra, with the exception of certain unusual individuals of *T. varians* S. UÉNO (1981, p. 122, figs. 2, 7–8, 11). Probably related to *T. pallidior* S. UÉNO (1981, p. 127, figs. 3, 9–10), but the prothorax is obviously more transverse, and the elytra are a little shorter on an average and more widely depressed on the disc, with stria 2 always forming an apical anastomosis with stria 3. Readily recognized also on unusually short aedeagus and other peculiarities of male genitalia.

Colour as in *T. pallidior*, relatively pale. Head generally similar to that of *T. pallidior*, but a little more transverse with more regularly convex genae; antennae reaching or almost reaching the middle of elytra. Pronotum larger and obviously more transverse than in *T. pallidior*, widest at about two-thirds from base, and a little more strongly contracted towards ante-basal constriction than towards front angles, with the sides strongly arcuate in front, deeply sinuate at a level between basal fifth and fourth, and then divergent towards hind angles, which are sharp and posterolaterally produced; PW/HW 1.41–1.44 (M 1.43), PW/PL 1.20–1.25 (M 1.23), PW/PA 1.44–1.47 (M 1.45), PW/PB 1.40–1.48 (M 1.44); apex either very slightly emarginate or slightly bisinuate, about as wide as base, PB/PA 0.97–1.04 (M 1.01), with front angles blunt and only slightly produced forwards; base either widely emarginate or nearly straight at middle; sculptures as in *T. pallidior*, though the basal transverse impression bears a distinct longitudinal foveole on each side of median line.

Elytra similar in many respects to those of *T. varians*, relatively short, ovate, widest at about four-ninths from base, and widely depressed on the disc; EW/PW 1.64–1.68 (M 1.66), EL/EW 1.47–1.50 (M 1.48); striae as in *T. varians*, but the stria 2 always forms an apical anastomosis with the stria 3 just behind the terminus of apical striole, which joins the stria 5 through a slight sinuation; stria 3 with a single setiferous dorsal pore at 1/10–1/8 from base; stria 5 with two setiferous dorsal pores at 1/5–1/4 and 1/2–5/9 from base, respectively; preapical pore always present, lying at the apical anastomosis of striae 2 and 3, and much more widely distant from apex than from suture. Legs somewhat stouter than in *T. pallidior*.

Male genital organ small, rather lightly sclerotized. Aedeagus only two-sevenths as long as elytra, short and robust, with large basal part and short flattened apical lobe; dorsal margin semicircularly rounded from base to apex in lateral view; basal part large, hardly bent, with very large basal orifice, whose sides are deeply emarginate only at the posterior parts; sagittal aileron very small though appreciable; apical lobe straight, gradually narrowed towards apex, which is subtriangular in dorsal view and very obtusely denticulate dorsad in lateral view; in profile, ventral margin nearly

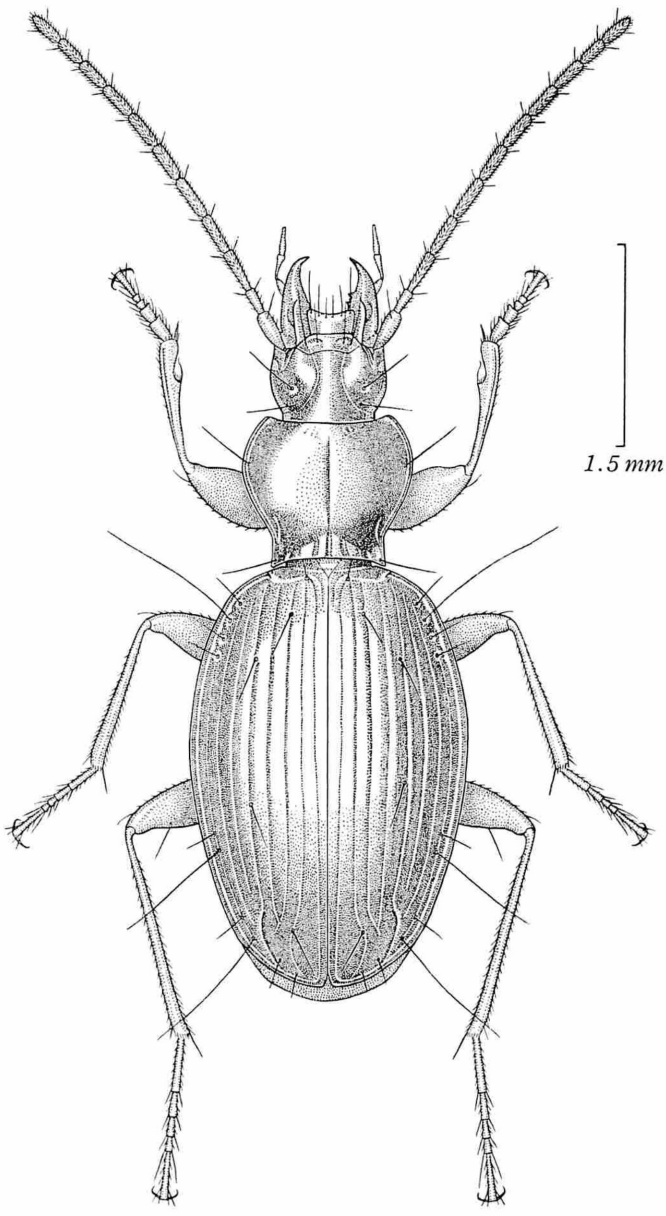


Fig. 1. *Trechiama* (s. str.) *masaakii* S. UÉNO et SONE, sp. nov., ♂, from Mt. Mitsutôgé-yama of the Misaka Mountains.

straight at middle and distinctly emarginate at the base of apical lobe. Copulatory piece fairly large, fully one-third as long as aedeagus, fairly slender in dorsal view; dorsal lobe subvertical, sagittate at the proximal part, apically extending into an arcuate hor-

izontal lobe, which projects towards the right side and is rounded at the extremity; ventral lobe large and lamellar at the proximal part. Left proximal teeth-patch small, almost vertical, consisting of fairly large sclerotized teeth; right apical teeth-patch also small. Styles fairly large and broad, left style obviously larger than the right, each bearing three or four apical setae.

Type series. Holotype: ♂, 1–V–1994, S. UÉNO leg. Allotype: ♀, 3–X–1993, M. NISHIKAWA leg. Paratypes: 1 ♂, 3–X–1993, M. NISHIKAWA leg.; 1 ♂, 1–V–1994, S. UÉNO leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mt. Mitsutôgé-yama, 1,380 m in altitude at the northwestern side, in Kawaguchiko-machi of Yamanashi Prefecture, Central Japan.

Notes. This is a distinctive species readily recognized on the presence of the preapical pore on the elytra and the unusually short aedeagus with very large basal part. It is true that about one-fifth of the known specimens of *T. varians* possess the preapical pore at least on one elytron, but the genitalic difference between the two is decisive. Loss of the preapical pore commonly found in the members of the *tamaensis* complex is an obvious apomorphic character. The present species is therefore most plesiomorphic so far as concerned with the elytral chaetotaxy.

Trechiama masaakii is isolated on Mt. Mitsutôgé-yama (1,786 m in height), which lies at the eastern end of the Misaka Mountains. Lying at the northern side of Mt. Fuji-san, this small mountain range is separated from the Hakoné Volcanoes, which harbour *T. pallidior*, by the Sakaha-gawa Valley, the western part of the Tanzawa Mountains, the Dôshi-gawa Valley, the Dôshi Hills and the Katsura-gawa Valley. The distance from the type locality of the following new species, *T. tanzawanus*, to Mt. Mitsutôgé-yama is about 30 km in a bee-line towards the west-northwest. The mountain range is largely granitic and not favourable for harbouring anophthalmic trechines. There is, however, a non-granitic gully covered with deciduous broadleaved trees on the northwestern slope of Mt. Mitsutôgé-yama. The present species seems confined to the upper hypogean zone of this gully, and has rarely been dug out from wet colluvia deposited at the sides of basins of small waterfalls.

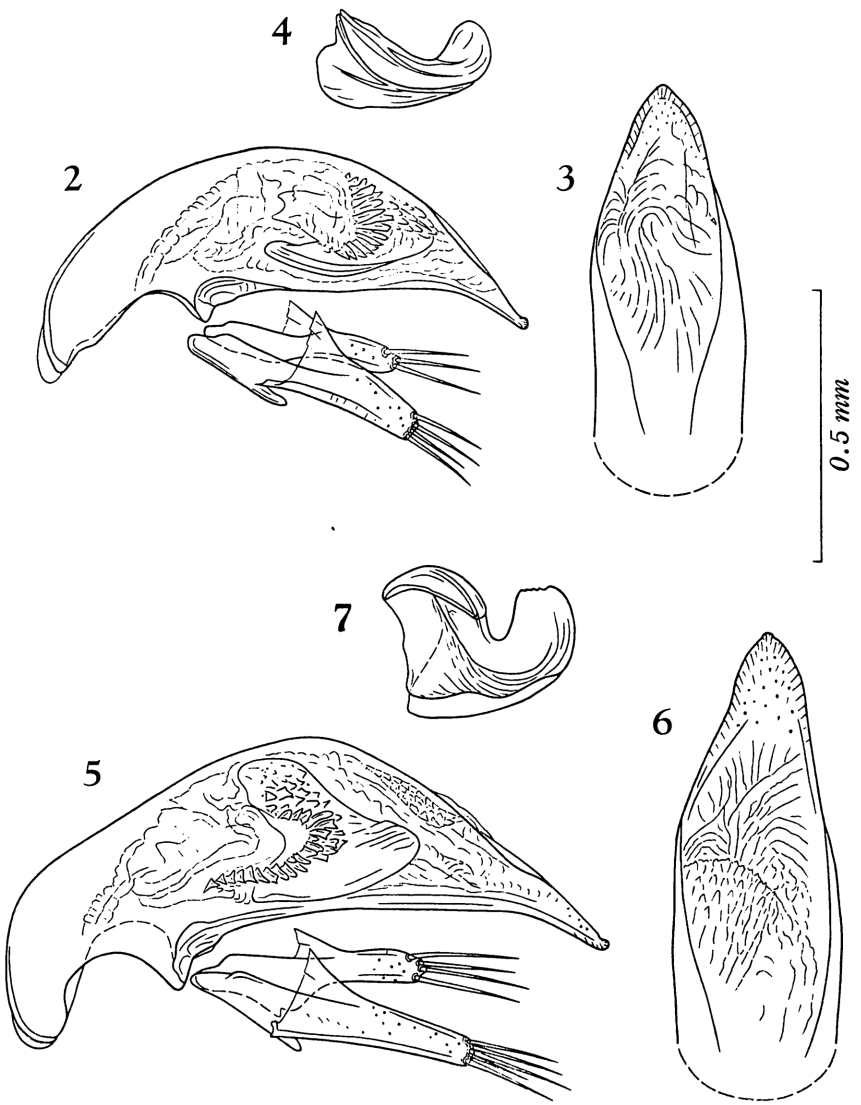
Trechiama (s. str.) ***tanzawanus*** S. UÉNO et SONE, sp. nov.

[Japanese name: Nishitanzawa-mekura-chibigomimushi]

(Figs. 5–7)

Length: 4.50–5.10 mm (from apical margin of clypeus to apices of elytra).

Belonging to the *tamaensis* complex and distinguished at first sight from all the other known species, with rare exceptions in *T. varians*, by the absence of setiferous dorsal pore on the 3rd elytral stria. From the latter species, it is clearly separated by the differently shaped male genitalia, above all by the large broad copulatory piece with a deep wide emargination at the right side between the proximal part and arcuate apical lamella.



Figs. 2–7. Male genitalia of *Trechiama* (s. str.) spp.; left lateral view (2, 5), apical part of aedeagus, dorso-apical view (3, 6), and separated copulatory piece, dorsal view (4, 7). —— 2–4. *T. masaakii* S. UÉNO et SONE, sp. nov., from Mt. Mitsutôgé-yama. —— 5–7. *T. tanzawanus* S. UÉNO et SONE, sp. nov., from the Kosugé-zawa at Kurokura.

Closely similar in facies to *T. varians* of the eastern part of the Tanzawa Mountains, but the colour is usually somewhat lighter, the pronotal hind angles are more or less sharper and postero-laterally produced, and the elytra are deeply striate on the disc and more clearly punctate, with the apical striole almost always joining stria 7

instead of stria 5.

Colour light reddish brown, shiny, faintly iridescent on elytra; palpi, ventral surface of hind body, and legs pale yellowish brown.

Head as in *T. varians*, antennae reaching the middle of elytra. Pronotum also similar to that of *T. varians*, but the hind angles are almost always sharper than in the latter species and postero-laterally produced; PW/HW 1.33–1.41 (M 1.37), PW/PL 1.12–1.18 (M 1.15), PW/PA 1.38–1.48 (M 1.42), PW/PB 1.32–1.40 (M 1.37), PB/PA 1.00–1.08 (M 1.04). Elytra relatively flat, widely depressed on the disc, with the apical declivity steep at the terminal part; EW/PW 1.65–1.72 (M 1.68), EL/EW 1.48–1.53 (M 1.51); striae entire, clearly punctate or crenulate, striae 1–3 or 1–4 deeply impressed, obviously deeper than external ones, stria 2 extending to apex without forming apical anastomosis with stria 3, which forms an apical anastomosis with stria 4, stria 8 deepened posteriorly; apical striole short but deep, moderately curved, almost always joining the inwardly curved apical part of stria 7; stria 3 normally devoid of setiferous dorsal pores, though a setiferous pore exists at about basal 1/8 of right elytron in a paratype (♀); stria 5 with two setiferous dorsal pores at 1/5–1/4 and 3/5–2/3 from base, respectively; preapical pore always absent. Legs as in *T. varians*.

Male genital organ similar to that of *T. varians*, though more robust, especially in proximal half of aedeagus. Aedeagus higher at middle and less gradually narrowed towards apex than in *T. varians*, with large basal bulb which is semicircularly emarginate at the sides of basal orifice; sagittal aileron very small though present; viewed dorsally, apical lobe narrower at the apical part and obtusely tuberculate at the extremity. Copulatory piece larger and broader than in *T. varians*, about one-third as long as aedeagus, dorso-ventrally sagittate at the left side, the two lobes being obtusely subangulate at the left proximal corners; apical part extending into a wide arcuate lamella directed to the right, forming a deep emargination at the right side of the sclerite, and subtruncated at the apex which is minutely serrulate; right dorsal wall high at the proximal part, longitudinally depressed on the external face, and covering the right portion of deep dorsal concavity. Left lateral teeth-patch fairly thick and recurved; right apical teeth-patch fairly large and horizontally extended.

Type series. Holotype: ♂, allotype: ♀, paratypes: 5 ♂♂, 7 ♀♀, 25–VII–1994, S. UÉNO & S. SONE leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Kosugé-zawa, 540 m in altitude, at Kurokura of the western part of the Tanzawa Mountains, in Yamakita-machi of Kanagawa Prefecture, on the Pacific side of Central Japan.

Notes. This species is doubtless close to *T. varians* and cannot be distinguished with confidence from certain exceptional individuals of the latter species. It seems to have become differentiated from a peripheral population of *T. varians*, which may have been formed by such aberrant individuals as to lose the setiferous dorsal pore of the internal series. Later differentiation of the copulatory sclerite made the peripheral population isolated from the eastern populations, and has completed the speciation

of *T. tanzawanus*. It is worth noting that the loss of the setiferous dorsal pore on the 3rd elytral stria is a feature shared by the members of the *echigonis* complex widely distributed in the southern part of the Tôhoku District, although the two species-complexes are definitely different in the conformation of copulatory piece.

So far as has been known, the present species is localized at the western foot of the Hadano-tôgé 12.3 km distant to the west by south of the Yabitsu-tôgé, the type locality of *T. varians*. The intervening area between the two localities is largely granitic, forming an intricate barrier against the subterranean dispersal of anophthalmic trechines. The type specimens of *T. tanzawanus* were dug out from a thick muddy colluvium deposited at the left side of a non-granitic gully in a deciduous broadleaved forest. Several isolated individuals were met at a depth of 30 cm or so, but most specimens were taken from a depth of more than 1 m.

要　約

上野俊一・曽根信三郎：ヨウザワメクラチビゴミムシ亜群の2新種．―― 御坂山地東端の三ツ峠山と，西丹沢玄倉の小菅沢から，ヨウザワメクラチビゴミムシ亜群の新種をそれぞれ記載し，これらにミツトウゲメクラチビゴミムシ *Trechiama masaakii* S. Uéno et Sone およびニシタンザワメクラチビゴミムシ *T. tanzawanus* S. Uéno et Sone の新名を与えた．両種とも上翅背面の剛毛配列が特異で，前者は亜群のうちでもっとも祖先的な，また後者はもっとも派生的な特徴を示している．

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Elytra, Tokyo, **22** (2): 214, Nov. 15, 1994

Description of the Male Genitalia of *Carabus* (*Apotomopterus*) *koiwayai* DEUVE et IMURA (Coleoptera, Carabidae)

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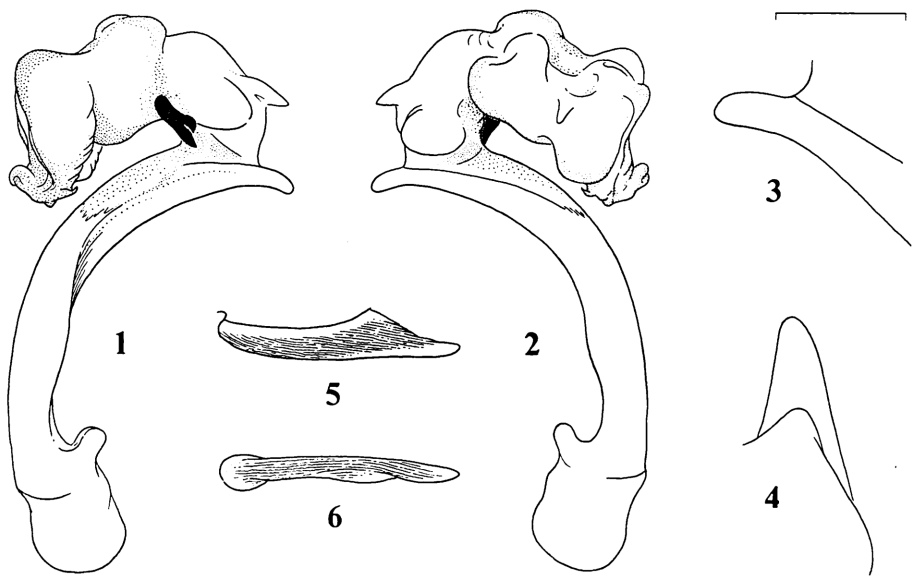
Carabus (*Apotomopterus*) *koiwayai* was described by DEUVE and IMURA (1990, Elytra, Tokyo, **18**, pp. 5-7, figs. 3, 4, 12) on the basis of a pair of the specimens collected from Mt. Yulong-Xue Shan in North Yunnan, China. As shown in fig. 12 a-c of the original description, the apical part of the aedeagus and a part of the endophallus including spinula of the holotype are broken and lost. Through the courtesy of Mr. R. KENYERY, Wien, I recently had an opportunity to examine two male specimens of the same species with complete genitalia. Here I give their detailed illustration and supplementary description.



Figs. 1-6. Male genitalia of *Carabus* (*Apotomopterus*) *koiwayai* DEUVE et IMURA, from Mt. Yulong-Xue Shan, N. Yunnan, China; 1, left lateral view; 2, right lateral view; 3, apical part in right lateral view; 4, ditto in dorsal view; 5, spinula in dorsal view; 6, ditto in basal view. Scale: 2 mm for 1, 2, 1 mm for 3-6.

Description. Apical part of aedeagus slightly bent ventrad and gradually narrowed to the apex which is gently rounded. Basic structure of endophallus similar to that of *C.* (*A.*) *solidior* DEUVE et IMURA, with triangularly shaped short vertical lobe and a pair of lateral lobes on both sides near the base. Spinula as shown in Figs. 5 and 6, claw-shaped in dorsal view, rather strongly depressed and not hooked at apex in basal view, with the surface conspicuously rugulose.

Elytra, *Tokyo*, **22** (2): 215–219, Nov. 15, 1994

Occurrence of a *Trechoblemus* (Coleoptera, Trechinae) in Sakhalin[1)]

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Abstract A trechine beetle belonging to the genus *Trechoblemus* is recorded for the first time from southern Sakhalin. It is tentatively identified with *T. postilenatus* (H. W. BATES), though differing from specimens of Central and West Japan in the completely flat eyes.

Recently, a trechine specimen belonging to the genus *Trechoblemus* was found out in the collection of the Institute of Biology and Pedology, Vladivostok. It was kept in a lot of old Japanese material received from Sakhalin, and bears a label inscribed "Saghalien Central Expt. Sta. / 1932 25/XI / collected in hibernation." It is therefore apparent that the specimen was taken at Konuma (now Novoaleksandrovsk) in southern Sakhalin, where the Saghalien Central Experiment Station [for agriculture and forestry] was located in the prewar time.

After a careful examination, it has become clear that the specimen is almost identical with those of *Trechoblemus postilenatus* (H. W. BATES) from Central and West Japan but differs from them in the completely flat eyes. It is true that the size and convexity of eyes are rather variable in Japanese specimens of *T. postilenatus*. They are rather flat especially in the specimens from Hokkaido adjacent to Sakhalin, but not so completely flat as in the Sakhalin specimen under consideration. On the other hand, specific differences are usually subtle in the trechine beetles belonging to the genus *Trechoblemus*. Although the six species of the genus hitherto described are classified into two species-groups, that of *T. micros* and that of *T. postilenatus*, on the basis of difference in genitalic conformation, five of the six belong to the latter and only one of the five, *T. microphthalmus* S. UÉNO (1955, p. 404, fig. 1), can be definitely

1) This study is supported in part by the Grant-in-aid No. 06640914 for Scientific Research from the Ministry of Education, Science and Culture, Japan.

recognized as an independent species. The remaining four, *T. postilenatus* (H. W. BATES), *T. lindrothi* SUENSON (1957, p. 93, pl. 2, upper left), *T. valentinei* SUENSON (1957, p. 94, pl. 2, upper right), and *T. westcotti* BARR (1971, p. 142, figs. 1–2), are very closely related and sometimes difficult to distinguish one from another. For instance, the two Chinese species (the second and third) can be readily distinguished from each other, but the difference is bridged to some extent by the Japanese species, *T. postilenatus*. The senior author has re-examined their type material and made a detailed comparative study of their male genitalia, which are closely similar to one another. Under these circumstances, the present authors prefer to regard the Sakhalin specimen as an extreme local form of *T. postilenatus*, leaving the final determination of its systematic status until a longer series of specimens are obtained from the vicinities of Novo-aleksandrovsk.

However, as a member of the genus *Trechoblemus* is found for the first time from the Russian Far East, a full description of the Sakhalin specimen will be given in the present paper for facilitating future studies. The abbreviations used herein are the same as those explained in the previous paper of the authors' (UÉNO & LAFER, 1994, pp. 112–113).

The authors are deeply indebted to Mr. Sumao KASAHARA for taking the trouble to ink the sketches prepared by LAFER.

Trechoblemus postilenatus (H. W. BATES, 1873)

(Figs. 1–3)

Trechus postilenatus H. W. BATES, 1873, Trans. ent. Soc. London, **1873**, p. 295; type locality: Osaka.
Trechoblemus postilenatus: JEANNEL, 1922, Annls, Soc. ent. Fr., **90** [for 1921], pp. 297, 298; 1928, Abeille, Paris, **35**, pp. 101, 105. —— UÉNO, 1970, Bull. natn. Sci. Mus., Tokyo, **13**, p. 604, fig. 1; 1985, Coleopt. Japan Col., Osaka, **2**, p. 85, pl. 16, fig. 6.
Other references are omitted.

Length: 4.05 mm (from apical margin of clypeus to apices of elytra).

Colour concolorously yellowish brown, not infuscated even on head: elytra semi-transparent, showing hind wings by transparency. Head mat, pronotum and elytra moderately shiny, with feeble silky lustre.

Body elongate, parallel-sided and depressed, densely covered with suberect pubescence except for head and prosternum, of which the former sparsely bears short pubescence and the latter bears a few hairs in the middle; legs wholly pubescent. Microsculpture isodiametric and coarse on head, transversely reticulated for the most part of pronotum, and of obscure transverse lines on elytra; elytral intervals finely punctate, each puncture bearing a hair. Measurements (in mm) as follows: HW 0.83, HL 0.58, PW 1.10, PL 0.90, PL_t 0.93, PA 0.83, PB 0.83, EW 1.45, EL 2.55.

Head short and broad, with completely flat eyes, whose outline forms a continuous curve with that of genae, the latter about seven-eighths as long as eyes and covered with suberect hairs; viewed laterally, eyes vertical, with rounded anterior and straight

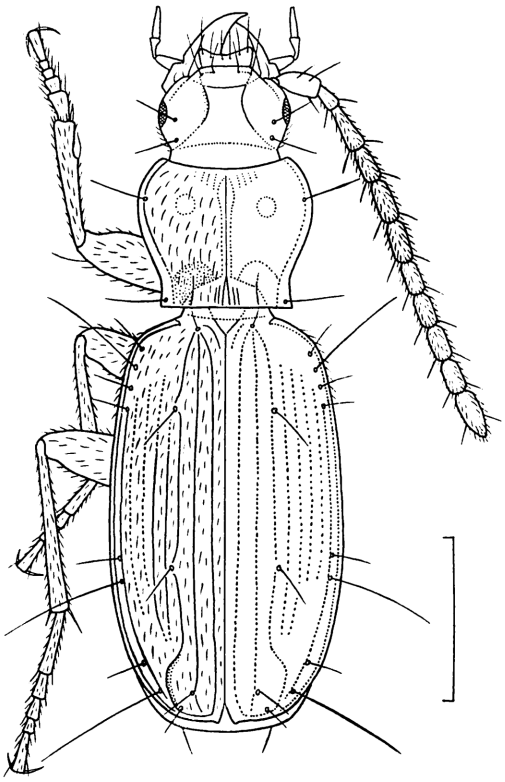
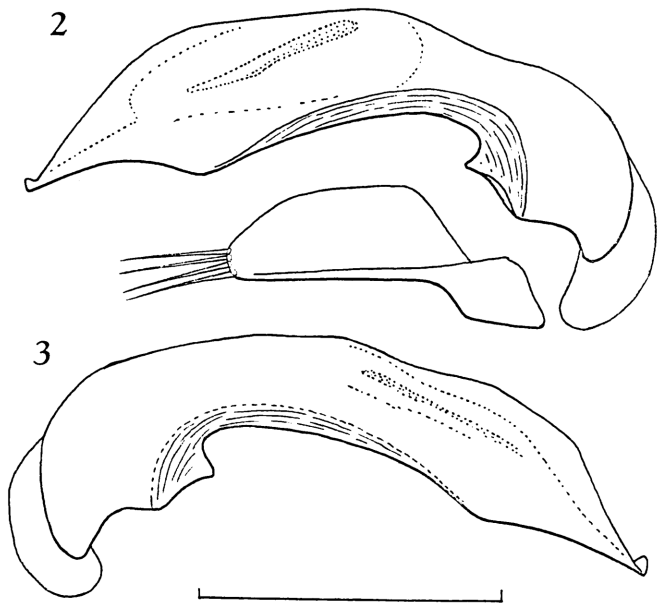


Fig. 1. Habitus of *Trechoblemus postilenatus* (H. W. BATES), from Novoaleksandrovsk in southern Sakhalin. (Scale: 1.0 mm.)

posterior margins; frontal furrows distinct throughout, subangulate at middle and widely divergent in front and behind; frons feebly convex, separated from vertex by a mal-defined transverse impression, supraorbital areas gently convex; labrum transverse, deeply emarginate at apex; mandibles short and stout; antennae stout, filiform, reaching basal three-sevenths of elytra, with the lengths (in mm) of segments 1–11 as follows: 0.28, 0.18, 0.30, 0.23, 0.28, 0.25, 0.23, 0.23, 0.23, 0.23, 0.33; antennal segments 7–10 each cylindrical and more than twice as long as wide.

Pronotum transverse subcordate, widest at about three-fourths from base, and much more gradually narrowed towards ante-basal constriction than towards apex; PW/HW 1.33, PW/PL 1.22, PW/PL_t 1.18, PW/PA 1.33, PW/PB 1.33; sides moderately arcuate in front, feebly so behind the widest part, shallowly but distinctly sinuate at about basal two-ninths, and then subparallel towards rectangular hind angles, with marginal gutters fairly wide throughout; two pair of marginal setae present, the anterior one at the widest part and the posterior on hind angles; apex as wide as base, PB/PA 1.00, lightly bisinuate, with front angles prominent and narrowly rounded; base almost straight; disc gently convex, covered with fine hair-bearing punctures;



Figs. 2–3. Male genitalia of *Trechoblemus postilenatus* (H. W. BATES), from Novoaleksandrovsk. —— 2. Right lateral view of aedeagus, with separated left style. —— 3. Left lateral view of aedeagus. (Scale: 0.5 mm.)

median line distinct, widening in basal area; apical transverse impression obsolete, basal one distinct, continuous, longitudinally foveolate on each side of median line and laterally merging into round basal foveae, which are large and deep; no post-angular carinae.

Elytra elongated ovate, widest at about five-ninths from base though almost parallel-sided, with square shoulders and almost transverse prehumeral borders; EW/PW 1.32, EL/PL_t 2.74, EL/EW 1.76; sides narrowly bordered throughout, nearly straight from behind shoulders to near the middle, then feebly arcuate, and almost conjointly rounded at apices; dorsum moderately convex at the lateral parts, gently so on the disc, with gentle apical declivity; striae superficial though almost entire, deeply impressed in apical area, stria 8 deepened behind the middle set of marginal umbilicate pores; scutellar striole short; apical striole short but deep, strongly curved and joining stria 3; intervals flat, apical carina prominent; stria 3 with two setiferous dorsal pores at about 2/9 and 4/7 from base, respectively; preapical pore situated well behind the level of the terminus of apical striole, and almost equally distant from apex and from suture.

Ventral surface smooth; venter of prothorax strongly convex. Legs fairly long. Male genitalia as in the Japanese specimens of the species.

Specimen examined. 1 ♂, Konuma (=Novoaleksandrovsk), southern Sakhalin, 25–XI–1932, Japanese collector (IBPV).

Notes. It is worth noting that in the subfamily Trechinae, and in most beetles, reduction of hind wings usually precedes that of eyes. The situation is reverse in the Sakhalin specimen, in which the hind wings are normally developed in spite of the complete flattening of the eyes.

In many Japanese specimens of *T. postilenatus*, the head is transversely infuscated across the eyes and the elytra have a pair of mal-defined dark blotches. This is, however, not definite; certain specimens are concolorously yellowish brown as is the case of the Sakhalin specimen. Incidentally, UÉNO has seen the holotype of *Trechus postilenatus* preserved in the Natural History Museum, London. It is a female (4.60 mm in the length of body) taken by George LEWIS at Osaka in 1871, with the following standard ratios of body parts: PW/HW 1.19, PW/PL 1.26, PW/PA 1.35, PW/PB 1.32, PB/PA 1.02, EW/PW 1.36, EL/EW 1.78. These data clearly show that the head is narrower, that is, the eyes are less convex, in the Sakhalin specimen than in the West Japanese one.

要　約

上野俊一・G. Sh. LAFER: サハリンのアトスジチビゴミムシ. —— ウラデイヴォストクのロシア科学院生物学土壌学研究所に保管されていた古い標本のなかに，サハリン産のアトスジチビゴミムシが1点みつかった．この標本は，戦争までの小沼にあった樺太庁中央試験所に所蔵されていたもので，越冬中を採集されたと付記されている．日本のアトスジチビゴミムシとほぼ完全に一致するが，複眼のまったく膨隆していない点が異なっているので，仮に同一種の *Trechoblemus postilenatus* (H. W. BATES) と認定し，念のために記載をつけておいた．いずれにしても，この属のチビゴミムシは，サハリンから初めての記録になる．

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Elytra, Tokyo, **22** (2): 220, Nov. 15, 1994

New Records of Staphylinid Beetles (Coleoptera) from Kuchinoerabu-jima Island, Southwest Japan

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Five staphylinid species have hitherto been reported by HASHIMOTO (1974) from Kuchinoerabu-jima Island near Yaku-shima Island of Kagoshima Prefecture, Japan.

One of the authors, S. ONODA, paid a visit to Kuchinoerabu-jima Island and collected a small number of staphylinid beetles at Mukaehama on June 10th, 1994. They contain nine species, all of which are new to the fauna of the island, as recorded below.

1. *Anotylus japonicus* (CAMERON), 5 exs
2. *Anotylus lewisius* (SHARP), 70 exs.
3. *Osorius taurus* SHARP, 20 exs.
4. *Procirrus lewisii* SHARP, 1 ex.
5. *Rugilus japonicus* Y. WATANABE, 3 exs.
6. *Astenus bicolor* (SHARP), 1 ex.
7. *Stilicopsis setigera* (SHARP), 1 ex.
8. *Bryoporus gracilis* (SHARP), 1 ex.
9. *Brachida clara* SHARP, 1 ex.

Reference

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Elytra, Tokyo, **22** (2): 221–225, Nov. 15, 1994

Notes on the Bembidiinae (Carabidae) of Japan

VIII. *Ocydromus kamikochii* (JEDLIČKA)

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Abstract *Ocydromus kamikochii* (JEDLIČKA) is redescribed on the basis of the holotype and a number of specimens from Hokkaido and Honshu, Japan. It is a relative of *O. cnemidotus* (BATES).

In his revision of the bembidiine carabid beetles from East Asia, JEDLIČKA (1965) described several new species from Japan. As was already pointed out by myself (1986, p. 67), most of his species have raised doubt as to their specific independency. According to his accounts and a habitus drawing, however, it is possible that only a single species, *Bembidion kamikochii*, is an independent species in having a peculiar body form and coloration. Recently, I was given an opportunity to examine the type specimen of this species through the courtesy of Dr. BÍLÝ and Dr. KOVÁR of the National Museum, Prague. It has become evident, as has been expected, that *Bembidion kamikochii* is an independent species. Besides, a number of additional specimens of the same species were already obtained by several friends of mine and by myself.

Since PERRAULT's opinion (1981, pp. 237–250), several attempts have been made by various authors to classify European species of "*Peryphus*". I myself am going to try to classify the Japanese species and to redescribe "*Bembidion*" *kamikochii* in this paper.

The abbreviations used herein are the same as those explained in my previous papers.

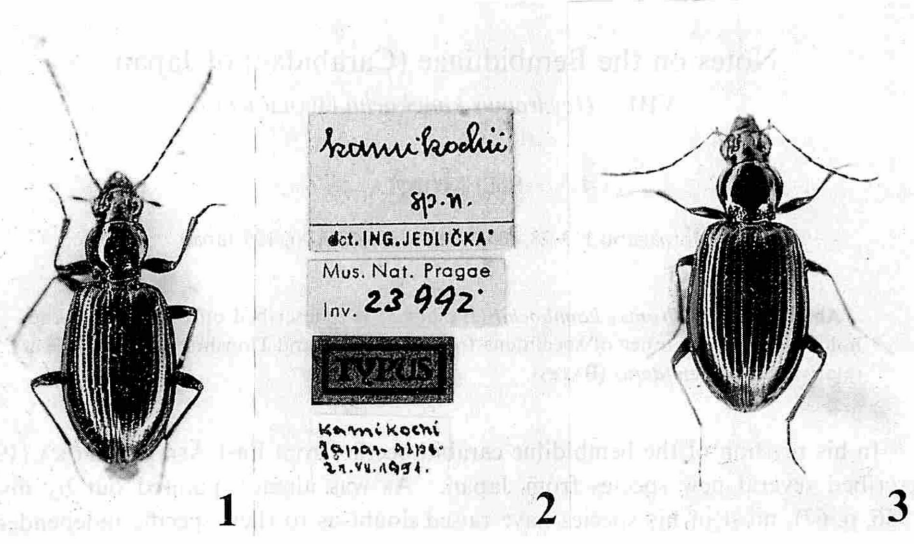
I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the manuscript of this paper. Thanks are also due to Dr. Svatopluk BÍLÝ and Dr. Ivo KOVÁR of the National Museum, Prague, for loan of type material under their care, and to Dr. Kazuo TANAKA, Messrs. Hirofumi HAYAKAWA, Masahiro SAKAGAMI and Satoshi YAMAUCHI for supplying me with important materials.

Ocydromus kamikochii (JEDLIČKA)

[Japanese name: Kamikôchi-mizugiwa-gomimushi]

(Figs. 1-4)

Bembidion kamikochii JEDLIČKA, 1965, Ent. Abh. Mus. Tierk. Dresden, **32**: 143, fig. 31.
Bembidion (Peryphus) kamikochii: NAKANE, 1978, Nat. & Ins., Tokyo, **13** (6): 25. —— KIRSCHENHOFER, 1984, Koleopt. Rdsch., Wien, **57**: 84.



Figs. 1–3. *Ocydromus kamikochii* (JEDLIČKA); 1, holotype; 2, labels attached to the holotype; 3, specimen from Hakushû-chô, Yamanashi Prefecture.

Length: 4.83–5.70 mm (from apical margin of clypeus to apices of elytra).

Medium-sized species with narrow fore body.

Colour black, with bluish and greenish lustre on head and pronotum, and with brownish and slightly bluish lustre on elytra; mandibles, antennal segments 1–2, basal third of antennal segment 3 and legs brown; proximal third to halves of femora rarely dark brown; labrum, palpi and rest of antennal segments dark brown; ventral side dark brown to blackish brown.

Head narrow and convex above; frontal furrows very wide, deep, almost parallel or a little diverging posteriad, usually with several coarse punctures; eyes weakly convex; anterior supraorbital pore(s) situated at about mid-eye level; posterior supraorbital one(s) situated a little before the post-eye level; microsculpture almost vanished, but consisting of wide or transverse meshes on neck; antennae filiform and fairly long; relative lengths of antennal segments as follows:— I: II: III: IV: V: VI: XI≒1: 0.85: 1.08: 1.05: 1.10: 1.11: 1.19 in the holotype, 1: 0.69: 1.07: 1.06: 1.06: 1.07: 1.17 in 8 ♂♂ and 4 ♀♀.

Pronotum narrow and convex; apex usually a little narrower than base; sides strongly arcuate in front, usually very obtusely angulate at the widest part, then strongly sinuate posteriad, and weakly divergent just before hind angles; apical angles not advanced; hind ones rather sharp, slightly produced outwards, and without carinae; anterior transverse impression shallow, rarely with a few coarse punctures; median line very shallow; base nearly straight at middle, slightly oblique on each side; basal foveae deep; basal area densely and coarsely punctate; anterior marginal setae situated at the widest part, posterior ones situated at the hind angles; reflexed lateral borders

Table 1. Standard ratios of body parts in *Ocydromus kamikochii* (JEDLIČKA).

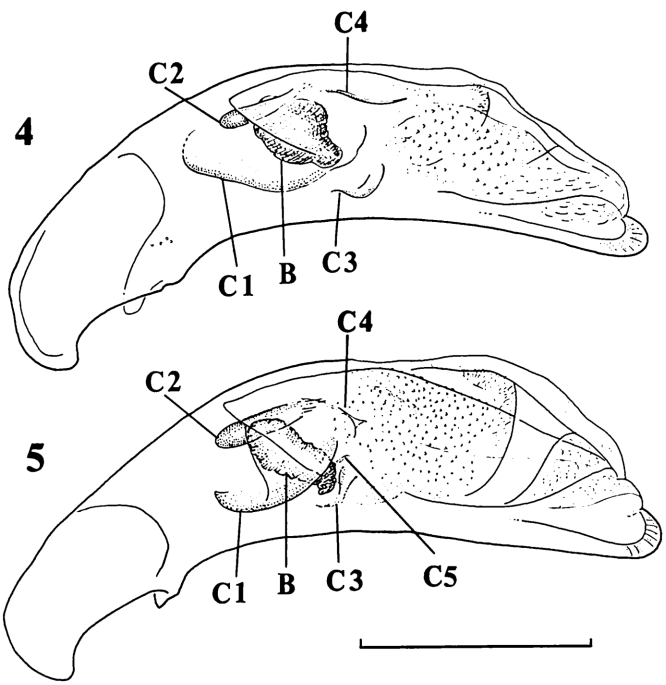
	PW/HW	PW/PL	PW/PA	PW/PB	PA/PB	EW/PW	EL/EW
1 ♂ Obihiro	1.20	1.16	1.41	1.30	0.93	1.77	1.54
2 ♀♀ Obihiro	1.17 1.19 (1.18)	1.17 1.20 (1.19)	1.31 1.31 (1.31)	1.28 1.30 (1.29)	0.99 1.02 (1.01)	1.82 1.84 (1.83)	1.44 1.55 (1.50)
1 ♂ Jûni-ko	1.16	1.14	1.36	1.34	0.99	1.82	1.50
1 ♂ Mt. Daitô-dake	1.18	1.13	1.32	1.35	1.02	1.78	1.50
4 ♂♂ Hakushû-chô	1.16– 1.19 (1.18)	1.13– 1.19 (1.16)	1.36– 1.40 (1.37)	1.26– 1.31 (1.29)	0.93– 0.95 (0.94)	1.72– 1.82 (1.77)	1.55– 1.61 (1.58)
7 ♀♀ Hakushû-chô	1.18– 1.22 (1.21)	1.14– 1.28 (1.19)	1.32– 1.42 (1.37)	1.28– 1.38 (1.32)	0.93– 1.01 (0.97)	1.74– 1.89 (1.83)	1.51– 1.59 (1.54)
3 ♂♂ Hiratsuka	1.16– 1.20 (1.19)	1.12– 1.18 (1.15)	1.35– 1.38 (1.37)	1.27– 1.33 (1.30)	0.91– 0.97 (0.94)	1.73– 1.83 (1.80)	1.50– 1.55 (1.53)
2 ♂♂ Tobira-onsen	1.17 1.19 (1.18)	1.12 1.17 (1.15)	1.33 1.35 (1.34)	1.35 1.35 (1.35)	1.00 1.01 (1.01)	1.80 1.80 (1.80)	1.53 1.53 (1.53)
Holotype ♀ Kamikôchi	1.22	1.14	1.38	1.32	0.96	1.79	1.51
2 ♀♀ Kamikôchi	1.17 1.25 (1.21)	1.14 1.25 (1.20)	1.38 1.31 (1.35)	1.30 1.38 (1.34)	0.99 1.00 (1.00)	1.74 1.79 (1.77)	1.52 1.54 (1.53)
1 ♂ Mt. Daisen	1.25	1.25	1.33	1.30	0.98	1.73	1.50
2 ♀♀ Mt. Daisen	1.17 1.20 (1.19)	1.17 1.17 (1.17)	1.32 1.38 (1.35)	1.26 1.35 (1.31)	0.91 1.03 (0.97)	1.85 1.91 (1.88)	1.46 1.49 (1.48)

very narrow, usually becoming narrower towards apex, with marginal gutters distinctly continuous to anterior transverse impression; microsculpture consisting of fine transverse meshes on disc, but almost vanished on apical and basal parts.

Elytra elongate-ovate, well convex, much wider than prothorax, widest at about middle or a little behind middle; sides gently arcuate, and very slightly emarginate before apices; striae superficial, rather strongly punctate, becoming shallower towards apices; striae 5–6 marked with a row of coarse punctures; stria 7 visible except for apical part, and marked with a row of fine punctures; scutellar striole long, strongly punctate; apical striole almost straight, short, rarely approaching stria 5; intervals weakly convex but flat at apices; microsculpture sharply impressed, consisting of wide or transverse meshes.

Metasternal process rather widely bordered at the median part.

Male genital organ elongate and moderately sclerotized. Aedeagus elongate; viewed laterally, apical lobe short and rounded at the extremity. Inner sac covered



Figs. 4–5. Aedeagus, left lateral view; 4, *Ocydromus kamikochii* (JEDLIČKA) from Hiratsuka, Kanagawa Prefecture; 5, *O. cnemidotus* (BATES) from Obihiro-shi, Hokkaido. (C1–C5: copulatory pieces, B: bundle of fibres). (Scale: 0.4 mm.)

with very poorly sclerotized scales and armed with five components of sclerites (B, C1–C4); lamellar copulatory piece (C1) large and poorly sclerotized; elongate copulatory piece (C2) heavily sclerotized and rounded at the proximal part; bundle of fibres (B) situated at the right side of elongate copulatory piece (C2); small copulatory piece (C3) moderately sclerotized and situated at about middle; linear piece (C4) poorly sclerotized, situated at the end of elongate copulatory piece and not dilated at the apical end; ostium flag moderately wide in lateral view. Left style usually provided with a long seta and three short setae at apex; right one usually provided with a long seta and a few short setae at apex, and with a few short setae at subapical part.

Specimens examined. 1 ♀ (holotype), "Kamikochi Japan alps. 27. VII. 1954."/"typus"/"Mus. Nat. Pragae Inv. 23992"/"*kamikochii* sp. n. det. ING. JEDLIČKA"; 1 ♂, 2 ♀♀, Obihiro, Riv. Tokachi-gawa, Hokkaido, 18–VI–1976, S. MORITA leg.; 1 ♂, Jûniko, Aomori Pref., 7–V–1989, S. YAMAUCHI leg.; 1 ♂, Mt. Daitô-dake, Miyagi Pref., 24–V–1974, S. MORITA leg.; 1 ♂, Hiratsuka, Kanagawa Pref., 14–VIII–1959, K. TANAKA leg.; 2 ♂♂, same locality, 27–IX–1959, K. TANAKA leg.; 2 ♂♂, same locality, 12–VIII–1960, K. TANAKA leg.; 1 ♂, 5 ♀♀, Hakushû-chô, Riv. Oshiro-gawa, Yamanashi Pref., 17–VII–1982, S. MORITA leg.; 5 ♂♂, 8 ♀♀, same locality, 26–IV–1986, S. MORITA leg.; 1 ♀, Kamikôchi, Nagano Pref., 3–VII–1976; 1 ♀, same locality, 9–VII–

1983; 2♂♂, Tobira-onsen, Nagano Pref., 13–IV–1993, M. SAKAGAMI leg.; 2♂♂, 2♀♀, Daisenji, Mt. Daisen, Tottori Pref., 14–VII–1989, S. MORITA leg.

Range. Japan: Hokkaido, Tôhoku District (Aomori Pref., Miyagi Pref.), Kantô District (Kanagawa Pref.), Chûbu District (Nagano Pref., Yamanashi Pref.), Chûgoku District (Tottori Pref.).

Notes. Most specimens recorded from Yamanashi Prefecture were found from under stones at the edges of rivers. When alive, this species can be easily discriminated from other bembidiine carabids by its body form and by having strongly bluish lustre. At a short distance from the collecting spots, other common bembidiine carabids, *Ocydromus trajectum* (NETOLITZKY) and *O. misellum* (HAROLD), were obtained.

This rare species can be distinguished from *O. cnemidotus* (BATES) by the following points: 1) larger body, 2) coloration of dorsal side, 3) sharply impressed microsculpture in ♂ and ♀, and 4) lack of a small copulatory piece (C5).

要　約

森田誠司：日本産ミズギワゴミムシ類の知見. VIII. *Ocydromus kamikochii* (JEDLIČKA) について. —— 原記載以降ほとんど記録のみられなかったカミコウチミズギワゴミムシを，正基準標本ならびに各地から採集された標本を基に再記載し，雄交尾器を図示した．この種は，ウスモンミズギワゴミムシに似ているが，大型で，背面に強い青色光沢があることや微細彫刻と交尾片の相違などによって容易に区別できる．

ところで，ミズギワゴミムシ属 *Bembidion* があまりにも大きい異質的なグループであるため，それらを分割しようという試みは幾度となく行なわれてきた．PERRAULT (1981) の雌交尾器を用いた研究以来，その試みもひとつの流れとなりつつある．筆者も日本産の種類について分割を試みた結果，カミコウチミズギワゴミムシを *Ocydromus* に所属させるのがよかろうという結論に達した．

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Elytra, Tokyo, **22** (2): 226, Nov. 15, 1994

Staphylinid Beetles (Coleoptera) Newly Recorded from Mageshima Island near Tanegashima Island, Southwest Japan

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So far as has been known to the authors, no staphylinid beetles have hitherto been reported from Mageshima Island near Tanegashima Island of Kagoshima Prefecture, Japan. Two species of staphylinid beetles were collected from Mageshima Island on June 14, 1994, by one of the authors, S. ONODA, as recorded below.

1. *Othius medius* SHARP, 2 ♀♀.
2. *Bracida clara* SHARP, 1 ♂.

Elytra, Tokyo, **22** (2): 227–237, Nov. 15, 1994

Three New Taxa of *Pterostichus* (Coleoptera, Carabidae) from Kyushu and Shikoku, Southwest Japan

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Abstract A new species with two new subspecies of apterous pterostichine carabid beetles are described from Southwest Japan. Of these, *Pterostichus* (*Pterostichus*[1)]) *hikosanus* sp. nov. with *P.* (*P.*) *hikosanus higonis* subsp. nov. is distributed in the Island of Kyushu, and *P.* (*P.*) *hikosanus kurosonis* subsp. nov. is found at the westernmost part of the Island of Shikoku.

In 1955, HABU gave an account of a pterostichine carabid beetle under the name *Pterostichus pachinus* BATES, 1883, and recorded it from Mt. Hiko-san in northern Kyushu, Japan. Later in 1960, he compared it and specimens from Mt. Ichifusa-yama in southern Kyushu with one of BATES' cotypes and observed that though the series of specimens from Kyushu were somewhat different from the cotype, they could not be regarded as an independent species or subspecies and that further specimens especially those from Honshu were needed for determining their systematic status.

In 1984, I made a collecting trip to Kyushu in the early summer, and succeeded in obtaining many pterostichine specimens on Mt. Hiko-san and other mountains, mostly in the southern part of Kyushu. The collection contained elongate large-sized pterostichines which were doubtless identical with the so-called *P. pachinus*. On the other hand, an unnamed pterostichine carabid occurs at the westernmost part of the Island of Shikoku. It seems isolated from other pterostichines of the island, and rather closely related to the preceding species from Kyushu, particularly to the population of its southern part. The existence of this population in the Island of Shikoku is very interesting and important from the zoogeographical viewpoint.

After carefully examining these specimens together with many others from Honshu, I have come to the conclusion that the species in question from Kyushu and Shikoku is more closely allied to *P. sphodriformis* BATES, 1873, than to *P. pachinus* BATES, though their characteristic facies and configuration of male genitalia are evidently different from the two species described by BATES. It must be new to science, and I am going to describe them in this article under the names *Pterostichus* (*Pterostichus*) *hikosanus* sp. nov., *P.* (*P.*) *hikosanus higonis* subsp. nov. and *P.* (*P.*) *hikosanus kurosonis* subsp. nov., from the northeastern part of Kyushu, the central part of Kyushu and the westernmost part of Shikoku, respectively. All the holo- and allotypes are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.),

1) *Sensu* TANAKA (1985, p. 113).

Tokyo. The paratypes are separately deposited in the collection of the Entomological Laboratory of Kyushu University and of mine. The abbreviations used herein are the same as those explained in other papers of mine.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his advice and for reading the manuscript of this paper, and to Assoc. Prof. Michitaka CHÛJÔ for his kind support of my research on Hikosan. Thanks are also due to Messrs. Fuminori HIROKAWA, Shôichi IMASAKA, Yoshiyuki ITÔ, Norio OHTANI and Katsuro YAHIRO for their kind help in materials and field works.

Pterostichus (*Pterostichus*) *hikosanus* sp. nov.

[Japanese name: Hikosan-nagagomimushi]

(Figs. 1–2, 4–5, 11)

Pterostichus pachinus: HABU, 1955, pp. 150–153; 1960, p. 3. —— HIROKAWA, 1994, p. 29.
Pterostichus sp.: NAKANE, 1983, p. 12.

Description. Length (measured from apex of labrum to apices of elytra) 17.5–19.6 mm. Width 5.4–6.1 mm. Elongate, black and shiny; labrum, mandibles, antennae, femora and tibiae dark reddish brown to blackish; palpi and tarsi reddish brown.

Head moderately convex; neck weakly depressed above; mandibles relatively long; labrum slightly emarginate or almost straight at apex; eyes convex, often more or less prominent; postgenae strongly contracted behind, gently or slightly swollen; clypeal suture fine but distinct; frontal furrows distinct, smooth, almost parallel, though divergent posteriad at extremities, and extending to the mid-eye level; supraorbital areas convex in front; lateral grooves deep, extending a little beyond the post-eye level; surface sparsely and minutely punctate, microsculpture scarcely visible, formed by fine isodiametric meshes; antennae moderately long, extending to the basal fourth of elytra, segment 2 ventrally unisetose at apex.

Pronotum quadrate-cordate, moderately convex, widest at apical third, ca. 1.3 times as wide as head (PW/HW 1.24–1.32, mean 1.27), half as wide again as base (PW/PBW 1.46–1.54, mean 1.49), about a fifth as wide again as long (PW/PL 1.18–1.26, mean 1.22); lateral margins evenly well arcuate, then strongly convergent posteriad and sinuate before base, basal part almost parallel and often with irregular small notches; lateral reflexed borders narrow, though becoming wider towards apices in anterior parts; marginal grooves smooth; anterior marginal setae inserted a little before the widest level; apical margin gently emarginate, very finely and indistinctly bordered on each side, apical angles produced, rounded at the tips; basal margin always narrower than the apical, gently and widely emarginate at the median part, and rather oblique on each side, which is often vaguely bordered, basal angles nearly rectangular though blunt at the tips; basal foveae distinct, smooth, linearly impressed at the bottoms, almost parallel in basal halves, though divergent anteriad in apical halves; me-

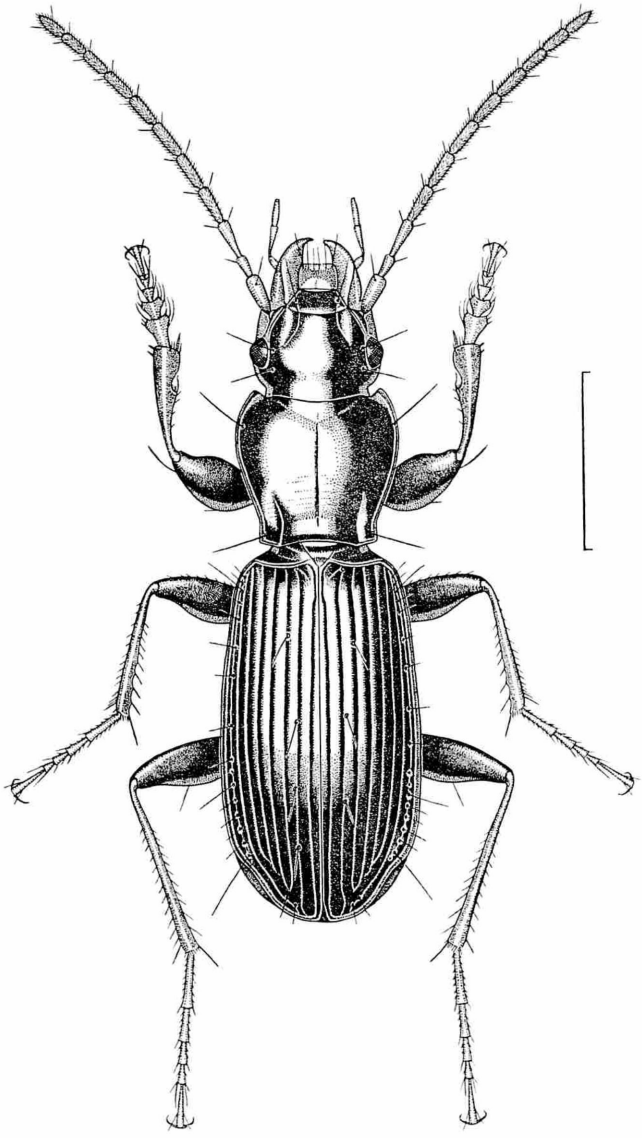


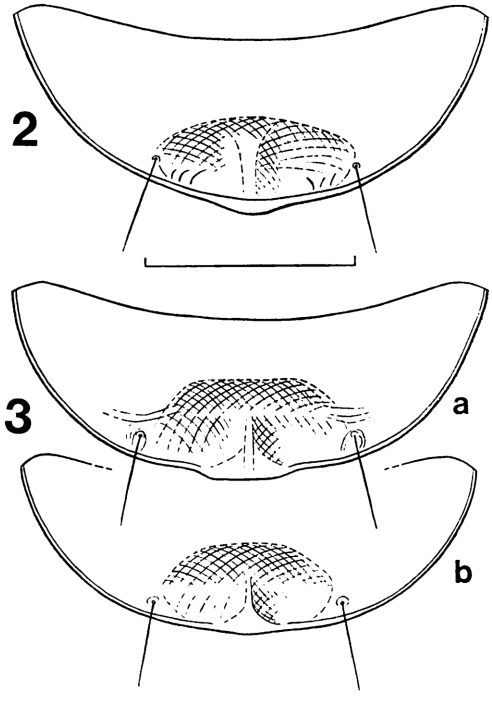
Fig. 1. *Pterostichus* (*Pterostichus*) *hikosanus* sp. nov., ♂, from Mt. Hiko-san in Fukuoka Pref. Scale 5 mm.

dian line deep; apical and basal depressions obsolete; surface impunctate, though generally with transverse wrinkles on each side of median line in basal part; microsculpture slightly and partially visible, formed by very fine transverse meshes.

Apterous. Elytra oblong, gently convex, widest at about middle, about a fifth as wide again as pronotum (EW/PW 1.19–1.26, mean 1.22), ca. 2.6 times as long as

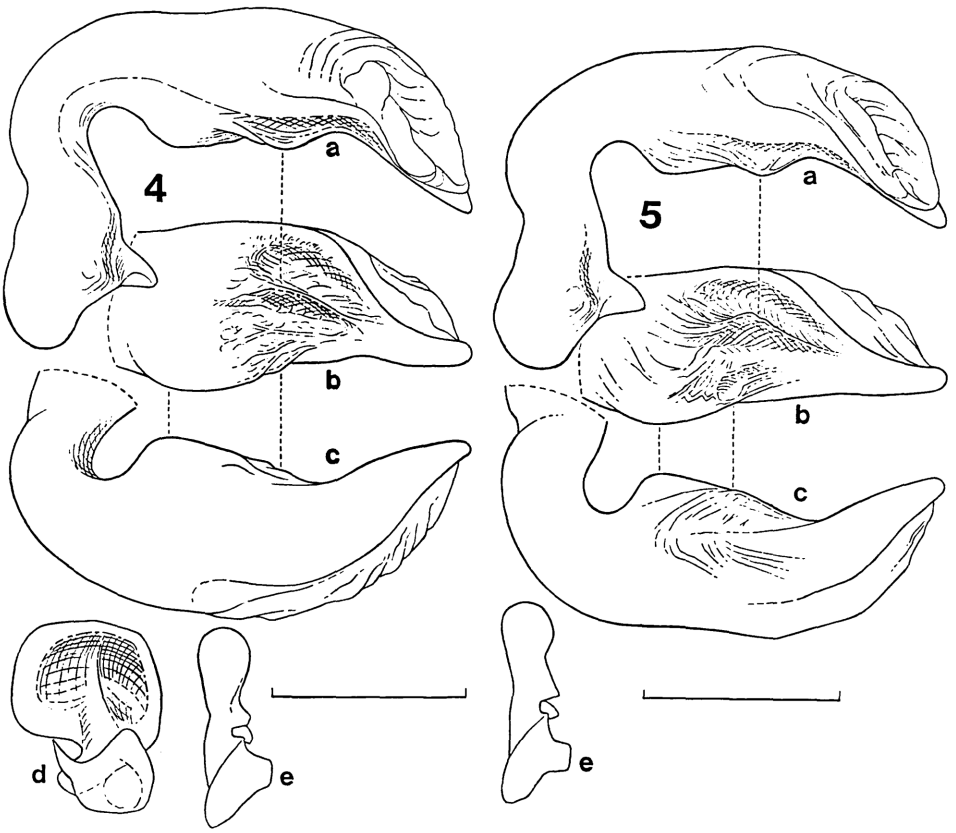
pronotum (EL/PL 2.56–2.67, mean 2.63), ca. 1.55 times as wide as base (EW/EBW[2] 1.49–1.60, mean 1.55), ca. 1.8 times as long as wide (EL/EW 1.75–1.84, mean 1.79); basal border complete, gently curved, obliquely extending to shoulder, and joining lateral border at an obtuse but well defined angle; shoulders rounded; lateral margins evenly and gently arcuate from behind shoulder to preapical emargination, which is shallow though distinct; apices rounded, sutural angles rounded; scutellar striole rudimentary, lying on interval 2, but frequently obsolete; striae deeply impressed throughout, smooth; intervals convex; interval 3 with three to four dorsal pores, anteriormost one adjoining stria 3 at about basal fourth, the remainings adjoining stria 2 and irregularly arranged at about middle to apical fourth, respectively; marginal series of pores 18–21 in number, widely spaced at middle; microsculpture well visible, formed by transverse meshes in both sexes.

Basal three segments of meso- and metatarsi externally sulcate. Ventral side shiny, smooth, though mesepisterna and abdominal sternite 2–3 are punctate; prosternal process shallowly furrowed at middle, not bordered at apex; terminal sternite



Figs. 2–3. Terminal sternites in the males of *Pterostichus* (*Pterostichus*) *hikosanus* sp. nov. and subsp. *higonis* nov. —— 2. *P.* (*P.*) *hikosanus* sp. nov., from Mt. Hiko-san in Fukuoka Pref.; 3, *P.* (*P.*) *hikosanus higonis* subsp. nov.: a, from Shiiya-tôge in Miyazaki Pref.; b, from Hagi in Kumamoto Pref. Scale 2 mm.

2) Meaning the basal width of elytra.



Figs. 4–5. Male genitalia of *Pterostichus* (*Pterostichus*) *hikosanus* sp. nov.: 4, from Mt. Hiko-san in Fukuoka Pref.; 5, from Mt. Kuro-dake in Ôita Pref.; a–c, aedeagus; a, left lateral view; b, ventral view, basal part omitted; c, right dorso-lateral view; d, left paramere; e, right paramere. Scale 1.5 mm.

distinctly depressed in apical half in the male, the depression longitudinally raised at middle, apical margin a little produced and warped downwards at middle.

Aedeagus strongly bent at about 90 degrees at basal third, then strongly and widely tumid ventrad on the right side at middle, distinctly bent downwards at apical fourth, ventral side with longitudinally arcuate and distinct carina in apical third, depressed outside the carina and ruggedly rugose; apical lobe small, rounded at apex; left paramere wide, gently arcuate at apex; right paramere stout, rounded at apex.

Type series. Holotype: ♂, Mt. Hiko-san, Fukuoka Pref., 11–VI–1984, S. KASAHARA leg.; allotype: ♀, same data as for the holotype. Paratypes: 7 ♂♂, 1 ♀, same data as for the holotype; 3 ♂♂, 1 ♀, same locality, 12–VI–1984, S. KASAHARA leg.; 2 ♂♂, Mt. Takanosu-yama, Fukuoka Pref., 13–VI–1984, S. KASAHARA & M. T. CHÛJÔ leg.; 2 ♂♂, Mt. Kuro-dake, Kujû-san Mts., Ôita Pref., 28–V–1986, K. YAHIRO leg.

Distribution. Northeastern part of Kyushu.

Notes. The present new species is closely allied to *P. sphodriformis* BATES and resembles the latter in general appearance, but is easily distinguished from the latter by having different configuration of terminal sternite and genitalia in the male, the latter of which are especially peculiar in the carinate aedeagus.

Pterostichus (Pterostichus) hikosanus higonis subsp. nov.

(Figs. 3, 6–7, 11)

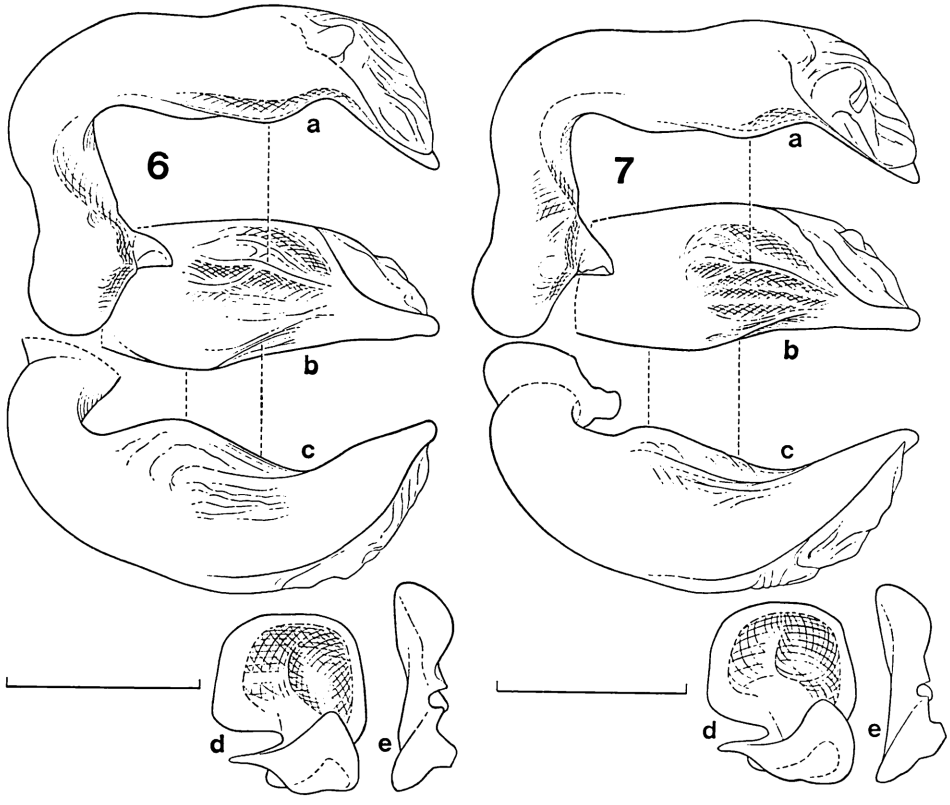
Description. Length (measured as in the preceding species) 16.6–19.0 mm. Width 5.5–6.4 mm. Colour almost the same as in the nominotypical subspecies. Head similar to that of the nominotypical subspecies. Pronotum cordate, wider than that of the nominotypical subspecies, ca. 1.24 times as wide as head (PW/HW 1.19–1.28, mean 1.24), about a half as wide again as base (PW/PBW 1.44–1.53, mean 1.49), ca. 1.3 times as wide as long (PW/PL 1.24–1.30, mean 1.27); lateral margins more strongly arcuate and more strongly convergent posteriad than in the nominotypical subspecies, then more distinctly sinuate before base, basal fifth parallel or somewhat divergent posteriad, basal angles rectangular, blunt at the tips; basal foveae and surface almost the same as in the nominotypical subspecies.

Elytra elliptical, wider than those of the nominotypical subspecies, widest a little behind the middle, ca. 1.3 times as wide as pronotum (EW/PW 1.20–1.38, mean 1.28), ca. 2.7 times as long as pronotum (EL/PL 2.62–2.80, mean 2.72), ca. 1.7 times as wide as base (EW/EBW 1.60–1.77, mean 1.68), as long as wide almost in the same proportion (EL/EW 1.58–1.72, mean 1.68); lateral margins more strongly arcuate than in the nominotypical subspecies; other characteristics almost the same as in the nominotypical subspecies. Terminal sternite distinctly depressed in apical half in the male as in the nominotypical subspecies, though the longitudinal median ridge is narrower and divergent towards the apical margin, which is slightly produced and warped downwards, marginal border terminating on each side of the median projection.

Aedeagus similar to that of the nominotypical subspecies, though the tumidity of the right ventral side at middle and the arcuate carina on the ventral side in apical third are not so distinct as in the nominotypical subspecies; right paramere somewhat pointed though narrowly rounded at the apex, instead of being widely rounded.

Type series. Holotype: ♂, Shiiya-tôge, Shiiba-mura, Miyazaki Pref., 21–VI–1984, S. KASAHARA leg.; allotype: ♀, same data as for the holotype. Paratypes: 1 ♂, 3 ♀♀, same data as for the holotype; 1 ♂, 1 ♀, Hagi, Gokanoshô, Kumamoto Pref., 25–VI–1982, S. IMASAKA leg.; 1 ♂, 1 ♀, same locality, 8–VIII–1982, S. IMASAKA leg.; 10 ♂♂, 11 ♀♀, same locality, 16～17–VI–1984, S. KASAHARA leg.; 1 ♂, Mt. Ichifusa-yama, Kumamoto Pref., 19～20–VI–1984, S. IMASAKA leg.; 3 ♂♂, 2 ♀♀, Mt. Shiraga-dake, Kumamoto Pref., 19–VI–1984, S. KASAHARA & S. IMASAKA leg.; 1 ♂, 1 ♀, same locality, 12–IX–1992, F. HIROKAWA leg.

Distribution. Watershed mountains in the central part of Kyushu.



Figs. 6–7. Male genitalia of *Pterostichus* (*Pterostichus*) *hikosanus higonis* subsp. nov.: 6, from Shiiya-tôge in Miyazaki Pref.; 7, from Hagi in Kumamoto Pref.; a–c, aedeagus; a, left lateral view; b, ventral view, basal part omitted; c, right dorso-lateral view; d, left paramere; e, right paramere. Scale 1.5 mm.

Notes. The present new subspecies is clearly discriminated from the nominotypical one by its evidently cordate pronotum and rounded elytra.

Pterostichus* (*Pterostichus*) *hikosanus kurosonis subsp. nov.

(Figs. 8–11)

Description. Length (measured as in the preceding) 16.1–18.8 mm. Width 5.3–6.2 mm. Similar in general appearance to the preceding subspecies, though the appendages are more reddish and lighter in colour. Head somewhat smaller than in the preceding subspecies. Pronotum more convex, ca. 1.33 times as wide as head (PW/HW 1.30–1.37, mean 1.33), about a half as wide again as base (PW/PBW 1.48–1.55, mean 1.52), ca. 1.3 times as wide as long (PW/PL 1.25–1.28, mean 1.26); lateral margins well arcuate and strongly convergent posteriad as in the preceding subspecies.

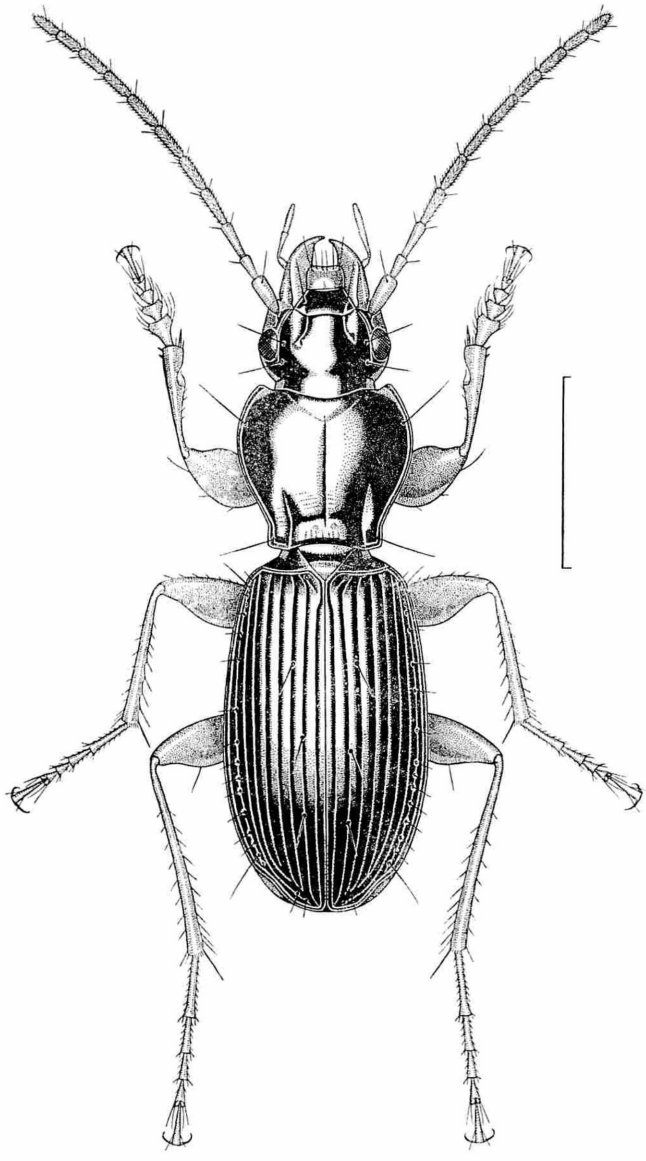


Fig. 8. *Pterostichus* (*Pterostichus*) *hikosanus kurosonis* subsp. nov., ♂, from Kuroson in Kôchi Pref. Scale 5 mm.

Elytra narrower than those of the preceding subspecies, ca. 1.22 times as wide as pronotum (EW/PW 1.18–1.25, mean 1.22), ca. 2.6 times as long as pronotum (EL/PL 2.54–2.68, mean 2.62), ca. 1.6 times as wide as base (EW/EBW 1.59–1.64, mean 1.61), ca. 1.7 times as long as wide (EL/EW 1.66–1.72, mean 1.70), lateral margins less arcuate than in the preceding subspecies. Ventral side almost the same as in the

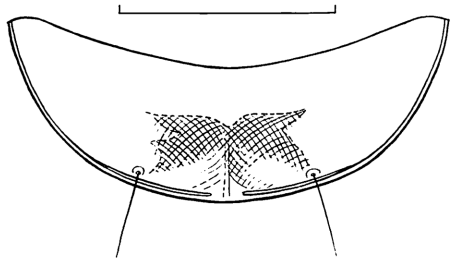


Fig. 9. Terminal sternite in the male of *Pterostichus* (*Pterostichus*) *hikosanus kurosonis* subsp. nov., from Kuroson in Kôchi Pref. Scale 2 mm.

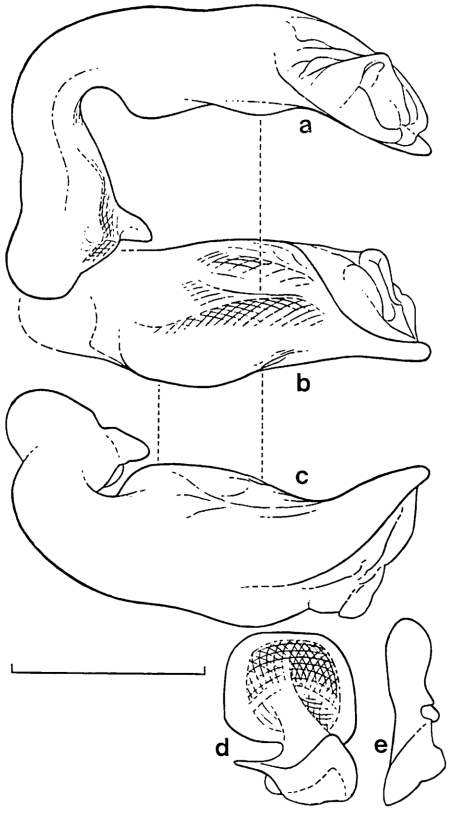


Fig. 10. Male genitalia of *Pterostichus* (*Pterostichus*) *hikosanus kurosonis* subsp. nov., from Kuroson in Kôchi Pref. —— a–c, Aedeagus: a, left lateral view; b, ventral view; c, right dorso-lateral view; d, left paramere; e, right paramere. Scale 1.5 mm.

preceding subspecies; terminal sternite depresssed in apical half in the male, though the depression and longitudinal median ridge are weaker than in the preceding subspecies, apex not produced but slightly warped downwards, marginal border interrupted at middle.

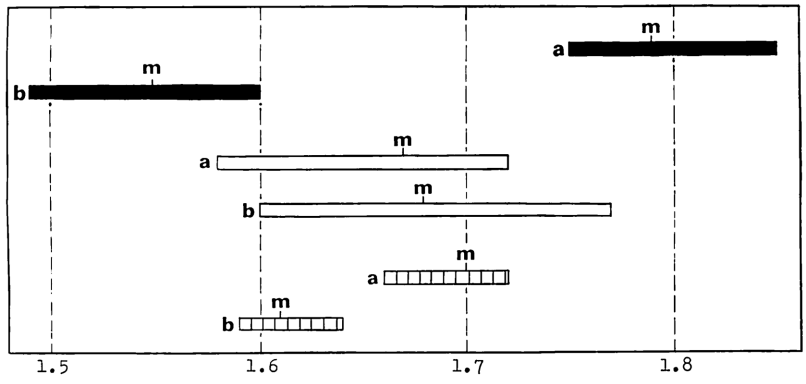


Fig. 11. Diagram showing the proportions of elytra in *Pterostichus* (*Pterostichus*) *hikosanus* sp. nov., and its subspecies. —— Black bar, *P.* (*P.*) *hikosanus* sp. nov.; white bar, *P.* (*P.*) *hikosanus higonis* subsp. nov.; blocked bar, *P.* (*P.*) *hikosanus kurosonis* subsp. nov.; a, EL/EW; b, EW/EBW; m, mean.

Aedeagus similar to that of the preceding subspecies, though the tumidity of the right ventral side is wide and strong as in the nominotypical subspecies, and the arcuate carina in apical third is weaker than in the preceding subspecies; parameres somewhat smaller than in the preceding subspecies.

Type series. Holotype: ♂, Kuroson, Nishitosa-mura, Kôchi Pref., 6–IX–1986, S. KASAHARA & Y. ITÔ leg.; allotype: ♀, same data as for the holotype. Paratypes: 1 ♂, 1 ♀, same data as for the holotype.

Distribution. Westernmost part of Shikoku; known only from the type locality.

Notes. This new subspecies is doubtless closely related to the preceding subspecies. It seems isolated from the other pterostichine species in the Island of Shikoku, which suggests a close zoogeographical relationship between the westernmost part of Shikoku and Kyushu.

要　　約

笠原須磨生：九州と四国産ナガゴミムシ属の1新種とその2新亜種. —— これまで疑問視されながらも，ジュンサイナガゴミムシ *Pterostichus pachinus* BATES とされていた北九州の英彦山産の種を，新種ヒコサンナガゴミムシ *Pterostichus* (*Pterostichus*) *hikosanus* として記載し，九州中央山地に分布するものをその亜種 *higonis*，また，四国西端部にみられる個体群を亜種 *kurosonis* として記載した．四国産の亜種の存在は，この地域と九州との関連を示唆するもので，動物地理学的見地からも興味深い．

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Elytra, Tokyo, **22** (2): 237–238, Nov. 15, 1994

A New Subspecies of *Rupa japonica* (Coleoptera, Carabidae) from Okayama Prefecture, Western Honshu, Japan

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The brachypterous platynine carabid beetle, *Rupa japonica* JEDLIČKA, 1935, was described from Mt. Kongô-san in Osaka, Japan. According to ISHIDA (1953) and HABU (1978), it is distributed to the Kinki District of Honshu (Kyoto, Osaka, Mie, Nara and Wakayama Prefectures). Recently, I have examined many examples of this platynine collected in Okayama Prefecture, which is not only the westernmost locality but also new record from the Chûgoku District for the species.

The population of Okayama Prefecture is not different from those of the Kinki District in external features, though the aedeagus is conspicuously different from that of the latter, especially in its denticulate apex, and seems to belong to a new taxon. In the following lines, I will describe it under the name *uncinata* subsp. nov.

I am grateful to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his guidance. Thanks are also due to Messrs. Tatsuya NIISATO, Kôichi NOJIMA and Osamu YAMAJI for their kind help in materials.

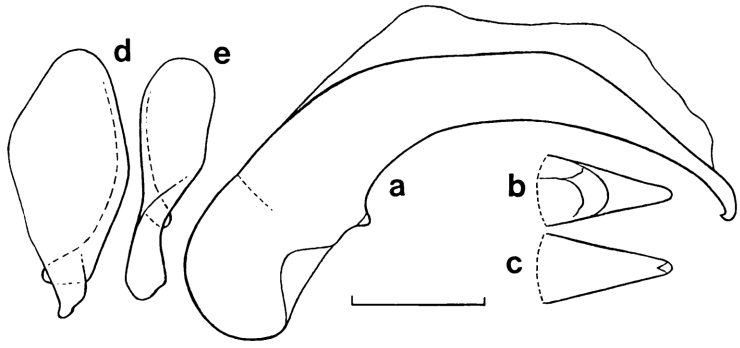

Fig. 1. Male genitalia of *Rupa* (*Rupa*) *japonica uncinata* subsp. nov., from Mt. Kenashi-zen in Okayama Pref.; a–c, aedeagus: a, left lateral view; b, apical part in dorsal view; c, apical part in ventral view; d, left paramere; e, right paramere. Scale 0.5 mm.

Rupa* (*Rupa*) *japonica uncinata subsp. nov.

(Fig. 1)

Description. Length 9.0–9.9 mm. Width 3.4–4.0 mm. General appearance almost the same as in the nominotypical subspecies. Aedeagus more arcuate than that of the nominotypical subspecies in profile; apical lobe longer than in the nominotypical subspecies, and gently bent downwards in apical half, apex ventrally with a minute but pointed tooth, which is directed backwards; parameres similar to those of the nominotypical subspeises.

Type series. Holotype: ♂, Mt. Kenashi-zen, Shinjô-son, Okayama Pref., 29-V-1993, K. NOJIMA leg. Paratypes: 1♂, 3♀♀, same locality as for the holotype, 1-VI-1994, K. NOJIMA leg.; 1♂, Kumagaya, Kawakami-son, Okayama Pref., 2-X-1988, O. YAMAJI leg.; 4♂♂, 2♀♀, Mt. Yamanori-sen, Chûka-son, Okayama Pref., 10-IX-1994, S. KASAHARA & O. YAMAJI leg.

The holotype is preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are deposited in my cabinet.

Notes. Although the present new subspecies and the nominotypical one cannot be satisfactorily discriminated from each other by their external morphology, they are easily distinguished by evidently different configuration of their aedeagi, of which the apical lobe is bent downwards with its apex ventrally dentate in the former but is simply tapered with edentate apex in the latter.

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Elytra, Tokyo, **22** (2): 239–247, Nov. 15, 1994

Studies on Asian Carabidae

X. Species of the Subgenus *Ophonomimus*

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Abstract *Ophonomimus* SCHAUBERGER is regarded as a subgenus of the carabid genus *Parophonus* GANGLBAUER. A new species of the subgenus is described from Dacca in Pakistan, and the two species *P.* (*O.*) *interstitialis* (REITTER) and *P.* (*O.*) *hirsutulus* (DEJEAN) are redescribed.

In this paper, I am going to regard *Ophonomimus* SCHAUBERGER as a valid subgenus distinguished from the subgenus *Parophonus* by the absence of mental tooth, as the presence or absence of this organ seems to be stable in the genus *Parophonus*. I will also describe a new species from Dacca in Pakistan, and redescribe all the known species of the subgenus.

I wish to express my deep gratitude to Dr. Fritz HIEKE of the Museum für Naturkunde der Humboldt-Universität for his kind loan of numerous materials preserved in the museum. I also cordially thank Dr. Boris KATAEV of the Russian Academy of Sciences and Dr. David W. WRASE for their kind support.

Subgenus ***Ophonomimus*** SCHAUBERGER

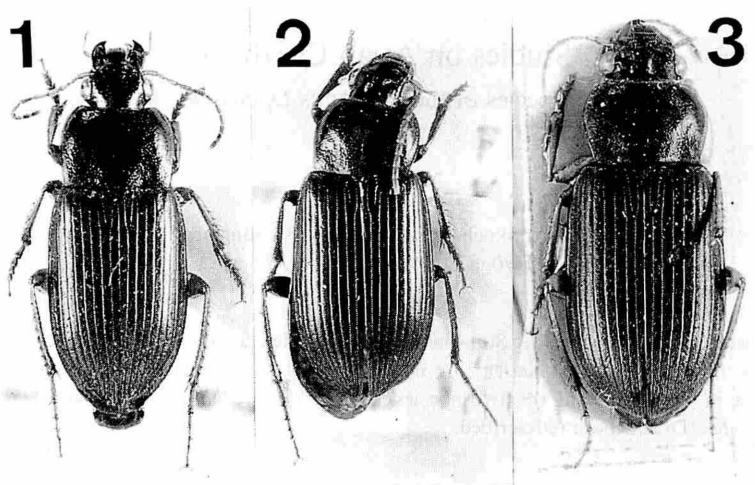
SCHAUBERGER, 1923, Ent. Anz., **3**: 72; 1933, Wien. ent. Ztg., **50**: 76–78. —— JEANNEL, 1942, Fn. de France, **40**: 625, 628. —— NOONAN, 1976, Quaest. ent., **12**: 46; 1985, Milwaukee Public Mus. Contr. Biol. & Geol., **64**: 20–21. —— SCIAKY, 1992, Boll. Zool. agr. Bachic., Torino, (2), **24**: 46.

The genus *Ophonomimus* was established by SCHAUBERGER on the basis of the absence of mental tooth. JEANNEL regarded *Ophonomimus* as a subgenus of the genus *Parophonus* GANGLBAUER. NOONAN synonymized it with *Parophonus*, because the condition of the mental tooth was variable in *Parophonus maculicornis* (DUFTSCHMIDT). However, most Palearctic species of the subgenus *Parophonus* examined by me possess the tooth and all the species of *Ophonomimus* are quite edentate at the menta. The presence or absence of mental tooth seems probably stable. I am therefore going to revive the subgenus in the present paper.

Parophonus* (*Ophonomimus*) *hirsutulus (DEJEAN)

(Figs. 1, 4)

Harpalus hirsutulus DEJEAN, 1829, Spec. gén. Coléopt., 226.



Figs. 1–3. *Parophonus* (*Ophonomimus*) spp. —— 1, *P.* (*O.*) *hirsutulus* (DEJEAN); 2, *P.* (*O.*) *interstitialis* (REITTER); 3, *P.* (*O.*) *rectangulus* sp. nov.

Ophonus hirsutulus: TSCHITSCHÉRINE, 1895, Horae Soc. ent. ross., **29**: 236.
Ophonomimus hirsutulus: CSIKI, 1932, Coleopt. Cat., (121): 1209. —— SCHAUBERGER, 1933, Wien. ent. Ztg., **50**: 76–77.
Parophonus (*Ophonomimus*) *hirsutulus*: JEANNEL, 1942, Fn. de France, **40**: 625, 628. —— NOONAN, 1976, Quaest. ent., **12**: 46.
Parophonus hirsutulus: NOONAN, 1985, Milwaukee Public Mus. Contr. Biol. & Geol., **64**: 2. —— SCIAKY, 1992, Boll. Zool. agr. Bachic., Torino, (2), **24**: 46.

Body oblong or oblong-oval, black to slightly brownish black, with weak iridescent lustre on elytra; palpi, antennae, lateral borders of pronotum and legs light brown or light reddish brown.

Head sparsely and rather coarsely punctate at lateral parts and on vertex, finely on labrum and at apical part of clypeus, very sparsely pubescent near vertex, comparatively narrow, a little less than two-thirds as wide as pronotum, weakly convex, hardly raised on frons and clypeus; labrum trapezoidal and with arcuate sides, obtusely and shallowly notched at apex; clypeus shallowly emarginate and finely bordered at apex, bearing one or two rough rugosities near each side, obscurely sutured with frons by a shallow fine line; frontal impressions rugosely engraved, fairly deep in front, rapidly shallowed behind and rudimentary just before eyes; eyes large and rather well convex; temples short, one-seventh as long as eyes, straightly contracted behind, each forming a blunt angle with neck constriction, and sparsely pubescent; space between genuine ventral margins of eyes and buccal fissure rather wide; antennae short, extending a little beyond pronotal base, 3rd segment as long as the 4th and a little longer than one and two-thirds the 2nd; mandibles short and robust, blunt at tip of left mandible and sharp at right one; labial palpi more or less robust and rather densely pubescent, 2nd as long as the 3rd; ligula mostly parallel-sided, weakly expanded

forwards a little before truncate apex, and sharply angulate at apical corners; paraglossae not wide, rounded at apex, fused with ligula up to apical fourth; apical emargination of mentum truncate, epilobes narrow and weakly widened apicad; microsculpture obscurely visible, composed of mixtures of transverse and isodiametric meshes.

Pronotum weakly transversely quadrate, weakly and almost straightly contracted behind from the widest point, two-fifths wider than long, not strongly declivous even apico-laterally, sparsely and minutely punctate on disc, coarsely and compactly so in basal area and in lateral furrows, furnished with pubescence in the same density as the punctures; apex shallowly emarginate, truncate in middle and entirely bordered, with apical angles narrowly rounded; base wide, two-fifths wider than apex, not bordered throughout, subrectangularly meeting with the sides, each with a small protuberance at the angle; front transverse impression vague, though more or less clearer than hind one; median line fine, not obscure, and lying between the two impressions; lateral furrows narrow and hardly widened up to base, isolated from basal foveae by weak and wide longitudinal bulges; basal foveae widely oblong, shallow, becoming rather coarse in middle; microsculpture observable as vague transverse lines on disc and as somewhat clear transverse meshes in basal area.

Hind wings entire. Elytra oblong-oval, with subarcuate sides, about two-fifths longer than wide, rather convex, more or less slant baso-laterally; bases shallowly emarginate and weakly oblique at sides, humeral angles obtuse and angulate, each with a small protuberance at tip; apices wide, not produced behind, separated and rather widely rounded, apical sinuations relatively deep; striae narrow and not deep, scutellar striole moderately long; intervals flat on disc, only slightly raised even near apex, not coarsely, compactly pubescent and punctate, weakly aciculate in part, 3rd, 5th and 7th intervals each bearing a row of setiferous pores, respectively, 3rd with 13–17, 5th with 15–19, and 7th with 17–21 pores; marginal series continuous or subinterrupted medially, composed of (7–9)+(8–9) umbilicate pores; microsculpture obscure, consisting of transverse lines.

Ventral surface rather densely pubescent almost throughout; metepisternum well contracted behind, a half longer than wide; 6th abdominal segment quadrisetose in both sexes along apical margin, which is widely and gently arcuate or subtruncate at apex in ♂ and rather produced behind and narrowly arcuate in ♀.

Femora and trochanters rather densely pubescent; tibiae bearing short pubescence on dorsal sides, fore tibia rather robust, rather well widened apicad, and triangularly protuberant at apex, with two spines along apico-external margin in ♂ and with three or four spines in ♀, terminal spur simple; tarsi pubescent dorsally, hind tarsus as long as that in ♀ and one-eighth longer than the width of head in ♂, 1st segment two-thirds longer than the 2nd and twice as long as the 3rd, 4th one-fifth shorter than the 3rd, claw segment quinque- or hexasetose ventrally along each side.

Aedeagus (Fig. 4 A & B) not very robust, gently arcuate, gradually narrowed distad, and weakly thickened at apex; apical orifice small and open in apical fourth, inner sac bearing several elongate sclerites (variable in number); ventral side parallelly

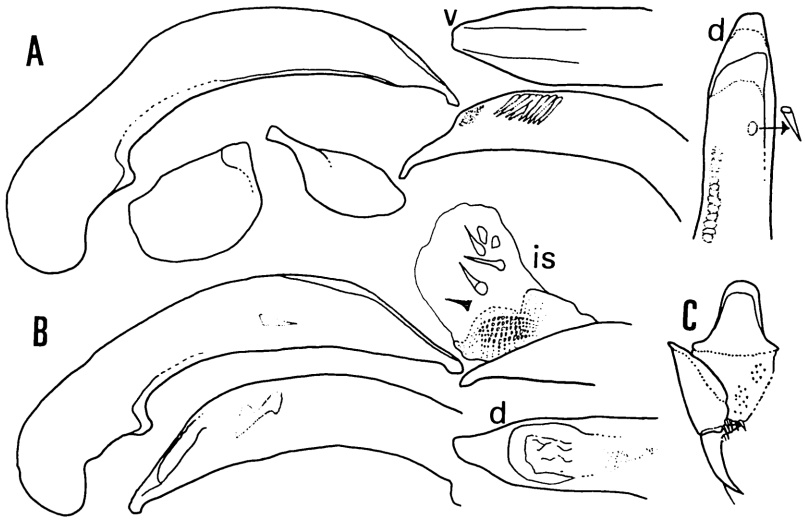


Fig. 4. Genitalia of *Parophonus* (*Ophonomimus*) *hirsutulus* (DEJEAN). —— A, Male genitalia of a specimen from Uzbekistan; B, those of a specimen from Bulgaria; C, female genitalia. d: dorsal side; v: ventral side; is: inner sac.

bordered laterad. Apical segment of stylus (Fig. 4 C) rather well arcuate outwards and acute at tip, a long seta situated at apical third of inner margin and a small spine near base of outer margin; basal segment bearing two robust setae at outer oblique area; valvifer subtriangular, weakly sinuate at apico-external side, bearing ventrally short sparse pubescence and three setae at apex.

Length: 9.0–9.5 mm. Width: 3.2–3.5 mm.

Specimens examined. 1 ♂, 1 ♀, Ucham, Nurata, Uzbekistan, 1892, GLASUNOV leg.; 3 ♂♂, 1 ♀, Riv. Struma, Sandanski, Bulgaria, 8～10–VI–1990, A SCHRÖDER leg.

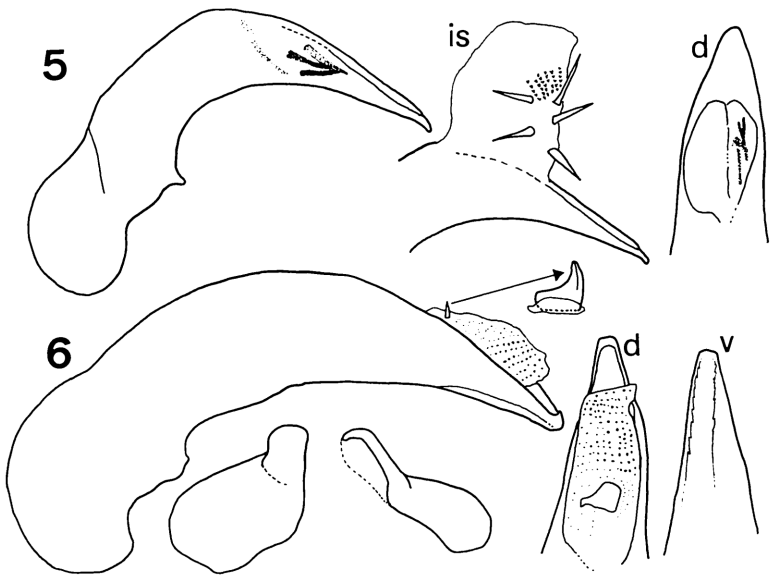
Parophonus (*Ophonomimus*) *interstitialis* (REITTER)

(Figs. 2, 5)

Ophonus (*Parophonus*) *hirsutulus* v. *interstitialis* REITTER, 1900, Verh. naturf. Ver. Brünn, **38**: 68.
Ophonomimus interstitialis: CSIKI, 1932, Coleopt. Cat., (121): 1209. —— SCHAUBERGER, 1933, Wien. ent. Ztg., **50**: 76–77.
Parophonus (*Ophonomimus*) *interstitialis*: NOONAN, 1976, Quaest. ent., **12**: 46.
Parophonus interstitialis: NOONAN, 1985, Milwaukee Public Mus. Contr. Biol. & Geol., **64**: 2. —— SCIAKY, 1992, Boll. Zool. agr. Bachic., Torino, (2), **24**: 50.

Body widely oblong, pitchy black and hardly brownish, shiny; labrum, apical area of clypeus, mandibles, antennae, lateral and basal borders of pronotum, and tarsi dark reddish brown, tibiae and femora dark brown, without any iridescent lustre.

Head gently and evenly convex on vertex, more weakly so on frons, wholly covered



Figs. 5–6. Male genitalia of *Parophonus* (*Ophonomimus*) spp. —— 5, *P.* (*O.*) *interstitialis* (REITTER); 6, *P.* (*O.*) *rectangulus* sp. nov. d: dorsal side; v: ventral side; is: inner sac.

with punctures moderate in density and roughness and sparse pubescence which is a little denser on labrum, rather wide and a little more than seven-tenths the pronotal width, with narrow interocular space two-fifths narrower than the width of head including eyes; labrum clearly arcuate and widely depressed lengthwise at sides, with shallowly and widely notched apex; clypeus gently swollen, trunctate and bordered at apex; clypeal suture fine and obscure, quite shallow even at each end, from which the frontal impression is prolonged obliquely behind and reaches eye, fairly deep near the junction with clypeus and gradually shallowed towards eye; eyes hemispherically prominent, so large that temples are quite indistinct; genuine ventral margins of eyes rather widely removed from buccal fissure; antennae comparatively short and only slightly surpassing pronotal base, not slender, 3rd segment more or less dilated distad and pubescent in apical two-thirds, almost equal in length to the 4th and twice as long as the 2nd; mandibles short and thick, blunt at apex of left mandible and sharpened apicad in right mandible; genae and temples sparsely pubescent; 2nd segment of labial palpus rather densely setose, long and slender, one-fourth longer than the 3rd; ligula not slender, weakly curved outwards in apical third at sides, its apex truncate and sharply angulate at corners; paraglossae prolonged forwards beyond ligula, arcuately widened forwards and rounded apically, fused with ligula up to just before ligular apex; mentum not very transverse, truncate at bottom of apical emargination, epilobes narrow and a little widened forwards; microsculpture almost invisible, rarely observable as obscure transverse meshes only near supraorbital setae.

Pronotum subquadrate and not wide, one and two-fifths as wide as long, not

coarsely, moderately densely punctate and a little coarsely so even in basal foveae, furnished basally and laterally with rather dense pubescence which spreads over towards disc and becomes distinctly sparser, almost flat in central area and comparatively steeply declivous near sides; sides weakly rounded in front and almost straight behind from apical third, so weakly narrowed behind that the angle formed with base is a little larger than rectangle; apex shallowly emarginate, straight and unbordered in middle, widely rounded at sides; base truncate, vaguely bordered for the most part, each hind angle with a small protuberance at the corner; lateral furrows narrow due to large discal convexity, only slightly widened behind; basal foveae small and ill-defined, widely and obscurely depressed longitudinally in middle, and weakly bulgy between the depression and lateral border; front transverse impression vague, but not rudimentary like hind one; microsculpture almost evanescent, partly visible in basal and lateral areas as obscure transverse lines and meshes.

Hind wings fully developed. Elytra widely oblong and a half longer than wide, weakly convex, flat on disc, and gently inclined apicad, densely punctate and pubescent all over; sides slightly arcuate, gently convergent behind from apical two-fifths and well curved a little before apical sinuation which is relatively deep; apices not produced behind, narrowly rounded, separated from each other, and not angulate at sutural angles; striae wide and moderately deep, becoming a little deeper apicad, scutellar striole not long; intervals flat on disc and weakly convex laterally and apically, 3rd, 5th and 7th intervals each with a row of setiferous pores, 12–13 on the 3rd, 10–11 on the 5th and 10–12 on the 7th; marginal series interrupted medially, consisting of 15–16 umbilicate pores; microsculpture obscurely observed near punctures, mostly composed of transverse lines and of transverse meshes near apex.

Ventral surface rather densely pubescent in most areas, a little sparsely on prosternum; metepisternum well contracted behind and a half longer than wide; 6th abdominal segment clearly bordered at apical margin, which is quadrisetose and gently and widely arcuate in ♂.

Femora, trochanters and fore coxae rather densely pubescent; tibiae densely pubescent dorsally, the pubescence rather long in the four anterior tibiae, fore tibia not slender and rather well dilated apicad, triangularly protuberant at the middle of apex, trispinous along apico-external margin, terminal spur simple; four anterior tarsi bearing long and moderately dense pubescence on dorsal sides, hind tarsi sparsely pubescent and as long as the width of head, 1st segment two-fourths longer than the 2nd and as long as the 2nd and 3rd together, 4th one-fifth shorter than the 3rd, claw segment quinquesetose along each ventral margin.

Aedeagus (Fig. 5) more or less arcuate, robust in basal half and almost straightly tapered distad and sharpened at apex; apical lobe large and elongate triangular, rounded at tip; apical orifice small, only occupying one-fourth of apical part, inner sac armed with five long spinous pieces.

Length: 8.2 mm. Width: 3.5 mm.

Specimen examined. 1♂, Firjuza, Kopet-Dag, Turkmenistan, 7–V–1968, GURJEVA leg.

Parophonus* (*Ophonomimus*) *rectangulus sp. nov.

(Figs. 3, 6)

Body oblong, black or slightly brownish, shiny but the lustre is weaker in degree than usual due to compact punctures; elytra weakly iridescent, palpi, 1st to 3rd antennal segments and lateral furrows of pronotum yellowish brown, labrum, mandibles, outer margin of clypeus, the residual segments of antennae and lateral borders of elytra reddish brown, legs light yellowish brown.

Head weakly and evenly convex and almost flat from frons forwards, rather coarsely and irregularly punctate throughout except for smooth vertex, wide, three-fourths as wide as pronotum, with eyes well prominent but not large; labrum subquadrate and weakly narrowed in front; clypeus widely and flatly bordered at apex, transversely and shallowly depressed behind the border, bearing several fine and obscure longitudinal rugosities near sides; clypeal suture fine, obscure and not deepened even near sides; frontal impressions also fine and quite shallow, but clearly marked and reaching supraorbits, space in front of the impressions quite flat; temples short, very oblique behind and meeting with neck constriction in a sharp angle; genuine ventral margins of eyes removed from buccal fissure by very narrow space; mandibles robust and rather long, blunt at tip of the left one; antennae slender and moderately long, 1st to 3rd segments thickened apicad, 3rd pubescent for the most part, subequal in length to the 4th and twice as long as the 2nd; 2nd segment of labial palpus densely pubescent and setose, relatively tumid distad, one-fifth longer than the 3rd; ligula narrow, weakly wedge-formed, truncate at apex and separated from paraglossae a little behind apex by shallow and wide notches; paraglossae wide, arcuately dilated apicad, and rounded at tips; mentum wide and truncate at bottom of apical emargination, epilobes narrow and a little widened apicad; microsculpture largely fine and obscure, composed of transverse meshes except on frons where it is clearly reticulated near the suture and in apical area of clypeus which is clearly isodiametrically reticulated.

Pronotum transverse cordiform, about a half wider than long, widest at apical two-fifths, rather convex, but the disc is flat, basally and laterally bearing long and dense pubescence, rather finely and sparsely punctate in the flat area and coarsely and densely so in surrounding areas, the punctures in basal foveae coarse and partly confluent; sides clearly arcuate in front and almost straightly oblique behind from the widest point, with slight sinuses just before base; apex very shallowly emarginate and not bordered medially; base one-fourth wider than apex, almost truncate, slightly oblique at sides, and finely and entirely bordered; basal angles distinct and a little larger than rectangle, slightly protuberant at tips; lateral furrows relatively wide and equal in width lengthwise; basal foveae small and ill-defined, shallow and higher in ground-level than the furrows; front transverse impression wide and shallow but not so obsolete as hind one; median line finely but clearly marked, rudimentary near both apex and base; microsculpture invisible in most areas, very obscurely observable as

transverse lines in basal area.

Hind wings fully developed. Elytra oblong-oval, two-fifths longer than wide, gently convex and flat on disc, subparallel at sides, wholly with long and dense pubescence; bases nearly straight and hardly oblique at sides, rather obtuse, not well rounded but blunt at humeri; apices not produced, separately and narrowly rounded and slightly blunt at sutural angles; apical sinuations shallow; striae wide, moderately deep and hardly deeper even near apices; scutellar striole very long; intervals densely, but not coarsely punctate and weakly aciculate as in *Hyparpalus*-species, flat on disc and gently convex apically and basally, 3rd, 5th and 7th intervals bearing a row of small setiferous pores, respectively, each row consisting of 12–16 pores; marginal series interrupted medially and consisting of 8+8 umbilicate pores; microsculpture hardly visible, only partly observed as transverse lines.

Ventral surface densely pubescent on metasternum and abdominal segments and somewhat sparsely so on prosternum, prepisterna, trochanters and coxae; metepisternum rather strongly contracted behind and two-thirds longer than wide; 6th abdominal segment in ♂ quadrisetose along apical margin which is widely arcuate at apex.

Fore tibiae not slender and rather well dilated apicad, sparsely pubescent and not dorsally sulcate, terminal spur short and simple; tarsi bearing long and rather dense pubescence on dorsal sides, the pubescence a little sparser in hind tarsi, 1st segment of mid tarsus biseriately and compactly squamous ventrad as the following three segments, hind tarsus of ♂ as long as the width of head, 1st segment about twice as long as the 2nd and equal in length to the 2nd and 3rd combined, 4th one-third shorter than the 3rd, claw segment quinquesetose along each ventral margin.

Aedeagus (Fig. 6) robust and gently curved, evenly thinned distad from the middle, with simple and not thickened apex; apical orifice small, occupying apical fourth; inner sac armed with a single short and robust sclerite which is longitudinally cleft in apical half; apical lobe elongate and twice as long as wide; ventral side bordered only in apical area by minute serration.

Length: 9.5 mm. Width: 3.2 mm.

♀ Unknown.

Holotype: ♂, Dacca, Pakistan (in the Museum of Humboldt University).

This new species is rather similar to *Hyparpalus* than to *Parophonus*, and is easily distinguished from the other species of the same subgenus by the genuine ventral margins of the eyes not widely removed from the buccal fissure, the pronotum cordate instead of being quadrate and widely yellow-margined at the sides, and the elytral intervals weakly aciculate.

要　約

伊藤　昇：アジア地域のオサムシ科の研究．X．*Ophonomimus* 亜属の種について．—— *Ophonomimus* 亜属と *Parophonus* 亜属との区別点である下唇基節前縁の突起の有無は，確率的に安定した

特徴だと認められるので，*Ophonomimus* は有効な亜属だと考えられる．*Ophonomimus* 亜属の既知種を再記載し，Pakistan より *P.* (*O.*) *rectangulus* N. ITO, sp. nov. を記載した．この新種は，前胸背板が心臓形であることやその側縁が黄色く縁取られること，上翅表面に微弱ながら引っ掻き傷状の印刻が認められることなどの点で，同亜属の他の種と容易に区別できる．

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Elytra, Tokyo, **22** (2): 248, Nov. 15, 1994

Additional Records of *Podosilis omissa* (Coleoptera, Cantharidae)

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Kurashiki Museum of Natural History, Chûô 2-6-1, Kurashiki-shi, Okayama Pref., 710 Japan

Podosilis omissa (WITTMER, 1954, Mitt. schweiz. ent. Ges., Bern, **27**, p. 111) was described on the basis of a single male specimen from Yamagata Prefecture, Honshu of Japan. This *Podosilis* species seems rather rare, since no additional record has yet been known. Recently, I was able to examine some specimens of the same species collected from three isolated localities of Honshu. Their collecting data are recorded below.

Specimens examined. 1♂, Mt. Tegata-yama, Akita-shi, Akita Pref., 8-V-1988, H. KIKUCHI leg.; 5♂♂, Watarase-yûsuichi, Fujioka-machi, Tochigi Pref., 2～4-VI-1992, T. KISHIMOTO leg.; 1♂, Hara, Wake-chô, Okayama Pref., 23-V-1994, K. NOJIMA leg. All the specimens examined are preserved in the collection of the Kurashiki Museum of Natural History.

Notes. This *Podosilis* species has such a peculiar habitat as the open and rather wet environment. According to personal communications from the collectors, several specimens of this species were collected at riverside or on marshy ground.

Thanks are expressed to Messrs. Hideki KIKUCHI (Akita), Toshio KISHIMOTO (Tokyo) and Kouichi NOJIMA (Okayama) for providing with material for the present examination.

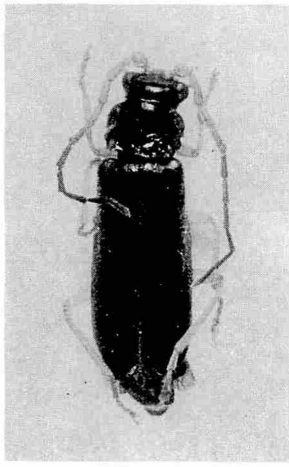

Fig. 1. *Podosilis omissa* (WITTMER), ♂, from Watarase-yûsuichi, Tochigi Prefecture.

Elytra, Tokyo, **22** (2): 249–253, Nov. 15, 1994

Rediscovery of *Cholevodes tenuitarsis* PORTEVIN (Coleoptera, Cholevidae) from Honshu, Japan

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Abstract The male of *Cholevodes tenuitarsis* PORTEVIN is described. It is reported that this poorly known cholevid species dwells under the bark of rotten logs or in the cavities of decayed trees.

Participating in the project "General Researches of the Natural Environment of the Tanzawa–Oyama Area," Mr. Yukihiko HIRANO found several specimens of a poorly known cholevid beetle, *Cholevodes tenuitarsis* PORTEVIN, from under the bark of rotten logs lying on the floor of a beech forest at Dôdaira on Mt. Tanzawa-san, Kanagawa Prefecture, Central Japan. The discovery was already reported by himself (HIRANO, 1993). Additional specimens were obtained at the same locality by Messrs. Tomio KINOSHITA and Shigeo TSUYUKI from cavities of decayed trees.

Cholevodes tenuitarsis PORTEVIN (1928, pp. 1–2, fig. 1) was originally described as a new species of a new genus on the basis of only two female specimens taken by Ed. GALLOIS from "Ile Hondo: mont Takao, près Hachiòji." JEANNEL (1936) recorded a male specimen deposited in the British Museum (Natural History), London, and NAKANE (1963) gave a coloured photograph of a specimen. Recently, TAKAI (1984) recorded it from Kyushu, Southwest Japan. Thus, Dôdaira on Mt. Tanzawa-san is a third known locality of the species. It is about 17.5 km distant to the south-southwest from the type locality.

Nothing has been known about the exact habitats of the species, though I once made a supposition that the beetle might inhabit burrows of such small mammals as moles (NISHIKAWA, 1990). My expectation has not been fulfilled so far, and now it becomes apparent that the species is not pholeophilous but saproxylophilous. As it has previously been known from only females, and as the present collection contains some male specimens, I am going to describe in the present paper mainly the male characters of the species. The abbreviations used herein were already explained in my previous papers.

I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, and Mr. Masatoshi TAKAKUWA of the Kanagawa Prefectural Museum, Yokohama, for their kindness in critically reading the original manuscript of this paper. Hearty thanks are also due to Messrs. Yukihiko HIRANO, Tomio KINOSHITA, Shigeo TSUYUKI and Sumao KASAHARA for their kindness in supplying with interesting materials or literature. This study is a contribution from the

Association for General Researches of the Natural Environment of the Tanzawa-Oyama Area operated by the Department of Environment, Kanagawa Prefecture.

Cholevodes tenuitarsis PORTEVIN, 1928

(Figs. 1–7)

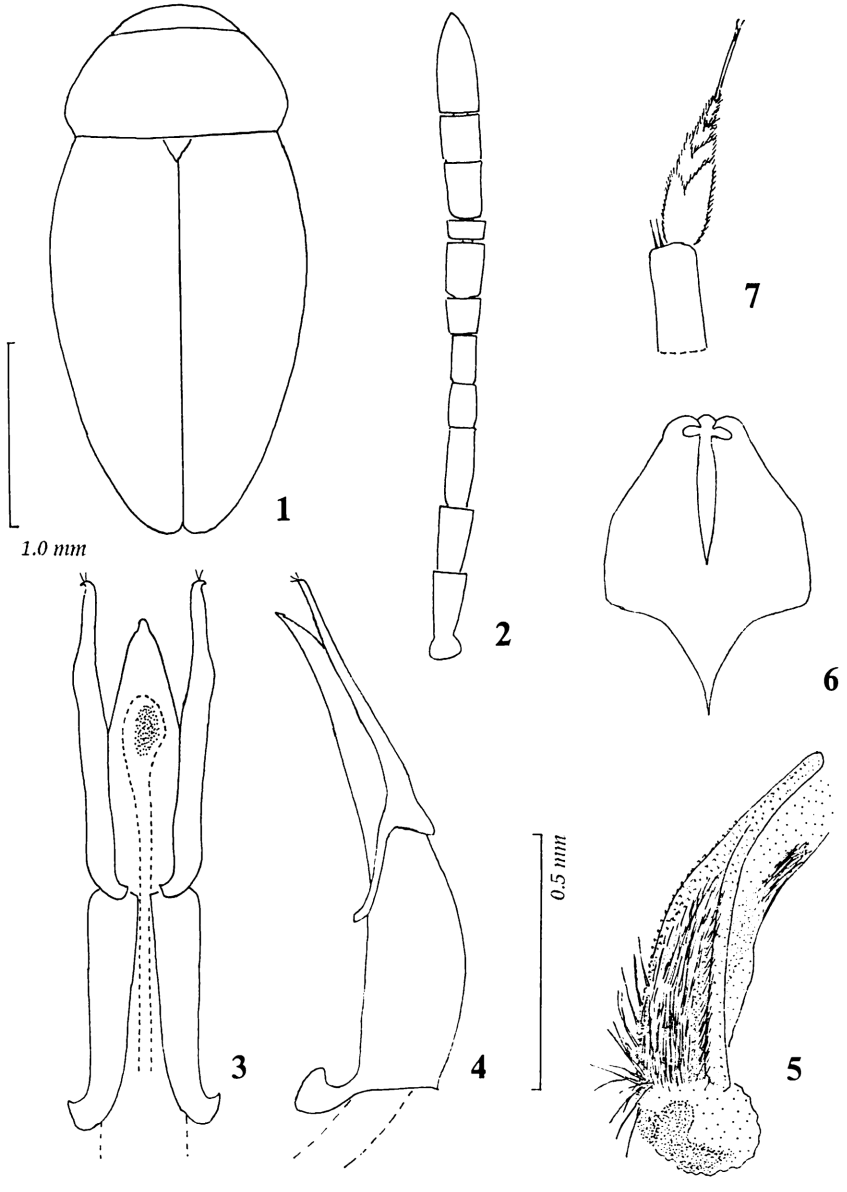
Cholevodes tenuitarsis PORTEVIN, 1928, Encycl. ent., Paris, (B–I), **3**, pp. 1–2, fig. 1; type locality: Ile Hondo: Mont Takao, près Hachiòji. —— JEANNEL, 1936, Mém. Mus. Hist. nat., Paris, (n. s.), **1**, pp. 197–198, figs. 384–387. —— NAKANE, 1955, Shin-Konchû, Tokyo, **8** (4), pp. 56–57, fig. 3; 1963, Icon. Ins. Japon. Col. nat. ed., **2**, p. 73, pl. 37, fig. 5. —— NISHIKAWA, 1983, Check-list Coleopt. Japan, (23), p. 2. —— TAKAI, 1984, Nat. & Ins., Tokyo, **19** (6), p. 35. —— HISAMATSU, 1989, Check list Jpn. Ins., **1**, p. 253. —— HIRANO, 1993, Kanagawa-Chûhô, Yokohama, (105), p. 8, fig. 1.

Male. Length 2.95–3.30 mm (in normal condition), width 1.43–1.60 mm. Body elliptical, shiny, reddish brown, with reddish brown, relatively short, adpressed pubescence; labrum, mouth-parts and tibiae clear reddish brown; head blackish brown, pronotum darker in middle; antennal segments VII–IX blackish brown, especially darker in VII, the last segment bearing several long hairs intermixed with ordinary hairs, clothed with short silky hairs at the apical part; abdomen with apical margin of each sternite bearing coppery lustre.

Head gently convex, subtrapezoidal, wider than long, widest at the level of occipital carina (length: width=ca. 5: 6); labrum trapezoidal, slightly emarginate at the front margin, with sparse punctuations; maxillary palpus with last segment narrowly conical, slightly bent, about 1/3 as long as the preceding segment, which is dilated apicad and about 3 × as wide as the base of the last one; frons irregularly with large but shallow punctures; fronto-clypeal suture distinct; vertex with the same punctures as those on frons, but they are distinctly larger than those on labrum, sometimes transversely fused with each other; eyes reduced to 1/3 of each orbital region though completely faceted, moderately prominent, horizontal diameter about 1/2 as long as the distance between antennal socket and occipital carina across eye. Antennae long and slender, reaching basal 1/6 of elytra; segment I oval, I, VI, VIII and X equal in width to one another, II 3 × as wide as long, II–V equal in width to one another, III slightly longer than II, IV–V and IX equal in length to one another, VI as wide as long, VII slightly narrower than VI or VIII, 1.5 × as long as VI, slightly more than 2 × as long as VIII, VIII slightly transverse, 1.5 × as wide as long, 1/2 as long as IX, X slightly narrower than IX, XI slightly more than 2 × as long as wide.

Pronotum transverse, trapezoidal, gently convex, widest at basal 1/3, PW/HW 1.53–1.63 (M 1.58), PW/PL 1.73–1.79 (M 1.76); front margin gently emarginate, well bordered, the border continuing to before hind angles; front angles rounded; sides strongly arcuate; hind angles distinct, slightly projecting; basal margin gently arcuate; surface clothed with asperate punctuations. Scutellum triangular, strongly punctate. Hind wings full.

Elytra elongate-oval, gently convex, widest at the middle, EW/PW 1.16–1.23 (M



Figs. 1–7. *Cholevodes tenuitarsis* PORTEVIN, 1928, from Dôdaira on Mt. Tanzawa-san, Central Japan. —— 1, Outline of body, ♂; 2, right antenna, ♂; 3, male genitalia in dorsal view; 4, same in lateral view; 5, everted inner sac in oblique view; 6, genital segment, ♂; 7, protarsus and apical portion of protibia, ♂. (Scales: 1.0 mm for Fig. 1 and 0.5 mm for the others.)

1.20), EL/PL 3.20–3.41 (M 3.34), EL/EW 1.50–1.62 (M 1.59); sides arcuate, becoming narrower apicad, gently bordered; apices narrow, separately rounded; suture complete; disc with sutural and seven indistinct striae; surface regularly strigate, the strigae

consisting of relatively large punctures and almost transversely impressed to sutural stria; microsculpture formed by minor strigae; epipleura concave, broad, each gradually narrowed towards apex, surface strigate as on elytra. Pygidium clothed with sparse and shallow punctuations, with microsculptures as on elytra.

Ventral surface almost ruguloso-punctate, scattered with large punctures; propleura, episterna and mesosternum glabrous. Mesosternal carina present along mid-line in posterior half, which is roundly swollen in ventral view; the carina almost truncate at apex, and also with a small notch at the middle part, with posterior end angulate in lateral view.

Legs long and slender, with protibiae subparallel-sided; protarsus with segments I–III distinctly dilated, the first one almost as wide as the apex of protibia; mesotibia strongly bent inwards; segments I–II of each mesotarsus distinctly thicker than III–V, the first one about 3/5 of the apical width of mesotibia; hind legs normal.

Aedeagus symmetrical, robust, becoming narrower towards apex, with tip slightly tuberculate; sides inwardly tucked in ventral view; median area weakly sclerotized. Parameres flat and robust, about 1.3× as long as aedeagus, well sinuate in apical halves, with each apex obliquely hooked outwards and bearing a few minute hairs. Basal piece ample, almost as long as aedeagus. Inner sac as shown in Fig. 5. Genital segment as shown in Fig. 6.

Female. Length 3.15–3.55 mm (in normal condition), width 1.50–1.63 mm. Similar to male in general appearance. Each antennal segment almost equal in shape to that of male. Measurements of body parts similar to those of the male, i.e., PW/HW 1.52–1.60 (M 1.55), PW/PL 1.79–1.96 (M 1.85), EW/PW 1.16–1.24 (M 1.20), EL/PL 3.29–3.85 (M 3.59), EL/EW 1.57–1.64 (M 1.61). Protarsi and basal two segments of each mesotarsus normal. Mesotibiae weakly bent inwards.

Specimens examined. 1 ♀, Dôdaira on Mt. Tanzawa-san, ca. 1,100 m in alt., Tanzawa Mts., Kanagawa Pref., Central Japan, 11–VI–1993, Y. HIRANO leg.; 1 ♂, same locality and collector, 16–VI–1993; 8 ♂♂, 9 ♀♀, same locality, 29–VIII–1993, T. KINOSHITA & S. TSUYUKI leg. All deposited in my collection.

Distribution. Japan (Honshu, Kyushu).

Notes. This is one of the three known species of the genus distributed in northern India and Japan (SZYMCZAKOWSKI, 1964), but their biology has been scarcely known up to the present. Only one species, *Cholevodes asperatus* (CHAMPION, 1923) from Kumaon, was attracted to light in a bungalow as noted in the original description. As was already mentioned in the introduction, *C. tenuitarsis* seems to be an inhabitant of cavities of decayed trees and under the bark of rotten logs. The beetle shows some features that may be an adaptation to its habitat, for example, the light-coloured body, slightly reduced eyes and distinctly slender legs, but the hind wings are apparently functional.

要　約

西川正明：本州から再発見されたホソアシチビシデムシ．—— ホソアシチビシデムシ *Cholevodes tenuitarsis* PORTEVIN は，高尾山で採集された 2♀♀ にもとづき，1928 年に新属新種として記載された種だが，生息場所がわからなかったために，わずかな標本の存在が知られるにすぎなかった．この種が，神奈川県丹沢山の堂平で，丹沢大山自然環境総合調査の際に多数得られたので，じゅうらい未記載であった雄の形態を明らかにし，あわせてチビシデムシとしては特異な生息場所についても述べた．

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Elytra, Tokyo, **22** (2): 254, Nov. 15, 1994

A New Locality of *Eusilpha* (*Calosilpha*) *kurosawai* (Coleoptera, Silphidae)

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The insular silphid beetle, *Eusilpha* (*Calosilpha*) *kurosawai* M. NISHIKAWA (1986, pp. 156–157, figs. 5–6, 11–12, 15, 18, 24–26), was originally described from Amami-Oshima Island of the Ryukyu Islands, Southwest Japan.

Dr. Y. KUROSAWA kindly informed me of the occurrence of the species on Okinawa-jima Island, and I was able to examine Okinawan specimens preserved in the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Through the courtesy of Messrs. T. NIISATO and R. YAKITA, I have also examined several Okinawan specimens of the same species. They will be newly recorded below.

Specimens examined. 4 ♂♂, 2 ♀♀, Hiji [Kunigami Peninsula], N. Okinawa Is., Ryukyus, 12–V–1983, S. AZUMA leg. (NSMT); 4 ♂♂, 2 ♀♀, Afuso, On'na-son, Okinawa-jima Is., Ryukyus, 5–V–1987, T. NIISATO leg.; 1 ♂, bank of Haneji-ô-kawa Riv., 20–40 m in alt., Nago-shi, Okinawa-jima Is., Ryukyus, 8～18–IV–1993, R. YAKITA leg. (trap); 1 ♀, Takazato, Ôgimi, Kunigami Peninsula, Okinawa-jima Is., Ryukyus, 16–V–1993, R. YAKITA leg.

Distribution. Ryukyu Islands (Amami-Oshima Is.; Okinawa-jima Is.!).

Notes. The male specimens examined from Okinawa-jima Island are slightly larger than the type series from Amami-Oshima Island. Body length (BL) and elytral width (EW) in the Afuso specimens are as follows [those of the type series are given in brackets]: BL 18.94–20.45 mm in male; 17.88–18.45 mm in female [15.5–19.7 mm in male; 16.2–19.1 mm in female]; EW 9.72–11.44 mm in male; 9.88–10.01 mm in female [8.7–10.8 mm in male; 9.2–10.5 mm in female].

I thank Dr. Yoshihiko KUROSAWA and Messrs. Tatsuya NIISATO and Riichiro YAKITA for their kind help. My cordial thanks are also due to Dr. Shun-Ichi UÉNO for his kindness in critically reading the original manuscript.

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Elytra, *Tokyo*, **22** (2): 255–262, Nov. 15, 1994

New Apterous *Lathrobium* (Coleoptera, Staphylinidae) from the Diancang Shan Mountains in Yunnan Province, Southwest China

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Abstract Two new species of apterous *Lathrobium* are described under the names *L. yunnanum* and *L. daliense*. The former belongs to the group of *L. pollens* and the latter to the group of *L. monticola*, both having been found from under dead leaves and in the litter zones of the Diancang Shan Mountains in western Yunnan, Southwest China.

Four species of apterous *Lathrobium* have hitherto been known from China. One of them, *L. pollens*, has been reported from Jilin Province by LI and CHEN (1990, p. 16). And then, two more species were reported from the same province by LI and others (1990, p. 66), one being recorded under the name of *L. pollens* SHARP and the other treated as a species belonging to the group of *L. nomurai*. On the other hand, two species were described from Zhejiang Province by WATANABE and LUO (1992, pp. 48–55) under the names of *L. imadatei* and *L. tamurai*. After that, LI (1993, p. 30) referred to the previous paper published in 1990.

At the beginning of September, 1993, the present authors had an opportunity of making investigation on the staphylinid fauna of the Dali area at the western part of Yunnan Province, Southwest China, as the members of a second expedition of the Sino-Japanese cooperative study on the soil fauna of tropical forests in Southwest China. During the investigation, two species of apterous *Lathrobium* were found from under dead leaves and in the litter zones on the Diancang Shan Mountains stretching at the western side of Dali Shi. One of the two species belongs to the group of *L. pollens* for the reason of having similar facies and body size, while the other to the group of *L. monticola* because of its small body size and inconspicuous secondary

1) This study is supported by the Grant-in-aid No. 04041042 for Field Research of the Monbusho International Scientific Research Program, Japan.

sexual character of the abdomen in the male.

After a careful examination, it has become apparent that these species are new to science because of disagreement with the known members of the respective groups in the secondary sexual character of the abdomen and configuration of the male genitalia. They will be described in the present paper. The holo- and allotypes of the two new species to be described are deposited in the collection of the Shanghai Institute of Entomology, Academia Sinica, and the paratypes are distributed to the collection of the Kunming Institute of Zoology, the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo, and the Laboratory of Entomology, Tokyo University of Agriculture.

Before going further, the authors wish to express their hearty thanks to Professor YIN Wen-ying of the Shanghai Institute of Entomology, Academia Sinica, and Professor Gantaro IMADATÉ of Tokyo Medical and Dental University, for their kind help through the Sino-Japanese cooperative study. Deep gratitude is also due to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his advice on the present study, and Professor Hiroshi TAMURA of Ibaraki University, Mito, and the members of the Sino-Japanese Cooperative Study for their kind assistance in the field.

Lathrobium yunnanum sp. nov.

(Figs. 1–5)

Body length: 7.3–8.5 mm (from front margin of head to anal end); 3.9–4.4 mm (from front margin of head to elytral apices).

Body elongate, subparallel-sided and somewhat depressed above. Colour reddish black to reddish brown and moderately shining, with mouth parts, antennae, legs and sometimes apical and sutural areas of elytra yellowish red.

Male. Head subquadrate, gently elevated medially and transverse (width/length=1.09), widest at posterior three-fourths and gently narrowed anteriad, with lateral sides slightly arcuate; frontal area between antennal tubercles transversely flattened and glabrous, bearing a conspicuous setiferous puncture just inside each antennal tubercle; surface covered with extremely fine ground sculpture all over; disc weakly elevated, sparsely with rather coarse setiferous punctures; latero-posterior parts also covered extensively with setiferous punctures, which are somewhat finer and closer than those on the disc; eyes small and flat, the longitudinal diameter less than one-fourth as long as the postocular part. Antennae relatively slender, extending to the middle of pronotum and not thickened apicad; two proximal segments polished, the remainings more or less opaque; 1st segment robust, strongly dilated apicad, about 2.5 times as long as broad, 2nd constricted at the base, a little longer than broad (length/width=1.30), but much shorter (2nd/1st=0.43) and somewhat narrower (2nd/1st=0.83) than 1st, 3rd to the apicalmost segment equal in width to one another, 3rd nearly twice as long as broad, a little longer (3rd/2nd=1.38) but slightly narrower (3rd/2nd=0.96) than 2nd, 4th nearly 1.5 times as long as broad but somewhat shorter than 3rd (4th/

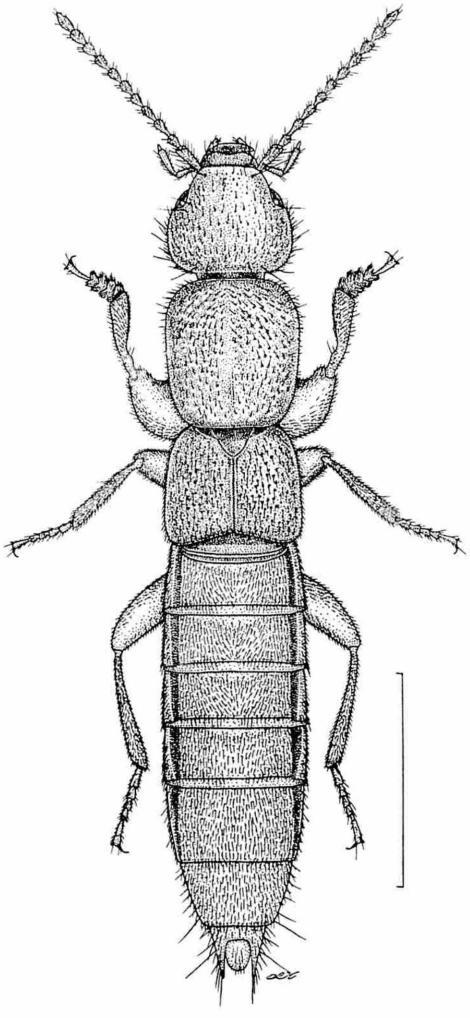


Fig. 1. *Lathrobium yannanum* sp. nov., ♂.
Scale: 3.0 mm.

3rd=0.78), 5th to 7th equal in length to one another, each a little longer than broad (length/width=1.35) but slightly shorter than 4th (each of 5th to 7th/4th=0.93), 8th to 10th equal in length to one another, each somewhat longer than broad (length/width 1.25) but hardly shorter than 7th (each of 8th to 10th/7th=0.92), apicalmost long oval, remarkably longer than broad (length/width=1.71) and more than twice as long as 10th, subacuminate at the tip.

Pronotum moderately convex and distinctly longer than broad (length/width=1.15), evidently longer (pronotum/head=1.43) and somewhat broader (pronotum/head=1.14) than head, widest just behind anterior angles and gently narrowed posteriad; lateral sides nearly straight as seen from above except near anterior and posterior angles, anterior margin gently rounded, posterior margin nearly straight, ante-

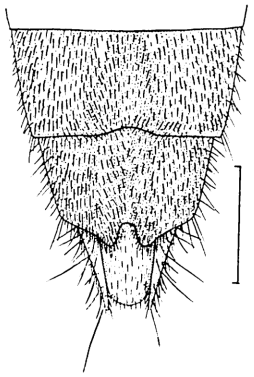
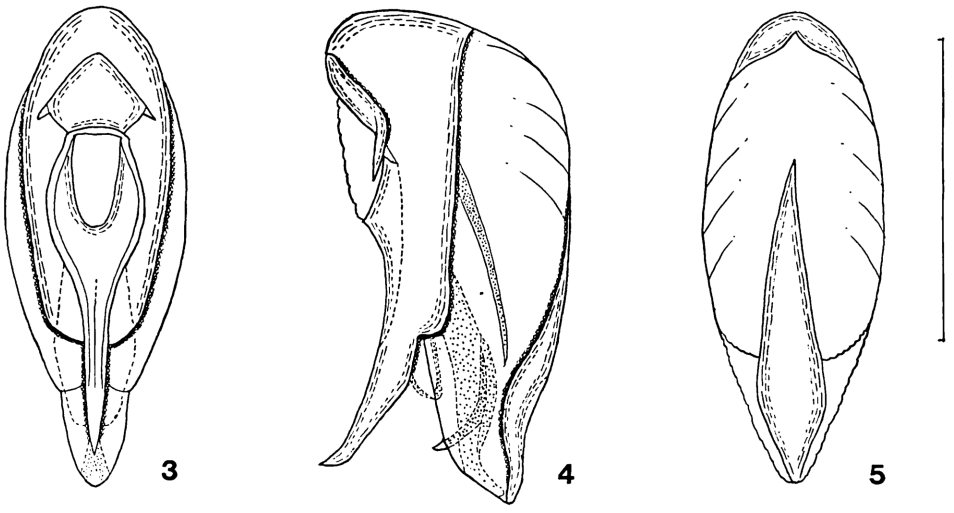


Fig. 2. Last three abdominal sternites in male of *Lathrobium yamanum* sp. nov. Scale: 1.0 mm.

rior angles obtuse and not visible from above, posterior ones narrowly rounded; surface more closely and more coarsely punctate than that of head, though the narrow space along median line is impunctate. Scutellum subtriangular, sparsely scattered with a few superficial setiferous punctures on the surface. Elytra subtrapezoidal, somewhat dilated posteriad and a little transverse (width/length=1.18), much shorter (elytra/pronotum=0.74) but slightly broader (elytra/pronotum=1.02) than pronotum; lateral sides feebly arcuate, posterior margin emarginate at the middle, posterior angles obliquely truncated; surface rather densely covered with coarse setiferous punctures. Hind wings each degenerated to a minute lobe. Legs relatively short; profemur remarkably thickened, though strongly constricted near the apex and excavated in apical half on the inner face, so that the anterior part of the excavation forms a subtriangular blunt tooth; protibia dilated apicad, hollowed in basal half on the inner face and armed with five transverse rows of comb-like yellowish setae in basal half within the hollow; meso- and metatibiae normal; 1st to 4th protarsal segments strongly widened, meso- and metatarsi thin.

Abdomen elongate, slightly widened towards the 4th visible segment, though abruptly narrowed from 6th visible segment to anal end; basal four visible tergites each transversely depressed along the base; surface of each tergite closely covered with aciculate punctures and fine brownish pubescence; preapical sternite provided with a U-shaped excision at the middle of posterior margin and longitudinally depressed at the middle before the excision; 5th visible sternite shallowly and broadly emarginate at the middle of posterior margin and subtriangularly depressed in front of the emargination.

Genitalia elliptical and almost symmetrical, well sclerotized except for dorsal side of median lobe. Median lobe relatively broad, gradually narrowed towards the apex which is broadly rounded. Parameres fused with each other into a narrow lobe, apparently longer than median lobe, abruptly constricted near the middle and forming a lanceolate part in apical half as seen from ventral side, ventral surface depressed at the middle in apical half and provided with a fine longitudinal carina along median line



Figs. 3–5. Male genitalia of *Lathrobium yunnanum* sp. nov.; ventral view (3), lateral view (4), and dorsal view (5). Scale: 1.0 mm.

within the depression, though the carina becomes obscure before and behind. Dorsal side of median lobe provided with a well sclerotized plate, which is the broadest at apical fourth and more strongly narrowed basad than apicad.

Female. Similar to male in general appearance, but the 1st to 4th protarsal segments are less dilated, last visible abdominal sternite produced posteriad at the median part of posterior margin and gently rounded at the apex.

Type series. Holotype: ♂, allotype: ♀, Laohu Shan (2,200 m alt.), Dali Shi, Yunnan Prov., China, 3–IX–1993, Y. WATANABE leg. Paratypes: 5 ♂♂, 6 ♀♀, same data as for the holotype.

Distribution. Southwest China.

This new species is similar in general form of male genitalia to *L. pollens* from Japan, but differs from the latter in configuration of fused paramere.

Lathrobium daliense sp. nov.

(Figs. 6–9)

Body length: 4.7–5.4 mm (from front margin of head to anal end); 2.5–2.8 mm (from front margin of head to elytral apices).

The present new species belongs to the group of *L. monticola* SHARP in body size and inconspicuous secondary sexual character of the abdomen in the male, but differs from the other members of the same group in configuration of male genitalia.

Body elongate, parallel-sided and subdepressed above. Colour reddish black and moderately shining, with mouth parts yellowish brown, antennae and legs reddish

brown, and sutural and apical parts of elytra obscurely rufescent.

Head quadrate, gently elevated in middle and slightly transverse (width/length= 1.03) or almost as long as broad, widest at posterior fourth and more distinctly narrowed anteriad than posteriad; lateral sides feebly arcuate; frontal area transversely flattened and glabrous inside anterior margin, provided with a remarkable setiferous puncture inside each antennal tubercle; surface covered with microscopic coriaceous ground sculpture all over and sparsely scattered with distinct setiferous punctures, which become closer and smaller on latero-posterior areas than on medio-frontal area; eyes small and flat, the longitudinal diameter nearly one-third as long as the postocular part. Antennae relatively slender, hardly reaching the middle of pronotum, with two proximal segments polished and the remainings subopaque, 1st segment robust, dilated apicad and twice as long as broad, 2nd a little longer than broad (length/width= 1.25) but a half as long as and somewhat narrower (2nd/1st=0.80) than 1st, 3rd evidently longer than broad (length/width=1.32), as long as but slightly narrower than 2nd (3rd/2nd=0.95), 4th to 10th nearly equal in both length and width to one another, each slightly longer than broad (length/width=1.10), 7th to 10th more or less moniliform, apicalmost fusiform, more than twice as long as broad, much longer than 10th (apicalmost/10th=1.78), and subacuminate at the tip.

Pronotum moderately convex and evidently longer than broad (length/width= 1.16), somewhat broader than head (pronotum/head=1.19), widest at anterior fourth and gently narrowed posteriad; lateral sides straight or slightly arcuate as seen from above, anterior margin feebly emarginate at the middle, posterior margin nearly straight, anterior angles rounded and not visible from above, posterior ones obtuse; surface sparsely, coarsely and setiferously punctured except for a narrow smooth longitudinal area along the median line. Scutellum subtriangular, scattered with a few minute superficial setiferous punctures on the surface. Elytra somewhat dilated posteriad and a little transverse (width/length=1.19), as broad as but apparently shorter (pronotum/elytra=0.73) than pronotum, lateral sides nearly straight, posterior margin distinctly emarginate at the middle, posterior angles broadly rounded; surface rather densely and roughly punctured, and covered with fine brownish pubescence. Hind wings each degenerated to a minute lobe. Legs relatively stout, profemur conspicuously thickened, but strongly constricted near the apex and excavated in apical half on the inner face, so that the anterior part of the excavation froms a blunt subtriangular tooth; protibia widened towards the apex, hollowed in basal half on the inner face and provided with five or so comb-like transverse rows of fine brownish setae within the hollow; meso- and metatibiae not modified; 1st to 4th protarsal segments strongly widened.

Abdomen elongate, slightly and gradually widened from basal segment to 4th visible segment and abruptly narrowed from 6th visible segment to anal end; surface of each tergite rather densely covered with fine aciculate punctures and fine brownish pubescence; preapical sternite truncated or slightly emarginate at the middle of posterior margin and more or less longitudinally depressed at the middle; 5th visible

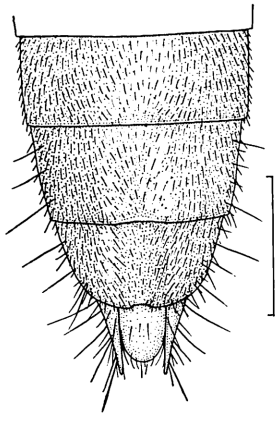
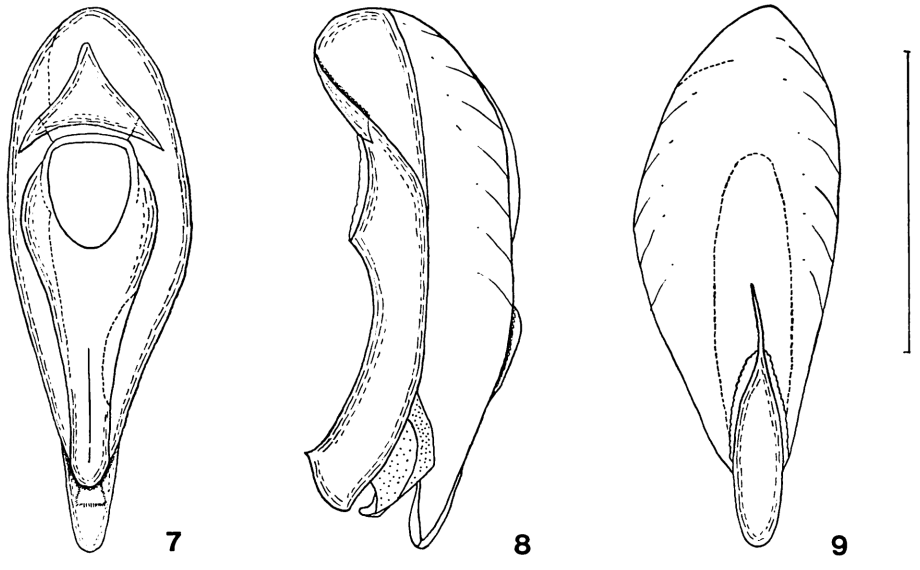


Fig. 6. Last four abdominal sternites in male of *Lathrobium daliense* sp. nov. Scale: 1.0 mm.



Figs. 7–9. Male genitalia of *Lathrobium daliense* sp. nov.; ventral view (7), lateral view (8) and dorsal view (9). Scale: 0.5 mm.

sternite only slightly emarginate at the middle of posterior margin and indistinctly depressed along the median line.

Genitalia sclerotized with the exception of dorsal side of median lobe, elliptical, slightly asymmetrical. Median lobe broader than, though almost as long as, fused paramere. Fused paramere constricted near the middle and dilated basad though gently narrowed towards the apex, which is rounded as seen from ventral side, ventral surface provided with a longitudinal carina along the median line in apical half, abbreviated both basad and apicad, the carina forming a small projection at the apex in profile. Dorsal side of median lobe provided with a sclerotized plate in apical

area, the plate being long elliptical in apical three-fourths, though aciculate and very slender in basal fourth.

Female. In facies similar to male, but the 1st to 4th protarsal segments are less widened, last visible abdominal sternite produced posteriad at the median part of posterior margin and gently rounded at the apex.

Type series. Holotype: ♂, allotype: ♀, Zhonghe Feng (2,620 m alt.), Diancang Shan Mountains, Dali Shi, Yunnan Prov., China, Y. WATANABE leg. Paratypes: 5 ♂♂, 4 ♀♀, same data as for the holotype.

Distribution. Southwest China.

要　約

渡辺泰明・蕭宁年: 中国云南省点苍山山地から採集された後翅の退化した *Lathrobium* 属の 2 新種. —— 1993 年 8 月下旬から 1 ヵ月間にわたって実施された, 中日共同学術調査の第二次云南省における土壌動物相の調査によって, 後翅の退化した *Lathrobium* 属に含まれる 2 種が採集された. それらを詳細に検討した結果, 新種と判断されたので, 下記のとおり命名記載した.

1. *Lathrobium yunnanum* Y. WATANABE et XIAO N.

本種は体長および外部形態から *L. pollens* 群に含まれる種だと判断された. しかしながら, 雄の腹部腹板に認められる第二次性徴や交尾器の形状によって, 既知のいずれの種からも容易に区別することができる.

2. *Lathrobium daliense* Y. WATANABE et XIAO N.

本種は小型で, 雄の腹部腹節に表われる第二次性徴が顕著でないことから *L. monticola* 群に含められる種だと判断された. しかしながら, 雄交尾器の形状が, この群に含まれる既知種のものとは明らかに異なり, それらから容易に区別することができる.

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Elytra, Tokyo, **22** (2): 263–269, Nov. 15, 1994

A New Genus and Two New Species of the Passalid Beetles (Coleoptera, Passalidae) from Sulawesi, Indonesia

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Abstract A new genus of passalid beetles from Sulawesi, *Paratiberioides*, is established on the basis of a combination of the following characters: bidentate lacinia, presence of secondary scars of mentum and presence of ventro-external tooth of left mandible. Two new species of the new genus, *P. mirabilis* and *P. trajae*, are described. A key to the species of the genus *Paratiberioides* is provided.

The passalid genus *Plesthenus* KAUP was revised by HINCKS (1938), who described *P. laminatus* at the same time. This is the second species whose left mandible bears a ventro-external tooth. The first species of this type is *P. mandibularis* HELLER (1900), and in my cabinet, there are two different allied species. Their features more closely resemble those of the members of the genus *Tiberioides* GRAVELY than those of the other species of the genus *Plesthenus*, because of the presence of the oblique area before the ridge which connects the two inner tubercles, the shape of the outer tubercles and the almost smooth pronotum. For these reasons, the present author has concluded that a new genus should be established for the four species.

Paratiberioides gen. nov.

Black and shining; dorsal surface moderately convex, polished, almost hairless except for anterior vertical portion of elytra.

Antenna with six lamellae. Anterior border of labrum weakly emarginate, frequently with a small tooth near the middle; left anterior angle more prominent than right one. Mandibles asymmetrical, hairy near base of the external face, with three terminal teeth and an anterior lower tooth, respectively; movable teeth present; right mandible rather strongly curved near base, narrower than left one, without ventro-external tooth; right lowest terminal tooth as large as or a little smaller than left one; right anterior lower tooth small with an upper denticle; left mandible with a ventro-external tooth near base; left anterior lower tooth larger than left lowest terminal one; posterior convexity (upper tooth) of left mandible massive. Middle part of mentum nearly smooth, with anterior border straight, divided from lateral pieces by secondary scars, which are a pair of arcuate grooves; primary scar absent. Lacinia bidentate.

Anterior angle of head not prominent; supraorbital and supraoccipital ridges continuous; the two inner tubercles situated behind anterior border of head, connected

by a distinct ridge, which is weakly emarginate in dorsal view; outer tubercles situated at anterior border of head and below inner ones, at least right outer one with a denticle above it, the upper denticle of right outer tubercle connected with right inner tubercle by a distinct ridge; central tubercle low, parietal ridges rather indistinct near central tubercle; depressed area of head almost smooth; the area between anterior border and the ridge which connects the two inner tubercles oblique (*anterior oblique area* in this paper). Ventral surface of hypostomal process hairless and impunctate.

Pronotum polished; anterior border very weakly sinuate, anterior angle not prominent, posterior one rounded; median groove almost absent; marginal grooves narrow, indistinctly punctate, anterior marginal groove incomplete; scars hairless or with a few hairs.

Elytra widest behind the middle, hairless at lateral sides and before shoulders, sparsely hairy at anterior vertical portion; grooves fine, very weakly punctate in second to fourth ones, a little strongly punctate in other ones.

Anterior coxae separated by prosternal keel; posterior plate of prosternum pentagonal; ventral surface of prothorax near posterior angles widely and densely clothed with long hairs, which are visible in dorsal view. Mesosternum almost hairless; scar broad, occasionally with a few hairs; mesepisternum hairy near posterior angle. Central area of metasternum almost polished; lateral area broad, sharply defined at anterior 2/3; lateral area, anterior intermediate area and posterior intermediate area near postero-external angle densely hairy; posterior intermediate area with umbilicate punctures near central area. Abdomen with six sternites visible; second abdominal sternite with scattered hairs behind the transverse ridges, third to sixth ones hairless. Middle tibia densely hairy, without external spine.

Type species: *Paratiberioides mirabilis* sp. nov. (to be described later).

Distribution. All kwown from Sulawesi, Indonesia.

Etymology of the new generic name. *Paratiberioides* is a combination of *para* and *Tiberioides*, *para* means 'beyond', *Tiberioides* is the Indian passalid genus related to the new genus.

Generic gender. Masculine.

The Oriental passalid genera which have bidentate lacinia are *Pleurarius* KAUP, *Tiberioides* GRAVELY, *Pelopides* KUWERT, *Plesthenus* KAUP, *Labienus* KAUP, *Protomochoelus* ZANG and the new genus. Of these, *Paratiberioides* gen. nov. is characterized by the presence of ventro-external tooth of the left mandible. This character is present only in *Tiberioides* other than the new genus, and these two genera are distinguished by the shape of the right mandible, the ventro-external tooth being absent in *Paratiberioides*, present in *Tiberioides*, and the mentum of the latter lacks scar.

Key to the Species of the Genus *Paratiberioides* nov.

1. Right mandible with large secondary upper tooth at the innerside of primary upper tooth; posterior convexity of left mandible with large horizontal trian-

Fig. 1. Head of *Paratiberioides* spp.; a, *P. mirabilis* sp. nov.; b, *P. laminatus* (HINCKS), comb. nov.; c, *P. mandibularis* (HELLER), comb. nov.; d, *P. trajae* sp. nov.

gular dorsal face; posterior plate of prosternum hairless; 31–34 mm .... *P. mirabilis* sp. nov.

— Right mandible normal, without secondary upper tooth; posterior convexity of left mandible more or less oblique internally; if narrow triangular face is present, its inner side is distinctly oblique internally; posterior plate of prosternum hairy or not ..... 2.

2. Larger, more than 40 mm; posterior plate of prosternum hairless; 42 mm .... *P. laminatus* (HINCKS), comb. nov.

— Smaller, less than 40 mm; posterior plate of prosternum hairy ..... 3.

3. Posterior convexity of left mandible with narrow horizontal triangular dorsal face; mesosternal scar larger and hairless; 34 mm..... ..... *P. mandibularis* (HELLER), comb. nov.

— Posterior convexity of left mandible without horizontal dorsal face; mesosternal scar smaller, with a few hairs; 36 mm ..... *P. trajae* sp. nov.

Paratiberioides mirabilis sp. nov.

(Figs. 1 a, 2 a)

Antennal lamellae short. Anterior border of labrum with obtuse middle tooth.

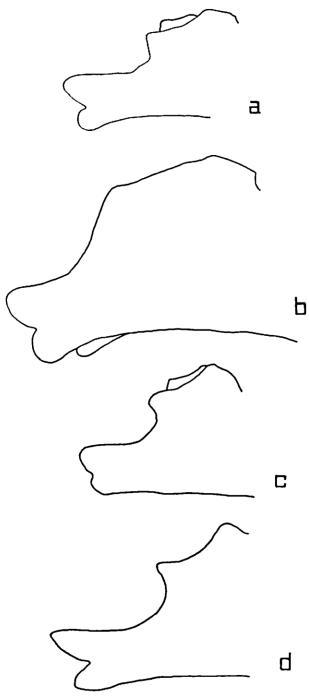

Fig. 2. Left mandible of *Paratiberioides* spp. in lateral view; a, *P. mirabilis* sp. nov.; b, *P. laminatus* (HINCKS), comb. nov.; c, *P. mandibularis* (HELLER), comb. nov.; d, *P. trajae* sp. nov.

Right lowest terminal tooth acute, a little smaller than left one; right anterior lower tooth acute, upper denticle with long edge, its tip being acute; anterior tip of posterior convexity of right mandible (primary upper tooth) obtuse, not projecting anteriorly, dorsal border gradually raised behind anterior tip in lateral view; dorsal face of right mandible with a strong tooth near base. Posterior convexity of left mandible with triangular dorsal face, its inner side hanging, anterior tip acute or rectangular, a little projecting anteriorly in lateral view; dorso-external border weakly sinuate and gradually raised behind anterior tip in lateral view. Middle part of mentum sometimes with a few hair-bearing punctures; both scars a little distant from each other at posterior ends, reaching the anterior border of middle part of mentum. Eye gibbous.

Apices of outer tubercles a little pointed outward, respectively; right outer tubercle a little more projecting anteriorly than the acute upper denticle, anterior border between right outer tubercle and the upper denticle emarginate in lateral view; left outer tubercle with rectangular upper denticle, more projecting anteriorly than the latter; anterior border of head between the two outer tubercles weakly emarginate in dorsal view; inner tubercles small; ridges between inner and outer tubercles distinct; frontal ridge indistinct near inner tubercle; parietal ridge indistinct near central tubercle; depressed area of head impunctate; anterior oblique area finely rugose, with scattered small granules.

Pronotal scar hairless.

Posterior plate of prosternum hairless, weakly coriaceous. Mesosternum very

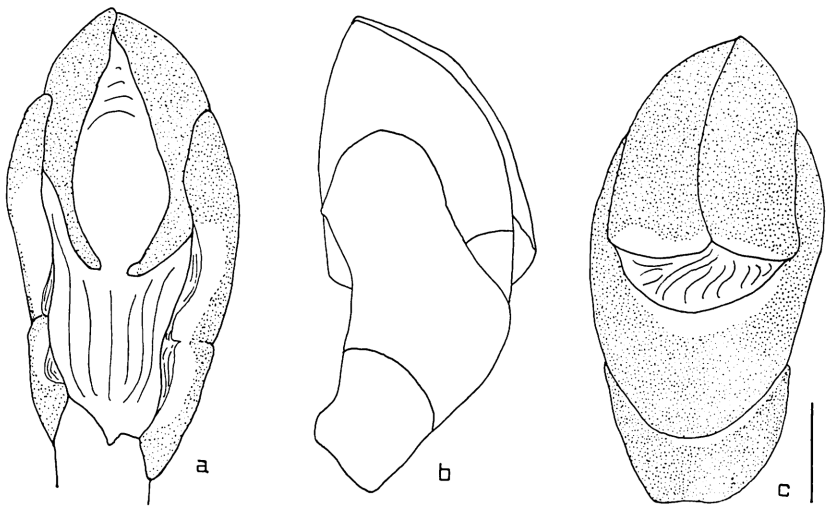

Fig. 3. *Paratiberioides mandibularis* (HELLER), comb. nov., male genitalia (scale: 0.5 mm); a, dorsal view; b, lateral view; c, ventral view.

finely punctate medially, finely rugose behind scars; scar finely rugose, almost reaching the anterior border of mesosternum, longer than 1/2 length of lateral border of mesosternum, occasionally with a few hairs, inner wall of scar arcuate, gradually becoming indistinct posteriorly. Sixth abdominal sternite sparsely punctate laterally.

Length: 31–34 mm (from apex of labrum to apex of elytra); pronotal width: 9–10 mm; elytral width: 11–12 mm.

Holotype: ♀, Palolo, Palu, Sulawesi Tengah, Sulawesi, II–1994; paratypes: 1 ♀, same data as holotype; 3 ♀♀, same locality as holotype, I–1988.

The holotype will be preserved in the National Science Museum (Nat. Hist.), Tokyo.

Paratiberioides laminatus (HINCKS), comb. nov.

(Figs. 1 b, 2 b)

Plesthenus laminatus HINCKS, 1938, p. 246.

HINCKS' specimen is 48 mm long (from apices of mandibles to elytral apices).

Anterior border of labrum without median tooth; eye gibbous; pronotal scar occasionally with a few hairs; posterior plate of prosternum hairless; outer wall of mesosternal scar almost indistinct. Length: 42 mm.

Specimens examined. 2 ♀♀, Danau Mooat, Sulawesi Utara, Sulawesi, II–1994.

Paratiberioides mandibularis (HELLER), comb. nov.

(Figs. 1 c, 2 c, 3)

Plesthenus mandibularis HELLER, 1900, p. 11. —— HINCKS, 1938, pp. 246, 247.

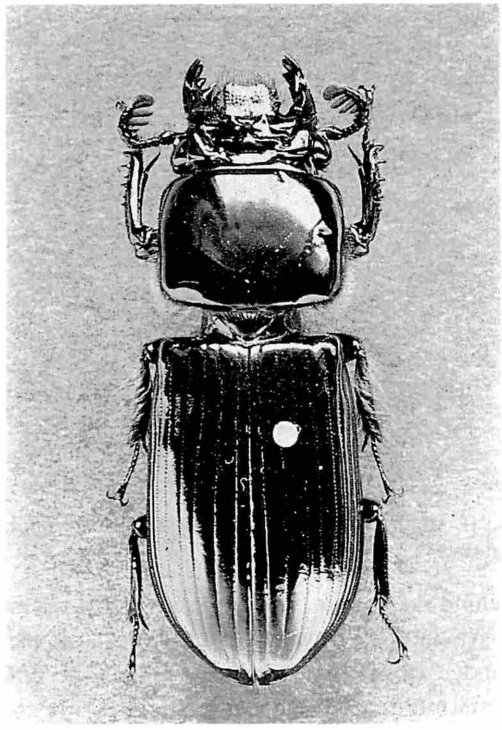

Fig. 4. *Paratiberioides trajae* sp. nov., dorsal aspect.

Posterior convexity of left mandible with narrow triangular dorsal face; eye large; upper denticle of left outer tooth indistinct; mesosternal scar (L: W=2: 1), about 1/2 as long as the length of lateral border of mesosternum. Length: 34 mm. Male genitalia as shown in Fig. 3.

Specimen examined. 1 ♂, Sampraga, Sulawesi Selatan, Sulawesi, II–1994.

Paratiberioides trajae sp. nov.

(Figs. 1 d, 2 d, 4)

Antenna with three short and three moderately long lamellae. Anterior border of labrum with obtuse middle tooth. Right lowest terminal tooth as large as left one; right anterior lower tooth acute, upper denticle with a rather long edge, its tip obtuse; anterior tip of posterior convexity of right mandible acute. Posterior convexity of left mandible high, without dorsal face, anterior tip of posterior convexity acute, a little bent inward, dorsal border distinctly emarginate in lateral view, posterior tip higher than anterior tip, nearly rectangular, bent outward; internal face with a triangular tubercle below posterior tip of dorsal border. Middle part of mentum smooth; scars reaching the anterior border of middle part of mentum. Eye gibbous.

Apices of outer tubercles a little pointed outward, respectively; right outer tubercle

a little more projecting anteriorly than the rectangular upper denticle, anterior border between right outer tubercle and the upper denticle a little emarginate in lateral view; left outer tubercle without upper denticle, the ridge extending from left inner tubercle to near left outer tubercle distinct; anterior border of head between the two outer tubercles nearly straight in dorsal view; inner tubercle rather large, though not so strongly projecting anteriorly; the ridge between the two inner tubercles weakly emarginate in frontal view; depressed area of head hairless; anterior oblique area with some granules.

Pronotal scar hairless.

Punctures of elytral grooves small but rather distinct.

Posterior plate of prosternum hairy. Mesosternum finely and densely punctate medially, almost smooth laterally; scar (L: W=3: 1) rather distinctly defined, short, about 1/3 as long as the length of lateral border of mesosternum, with a few short hairs. Sixth abdominal sternite impunctate.

Body length: 36 mm; pronotal width: 10 mm, elytral width: 12 mm.

Holotype: ♀, Pulupulu, Sapan, Tana Traja, Sulawesi Selatan, Sulawesi, 29–VII–1993. The holotype will be preserved in the National Science Museum (Nat. Hist.), Tokyo.

Acknowledgement

I would like to thank Dr. S.-I. UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for reviewing the manuscript of this paper. My thanks also goes to Mr. M. FUJIOKA, Tokyo, for helpful support.

要　　約

岩瀬一男：スラウェシ産クロツヤムシ科の新属と新種について．―― スラウェシ産クロツヤムシ類のうち，小顎内葉が2歯状で，左大顎のみに下面基部の外歯を有する種群に対して，*Paratiberioides* という新属を創設した．またこの新属に属する2新種，*P. mirabilis*，*P. trajae* を記載するとともに，2既知種を含む検索表を作成した．

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Elytra, *Tokyo*, **22** (2): 270, Nov. 15, 1994

A New Record of *Ceracis laminicollis* (Coleoptera, Ciidae) from Japan

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Ceracis laminicollis MIYATAKE, 1982 (Japanese name: Heratsuno-tsuyahime-tsutsu-kinokomushi), was described based on one male specimen which had been collected by Y. HAYASHI at Kenting Park, Pingtung Hsien, Taiwan, in 1968. Since then, there has been no record of this species.

Recently, I confirmed the distribution of *Ceracis laminicollis* on Okinawa-hontô Is., the Ryukyus, Japan. This is the first record of this species from Japan.

Specimens examined. 1 ♂, 1 ♀, Kan'na, Ginoza-son, Kunigami-gun, Okinawa-hontô Is., Okinawa Pref., 20-VII-1993, M. KIMURA leg.; 13 ♂♂, 13 ♀♀, Yona, Kunigami-gun, Okinawa-hontô Is., Okinawa Pref., 20~21-IV-1994, M. KAWANABE leg.; 7 ♂♂, 19 ♀♀, Kin, Kunigami-gun, Okinawa-hontô Is., Okinawa Pref., 22-IV-1994, M. KAWANABE leg.

Distribution. Japan (Okinawa-hontô Is.), Taiwan.

Host fungi. Phellinus gilvus (SCHW.: FR.) PAT. (Nendotake in Japanese) and *Pycnoporus coccineus* (FR.) BOND. et SING. (Hiirotake in Japanese).

I wish to express my hearty thanks to Mr. M. KIMURA of Naha-shi, Okinawa Pref., for kind supply of specimens.

Reference

MIYATAKE, M., 1982. Three new species of the Ciidae from Taiwan (Coleoptera). *Spec. Iss. Retir. Emer. Prof. M. Chûjô*, pp. 73-79.

Elytra, Tokyo, **22** (2): 271–280, Nov. 15, 1994

Discovery of a Flightless *Aegus* (Coleoptera, Lucanidae) in Borneo[1)]

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Abstract A new flightless *Aegus* is described from Mt. Mulu of Borneo. It resembles *A. cervicornis* DIDIER, but is distinguishable from the other Southeast Asian *Aegus* including *A. cervicornis* by its gourd-shaped body, atrophied wings and firmly interlocked elytra. The morphology of its third (final) instar larva is also reported.

Hindwing atrophy is known in several lucanid genera, such as *Apterocyclus* of Hawaii, *Apterodorcus* of Chili, *Colophon* of South Africa, and *Lissapterus* and *Lissotes* of Australia and New Zealand.

By the Kyoto University Expeditions to Sarawak in 1989, a female of the genus *Aegus* with atrophied wings was captured at the base camp near the summit of Mt. Mulu. In addition to this female, one damaged carcass of male and a few larvae of the same species were also collected at the same locality. The male carcass was so damaged that I was unable to examine male genitalic characters which may be necessary for determination of the true affinity of this *Aegus* with other congeneric members. However, the female of this form has very peculiar morphology and can be readily distinguished from any other *Aegus* species. After a further examination, it has become clear that this flightless *Aegus* is new to science as expected. Thus, I am going to describe this new *Aegus* species mainly based on the female characters. The morphology of the third (final) instar larva will be also reported.

The abbreviations of morphometric measurements (mm) of adults used herein are: BL – body length without mandibles; BT – body thickness; HL – head length; HW – head width; ML – mandible length; PL – pronotum length; PW – pronotum width; EL – elytra length; EW – elytra width; FTL – right front-tibial length; FTW – right front-tibial width. The genital organs were observed in 70% ethanol after treating it with weak solution of potassium hydroxide.

In the description of genitalia, I adopt the terminology of HOLLOWAY (1960). All the terms of larval morphology can be found in LAWRENCE (1981), and those of hindwings in HOLLOWAY (1963).

1) This study is supported in part by a Grant-in-aid for Field Research of the Monbusho International Scientific Research Program, Japan (No. 01041051).

Aegus hikidai ARAYA, sp. nov.

(Figs. 1–21)

Description of holotype (Figs. 1–3). Female (Fig. 1). Length from anterior margin of head (excluding mandibles) to apex of elytra 12.14 mm. Dull brownish black in color, depressed, upper surface frosted, closely and shallowly punctured, the punctures filled with yellowish matter and each bearing a very minute short seta. Legs and extremities of elytra clothed with short yellowish grey hairs.

Head transverse, strongly and closely punctured; anterior margin nearly straight and lateral margins triangularly projected outwards behind eyes. Mandibles short and evenly arcuate, with a process in middle. Clypeus roundly emarginate at the apex. Eye with distinct canthus completely covering outer margin. Antenna consisting of ten segments and partially geniculate; eight to tenth segments forming wholly pubescent club. Pronotum broader than long with rounded anterior lobes; lateral margins nearly parallel and strongly convergent to the narrow base. Elytra clothed with short yellowish grey hairs, firmly interlocked along the suture, and rounded at the sides, each with 6 deep striae upon the dorsal part, sutural interval fairly closely

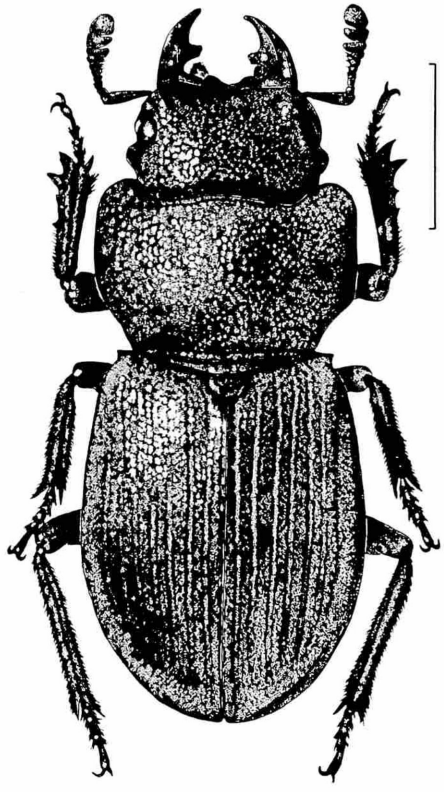
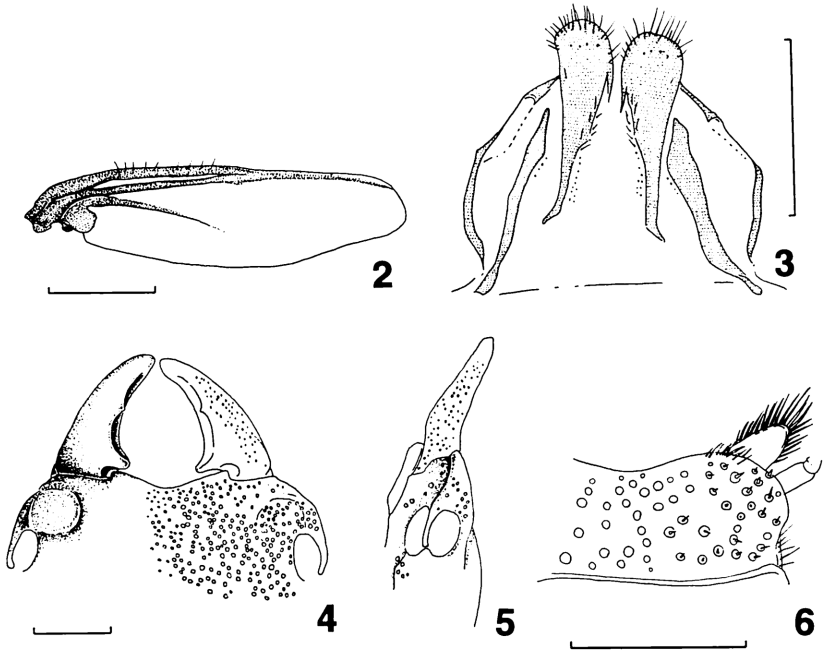


Fig. 1. *Aegus hikidai* ARAYA, sp. nov., ♀, holotype. Scale: 3 mm.

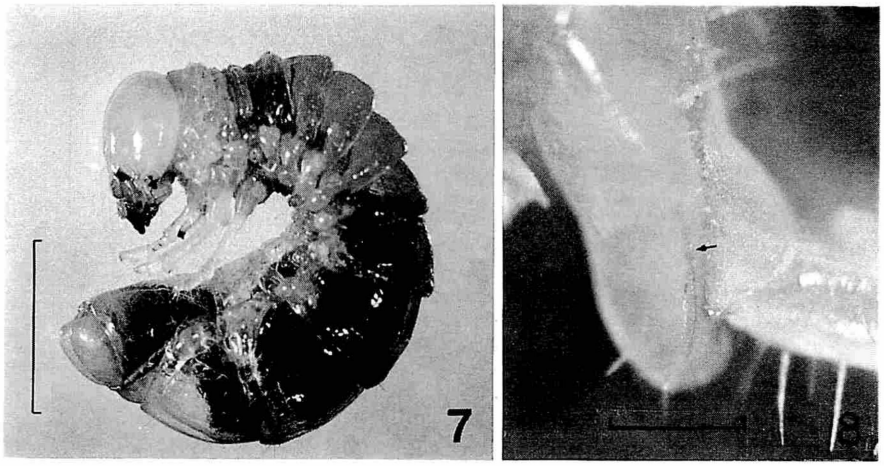


Figs. 2–6. *Aegus hikidai* ARAYA, sp. nov. —— 2–3, ♀, Holotype; hindwing (2); female genitalia (3). Scales: 1 mm. —— 4–6. ♂, Paratype; head, dorsal view (4); same, ventral view (5); mentum (6). Scales: 1 mm.

and the remaining intervals very finely and scantily punctured, the outer margins broad, flat, strongly punctured and setose; each sloping shoulder with a sharp projection. Hindwings (Fig. 2) very short and atrophied, 0.52 times the elytral length (about 3.2 mm in length); anal areas greatly reduced and not only the apical but also the radial recurrent parts disappeared, only costa and radius clearly recognizable; along the costal margin with short setae. Legs short, rather slender, clothed with short yellowish grey hairs; front tibia with three fine teeth before the terminal fork; middle tibia with two lateral spines; hind tibia without lateral spines. Metasternum coarsely punctured; abdomen clothed beneath with yellow setae. Female genitalia (Fig. 3) without styli, hemisternite relatively large and well sclerotized, with setae at the posterior end. BL – 12.14; BT – 3.57; HL – 1.86; HW – 3.54; ML – 1.26; PL – 3.04; PW – 4.81; EL – 6.58; EW (at widest part) – 5.15, (at shoulder) – 4.08; FTL – 2.29, FTW – 0.54.

Male (Figs. 4–6). Head (Figs. 4–5) transverse, strongly and closely punctured, with a protuberance at the anterior part of each eye. Each mandible short and slightly arcuate, with developed basal tooth bearing dull apex, and with a trace of upper tooth at middle part. Mentum (Fig. 6) roundly emarginate at the apex, with punctures each bearing a very short minute seta. HL – 2.20; HW – 3.75; ML – 1.85.

Third (final) instar larva (Figs. 7–21). Body length 21.5 (mm); body width 4.2 (at

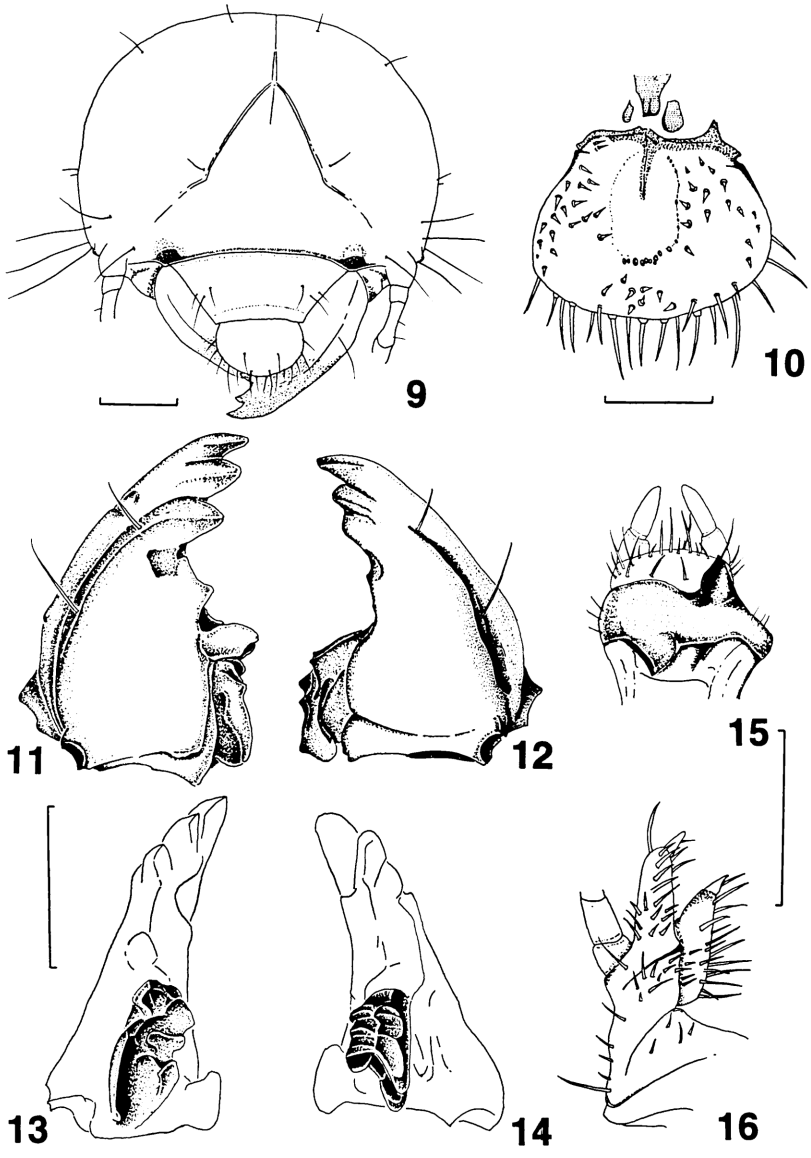


Figs. 7–8. Third (final) instar larva of *Aegus hikidai* ARAYA, sp. nov., lateral view (7); mesocoxal pars stridens (8). Scales: 5 mm for Fig. 7; 0.5 mm for Fig. 8.

thoracic part), 5.5 (at abdominal part); head length (from vertex to fronto-clypeal suture) 3.1; head width 4.7. Body (Fig. 7) elongate and cylindrical, bent in a C-shape, whitish in color, abdomen swollen posteriorly; head yellowish brown; legs yellowish brown.

Head capsule (Fig. 9) yellowish brown in color, ovoid, 1.2 times as wide as long, and sparse and short setae on antero-lateral part. Antennae with 4 segments, moderately long. Lateral ocellus present at each basal side of antenna. Clypeus transverse and trapezoidal, narrowed anteriorly, with short setae at antero-lateral parts. Labrum transverse, widened anteriorly, rounded at anterior margin bearing long setae. Epipharynx (Fig. 10) with 8–9 spine-like setae in haptomerum, well separated from protophoba; phoba asymmetrical, lateral side present only at one side, protophoba consisting of short blunt peg, left part of phoba consisting of blunt peg, but right part lacking; left side of chaetoparia with about 16 setae, and the right with about 20 setae; pternotormae weakly developed; eptitorma present; haptolachus consisting of 3 nesia, without setae. Mandibles (Figs. 11–14) asymmetrical, with well-developed molae, each mandible with 3 incisor teeth at apex, right mandible with a small teeth on the dorsal margin between apical teech and mola. Maxillae (Fig. 15) symmetrical; labium and developed hypopharynx as in Fig. 16.

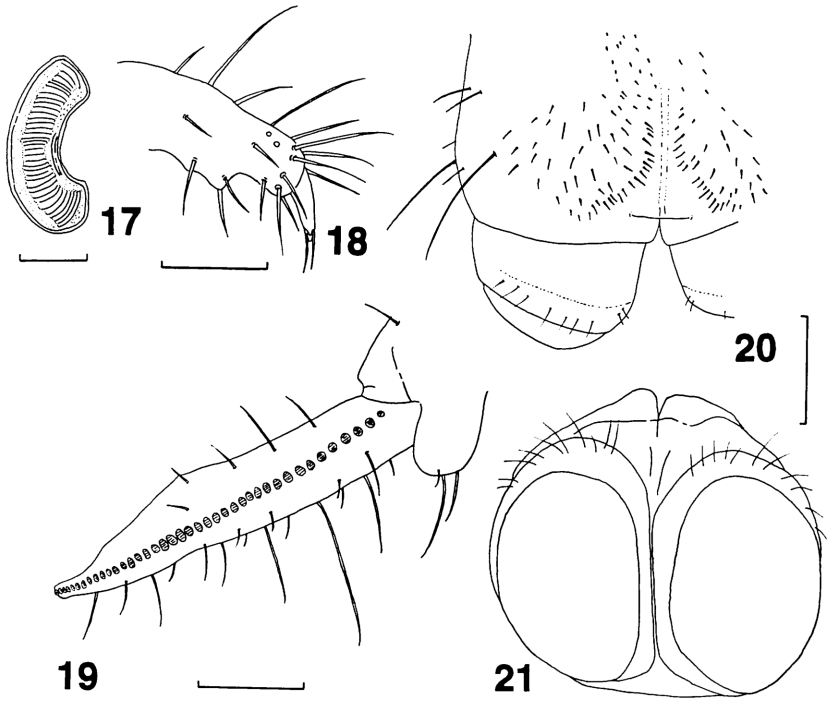
Dorso-lateral side of each thoracic segment with rows of long setae. Prothorax with dorso-lateral sclerotized plate very poorly defined, with a pair of small C-shaped spiracles on lateral side (Fig. 17). Thoracic legs yellowish brown, 4-segmented, moderately long and slender, with numerous setae, and with long and sharp claw with a few setae near each apical part (Fig. 18); mesocoxal stridulatory (pars stridens, Fig. 8) with a single distinct row of granular carina along the outer edge; metatrochanteral stridulatory (plectrum, Fig. 19) with a row of about 40 oval granular carinae of about



Figs. 9–16. Third (final) instar larva of *Aegus hikidai* ARAYA, sp. nov., head capsule (9); epipharynx (10); right (11) and left (12) mandibles; mola of right (13) and left (14) mandibles; maxillae (15); labium and hypopharynx (16). Scales: 1 mm for Figs. 9, 11–16; 0.5 mm for Fig. 10.

the same size.

Abdomen widened posteriorly; 1st to 5th abdominal segments of about the same size, with minute setal area at anterior 4/5 and rows of long setae at posterior 1/5 on



Figs. 17–21. Third (final) instar larva of *Aegus hikidai* ARAYA, sp. nov.; thoracic spiracles (17); claw of right front leg (18); metatrochanteral plectrum (19); raster of last abdominal sternite (20); anal sclerite (21). Scales: 0.1 mm for Fig. 17; 0.5 mm for Figs. 18–19; 1 mm for Figs. 20–21.

dorso-lateral side: 6th wider, with minute and long dorso-lateral setae; 7th to 9th extremely swollen with only rows of long setae at each dorso-lateral side; lateral lobe of each segment with a few long setae; ventral part of 1st to 9th segments with several long setae; last sternite bearing a raster with minute spine-like setae (Fig. 20). Abdominal spiracles of 1st to 4th segments moderately large, semicircular, 5th to 8th small, oval. Anal sclerite (Fig. 21) consisting of 2 well-developed oval lateral lobes provided with oval pads.

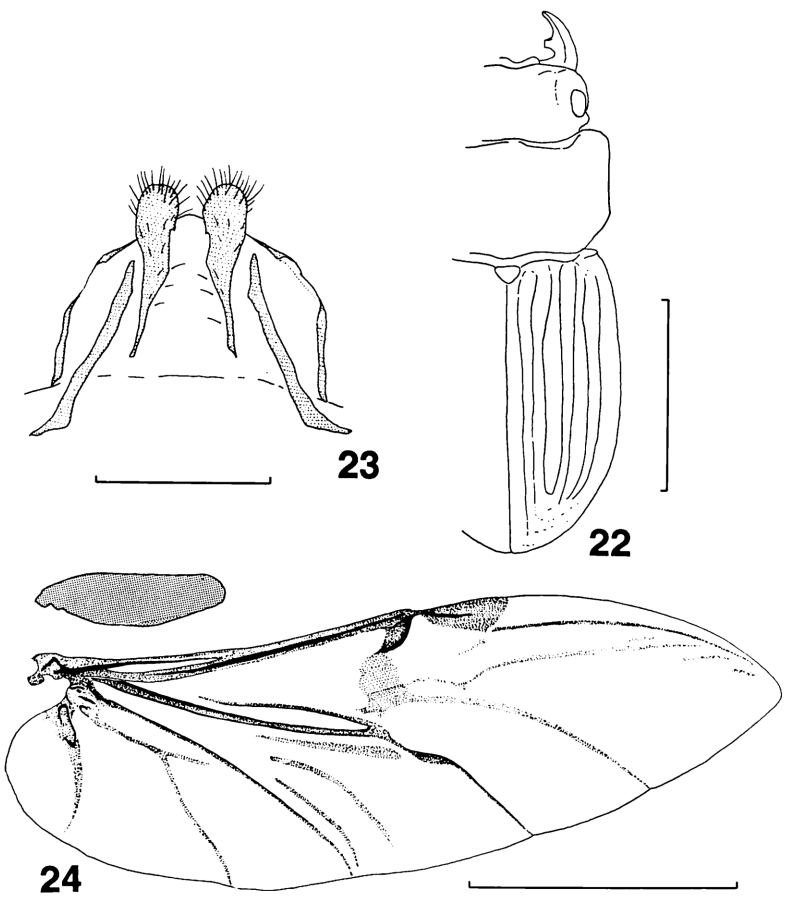
Specimens examined. Holotype, female, Mt. Mulu (1,850 m in altitude), Miri Division, Sarawak, Malaysia, 20–XII–1989, T. HIKIDA leg.; paratype, male (damaged carcass), same data as holotype, K. ARAYA leg.; larvae, same data as holotype, K. ARAYA leg.

The holotype female is deposited in the collection of the National Science Museum (Natural History), Tokyo, and the paratype and larval specimens in the entomological collection of the Department of Zoology, Kyoto University.

Etymology. This new species is dedicated to Dr. Tsutomu HIKIDA, Department of Zoology, Faculty of Science, Kyoto University, who collected the holotype specimen.

Natural History. *Aegus hikidai* sp. nov. was found on the floor of mountain moss-forest dominated by oak trees (1,850 m in altitude). The holotype female was captured at night on a leaf near the log from which larvae and male adult carcass were collected. During the daytime, the adults are supposed to hide themselves under logs or detritus because no additional adult was captured by surface gleaning of logs and forest floor in the daytime. Larvae were found in numbers within burrows dug into the detritus beneath the moss covering the rotten log lying on the forest floor.

Notes. The adult of this new *Aegus* resembles that of *A. cervicornis* DIDIER, 1925 (Figs. 22–24), also described from Borneo, and they apparently belong to the same species-group within the genus. However, this new species differs from the latter in the morphology of female genital organ with larger hemisternite bearing many setae at the posterior end. Besides, *A. hikidai* sp. nov. is clearly distinguishable not only



Figs. 22–24. *Aegus cervicornis*, ♀; dorsal view (22); female genitalia (23); hindwing (24; upper shadow: hindwing of *Aegus hikidai* ARAYA, sp. nov., ♀, holotype, on the same scale). Scales: 0.5 mm for Fig. 22; 1 mm for Figs. 23–24.

from *A. cervicornis* but also from the other Southeast Asian members of *Aegus* by its gourd-shaped body due to the broad pronotum and rounded elytra with sloping shoulders. Atrophied wings and firmly interlocked elytra are also its unique characteristics shared by no other species in the genus. On the other hand, such characteristics of *A. hikidai* sp. nov. as frosted body surface with fine punctures bearing short yellowish setae, triangular projections on the lateral side of head, concaved pronotum, spineless hind tibiae and rounded anterior lobes of pronotum, all of which are shared by *A. cervicornis*, are associated with those of the genus *Aegotypus* PARRY, 1873. Thus, these species may be intermediate between *Aegus* and *Aegotypus*.

As to the larval morphology, such characteristics of *A. hikidai* sp. nov. as the long and slender legs (especially trochanters), mola of mandible, mesocoxal pars stridens, metatrochanteral plectrum, swollen abdominal segments, and anal sclerite with 2 well-developed oval lateral lobes are similar to those of other *Aegus* larvae previously reported (VAN EMDEN, 1935; GRAVERY, 1916), whereas the presence of ocellus and the raster of the last abdominal sternite are not found in the other congeneric larvae.

In *A. cervicornis*, the inner wings are highly developed (about 1.4 times longer than the elytra), the base of the wing is broad, all the veins are recognizable, and the apical part of wings is about two-fifths the whole wing length (Fig. 24). On the other hand, the atrophied wings of *A. hikidai* are very short (0.52 times the elytral length), with the anal areas greatly reduced and both the apical part and radial recurrent disappeared, and only the costa and radius are clearly recognizable. Morphological changes with hindwing atrophy were described by HOLLOWAY (1963) for some lucanid beetles: 1) the part of the wing beyond the radial recurrent has been reduced in length or has disappeared completely, and in wings that are greatly reduced the apex is close to the base of the costa; 2) the posterior margin has moved towards the costal margin; 3) there has been a general overall decrease in the size of the wing. Thus, the wings of *A. hikidai* seem to be at the last stage of degeneration, and this suggests that *A. hikidai* has been flightless and geographically isolated for a long time.

Generally, flightless species tend to be more isolated and localized than fully winged species having wide distributional ranges. It is, therefore, expected that other geographically isolated flightless species of this genus may be found from mountains other than Mt. Mulu in Borneo.

Acknowledgments

I wish to express my hearty thanks to Dr. M. MATSUI and Dr. T. HIKIDA, Kyoto University, for their help in the field and to Mr. D. LABANG, Mr. A. A. HAMID, and the staff of National Park and Wildlife, and Forest Research Sections, Forest Department of Sarawak, for continuous support during the field work in Sarawak. I also thank Dr. M. KON, Kyoto University, for critically reading the manuscript of this paper. Lastly, I would like to express my sincere gratitude to Professor emeritus T. HIDAKA, Kyoto University, for giving me the opportunity of making researches in Sarawak.

Specimens Examined for Comparison

All the specimens examined for comparison are deposited in the entomological collections of the Department of Zoology, Kyoto University (catalogued as KUZ).

Aegus cervicornis: 1 ♂, Long Rapung, near Mt. Murrud, Kelabit Highland (alt. 1,000 m), Sarawak, Malaysia, 17–I–1991, K. ARAYA leg.; 1 ♀, Pa Lungang, near Mt. Murrud, Kelabit Highland (alt. 1,000 m), Sarawak, Malaysia, 22–I–1991, K. ARAYA leg.; 3 ♂♂, 2 ♀♀, same locality, 23–I–1991, K. ARAYA leg.

要　約

荒谷邦雄: ボルネオにおける後翅が退化したネブトクワガタ属の1種の発見. —— 1989 年に実施された京都大学海外学術調査の期間中，東マレーシア・サラワク州のムル山の山頂直下に広がるカシ類を中心とした熱帯雲霧林（標高約 1,850 m）において，後翅が退化した特異なネブトクワガタ属（*Aegus*）の1種の雌成虫，雄成虫の死骸，および数頭の幼虫が採集された．検討の結果，このネブトクワガタは新種であることが判明したので，ここにムルハネナシネブトクワガタ *Aegus hikidai* ARAYA, sp. nov. として記載した．なお，雄成虫の死骸は破損が ひどかったため，記載は主として雌成虫の形態に基づいて行なった．また，あわせて3令（終令）幼虫の記載も行なった．

この新種は，同じくボルネオより記載されている *A. cervicornis* DIDIER に近縁で，同じ種群に属するものと考えられるが，*A. cervicornis* とは雌交尾器の形態でも区別できるほか，後翅が退化していること，上翅の会合部が融合していること，および体形が瓢箪形であることなどから，*A. cervicornis* を含むその他すべてのネブトクワガタ属の種から容易に区別される．しかしその一方で，*Aegus hikidai* ARAYA, sp. nov. および *A. cervicornis* の成虫がもつ，体表面が黄色の毛をともなう点刻で覆われ艶消し状であること，複眼後方の頭部側縁が三角形状に突出すること，前胸背板の前角が丸く前方に突出し，かつ側縁部が後方に向かって内側に強くくびれること，後脛節の側縁に鋸歯状の突起がないことなどの特徴は，*Aegotypus* 属にも共通するものである．*Aegus hikidai* ARAYA, sp. nov. と *A. cervicornis* を含む種群は，*Aegus* 属と *Aegotypus* 属とをつなぐグループとして位置づけられるかもしれない．

Aegus hikidai ARAYA, sp. nov. の終齢幼虫の形態に関しては，左右大顎とも臼歯部がいちじるしく発達していること，脚部，とくに転節が非常に細長いこと，中脚基節の発音器摩擦部（pars stridenta）は基節外面に広く存在し，前縁部に一列の大顆粒条をそなえること，後肢転節の発音器絃部（plectrum）が一列に配置した楕円形の顆粒条から成り立っていること，腹部がいちじるしく肥大していること，大きい二つの肛門丘が突出していることなどの形態は，*Aegus* 属の幼虫の特徴をよく表わしている．一方，単眼と思われる凸レンズ状の膨らみが触角の基部に存在すること，第9腹節腹面の毛群を形成する毛が短かくかつ少ないことなどは，これまでに報告されている *Aegus* 属の幼虫には知られていない，本種の幼虫独自の形態だと見なされる．なお，幼虫は，熱帯雲霧林の林床にある倒木の下や，倒木表面についた苔の下に溜まった泥状の腐植物中に見られた．

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Elytra, Tokyo, **22** (2): 280, Nov. 15, 1994

A New Record of *Ophrygonius singapurae* (Coleoptera, Passalidae) from Thailand

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Recently, BOUCHER (1993) revised definitions of the passalid genera *Ophrygonius* ZANG and *Aceraius* KAUP based on the morphology of mandibular dentition patterns. Up to this time, no species of the passalid genus *Ophrygonius* have been known from Thailand (HINCKS & DIBB, 1935, 1958; BOUCHER, 1993). Recently, we had an opportunity to examine some passalid beetles in the entomological collection of the National Science Museum (Natural History), Tokyo, and found a specimen of *Ophrygonius singapurae* GRAVELY labelled "Chanthaburi, 19-VI-1963, Thai, R. KAWASAKI"/"Sizumu NOMURA Bequest 1981". This is the first record of *O. singapurae* from Thailand.

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Elytra, Tokyo, **22** (2): 281–298, Nov. 15, 1994

Dung Beetles (Coleoptera, Scarabaeoidea) Collected from Sabah, Borneo (I)[1)]

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Abstract Twenty-one species of dung beetles, collected by the Kyoto University Expeditions to Sabah, Borneo (1985, 1987), are recorded. One new species of the genus *Onthophagus* is described from Sabah, Borneo, under the name of *O.* (*Phanaeomorphus*) *johkii* sp. nov. *Catharsius* (*Catharsius*) *dayacus* LANSBERGE, previously synonymized with *C.* (*C.*) *molossus* (LINNÉ), is regarded as a valid species and redescribed based on the specimens collected during the present survey.

More than 3,000 examples of dung beetles (Coleoptera, Scarabaeoidea) were collected by the junior author (M. KON) during the Kyoto University Expeditions to Sabah, Borneo (1985, 1987). Collections were made by using traps baited with a mass of either water-buffalo or human dung in Sepilok and Sungai Manila near Sandakan, Brumas near Tawau and Keningau (Fig. 1). We recognized 39 species in the collection. Four of those were new to science, and one was recorded for the first time from Borneo.

In the present part, we are going to record 20 species of dung beetles and to describe one new species of the genus *Onthophagus*.

Family Scarabaeidae

Subfamily Scarabaeinae

Tribe Gymnopleurini

Gymnopleurus (*Paragymnopleurus*) *maurus* SHARP

(Fig. 2)

1) This work is supported in part by a Grant-in-aid for Field Research of the Monbusho International Scientific Research Program, Japan (Nos. 60041037, 61043033, 62041049, 63043037).

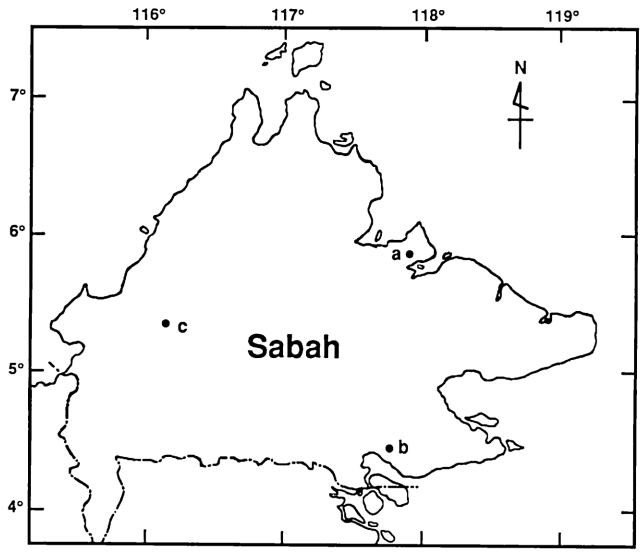


Fig. 1. A sketch map of Sabah, Borneo, showing the localities at which collections were made. a, Sepilok and Sungai Manila near Sandakan; b, Brumas near Tawau; c, Keningau.

Gymnopleurus maurus SHARP, 1875, Coleopt. Hefte, **13**, p. 34 —— HAROLD, 1877, Annli. Mus. civ. Stor. nat. Genova, **10**, p. 38. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 248. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.

Paragymnopleurus maurus: JANSSENS, 1875, Mém. Mus. r. Hist. nat. Belg., **2** (16), p. 20.

Gymnopleurus (*Paragymnopleurus*) *maurus*: BALTHASAR, 1963, Monogr. Scarab., 1, p. 217.

Specimens examined. 1 ex., Sepilok, 29–VII–1987; 1 ex., ditto, 4–VIII–1987; 4 exs., ditto, 5–VIII–1987; 3 exs., ditto, 7–VIII–1987.

Distribution. Borneo, Sumatra, Malay Peninsula.

Gymnopleurus (*Paragymnopleurus*) *sparsus* SHARP

(Fig. 3)

Gymnopleurus sparsus SHARP, 1875, Coleopt. Hefte, **13**, p. 38. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 248.

Paragymnopleurus sparsus: JANSSENS, 1875, Mém. Mus. r. Hist. nat. Belg., **2** (16), p. 22.

Gymnopleurus (*Paragymnopleurus*) *sparsus*: BALTHASAR, 1963, Monogr. Scarab., 1, p. 221.

Specimens examined. 2 exs., Sepilok, 29–VII–1987; 2 exs., ditto, 2–VIII–1987; 9 exs., ditto, 7–VIII–1987; 1 ex., ditto, 8–VIII–1987; 1 ex., ditto, 12–VIII–1987.

Distribution. Borneo, Java, Philippines.

Tribe Sisyphini

Sisyphus (Sisyphus) thoracicus SHARP

(Fig. 4)

Sisyphus thoracicus SHARP, 1875, Coleopt. Hefte, **13**, p. 39. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 254. —— ARROW, 1927, Ann. Mag. nat. Hist., **9**, (19), p. 465.
Sisyphus (Sisyphus) thoracicus: HAAF, 1955, Ent. Arb. Mus. Frey, **4**, p. 358. —— BALTHASAR, 1963, Monogr. Scarab., **1**, p. 241.

Specimens examined. 2 exs., Sepilok, 29–VII–1987; 1 ex., ditto, 30–VII–1987; 1 ex., ditto, 1–VIII–1987; 8 exs., ditto, 2–VIII–1987; 5 exs., ditto, 4–VIII–1987; 67 exs., ditto, 5–VIII–1987; 72 exs., ditto, 7–VIII–1987; 21 exs., ditto, 8–VIII–1987; 1 ex., ditto, 12–VIII–1987; 1 ex., Keningau, 17–VIII–1987.

Distribution. Borneo, Java, Sumatra, Philippines.

Subfamily Coprinae

Tribe Coprini

Catharsius (Catharsius) dayacus LANSBERGE

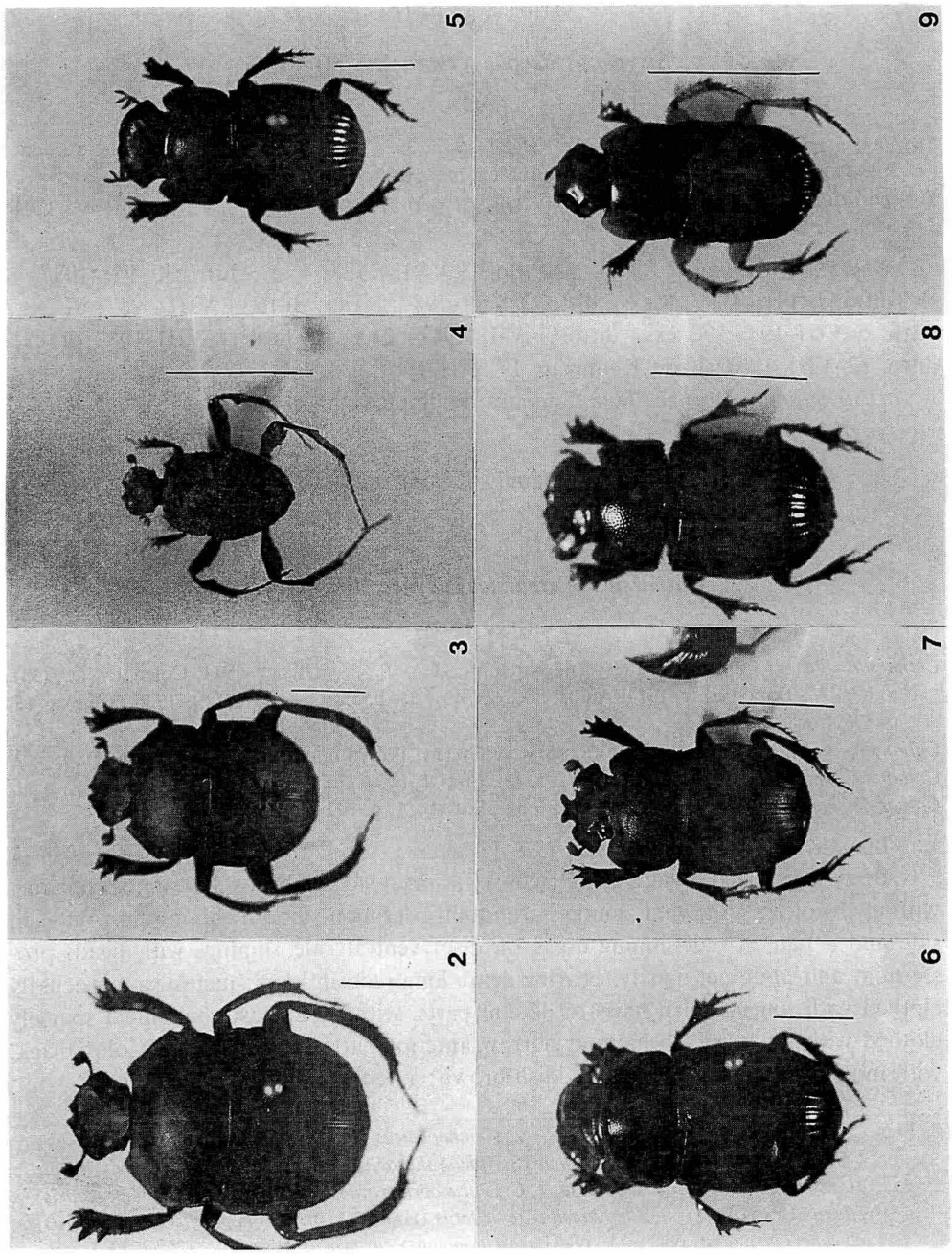
(Figs. 18–21)

Catharsius dayacus LANSBERGE, 1886, Tijdschr. Ent., **29**, p. 6. —— GILLET, 1911, Coleopt. Cat., (38), p. 67. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 330. —— PAULIAN, 1936, Treubia, **15**, p. 395.
Catharsius molossus var. *dayacus*: BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 8.
Catharsius molossus dayacus: PAULIAN, 1945, Fn. Emp. fr., **3**, p. 70.
Catharsius molossus: BALTHASAR, 1963, Monogr. Scarab., **1**, p. 307 [*partim*].

Length, 22.3–32.8 mm; width, 12.8–18.1 mm.

Body large-sized, oval, strongly convex; dorsal side glabrous and almost opaque, with elytra often somewhat shining, pronotum bearing a smooth shining part on each side and a pair of half-shining areas on disc; ventral side shining, with head, prosternum and abdomen partly, bearing dense long reddish hairs; metasternum densely clothed with long reddish hairs on lateral parts, with the metasternal shield sparsely clothed with long reddish hairs at narrow anterior part along margin. Color black, with mouth parts and antennae reddish brown; antennal clubs brownish black.

Figs. 2–17 (on pp. 00–00). Habitus. —— 2, *Gymnopleurus (Paragymnopleurus) maurus* SHARP; 3, *G. (P.) sparsus* SHARP; 4, *Sisyphus (Sisyphus) thoracicus* SHARP; 5, *Copris (Copris) agnus* SHARP; 6, *C. (C.) numa* LANSBERGE; 7, *C. (Paracopris) ramosiceps* GILLET; 8, *C. (Microcopris) reflexus* (FABRICIUS); 9, *Euoniticellus tessellatus* (HAROLD); 10, *Onthophagus (Proagoderus) schwaneri* VOLLENHOVEN; 11, *O. (Parascatonomus) sarawacus* HAROLD; 12, *O. (P.) rudis* SHARP; 13, *O. (Serrophorus) sagittarius* (FABRICIUS); 14, *O. (S.) laevis laevis* HAROLD; 15, *O. (S.) mulleri* LANSBERGE; 16, *O. (Phanaeomorphus) bangueyensis* BOUCOMONT; 17, *O. (P.) johkii* OCHI et KON, sp. nov. (Scale: 5 mm.)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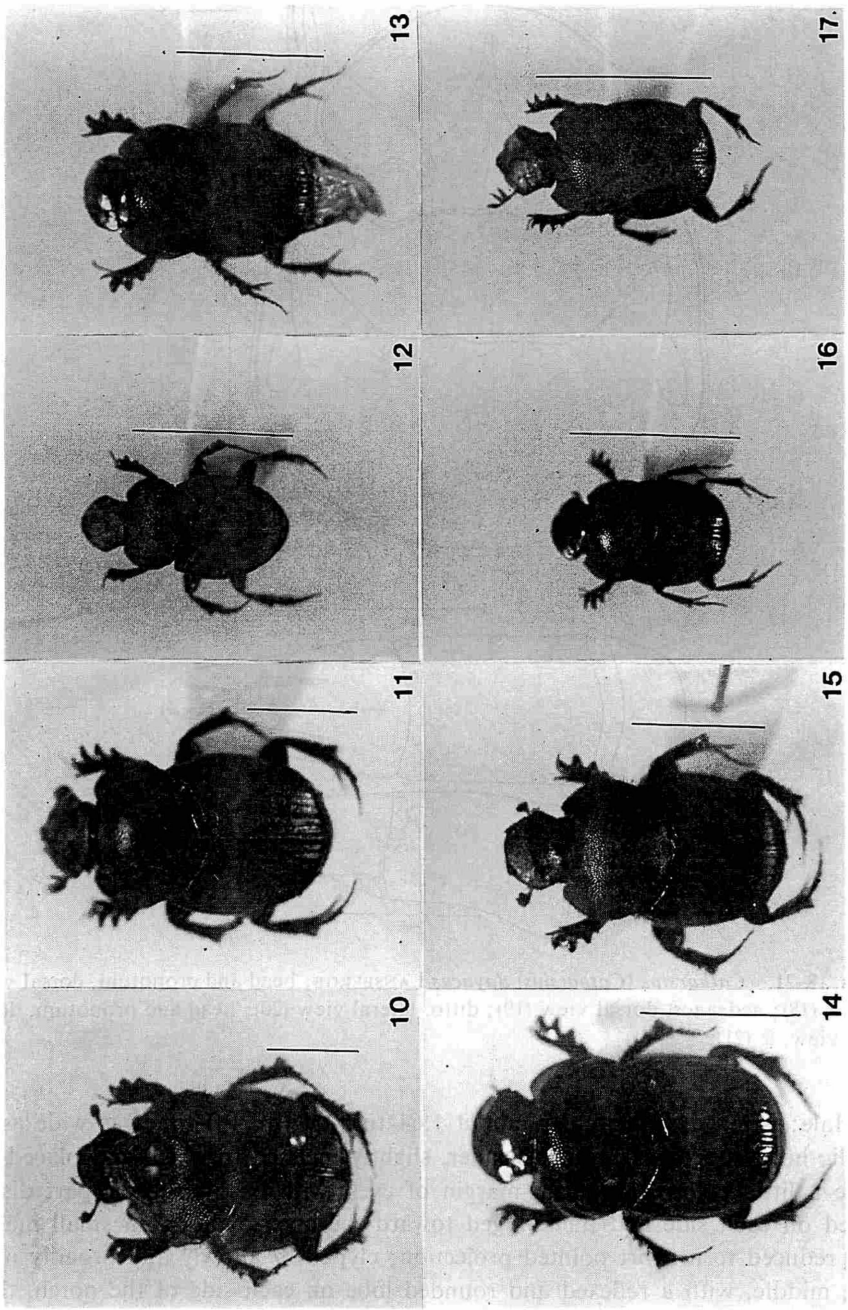
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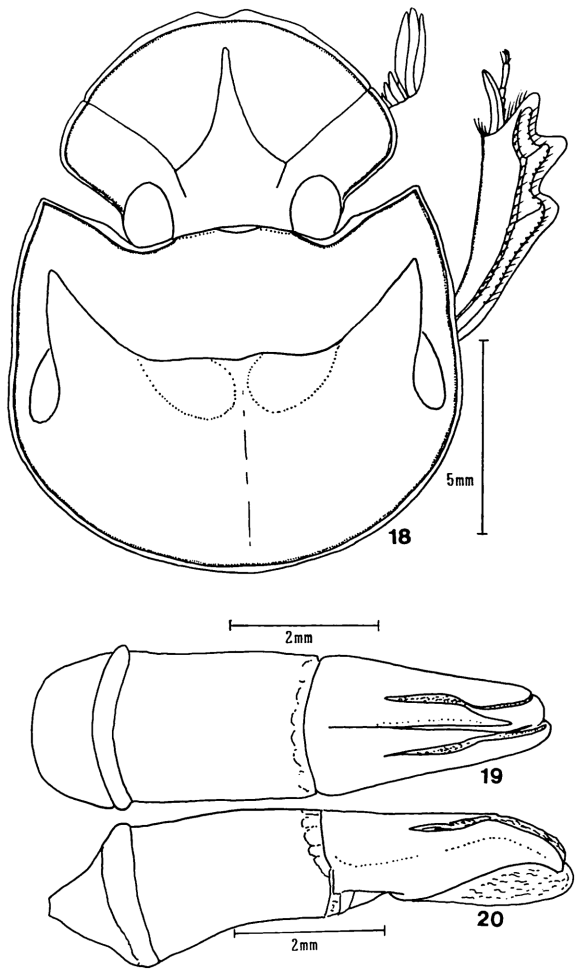
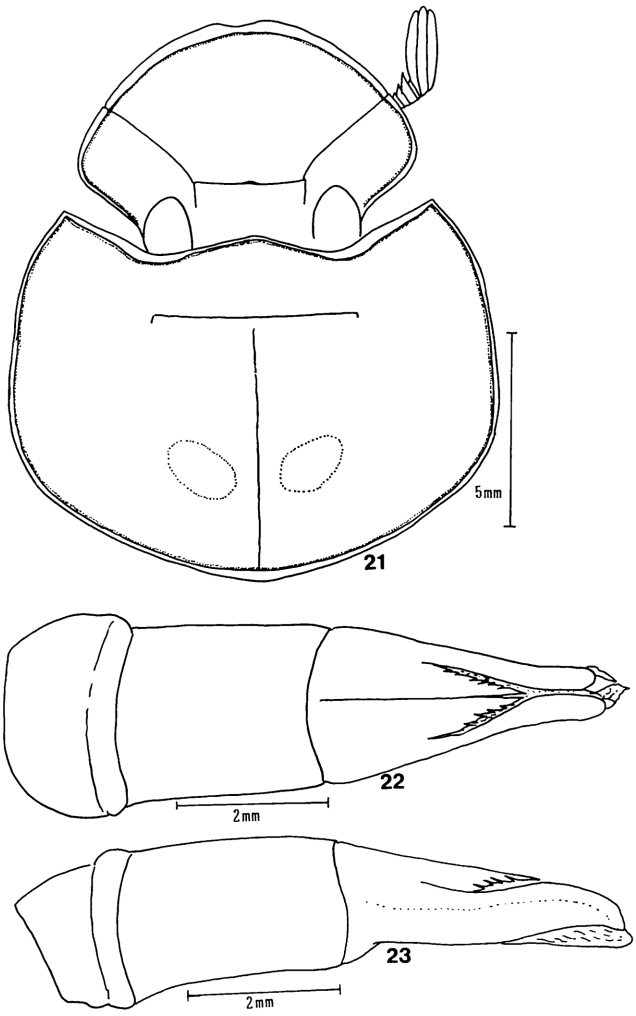


Figs. 18–21. *Catharsius* (*Catharsius*) *dayacus* LANSBERGE; head and pronotum, dorsal view, ♂ (18); aedeagus, dorsal view (19); ditto, lateral view (20); head and pronotum, dorsal view, ♀ (21).

Male:— Head semicircular, about 1.64 to 1.89 (n=18) times as wide as long; cephalic horn subconical, rather slender, slightly inclined forward, and placed in the middle a little before the apical margin of eyes, with baso-posterior part distinctly toothed on each side and then ridged toward the apex of horn, in small males the horns reduced to a short pointed projection; clypeus shallowly and broadly notched in the middle, with a reflexed and rounded lobe on each side of the notch, the rest margin reflexed and broadly bordered; genae produced laterally, with genal angles more broadly rounded than in the congeners, margin widely bordered anteriorly, finely so posteriorly; eyes large, the interspace between them about 2.5 to 3.1 times



Figs. 22–23. *Catharsius* (*Catharsius*) *molossus* (LINNÉ) from Thailand; aedeagus, dorsal view (22); ditto, lateral view (23).

as wide as the width of one eye; surface densely and transversely rugose on clypeus and round the horn, densely and coarsely granulate on genae, shining and smooth on posterior half between eyes which is finely punctate laterally.

Pronotum strongly convex, about 1.60–1.88 (n=18) times as wide as long, with a slight longitudinal impression along median line in posterior three-fifths; anterior margin bisinuate and bordered, with marginal line broadest on each sinuation, indefinite in middle; lateral margins generally rounded and bordered though weakly sinuate before the middle; anterior angles broadly truncate, with each outer corner obtusely

and distinctly angulate; posterior angles obtuse; disc abruptly declivous in anterior two-fifths with upper edge of the declivity almost straightly and obtusely ridged, sides of the declivity very strongly produced forward as a little divergent large process which has an oval, rather deep and smooth excavation beneath; surface densely covered with small round granules except for the shining and smooth part between the lateral excavation and the sinuation of anterior margin on each side; the granules on a pair of the half-shining areas flat and somewhat polished; in small males, the lateral processes less prominent, the lateral excavations and the shining smooth parts becoming narrower or obsolete.

Elytra about 1.14 to 1.28 (n=18) times as wide as long; disc strongly convex, with nine striae, the 1st to 8th striae extending from base to near apex between sutural margin and lateral costa, the 9th also extending from base to near apex between lateral costa and lateral margin, the 2nd and 9th, the 3rd and 6th, the 4th and 5th, the 7th and 8th joining at apices and the 1st isolated; all striae shallowly and finely but distinctly impressed, with strial punctures vague; intervals almost flat, microrugose and indistinctly microgranulose.

Pygidium weakly convex, about twice as wide as long, distinctly microgranulose, moderately densely covered with asperate punctures on median and apical parts, the punctures gradually changing into granules towards base and sides. Metasternum with a weak longitudinal impression along median line, median part smooth, shining and rather sparsely punctate. Protibiae broad, slightly incurved, with three strong lateral teeth; terminal spur normal, a little curved internally. Meso- and metatibiae strongly dilated apicad, each with apex quadrilobed; tarsi relatively broad, with the 1st segment distinctly shorter than twice the 2nd.

Aedeagus robust, about 6.6 to 7.3 mm in length (n=6). Parameres short, about 3.2 to 3.3 mm in length, about 0.8 to 0.9 times as long as phallobase (n=6).

Female:— Head with a strong transverse carina a little before the anterior margin of eyes, then gently sloping downward anteriorly and somewhat steeply declivous posteriorly; the carina almost straight, sharply toothed on each side and slightly pointed in the middle. Pronotum abruptly declivous in anterior fifth, with the upper edge of the declivity forming an almost straight transverse carina. Meso- and metatibiae with tarsi broader than in the male.

Specimens examined. 1 ex., Sepilok, 30–VII–1987; 1 ex., ditto, 1–VIII–1987; 1 ex., ditto, 2–VIII–1987; 1 ex., ditto, 4–VIII–1987; 9 exs., ditto, 5–VIII–1987; 2 exs., ditto, 6–VIII–1987; 1 ex., ditto, 7–VIII–1987; 13 exs., ditto, 8–VIII–1987.

Distribution. Borneo.

Notes. *Catharsius dayacus* was originally described from Borneo by LANSBERGE in 1886. Later in 1921, this taxon was treated as a variety of *C. molossus* by BOUCOMONT and GILLET. BALTHASAR (1963) regarded *C. dayacus* as a junior synonym of *C. molossus*. However, he showed no concrete evidence about this treatment. Since BALTHASAR's (1963) monograph, *C. dayacus* has never been referred to for three decades.

Through the examination of the specimens of *Catharsius molossus* collected in the

present survey, we found these specimens separable into two distinct forms based on the morphology of external and male genitalic characters. According to LANSBERGE's (1886) original description of *C. dayacus*, we have concluded that the specimens from Sepilok correspond to *C. dayacus* LANSBERGE and those from Brumas and Keningau to *C. molossus* (LINNÉ). Thus, we regarded *C. dayacus* as a good species.

Catharsius (*Catharsius*) *molossus* (LINNÉ)

(Figs. 22–27)

Scarabaeus molossus LINNÉ, 1758, Syst. Nat., ed. 10, p. 347.
Copris molossus: FABRICIUS, 1801, Syst. Eleuth., 1, p. 42.
Catharsius molossus: HAROLD, 1877, Annli. Mus. civ. Stor. nat. Genova, **10**, p. 44. —— LANSBERGE, 1886, Tijdschr. Ent., **29**, p. 5. —— BOUNCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 329. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 8. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 94. —— BALTHASAR, 1935, Scarab. Monogr., **1**, p. 65. —— PAULIAN, 1936, Treubia, **15**, p. 395; 1945, Fn. Emp. fr., **3**, p. 69. —— BALTHASAR & CHÛJÔ, 1964, Coleopt. S. E. Asia, **3**, p. 182. —— KRYZHANOVSKIJ & MEDVEDEV, 1966, Ent. Obozr., **45**, p. 212. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.
Catharsius (*Catharsius*) *molossus*: BALTHASAR, 1963, Monogr. Scarab., 1, p. 307. —— MASUMOTO, 1987, Ent. Rev. Japan, **42**, p. 128.
Scarabaeus abbreviatus HERBST, 1789, Käfer, **2**, p. 53.
Scarabaeus berbiceus HERBST, 1789, Käfer, **2**, p. 227.
Scarabaeus janus OLIVIER, 1789, Ent. I. Scarb., p. 101.
Copris ursus FABRICIUS, 1801, Syst. Eleuth., 1, p. 43.
Catharsius timorensis LANSBERGE, 1879, Annls. Soc. ent. Belg., **22**, p. 148.
Catharsius dubius PAULIAN, 1936, Treubia, **15**, p. 396 [*nomen nudum*].
Catharsius borneensis PAULIAN, 1936, Treubia, **15**, p. 396 [*nomen nudum*].

Specimens examined. 14 exs., Keningau, 17–VIII–1987; 3 exs., ditto, 18–VIII–1987; 6 exs., Brumas, 23–VII–1987; 4 exs., ditto, 24–VII–1987; 3 exs., ditto, 25–VII–1987; 5 exs., ditto, 26–VII–1987; 4 exs., ditto, 27–VII–1987.

Distribution. Afghanistan, Sri Lanka, India, Myanmar, Indochina, Malay Peninsula, Sumatra, Andaman, Java, Borneo, China, Taiwan.

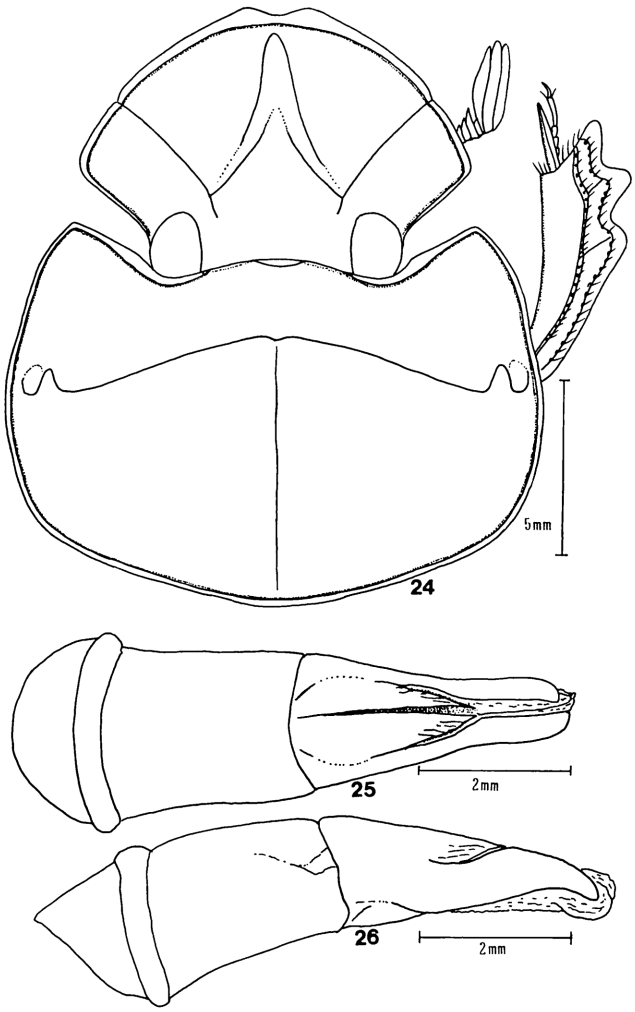
Copris (*Copris*) *agnus* SHARP

(Fig. 5)

Copris agnus SHARP, 1875, Coleopt. Hefte, **13**, p. 47. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 334. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.
Copris (*Copris*) *agnus*: BALTHASAR, 1963, Monogr. Scarab., 1, p. 307. —— OCHI & ARAYA, 1992, G. it. Ent., **6**, p. 83.
Copris servius HAROLD, 1877, Annli. Mus. civ. Stor. not. Genova, **10**, p. 46.

Specimens examined. 1 ex., Sepilok, 4–VIII–1987; 3 exs., ditto, 7–VIII–1987; 1 ex., ditto, 8–VIII–1987.

Distribution. Borneo, Malay Peninsula, Singapore Is.



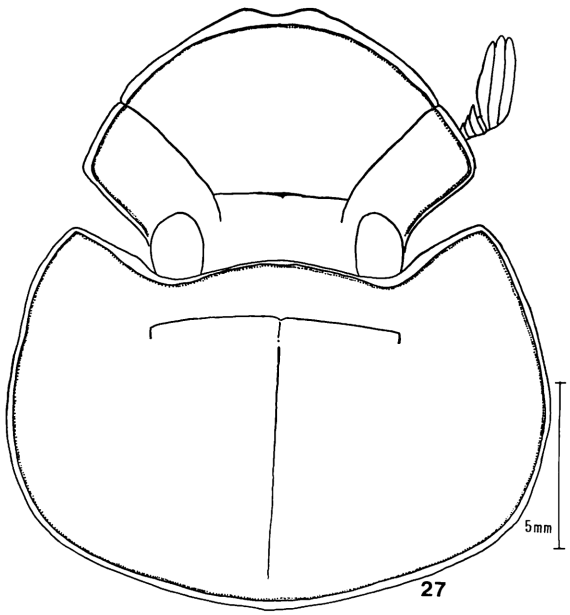
Copris (*Copris*) *numa* LANSBERGE

(Fig. 6)

Copris numa LANSBERGE, 1886, Tijdschr. Ent., **29**, p. 19. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 332. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 211.
Copris (*Copris*) *numa*: BALTHASAR, 1963, Monogr. Scarab., **1**, p. 364. —— OCHI & ARAYA, 1992, G. it. Ent., **6**, p. 83.

Specimens examined. 1 ex., Sepilok, 7–VIII–1987; 1 ex., Keningau, 17–VIII–1987.

Distribution. North India, Myanmar, Malay Peninsula, Sumatra, Borneo.



Figs. 24–27 (on pp. 000–000). *Catharsius* (*Catharsius*) *molossus* (LINNÉ) from Borneo; head and pronotum, dorsal view, ♂ (24); aedeagus, dorsal view (25); ditto, lateral view (26); head and pronotum, dorsal view, ♀ (27).

Copris (*Paracopris*) *ramosiceps* GILLET

(Fig. 7)

Copris ramosiceps GILLET, 1921, Annls. Soc. Sci. Bruxellus, **41**, p. 126. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 128. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.
Copris (*Paracopris*) *ramosiceps*: BALTHASAR, 1963, Monogr. Scarab., **1**, p. 375.

Specimens examined. 1 ex., Sepilok, 5–VIII–1987; 1 ex., ditto, 7–VIII–1987.
Distribution. India, Myanmar, southern China, Malay Peninsula, Borneo.

Copris (*Microcopris*) *reflexus* (FABRICIUS)

(Fig. 8)

Scarabaeus reflexus FABRICIUS, 1787, Mant. Ins., 1, p. 16. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 334.
Copris reflexus: FABRICIUS, 1801, Syst. Eleuth., 1, p. 53. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 335. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 13. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 120. —— PAULIAN, 1945, Fn. Emp. fr., **3**, p. 75. —— KRYZHANOVSKIJ & MEDVEDEV, 1966, Ent. Obozr., **45**, p. 213. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.

Copris (Microcopris) reflexus: BALTHASAR, 1963, Monogr. Scarab., 1, p. 376. —— MASUMOTO, 1987, Ent. Rev. Japan, **42**, p. 129.
Scarabaeus oryctes HERBST, 1789, Nat. Käf., **2**, p. 215. —— LANSBERGE, 1886, Tijdschr. Ent., **29**, p. 22.

Specimens examined. 3 exs., Sepilok, 30–VII–1987; 2 exs., ditto, 1–VIII–1987; 1 ex., ditto, 2–VIII–1987; 10 exs., ditto, 4–VIII–1987; 4 exs., ditto, 6–VIII–1987; 14 exs., ditto, 8–VIII–1987; 4 exs., Keningau, 17–VIII–1987; 11 exs., ditto, 18–VIII–1987.

Distribution. North India, Myanmar, Indochina, China, Malay Peninsula, Sumatra, Java, Borneo.

Tribe Oniticellini

Euoniticellus tessellatus (HAROLD)

(Fig. 9)

Oniticellus tessellatus HAROLD, 1879, Coleopt. Hefte, **16**, p. 227. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 256. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. Coleopt., Lamellic., p. 23. —— BALTHASAR, 1941, Ent. Blätt., **37**, p. 91. —— PAULIAN, 1945, Fn. Emp. fr., **3**, p. 131. —— JANSSENS, 1953, Oniticellini (Col. Lamellicor.), Expéd. Parc Nat. Upemba, Mission Witte, fasc 11, p. 109.
Oniticellus (Oniticellus) tessellatus: BALTHASAR, 1963, Monogr. Scarab., **2**, p. 77. —— BALTHASAR & CHÛJÔ, 1964, Coleopt. S. E. Asia, **3**, p. 183.
Euoniticellus tessellatus: HANSKI, 1983, Acta zool. fenn., **167**, p. 45.
Scarabaeus pictus WIEDEMANN, 1819, Zool. Mag., 1, p. 160.

Specimens examined. 1 ex., Sepilok, 30–VII–1987; 2 exs., Sungai Manila, 5–VIII–1987.

Distribution. Laos, Vietnam, Sumatra, Java, Borneo.

Liatongus (Liatongus) femoratus (ILLIGER)

Copris femoratus ILLIGER, 1800, in WIEDEMANN, Arch. Nat., 1, p. 2. —— FABRICIUS, 1801, Syst. Eleuth., 1, p. 47.
Oniticellus femoratus: LAPORTE, 1840, Hist. nat. Ins. Coléopt., 1, p. 91. ——HAROLD, 1877, Annli. Mus. civ. Stor. nat. Genova, **10**, p. 84.
Liatongus femoratus: ARROW, 1931, Fn. Brit. Ind., Coleopt., Lamellic., **3**, p. 363. —— BALTHASAR, 1935, Scarab. Monogr., 1, p. 106. —— JANSSENS, 1953, Oniticellini (Col. Lamellicor.), Expéd. Parc Nat. Upemba, Mission Witte, fasc 11, p. 95. —— BALTHASAR, 1963, Monogr. Scarab., **2**, p. 84.
Copris bidens WEBER, 1801, Obs. Ent., p. 36.
Copris niger WIEDEMANN, 1819, Zool. Mag., 1, p. 159.

Specimens examined. 56 exs., Keningau, 18–VIII–1987.

Distribution. Myanmar, Thailand, Malay Peninsula, Sumatra, Java, Borneo.

Tribe Onthophagini

Caccobius (Caccophilus) unicornis (FABRICIUS)

Copris unicornis FABRICIUS, 1798, Ent. Syst. Suppl., p. 33; 1801, Syst. Eleuth., 1, p. 52.
Onthophagus unicornis: BOUCOMONT, 1914, Annli. Mus. civ. Stor. nat. Genova, **46**, p. 236.
Caccobius unicornis: ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 145. —— BALTHASAR, 1933, Čas. Čs. Spol. ent., **30**, p. 51. —— PAULIAN, 1945, Fn. Emp. fr., **3**, p. 83. —— OCHI, 1985, Coleopt. Japan Col., Osaka, **2**, p. 357. —— ISHIDA & FUJIOKA, 1988, List Lamellic. Japan, p. 15.
Caccobius (Caccophilus) unicornis: BALTHASAR, 1949, Acta. ent. Mus. natn. Pragae, **26**, p. 44. —— BALTHASAR, 1963, Monogr. Scarab., **2**, p. 142.
Onthophagus nitidiceps FAIRMAIRE, 1893, Annls. Soc. ent. Belg., **17**, p. 304.
Onthophagus yamacuhii MATSUMURA, 1936, Ins. matsum., **11**, p. 66.

Specimen examined. 1 ex., Sepilok, 2–VIII–1987.

Distribution. Sri Lanka, India, Myanmar, Indochina, Malay Peninsula, Sumatra, Borneo, Philippines, China, Taiwan, Korea, Japan.

Onthophagus (Proagoderus) schwaneri VOLLENHOVEN

(Fig. 10)

Onthophagus schwaneri VOLLENHOVEN, 1864, Tijdschr. Ent., **7**, p. 146. —— LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 41. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 262. —— MARCUS, 1917, Arch. Naturg., (A), **83** (10), p. 62.
Proagoderus schwaneri: MARCUS, 1920, Dt. ent. Z., **1920**, p. 181.
Onthophagus (Proagoderus) schwaneri: BALTHASAR, 1963, Monogr. Scarab., **2**, p. 515. —— PALESTRINI, 1982, Boll. Mus. zool. Univ. Torino, **1982**, p. 33.

Specimens examined. 23 exs., Sepilok, 4–VIII–1985; 2 exs., ditto, 5–VIII–1985; 11 exs., ditto, 7–VIII–1985; 1 ex., ditto, 15–VIII–1985; 7 exs., ditto, 16–VIII–1985; 1 ex., ditto, 18–VIII–1985; 5 exs., ditto, 30–VII–1987; 1 ex., ditto, 1–VIII–1987; 2 exs., ditto, 4–VIII–1987; 1 ex., ditto, 8–VIII–1987; 1 ex., Brumas, 24–VII–1987; 4 exs., ditto, 26–VII–1987; 11 exs., ditto, 27–VII–1987.

Distribution. Borneo.

Onthophagus (Parascatonomus) sarawacus HAROLD

(Fig. 11)

Onthophagus sarawacus HAROLD, 1877, Annli. Mus. civ. Stor. nat. Genova, **10**, p. 79. —— LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 75. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 275. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 52. —— BALTHASAR 1935, Fol. zool. hydrob., **8**, p. 334. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.
Onthophagus (Onthophagus) sarawacus: PAULIAN, 1945, Fn. Emp. fr., **3**, p. 111. —— BALTHASAR, 1963, Monogr. Scarab., **2**, p. 511.
Onthophagus (Parascatonomus) sarawacus: NOMURA, 1976, Ent. Rev. Japan, **26**, p. 26.

Specimen examined. 1 ex., Sepilok, 7–VIII–1987.

Distribution. Borneo, Batoe Is.

Onthophagus (*Parascatonomus*) *semiaureus* LANSBERGE

Onthophagus semiaureus LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 75. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 275; 1924, Philip. J. Sci., **24**, p. 670.
Onthophagus (*Onthophagus*) *semiaureus*: BALTHASAR, 1963, Monogr. Scarab., **2**, p. 517.
Onthophagus (*Parascatonomus*) *semiaureus*: NOMURA, 1976, Ent. Rev. Japan, **26**, p. 26.

Specimens examined. 1 ex., Sepilok, 5–VIII–1987; 1 ex., ditto, 7–VIII–1987.
Distribution. Sumatra, Java, Borneo, Philippines, Sulawesi.

Onthophagus (*Parascatonomus*) *rudis* SHARP

(Fig. 12)

Onthophagus rudis SHARP, 1875, Coleopt. Hefte, **14**, p. 58. —— LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 75. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 271. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 41. —— BOUCOMONT, 1924, Philip. J. Sci., **24**, p. 669; 1925, Bull. Soc. ent. Fr., **1925**, p. 153 —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 185. —— BALTHASAR, 1935, Fol. zool. hydrob., **8**, p. 329. —— HANSKI, 1983, Acta zool. fenn., **167**, p. 45.
Onthophagus (*Onthophagus*) *rudis*: PAULIAN, 1945, Fn. Emp. fr., **3**, p. 102. —— BALTHASAR, 1963, Monogr. Scarab., **2**, p. 505. —— ZUNINO, 1976, Boll. Mus. zool. Univ. Torino, **7**, p. 94. —— KRIKKEN, 1986, Zool. Med., Leyden, **60**, p. 280.
Onthophagus (*Parascatonomus*) *rudis*: NOMURA, 1976, Ent. Rev. Japan, **26**, p. 26. —— KABAKOV & JANUSHEV., 1983, Fn. Ekol. Vietnama, Moscow, p. 161. —— OCHI & ARAYA, 1992, G. it. ent., **6**, p. 92.
Onthophagus foveolatus HAROLD, 1877, Annli. Mus. civ. Stor. nat. Genova, **10**, p. 68. —— OCHI & ARAYA, 1992, G. it. ent., **6**, p. 92.

Specimens examined. 1 ex., Sepilok, 5–VIII–1987; 1 ex., ditto, 8–VIII–1987.
Distribution. Northern India, Laos, Vietnam, southern China, Malay Peninsula, Sumatra, Nias, Java, Lombok, Borneo, Palawan.

Onthophagus (*Serrophorus*) *sagittarius* (FABRICIUS)

(Fig. 13)

Scarabaeus sagittarius FABRICIUS, 1775, Syst. Ent., p. 24; 1781, Spec. Ins., p. 26.
Copris sagittarius: FABRICIUS, 1801, Syst. Eleuth., 1, p. 41.
Onthophagus sagittarius: LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 71. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 287. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 56. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 304. —— BALTHASAR, 1935, Fol. zool. hydrob., **8**, p. 342.
Onthophagus (*Onthophagus*) *sagittarius*: PAULIAN, 1945, Fn. Emp. fr., **3**, p. 120. —— PALESTRINI, 1980, Boll. Mus. zool. Univ. Torino, **1980**, p. 16.
Onthophagus (*Serrophorus*) *sagittarius*: BALTHASAR, 1963, Monogr. Scarab., **2**, p. 509. —— BALTHASAR & CHÛJÔ, 1964, Coleopt. S. E. Asia, **3**, p. 184. —— KABAKOV & JANUSHEV, 1983, Fn. Ekol. Vietnama, Moscow, p. 160. —— MASUMOTO, 1988, Ent. Rev. Japan, **43**, p. 140.
Scarabaeus oryx FABRICIUS, 1792, Ent. Syst., p. 56.
Scarabaeus javanus FABRICIUS, 1801, Syst. Eleuth., 1, p. 33.
Copris erectus WIEDEMANN, 1819, Zool. Mag., 1, p. 157.

Copris obtusus WIEDEMANN, 1819, Zool. Mag., **1**, p. 158.

Specimens examined. 22 exs., Sungai Manila, 5–VIII–1987; 2 exs., ditto, 7–VIII–1987; 27 exs., ditto, 9–VIII–1987; 208 exs., Keningau, 18–VIII–1987.

Distribution. India, Myanmar, Indochina, southern China, Malay Peninsula, Sumatra, Java, Timor, Borneo (new record).

Onthophagus (*Serrophorus*) *laevis laevis* HAROLD

(Fig. 14)

Onthophagus laevis HAROLD, 1880, Not. Leyden Mus., **2**, p. 194; 1886, Coleopt. Midden Sumatra, p. 26. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 276. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 52. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 171.

Onthophagus (*Onthophagus*) *laevis*: PAULIAN, 1945, Fn. Emp. fr., **3**, p. 109. —— BALTHASAR, 1963, Monogr. Scarab., **2**, p. 412.

Onthophagus laevis ssp. *stevensi* ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 172. —— BALTHASAR, 1963, Monogr. Scarab., **2**, p. 412.

Onthophagus laevis ssp. *lampromelas* FAIRMAIRE, 1891, C.-R. Soc. ent. Belg., **35**, p. 193. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 51. —— BALTHASAR, 1935, Fol. zool. hydrob., **8**, p. 336; 1963, Monogr. Scarab., **2**, p. 412. —— PAULIAN, 1945, Fn. Emp. fr., **3**, p. 109.

Onthophagus laevis ssp. *asiaticus* BOUCOMONT, 1919, Bull. Mus. Hist. nat. Paris, **25**, p. 604. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 51. —— ARROW, 1931, Fn. Brit. Ind., Coleopt. Lamellic., **3**, p. 172. —— BALTHASAR, 1935, Fol. zool. hydrob., **8**, p. 336; 1963, Monogr. Scarab., **2**, p. 412. —— PAULIAN, 1945, Fn. Emp. fr., **3**, p. 110.

Onthophagus (*Serrophorus*) *laevis asiaticus*: KABAKOV & JANUSHEV, 1983, Fn. Ekol. Vietnama, Moscow, p. 160.

Specimens examined. 2 exs., Sepilok, 1–VIII–1987; 1 ex., ditto, 8–VIII–1987.

Distribution. Northern India, Indochina, China, Malay Peninsula, Sumatra, Java, Borneo.

Notes. This species has been treated as a member of the subgenus *Onthophagus* s. str. Recently, KABAKOV and JANUSHEV (1983) assigned it to the subgenus *Serrophorus*. We follow their arrangement herein because *O. laevis* has the antennal scape bearing weak but distinct serration on the anterior side.

Onthophagus (*Serrophorus*) *mulleri* LANSBERGE

(Fig. 15)

Onthophagus mulleri LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 56. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 271. —— BOUCOMONT & GILLET, 1921, Fn. ent. Indoc. fr. Scarab., p. 52.

Onthophagus (*Pseudonthophagus*) *mulleri*: BALTHASAR, 1963, Monogr. Scarab., **2**, p. 345.

Onthophagus (*Parascatonomus*) *mulleri*: PALESTRINI, 1982, Boll. ent. ital., Genova, **114**, p. 98.

Onthophagus oblongomaculatus LANSBERGE, 1883, Not. Leyden Mus., **5**, p. 79. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 272.

Onthophagus spilophorus HAROLD, 1886, Berl. ent. Z., **30**, p. 144. —— BOUCOMONT, 1914, Annls. Soc. ent. Fr., **83**, p. 272.

Specimens examined. 1 ex., Sepilok, 31–VII–1987; 5 exs., ditto, 1–VIII–1987; 2

exs., ditto, 2–VIII–1987; 31 exs., ditto, 4–VIII–1987; 14 exs., ditto, 5–VIII–1987; 4 exs., ditto, 6–VIII–1987; 13 exs., ditto, 7–VIII–1987; 9 exs., ditto, 8–VIII–1987; 1 ex., ditto, 12–VIII–1987; 6 exs., Brumas, 23–VII–1987; 2 exs., ditto, 24–VII–1987; 3 exs., ditto, 26–VII–1987; 4 exs., ditto, 27–VII–1987.

Distribution. Sumatra, Java, Borneo, Banka Is., Batoe Is.

Notes. This species has been assigned to the subgenus *Pseudonthophagus* (BALTHASAR, 1963). However, PALESTRINI (1982) regarded *Pseudonthophagus* as a junior synonym of the subgenus *Parascatonomus*. When OCHI and ARAYA (1992) redefined the subgenus *Parascatonomus*, they revealed that the members of *Parascatonomus* have no serration on the anterior side of the antennal scape excepting *O. mulleri* which has the antennal scape bearing very distinct serration on the anterior side. Thus, we regarded *O. mulleri* as a member of the subgenus *Serrophorus*.

Onthophagus (*Phanaeomorphus*) *bangueyensis* BOUCOMONT

(Fig. 16)

Onthophagus bangueyensis BOUCOMONT, 1914, Annls, Soc. ent. Fr., **83**, p. 317; 1924, Philip. J. Sci., **24**, p. 670.

Onthophagus (*Onthophagus*) *bangueyensis*: BALTHASAR, 1963, Monogr. Scarab., **2**, p. 286.

Specimens examined. 1 ex., Sepilok, 2–VIII–1987; 4 exs., ditto, 6–VIII–1987; 4 exs., ditto, 7–VIII–1987; 5 exs., ditto, 8–VIII–1987.

Distribution. Borneo, Bangueye Is., Philippines.

Notes. This species has been classified as a member of the subgenus *Onthophagus*. However, it has a distinct triangular disc on the pronotum, a diagnostic character of the subgenus *Phanaeomorphus*. Thus, we regard *O. bangueyensis* as a member of the subgenus *Phanaeomorphus*. Judging from the morphological features, it seems closely related to *Onthophagus* (*Phanaeomorphus*) *tagal* BOUCOMONT, 1924 from the Philippines.

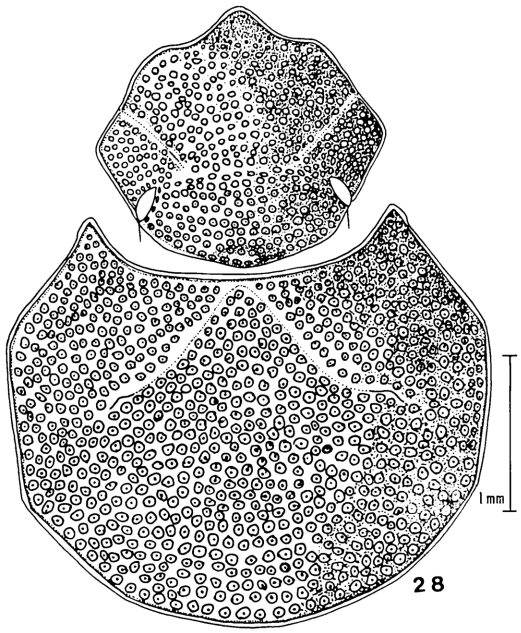
Onthophagus (*Phanaeomorphus*) *johkii* sp. nov.

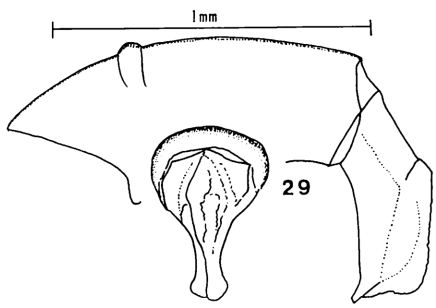
(Figs. 17, 28, 29)

Length: 6.7 mm (n=1); width: 3.5 mm (n=1).

Male. Body small-sized, elongate oval, strongly convex; dorsal side mat, somewhat densely clothed with very short yellowish white hairs, except for glabrous head; ventral side weakly shining, also clothed with yellowish white hairs. Color blackish brown, with mouth parts, palpi, antennae, all legs, and abdomen reddish brown.

Head almost simple, irregularly polygonal in outline, about 1.18 times as wide as long (n=1); clypeus strongly produced forward as a reflexed rounded lobe at the middle, with sides of the lobe a little roundly expanded anteriorly; clypeo-frontal suture completely effaced; genal sutures fine, not carinate; genae produced laterally, with margin angulate in anterior third; vertex slightly elevated medially in the posterior-





Figs. 28–29. *Onthophagus* (*Phanaeomorphus*) *johkii* OCHI et KON, sp. nov., ♂; head and pronotum, dorsal view (28); aedeagus, lateral and dorsal views (29).

most part; surface microgranulose except for the shining median rounded lobe, and closely covered with coarse punctures, the punctures small and sparse at anterior part of clypeus, and changing into ocellate ones toward vertex.

Pronotum strongly convex, about 1.43 times as wide as long (n=1); anterior margin emarginate and bordered; lateral margins almost straight anteriorly, very weakly sinuate posteriorly; basal margin gently rounded; anterior angles strongly produced and sharp, with apices a little expanded outward; posterior angles obtuse; disc declivous toward anterior angles, with upper edge of the declivity forming a barely perceptible triangular blunt ridge which is slightly tuberculate on each end;

surface very densely covered with rather coarse ocellate punctures.

Elytra about 1.37 times as wide as long (n=1); striae shining, very widely but shallowly impressed and distinctly ridged on both sides with strial punctures transverse, slightly crenulate intervals; the 7th stria not distinctly curved; intervals flat, clearly microgranulose and closely covered with rather small asperate punctures.

Pygidium well convex, very densely covered with ocellate punctures. Metasternum with a longitudinal impression in posterior two-thirds, densely covered with ocellate punctures, the punctures irregularly close and uneven in median part. Protibiae relatively slender, gently incurved, with four lateral teeth; the 1st tooth sharp, the 2nd a little longer than the 1st, the 3rd shorter than the 2nd and widest in them, and the 4th small; the interspaces between the 2nd and 3rd, and the 3rd and 4th without small denticle in right tibia and each with a small denticle in left tibia.

Aedeagus long; parameres narrow at base from lateral aspect, with lateral margins strongly constricted before the middle and expanded apically from dorsal aspect.

Female unknown.

Type series. Holotype: male, Sepilok, Sabah, Borneo, 5-VIII-1987, M. KON leg. The holotype is deposited in the collection of the Osaka Museum of Natural History, Osaka, Japan.

Etymology. This species is dedicated to Dr. Y. JOHKI of Showa Women's Junior College, who has been giving us invaluable advice and encouragement.

Notes. The present new species is closely related to *Onthophagus mentaveiensis* BOUCOMONT from Mentavei Is. and the Malay Peninsula, but differs from the latter in the following points: in the male, 1) body distinctly robust with elytra shorter; 2) clypeal margin distinctly expanded on each side of the median reflexed lobe, while in *O. mentaveiensis*, it is almost straight or weakly rounded; 3) elytra with intervals bearing more crowded and smaller granules.

[**Note**] Acknowledgments, Japanese abstract and references will be given at the end of the next part.

Elytra, Tokyo, **22** (2): 299–313, Nov. 15, 1994

Melolonthidae (Coleoptera) from Thailand, I

Takeshi ITOH

Higashi-naruo-chô 2–1–13–212, Nishinomiya, Hyôgo, 663 Japan

Abstract Nine Siamese species of the melolonthine genus *Sophrops* FAIRMAIRE are dealt with. Five known species are commented and 4 new species, *S. rotundicollis*, *S. opacidorsalis*, *S. excisus* and *S. pallidus* are described.

Introduction

To date, we have had little systematic knowledge about the Siamese fauna of the Melolonthidae, especially of Melolonthinae, though there are several old records or descriptions of Indochinese and Chinese species of the family. Lately, chances have been increasing to look over Thai materials of the Melolonthidae, and it can be said that we are ready to study them. Since I began to pay attention especially to the Melolonthinae of this country, it has gradually become apparent that they include many species different from the ones previously known from the neighboring countries in spite of their close similarity.

In this series of papers, I will report new knowledge gained on the Melolonthinae of Thailand based mainly on materials of the collection in the Entomological Laboratory of the University of Osaka Prefecture and on those of my collection obtained from personal collectors. At first, I am going to report the species of the genus *Sophrops* FAIRMAIRE.

The abbreviations used herein are as follows: CL – length of clypeus; CW – width of clypeus; PL – length of pronotum; PW – greatest width of pronotum; PAW – pronotal width at the anterior margin; FW – greatest width of metafemur; FL – length of metafemur; IN – interocular distance; HW – head width; A – arithmetic mean; [OPU] – collection of the Entomological Laboratory of the University of Osaka Prefecture; NSMT – collection of the National Science Museum (Nat. Hist.), Tokyo; ZMHU – collection of the Zoological Museum (Natural History) of Humboldt University, Berlin.

Before going further, I wish to express my hearty gratitude to Prof. Dr. S. MORIUTI of the Entomological Laboratory of the University of Osaka Prefecture, Prof. Dr. F. HIEKE, Prof. Dr. M. UHLIG and Mr. J. SCHULZE of the Zoological Museum of Humboldt University, Berlin, and Messrs. M. SAWAI, K. WADA, H. HIRASAWA and Dr. K. KAWANO for their kindness extended to me in various ways.

1. *Sophrops bituberculatus* (MOSER, 1908), comb. nov.

(Figs. 1, 16, 27, 36, 39, 41, 50–51, 68)

Brahmina bituberculata MOSER, 1908, 359–360 (Laos); FREY, 1972, 354.
Sophrops kadleci FREY, 1969, 110–111; 1972, 354 [synonymized].

Diagnosis. Male:— IN/HW 0.66–0.69 (A 0.67) in 10 exs. Occipital area punctate regularly, densely and wholly behind vertex. Antennal club longer than the preceding 5 segments combined. Mentum with 2 dull longitudinal ridges along the both sides; anterior margin notched. Last abdominal segment with a dull transverse ridge along the anterior margin. Mesofemur slightly shining, coarsely and less densely punctate and well reflexed along the upper margin; upper margin sharply declivous. Metafemur slender, opaque at least on the upper half, FW/FL 0.30–0.32 (A 0.31) in 10 exs.; surface coarsely punctate, with a row of short bristles rather regularly arranged from the base toward the apex, the bristles being about 1/5 times the width of metafemur. Protibia with a sharp carina from the base toward the apex on the dorsal surface. Longer one of metatibial spurs almost as long as the 1st metatarsal segment or slightly shorter than that, the latter being slightly shorter than the 2nd. Claw with a weakly truncate median tooth.

Female:— IN/HW 0.65–0.71 (A 0.68) in 10 exs. Occipital area punctate in the same way as in male. Antennal club longer than the preceding 5 segments combined. Pronotum often with a pair of impunctate small areas near the anterior margin. Last abdominal segment without conspicuous transverse ridge along the anterior margin. Metafemur entirely shining, FW/FL 0.33–0.36 (A 0.34) in 10 exs.; bristles on the surface about 1/4 times the width of metafemur. Longer one of metatibial spurs distinctly longer than the 1st metatarsal segment, the latter distinctly shorter than the 2nd.

Distribution. Laos, Thailand [new record].

Specimens examined. 1 ♀, Doi Pa Muang, Hang Chat, Lampang Prov., N. Thailand, 19–V–1985, M. SAWAI leg.; 24 ♂♂, 42 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14～15–V–1983 [OPU]; 1 ♂, 1 ♀, same locality, 17–V–1983 [OPU]; 1 ♂, Sanean Salai, Nan Prov., N. Thailand, S. OHMOMO leg.

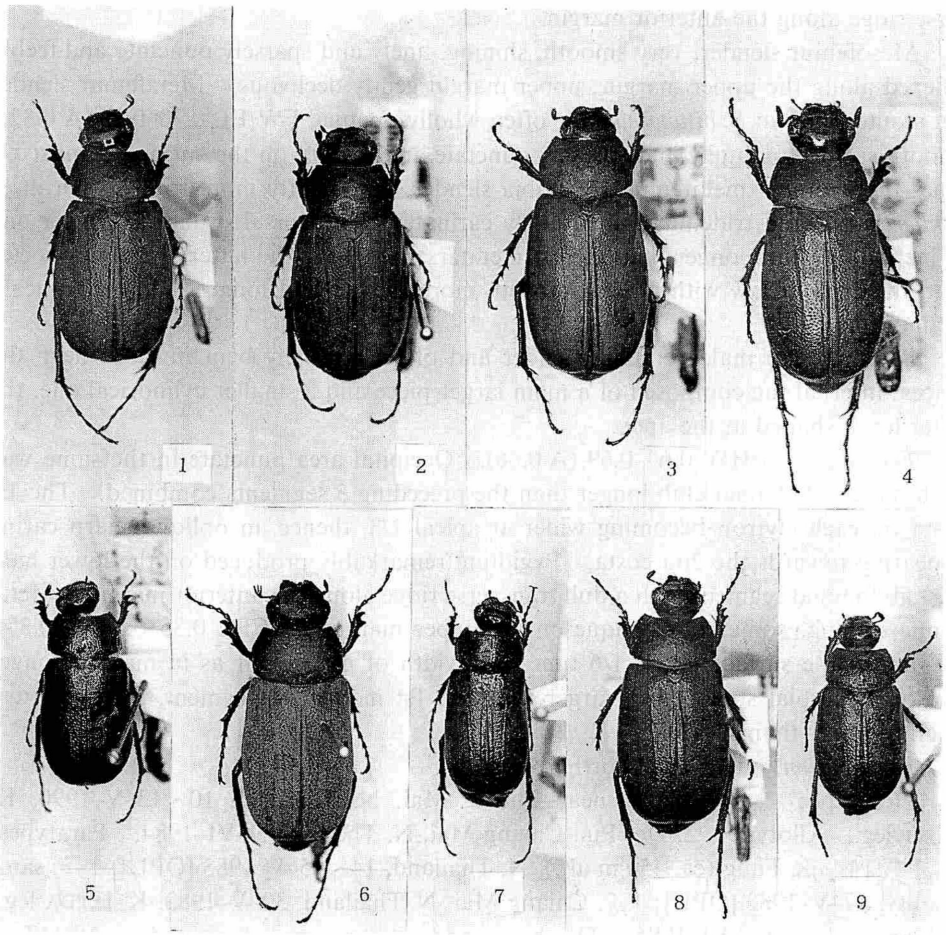
2. *Sophrops rotundicollis* T. ITOH, sp. nov.

(Figs. 2, 10, 17, 28, 37, 40, 42, 52–53, 69)

Description. Length: 13.7–18.0 mm.

Male:— Body elongate-oval. Head, antennae, palpi pronotum and legs dark reddish brown; elytra brown to dark brown; pygidium and abdomen yellowish brown. Head and pronotum shining, while the elytra are opaque.

Clypeus bilobed; anterior margin well emarginate. CW/CL 2.9–3.8 (A 3.4). Frons flat, densely punctate. IN/HW 0.62–0.66 (A 0.64). Occipital area punctate regularly, densely and wholly behind vertex. Antennal club longer than the preceding



Figs. 1–9. —— 1, *Sophrops bituberculatus* (MOSER), comb. nov.; 2, *S. rotundicollis* sp. nov.; 3, *S. foveatus* (MOSER), comb. nov.; 4, *S. brunneus* (MOSER), comb. nov.; 5, *S. promeanus* (MOSER), comb. nov. [holotype]; 6, *S. opacidorsalis* sp. nov.; 7, *S. excisus* sp. nov.; 8, *S. tonkinensis* (MOSER), comb. nov.; 9, *S. pallidus* sp. nov.

6 segments combined. Mentum with 2 longitudinal, more or less sharp carinae along the both sides, the carinae forming a semblance of a shallow concavity on the disc; anterior margin distinctly notched.

Pronotum very convex and seemingly round, punctate regularly and slightly less densely, the distance between two close punctures on the disc much larger than their diameters; anterior margin rimmed; anterior angle subrectangular and posterior one more obtuse; lateral margin gently curved just at the middle; disc without an impunctate longitudinal median line. Scutellum generally slightly punctate. Each elytron with 4 weak costae and a sutural one; the 1st one gradually vanished from the apical 1/3. Pygidium slightly produced. Last abdominal segment with a dull trans-

verse ridge along the anterior margin.

Mesofemur slender, very smooth, shining, finely and sparsely punctate and feebly reflexed along the upper margin; upper margin gently declivous. Metafemur slender but stouter than in *S. bituberculatus*, often wholly opaque, FW/FL 0.30–0.33 (A 0.32); smooth surface minutely and sparsely punctate and bristles on the surface at most 1/6 times the width of metafemur. Protibia slender, but slightly more robust than in *S. bituberculatus* and tridentate and weakly carinate on the dorsal surface. Longer one of metatibial spurs longer than the 1st metatarsal segment, the latter distinctly shorter than the 2nd. Claw with an apical tooth more slender and longer than the truncate median one.

Parameres of male genitalia slender and often gradually bent inwards near the apices; internal sac composed of a main larger piece and a smaller cylindrical one, the latter hook-shaped at the apex.

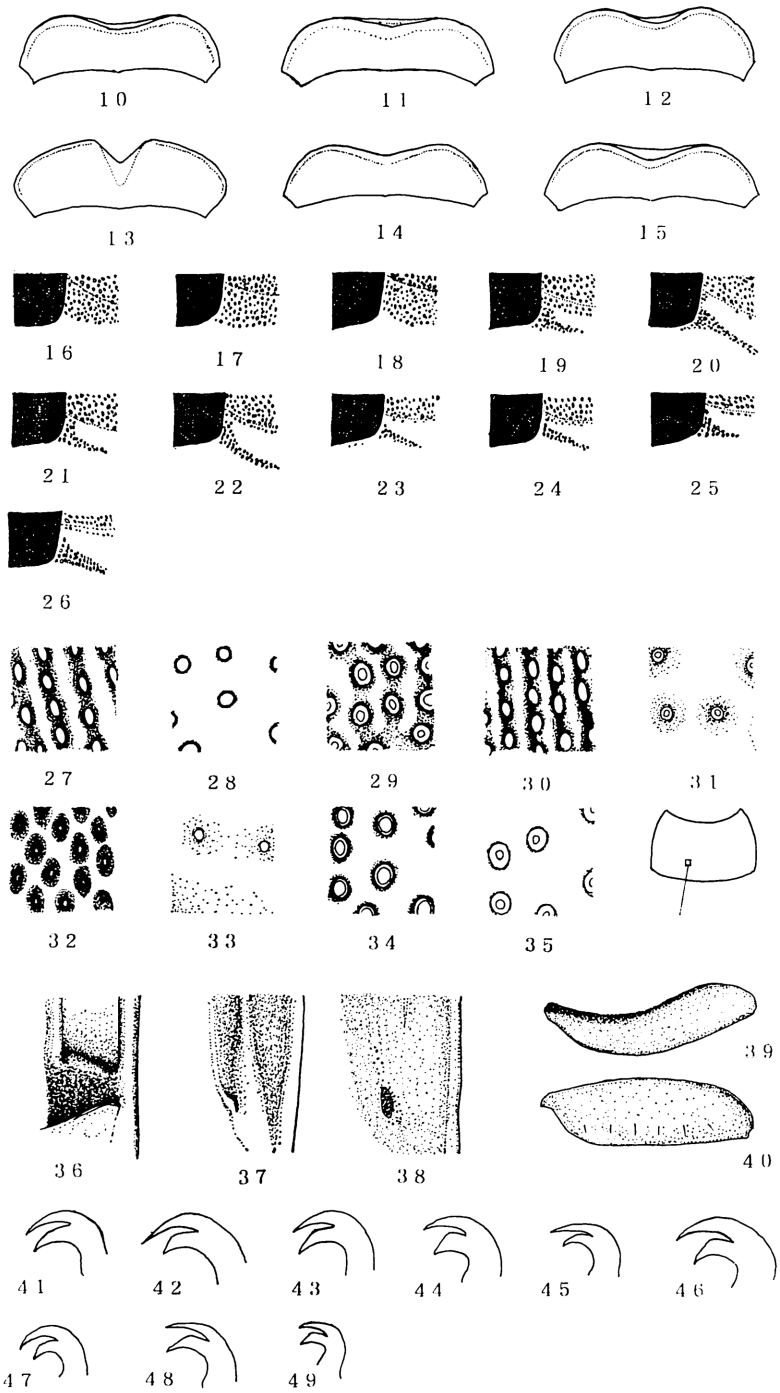
Female:— IN/HW 0.64–0.69 (A 0.66). Occipital area punctate in the same way as in male. Antennal club longer than the preceding 5 segments combined. The 1st costa on each elytron becoming wider at apical 1/3, thence an oblique sharp carina appearing towards the 2nd costa. Pygidium remarkably produced on the lower half. Last abdominal segment with a dull transverse ridge along the anterior margin. Metafemur shining, sometimes opaque on the upper margin, FW/FL 0.35–0.38 (A 0.37); bristles on the surface about 1/6 times the width of metafemur as in male. Longer one of metatibial spurs much larger than the 1st metatarsal segment, the latter distinctly shorter than the 2nd.

Distribution. Thailand (northern region).

Holotype: ♂, Doi Sang, near Chiang Mai, N. Thailand, 10～13–V–1990, K. KUME leg. Allotype: ♀, Doi Pui, Chiang Mai, N. Thailand, 9–VI–1984. Paratypes: 15 ♂♂, 14 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14～15–V–1983 [OPU]; 1 ♂, same locality, 17–V–1983 [OPU]; 1 ♂, Chiang Mai, N. Thailand, 30–V–1983, K. IKEDA leg.; 1 ♂, same locality, VI–1985. The holo- and allotypes are deposited in NSMT, 3 paratypes in ZMHU, 20 paratypes in OPU and 9 paratypes in the author's collection.

Notes. The present species belongs to what BRENSKE calls "*Brahmina abscessa* group" and is closely allied to *Sophrops abscessus* (BRENSKE, 1892), comb. nov. In

Figs. 10–49. —— 10–15. Clypeus (♂). —— 10, *S. rotundicollis* sp. nov.; 11, *S. promeanus*; 12, *S. opacidorsalis* sp. nov.; 13, *S. excisus* sp. nov.; 14, *S. tonkinensis*; 15, *S. pallidus* sp. nov. —— 16–26. Distribution of punctures in occipital area. —— 16, *S. bituberculatus*, ♂; 17, *S. rotundicollis* sp. nov., ♂; 18, *S. foveatus*, ♂; 19, *S. brunneus*, ♂; 20, same, ♀; 21, *S. opacidorsalis* sp. nov., ♂; 22, same, ♀; 23, *S. tonkinensis*, ♂; 24, same, ♀; 25, *S. pallidus* sp. nov., ♂; 26, same, ♀ —— 27–35. Punctures on pronotum. —— 27, *S. bituberculatus*; 28, *S. rotundicollis* sp. nov.; 29, *S. foveatus*; 30, *S. brunneus*; 31, *S. promeanus*; 32, *S. opacidorsalis* sp. nov.; 33, *S. excisus* sp. nov.; 34, *S. tonkinensis*; 35, *S. pallidus* sp. nov. —— 36–38. Apical 1/4–1/3 of elytron in female. —— 36, *S. bituberculatus*; 37, *S. rotundicollis* sp. nov.; 38, *S. foveatus*. —— 39, Mesofemur [*S. bituberculatus*, ♂]; 40, metafemur [*S. rotundicollis* sp. nov., ♂]. —— 41–49. Inner claw of protarsus in male. —— 41, *S. bituberculatus*; 42, *S. rotundicollis* sp. nov.; 43, *S. foveatus*; 44, *S. brunneus*; 45, *S. promeanus*; 46, *S. opacidorsalis* sp. nov.; 47, *S. excisus* sp. nov.; 48, *S. tonkinensis*; 49, *S. pallidus* sp. nov.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this new species, however, the pronotum is more sparsely punctate and not rugosely so, and devoid of an impunctate median line on the disc. The male genitalia are apparently smaller in size than those of *S. abscessus*. It is also allied to *S. sjoestedti* (MOSER, 1921), comb. nov., but it is dark reddish brown in colour and the interocular distance for head width is larger than that of the latter.

3. ***Sophrops foveatus*** (MOSER, 1908), comb. nov.

(Figs. 3, 18, 29, 38, 43, 54–55, 70 (a)–(b))

Brahmina foveata MOSER, 1908, 476–477 (Tonkin); FREY, 1972, 354.

Diagnosis. Male:— IN/HW 0.64–0.67 (A 0.65) in 10 exs. Occipital area punctate regularly, densely and wholly behind vertex. Antennal club almost as long as the preceding 6 segments combined. Mentum with 2 dull longitudinal ridges along the both sides; anterior margin distinctly notched.

Last abdominal segment with a dull transverse ridge along the anterior margin.

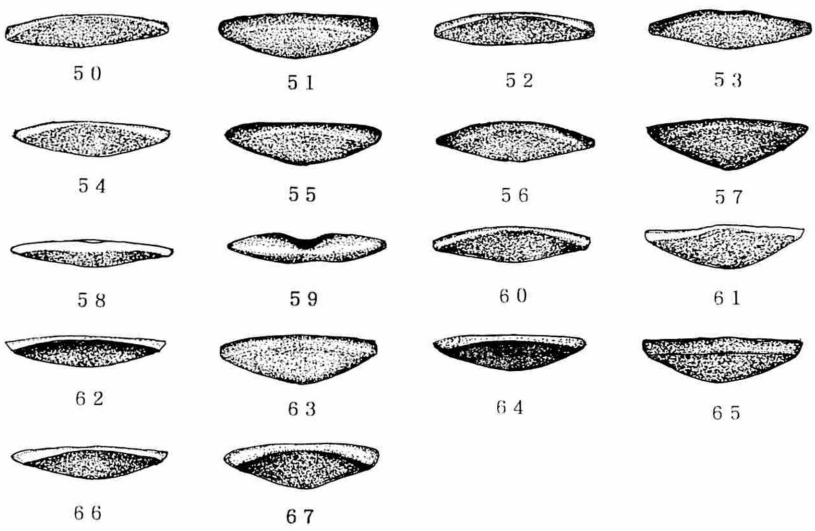
Mesofemur shining, sparsely punctate and feebly reflexed along the upper margin; upper margin gently declivous. Metafemur slender, opaque on the upper half, FW/FL 0.28–0.30 (A 0.29) in 10 exs.: surface smooth and bristles on the surface 1/6–1/4 times the width of metafemur. Longer one of metatibial spurs almost as long as the 1st metatarsal segment, the latter being slightly shorter than the 2nd. Claw with a truncate median tooth.

Female:— IN/HW 0.65–0.70 (A 0.67) in 10 exs. Occipital area punctate in the same way as in male. Antennal club as long as the preceding 6 segments combined or shorter than that. Last abdominal segment without conspicuous transverse ridge along the anterior margin. Metafemur shining except on the upper margin, FW/FL 0.33–0.36 (A 0.35) in 10 exs.; bristles on the surface about 1/4 times the width of metafemur. Longer one of metatibial spurs longer than the 1st metatarsal segment, the latter being distinctly shorter than the 2nd.

Distribution. Vietnam, Laos [new record], Thailand [new record].

Specimens examined. 1 ♂, 5 ♀♀, Samneua, NE. Laos, 28–V–1992, Y. MIYAKE leg.; 1 ♀, Doi Suthep, near Chiang Mai, N. Thailand, 23–V–1980, M. TAO leg.; 2 ♂♂, same locality, 1～4–VI–1980, same collector; 1 ♀, same locality, 23–V–1988, same collector; 1 ♂, same locality, 29–V–1982, A. NISHIYAMA leg.; 2 ♂♂, 2 ♀♀, same locality, 3–V–1988, A. YAMASHITA leg.; 1 ♂, same locality, 22–V–1986; 2♂♂, same

Figs. 50–77. —— 50–67. Last abdominal segment. —— 50, *S. bituberculatus*, ♂; 51, same, ♀; 52, *S. rotundicollis* sp. nov., ♂; 53, same, ♀; 54, *S. foveatus*, ♂; 55, same, ♀; 56, *S. brunneus*, ♂; 57, same, ♀; 58, *S. promeanus*, ♂; 59, same, ♀; 60, *S. opacidorsalis* sp. nov., ♂; 61, same, ♀; 62, *S. excisus* sp. nov., ♂; 63, same, ♀; 64, *S. tonkinensis*, ♂; 65, same, ♀; 66, *S. pallidus* sp. nov., ♂; 67, same, ♀. —— 68–76. Male genitalia. —— 68, *S. bituberculatus*; 69, *S. rotundicollis* sp. nov.; 70 (a–b), *S. foveatus*; 71 (a–b), *S. brunneus*; 72, *S. promeanus*; 73 (a–b), *S. opacidorsalis* sp. nov.; 74 (a–b), *S. excisus* sp. nov.; 75, *S. tonkinensis*; 76 (a–b), *S. pallidus* sp. nov. —— 77. Median lobe of female genitalia in *S. brunneus*.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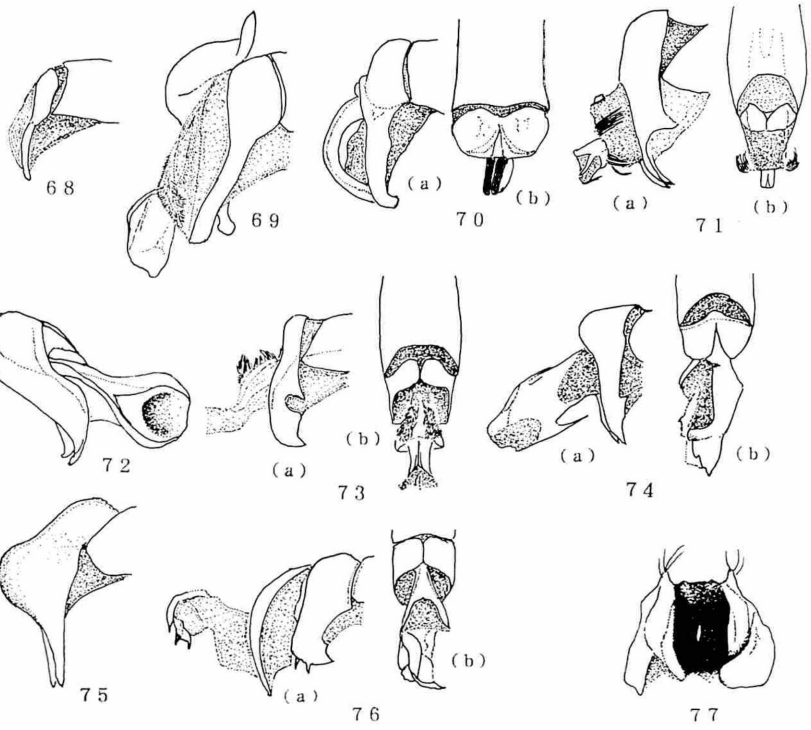
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locality, 23～29-V-1983, M. SAWAI leg.: 2 ♂♂, Phuping Palace, Chiang Mai, N. Thailand, 20～21-V-1985, same collector; 4 ♂♂, 4 ♀♀, Chiang Mai, N. Thailand, IV～VI-1985, N. KOYAMA leg.; 2 ♂♂, same locality, VI-1986, same collector; 1 ♂, 1 ♀, Doi Sang, Thailand, 10～13-V-1990, K. KUME leg.: 1 ♂, 1 ♀, Maeta Teak replantation Forest, Lang Phrae Prov., 19-V-1985, M. SAWAI leg.; 1 ♀, Doi Pa Muang, Lampang Prov., 18-V-1985, same collector; 23 ♂♂, 27 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14～15-V-1983 [OPU]; 1 ♂, 1 ♀, same locality, 17-V-1983 [OPU]; 2 ♂♂, 1 ♀, Doi Chiang Khian, 27～29-V-1983 [OPU]: 6 ♂♂, 9 ♀♀, Bang Nang Bang, near Saiyok, W. Thailand, 11～15-V-1985, M. SAWAI leg.; 1 ♂, Koh Anem Village, Ban Rai, Kanchanaburi Prov., 13～14-V-1985, same collector.

Notes. This species also belongs to what BRENSKE calls "*Brahmina abscessa* group". It seems widely distributed within the Indochinese Peninsula.

4. ***Sophrops brunneus*** (MOSER, 1915), comb. nov.

(Figs. 4, 19-20, 30, 44, 56-57, 71 (a)-(b), 77)

Microtrichia brunnea MOSER, 1915, 585-586 (Yunnan); FREY, 1972, 354.

Diagnosis. Male:— IN/HW 0.64-0.69 (A 0.66). Occipital area usually bearing a patch of punctures near the eye behind vertex, but sometimes bearing more extensive band of punctures towards the base. Antennal club much longer than the preceding 6 segments combined. Mentum with 2 sharp longitudinal carinae along the both sides. PAW/PW 0.70-0.75 (A 0.73), this parameter being higher in Siamese specimens than in topotypical specimens. Each elytron with a conspicuous marginal membrane.

Abdomen shining, smooth and glabrous in the main central area. Last abdominal segment with a dull transverse ridge along the anterior margin. Pygidium moderately produced.

Mesofemur slender, smooth, shining, punctate finely and slightly less densely, and almost straight along the upper margin; upper margin sharply declivous. Metafemur slender, shining, FW/FL 0.26-0.30 (A 0.28); bristles on the surface 1/7-1/6 times the width of metafemur. Longer one of metatibial spurs almost as long as the 1st metatarsal segment, the latter slightly shorter than the 2nd. Claw with an apical tooth longer than the sharply truncate median one.

Internal sac of male genitalia with a cylindrical piece and several bundles of bristles.

Female:— IN/HW 0.67-0.71 (A 0.69). Occipital area bearing more extensive band of punctures near the eye behind vertex towards the base. Antennal club about as long as the preceding 6 segments combined. PAW/PW 0.65-0.72 (A 0.70). Last abdominal segment without conspicuous transverse ridge. Metafemur stout, shining, FW/FL 0.32-0.35 (A 0.33); bristles on the surface 1/7-1/5 times the width of metafemur. Longer one of metatibial spurs much larger than the 1st metatarsal segment, the latter distinctly shorter than the 2nd.

Distribution. China, Thailand [new record], Laos [new record].

Specimens examined. 3 ♂♂, 1 ♀, Fang (ca. 450 m alt.), N. Thailand, 14～15-

V–1983 [OPU]; 1 ♀, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]; 1 ♂, Doi Suthep, near Chiang Mai, 1–VI–1980, M. TAO leg.; 1 ♂, 1 ♀, same locality, 29–V–1983, M. SAWAI leg.; 1 ♀, same locality, 3–V–1988, A. YAMASHITA leg.; 1 ♂, Chiang Mai, VI–1985, N. KOYAMA leg.; 1 ♀, Phuping Palace, Chiang Mai, 20～21–V–1985, M. SAWAI leg.; 1 ♂, 1 ♀, Erawan Resort, near Chiang Mai, 22–IV–1992, K. KAWANO leg.; 1 ♂, Sanean Salai, Nan Prov., N. Thailand, 17–V–1993, S. OHMOMO leg.; 1 ♀, Samneua, NE. Laos, 28–V–1992, Y. MIYAKE leg.; 1 ♂, "Yunnan", "*Microtrichia brunnea* MOS. Type ♂", "Zool. Mus. Berlin"; 1 ♂, same locality, "Zool. Mus. Berlin"; 1 ♀, same locality, "*Microtrichia brunnea* MOS. Type ♀", "Zool. Mus. Berlin"; 1 ♀, same locality, "Zool. Mus. Berlin".

Notes. This species is closely allied to *S. sericeicollis* (MOSER, 1915), comb. nov., and *S. chinensis* (BRENSKE, 1892), comb. nov., but is distinguishable from the former by the following points:

1. Antennal club distinctly longer than the preceding 6 segments combined;
2. Shape of the paramere of male genitalia;
3. Shape of the median lobe of female genitalia;

and from the latter by the following points:

1. Shape of the paramere of male genitalia;
2. Pronotal disc more or less longitudinally rugose.

5. ***Sophrops promeanus*** (MOSER, 1918), comb. nov.

(Figs. 5, 11, 31, 45, 58–59, 72)

Microtrichia promeana MOSER, 1918, 244–245 (Burmah: Prome); FREY, 1972, 355.

Diagnosis. Male:— Clypeus weakly emarginate. Frons flat. Vertex not carinate but sharply declivous anteriad. IN/HW 0.59–0.63 (A 0.61). Occipital area not punctate at all and smooth. Antennal club distinctly longer than the preceding 6 segments combined. Apical segment of maxillary palpus normally spindle-shaped, not extremely swollen. Mentum without sharp longitudinal carinae along the both sides; anterior margin not or feebly notched.

Pronotum with a rectangular anterior angle; antero-lateral margin reflexed near the anterior angle. Last abdominal segment with a relatively dull transverse ridge.

Mesofemur shining, less densely punctate and feebly reflexed along the upper margin; upper margin gently declivous. Metafemur relatively stout and shining, FW/FL 0.30–0.32 (A 0.31); smooth surface less densely and coarsely punctate; bristles on the surface about 1/5–1/4 times the width of metafemur. Longer one of metatibial spurs distinctly or slightly longer than the 1st metatarsal segment, the latter being distinctly shorter than the 2nd. Claw with an apical tooth almost as long as the median one or longer than that; the latter seemingly truncate.

Internal sac of male genitalia with a spoon-like sclerotized piece.

Female:— IN/HW 0.61–0.63 (A 0.62). Occipital area not or hardly punctate as in male. Antennal club almost as long as the preceding 6 segments combined. Apical

knob on each elytron shining, sparsely punctate. Pygidium more or less produced on the lower half. Last abdominal segment with a dull, transverse ridge and emarginate at the middle of anterior margin. Metafemur stout, shining, FW/FL 0.35–0.37 (A 0.36); bristles on the surface about 1/5 times the width of metafemur. Longer one of metatibial spurs much longer than the 1st metatarsal segment, the latter being distinctly shorter than the 2nd.

Distribution. Burma, Thailand [new record].

Specimens examined. 1 ♂, "Burmah, Prome", "*Microtrichia promeana* Mos. Type ♂", "Zool. Mus. Berlin"; 1 ♀, same locality, "*Microtrichia promeana* Mos. Type ♀", "*promeana* Mos.", "Zool. Mus. Berlin;" 2 ♂♂, 3 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14～15–V–1983 [OPU]; 2 ♂♂, 2 ♀♀, Pu Nam Long Hot Spring, 100 km N.W. of Kanchanaburi, W. Thailand, 6～8–V–1993, T. ITOH leg.

Notes. The present species seems to form a species-group with *S. burmanicus* (MOSER, 1913), comb. nov. from Burma and with *S. reticulata* FREY, 1969 from Laos to Chiang Mai Province of Thailand.

6. ***Sophrops opacidorsalis*** T. ITOH, sp. nov.

(Figs. 6, 12, 21–22, 46, 60–61, 73 (a)–(b))

Description. Length: 17.0–18.8 mm.

Male:— Body elangate-oval. Head, mouth part and pronotum almost blackish; antennae, elytra, pygidium, legs and ventral surface reddish brown. Elytra iridescent and opaque dorsally.

Clypeus bilobed; anterior margin well emarginate. CW/CL about 3.0–3.6 (A 3.2). Frons flat, very densely punctate. IN/HW 0.69–0.72 (A 0.71). Occipital area usually bearing a small-scale, narrow and extensive band of punctures near the eye slightly apart from vertex towards the base, but sometimes punctate merely sparsely. Antennal club slightly shorter than the preceding 6 segments combined. Mentum with 2 sharp longitudinal carinae along the both sides; anterior margin distinctly notched.

Pronotum convex, very finely and very densely punctate on the disc; anterior margin rimmed; anterior angle obtuse but subrectangular, posterior one very obtuse; lateral margin gently curved just behind the middle. Scutellum coarsely and less densely punctate.

Each elytron slightly rugose, coarsely punctate wholly and with almost obsolete 4 costae in addition to the sutural one. Pygidium moderately convex, wholly pubescent and shining only around the apex. Last abdominal segment with a dull, transverse ridge along the anterior margin.

Mesofemur slender, shining, coarsely and less densely punctate and feebly reflexed along the upper margin; upper margin sharply declivous. Metafemur slender, usually shining except on the opaque upper marginal area, FW/FL 0.27–0.30 (A 0.29); smooth surface a little less finely and a little less densely punctate, bristles on the sur face about 1/10 times the width of metafemur. Protibia tridentate. Longer one of

metatibial spurs about as long as the 1st metatarsal segment, the latter about as long as the 2nd or slightly shorter than that. Claw with an apical tooth more slender than the sharply truncate median one.

Internal sac of male genitalia with a paired patches of short bristles and a sclerotized piece.

Female:— IN/HW 0.69–0.72 (A 0.71). Occipital area usually bearing more impressive and more extensive band of punctures near the eye apart from vertex towards the base. Antennal club slightly longer than the preceding 5 segments combined. Last abdominal segment with a very dull transverse ridge along the anterior margin. Metafemur stout, shining except on the opaque upper marginal area or opaque on the upper half, FW/FL 0.29–0.34 (A 0.31); bristles on the surface about 1/12 to 1/6, sometimes to 3/13 times the width of metafemur. Longer one of metatibial spurs longer than the 1st metatarsal segment or as long as that, the latter about as long as the 2nd.

Distribution. Thailand.

Holotype: ♂, Doi Pui, near Chiang Mai, N. Thailand, 11–V–1985, I. MATOBA leg. Allotype: ♀, same locality as for the holotype, 9–V–1985, H. NARA leg. Paratypes: 1 ♀, same data as for the holotype; 1 ♀, same data as for the allotype; 1 ♂, same locality as for the holotype, 3–VI–1985, H. HIRASAWA leg.; 1 ♂, near Chiang Mai (alt. 1,300 m), N. Thailand, 17–V–1987, H. HIRASAWA leg.; 3 ♂♂, 1 ♀, Chiang Mai, N. Thailand, V–1985; 1 ♂, Doi Mae Salong, Chiang Mai, 21–V–1992, K. KAWANO leg.; 1 ♂, Mt. Doi Ku Sathan, Na Noi, Nan, N. Thailand, 16–V–1993, S. OHMOMO leg.; 2 ♂♂, Doi Chiang Khian, N. Thailand, 29–V–1983, [OPU]; 1 ♂, Doi Ang Khang, N. Thailand, 16–V–1983 [OPU]; 1 ♂, Khao Poata, Surat Thani, S. Thailand, 27–III–1989, M. OHNISHI leg. The holo- and allotype are deposited in NSMT, 3 paratypes in ZMHU, 2 paratypes in OPU and the remaining 9 paratypes in the author's collection.

Notes. The present species is closely allied to *S. lata* FREY, 1972, from Fukien, but is distinguishable from it by the following points:

1. Pronotal anterior angle subrectangularly obtuse and not rectangular;
2. Pronotal posterior angle very obtuse, but not obsolete.

7. ***Sophrops excisus*** T. ITOH, sp. nov.

(Figs. 7, 13, 33, 47, 62–63, 74 (a)–(b))

Description. Length: 10.8–13.8 mm.

Male:— Body elongate. Head, pronotum, elytra and tibiae blackish brown or reddish brown; antennae, palpi, pygidium, ventral surface, femora and tarsi yellowish brown. Dorsal surface shining. Clypeus much notched and distinctly bilobed. CW/CL 2.5–3.0 (A 2.7). Frons neither flat nor smooth, often sparsely punctate near the clypeo-frontal suture. Vertex not so declivous anteriad. IN/HW 0.60–0.64 (A 0.62). Occipital area not punctate at all near the eye behind vertex. Antennal club longer than the preceding 6 segments combined. Apical segment of maxillary palpus more or less flat and truncate at apex. Mentum without sharp longitudinal carinae along the

both sides; anterior margin distinctly notched.

Pronotum sparsely punctate; antero-lateral margin distinctly reflexed and roughly serrate; anterior angle slightly produced, posterior one obtuse. Ventral surface wholly shining, not opaque. Metasternum pubescent mainly on the basal half. Last abdominal segment with a sharp transverse carina along the anterior margin.

Mesofemur very shining, sparsely punctate and almost straight along the upper margin; upper margin gently declivous. Metafemur stout, wholly shining but sometimes opaque around the upper margin, FW/FL 0.32–0.36 (A 0.33); smooth surface sparsely punctate, bristles on the surface 1/6 to 1/5 or rarely to 1/4 times the width of metafemur. Protibia tridentate; small and sharp basal denticle situated at the basal 1/3. Longer one of metatibial spurs slightly shorter than the 1st metatarsal segment, the latter remarkably shorter than the 2nd. Claw with an apical tooth slightly longer than the truncate median one.

Internal sac of male genitalia with a shapeless sclerotized piece.

Female:— IN/HW 0.60–0.63 (A 0.61). Occipital area not punctate as in male. Antennal club shorter than the preceding 6 segments combined. Last abdominal segment usually without conspicuous transverse ridge.

Metafemur very stout, wholly shining, FW/FL 0.36–0.39 (A 0.37); bristles on the surface 1/6 to 1/4 times the width of metafemur. Longer one of metatibial spurs about as long as the 1st metatarsal segment or longer than that, the latter remarkably shorter than the 2nd as in male.

Distribution. Thailand (northern region).

Holotype: ♂, Doi Suthep, Chiang Mai, 23–V–1980, M. TAO leg. Allotype: ♀, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]. Paratypes: 1 ♂, Doi Pui, near Chiang Mai, N. Thailand, 30–V–1983 [OPU]; 2 ♂♂, Doi Suthep, near Chiang Mai, 23–V–1980, M. TAO leg.; 1 ♂, 2 ♀♀, same locality, 3–V–1988, A. YAMASHITA leg.; 1 ♀, Chiang Mai, V–1985, N. KOYAMA leg.; 3 ♂♂, 2 ♀♀, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]. The holotype, allotype and 3 paratypes are deposited in OPU, 3 paratypes in ZMHU and the remaining 6 paratypes in the author's collection.

Notes. The present species seems allied to *Sophrops callosifrons* (MOSER, 1913), comb. nov., but is distinguishable from the latter by the following points:

1. Clypeus deeply emarginate;
2. Frons without callosities;
3. Protibial 1st denticle small, sharp and situated at the basal 1/3;
4. Longer one of metatibial spurs almost as long as the 1st metatarsal segment.

8. ***Sophrops tonkinensis*** (MOSER, 1908), comb. nov.

(Figs. 8, 14, 23, 34, 48, 64–65, 75)

Brahmina tonkinensis MOSER, 1908, 342 (Montes Mauson); FREY, 1972, 356.

Diagnosis. *Male*:— Body slightly stout and robust. IN/HW 0.61–0.63 (A 0.62). Occipital area bearing a small-scale, narrow and a little extensive band of punctures

near the eye behind vertex. Antennal club usually longer than the preceding 5 (sometimes 6) segments combined. Mentum with 2 longitudinal, moderate to a little sharp carinae along the both sides; anterior margin not emarginate or feebly notched.

Metasternite without pubescence in the central area. Last abdominal segment with a sharp transverse carina along the anterior margin.

Mesofemur slender, almost straight along the upper margin; upper margin gently declivous. Metafemur slender, usually shining wholly or so except in more or less opaque upper marginal area, FW/FL 0.24–0.27 (A 0.26); surface coarsely and less densely punctate, bristles on the surface about 1/10 times the width of metafemur. Longer one of metatibial spurs slightly shorter than that. Claw with an apical tooth distinctly more slender than the truncate median one.

Female:— IN/HW 0.62–0.63 (A 0.63). Occipital area usually bearing more impressive band of punctures. Antennal club longer than the preceding 5 segments combined or as long as the preceding 6 segments combined. Last abdominal segment with a less sharp, transverse carina along the anterior margin. Metafemur less slender, wholly shining, FW/FL 0.29–0.31 (A 0.30); bristles on the surface about 1/12–1/10 times the width of metafemur. Longer one of metatibial spurs slightly longer than the 1st metatarsal segment, the latter slightly shorter than or as long as the 2nd.

Distribution. Vietnam, Thailand [new record].

Specimens examined. 2 ♂♂, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]; 1 ♂, Khao Yai, C. Thailand, 15–VI–1983 [OPU]; 3 ♂♂, 2 ♀♀, Doi Sang, N. Thailand, 10～13–V–1990, K. KUME leg.; 2 ♂♂, 2 ♀♀, Phuping Palace, Chiang Mai, 2～5–V–1990, M. YAGI leg.; 2 ♂♂, Tam Dao, Vinh Phu, Vietnam, 2～4–V–1993, M. HORI leg.; 2 ♂♂, "Tonkin, Montes Mauson, April–Mai, 2–3000′, H. FRUHSTORFER", "100749", "Zool. Mus. Berlin"; 2 ♂♂, same data as the preceding except for the numerical label "100750".

9. ***Sophrops pallidus*** T. ITOH, sp. nov.

(Figs. 9, 15, 25–26, 35, 49, 66–67, 76 (a)–(b))

Description. Length: 9.2–12.2 mm.

Male:— Body elongate-oval. Head, pronotum, antennae and legs reddish brown; elytra, pygidium and ventral surface yellowish; sutural costae on elytra brown or blackish brown.

Clypeus wide, shallow, more or less emarginate at the anterior margin. CW/CL about 3.6–4.2 (A 3.9). Frons flat, reticulately punctate. Vertex not carinate, but sharply declivous anteriad. IN/HW 0.59–0.64 (A 0.62) in 12 exs. Occipital area bearing a small scale-patch of punctures near the eye behind vertex, sometimes bearing more extensive band of punctures and sometimes merely a sparse one. Antennal club as long as the preceding 6 segments combined or longer than that. Mentum with 2 moderate longitudinal carinae along the both sides; anterior margin not or feebly notched.

Pronotum uniformly, densely, coarsely and umbilicately punctate on the disc,

distance between 2 close punctures sometimes equal to diameters of the punctures, otherwise larger than these; anterior margin rimmed; anterior angle obtuse but subrectangular, posterior one more obtuse; lateral margin gently curved just behind the middle; disc with an impunctate longitudinal median line. Scutellum coarsely punctate except on the anterior margin to the central area. Each elytron almost smooth, but the sutural costa is relatively raised and somewhat blackish. Pygidium hardly produced and punctate coarsely and densely. Last abdominal segment with a sharp transverse carina along the anterior margin.

Mesofemur slender, smooth, shining, coarsely and less densely punctate and feebly reflexed along the upper margin; upper margin relatively declivous. Metafemur stout, wholly shining, FW/FL 0.27–0.30 (A 0.28); smooth surface coarsely and slightly less densely punctate and bristles on the surface about 1/10–1/7 times the width of metafemur. Protibia tridentate. Longer one of metatibial spurs about as long as the 1st metatarsal segment, the latter also about as long as the 2nd. Claw with an apical tooth slightly more slender than the truncate median one.

Each paramere of male geintalia with a small projection near the apex; internal sac forming such a structure as a spout of a teakettle and also with a thick sclerotized piece.

Female:— IN/HW 0.59–0.64 (A 0.62) in 16 exs. Occipital area usually bearing more impressive and more extensive patch of punctures, but sometimes bearing only a small scale-patch. Antennal club about as long as the preceding 6 segments combined. Last abdominal segment with a sharp transverse carina as in male. Metafemur still stout, wholly shining, FW/FL 0.31–0.36 (A 0.33); bristles on the surface about 1/9–1/7 times the width of metafemur. Longer one of metatibial spurs slightly longer than the 1st metatarsal segment, the latter about as long as the 2nd.

Distribution. Thailand (northern to central regions).

Holotype: ♂, Fang (ca. 450 m alt.), N. Thailand, 14–V–1983 [OPU]. Allotype: ♀, same data as for the holotype. Paratypes: 16 ♂♂, 23 ♀♀, same data as for the holotype; 6 ♂♂, 13 ♀♀, Khao Yai, C. Thailand, 15, 20–VI–1983 [OPU]; 1 ♂, Wiang Sa, Nan, N. Thailand, 14–V–1993, S. OHMOMO leg. The holo-, allo- and 48 paratypes are deposited in OPU, 4 paratypes in ZMHU and the other 7 paratypes in the author's collection.

Notes. The present species is easily distinguishable from other species of the genus *Sophrops* by the blackish sutural costa.

要　　約

伊藤　武：タイのコフキコガネ科の研究，I. —— タイ国からのコフキコガネ科の甲虫の報告はこれまできわめて乏しく，組織だって報告されたものがなかった．今回，大阪府立大学の森内　茂博士から，同大学によるタイにおける鱗翅類調査の際に得られた本科甲虫標本を調査する機会を与えられ，いくつかの知見を得ることができた．その成果を，筆者の所蔵標本の研究結果とともに，数回にわたって報告する．本稿では，ヒメクロコガネ属 *Sophrops* を扱い，5 種，*S. bituberculatus* (MOSER),

S. foveatus (MOSER), *S. brunneus* (MOSER), *S. promeanus* (MOSER) と *S. tonkinensis* (MOSER) に解説を施し，4 新種，*S. rotundicollis*, *S. opacidorsalis*, *S. excisus*, *S. pallidus* の記載を行った．

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Aceraius (Coleoptera, Passlidae) New to the Fauna of the Korean Peninsula

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NOMURA and others (1993) described the passalid species, *Leptaulax koreanus* from Kwangnung, Pochon Gun, Kyonggi Do, South Korea. This was the first record of the Passalidae from the Korean Peninsula and marked the northernmost record in the Old World Passalidae.

Recently, we had an opportunity to examine two specimens of *Aceraius helferi* KUWERT from North Korea. This is the first record of the genus *Aceraius* from the Korean Peninsula and renews the northernmost record of the Old World Passalidae.

Specimens examined. *Aceraius helferi* KUWERT: 1 ♀, Mt. Kuwal-San, North Korea, 4-VII-1993; 1 ♀, Mt. Chonma-San, North Korea, 11-VII-1993.

Distribution. Eastern Himalayas, Xizang, Myanmar, Indochina, Malay Peninsula, Korean Peninsula (new record).

We referred to HINCKS and DIBB (1935) and MA (1988) for distribution.

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New or Little-known Elateridae (Coleoptera) from Japan, XXX

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Abstract Two new species and a new subspecies of elaterid beetles, *Fleutiauxellus awaensis* sp. nov. (subfam. Negastriinae) from Shikoku, *Agriotes asaokai* sp. nov. (subfam. Agriotinae) from Amami-Ôshima Is., and *Hypolithus motschulskyi kurotai* subsp. nov. (subfam. Hypnoidinae) from Mt. Kôtsu in Shikoku, are described and illustrated.

In the present report, I am going to describe two new species and a new subspecies of elaterid beetles from Japan. The holotype of each species described in this study is preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Before going further, I wish to express my gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his reading the manuscript and giving me usefull suggestions, and to Messrs. Masataka YOSHIDA and Yuuji KUROTA of Tokushima, and Takatomo ASAOKA of Aichi for their kindness in offering the specimens used in this report.

Fleutiauxellus awaensis sp. nov.

(Fig. 1)

Male. Length 3.5 mm, width about 1.3 mm. Body elongate and more or less depressed above, with sides nearly parallel; surface shining, black except for elytra more or less blackish brown and often bearing four obscure brown maculations as shown in Fig. 1 B. Antennae black (basal segment blackish brown and 2nd segment yellowish brown) and legs yellowish brown (coxae, femora and apical segment of tarsi more or less dark brown). Vestiture cinereous, short and decumbent on elytra.

Head gently convex between eyes and depressed at subvertical portion between antennae; surface coarsely and scabrously punctate (Fig. 1 D); clypeal margin U-shaped, well ridged and weakly rounded at anterior rim. Antenna elongate, extending beyond posterior angle of pronotum at least by apical segment; basal segment robust and subovate, 2nd small and subglobose, 3rd subtriangular and a little shorter than 4th, 3rd to 10th segments normally serrate (Fig. 1 H).

Pronotum subquadrate, widest at middle, with sides sinuate just before posterior angles, gently rounded at middle; disc moderately convex, evenly and micro-scabrously punctate, bearing a shallow smooth longitudinal line at middle (Fig. 1 G ↖); posterior angles rather short, projecting postero-laterad, each with a distinct carina above

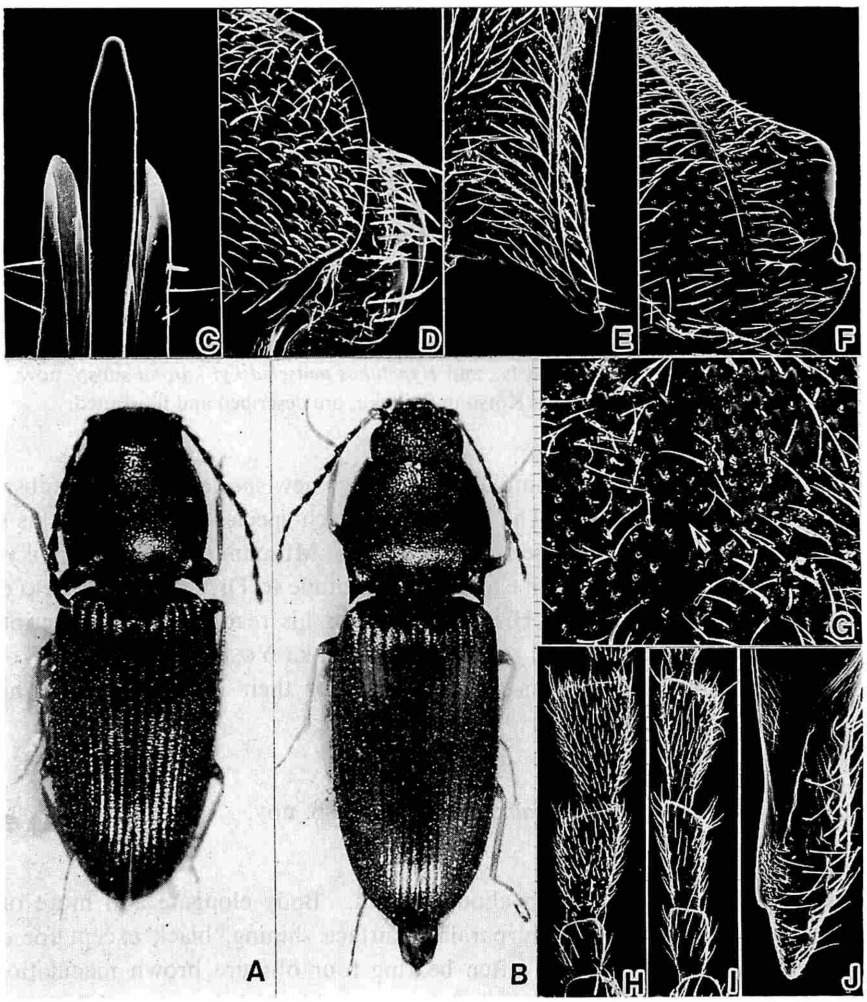

Fig. 1. *Fleutiauxellus awaensis* sp. nov. —— A, Holotype (male); B, paratype (female); C, aedeagus, dorsal aspect; D, head, dorso-lateral aspect; E, right posterior portion of pronotum; F, basal plate; G, some punctures and median longitudinal smooth line on the disc of pronotum; H, 2nd to 4th segments of male antenna; I, same, female; J, prosternal process, lateral aspect.

(Fig. 1 E), which extends anteriorly along lateral margin to about one-third of the pronotal length including posterior angles. Scutellum lingulate, flattened, punctulate and pubescent. Prosternal process weakly incurved and pointed apically (Fig. 1 J).

Elytra about twice as long as their basal width, with sides almost parallel in basal three-fourths, thence rounded and gradually convergent towards apices which are normally pointed; striae defined, deeply and regularly punctate; intervals feebly elevated, minutely punctate, weakly and irregularly rugose. Basal plate rather broad

at inner half, with posterior margin not angulate at middle (Fig. 1 F). Legs and claws simple.

Aedeagus as illustrated (Fig. 1 C); median lobe narrow and more or less constricted near tip, with lateral lobes also narrow and gradually narrowed apically, and obtusely pointed or sometimes narrowly truncated at the apices (Fig. 1 C).

Female. Very similar to male, but the antennae are short, with tips barely reaching posterior angles of pronotum, the 3rd segment elongate, subcylindrical and almost as long as the 4th (Fig. 1 I).

Holotype: ♂, Yoshinogawa-riverside, Kawashima-chô (川島町) in Tokushima City, Tokushima Prefecture, 8–V–1993, Y. KUROTA leg. Paratypes: 2 ♂♂, 4 ♀♀, 23–V–1992; 24 ♂♂, 7 ♀♀, 8–V–1993; 14 ♂♂, 4 ♀♀, 15–V–1933, same locality and collector as for the holotype.

Distribution. Shikoku, Japan.

This new species is somewhat allied to *Fleutiauxellus yotsuboshi* (KISHII, 1976) from Japan, but can be distinguished from the latter by the slenderer and more flattened body, rugoser intervals of elytra, more claerly serrate male antennae and differently shaped aedeagus.

Agriotes asaokai sp. nov.

(Fig. 2)

Male. Length 4.5 mm, width about 1.5 mm. Body moderately elongate, nearly parallel-sided and normally convex above; surface shining, black except for yellowish brown elytra (around basal margin and sutural intervals more or less black); antennae and legs yellowish brown; vestiture pale yellow, decumbent, fine on head and pronotum.

Head with a shallow median longitudinal impression between eyes, flattened at vertical portion between antennae; surface deeply and coarsely punctate; clypeal margin well ridged over antennal insertions, obliterated at middle. Antenna short, extending slightly beyond posterior angle of pronotum; basal segment robust and subcylindrical, 2nd small and subclavate, 3rd obconical and a little shorter than 2nd, 4th slightly shorter than 2nd and 3rd put together, 4th to 10th segments normally serrate.

Pronotum subquadrate, widest at base, with sides weakly sinuate just before posterior angles, nearly straight at middle, thence gently rouned and convergent towards anterior angles; disc dome-like, deeply, coarsely and evenly punctate, with surface among punctures glabrous; posterior angles projecting postero-laterad, each with a distinct carina above along lateral margin. Scutellum lingulate, flattened, punctulate and pubescent.

Elytra about 2.4 times as long as its basal width, with sides almost parallel in basal two-thirds, thence rounded and gradually convergent towards apices which are obtusely pointed; striae well defined, evenly and deeply punctate; intervals normally elevated, punctulate and weakly rugose. Legs slender, tarsi and claws simple.

Female. Very similar to male, but the body is robuster (length about 5 mm) and

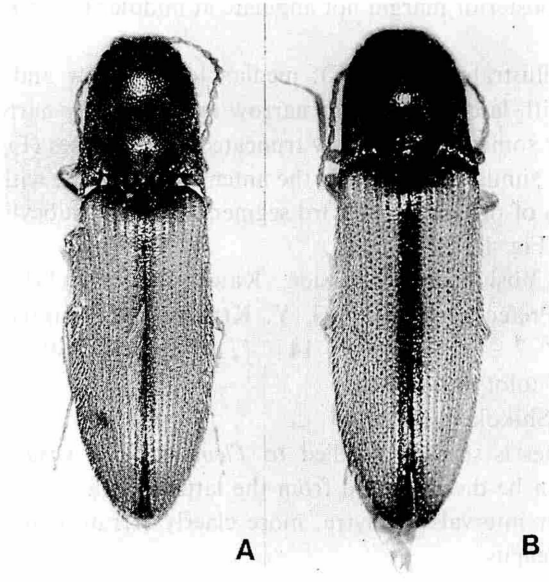

Fig. 2. *Agriotes asaokai* sp. nov. —— A, Holotype (male) and B, paratype (female).

the antennae are shorter, not reaching posterior angles of pronotum.

Holotype: ♂, Uken-mura (宇検村), Amami-Ôshima, 1–V–1994, T. ASAOKA leg. Paratypes: 2 ♀♀, same date as for the holotype.

Distribution. Amami-Ôshima, Ryukyu Islands.

This new species somewhat resembles *Agriotes fulgens* ÔHIRA, 1966, from Taiwan, but can be distinguished from the latter by the pale yellow elytra except for blackish sutural intervals, deeply and more coarsely punctate pronotum and broader median lobe of aedeagus.

Hypolithus motschulskyi kurotai subsp. nov.

(Fig. 3)

Male and female. Length 9–10.5 mm, width about 3 mm. Body robust and oblong-ovate, moderately convex above; dusky brown and shining except around margins of pronotum and apical portion of elytra more or less lighter; antennae dusky brown (basal three segments castaneous brown) and legs yellowish brown; vestiture fine, decumbent and fulvous.

This new subspecies can be distinguished from subsp. *tsurugi* ÔHIRA, 1963, from Mt. Tsurugi in Tokushima Prefecture by the trapezoidal pronotum, with the sides clearly sinuate before posterior angles, less constricted basal area of elytra and deeper elytral striations.

Holotype: ♂, Mt. Kôtsu (高越山), Tokushima Prefecture, 5～7–V–1994, Y. KUROTA

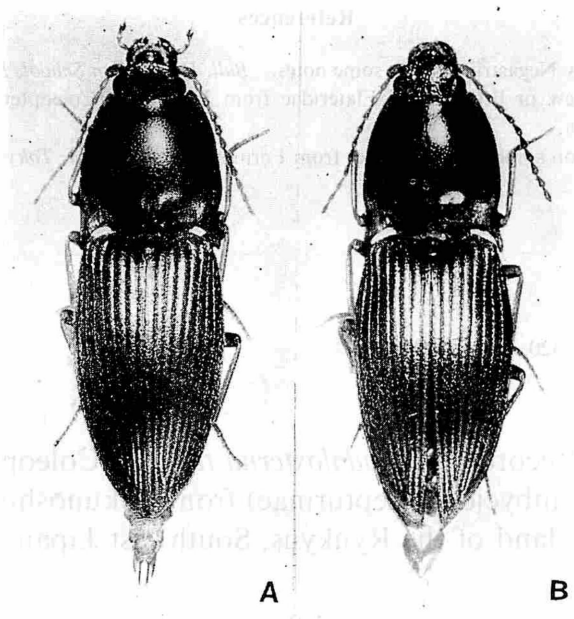

Fig. 3. *Hypolithus motschulskyi kurotai* subsp. nov. —— A, Holotype (male) and B, paratype (female).

leg. Paratypes: 1 ♂, Mt. Kôtsu, Tokushima Prefecture, 3–V–1988, Y. KUROTA leg.; 4 ♂♂, 7 ♀♀, same data as for the holotype.

要　　約

大平仁夫：日本産コメツキムシ科の新種，XXX. —— 本報告では 3 亜科に属する 2 新種 1 新亜種を記載した．

Fleutiauxellus awaensis（アワミズギワコメツキ）は，徳島市の黒田祐次氏が徳島市川島町の吉野川河川敷で採集した，体長 3.5 mm 内外の種である．体は黒色でやや扁平，上翅はわずかに暗褐色を呈し，ときに境界のはっきりしない 4 個（基部近くに 1 対と翅端部近くに 1 対）の暗黄褐色紋を生ずる．上翅の間室部は扁平である．

Agriotes asaokai（ウケンカバイロコメツキ）は，奄美大島宇検村の海岸の花上から浅岡孝知氏が採集した，体長 4.5 mm 内外の種である．体は黒色で上翅は黄褐色，翅底部と会合線部が黒色をした特徴のある種である．

Hypolithus motschulskyi kurotai（コウツミヤマヒサゴコメツキ）は，徳島県の高越山（標高 1,122 m）の山頂付近で，黒田祐次氏が採集した．*H. m. tsurugi*（シコクミヤマヒサゴコメツキ）に類似するが，前胸背板が台形状を呈し，上翅の両側は肩角部に向かって顕著に細まらないことによって識別できる．

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Elytra, Tokyo, **22** (2): 320, Nov. 15, 1994

New Record of *Pseudalosterna takagii* (Coleoptera, Cerambycidae, Lepturinae) from Tokunoshima Island of the Ryukyus, Southwest Japan

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Pseudalosterna takagii (HAYASHI, 1961, Ent. Rev. Japan, **13**, p. 38, pl. 9, fig. 4) is a small lepturine species having wholly black body, which has hitherto been recorded only from Amamiohshima Island of the Amami island-group, Southwest Japan. Recently, I was able to collect this lepturine in Tokunoshima Island, the same island-group as the original locality. This is a second locality of the species. The collecting data of a single male specimen taken are as follows:

1 ♂, Mt. Inokawadake, Tokunoshima Is., Amami Islands, Kagoshima Pref., SW. Japan, 26-V-1994, T. OGURI leg. (OGURI coll.)

I wish to thank Mr. Yoshiyasu KUSAKABE for his kind assistance in preparing the manuscript of this short report.

Elytra, *Tokyo*, **22** (2): 321–324, Nov. 15, 1994

ウバタマコメツキ *Cryptalaus berus* (CANDÈZE) の各ステージの生重と幼虫の尾突起の役割

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Body Weight of Each Stage and the Role of Urogomphi of *Cryptalaus berus* (CANDÈZE) (Coleoptera, Elateridae)

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Abstract　Distribution and relationship between body weight of the last instar larvae, pupae and adults of *Cryptalaus berus* (CANDÈZE) are reported. The urogomphi of larvae played a role to fix their bodies.

1. 緒　　言

ウバタマコメツキは，日本では北海道を除くほとんどすべての地域に分布し，台湾，ベトナム，ラオスにも分布している（大平・鈴木，1985）．幼虫の形態は，清水（1952），黒佐（1959）によって報告され，さらに大平（1962 a）によって詳しく検討されている．成虫は春～夏季に出現し（大平，1990），灯火やマツ類の枯損木に集まる（大平・鈴木，1985）．幼虫は腐朽したマツの樹皮下に生息し，樹皮下の穿孔虫類を捕食する（大平，1962 b；江崎，1991）．

本報では終齢幼虫，蛹および新成虫の生重，そして幼虫の尾突起の役割について観察を行ったので考察を加えて報告する．

報告に際し，ご指導やご鞭撻を賜わった森林総合研究所四国支所の山崎三郎室長に厚くお礼を申しあげる．また，横浜市の林長閑博士には，草稿を校閲していただいた．感謝申し上げる．

2. 材料および方法

高知市朝倉のアカマツやクロマツの枯損木の樹皮をはぎ取り，樹皮下に生息する幼虫，蛹および成虫の採集を，1991 年 5 月から 1992 年 8 月まで約 2 週間間隔で行い，蛹と成虫については生重を記録

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した．採集した幼虫や蛹は飼育を行い，成虫になるまで1週間ごとに生重を測定した．

幼虫は 60～150 cm^3 の容器で飼育した．容器にはマツ枯損木の樹皮粉末を，幼虫の体サイズによって容器の体積の 2～5 割程度入れ，適当な大きさの樹皮片を入れた．餌は原則として，1 度にキンバエの幼虫 2 個体（約 0.04 g×2）やハチミツガの幼虫 1 個体（約 0.2 g）を与えたが，これらが入手できない場合には，代わりに比較的新鮮な牛肉片（約 0.1 g）を与えた．1 週間ごとに，幼虫を容器外へ取り出してその状態を観察し，必要があれば体重を測定した．飼育は 1991 年 5 月から 1992 年 10 月まで行った．1991 年 5～12 月は，日中の温度が高い時には 25°C 程度に温度が下がる冷房が入る室内で，1992 年 1 月以降は比較的風通しのよい昼間冷房のない室内で飼育した．

3. 結　　果

3.1. 終齢幼虫・蛹・新成虫の生重

樹皮下から得られた幼虫，蛹，新成虫は，それぞれ 167, 4, 106 個体であった．このうちで幼虫 53 個体が蛹化羽化し，蛹 4 個体が羽化した．性比（雌／雄＋雌）は 0.46 であった．蛹室内の新成虫の生重は，羽化直後から脱出までほとんど変化がなかった．蛹化直前の終齢幼虫・蛹・新成虫の生重の分布を図 1 に示し，これらの関係を図 2 に示した．

図 1 が示すように，それぞれのステージの生重分布は 2 つのピークを示した．終齢幼虫では 0.4–0.7 g と 1.0 g，蛹では 0.6 g と 0.9 g，新成虫では 0.4 g と 0.8 g であった．また新成虫の雌雄別で

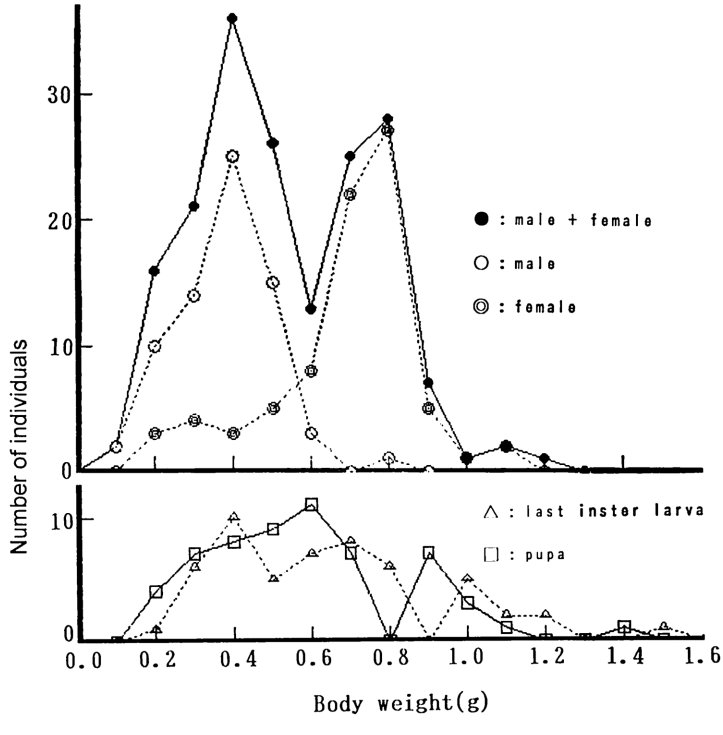

Fig. 1. Distribution of body weight of the last instar larvae, pupae and adults.

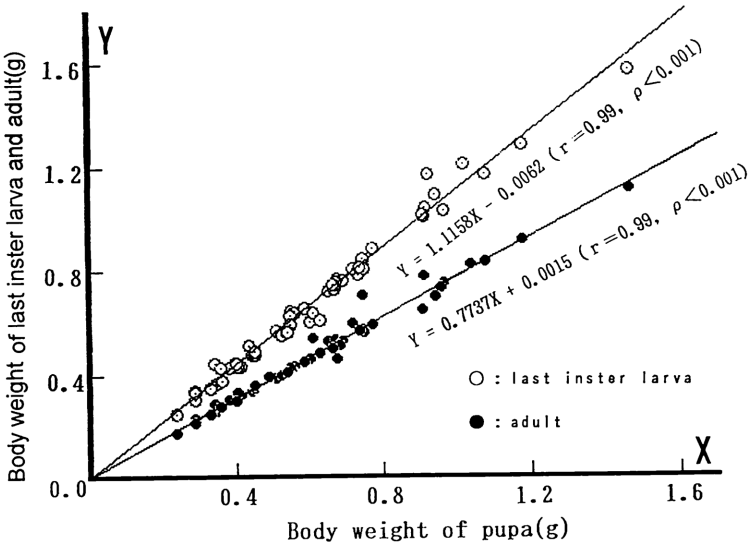

Fig. 2. Relationship in body weight between the last instar larvae, pupae and adults.

は，雄が 0.4 g，雌が 0.8 g にピークを示した．これが新成虫の 2 つのピークとよく一致することと，図 2 が示すように，蛹と終齢幼虫および蛹と新成虫の生重は高い相関関係を示すため，蛹および終齢幼虫の 2 つのピークは雌雄を表している．

図 2 は，終齢幼虫が蛹化して蛹になるときに生重が約 90% に減少し，蛹が羽化して新成虫になるときに生重はさらに約 77% に減少することを示している．つまり，終齢幼虫が成虫に変態するまでに約 70% の生重の減少がある．

3.2. 尾突起の役割

幼虫の飼育観察により，捕食行動の際の尾突起の役割や，樹皮片を穿孔する際の尾突起の役割につ

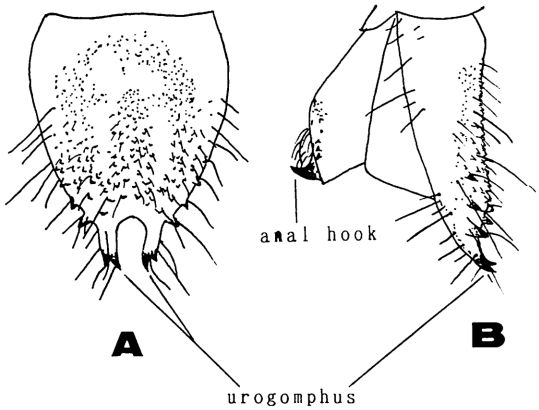

Fig. 3. Ninth and tenth abdominal segments of *Cryptalaus berus* (CANDÈZE); A, dosal view; B, lateral view.

いて観察できた．幼虫の第9-10腹節の形態については大平 (1962 b) に図示されているが，本稿中で使用している用語を示す部位について明確にするため，幼虫の第9-10腹節の形態を図3に示した．第9腹節の硬皮板は，刺状の隆起を多数，斜め後方に突出させており，第9腹節の尾突起 urogomphi の先端も同方向に反り返らせている．また，第10腹節の1対の角状をした別の尾突起 anal hooks は，斜め前方に湾曲している．第9-10腹節間は，上下の伸縮開閉が可能である．樹皮片のすき間に入り込んだ幼虫を，胸部をつかんでひきずり出すことは困難をきわめた．すなわち，幼虫は第9-10腹節間を開くことで，両方の尾突起の先端や硬皮板の刺状の部分を材に突き立てて体を固定していた．また，獲物をとらえる際に，urogomphi を樹皮片に突き立てて体を固定していた．

4. 考　　察

樹皮下に生息し，おもに捕食性を有する扁平状のコメツキムシ科幼虫の第9腹節背板は，特異な硬皮板を形成し，1対の尾突起 urogomphi を形成するものが多い（大平，1962 b）．本種の幼虫も例外ではなく，1対の尾突起を含めたかなり特異な硬皮板を有する．林 (1986) は，甲虫類の幼虫の尾突起の機能について，孔道内の食べかすや糞を移動させる，体のバランスを保つ，天敵から身を守るための口器に見せかけているなどの考察をしている．本研究から，この特異な硬皮板や尾突起 urogomphi は，おもに生息場所の樹皮下で体を強く固定するために用いられ，獲物に対する攻撃や敵からの攻撃の防御または回避のための有効な機能を果たしていることが示唆された．

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Elytra, Tokyo, **22** (2): 325–333, Nov. 15, 1994

The Genus *Nephus* MULSANT (Coleoptera, Coccinellidae) of China

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Abstract Three subgenera and eleven species of the genus *Nephus* MULSANT from China are taxonomically studied. Two species are described as new to science. One species is recorded for the first time in China. Keys to the subgenera and species of the genus *Nephus* are given.

Key Words: Coleoptera, Coccinellidae, Scymnini, *Nephus*.

The genus *Nephus* MULSANT belongs to the tribe Scymnini of the family Coccinellidae. Its distribution is worldwide, and about 200 species have been known in the world up to the present. Some of them have been reported to play an important role in regulating the population of mealybugs infesting citrus trees, coconut trees, etc.

All the type specimens to be designated in this paper are deposited in the South China Agricultural University, Guangzhou.

Genus *Nephus* MULSANT, 1846

Scymnus (*Nephus*) MULSANT, 1846, 237; 1850, 958.

Nephus: MADER, 1924, 8; CHAPIN, 1965, 200; SASAJI, 1971, 172; GORDON, 1976, 276; PANG & MAO, 1979, 49; PANG & GORDON, 1986, 193.

Type species: *Sphaeridium quadrimaculatum* HERBST, 1783 (by subsequent designation of KORSCHEFSKY, 1931).

The genus *Nephus* bears 8–11 segmented antenna, basal two segments of which are fused or not. Prosternum without intercoxal carinae or with short carinae only adjacent to coxal cavity. Postcoxal line on 1st abdominal sternum incomplete, nearly reaching lateral margin, apical end of postcoxal line either parallel to hind margin of sternum or recurved toward basal margin. Tarsus trimerous. Genitalia simple, median piece of tegmen symmetrical or asymmetrical.

The genus *Nephus* is divided into 8 subgenera: *Nephus* (*Nephus*) MULSANT, 1846, *Sidis* MULSANT, 1850, *Scymnobius* CASEY, 1899, *Parascymnus* CHAPIN, 1962, *Depressoscymnus* GORDON, 1976, *Turboscymnus* GORDON, 1976, *Bipunctatus* FURSCH, 1987, and *Geminosipho* FURSCH, 1987. The former two and the latter two subgenera are distributed in the Palearctic and Oriental Regions. The other four subgenera are found in the Western Hemisphere.

Key to the Subgenera of *Nephus* of China

1 (4) Postcoxal line not extending onto basal half of sternum, gently curved forward apically.
2 (3) Antenna 10-segmented ..... *Geminosipho* FURSCH.
3 (2) Antenna 11-segmented ..... *Nephus* MULSANT.
4 (1) Postcoxal line strongly curved forward along lateral border of 1st abdominal sternum, extending onto basal half of sternum ..... *Sidis* MULSANT.

Subgenus *Geminosipho* FURSCH, 1987

Geminosipho FURSCH, 1987, 66.

Type species: *Scymnus* (*Nephus*) *bielawskii* FURSCH, 1965 (by original designation).

Antenna 10-segmented, large basal segment undivided. Postcoxal line on 1st abdominal sternum curved forward apically. Apex of sipho forked.

Key to the Species of *Nephus* (*Geminosipho*) of China

1 (2) Elytron black with apical 1/3 yellow, without any spot ..... *N. dilepismoides* PANG et PU.
2 (1) Elytron black with light spot and narrowly light apex.
3 (8) Elytral spot rather large, longitudinal, anterior border of spot extending beyond the middle of elytron.
4 (5) Median piece of tegmen slightly asymmetrical; apex of sipho without any appendix ..... *N. patagiatus* (LEWIS).
5 (4) Median piece of tegmen strongly asymmetrical.
6 (7) Siphonal apex with a long arm-like appendix; postcoxal line extending to 3/4 length of 1st abdominal sternum ..... *N. koltzei* (WEISE).
7 (6) Siphonal apex with a short lance-like appendix; postcoxal line almost extending to hind margin of 1st abdominal sternum ..... *N. dichosiphonicus* sp. nov.
8 (3) Elytral spot usually small, anterior border of spot not extending beyond the middle of elytron.
9 (10) Pronotum black with slightly broad light lateral margin; siphonal apex with two wing-like appendix, and not bent outward..... *N. triblulus* sp. nov.
10 (9) Pronotum almost black; siphonal apex distinctly bent outward, with a very short lance-like appendix ..... *N. klapperichi* (MADER).

1. *Nephus* (*Geminosipho*) *dilepismoides* PANG et PU

Nephus dilepismoides PANG et PU, 1988, 240.
Nephus ancyroides PANG et PU, 1988, 239, *Syn. nov.*

Distribution. China (Guangdong, Guangxi, Fujian, Taiwan).

Specimens examined. [Guangxi]: 1 ♂ (holotype), Nannig, 4–VIII–1985; 1 ♀ (allotype), Nanning, 6–VIII–1985; 1 ♂ (holotype of *N. ancyroides*), Nanning, 1 ♂ (paratype of *N. ancyroides*), Nanning, 4–VIII–1985; 1 ♂, Nanning, 6–VIII–1985; 5 ♂♂, 3 ♀♀, Guiling, 23–IV–1987, PANG Xiongfei leg.; 1 ♂, Nanning, 5–VIII–1985, PU Tianshen leg. [Fujian]: 1 ♂, 2 ♀♀ (paratypes), Fuzhou, VIII–1984, PANG Xiongfei leg.; 6 ♀♀, Fuzhou, 18–IX–1979, HUANG Bangkan leg.; 1 ♂, Fuzhou, X–1979, without collector. [Guangdong]: 1 ♂, 1 ♀, Zhaoqing, 16–V–1989; Guangzhou: 5 ♂♂, 5 ♀♀, 21–VII–1990, REN Shunxiang leg. [Taiwan]: 2 ♂♂, 3 ♀♀, 4–III–1977, KLAPPERICH leg.

Remarks. The siphonal apex with two wing-like appendix of *Nephus ancyroides* is identical with that of *Nephus dilepismoides*, and not anchor-form. Therefore, *N. ancyroides* is a junior synonym of *N. dilepismoides*.

2. *Nephus (Geminosipho) patagiatus* (LEWIS)

Scymnus patagiatus LEWIS, 1896, 39.
Scymnus (Scymnus) patagiatus: MADER, 1955, 939; NAKANE, 1963, 208.
Scymnus (Nephus) patagiatus: BIELAWSKI, 1957, 73; MIYATAKE, 1959, 139; KAMIYA, 1961, 209; 1965, 104.
Nephus patagiatus: SASAJI, 1971, 129; WEI *et al.*, 1985, 71.
Nephus (Geminosipho) patagiatus: FURSCH, 1990, 33; KUZNETSOV & REN, 1991, 9.

Distribution. China (Shaanxi, Taiwan); Jappan; Vietnam.

Specimens examined. [Shaanxi]: 3 ♂♂, Mei County, 1982 (without collector).

3. *Nephus (Geminosipho) koltzei* (WEISE)

Nephus koltzei WEISE, 1887, 238; PANG & MAO, 1979, 50.
Scymnus (Nephus) koltzei: MADER, 1955, 952; FURSCH, 1965, 191.
Nephus (Geminosipho) kolitzei: FURSCH, 1987, 68.

Distribution. China (Beijing, Hebei, Liaoning, Henan, Sichuan, Guizhou, Guangxi); Siberia.

Specimens examined. [Liaoning]: 1 ♂, Shenyang, V–1987. [Guizhou]: 2 ♂♂, Guiyang, 19–VIII–1987, PANG Xiongfei leg.

4. *Nephus (Geminosipho) dichosiphonicus* sp. nov.

Length 1.7–1.8 mm, width 1.2–1.3 mm.

Form oval in outline, moderately convex. dorsal pubescence white. Head black with mouthparts brown. Pronotum black with anterior margin narrowly reddish brown. Elytron black with a red oval spot, situated between basal 2/7 and apical 1/7, apex narrowly yellow (Fig. 1 A). Venter black except for hypomeron reddish brown. Legs dark brown with tibiae and tarsi yellowish brown.

Punctuation on head fine, separated by about 1.5 times a diameter; punctures on pronotum like those on head; elytron with coarse punctures, separated by about a diameter. Postcoxal line incomplete, gently arched, extending to the hind margin of 1st abdominal sternum and distinctly curved basad; area surrounded by postcoxal line sparsely and coarsely punctured (Fig. 1 C).

Male genitalia:— Sipho long, slender, with the basal half semicircularly curved; siphonal capsule with long inner process and indistinct outer process; siphonal apex with a short sword-like appendix (Fig. 1 D–E). Lateral lobes of tegmen slightly shorter than median piece (Fig. 1 F–G).

Holotype: ♂, No. 850210, Chishui County, Guizhou, China, 20–IX–1985, REN Shunxiang leg. Paratypes: 2 ♂♂, Zhong County, Sichuan, China, 23–VIII–1989, REN Shunxiang leg.

Remarks. This species is similar to *Nephus* (*Geminosipho*) *koltzei* (WEISE), but is easily distinguished from the latter by the short sword-like appendix of siphonal apex. It is also related to *N.* (*Bipunctatus*) *macer* FURSCH, 1992, in body coloration and siphonal apex, but this new species is oval in form and has the lateral lobes of

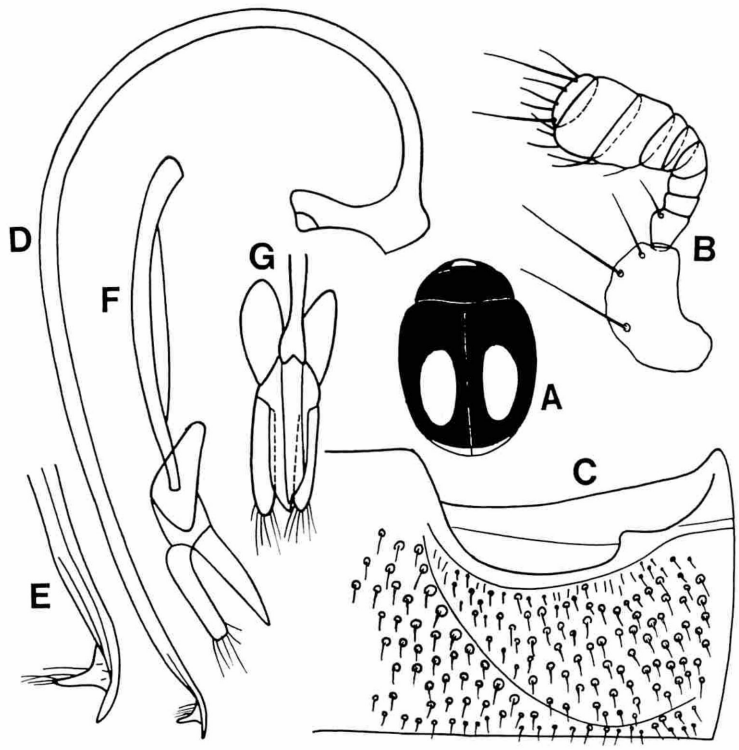

Fig. 1. *Nephus* (*Geminosipho*) *dichosiphonicus* sp. nov. —— A, Outline of body; B, antenna; C, first abdominal sternum; D, sipho; E, apex of sipho; F, tegmen, lateral aspect; G, tegmen, ventral aspect.

tegmen shorter than the median piece.

5. *Nephus* (*Geminosipho*) *triblulus* sp. nov.

Length 1.4–1.6 mm, width 0.9–1.0 mm.

Form oval in outline, moderately convex, dorsal pubescence white. Head reddish brown with black eyes. Pronotum reddish yellow with a large black mark at its base. Elytron black with a red round spot, which is situated a little behind the middle of elytron; sub-apex brown, apical margin narrowly yellow (Fig. 2 A). Venter black except for prosternum, hypomeron yellow. Legs yellow.

Punctuation on head fine, separated by about 1.0–1.5 times a diameter; punctures on pronotum like those on head; elytron with coarse punctures, separated by about a diameter. Postcoxal line incomplete, gently arched, extending to about 5/7 length of 1st abdominal sternum; area surrounded by postcoxal line irregularly punctured (Fig. 2 C).

Male genitalia:— Sipho long, slender, with the basal half semicircularly curved; siphonal capsule with long inner process and distinct outer process; siphonal apex with two wing-like appendix (Fig. 2 D–E). Lateral lobes of tegmen slightly shorter

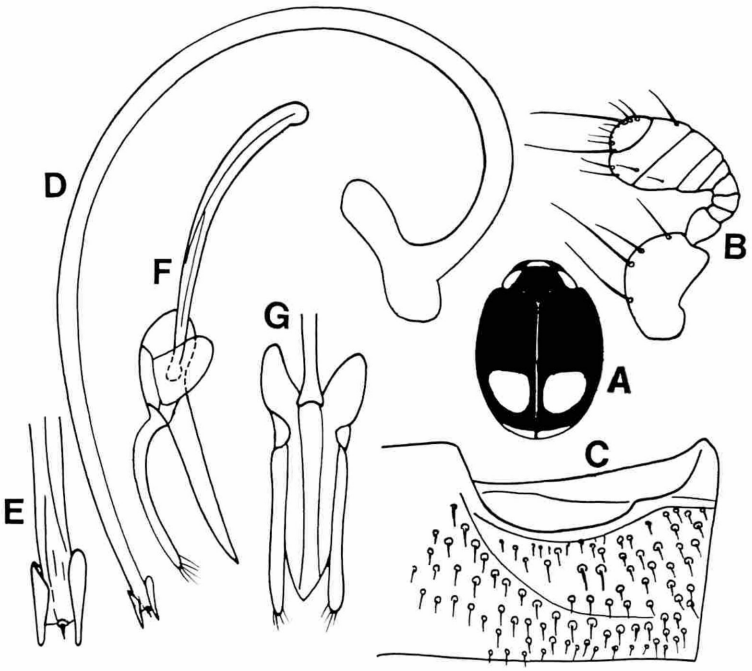

Fig. 2. *Nephus* (*Geminosipho*) *triblulus* sp. nov. —— A, Outline of body; B, antenna; C, first abdominal sternum; D, sipho; E, apex of sipho; F, tegmen, lateral aspect; G, tegmen, ventral aspect.

than median piece (Fig. 2 F–G).

Holotype: ♂, No. 890055–2, Shenlongjia, Hubei, China, 16–VII–1989, REN Shunxiang leg. Allotype: ♀, 14–VII–1989, same locality as holotype. Paratypes: Shenlongjia, Hubei, China, 2 ♂♂, 1 ♀, 14–VII–1989, 2 ♂♂, 16–VII–1989, REN Shunxiang leg. Jishou, Hunan, China, 4 ♂♂, 16–VII–1989, REN Shunxiang leg. Zhangjiajie, Hunan, China, 10–VII–1989, 1 ♂, 1 ♀, REN Shunxiang leg., 1 ♂, TIAN Mingyi leg.

Remarks. This species is similar to *Nephus* (*Nephus*) *dilepismoides* PANG et PU, but is easily distinguished from the latter by the large wing-like appendix of siphonal apex, and the red round spot on the subapex of each elytron.

6. *Nephus* (*Geminosipho*) *klapperichi* MADER, comb. nov.

Scymnus (*Nephus*) *klapperichi* MADER, 1955, 1026.

Distribution. China (Fujian).

Specimens examined. [Fujian]: 1 ♂, 4 ♀♀, Jinshan, X–1980, HUANG Bangkan leg. 1 ♂, 1 ♀, Fuzhou, X–1982, HUANG Bangkan leg.; 1 ♂, 3 ♀♀, Fuzhou, 10–IV–1982, 2 ♀♀, XI–1982, ZHANG Kechi leg.; 1 ♂, 5 ♀♀, Fuzhou, 2–X–1983, TANG Yuqin leg.; 2 ♂♂, Fuzhou, IX–1984, LUO Xiaonian leg.

Subgenus *Nephus* MULSANT, 1846

Scymnus (*Nephus*) MULSANT, 1846, 237.
Nephus (*Nephus*): GORDON, 1976, 278; IABLOKOFF-KHNZORIAN, 1976, 376; PANG & GORDON, 1986, 194; FURSCH, 1987, 64.

Type species: *Sphaeridium quadrimaculatum* HERBST, 1783 (by subsequent designation of KORSCHEFSKY, 1931).

Antenna 11-segmented, basal two segments fused or at least tightly joined. Postcoxal line on 1st abdominal sternum curved forward apically.

Key to the Species of *Nephus* (*Nephus*) of China

1 (2) Elytra black with 4 light spots ..... *N. quadrimaculatus* HERBST.
2 (1) Elytra black with 2 light spots.
3 (4) Median piece of tegmen symmetrical ..... *N. roepkei* (FLUITER).
4 (3) Median piece of tegmen asymmetrical.
5 (6) Apex of sipho distinctly bent outward ..... *N. phosphorus* (LEWIS).
6 (5) Apex of sipho nearly straight ..... *N. ryuguus* (KAMIYA).

7. *Nephus* (*Nephus*) *quadrimaculatus* (HERBST)

Sphaeridium quadrimaculatum HERBST, 1783, 30.
Scymnus (*Nephus*) *4-maculatus*: MADER, 1955, 949.
Nephus quadrimaculatus: KORSCHEFSKY, 1931, 132; GURREAU, 1974, 195.

Nephus quadrimaculatus quadrimaculatus: KUGELANN, 1794, 564; CANEPARI & TEDEHI, 1977, 101; FURSCH, 1980, 109.

Distribution. China (Taiwan); Turkey; Sicily; Austria; France; Italy; Greece; Syria.

Specimen examined. [Taiwan]: 1 ♂, Alishan, 10–VI–1977, KLAPPERICH leg.

8. *Nephus (Nephus) roepkei* (FLUITER)

Scymnus roepkei KLUITER, 1938, 49.
Nephus roepkei: CHAPIN, 1965, 201; SASAJI, 1971, 133.
Nephus (Nephus) roepkei: PANG & GORDON, 1986, 195.

Distribution. China (Guangdong, Hainan); Japan; Java; Philippines; Micronesia.

Specimens examined. [Guangdong]: 1 ♂, 3 ♀♀, VII–1972, PANG Xiongfei leg.; 3 ♂♂, 1 ♀, Zhaoqing, 18–V–1989. [Hainan]: 1 ♂, 4 ♀♀, Haikou, 7–XI–1989, REN Shunxiang leg.

9. *Nephus (Nephus) phosphorus* (LEWIS)

Scymnus phosphorus LEWIS, 1896, 37.
Nephus phosphorus: OHTA, 1929, 13; SASAJI, 1971, 127.
Scymnus (Nephus) phosphorus: KORSCHEFSKY, 1931, 132; MADER, 1955, 954; BIELAWSKY, 1957, 24; KAMIYA, 1961, 288; NAKANE, 1963, 208; FURSCH, 1965, 181.
Nephus galloisi SICARD, 1907, 211.
Scymnus (Nephus) galloisi: KORSCHEFSKY, 1931, 126.
Scymnus bipunctatus WEISE, 1879, 150.

Distribution. China (Sichuan); Japan.

Specimens examined. [Sichuan]: 2 ♂♂, 2 ♀♀, Wan County, 25–VI–1989, REN Shunxiang leg.

Remarks. This species is newly recorded from China. It is variable in elytral color pattern. Japanese specimens, the typical form, has oval yellow spot on the elytron, situated a little behind the middle. Chinese specimens have a longitudinal yellow spot on the elytron, which is subparallel to the long axis of the body, the anterior border of the spot extending beyond the middle.

10. *Nephus (Nephus) ryuguus* (KAMIYA)

Scymnus (Nephus) ryuguus KAMIYA, 1961, 289.
Nephus ryuguus: SASAJI, 1971, 127; PANG & MAO, 1979, 49.
Nephus (Nephus) ryuguus: FURSCH, 1987, 64.

Distribution. China (Guangdong, Guangxi, Guizhou, Shaanxi, Sichuan); Japan.

Specimens examined. [Guizhou]: 2 ♂♂, Guiyang, 12–VIII–1987, 15–VIII–1985, PANG Xiongfei leg.

Subgenus *Sidis* MULSANT, 1850

Sidis MULSANT, 1850, 975; KORSCHEFSKY, 1931, 117; BIELAWSKI, 1959, 42; FURSCH, 1980, 307.
Nephus (*Sidis*): GORDON, 1976, 282; IABLOKOFF-KHNZORIAN, 1976, 387; FURSCH, 1987, 68.

Type species: *Scymnus* (*Sidis*) *binaevatus* MULSANT, 1850 (by subsequent designation of KORSCHEFSKY, 1931).

Antenna 9-segmented, large basal segment undivided. Postcoxal line on 1st abdominal sternum incomplete, nearly reaching lateral margin, curved forward parallel to pre-lateral margin.

11. *Nephus* (*Sidis*) *tagiapatus* (KAMIYA)

Scymnus (*Nephus*) *tagiapatus* KAMIYA, 1965, 104.
Nephus tagiapatus: SASAJI, 1968, 122; 1971, 130.
Nephus roonwali KAPUR, 1966, 163.
Nephus (*Nephus*) *tagiapatus*: PANG & GORDON, 1986, 196.

Distribution. China (Guangdong, Guangxi, Taiwan); Andaman Is; India; Malaysia; Ryukyus; Thailand.

Specimens examined. [Guangdong]: 2 ♂♂, V–1973; 4 ♀♀, VIII–1973, PANG Xiongfei leg. [Taiwan]: 1 ♀, Taipei, 3–IV–1977, KLAPPERICH leg. [Guangxi]: 1 ♂, 1 ♀, 5–V–1980; 1 ♂, 12–V–1982, PU Tianshen leg.

要　約

任　順祥・庞　雄飞: 中国産ホソヒメテントウ属の種. ——中国産のホソヒメテントウ属の種を3亜属 11 種に整理し，2 新種を記載，1 種を新たに記録した．また，亜属および種の区別点を検索表に示した．

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Elytra, Tokyo, **22** (2): 333, Nov. 15, 1994

A New Name for *Oxytelus* (*Tanycraerus*) *montivagus* ITO (Coleoptera, Staphylinidae)

Tateo ITO

E7-303, Otokoyama Yutoku 8, Yawata, Kyoto, 614 Japan

Dr. Lee H. HERMAN kindly informed me that the name *Oxytelus montivagus* ITO, 1994, is preoccupied by *Oxytelus montivagus* HEER, 1841. I have confirmed this information: O. HEER described *montivagus* in *Oxytelus*; the name is now in *Anotylus* and is a junior synonym of *A. sculpturatus* (GRAVENHORST, 1806). I am greatly indebted to Dr. HERMAN of the Department of Entomology, American Museum of Natural History, for his kindness.

Oxytelus* (*Tanycraerus*) *houomontis ITO, nom. nov.

Oxytelus (*Tanycraerus*) *montivagus* ITO, 1994, Nat. Hist. Res., Chiba, **3**: 42 (nom. praeocc. by O. HEER, 1841, Fauna Coleopt. Helv., 1 (3): 574).

Elytra, Tokyo, **22** (2): 334, Nov. 15, 1994

Records of *Asilaris zonatus* PASCOE (Coleoptera, Cerambycidae) from Indonesia

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The lepturine beetle, *Asilaris zonatus* PASCOE was described from Penang, Malaysia, and have hitherto been no record except for citation of the original description. Through the courtesy of Mr. Masao TÔYAMA (Chino-shi, Nagano Pref.), I was able to examine a specimen collected in West Kalimantan, Indonesia, and also Prof. Masataka SATÔ (Nagoya Women's University, Nagoya) brought me two specimens from Is. Belitung, Indonesia, collected by Mr. T. YOSHIDA. These specimens agree with the original description and photograph of the holotype taken by Prof. Masataka SATÔ at the British Museum except for coloration of six apical segments of antenna which are black instead of being ochraceous. It is not clear if the difference of antennal color is subspecific feature or individual variation because of a few materials available, and further careful examinations are hoped. My thanks are due to the above mentioned persons for their kindness in supplying with valuable materials.

Asilaris zonatus PASCOE

Asilaris zonatus PASCOE, 1866, Proc. zool. Soc. London, **1866**, p. 505, pl. 41, fig. 1; LACORDAIRE, 1869, Gen. Coléopt., **8**, pp. 452–453; AURIVILLIUS, 1912, Junk's Coleopt. Cat., **39**, p. 249; BOPPE, 1921, Gen. Ins., **178**, p. 104; HAYASHI & VILLIERS, 1989, Bull. Osaka Jonan Women's Jr. Coll., **24**, p. 11.

Specimens examined. 1 ♂, Mt. Bawang, W. Kalimantan, Indonesia, V–1992, collected by a native; 2 ♂♂, Is. Belitung, SE of Sumatra, Indonesia, IV–1988, T. YOSHIDA leg.

Elytra, Tokyo, **22** (2): 335–343, Nov. 15, 1994

A Revisional Study of the Japanese Species of the Family Ischaliidae (Coleoptera, Heteromera)

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Abstract The Japanese species of the family Ischaliidae (Heteromera) are reviewed. *Ischalia patagiata* var. *luteolineata* PIC is raised to the species rank, and its diagnostic characters are pointed out in relation to a redescription of *I. patagiata* LEWIS. A new species, *I. takane* M. SAITÔ is described. Subgeneric position of the three species is discussed.

About one hundred years ago, G. LEWIS (1879) described a rare heteromeran from Hiogo and Nagasaki in West Japan, and named it *Ischalia patagiata*. Later, PIC (1912) recognized its variety, *luteolineata*, from the vicinities of Tokyo and Nikko, Central Japan. Since then, only one species of *Ischalia* with two forms has been recognized in Japan, and has currently been placed in the Pyrochroidae.

In recent years, there arose a question if *I. patagiata* is a mere polymorphic species. Though the type specimen of *I. patagiata* is fully winged, apterous individuals occur on the Japanese Alps. This fact has been known for some time, but no conclusive account has been published until now. In my own view, so-called *I. patagiata* seems to contain three different species, *I. patagiata* LEWIS, *I. luteolineata* PIC and *I. takane* M. SAITÔ, the last one of which is a new species to be described in the present paper.

Before going further, I wish to express my deep gratitude to Professor Masataka SATÔ (Biological Laboratory, Nagoya Women's University, Nagoya) for his kind support of this work, and to Professor Hiroyuki SASAJI (Fukui University, Fukui) for his continuous advice and encouragement. Hearty thanks are also due to Messrs. Kaoru HAGA (Kanagawa), Katsumi AKAITA (Mie), Kenichi EMOTO (Tokyo), Kôichi HOSODA (Yamanashi), Noboru KANIE (Nagoya), Nobuyuki NARUKAWA (Mie), Norio OKUDA (Osaka), Yoshinori KANEKO (Tokyo), and Dr. Takashi KISHII (Heian High School, Kyoto) for their kind help in offering materials, and to Mr. Masaru OSADA (Fukui) for taking photographs inserted in this paper.

Ischalia (*Pseudohomalisus*) *patagiata* LEWIS, 1879

[Japanese name: Herihane-mushi]

(Figs. 1, 4, 7, 10)

Ischalia patagiata LEWIS, 1879, Ann. Mag. nat. Hist., (5), **4**: 463; type localities: Hiogo and Nagasaki; 1887, Ann. Mag. nat. Hist., (5), **20**: 168, —— NAKANE, 1960, Ent. Rev. Japan, **11**: 60; 1963, Icon. Ins. Japon. Col. nat. ed., Tokyo, **2**: 239, pl. 120, fig. 1 [*partim*]. —— SASAJI, 1985, Coleopt.

Japan Col., Osaka, **3**: 355, pl. 60, fig. 1 [*partim*]. —— NIKITSKY, 1992, Opred. Nasek. Dal'nego Vostoka SSSR, **3**(2): 497, fig. 239–1 [*partim*].

Description. Male and female. Body elongate, flat, somewhat shining; surface rather closely covered with pale yellowish brown pubescence except for antennae, which is shorter and closer on abdomen than on the other parts; antennae dark, thickly and closely pubescent. Body wholly brownish black in ground colour, with somewhat paler mouth parts and tarsi; lateral parts of elytra broadly yellowish brown, forming two distinct stripes reaching suture, whose width is less than half the width of each elytron on either side; the yellow stripe usually indented by blackish ground colour just before apex though the indentation does not extend onto reflexed margin.

Head suboval, sparsely and rather coarsely punctate on the surface, transversely concave between eyes, and roundly swollen from between eyes to vertex, the latter of which is simply rounded down to neck constriction; clypeus separated from frons by a transverse groove; eyes kidney-shaped and moderately produced. Antennal sockets carinate. Antennae shorter than half the body length, the third segment 1.71–2.33 times as long as wide, terminal segment obliquely truncated outwards. Terminal segment of maxillary palpus triangular, thick, outer margin the longest, anterior margin slightly longer than the inner.

Pronotum subcampanulate, 1.38–1.43 times as wide as long, and widest at the middle; lateral margins strongly arcuate in front and with very obtuse apical angles, sinuate towards hind angles which are obtusely produced; sides narrowly bordered, basal margin usually weakly bisinuate; disc gibbous in front with a clear median longitudinal furrow, transversely concave behind the gibbosity and with a very strong longitudinal median carina which is usually produced backwards; surface distinctly foveate at the sides of median carina and inside lateral borders in basal half, the two foveae being connected by a transverse depression on each side; punctures on the surface as on head. Scutellum triangular, usually rounded at the tip and becoming convex towards the tip, surface rather coarsely punctate.

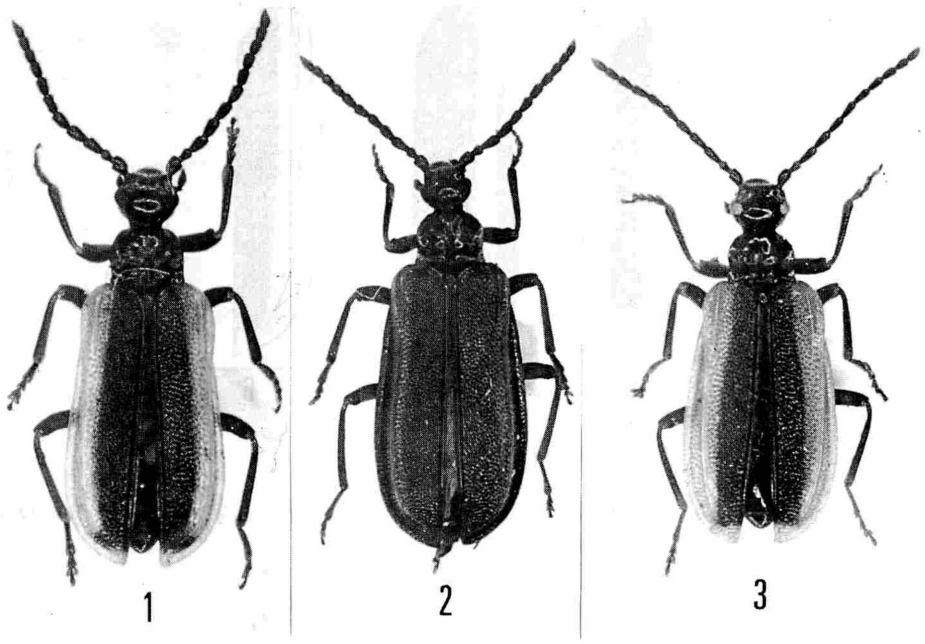
Elytra flat, subparallel-sided, with rounded but distinct shoulders; sides slightly divergent from behind shoulders, moderately and widely arcuate in apical third, and narrowly rounded at apex; surface coarsely and very densely punctate, though the punctures become indistinct on sutural and lateral costae and along lateral borders; suture clearly raised to form a costa; each elytron with a long sharp costa extending from base to near apex along lateral border, which is strongly arcuate over humeral part and does not reach suture, and also with a sharp short humeral costa inside the long one, which is more highly raised than the outer. Lateral edges of elytra obtuse; epipleuron wide. Wings full.

Mesepisterna approaching each other in front.

Male genitalia: paramere slender, 6.33–7.12 times as long as wide, dark reddish brown in colour, with the apex shallowly emarginate; sides haired in apical halves.

Length: 5.4–6.6 mm; breadth (between shoulders): 1.9–2.1 mm.

Specimens examined. 1 ex., Kojiri, Hakone-machi, Kanagawa Pref., 22–VI–1983.



Figs. 1–3. Habitus of the Japanese species of *Ischalia*. —— 1, *I.* (*Pseudohomalisus*) *patagiata* LEWIS; 2, *I.* (*P.*) *luteolineata* PIC; 3, *I.* (*P.*) *takane* M. SAITÔ, sp. nov., holotype.

T. MAENAMI leg.; 1 ex., Pass Mennoki-tôge, Inabu-chô, Aichi Pref., 24–X–1982, N. KANIE leg.; Mt. Sanage-yama, Toyota-shi, Aichi Pref., 2–VII–1978, N. KANIE leg.; 1 ex., same locality, 16–VII–1985, N. KANIE leg.; 2 exs., Yufune, Ayama-chô, Mie Pref., 25–X–1992, K. AKITA leg.; 1 ex., Fukuro-tonda, Shirahama-chô, Wakayama Pref., 27–VII–1991, S. TANAKA leg.; 1 ex., Spa Yubara-onsen, Yubara-chô, Okayama Pref., 2–VII–1991, Y. KANEKO leg.; 1 ex., Futamata-gawa, Koyama-chô, Kagoshima Pref., 3–V–1991, K. HAGA leg.

Notes. This species is usually collected on relatively low mountains less than 1,000 m in altitude.

Ischalia* (*Pseudohomalisus*) *luteolineata PIC, 1912, stat. nov.

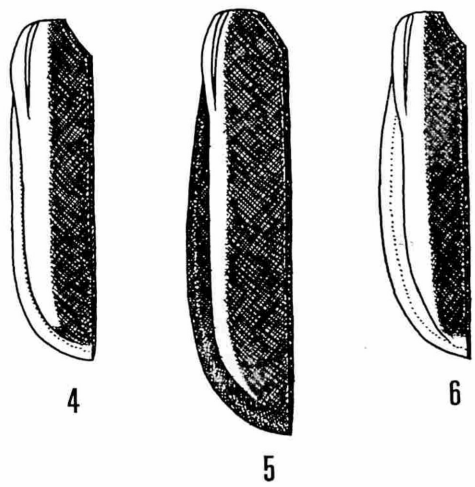
[Japanese name: Kisuji-herihane-mushi]

(Figs. 2, 5, 8, 11)

Ischalia patagiata var. *luteolineatus* PIC, 1912, Bull. Mus. Hist. nat., Paris, **18**: 142; type localities: environs de Tokio et Alpes de Nikko. —— NAKANE, 1960, Ent. Rev. Japan, **11**: 60.

Ischalia patagiata: NAKANE & IGA, 1955, Col. Illustr. Ins. Japan, **1**: 113, pl. 34, fig. 774 [*partim*]. —— OKUDA, 1992, Gekkan-Mushi, Tokyo, (252): 36, with figs.

This species is allied to *I. patagiata*, and accords with the above description of



Figs. 4–6. Elytra of *Ischalia* (*Pseudohomalisus*) spp. —— 4, *I.* (*P.*) *patagiata* LEWIS; 5, *I.* (*P.*) *luteolineata* PIC; 6, *I.* (*P.*) *takane* M. SAITÔ, sp. nov.

the latter in most characteristics. It is, however, different from *I. patagiata* and the next new species by the following features.

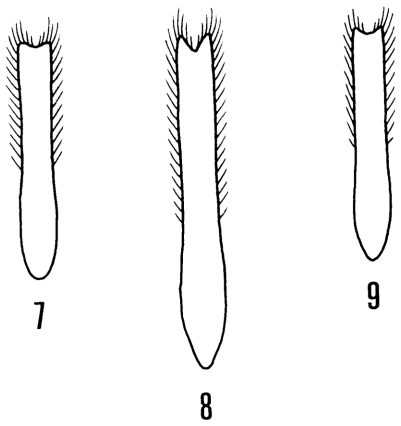
Elytra with a pair of orange stripes on lateral costae, though the end of the stripe does not reach the terminal point of the costa, and brownish black outside the lateral costae.

Head with a pair of obtuse protuberances at the sides of vertex, which are sometimes weak. Pronotum campanulate, 1.17–1.33 times as wide as long; longitudinal median carina on the disc more or less stronger than in the other Japanese species; pronotal disc with a pair of weak humps at the top of the anterior gibbosity. Scutellum W-shapedly emarginate, with the apical convex part extending over proximal portions of elytra. Elytral costae more or less stronger than in the other Japanese species, the longer one approaching and sometimes nearly reaching suture; lateral edges sharp throughout. Wings full.

Male genitalia: paramere more slender than in the other Japanese species, 9.86–12.33 times as long as wide; apex deeply incised in a V-shape.

Length: 4.9–6.5 mm; breadth (between shoulders): 1.7–2.1 mm.

Specimens examined. 1 ex., Dôdaira, Tanzawa, Kanagawa Pref., 4–VII–1993, T. KINOSHITA leg.; 1 ex., Pass Ohdarumi-tôge, Kanagawa Pref., 6–VIII–1990, N. KOBAYASHI leg.; 1 ex., Fuji-rindô, Mt. Fuji, Yamanashi Pref., 10–VII–1988, K. EMOTO leg.; 2 exs., near Kanayama, Sudama-chô, Yamanashi Pref., 8–X–1989, N. KOBAYASHI leg.; 2 exs., Mt. Kushiga-take, Nakakoma-gun, Yamanashi Pref., 11–VIII–1974, Y. HIRANO leg.; 9 exs., Pass Kannon-tôge, Kitakoma-gun, Yamanashi Pref., 26–X–1991, N. OKUDA leg.; 1 ex., Hirakura, Misugi-mura, Mie Pref., 16–XI–1991, K. KAWASE leg.;



Figs. 7–9. Parameres of *Ischalia* (*Pseudohomalisus*) spp., dorsal view. —— 7, *I.* (*P.*) *patagiata* LEWIS; 8, *I.* (*P.*) *luteolineata* PIC; 9, *I.* (*P.*) *takane* M. SAITÔ, sp. nov.

1 ex., same locality, 4–VII–1993, K. AKITA leg.; 1 ex., same locality, 22–VIII–1993, N. NARUKAWA leg.

Notes. This species is distributed in the same general area as the range of *I. patagiata*, but usually occurs at higher places.

Ischalia (*Pseudohomalisus*) *takane* M. SAITÔ, sp. nov.

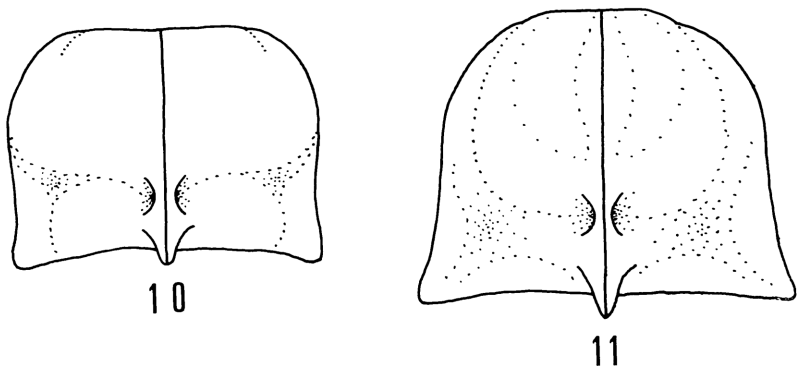
[Japanese name: Takane-herihane-mushi]

(Figs. 3, 6, 9)

Description. Male and female. Body elongate, flat, somewhat shining; surface rather closely covered with pale yellowish brown pubescence except for antennae, which is shorter and closer on abdomen than on the other parts; antennae dark, thickly and closely pubescent. Body wholly brownish black in colour, with somewhat paler mouth parts and tarsi; elytra broadly yellowish brown at the sides, the stripes being more than half the width of elytra, indented before apices and reaching suture.

Head suboval, rather sparsely punctate on the surface, transversely concave between eyes, and roundly swollen from between eyes to vertex, which is simply rounded down to neck constriction; antennal sockets carinate; clypeus separated from frons by a transverse groove; eyes kidney-shaped and moderately produced. Antennae shorter than half the body length, the third segment 2.00–2.18 times as long as wide, the terminal segment obliquely truncated outwards. Terminal segment of maxillary palpus triangular, thick, outer margin the longest, anterior margin slightly longer than the inner.

Pronotum subcampanulate, 1.28–1.41 times as wide as long, widest at the middle; lateral margins strongly arcuate in front, with very obtuse apical angles, sinuate to-



Figs. 10–11. Pronotum of *Ischalia* (*Pseudohomalisus*) spp. —— 10, *I.* (*P.*) *patagiata* LEWIS; 11, *I.* (*P.*) *luteolineata* PIC.

wards hind angles which are very obtusely produced outwards; sides narrowly bordered throughout, border weakly bisinuate; disc gibbous in front and with a clear median longitudinal furrow, transversely concave behind the gibbosity as in *I. patagiata*, longitudinal median carina very strong and usually projecting backwards; punctures on the surface as on head. Scutellum triangular, usually rounded at the tip, convex posteriad, and rather closely punctate on the surface.

Elytra flat, subparallel-sided though slightly dilated apicad, with rounded shoulders; sides widely arcuate in preapical parts; each elytral apex slightly produced; surface coarsely and very densely punctured, but the punctures become indistinct on sutural and lateral costae and along lateral borders, suture clearly raised; each elytral disc with a long sharp costa from base to near apex along lateral border, which is strongly arcuate over the humeral part and separated from suture at the apical end, and also with a short sharp costa inside the longer one, which is not obviously higher than the latter; lateral edges obtuse; epipleuron wide. Wings atrophied.

Mesepisterna approaching each other in front.

Male genitalia: paramere slender, 8.00 times as long as wide, dark reddish brown in colour, with the apex shallowly emarginate, and narrowly rounded at the sides; marginal hairs as in *I. patagiata*.

Length: 4.8–5.5 mm; breadth (between shoulders): 1.5–1.8 mm.

Type series. Holotype: ♂, Pass Ohdarumi-tôge, Kanagawa Pref., 18–VII–1990, N. KOBAYASHI leg. Allotype: ♀, Hatchô-taira, Koma, Yamanashi Pref., 12–VIII–1985, T. KINOSHITA leg. Paratypes: 1 ex., same locality as for the holotype, 22–VII–1990, N. KOBAYASHI leg.; 1 ex., Mts. Hohwoh-san, Nirasaki-shi, Yamanashi Pref., 15–VIII–1993, K. HAGA leg.; 1 ex., same locality, 23–VII–1991, K. HOSODA leg.; 1 ex., same data as for the allotype; 1 ex., Pass Tokugô-tôge, Azumi-mura, Nagano Pref., 25–VII–1951, H. ISHIDA leg.; 1 ex., same locality, 28–VII–1951, H. ISHIDA leg.

The holotype and allotype are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Notes. Though the present new species is very similar to *I. patagiata*, it is discriminated from the latter by the following points: 1) wings atrophied; 2) yellowish stripe more than half the width of each elytron; 3) elytra slightly dilated towards apices, with each apex slightly produced; 4) longer and shorter elytral costae about equal in height to each other; 5) antennae and legs more slender; 6) body smaller. This new species occurs on higher mountains, usually more than 2,000 m in altitude, than the habitats of *I. patagiata*, so that the two species do not coexist with each other.

Discussion

Systematic position of the genus *Ischalia* is not stable, since it is included either in the family Pyrochroidae or in the family Pedilidae. Recently, NIKITSKY (1992) erected the family Ischaliidae, though no explanation for this arrangement was expressed. In this paper, I have followed his opinion, because the genus *Ischalia* bears such unique characters, as the simple antenna, distinctly triangular terminal segment of maxillary palpus, strong pronotal median carina projecting backwards, long strong elytral carinae accompanying short strong humeral ones, and simple parameres.

As all the three Japanese ischaliids described above bear the mesepisterna which are not widely distant, they can be place in the subgenus *Pseudohomalisus* established by PAULUS (1971), who already suggested this arrangement for *I. patagiata*.

It is interesting to note that *I. takane* which is apterous occurs only on high mountains, while its close relative, *I. patagiata*, is an low altitude inhabitant and has fully developed hind wings. A similar specialization is known in Taiwan, where according to SATÔ (1990), apterous *I. uenoi* M. SATÔ is found only in the alpine zone and winged *I. arisana* KÔNO occurs at lower places. Probably, an ancestral species spread its range onto higher places, and became differentiated into an independent species. It is possible that further speciation has taken place between different high mountains. This may be confirmed by future investigations.

As the ischaliid species are rare in Japan, there are only a few ecological records. It is, however, worth noting that OKUDA (1992) recorded *I. luteolineata* (not *I. patagiata*) growing in groups on fungi adhering to dead trees. The pupa is very unique in the Heteromera; it hangs itself from fungus by the tip of its abdomen and bears several long spines on the body, which seem to serve for protection from enemies. Just after ecdysis, adults stay there for some time. According to SATÔ (1992), Taiwanese *I. uenoi* which is apterous was collected from under dead leaves accumulated in a narrow depression near the top of a high mountain. Japanese *I. takane*, which is also apterous, can be collected by beating low bushes or by sweeping grasses. Hibernation is known to take place in the adult stage, but the exact wintering place is unknown. These ecological data, though not much, also support the view that this group of beetles form their own family different from other related families.

要　約

斎藤昌弘：日本産ヘリハネムシ科の研究．—— 100年ほど前，LEWIS (1879) は西日本からヘリハネムシ *Ischalia patagiata* LEWIS を記載し，のちに PIC (1912) が var. *luteolineata* PIC を報告した．それ以来，日本のヘリハネムシ類は，すべて同一種だと考えられてきた．近年，別種が含まれているのではないかという意見が出され，わたしも検討したところ3種を認めたので，ヘリハネムシ *Ischalia patagiata* LEWIS を再記載し，PIC の記載した変種を独立種キスジヘリハネムシ *Ischalia luteolineata* PIC に昇格させ，さらに高山種であるタカネヘリハネムシ *Ischalia takane* M. SAITÔ を新たに記載した．

ヘリハネムシ属 *Ischalia* の所属は従来，不安定であったが，NIKITSKY (1992) は理由をつけずに独立の科へ昇格させた．わたし自身もこの甲虫群の特異性を認めて NIKITSKY の処置に賛同した．また，日本産の3種は，PAULUS (1971) の創設した亜属 *Pseudohomalisus* に該当するものと判断した．

日本における高山性の無翅種タカネヘリハネムシが低山性の有翅種ヘリハネムシに近似する点は，台湾における高山性の無翅種ウエノヘリハネムシ *Ischalia uenoi* M. SATÔ が，中山性の有翅種アリサンヘリハネムシ *Ischalia arisana* KÔNO に似ていることと平行する．多分，低山のものが高山に進出して，無翅の高山種を形成したのだろう．

生態の報告はほとんどない．奥田 (1992) によれば，菌類で成育して，蛹は垂体で剛毛を生やしている．佐藤 (1992) は，台湾のウエノヘリハネムシが落葉下から採集されたと報告した．いっぽう，日本のタカネヘリハネムシは，低いブッシュや草のスウィーピングで採集される．また越冬は，成虫態で行われる．これらの生態的特徴も，ヘリハネムシ類の近縁科からの独立性を支持するものである．

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Elytra, Tokyo, **22** (2): 343, Nov. 15, 1994

Stenotarsus ryukyuensis CHÛJÔ et KIUCHI (Coleoptera, Endomycidae) New to the Fauna of Taiwan

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Stenotarsus ryukyuensis CHÛJÔ et KIUCHI (1974, Bull. Japan ent. Acad., **8**, p. 5) has been known only from the Ryukyu Islands (Nakanoshima, Amami-Oshima and Okinawa). I have recently captured numerous individuals of this species in Taiwan as follows: 36 exs., Chihpen, Taitung Hsien, SE Taiwan, 22-IV-1994, S. OSAWA leg. (under bark).

I thank Dr. Hiroyuki SASAJI, Fukui University, who kindly confirmed the identity of the specimens above with those from Amami.

Elytra, *Tokyo*, **22** (2): 344, Nov. 15, 1994

Records of *Leptura miniacea* GAHAN (Coleoptera, Cerambycidae) from Thailand and China

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The lepturine beetle, *Leptura miniacea* GAHAN was originally described from the Naga Hills, Assam, and have hitherto been no additional record. Through the courtesy of Mr. Minoru TAO (Yokohama City), I was able to examine some specimens collected by himself in Thailand, and also Mr. Tatsuya NIISATO (Bioindicator Co. Ltd., Tokyo) brought me a specimen from China through Prof. HUA Lizhong (Zhongshan University, Guangzhou, China). These specimens actually coincide with the original description and photograph of the holotype taken by Prof. Masataka SATÔ (Nagoya Women's University, Nagoya) at the British Museum. Though this species has rather peculiar structure posing some problems as to its generic position, I would like to record these new localities and hope to discuss its true status again in the future. My thanks are due to the above mentioned persons for their kindness in supplying with valuable materials.

Leptura (?) *miniacea* GAHAN

Leptura miniacea GAHAN, 1906, Fn. Brit. India, Coleopt., **1**, pp. 82-83; type locality: Naga Hills; AURIVILLIUS, 1912, Junk's Coleopt. Cat., **39**, p. 221; BOPPE, 1921, Gen. Ins., **178**, p. 90.

Specimens examined. 1♂, Doi Suthep, Chiang Mai, N. Thailand, 22-V-1988, M. TAO leg.; 1♂, Elephant Camp, Maesa, Chiang Mai, N. Thailand, 25-V-1989, M. TAO leg.; 1♀, Chiang Dao, Chiang Mai, N. Thailand, 28-V-1980, M. TAO leg.; 1♂, 1♀, Nan Prov., N. Thailand, VI-1992, collected by a native; 1♀, Longrui, Guangxi Zhuangzu Zizhiqu, China, 31-V-1980, no further data.

Elytra, Tokyo, **22** (2): 345–347, Nov. 15, 1994

A New Species of the Genus *Strangalia* (Coleoptera, Cerambycidae, Lepturinae) from Taiwan

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Abstract A new species, *Strangalia fujitai*, is described from Taiwan (China). It seems to be a relative of *S. gracilis* GRESSITT from the Ryukyu Islands.

The cerambycid beetles belonging to the genus *Strangalia* AUDINET-SERVILLE, 1835 (type species: *Leptura luteicornis* FABRICIUS, 1775, designated by THOMSON, 1860) have been unknown from Taiwan. There were some Taiwanese species described as members of *Strangalia*, but they were transferred to other genera. However, I have a female specimen of true *Strangalia* collected by Mr. H. FUJITA in northern Taiwan. This species is similar to *S. gracilis* GRESSITT, 1934, in general appearance and elytral markings, but can be easily distinguished from it by almost dark reddish body instead of being yellowish brown except for blackish portions. Most probably it is undescribed. I am therefore going to describe it as a new species in the present paper.

Strangalia fujitai sp. nov.

(Fig. 1)

Female. Head dark red with maxillary and labial palpi nearly black, antennae dark red though the apical portions of 3rd to 5th and 6th to 11th segments black; prothorax dark red with anterior and posterior margins and the underside almost black; scutellum and undersides of meso-metathoraces black, though most of metasternum and metepisternum is dark red; elytra dark yellowish brown and marked with black, three transverse bands, and humeri, basal portions of pleural ridges, sutural margins and apical portion dark red; legs dark red with coxae, trochanters, apices of meso-metatibiae, and apical portions of 1st and remaining segments of meso- and metatarsi almost black; abdomen dark red, somewhat shiny on the underside, anterior and posterior portions of 1st and posterior margin of 2nd sternites black.

Head much narrower than posterior width of prothorax (width across eyes: width of prothorax=3.0: 4.5); clypeus sparsely and somewhat coarsely punctured and covered with blackish pubescence which becomes pale yellow towards apex; frons to vertex densely and finely punctured and covered with short blackish pubescence, except for a median glabrous triangle; antennae slightly surpassing the middle of elytra and somewhat thicker than those of *S. gracilis*, and provided with an extremely shallow depression on each of 6th to 11th segments, 1st to 5th segments covered with black,

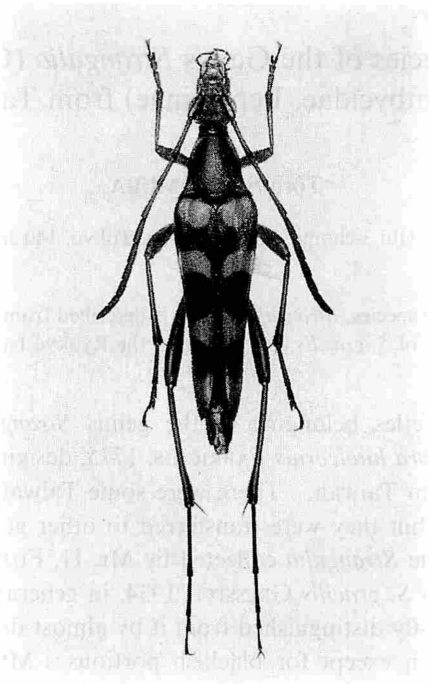

Fig. 1. *Strangalia fujitai* SHIMOMURA, sp. nov., female holotype, from Pihu in northern Taiwan.

subrecumbent, bristle-like hairs, and apical outer angles of 6th to 10th segments with short, bristle-like hairs; relative lengths of antennal segments=2.5: 0.5: 3.5: 2.8: 3.2: 2.2: 2.0: 1.5: 1.5: 1.2: 1.7.

Pronotum slightly broader than long (4.0: 4.2); sides somewhat more sinuate than in *S. gracilis*; surface finely punctured and covered with short black pubescence, and with golden pubescence near posterior margin, the punctures somewhat sparser and less sharply outlined than those of *S. gracilis*; meso-metathoraces minutely punctured and covered with pale yellowish pubescence.

Elytra about 2.7 times as long as humeral width; each apex narrowly and obliquely truncated, with a tooth at outer angle; surface finely and sparsely punctured and covered with golden, recumbent, short pubescence in dark yellowish brown areas and with black, recumbent, short pubescence in black and dark reddish areas.

Legs with hind femora somewhat more swollen than in *S. gracilis*; hind tibiae distinctly broadened in apical portion in lateral view; femora and tibiae covered with black, recumbent, short pubescence; 2nd and 3rd segments of hind tarsi thinner and longer than in *S. gracilis*; basal three segments of hind tarsus in a ratio of 5.0: 2.8: 1.2.

Abdomen with 1st to 4th sternites extremely minutely and sparsely punctured and sparsely covered with short pubescence, the punctures becoming much sparser towards each posterior margin; 5th sternite distinctly depressed in about apical two-

fifths, apical margin truncate; surface minutely punctured, sparsely covered with pale yellowish pubescence and with black pubescence on lateral and apical margins.

Length: 17.5 mm (measured from tips of mandibles to elytral apex); width: 3.9 mm (measured between humeral angles of elytra).

Holotype: ♀, Pihu, Pinglin, Taipei Pref., Taiwan, 21–V–1977, H. FUJITA leg. (to be deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo).

Remarks. This species is similar to *S. gracilis* GRESSITT, 1934, from the Ryukyus, Japan, but can be easily distinguished by the following characteristics in the female: body dark red instead of being yellowish brown, except for blackish portions; antennae somewhat thicker and of different coloration; pronotum devoid of a pair of black, oblique stripe or spot and its punctures sparser and less sharply outlined; 2nd and 3rd segments of hind tarsus thinner and longer; 3rd and 4th abdominal sternites without black band along each posterior margin, etc.

Acknowledgements

I express my sincere gratitude to Mr. H. FUJITA (Editor of Gekkan-Mushi, Mushisha Ltd., Tokyo) for offering me the specimen, and to Dr. S.-I. UÉNO (Department of Zoology, National Science Museum (Nat. Hist.), Tokyo) for his kindness of critically reading the original manuscript.

要　約

下村　徹: 台湾産 *Strangalia* 属の 1 新種. —— *Strangalia* 属に含まれるハナカミキリは, 台湾から今まで知られていなかった. しかし, 中華民国台湾省台北縣坪林付近で採集された本属に含まれる種 (1 ♀) を所持しているので, 新種として *Strangalia fujitai* と命名し記載した. この種は, 琉球列島 (奄美大島, 沖縄本島) に分布する *S. gracilis* GRESSITT に似ているが, 体は黒色部を除きほとんど暗赤色であること, 触角がより太く, 異なった配色をすること, 前胸背板後方中央付近に 1 対の黒斑がないこと, 後肢の第 2・3 付節がより細長いこと, 第 3・4 腹板の先端部に黒帯がないことなどの特徴から容易に区別される.

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Elytra, Tokyo, **22** (2): 348, Nov. 15, 1994

Collecting Records of *Lemula crucifera* SHIMOMURA (Coleoptera, Cerambycidae, Lepturinae)

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Lemula crucifera SHIMOMURA, 1979, was described on a female specimen collected at Paling ("Palin" is an error), about 700 m in altitude, Taoyuan Pref., Taiwan. This species is easily distinguished from other known species of this genus by the distinctive coloration and elytral markings, and is similar in appearance to some chrysomelid species from Taiwan that have the same pattern of color and elytral markings. The additional collecting records of this species have been unknown since it was described as new species. However, there are eleven males and three females of this species collected at three localities of Taoyuan Prefecture in my collection. Their collecting data are as follows:

1) Pachieh, nr. Tachi, Taoyuan Pref., Taiwan: 1♂, 7-III-1979, T. ITOH leg.

2) Nr. Ssuling, ca. 900 m, Taoyuan Pref., Taiwan: 1♂, 2-IV-1981, T. SHIMOMURA leg.; 6♂♂, 2♀♀, 19～22-III-1982, T. SHIMOMURA leg. (on the flowers of *Quercus* sp.).

3) Nr. Taman, ca. 800 m, Taoyuan Pref., Taiwan: 3♂♂, 1♀, 23-III-1982, T. SHIMOMURA leg. (on the flowers of *Quercus* sp.).

According to Mr. H. TORIGAI, this species was also collected at Meiyuan, Nantou Pref., Taiwan in March 1993 (personal communication). Judging from these data, this species possibly occurs in natural forests on mountains in lower altitude or hills in north-central Taiwan. In the specimens examined from Taoyuan Prefecture, there is no difference in color and elytral markings in both sexes.

I express my deep gratitude to Mr. J. ITOH (Tokyo) for his kindness in offering the specimen, and to Mr. H. TORIGAI (Takayama, Gifu) for giving me further information about this species, and to Dr. S.-I. UÉNO (Department of Zoology, National Science Museum (Nat. Hist.), Tokyo) for reading through the original manuscript of this short report.

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SHIMOMURA, T., 1979. New cerambycid beetles of the genus *Lemula* BATES from Taiwan. *Bull. natn. Sci. Mus., Tokyo*, (A), **5**: 271-279.

Elytra, *Tokyo*, **22** (2): 349–352, Nov. 15, 1994

A New Obriine Species (Coleoptera, Cerambycidae, Cerambycinae) Discovered from Iriomote-jima of the Ryukyu Islands

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and

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Abstract A new obriine species is described from Iriomote-jima of the Ryukyu Islands, Southwest Japan, under the name of *Obrium takeshitai*. This new species is closely allied to *O. piceorubrum* and *O. laosicum*, but differs from them mainly in the paler body colour, and the shorter and broader body form. These three species are common in the structure of head, pronotum and female abdominal sternites.

In the spring of 1991, six specimens of a peculiar obriine species were emerged out from host twigs of *Distylium racemosum*, which were collected on Nakamagawa Rindô in Iriomote Island of the Ryukyu Islands, by Mr. Yutaka TAKESHITA in his trip in 1990, and were submitted to us for examination. It was evident at a glance that they were very closely allied to a Taiwanese species, *Obrium piceorubrum* HAYASHI (1971, p. 5), although they were clearly separated by some external differences in the body coloration and body form, especially in the proportion of the pronotum. The Iriomote species in question also has a closer relationship to *O. laosicum* GRESSITT et RONDON (1970, p. 107, fig. 20 d) from Vientian Province of Laos. These three species no doubt belong to the same lineage in the Obriini, since they are closely related to one another in such peculiar characters as the prominent eyes, the strongly elongate pronotum with dense recumbent pubescence, and the absence of concavity (or emargination) and fringe of hairs on the female abdominal sternites. These structures are shared by the Indochinese genus *Ibidionidum* GAHAN (1894, p. 14).

In this paper, we are going to introduce this new species into science under the provisional name of *Obrium takeshitai*. The true systematic status of this new species and its relatives will be discussed in a separate paper to be published in near future. The abbreviations used in measurements of body parts are as follows: BL – body length from apex of mandibles to apices of elytra, AL – antennal length, AS 1–11 – antennal segments 1–11, HW – width of head across eyes, FL – length of frons, FA – apical width of frons, FB – basal width of frons, PL – length of pronotum, PW – maximum

width of pronotum, PA – apical width of pronotum, PB – basal width of pronotum, EL – elytral length, EW – humeral width of elytra.

Before going into further details, we wish to express our deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his constant guidance and reading through the manuscript of this paper, and to Mr. Yutaka TAKESHITA of Kitakyushu-shi for his kind offer of valuable material used in this study.

Obrium takeshitai NIISATO et OHMOTO, sp. nov.

[Japanese name: Ryûkyû-medakaameiro-kamikiri]

(Fig. 1 a–b)

Description. A large species with broad and flattened body. Colour yellowish brown, partially dark reddish brown or whitish yellow; head reddish brown, yellowish on clypeus, labrum and palpi, black at mandibular tips and on eyes; antennae whitish yellow except for dark reddish brown scape; pronotum dark reddish brown; elytra, scutellum and ventral surface dark yellowish brown; legs dark yellowish brown, though the basal parts of femora, basal parts of fore and mid tibiae and all tarsi are whitish yellow.

Head voluminous and hardly constricted behind eyes, sparsely and coarsely punc-

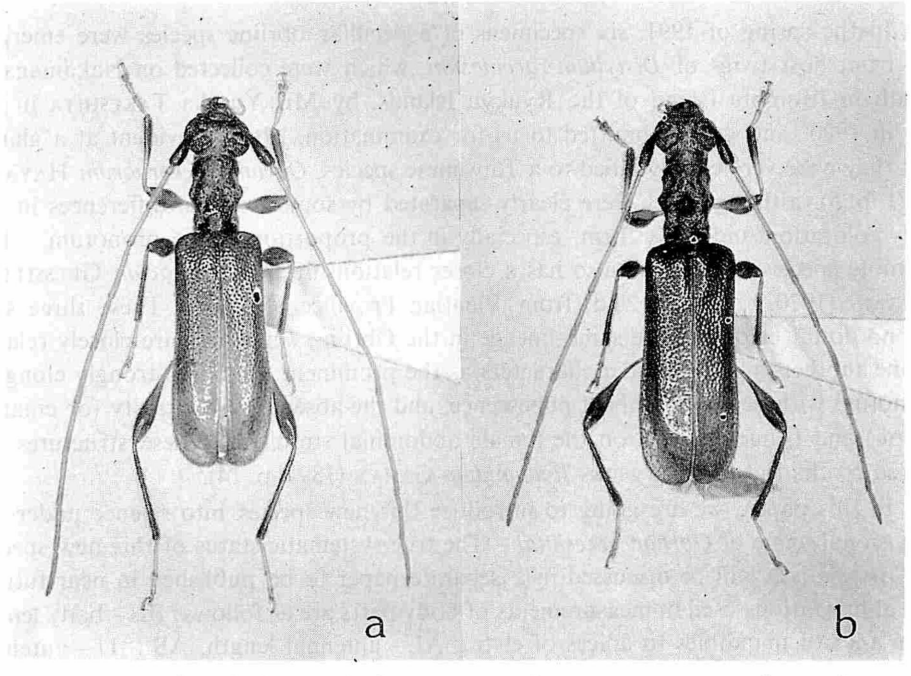

Fig. 1. Habitus of *Obrium takeshitai* NIISATO et OHMOTO, sp. nov.; a, holotype ♂; b, allotype ♀.

tured, clothed with dense recumbent yellowish silvery pubescence on posterior part including emarginations of eyes, and also sparsely with flying long pale hairs throughout; frons flattened near middle, sparsely punctured, arcuately emarginate on apical margin, with a distinct longitudinal groove; mandibles stout and rather short, strongly hooked at apices; eyes very large, distinctly prominent laterad, rather approximate to each other, their interspace 1/5 on dorsum and 2/5 on venter the maximum width of head. Antennae rather long, surpassing elytral apices at each apex of segment 8 (♂) or segment 9 (♀), densely clothed with pale pubescence, also with a few flying pale hairs on segments 1–5; scape strongly pedunculate and clavate, sparsely provided with coarse punctures, distinctly longer than segment 3; segment 7 usually strongly arcuate.

Prontotum elongate, a little more than 3/10 the length of elytra, distinctly narrower than the humeral width of elytra, 1.43 (♂) or 1.52–1.65 (♀) times as long as the base, weakly narrowed basad though the base is nearly equal in width to apex, with distinct lateral tubercles just before the middle, weakly emarginate before and behind the tubercles; disc convex, strongly raised at middle near apical and basal margins, provided with two pairs of oblique tubercles on apical and basal 1/3, and also with a median longitudinal one just before the middle, though these tubercles are sometimes obtuse according to individuals, sparsely provided with coarse punctures, clothed with dense recumbent yellowish silvery pubescence throughout and with a few erect stout pale hairs. Scutellum rather small, weakly narrowed to rounded apex, densely clothed with yellowish silvery pubescence. Elytra short and broad, 2.55–2.60 (♂) or 2.34–2.41 (♀) times as long as the humeral width; sides with rounded humeri, gently narrowed to basal 2/5 and arcuately dilated to apices which are completely rounded; disc moderately convex, each with longitudinal depression parallel to suture at a level between basal 1/4 and apical 1/3, distinctly raised at apical 2/9 of suture, rather densely provided with punctures, though the punctures become slightly sparser in apical 1/5, bearing a pale hair from each puncture. Prosternum provided with coarse punctures in middle, densely clothed with silvery pubescence near coxal cavities. Legs rather long.

Abdominal sternite sparsely provided with shallow punctures and suberect pale hairs; in ♀, sternite 1 strongly enlarged, sternites 4–5 smooth, neither emarginate nor fringed with rows of pubescence.

Measurements (in mm). 2 ♂♂: BL 6.90 & 7.10, AL 9.40 & 9.70, AS 1 0.93 & 0.96, AS 2 0.14 & 0.15, AS 3 0.75 & 0.78, AS 4 0.78 & 0.79, AS 5 1.05 & 1.05, AS 6 1.01 & 1.04, AS 7 0.97 & 1.00, AS 8 0.96 & 0.96, AS 9 0.93 & 0.96, AS 10 0.80 & 0.88, AS 11 0.80 & 0.90, HW 1.36 & 1.46, FL 0.25 & 0.35, FA 0.50 & 0.65, FB 0.53 & 0.60, PL 1.43 & 1.43, PW 1.13 & 1.16, PA 1.00 & 1.06, PB 1.00 & 1.00, EL 4.35 & 4.55, EW 1.70 & 1.75. 4 ♀♀: BL 7.00–8.60 (M 7.95), AL 9.50–10.10 (M 9.70), AS 1 0.93–1.45, AS 2 0.15–0.18, AS 3 0.73–0.80, AS 4 0.75–0.87, AS 5 1.03–1.15, AS 6 1.00–1.09, AS 7 1.00–1.08, AS 8 0.93–1.00, AS 9 0.90–0.93, AS 10 0.78–0.81, AS 11 0.80–0.84, HW 1.50–1.60 (M 1.56), FL 0.20–0.28 (M 0.24), FA 0.68–0.82 (M 0.76), FB 0.58–0.70 (M 0.65), PL 1.55–1.95 (M 1.73), PW 1.30–1.41 (M 1.36), PA 0.98–1.15 (M

1.08), PB 1.02–1.18 (M 1.11), EL 4.10–5.25 (M 4.94), EW 1.75–2.18 (M 2.02).

Type series. Holotype: ♂, Allotype: ♀ and paratypes: 1 ♂, 3 ♀♀, Nakamagawa Rindô, Iriomote Is., Yaeyama Isls. (Ryukyu Isls.), SW Japan, host plants were collected in 1990, emerged out on III–1991 in Kitakyushu-shi, Kyushu, Y. TAKESHITA leg. The holo- and allotype are preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. The paratypes are in the collection of the following persons: 1 ♂, 1 ♀, in Y. TAKESHITA; 1 ♀ in T. NIISATO; 1 ♀ in T. OHMOTO.

Distribution. Iriomote-jima, Ryukyu Islands, SW Japan.

Host plant. Distylium racemosum SIEB. & ZUCC. (dead twig).

Notes. This is an interesting new species directly related to Southeast Asian species, *O. piceorubrum* from Taiwan and *O. laosicum* from Laos, and no doubt belongs to the same lineage as the latter two. *Obrium takeshitai* is distinguished from the two relatives by the paler body colour, especially in the elytra and appendages, and also broader and shorter body though its antennae and legs are moderately long as in the two relatives.

要　約

新里達也・大本徳造: 西表島から発見されたメダカアメイロカミキリに近縁の1新種. —— 八重山諸島西表島で，竹下富氏が採集したタイワンイスノキから，羽化脱出したアメイロカミキリ族の一種を検討したところ，台湾に分布するメダカアメイロカミキリに近縁の新種であることが判明したので，リュウキュウメダカアメイロカミキリ *Obrium takeshitai* NIISATO et OHMOTO という新名を与え，本論文に記載した．本種は，台湾の種とは，全体に明るい体色，幅広く短い体形などの点で識別が可能である．なお，本種およびメダカアメイロカミキリは，真のムナミゾアメイロカミキリ属とは異なり，長く伸長した前胸背板をもち，その上面に軟毛が密生することや，雌の腹部可視第2-3腹板の後縁がえぐられず長毛列ももたないなどの，特異な固有形質を有する．本論文では，暫定的に本新種をムナミゾアメイロカミキリ属の一員として扱うが，別に準備中の論文において新しい上位分類群を創設する予定である．

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Elytra, Tokyo, **22** (2): 353–355, Nov. 15, 1994

A New Species of the Genus *Xylotrechus* (Coleoptera, Cerambycidae) from Taiwan

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Abstract A new species of the genus *Xylotrechus* is described from Taiwan, under the name of *X. shimomurai*. It seems to be related to *X. kayoensis* MITONO et KIRA.

Up to now, 12 species of the genus *Xylotrechus* have been recorded from Taiwan (NAKAMURA *et al.*, 1992). Recently, I had an opportunity to examine a large and spectacular specimen of this genus from central Taiwan, which is easily distinguished from all the other *Xylotrechus* species.

I wish to thank Mr. T. SHIMOMURA for giving me an opportunity to examine the material.

Xylotrechus shimomurai IKEDA, sp. nov.

[Japanese name: Taiwan-ikari-mon-torakamikiri]

(Fig. 1)

Female. Colour black to reddish black on head and thorax, reddish brown on abdomen; clypeus, labrum, labium, maxillae, eyes, antennae, tibiae and tarsi testaceous; elytra black except for basal 1/5 slightly reddish.

Body and appendages largely clothed with dense gray pubescence and partly scattered with sparse erect pale silvery hairs; head densely with gray pubescence except for gula with sparse pale hairs and neck almost glabrous; 1st antennal segment densely, 2nd to 4th segments somewhat sparsely with gray pubescence, 5th to 11th segments with very fine dense golden pubescence; prothorax densely with yellowish gray pubescence except for prosternal process and black areas of pronotum which are clothed with fine pale golden pubescence; pronotum with distinctive black markings: 1) a large circular and crossed marking on disc, 2) thin oblique bands on antero-lateral sides; scutellum densely with gray pubescence on posterior 2/3, glabrous on base; elytron densely with fine pale golden pubescence except for gray pubescent markings: 1) a large somewhat sparse pubescent basal marking, 2) a short subtransverse band just behind the basal marking and connecting with it at suture, 3) a distinctive anchor-shaped marking in the middle, connecting with the basal marking through the short subtransverse band, 4) a posterior transverse band, broadest at suture and narrowed externally, 5) a wave-like marking on each middle side, comprising two oblique bands

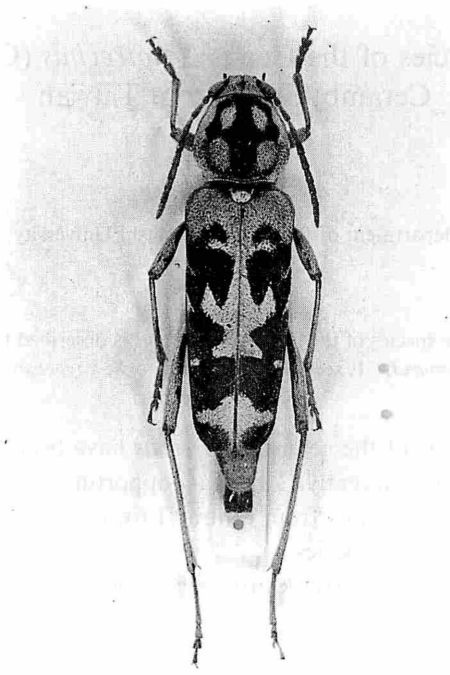

Fig. 1. *Xylotrechus shimomurai* sp. nov., holotype.

and a thin marginal line connecting them, 6) a short horizontal band on external side of posterior edge of the anchor-shaped marking; ventral surface of meso- and metathoraces and abdomen densely clothed with yellowish gray pubescence on posterior mesosternum, inner halves of mesepisterna, anterior to lateral metasternum, metepisterna and abdominal sternites, but on the remainder sparsely clothed with suberect pale creamy hairs, though relatively densely on mesepimera; legs densely with gray pubescence except for tarsi with pale golden pubescence.

Head relatively small, 0.9 times as wide as apical width of pronotum, coarsely and rather sparsely granulate, and coarsely punctured; frons somewhat narrow, gradually broadened anteriorly, 1.3 times as long as basal width, provided with a median V-shaped weak carina and with a median longitudinal groove starting from centre of frons to vertex; vertex carinate at lateral edges; occiput provided with a narrow median longitudinal carina; gena slightly deeper than lower eye-lobe; eye relatively large, moderately prominent. Antenna short and stout, reaching basal 1/7 of elytron; relative lengths of segments as follows:— 2.4: 1: 1.8: 1.7: 1.7: 1.5: 1.4: 1.1: 1.1: 1: 1.3.

Pronotum large and rounded, 0.85 times as long as wide, widest at basal 1/3, coarsely and sparsely granulate, though rather rugosely granulate on black areas of disc; disc depressed on four gray pubescent markings, and with five small but deep and

rounded concavities: 1) deepest ones on both sides of centre, just on lateral margin of circular black marking, 2) smaller ones just postero-lateral of the deepest ones, 3) one on median posterior black area.

Prosternum coarsely and sparsely granulate, though rather coarsely punctured on prosternal process. Scutellum tongue-shaped, finely punctured.

Elytra 2.35 times as long as basal width, subparallel-sided to slightly before middle, then gradually narrowed to near apices which are horizontally truncated and hardly dehiscent; disc rather even with a longitudinal concavity along basal suture, moderately convex at humeri, concave along inner sides of humeri, granulate on basal 1/5, and rather finely and densely punctured on the rest.

Ventral surface of mesothorax rugosely granulate, that of metathorax coarsely punctured. Abdomen finely and densely punctured, though somewhat coarsely on 1st visible sternite.

Legs moderate in length; hind femora not reaching elytral apex; 1st hind tarsal segment 2.3 times as long as the following two segments combined; femora sparsely punctured.

Body length 23 mm.

Holotype: female, near Tayuling, 2,500 m. Nantou Pref., Taiwan, 29–VII–1978, T. SHIMOMURA leg. Deposited in Dept. of Biol., Yamanashi Univ.

This distinctive species can be easily distinguished from all the other *Xylotrechus* species occurring in Taiwan and its adjacent regions, by having unique markings of pronotum and elytra, but seems to be related to *X. kayoensis* MITONO et KIRA (1934, pp. 589–591, figs. 1–2), because of morphological resemblance of their head and pronotum.

要　　約

池田清彦: 台湾産 *Xylotrechus* 属の 1 新種. —— *Xylotrechus* 属は台湾から 12 種知られているが, 今回, 台湾中部から採集された大型で特徴的な斑紋を有する種を新種と認め, タイワンイカリモントラカミキリ *X. shimomurai* と命名記載した. 本種は特異な種であるが, 既知種のうちではカヨウトラカミキリ *X. kayoensis* にもっとも近縁であろうと思われる.

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Elytra, Tokyo, **22** (2): 356, Nov. 15, 1994

A Host Record of *Mesosella kumei* (Coleoptera, Cerambycidae, Lamiinae)

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The larval host plant of *Mesosella kumei* TAKAKUWA (1984, p. 12, pl. 61, figs. 456, 456a) has not yet been known, though we expected that it might be some broadleaved trees from our field collecting experiences in eastern Honshu. The adults of *M. kumei* are usually found on newly dead twigs or leaves of various kinds of broadleaved trees. Recently, I was able to examine three specimens of this cerambycid emerged out from dead twigs of *Fraxinus mandshurica* RUPR. var. *japonica* MAXIM. (Oleaceae). The host was newly dead twigs with outer barks, whose average diameter was about 3 cm. The collecting data are as follows:

1♂, 2♀♀, Hinoemata-mura, Minamiaizu-gun, Fukushima Pref., Honshu, Japan, the host twigs were collected on 9-VI-1991, emerged out from the hosts on 20-III-1992 in Yokohama.

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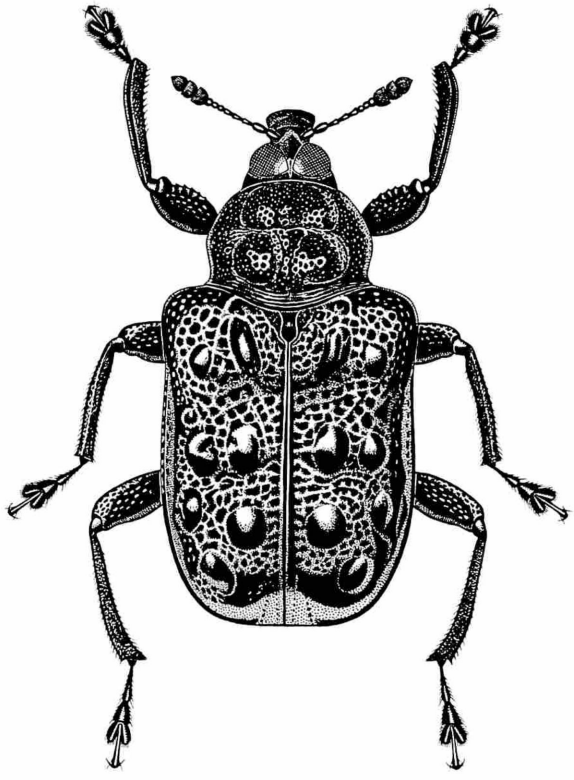

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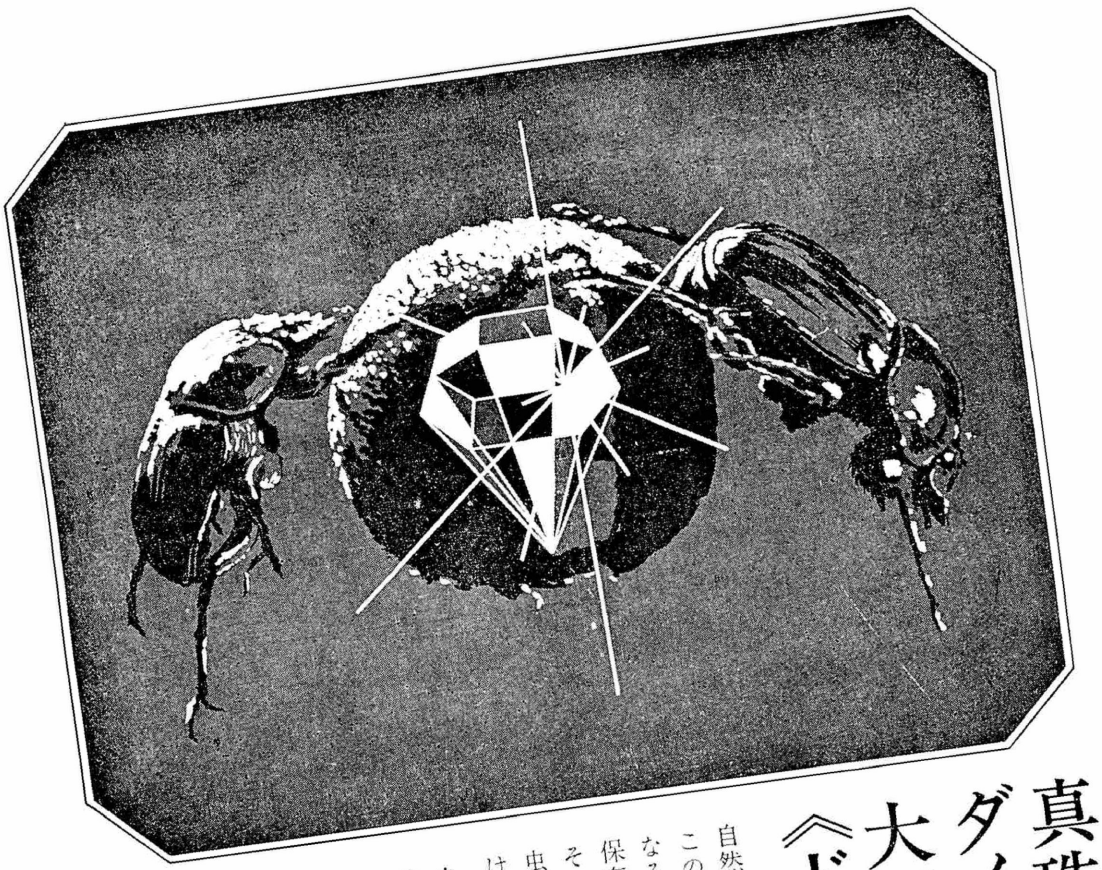

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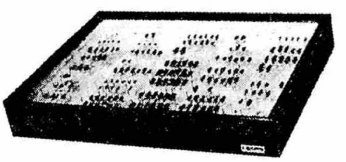

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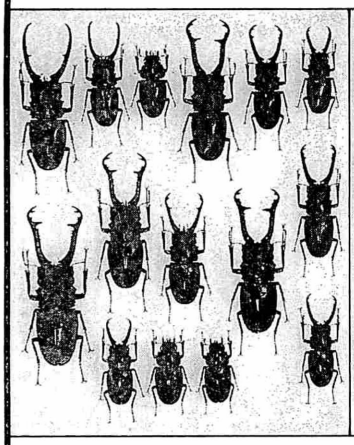
掲載される種類数が従来の本よりはるかに多いだけでなく，ギネス級の超特大個体（クワガタ・ファン必見！）から特小個体，多くの地域変異や多型現象など，千変万化する興味深い世界のクワガタムシの変異を，約5000頭の掲載標本でほとんどあますところなくご紹介します。

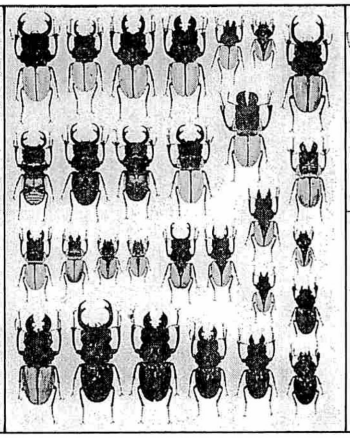
たとえば，ヒラタクワガタ（オオヒラタ）1種の変異だけでも7プレート，オオクワガタ類で5プレート，ネブトクワガタ類で23プレートを費やすといった凝りようです。

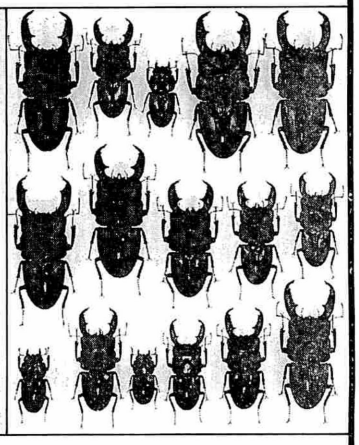
水沼・永井両氏らのコレクションを中心とした139プレート以外にも，ヨーロッパやアメリカの各博物館などで撮影してきた261点の写真による17プレートがあり，これらの大部分が分類学上きわめて重要なタイプ標本類で占められています。

また，この大図鑑では，新たに新属，新種，新亜種も多数記載されています。

本書は，1冊で世界のクワガタムシの概要を知ることができる楽しい本であると同時に，世界と日本のクワガタムシを研究するうえで，欠くことのできない重要な文献です。







月刊むし昆虫大図鑑シリーズ・1

世界のクワガタムシ大図鑑

○水沼哲郎・永井信二著，藤田　宏編集
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