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A New Species of the *Neoplesius–Pseudocranion* Complex (Coleoptera, Carabidae) Discovered from the Southernmost Part of the Min Shan Mountains in Northern Sichuan, Southwest China

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Abstract A new species of the Carabina belonging to the *Neoplesius–Pseudocranion* complex is described from the southernmost part of the Min Shan Mountains in northern Sichuan, Southwest China, under the name *Pseudocranion xiaolong*.

In the summer of 2005, a long series of carabid specimens were collected from the uppermost part of the Si'ergou Valley located near the southernmost part of the Min Shan Mountains stretching from north to south along the eastern bank of the Min Jiang River in northern Sichuan, Southwest China, and they were submitted to me for study. Of these, what I am going to introduce in this paper is a unique new species belonging to the *Neoplesius–Pseudocranion* complex of the division Procrustigenici. At first sight, the species in question reminds us of certain species belonging to the *N. sichuanicola*–*N. draco* series of north-central Sichuan. The robust aedeagus of the species resembles that of the *N. sinotibeticola*–*N. xiaodongi*–*N. feicuipennis* series of western Sichuan. However, its penultimate segment of the labial palpus is tri- or quadrisetose and I am going to describe it as a new species belonging to the genus *Pseudocranion*, most closely allied to *P. remondianus* described from Pingwu of northern Sichuan.

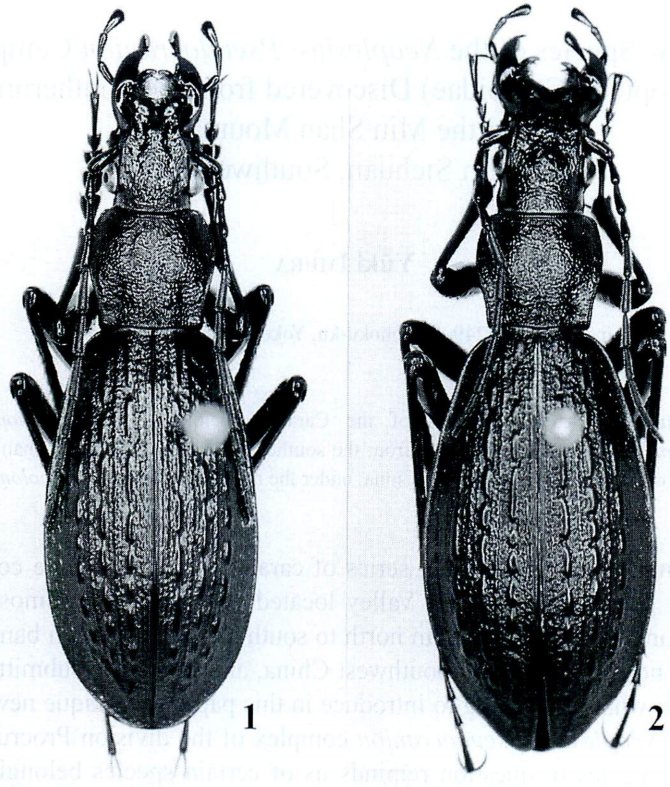
The higher classification of the Carabina adopted herein is the same as that proposed by myself (IMURA, 2002 b), and the abbreviations used in the text are the same as those explained in my previous papers (cf. IMURA, 1990, p. 139; 2002 a, p. 130).

Before going into description, I wish to express my heartfelt thanks to Messrs. Igor BELOUSOV (St. Petersburg, Russia) and Ilya KABAK (Almaty, Kazakhstan) for their kind cooperation. Also I thank Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for reviewing the manuscript of this paper.

Pseudocranion xiaolong IMURA, sp. nov.

(Figs. 1–3)

Length (including mandibles): ♂, 19.7–21.7 (arithmetic mean 20.70) mm; ♀,



Figs. 1–2. *Pseudocranion xiaolong* from the Si'ergou Valley (ca. 3,800 m) in northern Sichuan. —— 1, ♂, holotype, 2, ♀, paratype.

22.4–24.3 (arithmetic mean 23.48) mm.

Dorsal surface rather mat, dark brownish coppery or partly reddish coppery, sometimes bearing a faint greenish tinge on head; venter and appendages brownish black, though the basal parts of mandibles, and those of antennae and claws are a little reddish.

Head not strongly hypertrophic as in the other members of the genus, with moderately concave frontal furrows and strongly rugoso-punctate vertex; retinaculum of mandibles not longitudinally elongated as in the other members of the genus but rather narrowly produced inwards and conspicuously bidentate at tips, with the anterior tooth a little shorter than the posterior on both sides; terminal segments of palpi not strongly dilated in both sexes; penultimate segment of labial palpus tri- or quadrisetose; median tooth of mentum not strongly produced ventrad, shorter than lateral lobes, with the apex either triangularly pointed or rather obtusely rounded with a faint re-entrance at tip; submentum asetose; antennae reaching the middle of elytra in male and slightly

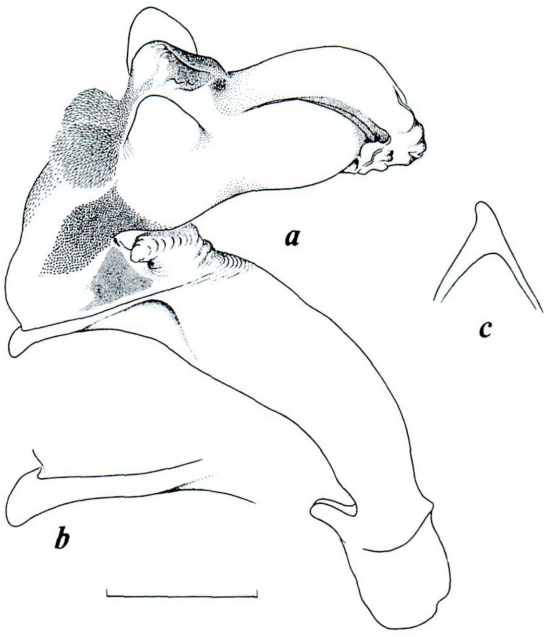


Fig. 3. Male genital organ of *Pseudocranion xiaolong*. —— a, Aedeagus with fully everted endophallus in right lateral view; b, apical part of aedeagus in right lateral view; c, ditto in dorsal view. Scale: 2 mm for a; 1 mm for b & c.

beyond the basal quarter in female.

Pronotum subquadrate or subcordate, wider than long, widest a little before the middle, more gradually narrowed towards apex than towards base; PW/HW 1.21–1.28 (M 1.25), PW/PL 1.21–1.37 (M 1.31), PW/PAW 1.36–1.45 (M 1.41), PW/PBW 1.25–1.38 (M 1.32), PBW/PAW 1.02–1.13 (M 1.07); apical margin weakly to moderately emarginate, front angles obtusely rounded and hardly protruded anteriad; lateral sides distinctly margined throughout, gently rounded in front and sinuately narrowed towards hind angles which are short and subtriangularly produced postero-laterally with blunt tips; disc weakly convex above, with the surface remarkably wrinkled and often becoming rather scabrous; basal foveae not so large but rather deeply concave, median longitudinal line narrowly impressed and partly becoming unclear; only a single marginal seta inserted on either side of pronotum near the widest part, and posterior seta is absent.

Elytra elongated oval, moderately or rather strongly convex above, widest obviously behind the middle, more gradually narrowed towards bases than towards apices, with effaced shoulders; EW/PW 1.51–1.82 (M 1.68), EL/EW 1.48–1.79 (M 1.65); lateral sides gently arcuate throughout, with the margins narrowly reflexed above before the widest part; sculpture triploid heterodyname — primaries the strongest, segmented by small but rather deeply concave primary foveoles to form rows of narrow costae

with various length; secondaries weaker and narrower than primaries, indicated by irregularly segmented low costae or longitudinally arranged rows of small granules; tertiaries much more reduced to form rows of small granules; areas between intervals rather coarsely scattered with small granules; umbilicate series indicated by irregularly and sporadically set rows of fine granules.

Episterna almost smooth though vaguely and sporadically scattered with punctures, sides of sternites weakly wrinkled, sternal sulci unrecognized; metacoxa trisetose; basal four segments of male foretarsus dilated with hair pads on ventral surface.

Male genitalia as shown in Fig. 3; aedeagus robust, hardly arcuate in basal and median portions, weakly bent ventrad in apical portion, and strongly concave right ventrad near apical quarter; apical lobe of aedeagus very short, weakly hooked ventrad, rather strongly compressed right laterad, and obtusely rounded at tip; OL medium-sized and remarkably bilobed at tip; endophallus with the ligulum indicated by longitudinally set rows of granules to form a narrow ridge, neither BL nor ML developed, PRE indicated by a pair of hemispherically protruded hairly inflations, PAR prominently protruded and symmetrical, PP not so large, symmetrical and well-protruded dorsad, AL, PL and AGG unremarkable.

Type series. Holotype: ♂, near the headwater of Si'ergou [泗耳沟] Valley (32°19′07″N/103°49′03″E), 3,801 m in altitude, in southeastern Songpan Xian [松潘县], of northern Sichuan, Southwest China, 21–VII–2005, to be deposited in the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes: 1♂, 1♀, same data as for the holotype; 1♀, same area (32°19′09″N/103°49′00″E, 3,850 m in altitude), 20–VII–2005; 2♀♀, same area (32°19′23″N/103°48′59″E, 3,872 m in altitude), 22–VII–2005, separately preserved in the collections of Y. IMURA and the Zoological Institute of Academy of Sciences (St. Petersburg).

Notes. Morphologically, the new species is most closely allied to *P. remondianus* DEUVE (1996) described from Sanlukou, 2,800 m, near Pingwu of northern Sichuan, but readily discriminated from that species as follows: 1) size a little smaller and coloration darker above all in legs; 2) head less hypertrophic; 3) mandibles shorter and more strongly arcuate inwards; 4) retinaculum of mandibles longitudinally less elongated and more remarkably bidentate at tip; 5) antennae a little longer; 6) pronotum less strongly cordate, with much more uneven discal surface, shorter hind angles and smaller number of marginal setae; 7) elevated parts of elytral intervals more prominently recognizable; 8) apical lobe of aedeagus much shorter and less sharply pointed at tip, podian lobe of endophallus vestigial.

Etymology. The new specific name, *xiaolong* [小龙], means Small Dragon in Chinese, since the new species resembles superficially *Neoplesius draco* (=Dragon in Latin) described by BŘEZINA (1999, p. 119) from Mt. Jiuding Shan on the Chaping Shan Mountain Range, and a little smaller in the size.

要　　約

井村有希：中国四川省北部から発見されたチベットオサムシ－ニセキンオサムシ群に属するオサムシの1新種．—— 2005年の夏，中国四川省岷山山脈南部にある泗耳沟の源頭付近において得られたチベットオサムシ－ニセキンオサムシ群に属するオサムシの1種を検した結果，未記載種と判明したので，*Pseudocranion xiaolong* という名のもとに新種として記載した．

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Elytra, Tokyo, **34** (1): 5–6, May 20, 2006

A New *Pseudocoptolabrus* (Coleoptera, Carabidae) from Northern Myanmar

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Pseudocoptolabrus masahiroi IMURA, sp. nov.

(Fig. 1)

Description. Length (including mandibles): 21.0 mm (♂). Entirely black and rather mat. Most closely allied to *P. branaungi* (IMURA, 1999) described from the northern end of Myanmar, but differs from that species in the following points: 1) proportion much slenderer, with longer antennae and legs; 2) mandibles longer, narrower and more gradually tapered towards the tips, with the anterior tooth of right retinaculum shorter than the posterior; 3) penultimate segment of labial palpus bisetose; 4) pronotum less transverse, 1.16 times as wide as long, more strongly constricted towards base, with the hind angles more sharply pointed at the tips; 5) elytra much more elongated, 1.87 times as long as wide; 6) aedeagus longer and slenderer, above all in api-

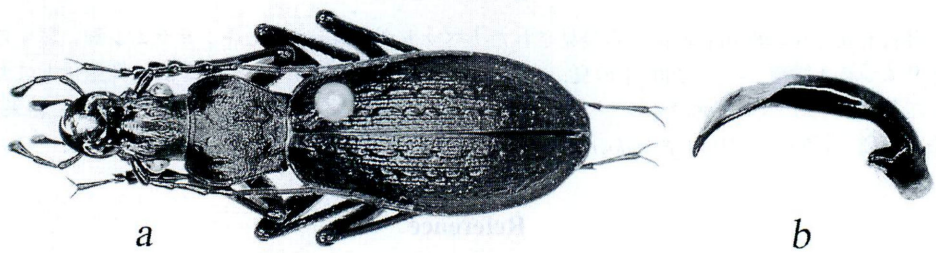

Fig. 1. *Pseudocoptolabrus masahiroi* IMURA, sp. nov. (a, habitus in dorsal view; b, aedeagus (length: 5.30 mm) in right lateral view).

cal part. From *P. burmanensis* (BREUNING, 1934), the new species is readily discriminated by smaller size, longer antennae, differently shaped retinaculum of right mandible, a little slenderer pronotum with the hind angles more remarkably protruded posteriad, and much slenderer aedeagus with the apical lobe longer, narrower and more strongly bent ventrad. The new species is easily distinguished from *P. nosei* (IMURA, 1997) by smaller size, slenderer proportion, much slenderer appendages, differently sculptured pronotum and elytra, and much slenderer aedeagus with the apical lobe longer, narrower and more strongly bent ventrad.

The new species is named after Mr. Masahiro TANAKA (Kobe) who kindly submitted the invaluable specimen to me for study.

Holotype: ♂, Chudu Razi Massif, NE. Kachin, N. Myanmar, VIII–2005, to be preserved in the National Science Museum (Nat. Hist), Tokyo.

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Elytra, Tokyo, **34** (1): 7–12, May 20, 2006

A New *Tachycarabus* (Coleoptera, Carabidae) from the Southernmost Part of the Min Shan Mountains in Northern Sichuan, Southwest China

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Abstract A new carabid beetle of the genus *Tachycarabus* is described from the southernmost part of the Min Shan Mountains in northern Sichuan, Southwest China, under the name *C. pepek*.

In the summer of 2005, a long series of carabid specimens belonging to the *Rhigocarabus* complex was found from the two localities at the southernmost part of the Min Shan Mountains stretching from north to south along the eastern bank of the Min Jiang River. After a careful comparative study, we have come to the conclusion that the species in question must be new to science. In the present paper, we are going to describe it as a new species belonging to the genus *Tachycarabus* (sensu IMURA, 2002) in the subtribe Carabina. In case the subtribe Carabina is regarded as equivalent to the genus *Carabus* (s. lat.) as is adopted by most European authors, it will be placed in the subgenus *Rhigocarabus* of the grand genus *Carabus*. The abbreviations used herein are the same as those explained in previous papers of the first author (cf. IMURA, 1990, p. 139; 2002, p. 130).

Before going into description, the first author wishes to express his sincere gratitude to Messrs. Igor BELOUSOV (St. Petersburg, Russia) and Ilya KABAK (Almaty, Kazakhstan) for their kind cooperation. Thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for reviewing the manuscript of this paper.

Tachycarabus pepek IMURA et KALÁB, sp. nov.

(Figs. 1–3)

Length (including mandibles): ♂, 16.5–19.0 (arithmetic mean 17.7) mm; ♀,

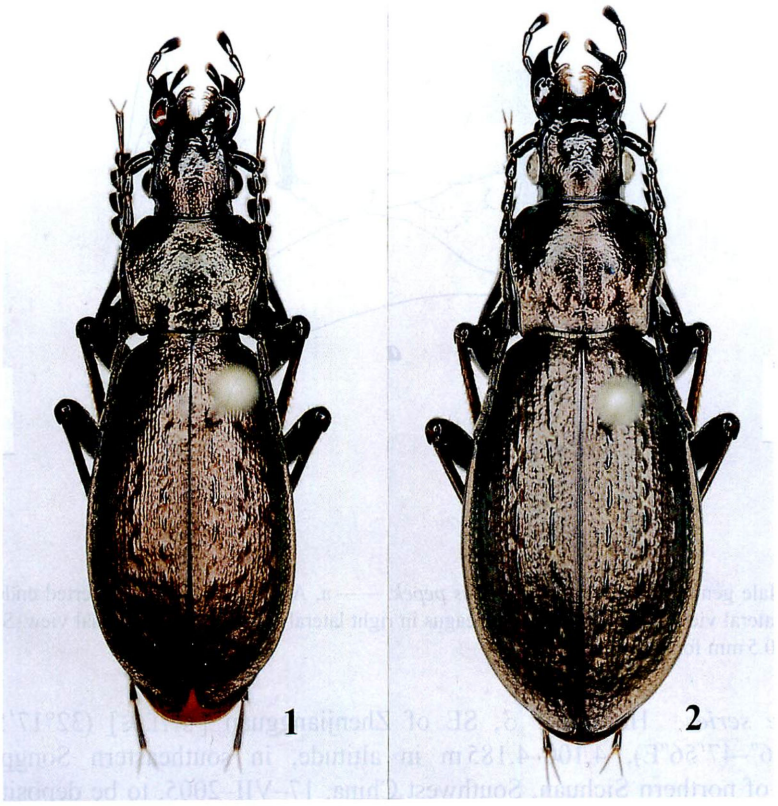
17.0–19.5 (arithmetic mean 18.5) mm (in the population from Zhenjiangguan); ♂, 14.6–17.3 (arithmetic mean 16.0) mm; ♀, 15.5–18.2 (arithmetic mean 17.1) mm (in the population from Jiaochangba).

Upper surface of body not strongly polished, with the coloration dark reddish coppery to dark brown often with a faint greenish tinge, or nearly entirely blackish or greenish in some individuals; venter and appendages brownish black, though tibiae and basal parts of mandibles, palpi and antennae are a little more strongly reddish.

Head not hypertrophic in both sexes, with the eyes almost normal in size and degree of protrusion; frons weakly convex above, often roughly rugulose and sometimes scattered with small punctures; frontal furrows not so wide and not deeply concave, and irregularly rugulose on the surface; vertex to neck irregularly and roughly wrinkled and often sporadically scattered with vague punctures; retinaculum of right mandible narrower and smaller than that of the left one, with the anterior tooth usually a little shorter than the posterior on both sides; terminal segments of palpi not remarkably dilated in both sexes; penultimate segment of labial palpus bisetose; median tooth of mentum shorter than lateral lobes, slightly protruded ventrad, and triangularly shaped though not sharply pointed at the tip; submentum bisetose; antennae not so long, barely reaching basal third of elytra in male and reaching basal quarter in female; hairless ventral depression, or thiridium, of male antennae recognizable from segment 5 to 9 or 10.

Pronotum rather small, subcordate, much wider than long and widest near the apical quarter to third; apical margin weakly emarginate, front angles obtusely rounded and hardly protruded anteriad; lateral sides distinctly margined throughout, gently rounded in front and either sinuately or nearly straightly narrowed towards hind angles which are subtriangularly produced posteriad with blunt tips; disc weakly convex above, with the surface weakly wrinkled and sometimes vaguely punctate in median portion, often becoming rather scabrous in peripheral portion; basal foveae small, not so deeply concave though distinct, and median longitudinal line clearly impressed throughout; one to three marginal setae inserted on either side of pronotum, one or two in median portion and zero or one before hind angle.

Elytra elongated oval, weakly convex above, widest a little or obviously behind the middle, more gradually narrowed towards bases than towards apices, with effaced shoulders; lateral sides gently arcuate throughout though often nearly straight before the widest part in male, with the margins narrowly reflexed above; sculpture tri- or heptaploid heterodyname — primaries the strongest, rather irregularly segmented by shallow, not so large primary foveoles to form rows of narrow costae; secondaries much weaker and narrower than primaries, indicated by longitudinally arranged rows of small granules, partly becoming contiguous to form irregularly interrupted costae; tertiaries also indicated by rows of small granules as in secondaries, often separated into two rows to form quarternaries and sometimes adhesive to adjacent intervals to form reticular pattern; umbilicate series indicated by irregularly and sporadically set rows of fine granules; each elytron with a shallow but rather remarkable depression a



Figs. 1–2. *Tachycarabus pepek* from SE of Zhenjiangguan (4,100–4,185 m) in northern Sichuan. —— 1, ♂, holotype, 2, ♀, paratype.

little before apex.

Episterna almost smooth, sides of sternites weakly wrinkled, sternal sulci unrecognized; metacoxa trisetose; basal four segments of male foretarsus dilated with hair pads on ventral surface.

Male genitalia as shown in Fig. 3; aedeagus slender, gently arcuate throughout and weakly bent ventrad apicad in lateral view; apical lobe rather short, about 1.5 times as long as wide, finger-tip like in shape with the apex obtusely rounded in lateral view and subtriangularly shaped in dorsal view; OL unilobed and rather small; ligulum indicated by longitudinally set rows of granules to form a narrow ridge; neither BL nor ML recognized, though basal part of endophallus near aedeagal apex apparently inflated; PRE indicated by a pair of hemispherically protruded hairly inflations; PAR rather strongly and symmetrically protruded dorsad on both sides; PP large, hemispherically inflated and not remarkably pigmented; AL weakly inflated; PL not so large but well recognizable; AGG weakly sclerotized and pigmented, indicated by a pair of small terminal plate weakly projected towards inflexed sides of endophallus.

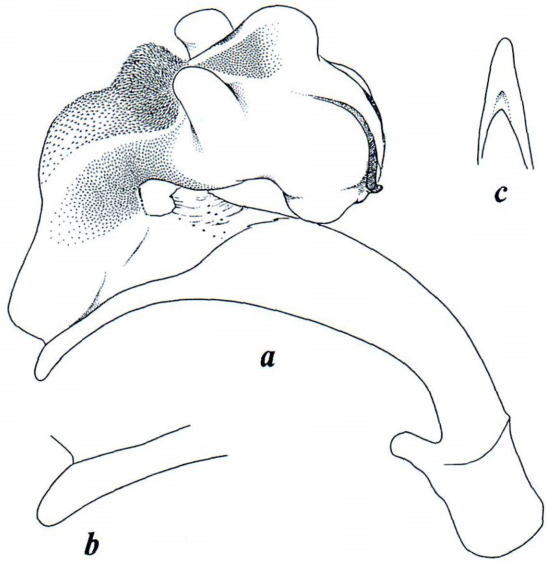


Fig. 3. Male genital organ of *Tachycarabus pepek*. —— a, Aedeagus with fully everted endophallus in right lateral view; b, apical part of aedeagus in right lateral view; c, ditto in dorsal view. Scale: 1 mm for a; 0.5 mm for b & c.

Type series. Holotype: ♂, SE of Zhenjiangguan [镇江关] (32°17′54–57″N/103°47′56″–47′56″E), 4,100–4,185 m in altitude, in southeastern Songpan Xian [松潘县], of northern Sichuan, Southwest China, 17–VII–2005, to be deposited in the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes: 13♂♂, 14♀♀, same data as for the holotype; 10♂♂, 12♀♀, same area (32°17′57″–18′17″N/103°47′56″–48′07″E, 4,185–4,421 m in altitude), 20–VII–2005; 42♂♂, 45♀♀, 8 km ESE of Jiaochangba [较场坝] (=Jiaochang [较场]) (32°01′N/103°46′E), 4,300 m in altitude, in northern Mao Xian [茂县], of northern Sichuan, Southwest China, 15～17–VII–2005, separately preserved in the collections of the authors, the Zoological Institute of Academy of Sciences (St. Petersburg) and B. BŘEZINA (Prague).

Notes. The present new species was collected from two different sites in the alpine zone over 4,100 m on the same mountain range. The population from Zhenjiangguan is somewhat diffferent from that of Jiaochangba in having larger size on average, relatively large pronotum, longer and slenderer elytra, narrower primary costae, etc. All these are, however, considered to be a mere variation within the same species mainly due to the difference of altitude of each locality, and we hesitate to separate them into two different subspecies.

The new species is characterized by less hypertrophic head, irregularly and roughly rugoso-punctate dorsal surface of the head and pronotum, relatively small pronotum, only weakly convex pronotum and elytra, tri- or heptaploid heterodynamic elytral sculpture with the strongest primary costae, and long and slender appendages,

etc.

It is most closely allied to *T. pusio* SÉMÉNOW (1898, p. 362) described from "Sun-pan" (=Songpan) of northern Sichuan, but is readily discriminated from that species mainly by the following respects: 1) eyes less strongly protruded laterad; 2) pronotum relatively small, with much more uneven discal surface, deeper basal foveae and less strongly projected hind angles; 3) elytra usually a little longer and slenderer, with more effaced shoulders; 4) aedeagus slenderer, less strongly arcuate, with the median portion less strongly inflated right laterad, apical lobe a little longer and slenderer, and less remarkably bent right laterad in dorsal view; endophallus with OL and PRE smaller, PAR larger and more strongly projected dorsad.

From *T. pseudopusio* DEUVE (1996, p. 22) described from "vallée à 10 km au sud-est de Sanggarpar, env. 4200 mètres" of northern Sichuan, *T. pepek* nov. is distinguished by much slenderer body, less hypertrophic head, less transverse pronotum with shorter hind angles, and shorter apical lobe of aedeagus which is less remarkably bent ventrad in lateral view.

It is necessary to compare the new species with *T. korsakowi* SÉMÉNOW (1898, p. 361) described from "Ta-tz'ao-pin supra angustias Cho-dgi-gou, haud procul ab urbe Lun-ngan-fu, alt. 10.–13.000′ s. m." Regrettably, however, it is impossible to make a full comparative study between the two species based on both sexes, since SÉMÉNOW's species has been known so far only from a single female specimen. So far as we have examined the holotype of *T. korsakowi* now preserved in the Zoological Institute of Academy of Sciences (St. Petersburg), the new species seems to be distinguishable from SÉMÉNOW's race by lighter coloration of appendages, narrower pronotum with more remarkably protruded front angles and less strongly uneven discal surface, shorter and robuster elytra with narrower primary costae and less strongly developed other intervals.

The new species somewhat resembles *T.* (?) *jintangicus* DEUVE (2001, p. 90) described from "environs de Jintang, 4200 mètres" of Sichuan, but the former is readily discriminated from the latter as follows: 1) appendages longer and slenderer; 2) dorsal surface of head and pronotum less roughly rugoso-punctate; 3) pronotum different in shape, with the lateral sides more roundly arcuate in front, more remarkably sinuate behind, the disc more strongly convex above and the hind angles narrower and more sharply pointed at the apices; 4) elytra a little less strongly convex above, with the lateral sides less roundly arcuate; 5) elytral disc differently sculptured, with the primary costae a little wider and segmented by deeper primary foveoles, the secondaries and tertiaries indicated by less regularly set rows of granules and the quarternaries more reduced; 6) apical portion of aedeagus less strongly bent ventrad in lateral view, with the tip not subquadrate but obtusely rounded.

Aedeagal features of the new species resemble those of "*Carabus*" *ladygini* SEMENOV (1903, p. 349) described from "jug. Amnen-kor, alt. 13.–14.000′ s. m.", the mountain range located between the sources of the rivers Huang He and Chang Jiang. However, the former is easily discriminated from the latter in larger size, slenderer pro-

portion with less hypertrophic head, much more uneven dorsal surface, etc. It is most probable that SEMENOV's species belongs, together with *A. roborowskii*, to *Araeocarabus* in the *Rhigocarabus* complex according to the molecular phylogenetical study (IMURA, 2002, p. 11).

Etymology. The new specific name comes from that of a colleague of the second author, Mr. Pepek (=Josef) SKOTÁK. *Pepek* is another denomination of *Josef* in Czech language.

要　　約

井村有希・J. KALÁB：中国四川省北部から発見されたプーシオードウガネオサムシ属の1新種．—— 2005年の夏，中国四川省北部松潘县から茂县にかけての岷江東岸を南北に走る岷山山脈最南端部から，プーシオードウガネオサムシ属に属する未記載種が発見されたので，*Tachycarabus pepek* という名を与え，本論文において記載した．

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The Trechine Beetles (Coleoptera, Trechinae) from Mt. Wawu Shan in Central Sichuan, Southwest China

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Abstract Four new species of trechine beetles are described from Mt. Wawu Shan in central Sichuan, Southwest China. Two of them belong to the genus *Epaphiopsis*; one named *E. imurai* is a member of the subgenus *Pseudepaphius* and has no close relatives in China; the other, named *E. dao*, belongs to the *niba* group of the subgenus *Epaphiama*. One of the remaining two is a member of *Sinotrechiama* but resembles *Trechiama crassipes* at the first glance. It is named *Sinotrechiama parvus* in view of its small size, and the latter species is moved from the genus *Trechiama* to the genus *Protrechiama*. The last new species is an eyeless endogean trechine belonging to a new genus, which resembles *Aepiblemus* and *Duvalioblemus* in many respects, but can be recognized on the spot by the presence of a setiferous dorsal pore on the 5th elytral stria and the peculiar modification of striation. The new name given is *Laoblemus crypticus*.

Wawu Shan is a famous table mountain lying on the borders of Hong'ya Xian and Yingjing Xian in central Sichuan, Southwest China. It stands on the Daxiang Ling Mountains, and is about 40 km distant to the west-northwest in a beeline from Mt. Emei Shan. The table mountain is surrounded by vertical cliffs more than 1,000 m high at the eastern and southern sides and extremely steep slopes at the other sides. Its table top is formed at the elevation of 2,700 to 2,800 m, and is covered with *Abies* forest with thick undergrowths of arrow-bamboos and various kinds of *Rhododendron* trees. Mt. Wawu Shan is protected as a national nature reserve, and is regarded by Taoists as a sacred place, since Laozi (or Laotzu), the founder of Taoism, is said to have spent a secluded life on the table top of this mountain and gone up to the heaven riding a crane.

It is not easy to make satisfactory collectings on the table top of Wawu Shan, since the floors of the *Abies* forests are thickly covered with entangled roots of arrow-bamboos and dead leaves. It is possible to make siftings in the bamboo thickets, particularly under *Rhododendron* trees, but beetles living under stones on clayey ground, endogean forms in particular, cannot be expected in such an environment. Bare grounds are found only on trails and on the banks of narrow streams, but all the trails are tightly paved with slates ca. 30×100 cm in size, which cannot be readily replaced to their original position when turned over. Banks of narrow streams are usually very steep or vertical, and very frequently rocky, so that they are not favourable for looking for tre-

chine beetles. Under such circumstances, we were compelled to examine the grounds beneath the pavement, and moved more than 200 slates. This was a painstaking and time-consuming way of taking rare trechines, but four specimens of three new species to be described in the present paper were found out by this method.

Of the four new species to be dealt with, two belong to two different subgenera of the genus *Epaphiopsis*. They are primarily humicolous in nature, but a teneral specimen of the larger species of the two was found in a cell made of yellow clay beneath a slate. As will be noted later, this species, to be named *E. imurai*, seems to be a usual inhabitant of lower places than the table top. One of the remaining two species is a member of the genus *Sinotrechiama*; two specimens of this species were found from beneath slates on the trail, and the other one was taken by sifting dead leaves accumulated at the side of the trail. The last species to be described is an anophthalmic endogean species, also found from beneath a slate. We have visited the table mountain four times, in the early summer and the autumn, and carefully searched for additional specimens of the non-humicolous species, above all males of the endogean one. Our efforts were, however, not repaid with any of the three species. Since the mountain is not easy of access, I have decided to introduce all these new species into science in the present paper. The abbreviations employed herein are the same as those explained in previous papers of mine.

Before going into further details, I wish to express my heartfelt thanks to Drs. Yûki IMURA, Yoshiaki NISHIKAWA and Masataka SATÔ for their kind help in searching for trechine beetles on Mt. Wawu Shan and its vicinities. Hearty thanks are due to Dr. Igor A. BELOUSOV, Dr. Ilia I. KABAK and Ing. Artur GITZEN for giving me opportunities to examine the types of Chinese trechines for comparison. Deep indebtedness should also be expressed to Mr. FAN Ting for his kind arrangement in pursuing our investigations.

Epaphiopsis* (*Pseudepaphius*) *imurai S. UÉNO, sp. nov.

(Figs. 1–3)

Length: 3.50–3.90 mm (from apical margin of clypeus to apices of elytra).

Relatively large species not directly related to any of the hitherto described Chinese species of *Pseudepaphius* (UÉNO, 1962, p. 70), externally resembling certain Japanese members of the subgenus (*e.g.*, *E. morimotoi* S. UÉNO (1984, p. 146, figs. 1–3)) though genitalically dissimilar to them.

Body short and broad, with small head, transverse prothorax and ovate convex elytra; apterous; microsculpture fine, sharply impressed and composed of transverse meshes and lines on head, mostly clear and formed by transverse lines on pronotum, and largely obliterated on elytra though vestige of fine transverse lines can be observed here and there. Concolorously dark reddish brown, shiny, feebly iridescent on elytra in the single fully mature specimen (holotype), with pale palpi and claw segments of fore legs, middle and hind legs somewhat lighter than dorsum.

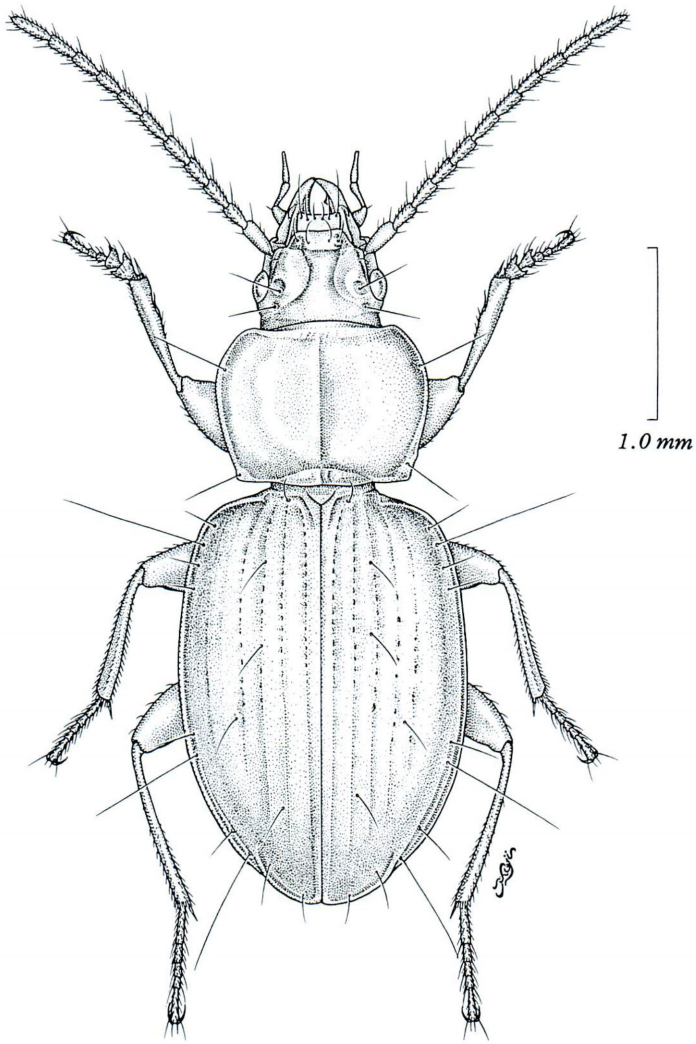


Fig. 1. *Epaphiopsis* (*Pseudepaphius*) *imurai* S. UÉNO, sp. nov., ♂, from the Shuangdong Xi at the eastern foot of Mt. Wawu Shan.

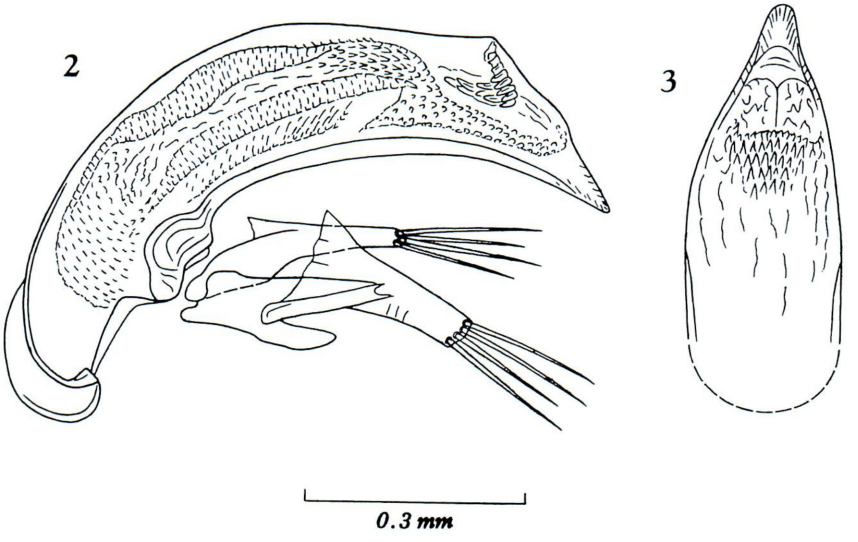
Head small, transverse, obviously wider than long, widest at the mid-eye level a little behind middle, with deep entire frontal furrows hardly angulate at middle but widely divergent in front and behind; frons and supraorbital areas gently convex, the latter bearing two pair of supraorbital setae, the anterior pair of which is foveolate at the roots; eyes small and flat; genae convex though short, evidently shorter than eyes (three-eighths to four-sevenths as long as eyes); neck very wide, with distinct anterior constriction; labrum transverse, slightly emarginate at the apex; mandibles stout, in-

wardly hooked at the apices; palpi short and thin; antennae fairly slender, reaching basal two-sevenths of elytra in ♂, basal fourth of elytra in ♀, antennomeres 2–7 subequal in length to one another, each about three-sevenths as wide as long, antennomeres 8–10 slightly decreasing in length towards terminal antennomere, which is the longest though evidently narrower than scape.

Pronotum transverse, much wider than head, widest at about two-thirds from base, and more gradually narrowed towards base than towards apex; PW/HW 1.49–1.60 (M 1.54), PW/PL 1.39–1.42 (M 1.41), PW/PA 1.45–1.48 (M 1.46), PW/PB 1.25–1.30 (M 1.27); sides rather narrowly bordered throughout, especially narrowly near front angles, moderately arcuate in front, very feebly so or nearly straight behind middle, and not sinuate before base, with two pair of marginal setae, the posterior one of which is inserted almost on hind angles; apex narrower than base, PB/PA 1.14–1.16 (M 1.15), either nearly straight or slightly arcuate, with front angles rounded and either hardly or very slightly advanced; base either straight or invisibly arcuate at middle, briefly and very slightly oblique on each side just inside hind angle, which is obtuse but very slightly produced; dorsum convex, median line deeply impressed, not reaching apex but extending almost to base; apical transverse impression shallow, slightly wrinkled, basal transverse impression narrow but continuous, lightly arcuate as a whole, and laterally extending into basal foveae, which are declivous and fairly large; no postangular carinae; basal area small, narrow and smooth.

Elytra ovate, wider than pronotum, widest at about four-ninths from bases, and more gradually narrowed towards bases than towards apices, with narrow apical parts; EW/PW 1.28–1.36 (M 1.32), EL/PL 2.57–2.64 (M 2.60), EL/EW 1.37–1.43 (M 1.40); shoulders square though rounded, with prehumeral borders nearly straight and only a little oblique; sides moderately reflexed in front but narrowly so behind middle, nearly straight behind shoulders, feebly arcuate behind middle, and then narrowly and conjointly rounded at apices, each with no appreciable preapical emargination; dorsum strongly convex, particularly in apical halves, steeply declivous at lateral and apical parts, and lightly and narrowly depressed on the disc; striae clearly impressed and rather coarsely punctate on the disc but becoming shallower at the side and partially obliterated, striae 1–3 nearly entire, 4–5 superficial and obsolete near base, 6–7 fragmentary and evanescent, 8 impressed only near the apical set of marginal umbilicate pores; scutellar striole distinct, apical striole also distinct, hardly arcuate in front, and directed to the site of stria 5; intervals flat even near suture, apical carina obtuse; stria 3 with two setiferous dorsal pores at 1/8–1/7 and 1/3–3/7 from base, respectively; preapical pore usually adjoining stria 2 at 1/4–3/10 from apex; stria 5 or interval 5 with a single setiferous dorsal pore at 3/7–5/9 from base; marginal series of umbilicate pores regular.

Ventral surface glabrous and smooth; anal setae ordinary. Legs fairly slender though short; protibiae straight, lightly dilated towards apices; tarsi short, tarsomere 1 about as long as tarsomeres 2 and 3 combined in mesotarsus, longer than that in metatarsus; in ♂, protarsomeres 1 and 2 widely dilated and stoutly produced inwards at



Figs. 2–3. Male genitalia of *Epaphiopsis* (*Pseudepaphius*) *imurai* S. UÉNO, sp. nov., from the Shuangdong Xi at the eastern foot of Mt. Wawu Shan; left lateral view (2), and apical part of aedeagus, dorso-apical view (3).

apices.

Male genital organ small though heavily sclerotized, differing in configuration from those of any other known Chinese species of the genus. Aedeagus only one-third as long as elytra, gently arcuate as a whole though nearly straight for a short distance behind middle, moderately depressed, and widely membraneous on dorsum; basal part fairly narrow in profile, lightly curved ventrad, and moderately emarginate at the sides of the posterior part of basal orifice; sagittal aileron large but not so wide; viewed laterally, median lobe gradually narrowed from behind middle towards the anterior end of apical orifice, then weakly curved ventrad and rather abruptly acuminate to pointed extremity; viewed dorsally, apical part broad at the level of the anterior end of apical orifice, narrowed posteriorly, and produced into a short apical lobe blunt at the tip; ventral margin slightly emarginate at middle in profile. Inner sac devoid of differentiated copulatory piece, wholly covered with minute scales and teeth, which are moderately sclerotized along two longitudinal folds of sac membrane, forming two elongate scale-patches one above the other at the left side; anterior margin of apical orifice edged with heavily sclerotized teeth, which delimit the posterior end of a small dorsal teeth-patch lying horizontally. Styles unequal in size and shape, left style much larger and broader than the right, and with a well developed ventral apophysis, each style bearing four apical setae.

Type series. Holotype: ♂, 19–X–2004, Y. NISHIKAWA leg. Allotype: ♀, paratype: 1 ♀ (both somewhat teneral), 2–VI–2004, Y. IMURA leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Shuangdong Xi, 1,320 m in altitude, at the eastern foot of Mt. Wawu Shan in Wawushan Zhen of Hong'ya Xian, central Sichuan, Southwest China.

Further specimens examined. 1 ♀ (teneral), Mt. Wawu Shan, E side of table top, 2,760 m alt., Wawushan Zhen, Hong'ya Xian, 23–VI–2004, S. UÉNO leg. (NSMT). 1 ♀, Fuxing Cun, 1,620 m alt., Wuzhuang Xiang, Hong'ya Xian, 24–VI–2004, S. UÉNO leg.; 1 ♀ (teneral and somewhat damaged), same locality and date, M. SATÔ leg. (NSMT).

Notes. This is a problematical species whose true affinity is not certain at the present moment. In facies, it closely resembles certain Japanese species of *Pseudepaphius*, but the resemblance may have resulted from convergence seeing that the present species differs from Japanese ones in the mode of elytral striation and conformation of the male genitalia. On the other hand, there still remains a possibility that *E. imurai* is a true relative of Japanese members; in that case, the differences may have developed during long isolation. Further investigations are needed for clarifying its true status.

Unfortunately, only the holotype of this new species is fully mature, the remaining five being more or less teneral. The specimens of the type series were collected in a deciduous broadleaved forest at the left side of the Shuangdong Xi River by sifting dead leaves accumulated on a rather steep slope. The locality is about 1,440 m lower in altitude than that at the eastern side of the table top. The mature male was taken in October, while the two teneral females were taken in June. Judging from the fact that all the specimens collected in June at the type locality and two other localities are more or less teneral, emergence of this trechine seems to take place early in the summer, even though it is mainly distributed in middle altitude. As was noted in the introduction of this paper, the only specimen taken on the table top, 3.60 mm in the length of body, was found in a small clay cell beneath a slate on the trail. It agrees well with the type series though the elytra are somewhat broader. The standard ratios are: PW/HW 1.48, PW/PL 1.46, PW/PA 1.46, PW/PB 1.28, PB/PA 1.16, EW/PW 1.43, EL/PL 2.80, EL/EW 1.33.

The two specimens from Fuxing to the east of Mt. Wawu Shan were sifted out from small heaps of dead bamboo leaves accumulated at the edge of a bamboo grove near the source of a narrow stream. They are slightly larger in size than the type series (4.00–4.15 mm in the length of body), and are different from the latter in the smaller eyes, less transverse prothorax with more regularly arcuate sides, a little longer elytra, and so on. The standard ratios in the perfect specimen are as follows: PW/HW 1.53, PW/PL 1.34, PW/PA 1.57, PW/PB 1.30, PB/PA 1.20, EW/PW 1.33, EL/PL 2.63, EL/EW 1.47. A new subspecies could be recognized for the Fuxing population, especially on the basis of the different configuration of the prothorax, but I prefer to postpone the proposal until fully mature males are available for my study.

Epaphiopsis (*Epaphiama*) *dao* S. UÉNO, sp. nov.

(Figs. 4–6)

Length: 2.75–3.15 mm (from apical margin of clypeus to apices of elytra). Belonging to the *niba* group of the subgenus *Epaphiama* and closest to *E. niba* S. UÉNO (1998, p. 267, figs. 1–3) known from Mt. Niba Shan on the Daxiang Ling Mountains, but distinguished from it by broader facies, wider head, less contracted pronotum at both apex and base with the sides less strongly arcuate, and usually wider elytra less pointed at the apices and with the sides less regularly arcuate in basal third. Also different from *E. niba* in the configuration of male genitalia.

Colour more or less darker than in *E. niba*, sometimes infuscated in head and elytra, the latter of which are hardly iridescent. Microsculpture as in *E. niba*.

Head transverse, obviously wider than long, widest at the mid-eye level which lies a little behind middle; dorsum depressed, with deep entire frontal furrows widely divergent posteriad; frons and supraorbital areas gently convex; eyes small and flat, a little longer than genae in ♂, usually as long as or a little shorter than genae in ♀; genae more or less convex, usually tumid in ♀; neck very wide, with the anterior constriction deeply marked at the sides; labrum moderately emarginate at the apex; mandibles stout though sharply hooked at the apices; palpi short and stout; antennae short and stout, variable in length, sometimes even at the opposite sides, usually reaching basal sixth to fifth of elytra in ♂, basal eighth to two-elevenths of elytra in ♀, antennomeres 2–4 subequal in length to one another, each very slightly longer than succeeding ones, each of which is suboval and four-sevenths as wide as long, terminal antennomere the longest, slightly longer but narrower than scape.

Pronotum transverse, wider than head, wider than long in a similar proportion, widest at a level between three-fifths and two-thirds from base, and more gradually contracted towards base than towards apex; PW/HW 1.35–1.43 (M 1.39), PW/PL 1.32–1.45 (M 1.38), PW/PA 1.36–1.46 (M 1.43), PW/PB 1.32–1.43 (M 1.37); sides moderately reflexed throughout, gently arcuate before middle, less so in front and behind, and hardly sinuate before hind angles, which are obtuse and sometimes very slightly produced laterad, with two pair of marginal setae, the posterior pair of which are very slightly removed forwards; apex either straight or slightly emarginate, usually somewhat narrower than base, PB/PA 1.00–1.11 (M 1.05), with front angles narrowly rounded and slightly produced forwards; base either straight or very slightly arcuate at middle and slightly emarginate on each side inside hind angle; dorsum convex, steeply declivous at anterior lateral parts, median line deeply impressed on the disc and briefly widened in basal area; apical transverse impression mal-defined, longitudinally wrinkled; basal transverse impression also mal-defined, with a longitudinal foveole on each side of median line, and laterally arcuate posteriad; basal foveae fairly large and deep; postangular carinae distinct though obtuse; basal area more or less uneven.

Elytra subovate, wider than pronotum, longer than wide in a similar proportion, widest at about four-ninths from bases, weakly narrowed anteriad towards shoulders,

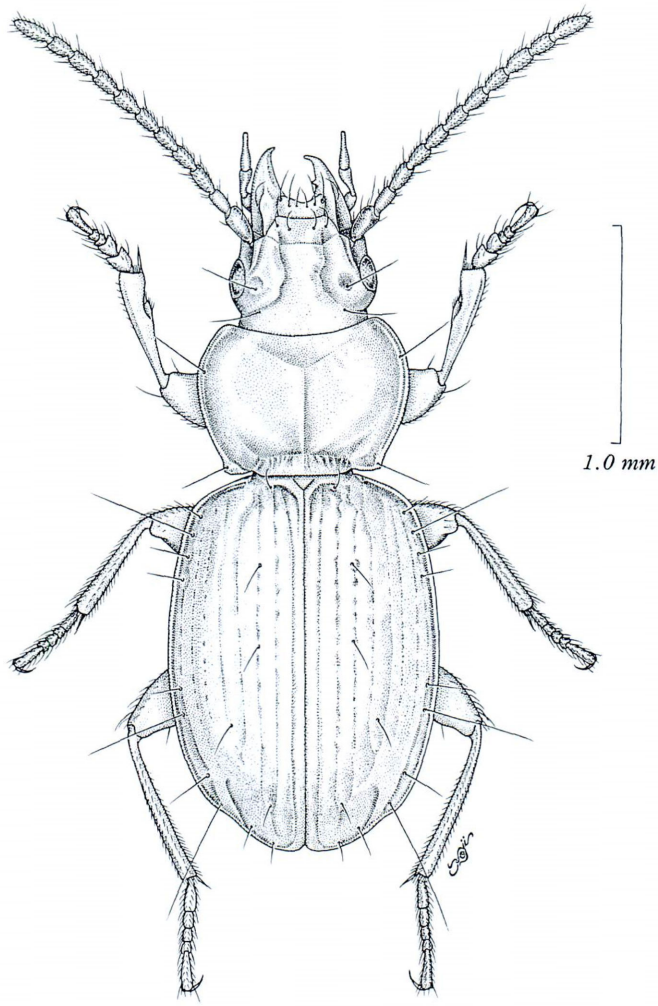
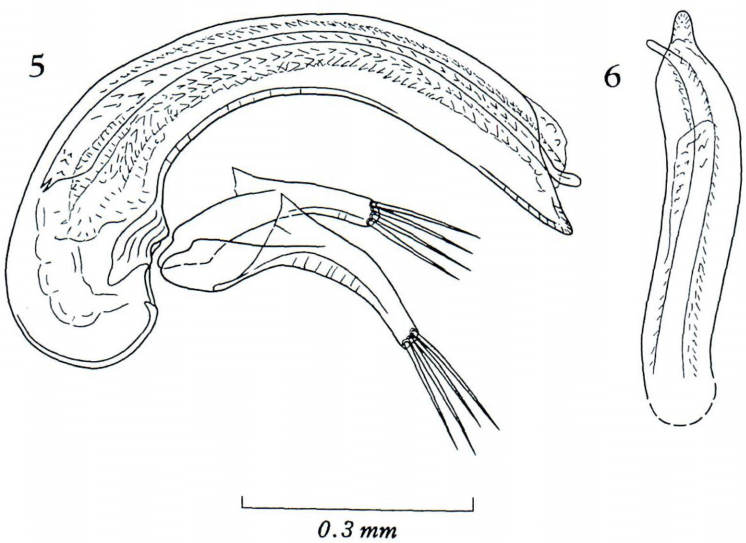


Fig. 4. *Epaphiopsis* (*Epaphiama*) *dao* S. UÉNO, sp. nov., ♂, from Mt. Wawu Shan.

and widely rounded at apices, which form a small re-entrant angle at suture; EW/PW 1.31–1.42 (M 1.34), EL/PL 2.40–2.65 (M 2.52), EL/EW 1.29–1.43 (M 1.36); shoulders distinct though rounded, with prehumeral borders only slightly oblique; sides narrowly bordered throughout, either very feebly arcuate or nearly straight before middle and moderately arcuate in apical third, each with a slight preapical emargination; dorsum convex, steeply declivous at lateral and apical parts; striae nearly entire though shallower at the side than on the disc, vaguely crenulate, 1–3 deeply impressed, 4 and 5 shallower than inner ones, 6 and 7 fine and often fragmentary, 8 distinct behind middle; scutellar striole short but distinct; apical striole clearly impressed, moderately



Figs. 5–6. Male genitalia of *Epaphiopsis* (*Epaphiama*) *dao* S. UÉNO, sp. nov., from Mt. Wawu Shan; left lateral view (5), and apical part of aedeagus, dorso-apical view (6).

curved, and free at the anterior end though directed to stria 5; intervals flat even near suture, apical carina obtuse; stria 3 with two setiferous dorsal pores at 2/11–2/9 (usually about 1/5) and 2/5–1/2 from base, respectively; preapical pore located at the apical anastomosis of striae 2 and 3 or adjoining stria 2 behind the level of the anterior end of apical striole, and a little more distant from apex than from suture; stria 5 with a single setiferous dorsal pore at about 3/5 from base, the pore being located often at an anastomosis of striae 4 and 5; marginal umbilicate pores aggregated and regular.

Ventral surface smooth; anal setae ordinary. Legs short and stout; protibiae moderately dilated towards apices and shallowly grooved on each external face; tarsi short, tarsomere 1 shorter than tarsomeres 2 and 3 combined in both meso- and metatarsi; protarsomeres 1 and 2 widely dilated and stoutly produced inwards at apices in ♂.

Male genital organ similar in basic conformation to that of *E. niba* S. UÉNO (1998, p. 267, figs. 1–3), but the aedeagus is much less arcuate, especially in apical half, compressed in apical part, and with narrowly produced apical lobe. Aedeagus about two-fifths as long as elytra, sigmoidally curved in dorsal view, and strongly arcuate in proximal half, with large basal part strongly curved ventrad; basal part rounded, with small basal orifice whose sides are hardly emarginate; sagittal aileron absent; viewed dorsally, apical part curved to the right, and then to the left and produced into a short narrow apical lobe blunt at the extremity; viewed laterally, apical lobe short, not curved ventrad, and abruptly narrowed towards pointed extremity; in profile, ventral margin deeply emarginate before middle but nearly straight behind there. Inner sac armed with a very long slender copulatory piece nearly as long as aedeagus, with the

basal part gradually dilated proximad and the narrow hyaline apical portion produced to the right from apical orifice; sac membrane wholly covered with minute scales and teeth, forming a long sheath of copulatory piece. Styles short and narrow, left style much longer than the right, arcuate, and devoid of ventral apophysis, each bearing four apical setae.

Type series. Holotype: ♂, allotype: ♀, centre of table top, 23–VI–2004, S. UÉNO leg. Paratypes: 6♂♂, 4♀♀ (incl. two badly damaged specimens (1♂, 1♀) collected by SATÔ), 23–VI–2004, S. UÉNO & M. SATÔ leg.; 1♂, 5♀♀, NW side of table top, 23–VI–2004, S. UÉNO & M. SATÔ leg.; 1♀, E side of table top, 2,760 m alt., 23–VI–2004, S. UÉNO leg.; 2♂♂ (teneral), 1♀, E side of table top, 2,640 m alt., 18–X–2004, Y. NISHIKAWA leg. All deposited at present in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mt. Wawu Shan, 2,640–2,780 m in altitude on table top, in Wawushan Zhen of Hong'ya Xian, central Sichuan, Southwest China.

Notes. Judging from configuration of the male genitalia, this new species seems closer to *E. niba* from Mt. Niba Shan than to *E. budhaica* (DEUVE) (1988, p. 256, figs. 6, 16, 23; UÉNO, 1998, p. 284, figs. 6–7) from Mt. Emei Shan. As in the former species, the median lobe of male genitalia is sigmoidally curved in dorsal view though to a lesser extent, and the apical lobe is pointed at the extremity in lateral view. Another proof of this affinity is the position of the preapical pore on the elytra, which is located at the apical anastomosis of the 2nd and 3rd striae. Its type locality is also nearer topographically to that of *E. niba* than to that of *E. budhaica*.

Epaphiopsis dao is a subalpine species rather widely distributed on the table top of Mt. Wawu Shan. It dwells under dead leaves in the thickets of arrow-bamboos, particularly under *Rhododendron* trees, in the *Abies* forest, but does not occur beneath slates on trails. Such a habitat preference is common to all the members of the *niba* group.

The new specific name of the present species is derived from Dao (usually spelled "Tao" in English) of Taoism, whose founder, Laozi, is said to have spent his last years on the table top of Mt. Wawu Shan.

Sinotrechiama parvus S. UÉNO, sp. nov.

(Figs. 7–9)

Length: 5.15–5.50 mm (from apical margin of clypeus to apices of elytra).

Smaller than any of the congeners hitherto known, and comparable in this respect, and also in general appearance, to *Protrechiama crassipes* (S. UÉNO, 1997).[1)] It is, however, evidently different from the Meigu species in the typically cordate pronotum

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[1)] ***Protrechiama crassipes*** (S. UÉNO, 1997), comb. nov.

Trechiama crassipes S. UÉNO, 1997, J. speleol. Soc. Japan, **22**, p. 38, fig. 1; type locality: Dafengding on the Daliang Shan Mountains in Meigu Xian.

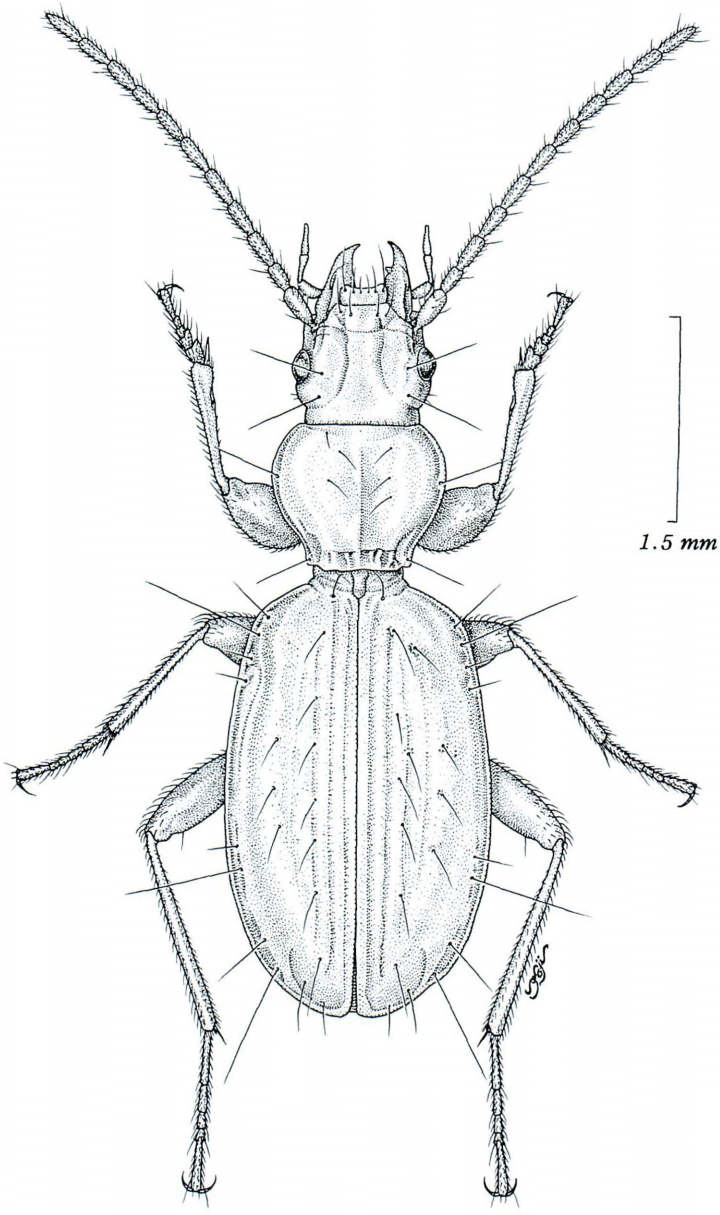


Fig. 7. *Sinotrechiama parvus* S. UÉNO, sp. nov., ♂, from Mt. Wawu Shan.

bearing discal hairs, the degeneration of microsculpture and outer striae on elytra, which lack in the isolated setiferous pore on the stria 2, and the darker coloration. All these features are characteristic of *Sinotrechiama* S. UÉNO (2000, p. 348), even though

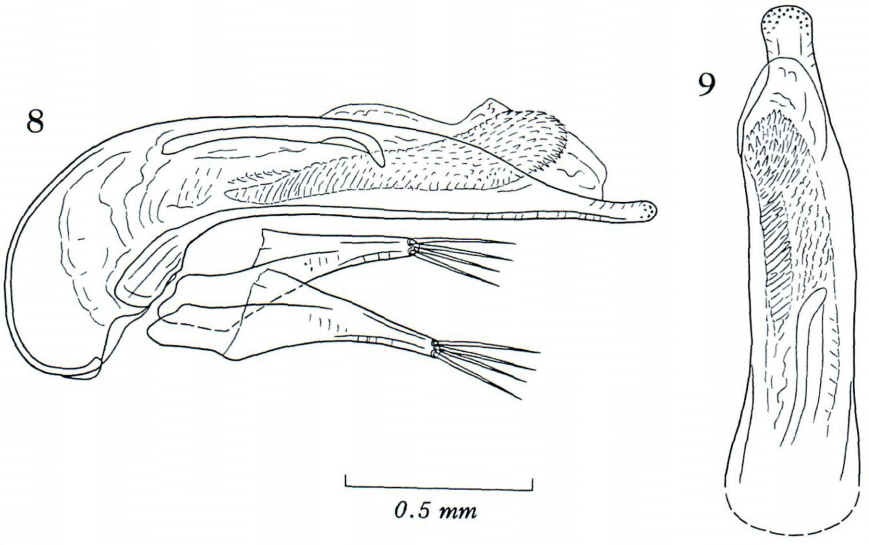
this new species looks like *P. crassipes* at the first glance.

Body elongate, with fairly large fore body and relatively small and narrow hind body; surface glabrous on both dorsum and venter except for genae, which bear vestiges of small hairs; microsculpture evanescent on pronotum and elytra, though vestiges of fine transverse lines are fragmentarily detectable, mostly perceptible on head as fine, irregularly transverse lines and microscopical meshes. Inner wings absent. Colour dark reddish brown, partially infuscated, polished, and vaguely iridescent on elytra; palpi, venter of hind body, and legs more or less lighter than dorsum.

Head fairly large, transverse, about 1.2 times as wide as long, and depressed on dorsum; frontal furrows clearly and evenly impressed, not angulate at middle, and widely divergent both in front and behind; frons and supraorbital areas gently convex, the latter bearing two pair of supraorbital setae on subparallel lines; eyes small though moderately convex; genae shorter than eyes, about four-fifths as long as the latter, lightly convex, and provided with a few vestigial hairs; neck wide, with the anterior constriction deeply marked; labrum transverse, shallowly emarginate at the apex; mandibles stout; mental tooth porrect, truncated at the tip; palpi fairly stout; antennae fairly stout, reaching basal third of elytra, pedicel the shortest, about two-thirds as long as antennomere 3, which is slightly longer than 4, antennomeres 4–7 subequal in length to one another, each subcylindrical and about three times as long as wide, antennomeres 8–10 very slightly decreasing in length towards terminal antennomere, which is about as long as antennomere 3 and evidently narrower than scape.

Pronotum transverse cordate, much wider than head, obviously wider than long, widest at about five-eighths from base, and more strongly contracted towards base than towards apex, with the sides strongly rounded for the most part; PW/HW 1.23–1.26 (M 1.25), PW/PL 1.17–1.25 (M 1.21), PW/PA ca. 1.49–1.54 (M ca. 1.51), PW/PB 1.64–1.68 (M 1.66); sides moderately bordered near the widest part, the borders becoming narrower both in front and behind, strongly and regularly arcuate in apical two-thirds, less so before ante-basal sinuation, which is brief but deep, located at basal seventh to sixth, and then nearly parallel for a short distance to hind angles; two pair of marginal setae present, the posterior pair being located almost on hind angles; apex evidently wider than base, feebly arcuate, PB/PA ca. 0.89–0.94 (M ca. 0.91) [PA/PB ca. 1.06–1.13 (M ca. 1.10)], with front angles rounded off; base nearly straight for the most part, briefly and obliquely emarginate on each side just inside hind angle, which is small, nearly rectangular or slightly obtuse; dorsum convex, rather steeply declivous in lateral and basal parts, with several short discal hairs on each side of median line; median line sharply impressed, not reaching apex but nearly reaching base; basal area short, longitudinally strigose; basal transverse impression uneven, not smoothly continuous, basal foveae fairly large but not deep, uneven at the bottom; postangular carinae short and obtuse.

Elytra elongated oval with subparallel sides, wider than pronotum, much longer than wide, and widest at about middle; EW/PW 1.45–1.51 (M 1.48), EL/PL 2.85–3.09 (M 2.94), EL/EW 1.63–1.68 (M 1.65); shoulders square though rounded, with humeral



Figs. 8–9. Male genitalia of *Sinotrechiama parvus* S. UÉNO, sp. nov., from Mt. Wawu Shan; left lateral view (8), and apical part of aedeagus, dorsal view (9).

borders faintly arcuate and somewhat oblique; sides rather widely reflexed in basal halves, the borders diminishing posteriad to before apices, nearly straight behind shoulders, very feebly arcuate at middle, and rather widely rounded at apices without appreciable preapical emargination, a small re-entrant angle being formed at the suture; dorsum moderately convex though longitudinally depressed on the disc, steeply declivous at the sides, more gently so in apical area; striae superficial, obliterated at the side, striae 1–3 moderately impressed in apical two-fifths, and more or less crenulate, 1 entire, 2–3 becoming shallower and usually obliterated in basal area, 4 usually traceable only behind middle, 5–7 evanescent, 8 irregularly impressed behind the middle set of marginal umbilicate pores; scutellar striole very short; apical striole short but clearly impressed, moderately curved, and free at the anterior end though directed to the site of stria 5; intervals flat; stria 3 with five or six (usually six) setiferous dorsal pores between basal eighth and apical fifth, several (one to three) proximal pores sometimes shifted onto interval 3; stria 5 with three or four (usually four) setiferous dorsal pores between basal seventh and apical two-sevenths, proximal one of them exceptionally shifted onto interval 5; preapical pore located at the apical anastomosis of striae 2 and 3 behind the level of the anterior end of apical striole, and obviously more distant from apex than from suture; marginal umbilicate pores aggregated and regular.

Ventral surface glabrous and smooth; each sternite with a pair of paramedian setae; sexual setae on anal sternite ordinary. Legs fairly short and stout; protibiae straight, moderately dilated towards apices, finely grooved on the external face, and completely glabrous on the anterior face; tarsi fairly thick, mesotarsus about four-fifths

as long as mesotibia, metatarsus about three-fourths as long as metatibia, tarsomere 1 shorter than the following three tarsomeres combined in both meso- and metatarsi; in ♂, protarsomeres 1 and 2 widely dilated, stoutly produced inwards at apices, and furnished beneath with adhesive appendages.

Male genital organ long and moderately sclerotized. Aedeagus slender, nearly a half as long as elytra, nearly straight in lateral view except for basal part, which is rather abruptly curved ventrad, slightly curved to the right in dorsal view, and widely membraneous on dorsum, with short spatular apical lobe; basal part fairly large, with small basal orifice whose sides are moderately emarginate; sagittal aileron vestigial; viewed dorsally, apical part abruptly narrowed into fairly broad, subparallel-sided apical lobe, whose tip is subtruncated; viewed laterally, apical part gradually narrowed into narrow apical lobe, which is somewhat reflexed and blunt at the extremity; ventral margin nearly straight in profile. Inner sac armed with a large elongate teeth-patch widening apically and a narrow copulatory piece; teeth-patch compact, consisting of variously sized, moderately sclerotized teeth and scales, some of which are fairly large, particularly at the right ventral side, but the others are minute and partially file-like in arrangement; copulatory piece located at the dorsal side of the proximal part of teeth-patch, thin, elongate, and abruptly curved at the apical part towards the left ventral side. Styles small, tapered apically, and devoid of ventral apophyses, left style obviously longer than the right, each bearing four setae at the apex.

Type series. Holotype: ♂, centre of table top, 23–VI–2004, S. UÉNO leg. Allotype: ♀, centre of table top, 2–VI–2004, Y. IMURA leg. Paratype: 1♂, E side of table top, 23–VI–2004, S. UÉNO leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mt. Wawu Shan, table top, 2,750–2,780 m in altitude, in Wawushan Zhen of Hong'ya Xian of central Sichuan, Southwest China.

Notes. Through the courtesy of Dr. BELOUSOV and Mr. GITZEN, I was able to examine all the theretofore described species of *Sinotrechiama* and *Protrechiama*, and found that *S. parvus* and *P. crassipes* are isolated to some extent from their respective congeners. One more species of the former genus, *Sinotrechiama duboisi* was recently described by DEUVE (2004, p. 228, fig. 12), who expressed the opinion that *Protrechiama* had better be regarded as a subgenus of *Sinotrechiama*, and that his new species should belong to a particular species-group in view of the presence of a large copulatory piece in the aedeagal inner sac. I cannot make comment on this matter for the present, but would like to point out that the members of *Sinotrechiama* in a strict sense may be widely distributed in northern and central Sichuan, but that the members of *Protrechiama* seem to occur only in the southern part of the province. Seizing this opportunity, I am going to move *Trechiama crassipes* to *Protrechiama*, though the species is known only from females even at the present moment.

Sinotrechiama parvus is an inhabitant of the *Abies* forest on the table top of Mt. Wawu Shan. The holotype was found from beneath a slate on the trail near a small bridge spanning a narrow stream at the centre of the table top. The allotype was taken

by IMURA nearly at the same place but by sifting dead leaves accumulated at the side of the trail. The paratype came out from beneath a slate on the trail just above a small pool of water at the eastern side of the table top. Both the holotype and the paratype were found on moist yellowish clay and ran very quickly when exposed.

Genus ***Laoblemus*** S. UÉNO, nov.

Type species: *Laoblemus crypticus* S. UÉNO, sp. nov.

A trechine genus of uncertain affinity, though similar in many respects including general appearance to *Aepiblemus* BELOUSOV et KABAK (1993, p. 137) and *Duvalioblemus* DEUVE (1995, p. 16), particularly to the former. Much larger than any of the described species of these genera, and distinguished at first sight from them by the presence of a setiferous dorsal pore on the 5th elytral stria.

Body elongate, with large head, small prothorax, and long elytra; surface glabrous on both dorsum and venter except for genae and the lateral parts of elytra; microsculpture sharply impressed on head and pronotum, mostly consisting of either isodiametric or wide meshes on the former, and of fine transverse meshes and lines on the latter; microsculpture of elytra also consisting of fine transverse lines, though partially obliterated. Apterous, anophthalmic and depigmented. Colour dark reddish brown, shiny.

Head large, wider than long, with entire frontal furrows deep and wide in anterior two-thirds and widely divergent posteriad towards neck constriction; supraorbital areas with two pair of supraorbital setae on lines convergent posteriorly; eyes absent; genae convex, sparsely covered with short hairs. Labrum transverse, shallowly emarginate at the apex. Mandibles stout though sharply hooked at apices; right mandible tridentate. Mentum fused with submentum, though trace of labial suture is perceptible at the lateral parts, moderately foveolate on each side of median ridge, with short simple mental tooth; submentum sexsetose. Palpi short and stout; penultimate segments swollen at the apical parts, arcuate and quadrisetose in labial palpus, simply dilated apicad and completely glabrous in maxillaries; apical segments elongated subconical and longer than penultimate segments in both the palpi. Antennae short and stout, subfiliform.

Pronotum small, cordate, contracted at base, and convex; sides entirely bordered, reflexed, and practically devoid of marginal cilia though a few vestiges of them can be detected near front angles, with two pair of marginal setae, of which the anterior pair is located a little before the widest part and the posterior pair just before hind angles; apex obviously wider than base; front angles hardly produced though distinct, hind angles reflexed, nearly rectangular; dorsum with three or four discal hairs on each side of median line, whose arrangement is not regular; basal transverse impression narrow but continuous; basal area narrow, with shallow longitudinal rugae. Scutellum small though distinct.

Elytra oblong-oval, convex, wider than pronotum, and much longer than wide, without transverse furrow on basal peduncle; shoulders not sharply marked; sides narrowly bordered throughout and sparsely ciliated; striae rather deeply impressed and

coarsely punctate on the disc but becoming much shallower at the side, striae 3 and 4 anastomosing just behind middle and not extending to the field of apical striole, stria 8 deepened behind the middle set of marginal umbilicate pores though irregular to some extent; scutellar striole absent; apical striole short and shallow, moderately curved, and directed to stria 7 at the anterior end; interval 8 and anterior parts of 6 and 7 sparsely covered with minute erect hairs; stria 3 with two setiferous dorsal pores; stria 5 with a single setiferous dorsal pore behind middle, just behind the apical anastomosis of striae 3 and 4; preapical pore located at the apical anastomosis of striae 2 and 5, and much more distant from apex than from suture; marginal umbilicate pores not perfectly aggregated, the first pore of the humeral set shifting postero-internally, and the fourth pore approaching to the third.

Ventral surface glabrous; each sternite with a pair of paramedian setae; anal sternite quadrisetose in ♀. Legs fairly long though stout; protibiae nearly straight, moderately dilated towards apices, entirely pubescent, and not externally grooved; tarsi short.

Male genitalic features unknown.

Range. Known so far only from Mt. Wawu Shan in central Sichuan.

Notes. This is a remarkable new genus whose true affinity is not certain. It is most closely similar to *Aepiblemus* from Kazakhstan and *Duvalioblemus* from Sichuan, but is readily distinguished from them by the peculiarly modified striation of the elytra bearing a well developed setiferous dorsal pore on the 5th elytral stria behind middle. With the exception of the *Epaphiopsis* and *Trechiama* groups, existence of setiferous dorsal pore(s) of the external series is rather seldom met with in the Trechinae, and the *Trechoblemus* series to which belong both *Aepiblemus* and *Duvalioblemus* is the same in this regard. It is therefore possible that *Laoblemus* actually belongs to a group other than the phyletic series of *Trechoblemus*. However, *Laoblemus crypticus* looks like an archaic species of the genus-group in many respects with the exception of the elytral peculiarities. Since only a female specimen is available for this study in spite of repeated painstaking searches, I have to leave the phylogenetical problem of *Laoblemus* unclarified for the time being.

The new generic name *Laoblemus* is derived from Laozi, the founder of Taoism, in memory of his cryptical life on the table top of Mt. Wawu Shan.

Laoblemus crypticus S. UÉNO, sp. nov.

(Fig. 10)

Length: 3.60 mm (from apical margin of clypeus to apices of elytra).

Concolorously dark reddish brown, shiny, with pale palpi; abdominal sternites a little lighter than dorsum.

Head wider than long, HW/HL 1.17, widest at about basal third, and more gradually narrowed anteriad than posteriad; frontal furrows not angulate at middle, frons and supraorbital areas moderately convex; genae tumid, strongly convex especially at the posterior parts; neck very wide, neck constriction deeply marked at the sides; antennae

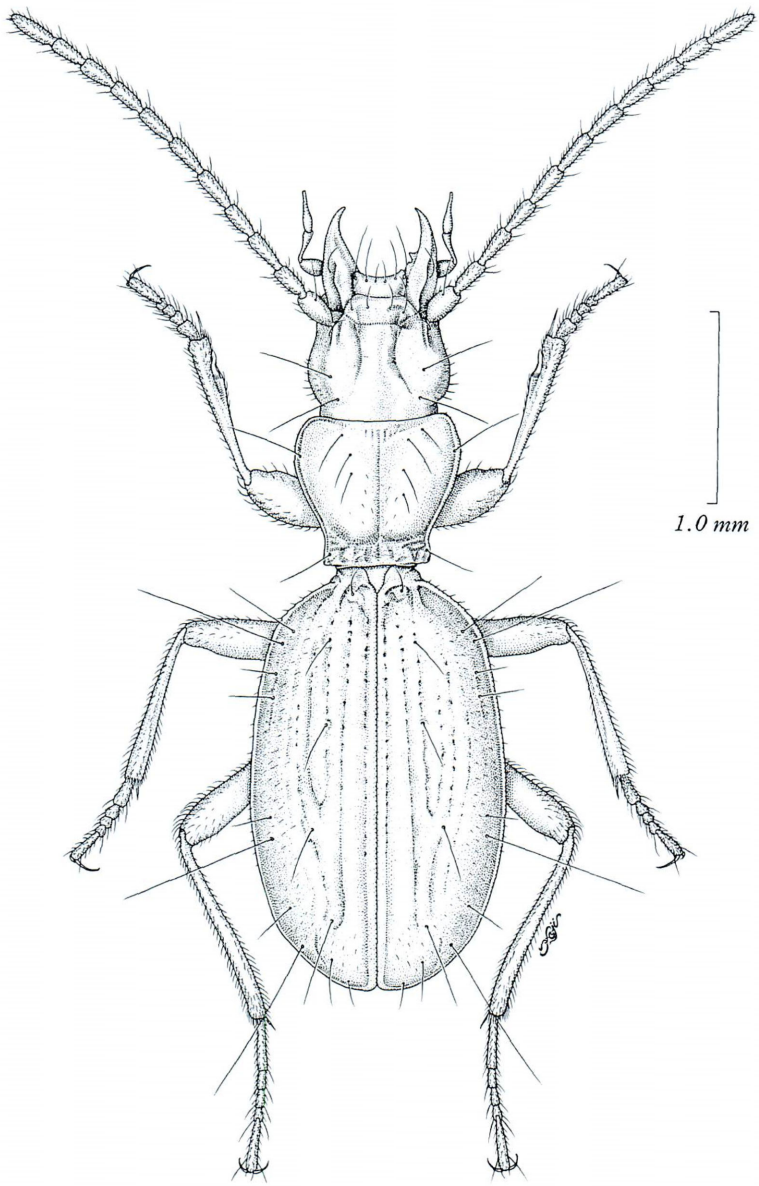


Fig. 10. *Laoblemus crypticus* S. UÉNO, gen. et sp. nov., ♀, from Mt. Wawu Shan.

reaching basal two-fifths of elytra, pedicel the shortest, about as long as antennomere 10 and about three-fourths as long as antennomere 3, which is about as long as terminal antennomere, antennomeres 4–6 each slightly shorter than 3, subcylindrical, and nearly three times as long as wide, 7–10 slightly decreasing in length towards apex,

terminal antennomere about 1.2 times as long as scape though evidently narrower than the latter.

Pronotum cordate, wider than head, a little wider than long, widest at about three-fourths from base, and a little more gradually narrowed anteriad than posteriad; PW/HW 1.16, PW/PL 1.07, PW/PA 1.36, PW/PB 1.55; sides rather widely reflexed in anterior halves, more narrowly so in posterior parts, gently arcuate in front, distinctly and rather widely sinuate at about basal sixth, and then slightly divergent towards hind angles, which are nearly rectangular and obviously reflexed; apex straight, obviously wider than base, PA/PB 1.15, with front angles obtuse, hardly produced, but widely reflexed; base nearly straight for the most part, briefly but deeply emarginate on each side behind hind angle, the anterior margin of the emarginate portion being perpendicular to the mid-line, not oblique; hind angles nearly rectangular or slightly sharp, widely reflexed; dorsum convex, steeply declivous at the lateral and ante-basal parts; median line deeply impressed on the disc, apical transverse impression mal-defined, basal one narrow and uneven, separating narrow basal area from pronotal disc; basal foveae small though fairly deep.

Elytra oblong-oval, widest at about middle; EW/PW 1.55, EL/PL 2.72, EL/EW 1.64; shoulders widely rounded together with prehumeral parts, which are narrowly bordered and gently oblique at the antero-internal portions; sides very feebly arcuate from behind shoulders to behind the level of the eighth umbilicate pore of the marginal series, and conjointly and widely rounded at apices, without appreciable preapical emargination; dorsum convex and steeply declivous at the lateral and apical parts, though longitudinally depressed on the disc, sparsely covered with minute erect hairs in lateral marginal areas; striation peculiar, striae 1 and 2 practically entire, 3 and 4 much abbreviated behind middle and obsolete near base, 5 also obsolete near base but extending posteriorly to the level of preapical pore through an inward curve at the level of setiferous dorsal pore of the external series, 6 and 7 very slight though mostly traceable; intervals slightly convex near suture, completely flat at the lateral part; stria 3 with two setiferous dorsal pores at 2/13 and 1/3 from base, respectively; stria 5 with a single setiferous dorsal pore at about 3/5 from base.

Legs fairly long; mesotarsus about five-eighths as long as mesotibia, metatarsus about three-fourths as long as metatibia; tarsomere 1 about as long as tarsomeres 2–4 combined in both meso- and metatarsi, tarsomeres 3 and 4 each only slightly longer than wide in mesotarsus.

Male unknown.

Type specimen. Holotype: ♀, 23–VI–2004, S. UÉNO leg. Deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mt. Wawu Shan, E side of table top, 2,760 m in altitude, in Wawushan Zhen of Hong'ya Xian, central Sichuan, Southwest China.

Notes. The single known specimen of this strange species was found from beneath a slate on the trail at a shaded place. The soil under the slate was blackish and very humid, not clayey. The beetle was agile when exposed and sought shelter in a nar-

row tunnel probably made by an earthworm. No other beetles were found in the same habitat, even from beneath adjoining slates.

要　　約

上野俊一：中国四川省瓦屋山のチビゴミムシ．—— 瓦屋山は，四川省中央部，大相岭山脈の支脈の上に聳えたつ塔状の山で，標高差1,000 mを超える垂直な岩壁と極端な急斜面とに囲まれ，頂上部の標高2,700–2,800 mあたりが，緩い起伏のある準平面になっている．この平坦部は全体がシラビソ林におおわれ，下生えのヤダケが密生して林床を覆い尽くしている．したがって自然林のなかには，石下にすむような甲虫類を探せる場所がなく，土が露出している流れの岸も，たいていは垂直に近くて，チビゴミムシ類の生息場所に適しない．唯一の例外は歩道で，全面が扁平な切り石で隙間もなく舗装されているが，その下にきわめて良好な生息環境の隠されている所がある．ただし，重い板石を持ち上げて，その下の土や粘土の面を調べたのち元の状態に戻すのは，多大の労力と長時間を要する困難な作業なので，到底，頂上部の全域を調べ尽くせるものではない．

この瓦屋山で，4種のチビゴミムシ類（すべて新種）が発見された．そのうちの2種はケムネチビゴミムシ属に属し，大型の1種がサイカイチビゴミムシ亜属*Pseudepaphius*に，小型のほうがキタチビゴミムシ亜属*Epaphiama*に含まれる．前者は主として山麓部にすみ，後者は亜高山性で，頂上部のシラビソ林のみにみられる．いずれも腐植性で，落ち葉の堆積から篩い出される．前者には*Epaphiopsis* (*Pseudepaphius*) *imurai* S. Uéno，後者には*E.* (*Epaphiama*) *dao* S. Uénoという新名を与えた．後者は大相岭山脈などに分布する固有の種群に含まれるが，前者は日本産の種類に似ている点が多く，今のところ真の類縁関係が確定できない．

第三の種はナガチビゴミムシ群に属し，*Sinotrechiama*属の一員だと考えられる．既知のどの種よりも小型で，むしろ*Protrechiama*属のものに外見は似ているが，属の特徴のすべてが*Sinotrechiama*属のものであることを示しているので，*S. parvus* S. Uénoと命名した．またこの機会に，大风顶から記載した*Trechiama crassipes* S. Uénoを*Protrechiama*属へ移した．

最後の1種は，雌1点のみが採集された盲目地中性のチビゴミムシで，現時点では類縁関係が特定できない．しかし，外部形態ではカザフスタンの*Aepiblemus*属や，四川省の*Duvalioblemus*属に似ている点が多く，これらと同じアトスジチビゴミムシ群の一員だと考えてもあまり違和感がない．ただし，上翅の条線のようすがほかに例をみないほど変わり，第5条によく発達した1剛毛を備えている点が，属群のうちではもちろんのこと，ナガチビゴミムシ群以外のほかの属群においても例外的で，明らかに新属を形成するものと考えられる．それで，道教の始祖である老子が晩年に隠棲したことで，聖地のひとつになっている瓦屋山に因んで，*Laoblemus crypticus* S. Uénoという新名を与えた．

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Elytra, Tokyo, **34** (1): 33–39, May 20, 2006

A New Species of the Genus *Pterostichus* (Coleoptera, Carabidae) from Mt. Shirakusa-yama in Gero-shi of Gifu Prefecture, Central Japan

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Abstract A new species of macrocephalic pterostichine carabid beetle is described from Gero-shi of Gifu Prefecture, Central Japan, under the name of *Pterostichus shojii*.

After the discovery of *Pterostichus todai toyoshimai* SUGIMURA (2002, pp. 91–99) in 2000 from Mt. Kiso-koma-ga-take of the Kiso Mountains on the eastern side of the Kiso River, he began to search for other populations of macrocephalic pterostichines in the neighboring areas on the western side of the Kiso River in cooperation with his colleagues. In the autumn of 2002, a female of a macrocephalic pterostichine was obtained on the western slope of Mt. Shirakusa-yama, the mountain lying in the eastern area of Gero-shi and about 50 km distant to the west from Mt. Éna-san, the type locality of *Pterostichus todai todai*. At the first glance, this specimen seemed more closely related to *Pterostichus uedaorum* MORITA et HIRASAWA (1996, pp. 27–30) from Mt. Iwôzen and Mt. Hakusan than to *P. todai* MORITA et KANIE (1996, pp. 163–167) in view of the slender body, the obtrapezoidal pronotum and the narrowed elytral base. However, a male specimen obtained in the next autumn unexpectedly had a very broad body, subquadrate pronotum, parallel-sided elytra and peculiarly robust aedeagus, and was easily distinguishable from all the allied species. Up to the present, totally three males and seven females from this population have been obtained in this area, and their morphological characteristics are very stable. Therefore, the author has recognized the population from Mt. Shirakusa-yama as being new to science and is going to describe it under the name of *Pterostichus shojii* in this paper. The specific name is dedicated to Mr. Shôji KATÔ for his great contribution to the research of the pterostichine carabid fauna in this area.

The abbreviations used in the table inserted in this paper are as follows: HW – greatest width of head; PW – greatest width of pronotum; PL – length of pronotum (measured along the median line); PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra.

Before going further, he wishes to express his hearty thanks to Dr. Shun-Ichi UÉNO of the National Science Museum, Tokyo for his critical reading of the manuscript. He is also indebted to Mr. Ryôji TOYOSHIMA of Nagoya for his kind help and ad-

vice in this study. Thanks are also due to Messrs. Shôji KATÔ of Tsushima-shi, Aichi Prefecture and Naoki TODA of Nagoya, and to Mrs. Yoriko INAGAKI of Yokkaichi-shi, Mie Prefecture for their kind cooperation in collecting the materials.

The holotype to be designated in this paper will be preserved in the collection of the National Science Museum, Tokyo.

Pterostichus shojii SUGIMURA, sp. nov.

[Japanese name: Gero-ôzu-naga-gomimushi]

(Fig. 1–2)

Male. Length (measured from clypeal apex to elytral apices): 16.30–16.81 mm. Humeral width: 4.34–4.44 mm. Other significant measurements are shown in Table 1.

Body rather flat; outline of body broader than those in other allied species. Colour dark brown; head darker though the labial and maxillary palpi, labrum, antennae and legs are lighter.

Head very large and voluminous, apparently wider than long, a little narrower than or almost as wide as the widest portion of pronotum; apical margin of labrum very strongly emarginate; frontal suture distinct; clypeus sparsely and irregularly punctate near apex with apical margin shallowly emarginate, medio-apical portion narrowly with microsculpture consisting of fine meshes, latero-basal portions followed by the ends of frontal furrows somewhat depressed and rather deeply wrinkled; frontal furrows very short and rather shallow, extending from frontal suture and reaching near post-eye level, very weakly arcuately divergent; the portions beside the posterior half of the furrows shallowly and transversely wrinkled; eyes small and entirely flat; tempora strongly tumid from neck to the widest portion, then moderately and rather linearly narrowed anteriad; lateral grooves short, deep and almost linear, extending from a little behind the mid-eye level and terminating fairly before the posterior supraorbital setae, slightly convergent backwards; additional grooves shallow though distinct, extending from ends of eyes and adjoining the posterior ends of lateral grooves; anterior supraorbital setae situated a little inside the lateral grooves at post-eye level or a little behind that level; surface bearing fine, shallow and irregular wrinkles, and sparsely and microscopically punctate, microsculpture on occiput consisting of meshes; genae smooth without wrinkles on ventral surface; mentum tooth bifid; mentum irregularly wrinkled, submentum bearing several shallow and longitudinal wrinkles along the apical margin; gula shortly and longitudinally sulcate at the middle; gular sutures very fine though distinct, both sides of the sutures transversely wrinkled; ventral surface of neck sparsely punctate, the portions just inside gular sutures sparsely with very short, distinct and longitudinal wrinkles; mandibles very long and stout, left one a little longer than the right, somewhat sinuate near base and strongly hooked inwards at about apical 1/3, almost of the same length and shape in both sexes (apical 1/2 of the left one lacking in the holotype); antennae subfiliform, ratio of each segment (I–XI) as follows:— 1:0.51:0.87:0.85:0.81:0.79:0.73:0.66:0.62:0.57:0.69, 2nd segment unisetose

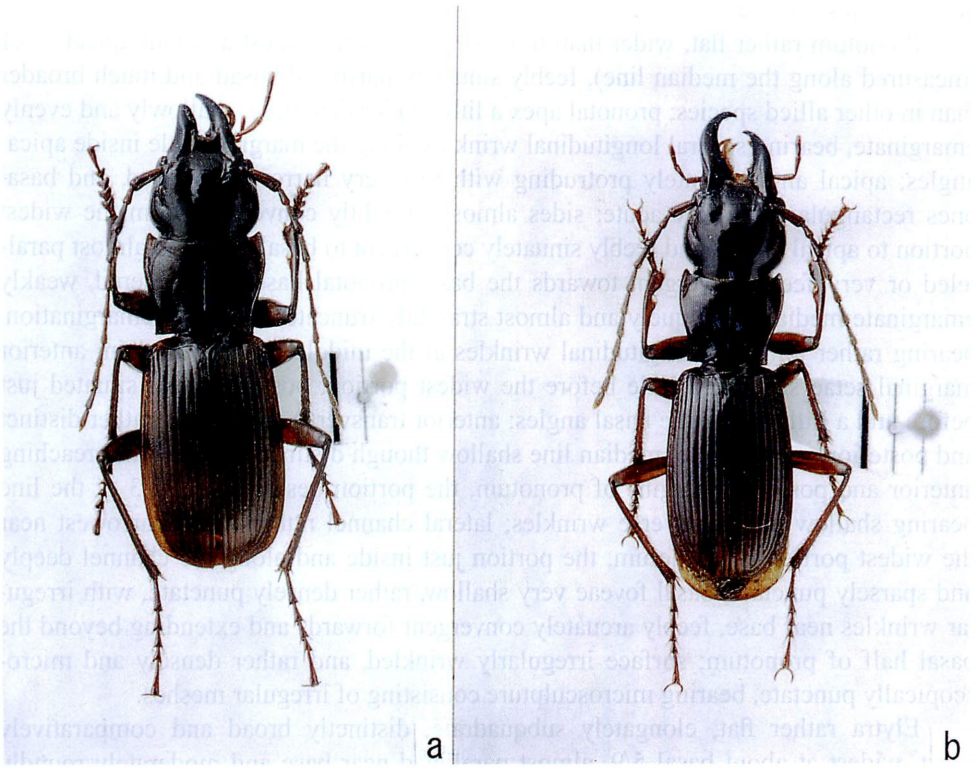

Fig. 1. *Pterostichus shojii* SUGIMURA, sp. nov., from Mt. Shirakusa-yama; a: male (holotype); b: female (paratype).

Table 1. Measurements of *Pterostichus shojii* SUGIMURA, sp. nov.

	Length (mm)	PW/HW	PW/PL	PW/PA	PW/PB	PA/PB	EW/PW	EL/EW
Holotype♂	16.42	1.09	1.52	1.11	1.24	1.12	1.18	1.54
1♂	16.81	1.08	1.53	1.12	1.21	1.08	1.19	1.58
1♂	16.30	1.10	1.54	1.11	1.20	1.09	1.22	1.52
1♀	16.01	1.02	1.47	1.12	1.27	1.14	1.16	1.66
1♀	15.68	1.01	1.51	1.13	1.32	1.17	1.18	1.65
1♀	16.22	0.99	1.52	1.10	1.30	1.19	1.21	1.61
1♀	16.02	1.01	1.54	1.13	1.29	1.14	1.22	1.58
1♀	15.79	1.01	1.52	1.12	1.31	1.17	1.21	1.63
1♀	16.76	1.05	1.54	1.13	1.28	1.13	1.15	1.63
1♀	15.68	1.00	1.45	1.12	1.26	1.12	1.19	1.61

or sometimes asetose.

Pronotum rather flat, wider than long, nearly square, widest at about apical 1/5.1 (measured along the median line), feebly sinuately narrowed basad and much broader than in other allied species; pronotal apex a little wider than base, shallowly and evenly emarginate, bearing several longitudinal wrinkles along the margin a little inside apical angles; apical angles acutely protruding with tips very narrowly rounded, and basal ones rectangular or feebly acute; sides almost straightly convergent from the widest portion to apical angles and feebly sinuately convergent to basal 1/4, then almost paralleled or very feebly divergent towards the base; pronotal base not bordered, weakly emarginate medially, obliquely and almost straightly truncate beside the emargination, bearing rather long and longitudinal wrinkles at the middle of basal margin; anterior marginal setae situated a little before the widest portion, posterior ones situated just before and a little inside the basal angles; anterior transverse impression rather distinct and posterior one obsolete; median line shallow though distinct, each end not reaching anterior and posterior margins of pronotum, the portion beside apical 2/3 of the line bearing shallow and transverse wrinkles; lateral channel rather wide, narrowest near the widest portion of pronotum, the portion just inside and along the channel deeply and sparsely punctate; basal foveae very shallow, rather densely punctate, with irregular wrinkles near base, feebly arcuately convergent forwards and extending beyond the basal half of pronotum; surface irregularly wrinkled, and rather densely and microscopically punctate, bearing microsculpture consisting of irregular meshes.

Elytra rather flat, elongately subquadrate, distinctly broad and comparatively short, widest at about basal 5/9, almost paralleled near base and moderately roundly narrowed apicad, with shallow preapical emarginations; shoulders distinct, rather strongly reflected; basal portions beside scutellum weakly depressed; elytral apices divided, sutural angles angulate and sometimes acutely protruding; inner plica hardly visible; basal border rather arcuate and reaching scutellar striole; scutellum with deep and longitudinal wrinkles; intervals scarcely convex medially and somewhat convex near apices, microscopically and rather densely punctured, and also with distinct microsculpture consisting of meshes; interval 3 with two dorsal pores, anterior one at about basal 1/2, posterior one at about apical 1/5, each pore adjoining stria 2; striae shallow, striae 1–2 becoming shallower near apical ends, striae 3–4 and 5–6 respectively joining just before apical ends, stria 6 sometimes not reaching and stria 7 never reaching the basal border; scutellar striole rather long and shallow, lying on interval 1, sometimes joining stria 1; marginal series of pores 12–15 in number, widely spaced at the middle.

Legs slender; dorsal surface of all tarsi smooth, scattering sparse punctures near apical margin; protibiae slightly bowed at apical 1/3 in both sexes; surface of femora, hind coxae and trochanters shallowly wrinkled.

Prosternum deeply and rather densely punctate on lateral sides; prosternal process not bordered, longitudinally depressed medially, with apex rather obtusely angulate; prepisterna rather deeply and densely punctate only near the prosternum; pronotal epi-

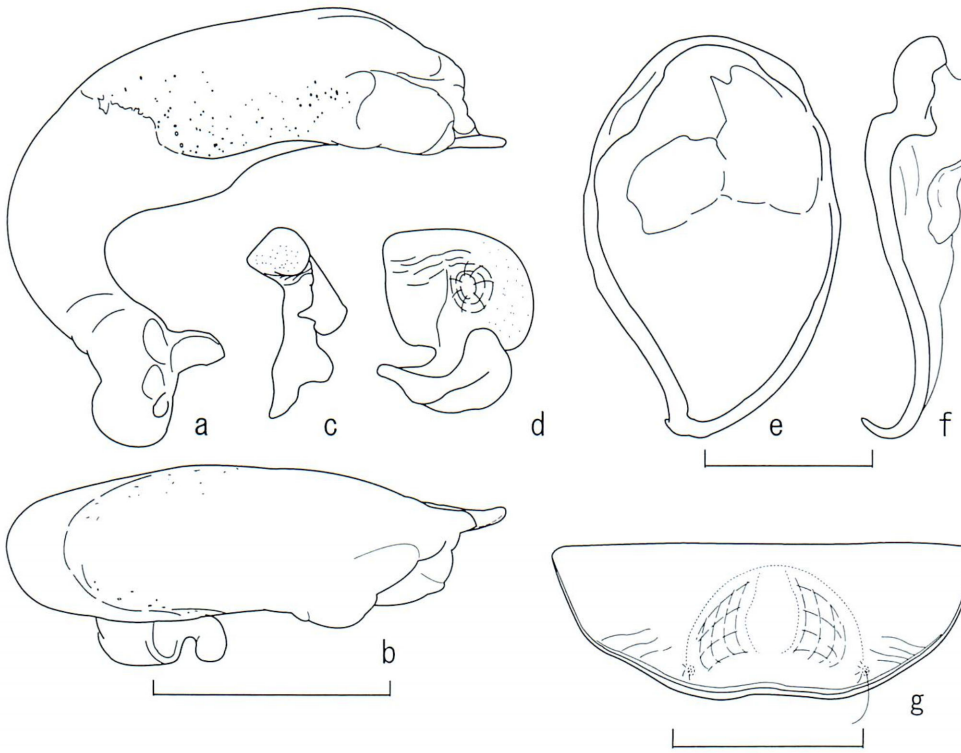

Fig. 2. Male genitalia of *Pterostichus shojii* SUGIMURA, sp. nov., holotype; a–b, aedeagus: a, left lateral view; b, dorsal view; c, left paramere; d, right paramere; e–f, genital segment: e, ventral view; f, left lateral view; g, male terminal sternite. Scale: 2 mm.

pleura bearing short and transverse wrinkles; mesosternum shallowly and rather sparsely punctate; mesepisternum deeply and densely punctate; metasternum punctate near lateral sides; sternites 3–4 shallowly and longitudinally wrinkled, puctate near lateral sides; lateral portions of sternites 5–7 bearing short and longitudinal wrinkles along apical margins; terminal sternite rather deeply and semicircularly depressed between apical setae, and very feebly and longitudinally raised at the middle of depression, bearing several long wrinkles along the margin outside apical setae, apical margin shallowly emarginate medially and extremely feebly sinuate or shortly and almost straightly oblique beside the emargination, and distinctly marginate along the border.

Aedeagus robust, strongly bent inwards at about basal 1/3 and distorting leftwards, weakly carinately convex on the middle of ventral surface, apical lobe comparatively long, with apex rounded and very slightly curved rightwards in dorsal view and slightly inclined dextrally in frontal view; right paramere short, not elongate, with apex rounded and rather strongly produced forwards, weakly bent inwards near the base, sparsely punctate only on the apical portion of outer surface, inner surface and the apical portion of outer surface bearing microsculpture consisting of meshes; left paramere

wide and quadrate with corners rounded, posterior margin curved inwards, roundly and rather deeply concave medio-anteriorly, and shallowly so posteriorly, with several transverse wrinkles above the posterior cavity; genital segment strongly hooked inwards at the base.

Female. Length; 15.68–16.76 mm. Humeral width; 3.45–3.80 mm. Other significant measurements are also shown in Table 1.

Body more elongate and comparatively slenderer than in male. Ratio of each antennal segment (I–XI) as follows: 1:0.53:0.76:0.83:0.83:0.83:0.76:0.70:0.66:0.59:0.72. Head a little wider or almost as wide as the widest portion of pronotum. Pronotum longer than wide, apparently obtrapezoidal with base much narrower than apex, widest at about apical 1/5.4; sides arcuately convergent forwards, evenly and sinuately convergent to basal 1/5, then very feebly divergent towards the base; posterior marginal setae situated at a level a little before the basal margin of pronotum; basal foveae not so broadly extending. Elytra elongately subquadrate, apparently broadened from base to the widest portion, moderately roundly narrowed apicad with preapical emarginations deep and rather distinct; shoulders almost smooth, not so strongly reflected. Terminal sternite of abdomen shallowly and transversely depressed at apical 1/3, bearing several shallow and longitudinal wrinkles along the margin between two pairs of setae, with apical margin roundly arcuate.

Type series. Holotype: ♂, Mt. Shirakusa-yama, ca. 1,000 m in alt., Gero-shi, Gifu Pref., 13～20–IX–2003, Akemichi SUGIMURA leg. Paratypes: 1♀, same locality as for the holotype, 14～25–IX–2002, Ryôji TOYOSHIMA leg.; 1♀, same locality as for the holotype, 20～28–IX–2003, Naoki TODA leg.; 1♀, same locality as for the holotype, 3～11–X–2003, Shôji KATÔ leg.; 1♀, same locality as for the holotype, 11～26–X–2003, Akemichi SUGIMURA leg.; 1♂, same locality as for the holotype, 11–X～9–XI–2003, Ryôji TOYOSHIMA leg.; 1♀, same locality as for the holotype, 19–IX～3–X–2004, Ryôji TOYOSHIMA leg.; 2♀♀, same locality as for the holotype, 3～10–X–2004, Shôji KATÔ leg.; 1♂, same locality as for the holotype, 19～28–IX–2005, Akemichi SUGIMURA leg.

Notes. This new species is easily distinguishable from other allied species by having the following characteristics: 1) body apparently broad in male, 2) pronotum bearing distinct wrinkles, 3) median lobe of male genitalia robust, strongly bent inwards at about basal 1/3 and distorting leftwards, weakly and carinately convex at the middle of ventral surface, with apical lobe well produced.

要　　約

杉村明道：岐阜県下呂市東部の白草山から発見されたナガゴミムシの1新種．—— 著者らは2000年の秋に木曽山地の木曽駒ケ岳からキソコマオオズナガゴミムシ *Pterostichus todai toyoshimai* を再発見したのち，木曽川西岸においてオオズナガゴミムシの調査を開始した．その結果，2002年の秋に下呂市東部の白草山西斜面から1頭の雌のオオズナガゴミムシを採集した．この個体は比較的細長い体型を有しており，近隣の恵那山から記録されたエナオオズナガゴミムシ

Pterostichus todai よりもむしろ医王山と白山から記録されたウエダオオズナガゴミムシ *Pterostichus uedaorum* に近縁であると思われた．しかし，翌年の秋に採集された雄個体は，非常に幅広い体形と太く特徴的な交尾器中央片を有していた．詳細な比較検討の結果，これまでに採集された10個体の特徴的な形質は，いずれも安定しており，他の近縁のオオズナガゴミムシから容易に区別できるので，ゲロオオズナガゴミムシ *Pterostichus shojii* SUGIMURA, sp. nov.と命名して記載した．

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——— 2005. A new species of the genus *Pterostichus* (Coleoptera, Carabidae) from Mt. Fukube-ga-take, Chûnô District of Gifu Prefecture, Central Japan. *Ibid.*, **33**: 641–647.

Elytra, *Tokyo*, **34** (1): 40, May 20, 2006

Records of Pterostichine Carabid Beetles from Arimine-rindô of Toyama Prefecture, Central Japan

Akemichi SUGIMURA

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In the summer of 2005, I made a short collecting trip to Arimine-rindô of Toyama Prefecture, and obtained some pterostichine carabid beetles by pit fall traps. The pterostichine carabid fauna of this area has been scarcely known to us and the records of them are worth noting. I am therefore going to report the pterostichine carabid beetles obtained by myself from this area for faunistic study. All the specimens listed below are preserved in my collection.

Locality. Arimine-rindô, Toyama-shi, Toyama Prefecture.

Date. 16～17–VII–2005

Collector. Akemichi SUGIMURA

Pterostichus (*Bothriopterus*) *subovatus* MOTSCHULSKY, 1860, 3♂♂, 4♀♀.

Pterostichus yoritomus BATES, 1873, 1♂, 4♀♀.

Pterostichus (*Eosteropus*) *fuligineus* MORAWITZ, 1862, 1♂, 3♀♀.

Pterostichus (*Rhagadus*) *polygenus* BATES, 1883, 1♂, 1♀.

Pterostichus (*Melanius*) *ambigenus* BATES, 1883, 8♂♂, 7♀♀.

Pterostichus (*Pterostichus*) *abaciformis* STRANEO, 1955, 31♂♂, 24♀♀.

Pterostichus (*Paralianoe*) *uenoi* STRANEO, 1955, 27♂♂, 34♀♀.

Pterostichus (*Epinialoe*) *hakusanus* KASAHARA, 1989, 23♂♂, 64♀♀.

Pterostichus (*Epinialoe*) sp., 5♂♂, 4♀♀. Undetermined species. It is closely allied to *P. cristatoides*, but is distinguishable by having an elongate right paramere of male genitalia.

Pterostichus (*Nialoe*) *nakanei* STRANEO, 1955, 2♂♂, 3♀♀.

Pterostichus (*Nialoe*) *masahiroi* KASAHARA, 1988, 2♂♂, 3♀♀.

Pterostichus (*Nialoe*) sp., 1♀. Undetermined species. It is closely allied to *P. latistylis*, but is distinguishable by having only two pores on the interval 3 of the elytra.

Elytra, Tokyo, **34** (1): 41–46, May 20, 2006

A New Genus and Species of Harpaline Carabid Beetle from Kyushu, Japan

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Abstract A new genus and species of harpaline carabid beetle, *Fuminoria miyazakii* gen. et sp. nov., is described from northern Kyushu, Japan. It belongs to the tribe Stenolophini, and is easily recognized from other genera on glabrous head and eyes, the presence of three pairs of setae on submentum, the presence of a single dorsal pore on each elytron, and a spine of stylus in female.

Through the courtesy of Mr. Fuminori HIROKAWA, I was able to examine strange harpaline carabid beetles found near the estuary of a small river in northern Kyushu, Japan. At a glance, they look like a pogonine carabid, but doubtless belong to the tribe Stenolophini of the Harpalinae. I soon found out that this would be a difficult task, for the specimens did not seem to have the necessary combination of characters to fit in any of the couplets in the most recent key available. Attempt to solve this problem led to the study which is presented on the following pages.

The abbreviations used herein are as follows: L – body length, measured from apical margin of clypeus to apices of elytra; HW – greatest width of head; PW – greatest width of pronotum; PL – length of pronotum, measured along the mid-line; PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra; FL – length of metafemur; ML – length of metatrochanter; TL – length of hind tarsus; M – arithmetic mean; NSMT – National Science Museum (Nat. Hist.), Tokyo.

I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the original manuscript of this paper. My thanks are also due to Messrs. Fuminori HIROKAWA, Atou MIYAZAKI and Mitsuyasu NISHIDA for supplying me with important material. Mr. Noboru ITO gave me advice about the other harpaline genera, which clustered around the genus *Dicheirotrichus*.

Genus ***Fuminoria*** nov.

[Japanese name: Hamabe-chibi-gomokumushi Zoku]

Type species: *Fuminoria miyazakii* sp. nov.

Description. Body relatively small and elongate.

Head glabrous and convex above; eyes glabrous; frontal furrows reaching lateral grooves; genae very short, contracted behind, and with several pubescence; clypeus usually glabrous and rarely with several pubescence; mentum tooth porrect, simple, and rounded at apex; suture between mentum and submentum distinct; submentum with three pairs of setae; ligula with a pair of setae at apex; paraglossae elongate, arcuate inwards, and with pubescence at apex; antennae filiform; labrum transverse and pubescent; antennal segment I with a long seta and several short setae; segments II and III each with several long setae at apical part and several short setae at apical half; segments IV–XI covered with pubescence; penultimate segment of labial palpus with two setae on inner side; mandibles strongly hooked at apices.

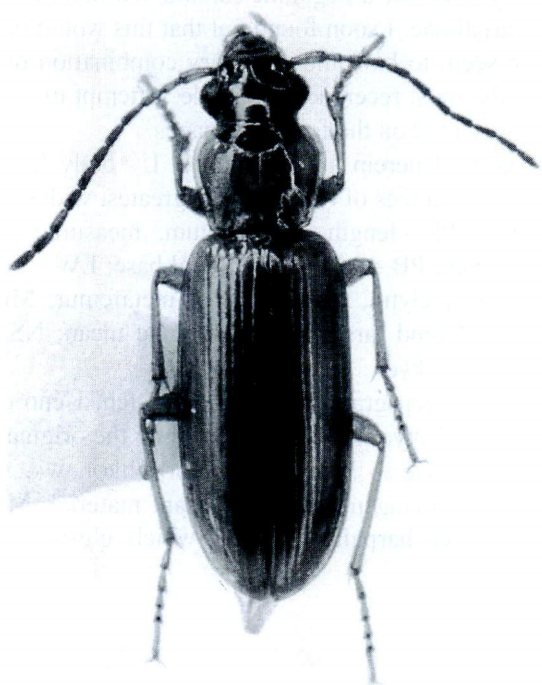


Fig. 1. *Fuminoria miyazakii* gen. et sp. nov.

Pronotum transverse; hind angles obtuse; two pair of marginal setae present; median line finely impressed.

Elytra elongate; hind wings fully developed; scutellar striole absent; basal pore situated at the base of stria 2 on each side; interval III with a dorsal pore on each side; marginal umbilicate pores composed of two sets: anterior set and posterior one; posterior set divided into two groups, and the two are a little distant to each other; ventral surface covered with pubescence, though the gula and mesepimeron are glabrous; prosternal process with pubescence; apex of anal sternite (VI) moderately produced, and with a pair of setae in ♂, and with two pairs of setae in ♀; in ♂, sternite III with a small and very shallow depression which bears pubescence.

Legs moderately long; each metafemur with two setae (inner seta and outer one) and covered with pubescence; dorsal surface of protibia with pubescence; in ♂, four proximal segments of each protarsus dilated, and with adhesive hairs on ventral side and several pubescence on dorsal side; in ♂, mesotarsal segments not dilated and without adhesive hairs; claw segment of metatarsus with several short hairs on ventro-lateral sides.

Male genital organ elongate and poorly sclerotized; aedeagus with two lateral sclerotized strips; apical orifice open at the dorsal side; apical stylus in ♀ elongate, and with a spine.

Range. Kyushu, Japan.

Notes. This new genus is easily recognized on the following points: 1) glabrous head and eyes; 2) submentum with three pairs of setae; 3) structure of hind angles of pronotum; 4) elytron with a single dorsal pore, 5) structure of tarsi in ♂, and 6) apical stylus in ♀ with a spine. This remarkable genus is dedicated to Mr. Fuminori HIROKAWA, who sent me the specimens for the first time.

Fuminoria miyazakii MORITA, sp. nov.

[Japanese name : Hamabe-chibi-gomokumushi]

(Figs. 1–7)

Description. L: 5.7–6.6 mm. Body elongate, moderately convex, and with parallel-sided elytra. Colour reddish brown, though the labrum, apices of mandibles and antennal segments IV–XI are slightly darker; ventral side reddish brown to brown; elytra reddish brown, but the intervals II–IV are dark brown; palpi, antennal segments I–III and legs reddish brown.

Head moderately convex; frontal furrows shallow to deep, and divergent posteriad; lateral grooves linear, deep, straight and reaching the mid-eye level; eyes prominent; microsculpture not sharply impressed though consisting of polygonal meshes; gula smooth, with very short median line; labrum with emarginate or almost straight apex; PW/HW 1.18–1.24 (M 1.21) in 17 ♂♂, 1.20–1.29 (M 1.25) in 24 ♀♀; relative lengths of antennal segments as follows:— I : II : III : IV : V : VI : XI ≒ 1 : 0.56 : 0.72 : 0.83 : 0.76 : 0.79 : 0.88 in 17 ♂♂, 1 : 0.58 : 0.74 : 0.82 : 0.76 : 0.77 : 0.86 in 24 ♀♀.

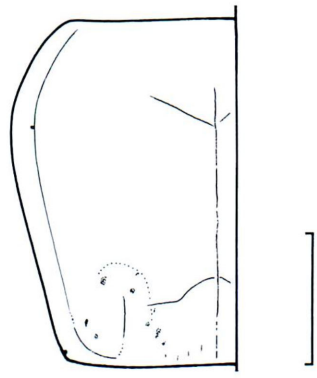
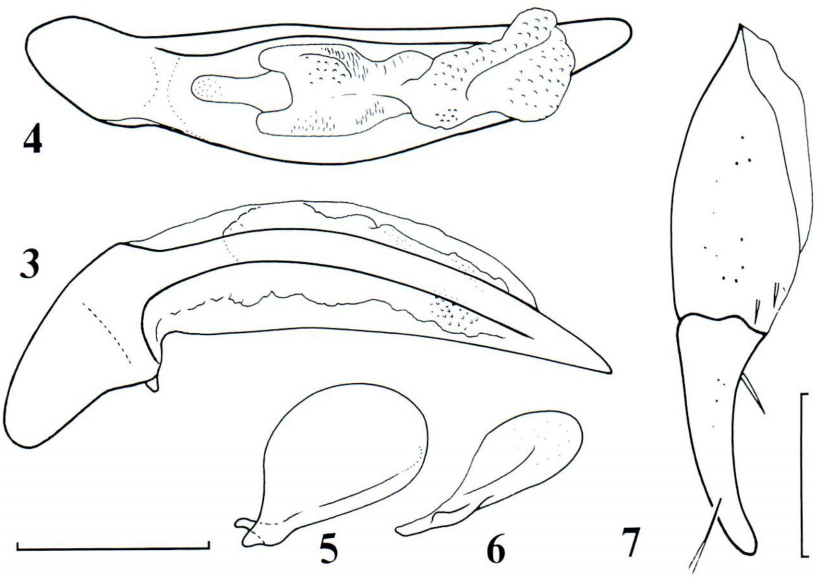


Fig. 2. Outline of the left side of pronotum in *Fuminoria miyazakii* gen. et sp. nov. (Scale: 0.5 mm).

Pronotum moderately convex; PW/PL 1.24–1.39 (M 1.31) in 17 ♂♂, 1.26–1.36 (M 1.31) in 24 ♀♀; apex not bordered, widely emarginate or almost straight; sides widely reflexed; PW/PA 1.37–1.44 (M 1.41) in 17 ♂♂, 1.36–1.46 (M 1.40) in 24 ♀♀; PW/PB 1.29–1.39 (M 1.33) in 17 ♂♂, 1.27–1.41 (M 1.34) in 24 ♀♀; PA/PB 0.92–1.00 (M 0.95) in 17 ♂♂, 0.87–1.01 (M 0.95) in 24 ♀♀; apical angles weakly produced, widely rounded at the tips, and with several pubescence; base almost straight or weakly arcuate at about middle and weakly arcuate at the sides; anterior pair of marginal setae situated at the widest part and inserted in side gutters; posterior pair of setae situated at a little before the tip of hind angles; side gutters arcuate along the sides, curved at the hind angles, and then joining the bottom of basal foveae on each side; basal foveae shallow, and usually with several coarse punctures or rugose; transverse impressions finely impressed; microsculpture composed of fine transverse meshes or almost vanished.

Elytra moderately convex; EL / EW 1.90–2.07 (M 1.98) in 17 ♂♂, 1.90–2.06 (M 1.98) in 24 ♀♀; shoulders rounded with several pubescence; basal border weakly arcuate and joining stria 1; preapical emargination shallow; apices rounded, with a very small re-entrant angle at suture; dorsal pore situated at basal 13/20–3/4 of elytra and usually joining stria II sometimes on interval III or close to stria II, but the right pore is lacking in 1 ♂; striae almost smooth or very weakly crenulate; striae 2–8 not joining basal border; striae 4–7 becoming shallower towards apices; stria 8 deeper than stria 7; intervals weakly convex; microsculpture usually composed of isodiametric meshes, sometimes wide ones, rarely disordered; EW/PW 1.24–1.37 (M 1.30) in 17 ♂♂, 1.25–1.37 (M 1.32) in 24 ♀♀; anterior set of marginal umbilicate pores consisting of six pores; anterior group of the posterior set usually consisting of four pores, rarely three; posterior group of posterior set consisting of four pores; apex of anal sternite (VI) moderately produced, pubescent and with a pair of setae in ♂, and two pairs of setae in ♀; microsculpture clearly impressed, composed of polygonal meshes in ♂, and wide or polygonal meshes in ♀.



Figs. 3–7. Genitalia of *Fuminoria miyazakii* gen. et sp. nov. —— 3–6, Male genitalia; aedeagus, left lateral view (3), same, dorsal view (4), left paramere, left lateral view (5), right paramere, left lateral view (6), (scale: 0.4 mm). —— 7, Apical stylus. (Scale: 0.2 mm).

Inner seta of metafemur situated at basal 3/20–1/3 and outer seta at about middle; outer seta longer than the inner one; ML/FL 0.39–0.45 (M 0.41) in 10 ♂♂, 0.37–0.48 (M 0.42) in 20 ♀♀; TL/HW 0.99–1.10 (M 1.04) in 15 ♂♂, 0.95–1.07 (M 1.00) in 14 ♀♀.

Aedeagus elongate; dorsal wall widely membraneous; apical lobe poorly sclerotized and with simply rounded apex; ventral wall weakly convex and membraneous; right paramere narrower than the left one.

Variation of anal sternite. The number of the setae is stable in ♂. Of the 24 females of the type series, four are aberrant in the number and position of setae. In three females, the outer seta on the right side is lacking. The remaining one has an additional seta between inner setae.

Type series. Holotype: ♂, 6–X–1998, A. MIYAZAKI leg. (NSMT). Paratypes: 7♂♂, 17♀♀, 6–X–1998, A. MIYAZAKI leg.; 8♂♂, 5♀♀, 8–X–1998, A. MIYAZAKI leg.; 1♂, 2♀♀, 29–IX–2001, M. NISHIDA leg.

Type locality. Riv. Honmyou-gawa, Onojima-machi, Isahaya-shi, Nagasaki Prefecture, Kyushu, Japan.

要　　約

森田誠司：九州産ゴモクムシの新属新種. —— 九州で採集された新属新種*Fuminoria miyaza-*

*kii*ハマベチビゴモクムシを記載した．本種は，一見ハマベゴミムシに似ているが，ゴモクムシ亜科Harpalinaeに属するものであり，頭部および複眼が平滑，下唇茎節に3対の剛毛があること，前胸背板の後角が鈍角，上翅第3間室に1孔点をもつなどの特徴をもつ．

Reference

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Elytra, *Tokyo*, **34** (1): 46, May 20, 2006

Two Replacement Names for Carribean Flea-beetles (Coleoptera, Chrysomelidae)

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Compiling "Check list of Chrysomelidae in the West Indies (Coleoptera)" in 2003, I proposed two replacement names for the case of primary homonymy among the subfamily Alticinae in the West Indies. The list was duly printed as No. 2 of Hispaniola, new series, which is published occasionally by the Museo Nacional Historia Natural, Santo Domingo. Unfortunately this volume has not been published until now for some political reasons. Since this list was partly circulated as personal copies, it seems better to establish these replacement names to avoid unnecessary confusion. So I propose these names again.

Heikertingerella blakeana TAKIZAWA, nom. nov.

Heikertingerella guadelopensis BLAKE, 1960, Proc. ent. Soc. Wash., **62**: 103, fig. 4 (Guadeloupe) [Nec *Heikertingerella guadelopensis* BECHYNE, 1956.]

Systena wilcoxi TAKIZAWA, nom. nov.

Systena plicata BLAKE, 1959, Proc. ent. Soc. Wash., **61**: 246–247, fig. 8 (Cuba: Sierra del Cristal, Oriente Prov.). [Nec *Systena plicata* BLATCHLEY, 1921.]

These names are dedicated to Ms. D. H. BLAKE and Mr. J. A. WILCOX, respectively, for their contributions to Carribean chrysomelid taxonomy.

Elytra, Tokyo, **34** (1): 47–62, May 20, 2006

Apterous *Lathrobium* (Coleoptera, Staphylinidae) from the Kii Peninsula in Japan

3. Group of *Lathrobium brachypterum*

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Abstract Seven apterous species of the staphylinid genus *Lathrobium* from the Kii Peninsula in central Honshu, Japan, are dealt with. All the species belong to the group of *L.* (s. str.) *brachypterum*; six of them are described as new to science under the names *L.* (s. str.) *koyasanum*, *L.* (s. str.) *ohtohense*, *L.* (s. str.) *isense*, *L.* (s. str.) *nankiense*, *L.* (s. str.) *kinokuniense* and *L.* (s. str.) *wasamatanum*, and the remaining one determined as *L.* (s. str.) *masaoi* is recorded with collecting data.

The members of the group of *Lathrobium brachypterum* are similar in facies and colour to those of the groups of *L. shingon* and *L. pollens*. They are, however, distinguishable from the latters by the relatively smaller body and secondary sexual characters of abdominal sternites in the male, the 8th sternite of which is truncate or slightly emarginate at the middle of posterior margin.

As the member of the group of *L. brachypterum*, only one species, *L. masaoi*, has hitherto been reported from the Kii Peninsula (WATANABE, 1999, p. 109). Following the two previous papers (WATANABE, 2005 a, b), I am going to describe the new species belonging to the group of *L. brachypterum* in addition to the collecting data of *L. masaoi*.

Before going further, I wish to express my hearty thanks to Dr. Shun-Ichi UÉNO, Visiting Professor at Tokyo University of Agriculture, for his kindness in giving me valuable advice on the present study. Deep gratitude is also due to Dr. Toshio KISHIMOTO, Japan Wildlife Research Center, Messrs. Isao MATOBA, Wakayama Prefectural Museum of Natural History, Hiroki SATÔ, Matsuidamachi, Gunma, and Hideyuki YOKOZEKI, Yokkaichi-shi, Mie, for their kindness in supplying me with the specimens used in this study, and Messrs. Arata ISHIZUKA, Japan Wildlife Research Center, Junnosuke KANTOH, Laboratory of Insect Resources, Tokyo University of Agriculture, for their assistance in taking the photographs inserted in this paper.

Lathrobium (s. str.) ***masaoi*** Y. WATANABE, 1999

[Japanese name: Kii-himekobane-nagahanekakushi]

Lathrobium (s. str.) *masaoi* Y. WATANABE, 1999, Ent. Rev. Japan, Osaka, **54**: 109–112.

This species was described by WATANABE (1999, p. 109) based on six male and four female specimens obtained on Mt. Wasamata-yama in Nara Prefecture. Since then, this species has not been reported until now from other localities of Japan. It is new to the fauna of Mie Prefecture.

Specimens examined. 2♂♂, 2♀♀, Hirakura, Mie Pref., Honshû, Japan, 24–III–1992, Y. WATANABE leg.

Distribution. Japan (central Honshû: Kii Peninsula).

Lathrobium (s. str.) ***koyasanum*** Y. WATANABE, sp. nov.

[Japanese name: Kôya-himekobane-nagahanekakushi]

(Figs. 1, 2, 8–10)

Body length: 6.4–7.6 mm (from front margin of head to anal end); 3.2–3.4 mm (from front margin of head to elytral apices).

Body elongate, nearly parallel-sided and subdepressed above. Colour reddish brown to brownish black and moderately shining, with mandibles and antennae brownish red, palpi, labrum, legs and two apical abdominal segments brownish yellow.

The present new species may be placed near *L. masaoi* from Mt. Wasamata-yama of Nara Prefecture in view of general configuration of the male genital organ, but is distinguishable from it by the following points:

Male and female. Head subquadrate, less elevated medially than in *L. masaoi*, slightly transverse (width/length=1.03) or as long as broad, widest at posterior fourth and more distinctly narrowed anteriad than in *L. masaoi*; lateral sides gently arcuate; surface slightly more strongly and more coarsely punctured than in *L. masaoi* though covered with similar microscopic ground sculpture to that of *L. masaoi*; postocular part longer than in *L. masaoi*, about 3.14 times as long as longitudinal diameter of eye. Antennae elongate, extending a little beyond the middle of pronotum and not thickened towards the apical segment, two proximal segments polished, the remainings opaque, 5th to 10th segments more or less moniliform, and similar in articulation to those of *L. masaoi.*

Pronotum similar in configuration to that of *L. masaoi*, apparently longer than broad (length/width=1.23), distinctly longer (pronotum/head=1.38) and a little broader (pronotum/head=1.10) than head; surface sparingly and slightly more coarsely punctured than in *L. masaoi* except for a narrow median smooth space. Elytra subtrapezoidal, somewhtat more strongly dilated posteriad than in *L. masaoi*, apparently transverse (width/length=1.19), distinctly shorter (elytra/pronotum=0.78) but a little broader (elytra/pronotum=1.14) than pronotum; lateral sides nearly straight, posterior margin broadly emarginate at the middle as in *L. masaoi*; surface sparingly and more roughly punctured than in *L. masaoi*. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of the members of this species-group.

Abdomen elongate, somewhat dilated from 3rd to 6th segments and then abruptly narrowed towards the anal end as in *L. masaoi*; each tergite similarly punctured and

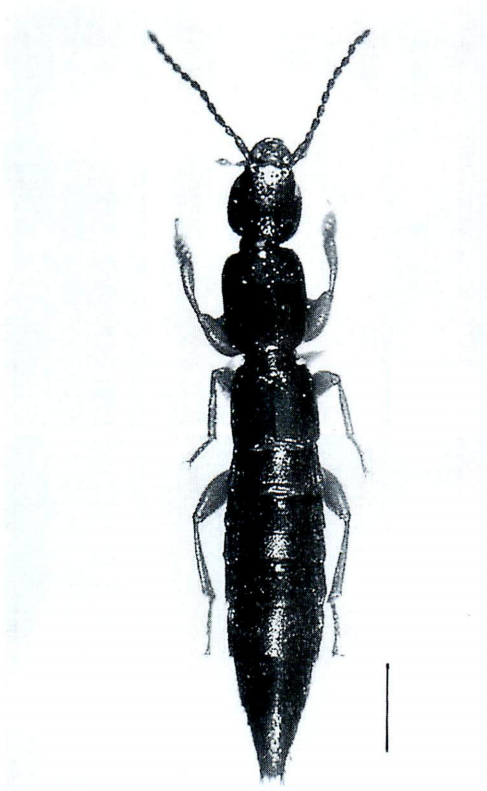
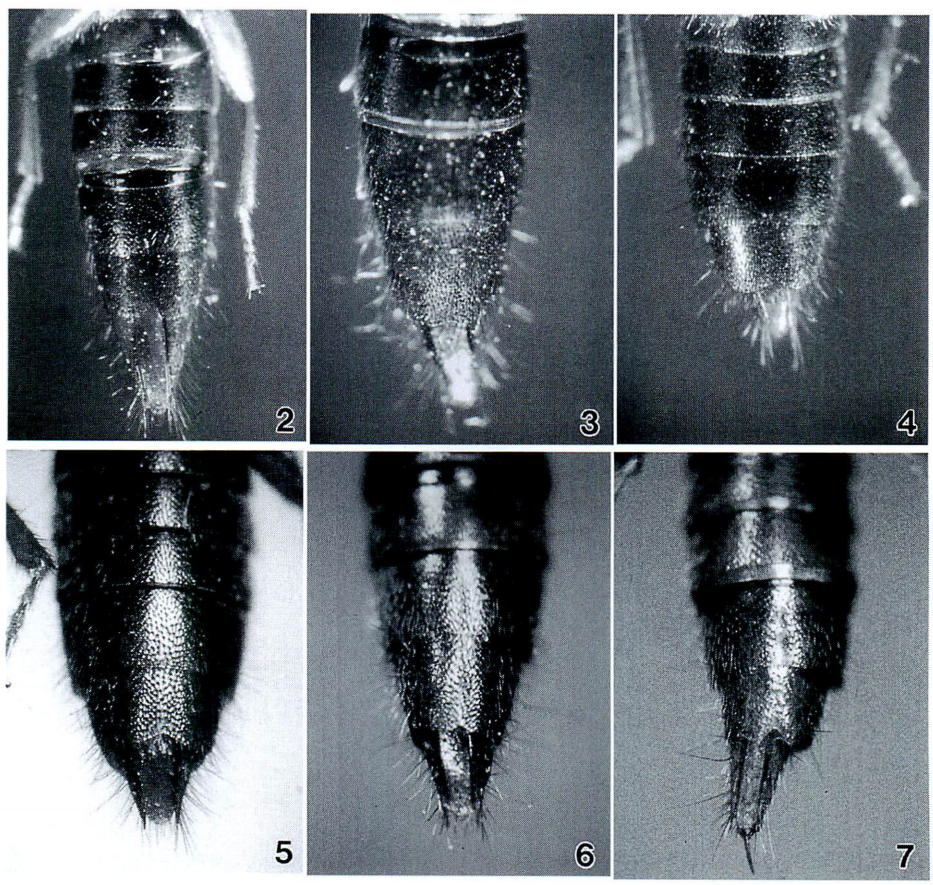


Fig. 1. *Lathrobium* (s. str.) *koyasanum* Y. WATANABE, sp. nov., ♂, from Mt. Kôya-san of Wakayama Prefecture, Japan. Scale: 1.0 mm.

pubescent as in *L. masaoi*; in male, 8 th sternite shallowly though distinctly emarginate at the middle of posterior margin and somewhat depressed before the emargination, surface of the depression more closely provided with fine blackish brown setae than in other parts, 7 th sternite almost simple; in female, 8th sternite abruptly narrowed in posterior thirds towards the gently rounded apex.

Male genital organ similar in general configuration to that of *L. masaoi* in dorsal view, but different from it in the following points: ventral sclerite of median lobe clubbed and much more elongate; fused paramere symmetrical, uniformly narrowed towards the apex, dorsal surface provided with a fine longitudinal carina at the middle of posterior two-thirds.



Figs. 2–7. Secondary sexual characters of abdominal sternites in the male; *L.* (s. str.) *koyasanum* sp. nov. (2); *L.* (s. str.) *ohtohense* sp. nov. (3); *L.* (s. str.) *isense* sp. nov. (4); *L.* (s. str.) *nankiense* sp. nov. (5); *L.* (s. str.) *kinokuniense* sp. nov. (6); *L.* (s. str.) *wasamatanum* sp. nov. (7).

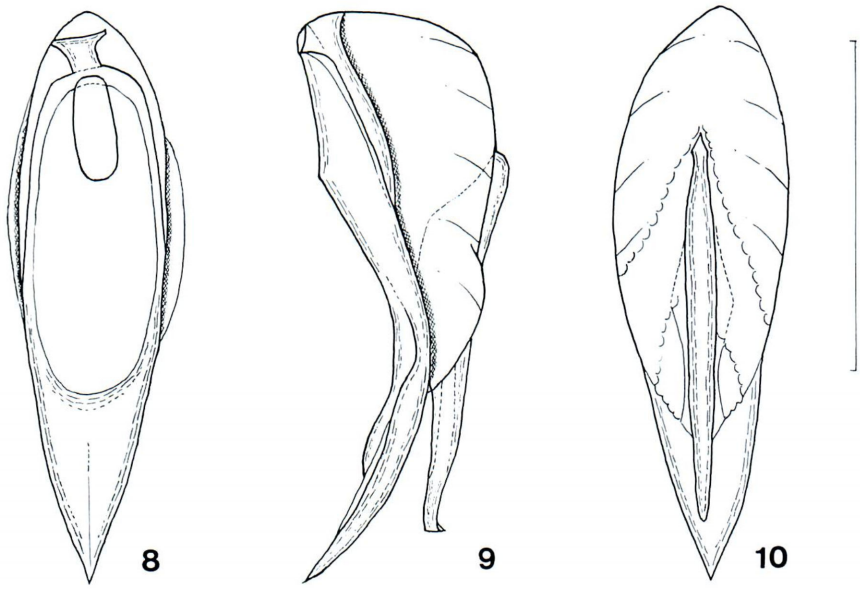
Type series. Holotype: ♂, allotype: ♀, Mt. Kôya-san, Wakayama Pref., Honshû, Japan, 11–XI–1971, Y. WATANABE leg. Paratype: 1♂, same data as for the holotype. The type specimens are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture.

Distribution. Japan (central Honshû: Kii Peninsula).

Remarks. This new species is also similar in general appearance to *L. brachypterum* SHARP (1889, p. 255), but are readily distinguishable from it by configuration of the male genital organ.

Bionomics. All the type specimens were found in the leaf litter accumulated in a deciduous broadleaved forest on Mt. Kôya-san.

Etymology. The specific epithet of this new species is derived from "Mt. Kôya-san", the type locality.



Figs. 8–10. Male genital organ of *Lathrobium* (s. str.) *koyasanum* sp. nov.; dorsal view (8), lateral view (9), and ventral view (10). Scale: 1.0 mm.

Lathrobium (s. str.) ***ohtohense*** Y. WATANABE, sp. nov.

[Japanese name: Ôtô-himekobane-nagahanekakushi]

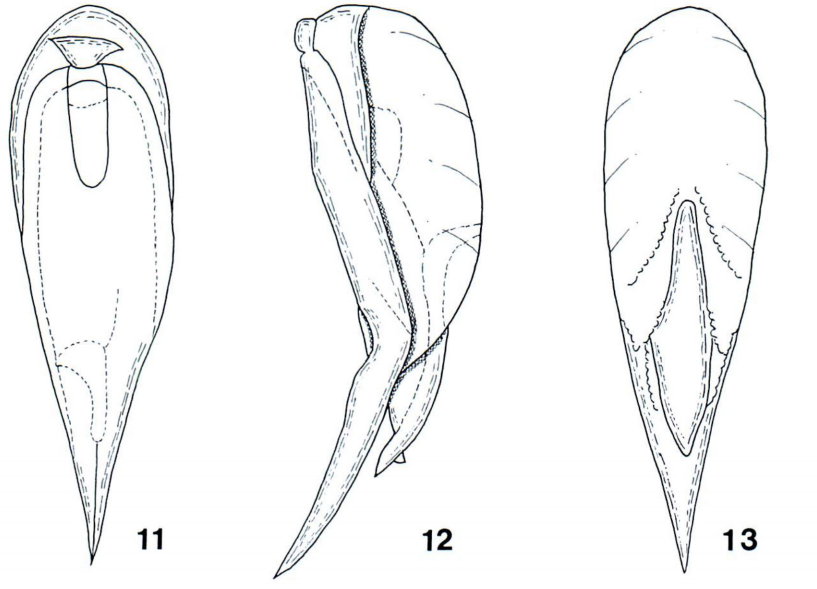
(Figs. 3, 11–13)

Body length: 6.5–7.6 mm (from front margin of head to anal end); 3.2–3.5 mm (from front margin of head to elytral apices).

Body elongate, parallel-sided and somewhat depressed above. Colour reddish brown to reddish black and moderately shining, with mouth parts, antennae and legs brownish yellow.

Male and female. The present new species is similar in body size and general appearance to *L. koyasanum*, but different from it in the following points:

Head somewhat transverse (width/length=1.05) and slightly more strongly narrowed anteriad than in *L. koyasanum*; lateral sides more distinctly arcuate; surface slightly less coarsely punctured than in *L. koyasanum* and covered with somewhat finer microscopic ground sculpture than that of *L. koyasanum*; eyes small and nearly flat, their longitudinal diameter less than one-third as long as postocular part. Antennae elongate, extending to the middle of pronotum and not thickened towards the apical segment, 6th to 10th segments more or less moniliform, and similar in articulation to those of *L. koyasanum*.



Figs. 11–13. Male genital organ of *Lathrobium* (s. str.) *ohtohense* sp. nov.; dorsal view (11), lateral view (12), and ventral view (13). Scale: 1.0 mm.

Pronotum similar in configuration to that of *L. koyasanum*, remarkably longer than broad (length/width=1.27), apparently longer (pronotum/head=1.47) and somewhat broader (pronotum/head=1.10) than head; surface similarly punctured as in *L. koyasanum* except for a narrow median smooth space. Elytra subtrapezoidal though less dilated posteriad than in *L. koyasanum*, a little transverse (width/length=1.10), distinctly shorter (elytra/pronotum=0.75) but somewhat broader (elytra/pronotum=1.05) than pronotum; posterior margin broadly emarginate at the middle as in *L. koyasanum*; surface more closely and more distinctly punctured than in *L. koyasanum*. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of *L. koyasanum*.

Abdomen elongate, 3rd to 7th tergites each more densely and more coarsely punctured than in *L. koyasanum* and covered with fine brownish pubescence, 8th tergite distinctly more sparingly punctured than in the preceding tergites; in male, 8th sternite more shallowly emarginate at the middle of posterior margin than in *L. koyasanum* and shallowly, nock-shapedly depressed in front of the emargination, surface of the depression more closely settled with fine brownish setae than in other parts; 7th sternite slightly emarginate at the middle of posterior margin and shallowly, longitudinally depressed before the emargination, surface of the depression more coarsely setose than in other parts; 6th sternite simple; in female, 8th sternite abruptly narrowed in posterior third towards the narrowly rounded apex; 7th sternite simple.

Male genital organ spindle-shaped and well sclerotized except for membraneous

ventral side of median lobe. Median lobe considerably shorter than fused paramere, widest at basal third and more strongly narrowed apicad than basad, with ventral sclerite elongate, much shorter though apparently broader than that of *L. koyasanum*, abruptly narrowed in apical part towards the bluntly pointed apex. Fused paramere slightly asymmetrical in apical third, abruptly narrowed in apical third towards the acutely pointed apex; surface provided with a fine longitudinal carina at the middle in apical fourth.

Type series. Holotype: ♂, allotype: ♀, Ôsugidani, Mt. Ohtoh-san, Wakayama Pref., Honshû, Japan, 24–IV–1990, I. MATOBA leg. Paratypes: 1♂, same locality and collector as above, 29–VII–1982; 1♀, Mt. Ohtoh-san, Wakayama Pref., Honshû, Japan, 15–V–2000, I. MATOBA leg.; 2♂♂, Akatsuchimori-yama, Ohtoh-mura, Wakayama Pref., Honshû, Japan, 26–V–1993, I. MATOBA leg.; 1♂, Maenokawa, Wakayama Pref., Honshû, Japan, 24–V–1991, I. MATOBA leg. All the type specimens are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture.

Distribution. Japan (central Honshû: Kii Peninsula).

Bionomics. The type specimens were extracted by a Tullgren funnel from leaf-litter taken in broadleaved forests of Ohtoh-mura in Wakayama Prefecture.

Etymology. The specific epithet of this new species is given after the type locality "Mt. Ohtoh-san".

Lathrobium (s. str.) ***isense*** Y. WATANABE, sp. nov.

[Japanese name: Ise-himekobane-nagahanekakushi]

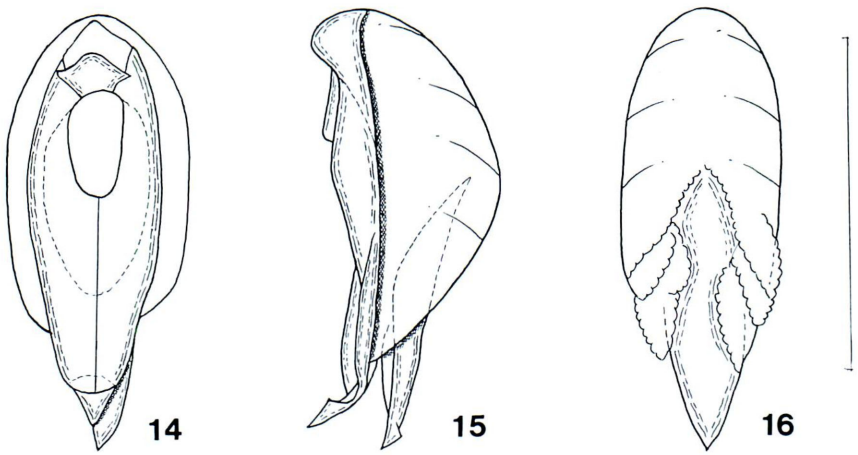
(Figs. 4, 14–16)

Body length: 5.6–6.1 mm (from front margin of head to anal end); 2.9–3.0 mm (from front margin of head to elytral apices).

Similar in facies and colour to *L. ohtohense*, but differs from it in the smaller body and the following points:

Male and female. Head slightly transverse (width/length=1.03) or as long as broad, subtrapezoidal, somewhat more strongly narrowed anteriad than in *L. ohtohense*; lateral sides gently arcuate; surface slightly more numerously though less coarsely punctured than in *L. ohtohense* and covered with much finer ground sculpture than that of *L. ohtohense*; eyes small, almost flat, their longitudinal diameter about one-third as long as postocular part. Antennae elongate, extending slightly beyond the middle of pronotum, not thickened towards the apical segment as in *L. ohtohense*, 5th to 10th segments more or less moniliform, and similar in articulation to those of *L. ohtohense*.

Pronotum slightly more distinctly narrowed posteriad than in *L. ohtohense*, apparently longer than broad (length/width=1.23), considerably longer (pronotum/head=1.37) and somewhat broader (pronotum/head=1.08) than head; lateral sides almost straight in anterior two-thirds, somewhat arcuate in posterior third; surface slightly more numerously and somewhat more coarsely punctured than in *L. ohtohense*



Figs. 14–16. Male genital organ of *Lathrobium* (s. str.) *isense* sp. nov.; dorsal view (14), lateral view (15), and ventral view (16). Scale: 1.0 mm.

except for a narrow median smooth space. Elytra similar in configuration to those of *L. ohtohense*, somewhat transverse (width/length=1.11), distinctly shorter (elytra/pronotum=0.79) but a little broader (elytra/pronotum=1.08) than pronotum; surface less closely and much more strongly punctured than in *L. ohtohense*. Legs similar in structure to those of the members of this species-group.

Abdomen elongate, each tergite closely, finely punctured and covered with fine brownish pubescence as in *L. ohtohense*; in male, 8th sternite shallowly though somewhat more deeply emarginate at the middle of posterior margin than in *L. ohtohense* and longitudinally, more strongly depressed before the emargination than in *L. ohtohense*, surface of the depression closely settled with blackish brown coarse setae; 7th sternite nearly truncate at the middle of posterior margin and slightly depressed or flattened in front of the truncation; 6th sternite simple; in female, 7th and 8th sternites each similar in configuration to that of *L. ohtohense*.

Male genital organ elliptical and almost symmetrical, well sclerotized except for membraneous ventral side of median lobe. Median lobe somewhat longer and distinctly broader than fused paramere, widest at the middle and much more strongly narrowed posteriad, with ventral sclerite strongly narrowed towards the pointed apex. Fused paramere abruptly narrowed in apical part towards the pointed tip; lateral side strongly elevated in posterior half, surface provided with a fine longitudinal carina along the median line, bearing a triangular process before the apex as seen from lateral side.

Type series. Holotype: ♂, allotype: ♀, Tsurugitouge, Nansei T., Mie Pref., Honshû, Japan, 20–I–2000, H. YOKOZEKI leg. Paratypes: 13♂♂, 11♀♀, same data as for the holotype; 1♂, 1♀, same locality and collector as above, 10–I–1998; 1♂, 1♀, same locality and collector as above, 15–I–2000; 9♂♂, 1♀, Kouraibiro, Ise C., Mie Pref., Honshû, Japan, 10–I–1998, H. YOKOZEKI leg.; 4♀♀, same locality and collector

as above, 31–I–1998; 2♂♂, 2♀♀, Erihara, Isobe T., Mie Pref., Honshû, Japan, 20–I–2000, H. YOKOZEKI leg. The type specimens are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture, except for several paratypes which are preserved in YOKOZEKI's collection.

Distribution. Japan (central Honshû: Kii Peninsula).

Bionomics. Unknown.

Etymology. The specific epithet of the present new species is derived from "Ise", the old name of Mie Prefecture, in which lie all the three known localities.

Lathrobium (s. str.) ***nankiense*** Y. WATANABE, sp. nov.

[Japanese name: Nanki-himekobane-nagahanekakushi]

(Figs. 5, 17–22)

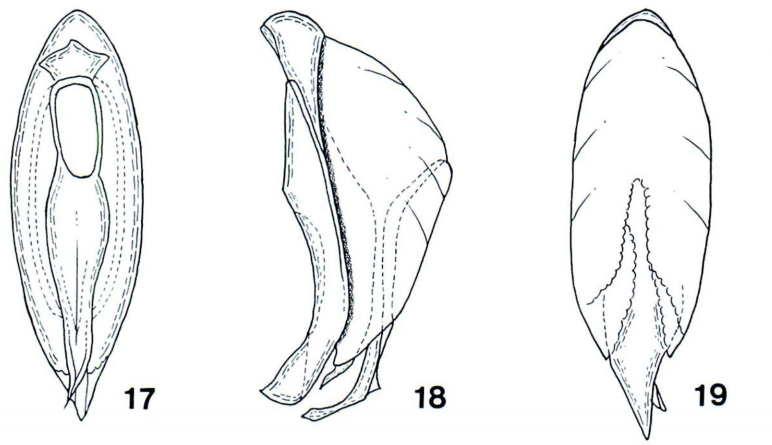
Body length: 5.8–7.4 mm (from front margin of head to anal end); 3.1–3.3 mm (from front margin of head to elytral apices).

Similar in general appearance to the preceding three species, but distinguishable from them by secondary sexual character of the 8th abdominal sternite in the male, which is more deeply and subtriangularly excised at the middle of posterior margin.

Male and female. Head similar in configuration to that of *L. isense* though slightly more transverse (width/length=1.05); lateral sides gently arcuate as in *L. isense*; surface slightly more sparingly and slightly more coarsely punctured than in *L. isense* and covered with extremely fine ground sculpture as in *L. isense*; eyes small and nearly flat, their longitudinal diameter shorter than one-third the length of postocular part. Antennae elongate, extending slightly beyond the middle of pronotum, somewhat more slender than those of *L. isense*, two proximal segments polished, the remainings opaque, 5th to 10th segments more or less moniliform, and similar in articulation to those of *L. isense*.

Pronotum narrowed posteriad as in *L. isense*, apparently longer than broad (length/width=1.18), distinctly longer (pronotum/head=1.37) and a little broader (pronotum/head=1.10) than head; lateral sides more distinctly arcuate in posterior third than in anterior two-thirds; surface more sparingly and more coarsely punctured than in *L. isense*, except for a narrow median smooth space. Elytra subtrapezoidal, slightly more dilated posteriad than in *L. isense*, a little transverse (width/length=1.12), distinctly shorter (elytra/pronotum=0.79) but somewhat broader (elytra/pronotum=1.05) than pronotum; lateral sides almost straight except near anterior and posterior angles, posterior margin slightly more deeply emarginate than in *L. isense*; surface slightly more closely, more shallowly and more roughly punctured than in *L. isense*. Legs moderately long, similar in structure to those of *L. isense*.

Abdomen elongate, 3rd to 8th tergites each similarly punctured and pubescent as in *L. isense*; in male, 8th sternite subtriangularly excised at the middle of posterior margin and longitudinally depressed before the excision, surface of the depression more closely settled with fine blackish brown setae than in other parts except for a nar-



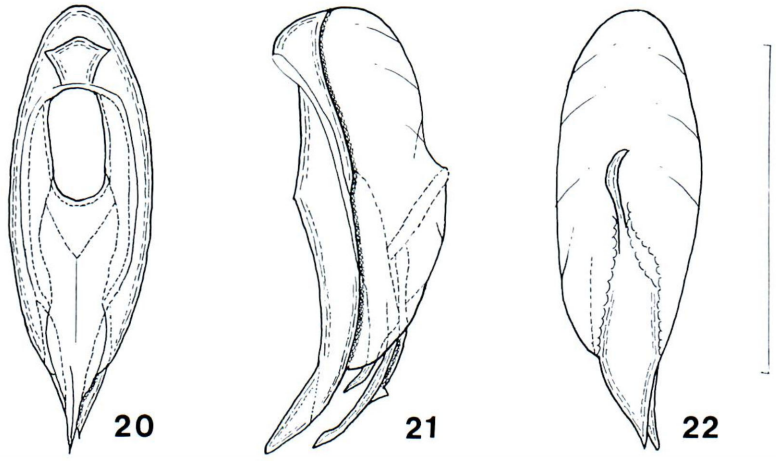
Figs. 17–19. Male genital organ of *Lathrobium* (s. str.) *nankiense* sp. nov., from Ikenoyama of Kozagawa-chô in Wakayama Prefecture; dorsal view (17), lateral view (18), and ventral view (19). Scale: 1.0 mm.

row longitudinal smooth space along the median line; 7th sternite slightly emarginate at the middle of posterior margin and feebly, longitudinally depressed in front of the emargination; 6th sternite simple; in female, 8th sternite abruptly narrowed in posterior third towards the narrowly rounded apex; 7th sternite simple.

Male genital organ considerably different from those of the three preceding species. Median lobe elliptical, slightly longer than fused paramere, with ventral sclerite widest at the middle and abruptly narrowed in apical fifth towards the pointed apex. Fused paramere narrowed towards the apex which is acutely pointed as seen from dorsal side, strongly curved dorsad in apical fourth in profile, surface provided with a fine longitudinal carina at the middle.

Type series. Holotype: ♂, allotype: ♀, Ikenoyama, Kozagawa-chô, Wakayama Pref., Honshû, Japan, 11–V–1996, I. MATOBA leg. Paratypes: 4♂♂, 9♀♀, same data as for the holotype; 3♂♂, 2♀♀, same locality and collector as above, 3–XI–2000; 3♂♂, 9♀♀, Fudou-dani, Miyama T., Mie Pref., Honshû, Japan, 22–IX–2001, K. TOYODA leg; 14♂♂, 10♀♀, Mikizaki, Owase C., Mie Pref., Honshû, Japan, 25–X–1995, H. YOKOZEKI leg.; 2♀♀, same locality and collector as above, 29–IX–1996; 13♂♂, 18♀♀, Kukizaki, Owase C., Mie Pref., Honshû, Japan, 12–II–1996, H. YOKOZEKI leg.; 3♂♂, same locality and collector as above, 1–VI–1996. The holo- and allotypes are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture. The paratypes are distributed to the collection of the above mentioned laboratory, Wakayama Prefectural Museum of Natural History and YOKOZEKI's collection.

Further specimens examined. 3♂♂, 1♀, Tategasaki, Kumano C., Honshû, Japan, 29–XII–2000, H. YOKOZEKI leg.; 3♂♂, Kasuga-jinja, Kainan-shi, Wakayama Pref., Honshû, Japan, 15–IV–1994, I. MATOBA leg.; 4♂♂, 2♀♀, Aisuji, Shingû-shi,



Figs. 20–22. Male genital organ of *Lathrobium* (s. str.) *nankiense* sp. nov., from Kasugajinja of Kainan-shi in Wakayama Prefecture; dorsal view (20), lateral view (21), and ventral view (22). Scale: 1.0 mm.

Wakayama Pref., Honshû, Japan, 28–IV–1996, I. MATOBA leg.

The specimens obtained at Kasuga-jinja in Kainan-shi, Aisuji in Shingû-shi and Tategasaki in Kumano-shi differ from the type specimen in the fused paramere of the male genital organ, which is longer than median lobe and much narrower in apical part as seen from lateral side, but the difference can be regarded as infraspecific variation.

Bionomics. The specimens obtained by MATOBA were extracted by a Tullgren funnel from leaf-litter taken in a broadleaved forest at Ikenoyama of Kozagawa-chô.

Etymology. The specific epithet of the present new species is derived from "Nanki", in which lie the four known localities. "Nanki" means the southern part of the Kii Peninsula in Japanese.

Lathrobium (s. str.) ***kinokuniense*** Y. WATANABE, sp. nov.

[Japanese name: Kinokuni-himekobane-nagahanekakushi]

(Figs. 6, 23–28)

Body length: 5.5–6.6 mm (from front margin of head to anal end); 3.1–3.2 mm (from front margin of head to elytral apices).

Resembles *L. nankiense* in general appearance, but readily distinguishable from it by somewhat smaller body, remarkably different configuration of male genital organ and the following points:

Male and female. Head slightly transverse (width/length=1.03) or as long as broad, somewhat more distinctly narrowed anteriad than in *L. nankiense*; lateral sides slightly more strongly arcuate; surface covered with somewhat more numerous and slightly coarser punctures and somewhat coarser coriaceous ground sculpture than those of *L. nankiense*; eyes relatively larger than those of *L. nankiense*, their longitudi-

nal diameter more than one-third as long as postocular part. Antennae elongate, extending slightly beyond the middle of pronotum, two proximal segments polished, the remainings opaque, 5th to 10th moniliform, and similar in articulation to those of *L. nankiense*.

Pronotum similar in configuration to that of *L. nankiense*, distinctly longer than broad (length/width=1.23), considerably longer (pronotum/head=1.37) and slightly broader (pronotum/head=1.08) than head; surface covered with similar punctures to those of *L. nankiense* except for a narrow median smooth space. Elytra subtrapezoidal though less dilated posteriad than in *L. nankiense*; lateral sides slightly arcuate, posterior margin more shallowly emarginate at the middle than in *L. nankiense*; surface more densely, much more shallowly and much more roughly punctured than in *L. nankiense*. Legs similar in structure of profemora, protibiae and protarsi to those of *L. nankiense*.

Abdomen elongate, each tergite slightly more finely, less closely punctured and pubescent than in *L. nankiense*; in male, 8th sternite subtriangularly though more minutely excised at the middle of posterior margin than in *L. nankiense* and longitudinally depressed before the excision, surface of the depression more closely provided with blackish brown setae than in other parts; 7 th sternite subtruncate at the middle of posterior margin and feebly, U-shapedly depressed in front of the truncation; 6th sternite simple; in female, 8th strenite abruptly narrowed in posterior third towards the narrowly rounded apex; 7th sternite simple.

Male genital organ elliptical; median lobe broader and remarkably longer than fused paramere, ventral sclerite elongate, narrowed both basad and apicad; fused paramere abruptly narrowed in apical fifth as seen from dorsal side and strongly curved dorsad in profile, apex acutely pointed, surface provided with a distinct longitudinal carina at the middle.

Type series. Holotype: ♂, allotype: ♀, Mt. Gomadan-zan, Wakayama Pref., Honshû, Japan, 14–V–1996, I. MATOBA leg. Paratypes: 2♂♂, same data as for the holotype. Deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture.

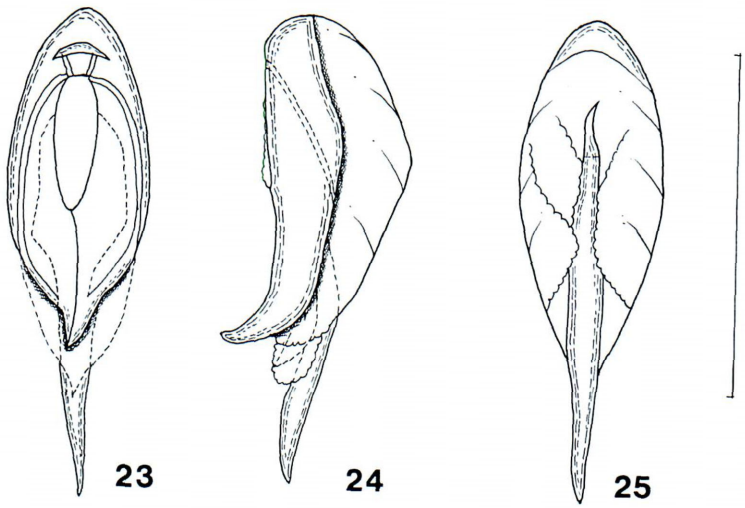
Further specimens examined. 3♂♂, 5♀♀, Mizukami, Nakahechi-chô, Wakayama Pref., Honshû, Japan, 2–VI–1995, I. MATOBA leg.

The specimens obtained at Mizukami of Nakahechi-chô differ from the type specimens in the narrower ventral sclerites of median lobe and the more elongate fused paramere in apical fifth of male genital organ, but the difference can be regarded as infraspecific variation.

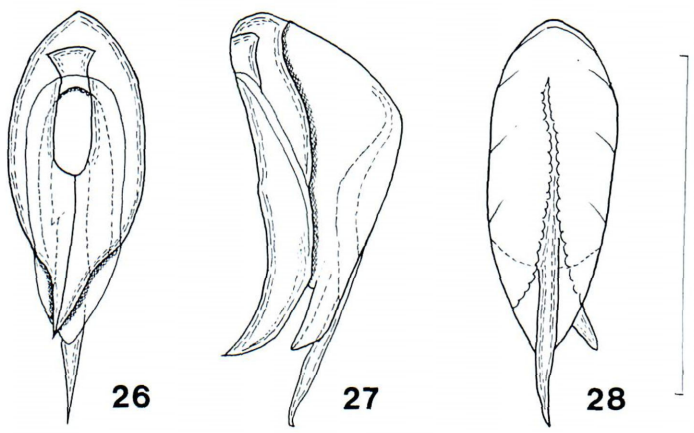
Distribution. Japan (central Honshû: Kii Peninsula).

Bionomics. All the specimens were extracted by a Tullgren funnel from leaf-litter taken in a broadleaved forest on Mt. Gomadan-zan.

Etymology. The specific epithet of this new species is derived from the "Kinokuni" which is an old name of Wakayama Prefecture.



Figs. 23–25. Male genital organ of *Lathrobium* (s. str.) *kinokuniense* sp. nov., from Mt. Gomadan-zan of Wakayama Prefecture; dorsal view (23), lateral view (24), and ventral view (25). Scale: 1.0 mm.



Figs. 26–28. Male genital organ of *Lathrobium* (s. str.) *kinokuniense* sp. nov., from Mizukami of Naka-hechi-chô in Wakayama Prefecture; dorsal view (26), lateral view (27), and ventral view (28). Scale: 1.0 mm.

Lathrobium (s. str.) ***wasamatanum*** Y. WATANABE, sp. nov.

[Japanese name: Wasamata-himekobane-nagahanekakushi]

(Figs. 7, 29–31)

Body length: 7.0–7.5 mm (from front margin of head to anal end); 3.2–3.6 mm (from front margin of head to elytral apices).

The present new species differs from all the preceding species in relatively large body and reddish brown colour.

Male and female. Head subtrapezoidal and transverse (width/length=1.10), more similar in configuration to that of *L. nankiense* than to that of *L. kinokuniense*; lateral sides slightly more arcuate than in *L. nankiense*; surface numerously and coarsely punctured as in *L. kinokuniense* though covered with less coarse coriaceous ground sculpture than that of *L. kinokuniense*; eyes relatively small and almost flat, their longitudinal diameter one-fourth as long as postocular part. Antennae elongate, extending a little beyond the middle of pronotum and not thickened towards the apical segment, two proximal segments polished, the remainings opaque, 4th to 10th segments moniliform, and similar in articulation to those of *L. kinokuniense*.

Pronotum similar in configuration to that of *L. kinokuniense*, apparently longer than broad (length/width=1.23) as in *L. kinokuniense*, considerably longer (pronotum/head=1.35) than though as broad as head; surface much more closely and more coarsely punctured than in *L. kinokuniense* except for a narrow median smooth space. Elytra trapezoidal, somewhat dilated posteriad; posterior margin broadly and shallowly emarginate at the middle as in *L. kinokuniense*; surface more densely and more strongly punctured than in *L. kinokuniense*. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of the members of this species-group.

Abdomen elongate, each tergite more sparingly and more coarsely punctured than in *L. kinokuniense*; in male, 8th sternite subtriangularly and a little more deeply excised at the middle of posterior margin than in *L. kinokuniense* and somewhat longitudinally flattened before the excision; 7th sternite subtruncate at the middle of posterior margin and shallowly, V-shapedly depressed before the truncation, surface of the depression glabrous; 6th sternite simple; in female, 8th sternite, abruptly narrowed in posterior third towards the rounded apex as in *L. kinokuniense*; 7th sternite simple.

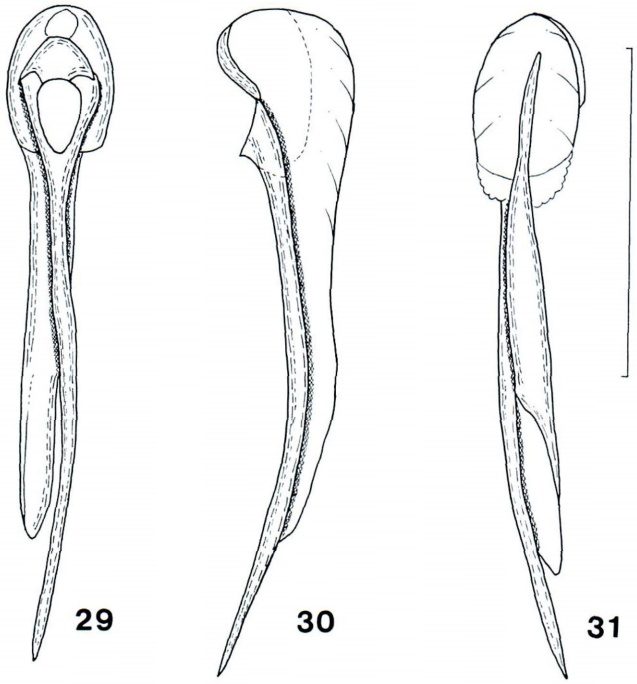
Male genital organ notably different in configuration from those of all the preceding species and somewhat similar in conspicuously elongate fused paramere to that of *L. notoense* WATANABE (1997, p. 140) from Mt. Hôryû-zan of Ishikawa Prefecture. Median lobe elongate though apparently shorter than fused paramere, ventral sclerite narrowed in basal sixth, gradually dilated towards the bluntly pointed apex. Fused paramere remarkably elongate and distinctly narrower than median lobe, gradually narrowed towards the pointed apex.

Type series. Holotype: ♂, Mt. Wasamata-yama, Kamikitayama, Nara Pref., Honshû, Japan, 28–VI–1998, H. SATÔ leg.; allotype: ♀, same locality as for the holotype, 11–VII–1999, T. KISHIMOTO leg. Paratypes: 1♂, same data as for the holotype; 1♂, same data as for the allotype. All the type specimens are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture.

Distribution. Japan (central Honshû: Kii Peninsula).

Bionomics. The specimens obtained by KISHIMOTO were found in the leaf litter accumulated in a broadleaved forest on Mt. Wasamata-yama at an altitude of 1,100–1,170 m.

Etymology. The specific epithet of this new species is derived from "Wasamata-yama", the type locality.



Figs. 29–31. Male genital organ of *Lathrobium* (s. str.) *wasamatanum* sp. nov.; dorsal view (29), lateral view (30), and ventral view (31). Scale: 1.0 mm.

要　　約

渡辺泰明：紀伊半島から採集されたコバネナガハネカクシ類（甲虫目ハネカクシ科）．3．ヒメコバネナガハネカクシ種群．——ヒメコバネナガハネカクシ種群に含まれる種は，外観がコウヤコバネナガハネカクシ種群およびコバネナガハネカクシ種群の種に類似しているが，体がいくぶん小型で，雄の腹部に現れる第二次性徴が比較的単純な形態を呈することで，それらの2種群の種から区別される．この種群に含まれる種としては，これまで紀伊半島からは奈良県和佐又山から採集されたキイヒメコバネナガハネカクシただ1種が知られているに過ぎなかった．私は紀伊半島産の多数のコバネナガハネカクシ類を検討した結果，この種群に含まれる7種を見出すことができた．これらのうちの1種は，上記のキイヒメコバネナガハネカクシで，今回，三重県平倉で採集された個体を検したので新産地として記録した．残りの6種は，雄の腹部第二次性徴および交尾器の形状からいずれも未記載種と判断されたので，*L.* (s. str.) *koyasanum* sp. nov. コウヤヒメコバネナガハネカクシ（和歌山県高野山），*L.* (s. str.) *ohtohense* sp. nov. オウトウヒメコバネナガハネカクシ（和歌山県大塔山，赤土森山，前ノ川），*L.* (s. str.) *isense* sp. nov. イセヒメコバネナガハネカクシ（三重県南勢町剣峠，伊勢市高麗広，磯部町恵利原），*L.* (s. str.) *nankiense* sp. nov. ナンキヒメコバネナガハネカクシ（和歌山県古座川町池の山，三重県海山町不動谷，尾鷲市三木崎，九木崎），*L.* (s. str.) *kinokuniense* sp. nov. キノクニヒメコバネナガハネカクシ（和歌山県護摩壇山），および *L.* (s. str.) *wasamatanum* sp. nov. ワサマタヒメコバネ

ナガハネカクシ（奈良県上北山村和佐又山）と，それぞれ命名・記載した．

References

SHARP, D., 1889. The Staphylinidae of Japan. *Ann. Mag. nat. Hist.*, (6), **3**: 249–267 [part 6].
WATANABE, Y., 1999. A new species of the group of *Lathrobium brachypterum* (Coleoptera, Staphylinidae) from the Kii Peninsula, Central Japan. *Ent. Rev. Japan, Osaka*, **54**: 109–112.
——— 2005 a. Apterous *Lathrobium* (Coleoptera, Staphylinidae) from the Kii Peninsula in Japan. 1. Group of *Lathrobium shingon*. *Elytra, Tokyo*, **33**: 313–325.
——— 2005 b. Ditto. 2. Group of *Lathrobium pollens*. *Ibid.*, **33**: 589–601.

Elytra, Tokyo, **34** (1): 62, May 20, 2006

Occurrence of *Boreaphilus japonicus* SHARP (Coleoptera, Staphylinidae) on the Island of Dôgo of the Oki Islands off Western Honshu, Japan

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Boreaphilus japonicus was originally described by SHARP (1874, p. 96) based on four specimens found under dead leaves in different localities near Nagasaki of Kyushu, Japan. Since then, Honshu and Shikoku of Japan, Korea, China and Primorskij of the Russian Far East have been reported as habitats of this species. Recently, the second author obtained many staphylinid beetles on the Island of Dôgo of the Oki Islands off western Honshu. One of them agrees with *Boreaphilus japonicus* SHARP which is new to the fauna of this island. It is recorded below with the collecting data.

1♂, Saigô-chô, Dôgo Is., Oki Isls., Simane Pref., Japan, 12–V–2003, T. SHIMADA leg. The specimen was obtained by a light trap set at an upstream of the Araki River.

Reference

SHARP, D., 1874. The Staphylinidae of Japan. *Trans. ent. Soc. London*, **1874**: 1–103.

Elytra, *Tokyo*, **34** (1): 63–94, May 20, 2006

Contributions to the Knowledge of the Quediina (Coleoptera, Staphylinidae, Staphylinini) of China

Part 27. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 15

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Abstract Taxonomic and faunistic data on the species of the genus *Quedius* subgenus *Microsaurus*, from the People's Republic of China are provided. Twelve species are described as new: *Q. leang* (Yunnan), *Q. gongga* (Sichuan), *Q. haan* (Sichuan), *Q. jyr* (Sichuan), *Q. biann* (Sichuan), *Q. goong* (Yunnan), *Q. jaang* (Yunnan), *Q. kwang* (Yunnan), *Q. pyn* (Yunnan), *Q. terng* (Yunnan), *Q. fabbrii* (Sichuan) and *Q. lanugo* (Yunnan). Tergite 10 of the female genital segment of *Q. euanderoides* SMETANA, 2004 is described and illustrated for the first time. *Quedius birmanus* CAMERON, 1932 is placed in synonymy with *Quedius antennalis* CAMERON, 1932 (*syn. nov.*). *Quedius antennalis* is for the first time recorded from Fujian and Guizhou, *Quedius chremes* from Hubei, *Q. ennius* from Tibet, *Q. huenn* from Yunnan, *Q. antoni* from Tibet, *Q. raan* from Hubei and Sichuan, *Q. nireus* from Yunnan, *Q. cingulatus* from Yunnan and *Q. guey* from Hubei.

This is the twenty-seventh of a series of papers dealing with the Quediina of the People's Republic of China. It presents the descriptions of further 12 new species of the subgenus *Microsaurus* DEJEAN, 1833. Many of these new species were collected as recently as in the summer 2005 during a joint, unfortunately too short and too "wet" field trip of the author and Michael SCHÜLKE (Berlin) to the Gaoligong Shan in northwestern Yunnan near the Myanmar border. Other new species were known to the author for some time, but their descriptions were postponed for various reasons.

The Species-group affiliation (see SMETANA, 2001, 206–215) of the new species is as follows: *Q. leang* (Yunnan) is a member of the *Apicicornis* Group; *Q. gongga* (Sichuan) and *Q. haan* (Sichuan) are members of the *Mnemon* Group; *Q. jyr* (Sichuan), *Q. biann* (Sichuan), *Q. goong* (Yunnan), *Q. jaang* (Yunnan), *Q. kwang* (Yunnan), *Q. pyn* (Yunnan), *Q. terng* (Yunnan), *Q. fabbrii* (Sichuan) and *Q. lanugo* (Yunnan) are members of the *Euryalus* Group. The *Euryalus* Group is by far the most speciose group of the subgenus *Microsaurus* that may be divided in several well defined subgroups, based mainly on male sexual characters.

The symbols used in the text, when referring to the depositions of specimens, are

as follows:

ASC	Collection of Aleš SMETANA, Ottawa, Canada
FMNH	Field Museum of Natural History, Chicago, USA
MCS	Collection of Michael SCHÜLKE, Berlin, Germany
NSMT	National Science Museum, Tokyo, Japan
NMW	Naturhistorisches Museum, Wien, Austria

The number of paratypes, if applicable, is given for each locality behind the geographical data, followed by the acronym of the collection in which the paratype(s) are deposited in brackets. All data are presented in full for holotypes and allotypes.

Quedius (*Microsaurus*) *antennalis* CAMERON

Quedius antennalis CAMERON, 1932, 285.
Quedius birmanus CAMERON, 1932, 284 (*syn. nov.*).

New records. [Fujian]: Wuyi Shan Nat. Res. Sangan env. (900 m), 30.V.–12.VI.2001, Hlaváč & Cooter leg., 1♂, 1♀ (FMNH, ASC). [Guizhou]: Leishan Co., SE Kaili, NE Leishan, Leigong Shan, E slope, 26°22.71′N 108°12.71′E, ca 0.5 km W pass, ca 1750 m, 17.VI.2001, leg. Schillhammer & Wang (CWBS 437), 1♂ (NMW).

Comments. These are the second and third records of this species from mainland China, and the first ones from the provinces of Fujian and Guizhou.

In one of my previous papers (SMETANA, 2002, 139), I suggested, based on the chaetotaxy of the pronotum, that *Q. birmanus* may be identical with *Q. antennalis*. The two additional specimens confirm that the position of the large lateral puncture on the pronotum is useless for distinguishing these two species and I therefore place *Quedius birmanus* CAMERON, 1932 in synonymy with *Quedius antennalis* CAMERON, 1932 (*syn. nov.*).

Quedius (*Microsaurus*) *inquietus* CHAMPION

Velleius inquietus CHAMPION, 1925, 107.
Quedius inquietus: SMETANA, 1997 b, 129.

New record. [Yunnan]: Diqing Tibet. Aut. Pref., Deqin Co., Meili Xue Shan, E-side, 14 km W Deqin, 2580 m, 28°27.47′N 98°46.35′E, 11.VI.2005, M. Schülke [C2005–09] [1] (MSC).

Comment. The specimen was taken in a predominantly deciduous forest by sifting various debris around decaying wood on the forest floor.

Quedius (*Microsaurus*) *przewalskii* REITTER

Quedius przewalskii REITTER, 1887, 211.

New records. [Sichuan]: Qionglai Shan, Mou Pi Shan mount., Barkam, 15 km S of Zhuokeji, 10.–30.VI.2004, R. Fabbri leg. [2] (ASC, MSC); Barkam, pass between

Zhuokeji-Lianghekou, 4100 m, alpine zone, 10.–30.VI.2004, R. Fabbri leg. [4] (ASC, MSC).

Comments. The species seems to prefer habitats in the upper montane forests, and in the subalpine and alpine zones.

Quedius (*Microsaurus*) *chremes* SMETANA

Quedius chremes SMETANA, 1996 a, 10.

New records. [Hubei]: Dashennongjia mts. 31°5′N 110°3′E, 2500–2900 m, 23.6.–14.7.2003, leg. J. Turna [9] (ASC, NMW]; same, but date 17.V.–13.VI.2004 [4] (ASC, NMW). [Sichuan]: Pass btw. Songpan & Nanping, E side, 3450–3500 m, 21.VI.2002, S. Murzin & I. Shokhin [1] (MSC).

Comments. These are the first records of this species from Hubei.

Quedius (*Microsaurus*) *bito* SMETANA

Quedius bito SMETANA, 1996 a, 7.

New records. [Yunnan]: Diqing Tibet. Aut. Pref., Zhongdian Co., Xue Shan 23 km S Zhongdian, 3675–3725 m, 27°36.3′N 99°41.5′E, 2.VI.2005, M. Schülke [C 2005–02] [2] (MSC); same, but D. Wrase [1] (ASC); Diqing Tibet. Aut. Pref., Zhongdian Co., Bitai Hai lake area, 29 km ESE Zhongdian, 3540 m, 1.VI.2005, D. Wrase [01] [1] (ASC).

Comments. The specimens were taken by sifting leaf litter and dead wood, and from under dead wood and stones. Only one record of this species was known from Yunnan until now.

Quedius (*Microsaurus*) *acco* SMETANA

Quedius acco SMETANA, 1996 a, 4.

New record. China: [Yunnan]: Zhongdian Co., 51 km SSE Zhongdian, 27°25.3′N 99°56.5′E, 2970 m, 16.–18.VIII.2003, A. Smetana [C124].

Comment. The specimen was taken from a pitfall trap set in a mature mixed forest with lush undergrowth and lots of rotting wood on the floor. The species is at present known from Gansu, Sichuan and Yunnan.

Quedius (*Microsaurus*) *ennius* SMETANA

Quedius ennius SMETANA, 1996 a, 16.

New records. China: [Yunnan]: Zhongdian Co., 48 km N Zhongdian, 28°16.6′N 99°45.7′E, 3220 m, 21.VIII.2003, 1♂, A. Smetana [C130] (ASC); Diqing Tibet. Aut. Pref., Deqin Co., Meili Xue Shan, E-side, 12 km SW Deqin, 2890 m, 28°25.30′N

90°47.48′E, 9.VI.2005, M. Schülke [C2005–07] [1] (MSC). [Tibet]: Basum Tso, 90 km W of Gyamda, 8.–9.VI.1997, Wrzecionko leg. [1] (MSC).

Comment. The specimen from 2003 was taken from a rotting soft Polyporus-like mushroom growing on an old tree stump. The specimen from Meili Xue Shan was taken by sifting forest floor litter in narrow valley of a small creek. This is the first record of this species from Tibet.

Quedius (*Microsaurus*) *kucerai* SMETANA

Quedius kucerai SMETANA, 1996 b, 126.

New record. China: [Yunnan]: Zhongdian Co., 36 km ESE Zhongdian, 27°40.9′N 100°01.5′E, 3500–3550 m, 23.VIII.2003, A. Smetana [C133] [1] (ASC); same, M. Schülke leg. [1] (MSC).

Comment. Both specimens were collected by sifting various debris around dead old trees and pieces of wood (mushrooms) in a mature mixed forest (mainly *Betula*, *Abies*).

Quedius (*Microsaurus*) *bohemorum* SMETANA

Quedius bohemorum SMETANA, 1997 c, 461.

New records. China: [Yunnan]: Zhongdian Co., 10 km SW Zhongdian, Xue Shan, 27°46.5′N 99°36.5′E, 3800 m, 20.VIII.2003 A. Smetana [C129] [3] (ASC); Diqing Tibet Aut. Pref., Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°37.1′N 99°38.5′E, 3895 m, 15.VI.2005, A. Smetana [C161] [1] (ASC); same, but M. Schülke [C2005–05A] or D. Wrase [05] [2] (MSC); same, 6.–15.VI.2005, M. Schülke [C2005–05F] [1] (MSC); same, 3675–3725 m, 2.VI.2005, M. Schülke [C2005–02] or D. Wrase [02] [2] (MSC).

Comment. The specimens from 2003 were taken, together with those of *Q. farkaci*, *Q. cingulatus*, *Q. kabateki* and *Q. amicorum* in a primary *Betula*, *Abies*, *Rhododendron* forest by sifting various debris and fallen leaves around rotting wood on forest floor (mushrooms around).

The specimens from 2005 were taken in a disturbed mixed forest (mostly *Abies* and rhododendrons) by sifting forest floor litter and various debris around decaying wood on the forest floor. One specimen was also taken from a pitfall trap set in the same habitat. The species is at present known only from Xue Shan.

Quedius (*Microsaurus*) *farkaci* SMETANA

Quedius farkaci SMETANA, 1997 c, 464.

New records. China: [Yunnan]: Zhongdian Co., 10 km SW Zhongdian, Xue Shan, 27°46.5′N 99°36.5′E, 3800 m, 20.VIII.2003 A. Smetana [C129] [5] (ASC);

Diqing Tibet Aut. Pref., Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°37.1′N 99°38.5′E, 5.VI. or 6.VI.2005, 3850 m or 3895 m, A. Smetana [C152 or C153b] [9]; same, but M. Schülke [C2005–05] or D. Wrase [05] [14] (ASC, MSC); same, 23 km S Zhongdian, 27°38.3′N 99°41.5′E, 3675–3725 m, 2.VI.2005, A. Smetana [C148] [2] (ASC).

Comment. The specimens from 2003 were taken, together with those of *Q. bohemorum*, *Q. cingulatus*, *Q. kabateki* and *Q. amicorum* in a primary *Betula*, *Abies*, *Rhododendron* forest by sifting various debris and fallen leaves around rotting wood on forest floor (mushrooms around). The specimens from 2005 were taken by sifting leaf litter under rhododendrons near a snowfield and by sifting debris around rotting wood on forest floor.

Quedius (*Microsaurus*) *kabateki* SMETANA

Quedius kabateki SMETANA, 1997 c, 468.

New records. China: [Yunnan]: Zhongdian Co., 10 km SW Zhongdian, Xue Shan, 27°46.5′N 99°36.5′E, 3800 m, 20.VIII.2003 A. Smetana [C129] [8] (ASC); Diqing Tibet Aut. Pref., Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°37.1′N 99°38.5′E, 5.VI., 6.VI. or 15.VI.2005, A. Smetana [C152, C153a, C161] [7] (ASC, MSC).

Comment. The specimens from 2003 were taken, together with those of *Q. cingulatus*, *Q. bohemorum* and *Q. farkaci* in a primary *Betula*, *Abies*, *Rhododendron* forest by sifting various debris and fallen leaves around rotting wood on forest floor (mushrooms around). The specimens from 2005 were taken by sifting various debris around rotting wood on forest floor. The species is known at present only from Xue Shan.

Quedius (*Microsaurus*) *amicorum* SMETANA

Quedius amicorum SMETANA, 1997 c, 470.

New records. China: [Yunnan]: Zhongdian Co., 10 km SW Zhongdian, Xue Shan, 27°46.5′N 99°36.5′E, 3800 m, 20.VIII.2003 A. Smetana [C129] [5] (ASC); same, D. Wrase [1] (MSC); Zhongdian Co., 55 km N Zhongdian, 3800 m, 28°19.8′N 99°45.7′E, 18.VIII.2003, M. Schülke [3] (ASC MSC); Diqing Tibet Aut. Pref., Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°37.1′N 99°38.5′E, 3895 m, 5.VI. or 6.VI.2005, A. Smetana [C153b, C161] [10]; same, but M. Schülke [C2005–05] or D. Wrase [05A] [6] (MSC); Diqing Tibet Aut. Pref., Zhongdian Co., Xue Shan 23 km S Zhongdian, 3675–3725 m, 27°38.3′N 99°41.5′E, 2.VI.2004, A. Smetana [C149] [1].

Comment. Most specimens from "Xue Shan near lake" were taken by sifting rotting wood and various debris under the loose bark of fallen *Abies* trees; this seems to be the preferred habitat of this species.

Quedius (*Microsaurus*) *huenn* SMETANA

Quedius huenn SMETANA, 2002, 146.

New records. China: [Yunnan]: Zhongdian Co., 36 km ESE Zhongdian, 27°40.9′N 100°01.5′E, 3500–3550 m, 23.VIII.2003, A. Smetana [C133] [1] (ASC); Zhongdian Co., 33 km ESE Zhongdian, 27°41.5′N 100°00.7′E, 3200 m, 24.VIII.2003, A. Smetana [C135] [1] (ASC); Diqing Tibet. Aut. Pref., Zhongdian Co., 33 km ESE Zhongdian, 3200 m, 27°41.5′N 100°00.7′E, 24.VIII.2003, M. Schülke [C03–14] [1] (MSC); same, 35 km ESE Zhogndian, 3450 m, 27°41.00′N 100°01.47′E, 3.VI.2005, M. Schülke [C2005–03] [1] (MSC).

Comments. The specimens were taken in mixed forests by sifting decaying wood with mushrooms on the forest floor, and by sifting tough orange-yellow mushrooms growing on a fallen deciduous tree (C135).

These are the first records of this species from Yunnan. It was previously known only from the type locality in Shaanxi (see SMETANA, 2002, 148).

Quedius (*Microsaurus*) *antoni* SMETANA

Quedius antoni SMETANA, 1995, 233.

New records. [Sichuan]: pass Zheduo Shankou W Kangding, E slope, 3850 m, 29°58′N 101°23′E, 18.VII.1998, A. Smetana [C85] [2] (ASC); [Tibet]: mts. N of Nyingchi, 3900–4600m, 29°36.45′N 94°28.37′E, 19.–28.6.1996, L. & R. Businský [1] (ASC); [Yunnan]: Zhongdian Co, 10 km SW Zhongdian, Xue Shan, 3800 m, 27°46.5′N 99°36.5′E, 20.VIII.2003, A. Smetana [C129] [21]; same, D. Wrase [10a] [1] (MSC); Zhongdian Co., 55 km N Zhongdian, 3800 m, 28°19.8′N 99°45.7′E, 18.VIII.2003, M. Schülke [C03–07] [1] (MSC); same, D. Wrase [07] [3] (MSC); Zhongdian Co., Xue Shan 23 km S Zhongdian, 3675–3725 m, 27°38.3N 99°41.5′E, 2.VI.2005, A. Smetana [C149] [1] (ASC); Diqing Tibet. Aut. Pref., Deqin Co., Meili Xue Shan, E side, 12 km SW Deqin, 2890 m, 28°25.30′N 98°47.48′E, 9/13.VI.2005, D. Wrase [07] [3] (MSC); same, M. Schülke [C2005–07A] [1] (MSC); same, A. Smetana [C160] [1] (ASC).

Comments. Specimens were taken in mixed and coniferous forests by sifting various forest floor debris, particularly around rotting wood with mushrooms.

This is the first record of this species from Tibet. It is at present known from Sichuan, Tibet and Yunnan.

Quedius (*Microsaurus*) *nireus* SMETANA

Quedius nireus SMETANA, 1995, 240.

New record. [Yunnan]: Diqing Tibet. Aut. Pref., Zhongdian Co., Xue Shan 23 km S Zhongdian, 27°38.3′N 99°41.5′E, 3675–3725 m, 2.VI.2005, A. Smetana [C149] [18] (ASC, MSC).

Comments. The specimens were taken by sifting moist debris and needles under a pile of branches left behind from a felled *Abies*-tree.

This is the first record of this species from Yunnan. It was until now known from Gansu and Sichuan.

Quedius (*Microsaurus*) *raan* SMETANA

Quedius raan SMETANA, 2002, 142.

New records. [Hubei]: Daba Shan, pass E of Mt. DaShennongjia 12 km NW Muyuping 31°30′N 110°21′E, 2050 m, 19.VII.01 A. Smetana [C112], or M. Schülke [CO1–13C] [3♂♂] (ASC, MSC); same data, but 22.VII.2001, leg. M. Schülke [CO1–13E] [2♂♂] (ASC, MSC); Dashennongjia mts., 2100–2900 m, 31.5′N 110.3′E 10.–14.6.2002, leg. J. Turna, 3♂♂ (ASC, NMW). [Sichuan]: Daxue Shan, ThetoLa Pass W Kangding, 4290 m, 30°04.35′N 101°48.06′E, 25.05.1997, M. Schülke, 1♂ (MSC); Daxue Shan, Kangding, Hotelzimmer verschleppt ?, 23.05.1997, M. Schülke, 1♂ (MSC).

Comments. These are the first records of this species from Hubei and Sichuan. The specimens from Hubei were taken in mixed deciduous forests by sifting various forest floor debris, rotting wood and moss.

The number of sensory peg setae on the underside of paramere that form two medial groups, varies from one to three peg setae in each group. The female of this species still remains unknown.

Quedius (*Microsaurus*) *haemon* SMETANA

Quedius haemon SMETANA, 1995, 239.

New records. [Sichuan]: Daxue Shan, Hailuogou, Glacier Park (Gongga Shan), Camp 2 >1, 1940–2500 m, 31.V.1997, D. Wrase [1] (MSC); Gongga Shan, Hailuogou, in front of Glacier 1, 2850 m, 29°35′N 102°00′E, 7.VII.1998, A. Smetana [C76] [1] (ASC).

Comment. The specimen with the code C76 was taken in a broadleaved forest with shrubby undergrowth by sifting debris and humus accumulated between large rocks on the forest floor.

Quedius (*Microsaurus*) *cingulatus* SMETANA

Quedius cingulatus SMETANA, 2004, 95.

New records. [Yunnan]: Xue Shan nr. Zhongdian, 27°49′N 99°34′E, 4000–4100 m, 23.VI.1996, A. Smetana [C36] [10]; same, 4200 m, 23.VI.1996, A. Smetana [C37] [4]; same, 4050 m, 24.VI.1996, A. Smetana [C38] [2]; same [C39] [7]; same, 4050 m, 24.VI.1996, A. Smetana [C40] [3]; same, 3900 m, 25.VI.1996, A. Smetana [C41] [5]; same, 4000 m, 14.–26.VI.1996, A. Smetana [C42] [1] (all ASC); Zhongdian

Co. 10 km SW Zhongdian, Xue Shan 27°46.5′N 99°36.5′E 3800 m, 20.VIII.2003, A. Smetana [C129] [4] (ASC); Diqing Tibet Aut. Pref., Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°37.1′N 99°38.5′E, 3895 m, 5.VI. or 15.VI.2005, A. Smetana [C152 or C161] 26; same, but M. Schülke [C2005–05] [9] (MSC); Diqing Tibet Aut. Pref., Deqin Co., Baima Shan, pass 25 km SE Deqin, 28°19.38′N 99°05.47′E, 4225 m, 8.VI. or 5.–12.VI.2005, A. Smetana [C154 or C155] [10] (ASC); same, but M. Schülke [C2005–06] [34] (MSC); same, but D. Wrase [2] (MSC); Diqing Tibet Aut. Pref., Deqin Co., Baima Shan, E-side, pass 12 km SE Deqin, 4085 m, 10.VI.2005, M. Schülke [C2005–08], A. Smetana [C157] [17] (ASC, MSC); same, pass 15 km SE Deqin, 4330 m, 12.VI.2005, M. Schülke [C2005–10] [1] (MSC); Diqing Tibet Aut. Pref., Deqin Co., Meili Xue Shan E-side, 12 km SW Deqin, 28°25.30′N 98°47.48′E, 2890 m, 9. or 13.VI.2005, A. Smetana [C160] [6] (ASC). [Sichuan]: Ganzi Tibet. Aut. Pref., Kangding Co., Daxue Shan, Mu Ge Cuo, ob. See 15 km NW Kangding, 3700 m, 30°09′N 101°52′E, 3700 m, 27.VI.1999, leg. M. Schülke [5] (ASC, MSC); same, 27.VI.–5.VII.1999, D.W. Wrase [2] (MSC); same, Daxue Shan, Tsheto La pass 30°05′N 101°48′E, 4300–4500 m, 25.VI.1999, leg. M. Schülke [1] (MSC); pass btw. Songpan & Nanping, E side, 3450–3500 m, 21.VI.2002, S. Murzin & I. Shokhin [1] (MSC); pass btw. Pingwu and Nanping, 3100 m, 22.VIII.1999, Cavazzuti [1] (ASC).

Comments. The elytra of many specimens of the above material are more or less yellowish.

Quedius cingulatus prefers habitats in high montane forest and in the subalpine and alpine zones. Specimens were taken in deciduous (*Betula*, *Rhododendron*), mixed deciduous and coniferous forests, or in coniferous forests (mainly *Abies*) by sifting various debris and fallen leaves, often around rotting wood on forest floor, by sifting leaflitter under birches at the edges of a lake, and by sifting moss and fallen leaves under rhododendrons; specimens from higher elevations were taken by sifting fallen leaves and various debris under rhododendrons. *Quedius cingulatus* is the dominant species in forest habitats in Xue Shan, where it often occurs together with *Q. bohemorum* and *Q. kabateki*.

These are the first records of this species from Yunnan. The species is at present known from northern Yunnan and northern Sichuan.

Quedius (*Microsaurus*) *euanderoides* Smetana

(Fig. 1)

Quedius euanderoides Smetana, 2004, 101.

New records. [Yunnan]: Diqing Tibet Aut. Pref., Deqin Co., Meili Xue Shan E-side, 2890 m, 28°25.30′N 98°47.48′E, 2890 m, 9.VI. or 13.VI.2005, A. Smetana [C156, C160] [15] (ASC); same but M. Schülke or D. Wrase [45] (ASC, MSC); same, 14 km W Deqin, 2580 m, 28°27.47′N 98°46.35′E, 11.VI.2005, A. Smetana [C158] [3]

(ASC).

Comments. Specimens were taken by sifting moist fallen leaves and other debris along a small creek, by sifting moss, debris under bamboo, and by sifting various forest floor litter. The species seems to be endemic to Meili Xue Shan, a mountain range just west of the Mekong river valley.

Only males of this species were known until now. The female sexual characters are described below.

Female. First four segments of front tarsus similar to those of male, but less dilated, segment 2 about as wide as apex of tibia. Genital segment with tergite 10 wide, pigmented medioapically, abruptly narrowed into narrow, acute apical portion, with two long apical setae and with numerous shorter setae on pigmented portion (Fig. 1).

Quedius (*Microsaurus*) *zheduo* SMETANA

Quedius zheduo SMETANA, 1999, 235.

New record. [Sichuan]: Qionglai Shan, Mou Pi Shan mount., 3100–3750 m, Barkam, 15 km S of Zhuokeji, 10.–30.VI.2004, R. Fabbri leg. [7] (ASC, MSC).

Comments. The specimens were taken from pitfall traps set in a "mixed and relict coniferous forest". The species was until now known only from the pass Zheduo Shankou (or Tsheto La pass—see SMETANA, 2002, 141) near Kangding. The occurrence of this flightless species in Qionglai Shan in the Barkam area is rather surprising. However, the specimens agree in all characters (particularly the male secondary sexual characters and the shape of the aedoeagus) entirely with those from the type locality.

Quedius (*Microsaurus*) *emei* SMETANA

Quedius emei SMETANA, 1997 a, 67.

New record. [Sichuan]: Jiajin Shan, 18 km E Jintang, 3550–3650 m, 11.–24.VI. 2004, R. Fabbri leg. [6] (ASC, MSC).

Comment. *Quedius emei* was until now known only from Emei Shan. The occurrence in Jiajin Shan represents a substantial extension of its distributional range toward northwest.

Quedius (*Microsaurus*) *guey* SMETANA

Quedius guey SMETANA, 2001, 188.

New record. [Hubei]: Dashennongjia mts., 31.5′N 110.3′E, 2500–2900 m, 23. VI.–14.VII.2003, J. Turna leg. [1 ♂, 1 ♀] (ASC, NMW).

Comment. This is the second record of this species from Hubei.

Quedius (*Microsaurus*) *leang* sp. nov.

(Figs. 2–10)

Description. In all characters very similar to *Q. apicicornis* EPPELSHEIM, 1895 (see SMETANA, 1988, 192) but different as follows: entirely black, including elytra (elytra more or less dark bluish in *Q. apicicornis*), punctation of elytra markedly denser.

Male. First four segments of front tarsus considerably dilated, sub-bilobed, each densely covered with modified, long pale setae ventrally, segment 2 about as wide as apex of tibia; segment 4 narrower than preceding segments. Abdominal tergite 8 with long, black lateral seta on each side before apex (Fig. 2) (missing in *Q. apicicornis*); sternite 8 with two long setae on each side, with moderately wide and deep subarcuate medioapical emargination (Fig. 3), somewhat wider and deeper than that of *Q. apicicornis*. Genital segment with tergite 10 wider and with more numerous setae on apical portion than in *Q. apicicornis* (Figs. 4, 11); sternite 9 markedly longer than that of *Q. apicicornis*, and with distinctly differently shaped basal portion (Figs. 5, 12). Aedoeagus (Figs. 6–8) quite similar to that of *Q. apicicornis*, but apical portion of median lobe somewhat differently shaped, less deeply emarginate apically, missing small hook at each side of apical emargination, present in *Q. apicicornis* (Figs. 7, 13), apical portion of paramere subparallel-sided with apex truncate and subemarginate, medial pair of setae extremely small (in *Q. apicicornis* apical portion of paramere of different shape with apex never truncate, medial pair of setae somewhat larger) (Figs. 8, 14); large sclerotized structure of internal sac markedly different from that of *Q. apicicornis* (Figs. 7, 13).

Female. First four segments of front tarsus similar to those of male, but less dilated; segment 2 vaguely narrower than apex of tibia. Genital segment with accessory sclerite markedly larger than that of *Q. apicicornis* (Figs. 9, 15); tergite 10 somewhat differently shaped, with markedly delimited medioapical pigmented portion, differently setose (Figs. 10, 16).

Length 8.5–9.5 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA: N-Yunnan Nujiang Aut. Pr. Gongshan Co. Gaoligong Shan valley at 3000–3050 m 27°47.90′N 98°30.19′E 21.VI.2005 A. Smetana [C169]". In the SMETANA collection, Ottawa, Canada.

Geographical distribution. *Quedius leang* is known only from the type locality in the extreme northwest Yunnan near the Myanmar border.

Bionomics. The specimens of the original series were taken by sifting moist dead vegetation and other debris close to the edges of a snowfield.

Recognition and comments. As it is apparent from the description, *Q. leang* is quite similar to *Q. apicicornis*, a rather variable species that is widely distributed in the Himalaya (see SMETANA, 1988, 194). However, the differences outlined above, particularly the presence of a pair of long setae on male tergite 8 and the differences in other male and female sexual characters support the specific difference. In both the holotype

and allotype the last four antennal segments are whitish-yellow with the tip of the last segment partially darkened, and on the abdomen the apical margin of segment 7 (fifth visible) and the tip of the abdomen are orange-yellow.

Etymology. The specific epithet is the Chinese word "leang", which in one of its meanings means "a couple". It refers to the close similarity of *Q. apicicornis* and *Q. leang*.

Quedius (*Microsaurus*) *gongga* sp. nov.

(Figs. 17–22)

Description. In all characters similar to *Q. antoni* SMETANA, 1995 (see SMETANA, 1995, 233), but different mainly by the shape of the head with more complex chaetotaxy, and by both the male and female sexual characters. Head smaller and narrower, about as long as wide, eyes smaller and markedly more convex, tempora distinctly longer than eyes seen from above (index 1.21); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated distinctly closer to posteriomedial margin of eye than to posterior margin of head, two punctures posteriomediad of it between it and the two punctures at posterior margin of head; one puncture between posterior frontal puncture and posteriomedial margin of eye (with two small punctures posteriad of it); temporal puncture situated slightly closer to posterior margin of head than to posterior margin of eye; three punctures in front of posterior frontal puncture along medial margin of eye; tempora with numerous fine punctures.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each covered with pale modified setae ventrally; segment 2 about as wide as apex of tibia; segment 4 narrower than preceding segments. Sternite 8 with four long setae on each side; with moderately wide and deep subarcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 17). Genital segment with tergite 10 markedly narrowed toward narrowly arcuate apex, with only a few setae on apical portion (Fig. 18); sternite 9 as in Fig. 19, sparingly setose and with two differentiated apical setae. Aedoeagus (Figs. 20–22) moderately large, median lobe slightly attenuate in middle portion, gradually dilated into triangular apical portion with subacute apex and a short medial carina on face adjacent to paramere. Paramere subparallel-

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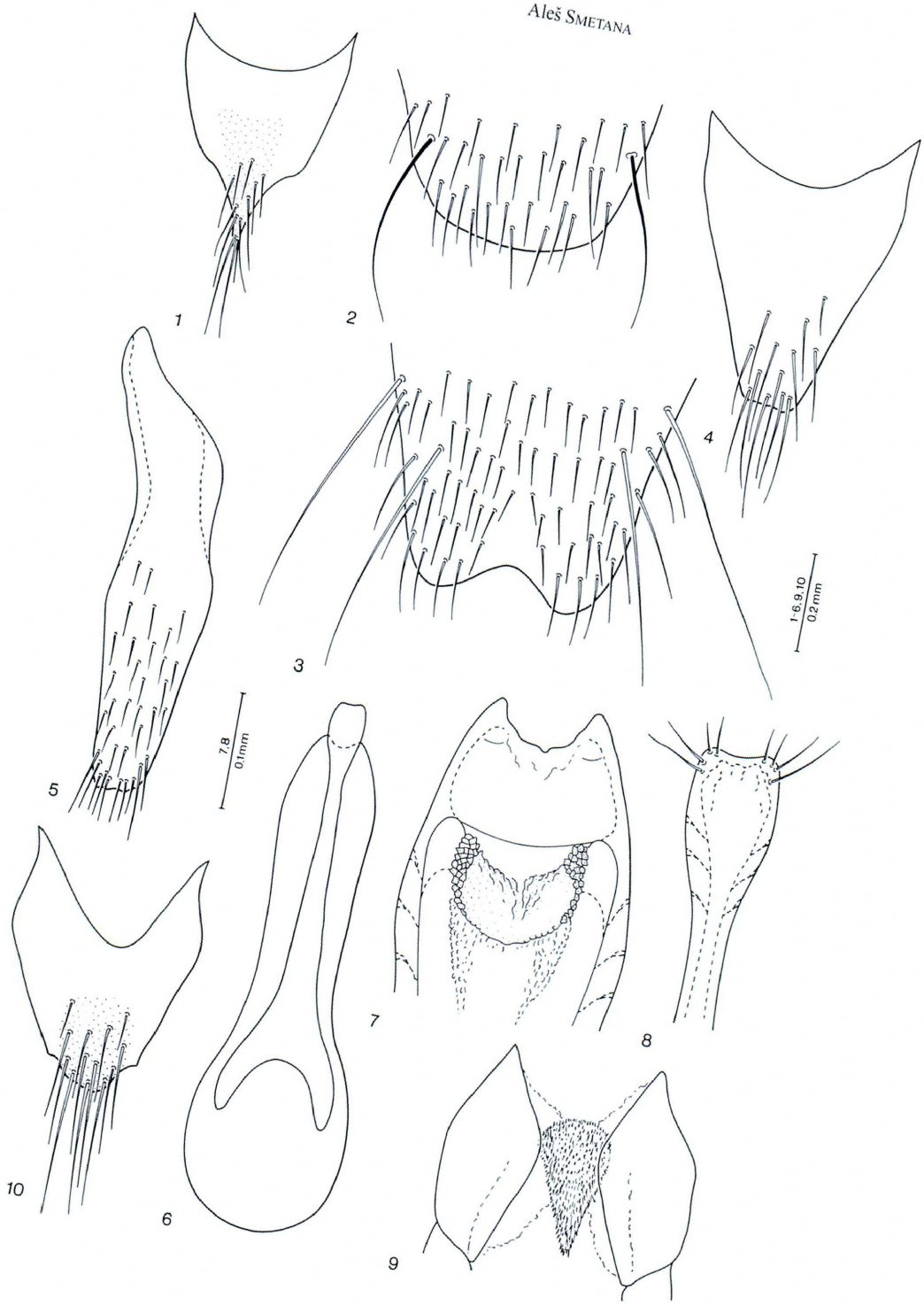
Figs. 1–10 (on p. 74). —— 1. *Quedius euanderoides*: tergite 10 of female genital segment. —— 2–10. *Quedius leang*: 2, apical portion of male sternite 7; 3, apical portion of male sternite 8; 4, tergite 10 of male genital segment; 5, sternite 9 of male genital segment; 6, aedoeagus, ventral view; 7, apical portion of median lobe with internal sac; 8, apical portion of underside of paramere; 9, gonocoxites of female genital segment with accessory sclerite; 10, tergite 10 of female genital segment.

Figs. 11–22 (on p. 75). —— 11–16. *Quedius apicicornis*: 11, tergite 10 of male genital segment; 12, sternite 9 of male genital segment; 13, apical portion of median lobe with internal sac; 14, apical portion of underside of paramere; 15, gonocoxites of female genital segment with accessory sclerite; 16, tergite 10 of female genital segment. —— 17–22. *Quedius gongga*: 17, apical portion of male sternite 8; 18, tergite 10 of male genital segment; 19, sternite 9 of male genital segment; 20, aedoeagus, ventral view; 21, apical portion of median lobe, ventral view; 22, apical portion of underside of paramere.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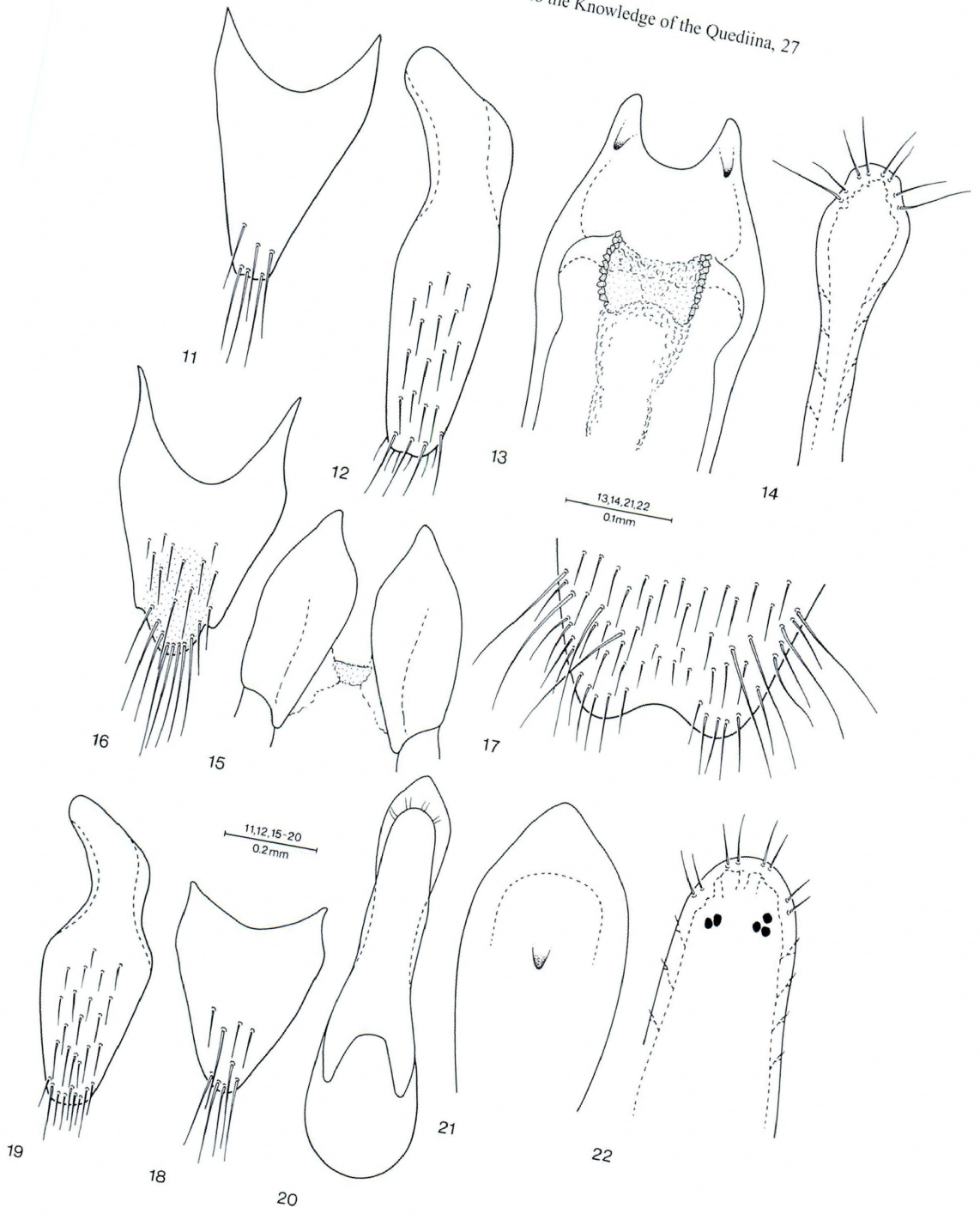
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sided, with arcuate apex by far not reaching apex of median lobe; four fine setae at apex and two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming two medial groups below apex of paramere, each with two or three peg setae (Fig. 22). Internal sac without larger sclerotized structures.

Female. Unknown.

Length 7.2–7.5 mm.

Type material. Holotype (male): China: "CHINA Sichuan, Gongga Shan, Hailuogou, above Camp 3, 3200 m 7.VII.96 29°35′N 102°00′E C54" / "collected by A. Smetana, J. Farkač and P. Kabátek". In the SMETANA collection, Ottawa, Canada.

Paratype: China: [Sichuan]: Gongga Shan, Hailuogou, Lake above Camp 2, 2750 m, 29°35′N 102°00′E 4.VII.1998 A. Smetana [C74] / 1998 China Expedition J. Farkač, D. Král, J. Schneider & A. Smetana, 1 ♂, in the SMETANA collection.

Recognition and comments. *Quedius gongga* may be easily recognized, in addition to the shape of the aedoeagus, by the complex chaetotaxy of the head. *Quedius antoni* is particularly missing the three punctures in front of posterior frontal puncture along medial margin of eye. These punctures are present on the head of *Q. nireus* SMETANA, 1995 (two or thee on each side), but *Q. nireus* has four punctures in each of the dorsal rows on the pronotum.

Etymology. The specific epithet is the name of the mountain range Gongga Shan, in which *Q. gongga* occurs, in apposition

Quedius* (*Microsaurus*) *haan sp. nov.

(Figs. 23–26)

Description. In all characters quite similar to *Q. raan* SMETANA, 2002 and different mainly by the differently shaped aedoeagus.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 vaguely wider than apex of tibia (index 1.09); segment 4 narrower than preceding segments. Sternite 8 with four long setae on each side, with medioapical emargination similar to that of *Q. raan*, but deeper (Fig. 23). Genital segment with tergite 10 and sternite 9 not appreciably different from those of *Q. raan*. Aedoeagus (Figs. 24–26) narrow and elongate; median lobe narrow, with lateral margins in apical third pararallel-sided and then narrowed into subacute, triangular apical portion with small tooth on face adjacent to paramere. Paramere elongate, slightly asymmetrical, slightly shifted toward left side of median lobe, with narrowly arcuate apex distinctly not reaching apex of median lobe; four fine setae at apex and two somewhat longer setae at each lateral margin below apex; sensory peg setae on underside of paramere situated in a similar way as those of *Q. raan* (peg setae on left side situated quite close together). Internal sac simple, without larger sclerotized structures.

Female. Unknown.

Length 7.8 mm.

Type material. Holotype (male): China: "CHINA: W Sichuan Kangding, 2800 m 30°04′N 101°58′E, 21.VII.1998, A. Smetana [C88]" / "1998 China Expedition J. Farkač, D. Král, J. Schneider & A. Smetana". In the SMETANA collection, Ottawa, Canada.

Geographical distribution. *Quedius haan* is at present known only from Kangding in west Sichuan.

Bionomics. The holotype was taken in a secondary coniferous forest (mostly *Pinus*, some *Abies*) by sifting moist debris and needles under a pile of branches left behind from a recently felled *Abies*-tree.

Recognition and comments. The holotype of *Quedius haan* is obviously quite similar to that of *Q. raan*; however, the presence of only four longer setae on each side of male sternite 8, the deeper medioapical emargination of this sternite, and particularly the differently shaped aedoeagus confirm that it represents a separate taxon. It is not without importance that specimens of *Q. raan* with aedoeagi identical to those of specimens from Hubei, also occur in the Kangding area (Zheduo Shankou=ThetoLa Pass).

Etymology. The specific epithet is the Chinese word "haan", which in one of its meanings means "rare" or "rarely seen". It refers to the fact that only one specimen of this species is known at present.

Quedius* (*Microsaurus*) *jyr sp. nov.

(Figs. 27–31)

Description. In all characters quite similar to *Q. koen* SMETANA, 2004 and different by the slightly larger and more robust body, and by the male sexual characters, particularly by the differently shaped aedoeagus.

Male. First four segments of front tarsus considerably dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (index 1.30); segment 4 narrower than preceding segments. Sternite 8 with three long setae on each side, with medioapical emargination similar to that of *Q. koen* (Fig. 27). Genital segment with tergite 10 wider than that of *Q. koen*, with markedly differentiated apical portion, with setae as in Fig. 28; sternite 9 not appreciably different from that of *Q. koen*, i.e. not emarginate apically. Aedoeagus (Figs. 29–31) markedly larger than that of *Q. koen*; median lobe with preapical portion less dilated and much less rounded laterally, apex subtruncate. Paramere quite similar to that of *Q. koen*, but more robust, rather deeply emarginate apically, with apex more distinctly distant from apex of median lobe; apical setae similar to those of *Q. koen*; underside of paramere as in *Q. koen*, without sensory peg setae.

Female. Unknown.

Length 8.0–8.2 mm.

Type material. Holotype (male): China: "CHINA Sichuan, Daxue Shan Mts., Gongga Shan env., 3300–3800 m" / "pass at autoroute 40 km NW from Moxi to

Kangding, 2.–5.VII.2004, leg. A. Plutenko". In the SCHÜLKE collection, Berlin.

Paratype (male): China [Sichuan]: same data as holotype. In the SMETANA collection.

Bionomics. The specimens were taken from pitfall traps, but nothing is known about the habitat the traps were set in.

Geographical distribution. The species is known only from the type locality in the vicinity of Kangding.

Recognition and comments. The aedoeagus of *Q. jyr* is also similar to that of *Q. shuang* SMETANA, 2004, but the apical portion of median lobe of the aedoeagus of *Q. shuang* is markedly different, sternite 9 of male genital segment is emarginate apically (see Figs. 12, 13 in SMETANA, 2004, 89), and *Q. shuang* is distinctly smaller and more slender.

The type locality of this species "pass at autoroute 40 km NW from Moxi to Kangding" is likely identical with Zheduo Shankou (Theto La Pass) in Zheduo Shan.

Etymology. The specific epithet is the Chinese word "jyr", which in one of its meanings means "to be noteworthy".

Quedius* (*Microsaurus*) *biann sp. nov.

(Figs. 32–36)

Description. In all characters very similar to *Q. cingulatus*, but different as follows: body form more robust and on average slightly larger; head larger and wider, more distinctly wider than long (index 1.30; corresponding index in *Q. cingulatus* 1.21), eyes somewhat larger and more convex; punctation of elytra sparser, elytra in many specimens pale testaceous, just like in *Q. cingulatus*; punctation of abdominal tergites on average slightly less dense.

Male. First four segments of front tarsus considerably dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 slightly wider than apex of tibia (index 1.12); segment 4 narrower than preceding segments. Sternite 8 with three long setae on each side, with medioapical emargination similar to that of *Q. cingulatus* (Fig. 32). Genital segment with tergite 10 narrower than that of *Q. cingulatus*, with less numerous setae (Fig. 33); sternite 9 not appreciably different from that of *Q. cingulatus*. Aedoeagus (Figs. 34, 35) similar to that of *Q. cingulatus*, but paramere with apical portion narrower and more attenuate anteriad, apical portion of median lobe therefore more exposed; sensory peg setae on underside of paramere situated in similar way to those of *Q. cingulatus*, but more numerous.

Female. First four segments of front tarsus markedly less dilated than those of male; segment 2 slightly narrower than apex of tibia (index 0.90). Genital segment with tergite 10 much longer than that of *Q. cingulatus*, considerably narrowed into rather sharp apex, with setae as in Fig. 36.

Length 5.8–6.7 mm.

Type material. Holotype (male): China: "CHINA Sichuan, Daxue Shan Mts.,

Gongga Shan env. 3300–3800 m" / "pass at autoroute 40 km NW from Moxi to Kangding 2.–3.VII.2004, leg. A. Plutenko". In the SCHÜLKE collection, Berlin.

Allotype (female): China: "CHINA: W Sichuan, Pass Zheduo Shankou W Kangding, E slope, 3850 m 29°58′N 101°23′E 18.VII.1998 A. Smetana [C85]". In the SMETANA collection, Ottawa.

Paratypes: China [Sichuan]: same data as holotype, 1♂, 6♀♀ (ASCC, MSC); same data as allotype, 3♀♀ (ASC); W Sichuan W Kangding, Zheduo Shan, alpine region with rhododendron, 4300–4500 m, 12.–22.VI.2004, leg. R. Fabbri, 3♀♀; "Wahuishan Shankou N side, 4,250 m Kangding Xian Sichuan" / "SW CHINA 28–IX–1996 S. Uéno leg., 1♀ (NSMT).

Geographical distribution. *Quedius biann* is at present known only from the Zheduo Shan, from an area around the pass Zheduo Shankou in Sichuan (see below under Comments).

Bionomics. The specimens collected by SMETANA were taken in a small gully by sifting leaflitter, other debris and moss under rhododendron, wild rose and *Salix* bushes along a small creek.

Recognition and comments. Specimens of *Quedius biann* may be easily distinguished from those of *Q. cingulatus* by the external characters given above alone.

Most specimens of the original series, collected by PLUTENKO, are in bad shape, with numerous appendages, or even elytra partially or entirely missing.The damage is obviously due to the prolonged exposure to the fluids in pitfall traps.

The holotype is a specimen with dark elytra.

Etymology. The specific epithet is the Chinese word "biann" (to distinguish). It refers to the relative easiness to recognize the species.

Quedius* (*Microsaurus*) *goong sp. nov.

(Figs. 37–43)

Description. Piceous-black to black, all margins of pronotum narrowly, incon-

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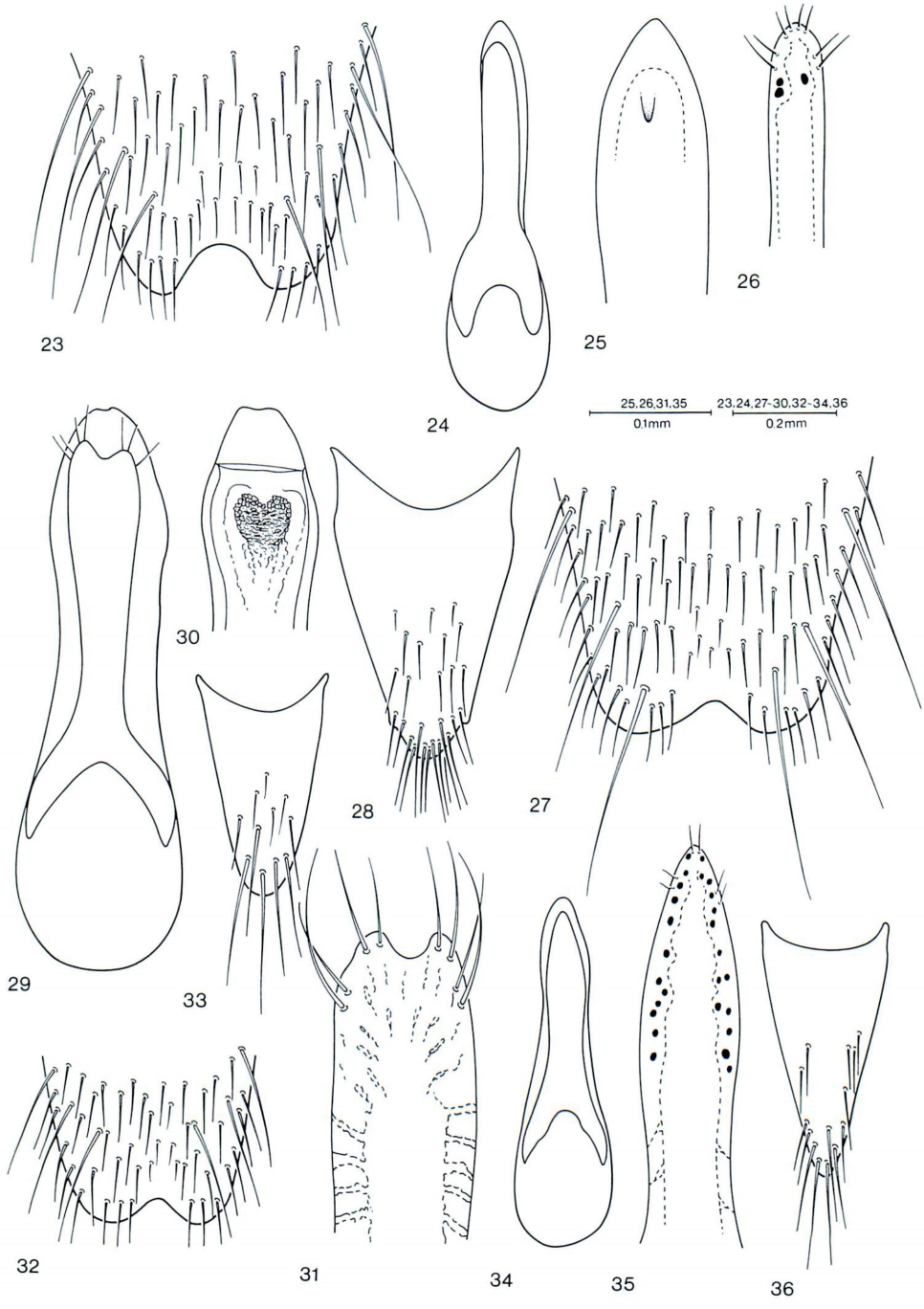
Figs. 23–36 (on p. 80). —— 23–26. *Quedius haan*: 23, apical portion of male sternite 8; 24, aedoeagus, ventral view; 25, apical portion of median lobe, ventral view; 26, apical portion of underside of paramere. —— 27–31. *Quedius jyr*: 27, apical portion of male sternite 8; 28, tergite 10 of male genital segment; 29, aedoeagus, ventral view; 30, apical portion of median lobe with internal sac; 31, apical portion of underside of paramere. —— 32–36. *Quedius biann*: 32, apical portion of male sternite 8; 33, tergite 10 of male genital segment; 34, aedoeagus, ventral view; 35, apical portion of underside of paramere; 36, tergite 10 of female genital segment.

Figs. 37–50 (on p. 81). —— 37–43. *Quedius goong*: 37, apical portion of male sternite 8; 38, tergite 10 of male genital segment; 39, sternite 9 of male genital segment; 40, aedoeagus, ventral view; 41, apical portion of median lobe, ventral view; 42, apical portion of underside of paramere; 43, tergite 10 of female genital segment. —— 44–48. *Quedius jaang*: 44, tergite 10 of male genital segment; 45, sternite 9 of male genital segment; 46, aedoeagus, ventral view; 47, apical portion of median lobe, ventral view; 48, apical portion of underside of paramere; 49, tergite 10 of female genital segment. —— 50. *Quedius kwang*, apical portion of male sternite 8.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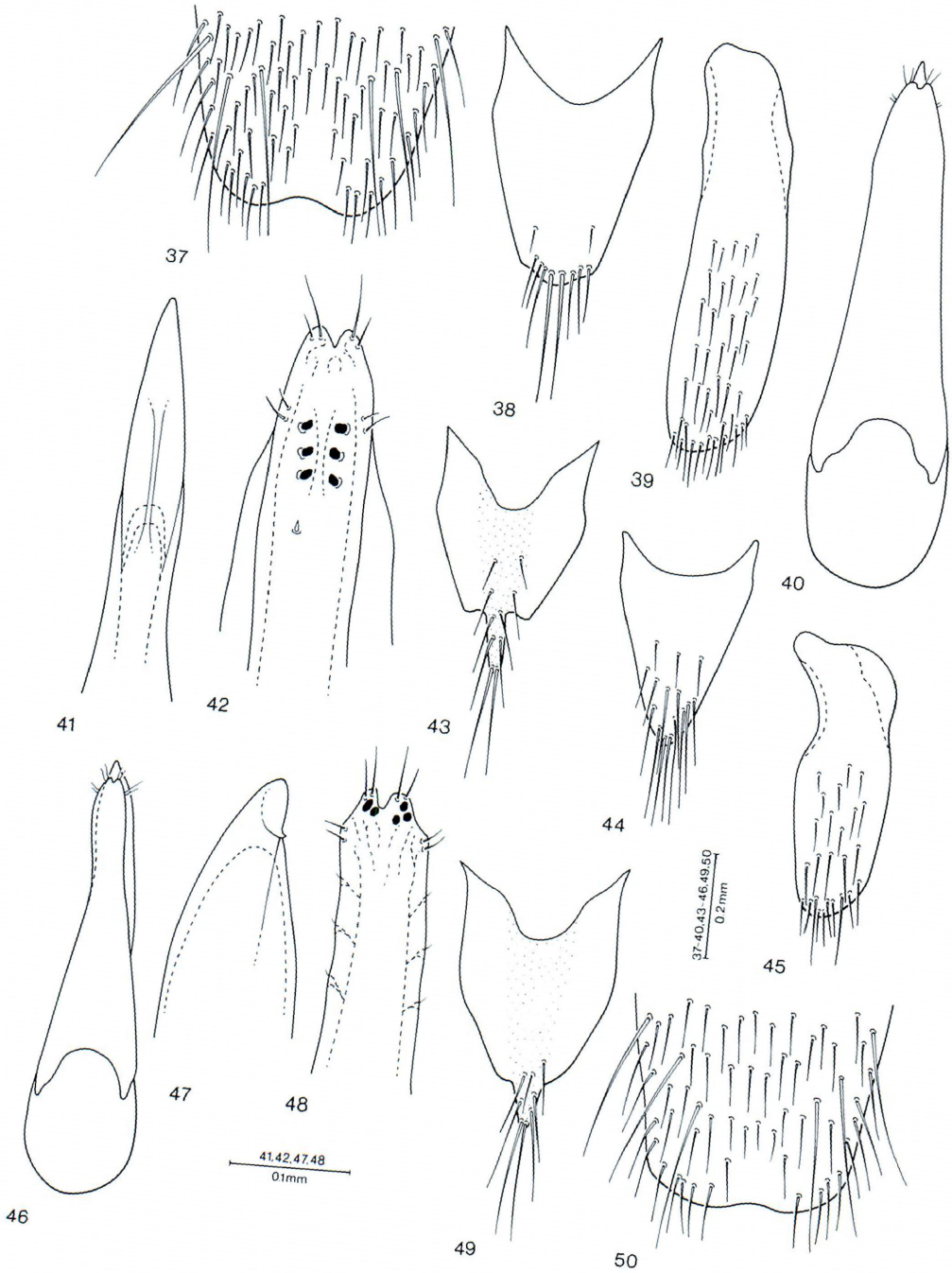
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spicuously paler, rarely entire pronotum somewhat paler; abdomen slightly iridescent; maxillary and labial palpi brownish, antennae dark brownish to piceous, first three antennal segments paler at base, legs piceous with paler tarsi. Head rounded, slightly longer than wide (index 1.18), gradually narrowed toward neck behind eyes, posterior angles entirely absent; eyes large, convex, tempora considerably shorter than eyes seen from above (index 0.35); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated close to posteriomedial margin of eye, separated from it by distance about equal to or shorter than diameter of puncture, two punctures between it and posterior margin of head, situated close to posterior margin, one additional puncture between posterior frontal puncture and temporal puncture, situated at posterior margin of eye; temporal puncture separated from posterior margin of eye by distance about equal to diameter of puncture; tempora with some fine punctures; surface of head with extremely fine, dense microsculpture of mostly transverse waves with intermixed microscopic punctures. Antenna moderately long, moderately widened toward apex, segment 3 slightly longer than segment 2 (index 1.25), segments 4–7 longer than wide, gradually becoming shorter, segments 8–10 about as long as wide, last segment about as long as two preceding segments combined. Pronotum vaguely wider than long (index 1.09), widest at about posterior third, distinctly more narrowed anteriad than posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each with three punctures, posterior puncture situated behind level of large lateral puncture; microsculpture similar to that of head but still finer and denser. Scutellum impunctate, with very fine and dense microsculpture of transverse waves. Elytra relatively long, at base slightly narrower than pronotum at widest point, scarcely widened posteriad, at suture slightly (index 1.19), at sides moderately longer (index 1.33) than pronotum at midline; punctation and pubescence fine and moderately dense, transverse interspaces between punctures mostly larger than diameters of punctures; pubescence piceous-black; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation of abdominal tergites similar to that on elytra, but somewhat denser, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine and dense microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (index 1.20) segment 4 narrower than preceding segments. Sternite 8 with three long setae on each side, with moderately wide, very shallow, subarcuate medioapical emargination, triangular area before emargination flattened and smooth (Fig. 37). Genital segment with tergite 10 rather wide with widely subarcuate apex, with a few unequally long setae at apical margin and otherwise almost asetose (Fig. 38); sternite 9 with short and wide basal portion, apical portion wide, irregularly subtruncate apically, without

appreciably differentiated apical or subapical setae (Fig. 39). Aedoeagus (Figs. 40–42) moderately large, elongate; median lobe narrow, widely constricted in middle portion, narrowed into lancet-like apical portion with extremely narrow and sharp apex. Paramere large and wide, covering entire median lobe except for apex, with narrowly emarginate apex not reaching apex of median lobe; two fine setae at apex on each side of medial emargination, medial pair markedly longer than lateral pair, two minute setae at each lateral margin below apex; sensory peg setae on underside of paramere forming two medial longitudinal groups, each with three or four setae. Internal sac simple, without larger sclerotized structures.

Female. First four segments of front tarsus similar to those of male, but markedly less dilated; segment 2 about as wide as apex of tibia. Genital segment with tergite 10 pigmented medially, with markedly differentiated, rod-like apical portion bearing two long apical setae (Fig. 43).

Length 6.0–6.8 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA: N-Yunnan Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000–3050 m 27°47.90′N 98°30.19′E 21.VI.2005 A. Smetana [C169]". In the SMETANA collection, Ottawa, Canada.

Paratypes: China [Yunnan]: same data as holotype, 1♂ (ASC); same data, but M. Schülke [C2005–16], 5♂♂, 7♀♀ (ASC, MSC).

Geographical distribution. *Quedius goong* is known only from the type locality in the Gaoligong Shan, a mountain range west of the Salveen river near the Myanmar border.

Bionomics. The specimens of the original series were taken in a large clearing in a coniferous forest by sifting leaf litter, various debris, moss and dead wood under rhododendron and brodleaved bushes along creeks and snowfields. Specimens of *Q. jaang*, *Q. kwang*, *Q. pyn* and *Q. lanugo* were collected in the same habitats.

Recognition and comments. *Quedius goong* is in all external characters very similar to the three sympatric species mentioned above and can be positively distinguished from most of them only by the male sexual characters, particularly by the quite characteristic aedoeagus.

Etymology. The specific epithet is the Chinese word "goong" (firm, strong).

Quedius* (*Microsaurus*) *jaang sp. nov.

(Fig. 44–49)

Description. In all characters quite similar to *Q. goong* and different mainly by the sexual characters, particularly by the differently shaped aedoeagus.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 slightly wider than apex of tibia (index 1.12) segment 4 narrower than preceding segments. Sternite 8 with three long setae on each side, with moderately wide, very shallow subarcuate

medioapical emargination, similar to that of *Q. goong*. Genital segment with tergite 10 markedly smaller and narrower than that of *Q. goong*, with more numerous setae (Fig. 44); sternite 9 markedly smaller, with short basal portion separated from apical portion by distinct constriction, apical portion wide, asymmetrically, widely obtuse apically, with two differentiated apical setae (Fig. 45). Aedoeagus (Figs. 46–48) moderately large, elongate, with both median lobe and paramere asymmetrical; median lobe narrow, with triangular, acute apical portion. Paramere large, slightly asymmetrical, subparallel-sided in middle portion, with obtuse, narrowly emarginate apex not quite reaching apex of median lobe; two fine setae at apex on each side of medial emargination and one or two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming one group close to apex of paramere on each side of medial emargination, each with two or three peg setae. Internal sac simple, without larger sclerotized structures.

F e m a l e. First four segments of front tarsus similar to those of male, but markedly less dilated; segment 2 about as wide as apex of tibia. Genital segment with tergite 10 similar to that of *Q. goong*, but differentiated rod-like apical portion shorter (Fig. 49).

Length 5.8–6.5 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA: N-Yunnan Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000–3050 m 27°47.90′N 98°30.19′E 21.VI.2005 A. Smetana [C169]". In the SMETANA collection, Ottawa, Canada.

Paratypes: China [Yunnan]: same data as holotype, 2♂♂ (ASC); same data, but M. Schülke [C2005–16], 4♂♂, 2♀♀ (ASC, MSC).

Geographical distribution. *Quedius jaang* is known only from the type locality in the Gaoligong Shan, a mountain range west of the Salveen river near the Myanmar border.

Bionomics. The specimens of the original series were collected, together with those of *Q. goong*, in the same habitats described for that species.

Recognition and comments. Specimens of *Quedius jaang* may be positively distinguished from those of *Q. goong* only by the male sexual characters. The difference in the length of the differentiated apical portion of the female genital segment is small; however, it seems to be constant.

Etymology. The specific epithet is the Chinese word "jaang" (a chief, an elder).

Quedius* (*Microsaurus*) *kwang sp. nov.

(Figs. 50–55)

Description. In all characters very similar to *Q. goong*, but different by slightly different coloration of body, and mainly by male sexual characters, particularly by characteristic shape of aedoeagus. Coloration in general paler, maxillary and labial palpi testaceous, antennae with first three segments entirely rufotestaceous, legs dark

brunneous to brunneous with paler tarsi and more or less darkened medial faces of middle and hind femora and tibiae. Pronotum dark rufobrunneous with darkened middle to entirely rufobrunneous, elytra brunneopiceous with paler humeral area to entirely brunneous, abdomen piceous to dark rufobrunneous, in general becoming paler toward apex.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (index 1. 20), segment 4 narrower than preceding segments. Sternite 8 with four long setae on each side, with very shallow, inconspicuous arcuate medioapical emargination, triangular area before emargination flattened and smooth (Fig. 50). Genital segment with tergite 10 markedly smaller and narrower than that of *Q. goong*, with more numerous setae (Fig. 51); sternite 9 with short and rather wide basal portion separated from apical portion by distinct constriction, apical portion evenly narrowed toward arcuate apex, with two differentiated apical setae (Fig. 52). Aedoeagus (Figs. 53, 54) moderately large, elongate, with both median lobe and paramere asymmetrical, in general similar to that of *Q. jaang*; median lobe narrow, evenly constricted in middle portion, with triangular, acute apical portion. Paramere very large, wide, covering most of median lobe, markedly asymmetrical, with obtuse, narrowly emarginate apex not quite reaching apex of median lobe; two fine setae at apex on each side of medial emargination and two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming one group close to apex of paramere on each side of medial emargination, each with two peg setae. Internal sac simple, without larger sclerotized structures.

Female. First four segments of front tarsus similar to those of male, but markedly less dilated; segment 2 about as wide as apex of tibia. Genital segment with tergite 10 with differentiated rod-like apical portion long, similar to that of *Q. goong* (Fig. 55).

Length 6.0–6.8 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA: N-Yunnan Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000–3050 m 27°47.90′N 98°30.19′E 21.VI.2005 A. Smetana [C169]". In the SMETANA collection, Ottawa, Canada.

Paratypes: China [Yunnan]: same data as holotype, 1 ♀ (ASC); same data, but M. Schülke [C2005–16], 2 ♀♀ (MSC).

Geographical distribution. *Quedius kwang* is known only from the type locality in the Gaoligong Shan, a mountain range west of the Salveen river near the Myanmar border.

Bionomics. The specimens of the original series were collected, together with those of *Q. goong*, in the same habitats described for that species.

Recognition and comments. *Quedius kwang* differs from the two habitually similar species occurring in the same habitat in Gaoligong Shan (*Q. goong* and *Q. jaang*), in addition to the different sexual characters, by the uniformly pale first three antennal

segments. *Quedius pyn*, the fourth species from the same habitat, displays the same coloration of the first three antennal segments, but it differs by some external characters (see below), and by the entirely different aedoeagus.

Etymology. The specific epithet is the Chinese word "kwang" (to deceive). It refers to the close similarity of the species to *Q. goong* and *Q. jaang*.

Quedius* (*Microsaurus*) *pyn sp. nov.

(Figs. 56–60)

Description. In all characters similar to *Q. goong*, but different as follows: body larger and more robust; abdomen, starting with fourth visible tergite, becoming gradually paler toward apex; maxillary and labial palpi testaceous, antennae with first three segments entirely rufotestaceous, legs piceous with paler tarsi. Head markedly larger, slightly wider than long (index 1.1), eyes larger and more convex, tempora less distinctly shorter than eyes from above (index 0. 60). Pronotum more voluminous, more distinctly narrowed anteriad, elytra shorter, at suture vaguely shorter (index 0.92), at sides about as long as pronotum at midline. Punctation of abdominal tergites sparser.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (index 1.15), segment 4 narrower than preceding segments. Sternite 8 sparsely pubescent, with three long setae on each side, with wide and moderately deep, obtusely triangular medioapical emargination, triangular area before emargination flattened and smooth (Fig. 56). Genital segment with tergite 10 smaller and narrower than that of *Q. goong*, with more numerous setae (Fig. 57); sternite 9 with short basal portion separated from apical portion by distinct constriction, apical portion evenly narrowed toward arcuate apex, without differentiated apical or subapical setae (Fig. 58). Aedoeagus (Figs. 59, 60) small, symmetrical; median lobe narrow, slightly, widely constricted in middle portion, with subacute apex. Paramere moderately large, fusiform, with obtuse, narrowly emarginate apex not quite reaching apex of median lobe; two fine setae at apex on each side of medial emargination and two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming one group close to apex of paramere on each side of medial emargination, each with three peg setae. Internal sac simple, without larger sclerotized structures.

Female. Unknown.

Length 6.8 mm.

Type material. Holotype (male): China: "CHINA: N-Yunnan Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000–3050 m 27°47.90′N 98°30.19′E 21.VI.2005 A. Smetana [C169]". In the SMETANA collection, Ottawa, Canada.

Geographical distribution. *Quedius pyn* is known only from the type locality in the Gaoligong Shan, a mountain range west of the Salveen river near the Myanmar border.

Bionomics. The holotype was collected, together with those of *Q. goong*, in the

same habitats described for that species.

Recognition. *Quedius pyn* differs from all three other species, occurring in the same habitat (see above), in addition to the entirely different aedoeagus, by the external body characters delineated above. The coloration of the first three antennal segments is the same as that in *Q. kwang*. The aedoeagus of *Q. pyn* resembles that of *Q. euander* SMETANA, 1997, but specimens of *Q. euander* are markedly smaller and differ in several external characters, as well as in the characteristic shape of sternite 9 of the male genital segment (see fig. 30 in SMETANA, 1997 a, 61).

Etymology. The specific epithet is the Chinese word "pyn" (urgent).

Quedius* (*Microsaurus*) *terng sp. nov.

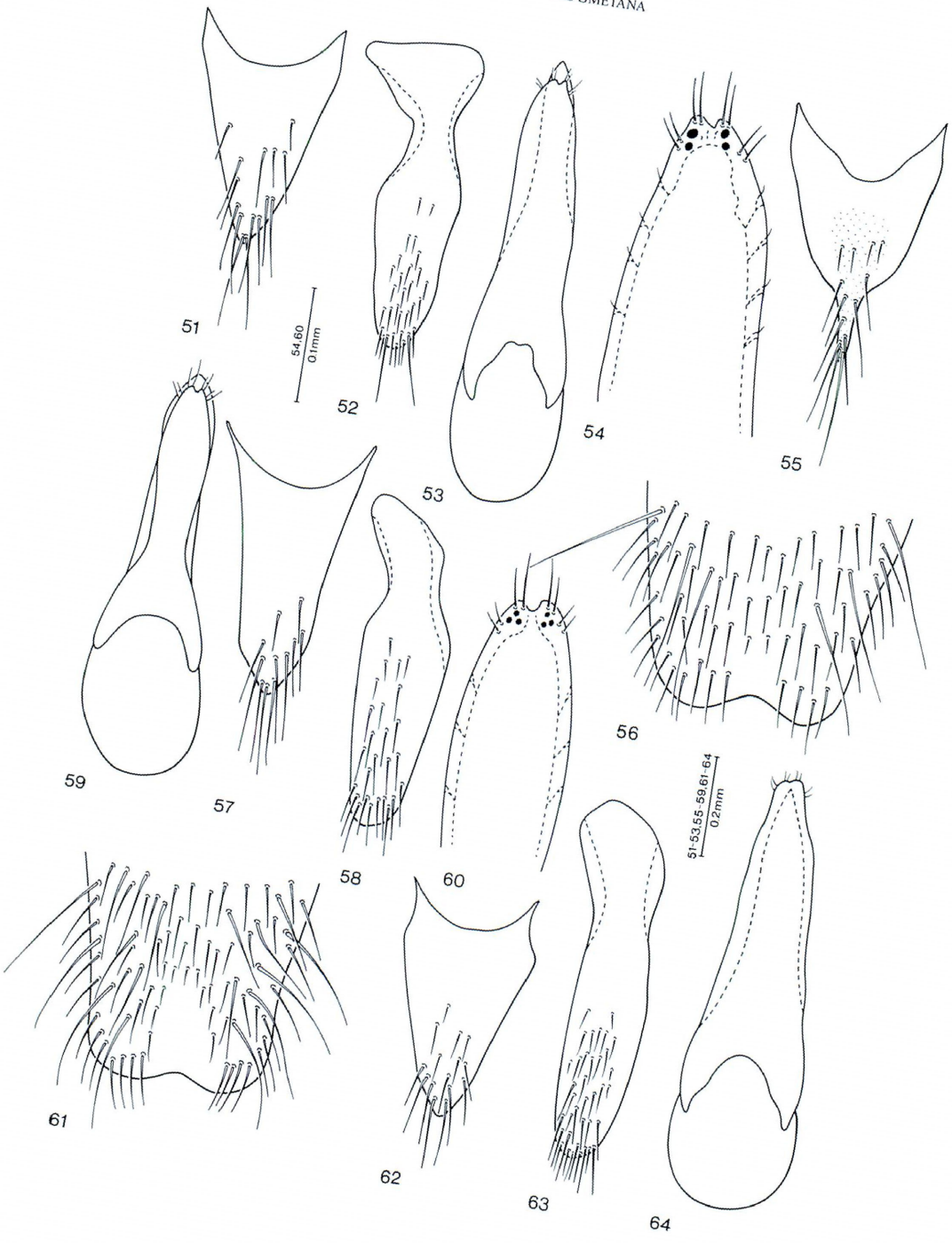
(Figs. 61–67)

Description. In all characters very similar to *Q. zheduo* and different mainly by sexual characters. Size on average larger.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 markedly wider than apex of tibia (index 1.20), segment 4 narrower than preceding segments. Sternite 7 not modified. Sternite 8 with many long setae on each side, with rather narrow and shallow, obtusely triangular medioapical emargination, large triangular area before emargination flattened and smooth (Fig. 61). Genital segment with tergite 10 somewhat wider than that of *Q. zheduo* and with less numerous setae (Fig. 62); sternite 9 narrower and markedly longer, with rather wide basal portion, apical portion evenly narrowed toward arcuate apex, without differentiated apical or subapical setae (Fig. 63). Aedoeagus (Figs. 64–66) similar to that of *Q. zheduo*, small, almost symmetrical; median lobe less markedly narrowed anteriad, subparallel-sided in middle portion, with minute medial carina on face adjacent to paramere. Paramere less markedly narrowed anteriad, with slightly differentiated apical portion, with obtuse, slightly emarginate apex somewhat exceeding apex of median lobe; two fine setae at each side of medial emargination and two similar but smaller setae at each lateral margin below apex; sen-

Figs. 51–64 (on p. 88). —— 51–55. *Quedius kwang*: 51, tergite 10 of male genital segment; 52, sternite 9 of male genital segment; 53, aedoeagus, ventral view; 54, apical portion of underside of paramere; 55, tergite 10 of female genital segment. —— 56–60. *Quedius pyn*: 56, apical portion of male sternite 8; 57, tergite 10 of male genital segment; 58, sternite 9 of male genital segment; 59, aedoeagus, ventral view; 60, apical portion of underside of paramere. —— 61–64. *Quedius terng*: 61, apical portion of male sternite 8; 62, tergite 10 of male genital segment; 63, sternite 9 of male genital segment; 64, aedoeagus, ventral view.

Figs. 65–79 (on p. 89). —— 65–67. *Quedius terng*: 65, apical portion of median lobe, ventral view; 66, apical portion of underside of paramere; 67, tergite 10 of female genital segment. —— 68–73. *Quedius fabbrii*: 68, apical portion of male sternite 8; 69, tergite 10 of male genital segment; 70, sternite 9 of male genital segment; 71, aedoeagus, ventral view; 72, apical portion of median lobe, ventral view; 73, apical portion of underside of paramere. —— 74–79. *Quedius lanugo*: 74, apical portion of male sternite 8; 75, tergite 10 of male genital segment; 76, sternite 9 of male genital segment; 77, aedoeagus, ventral view; 78, apical portion of median lobe; 79, apical portion of underside of paramere.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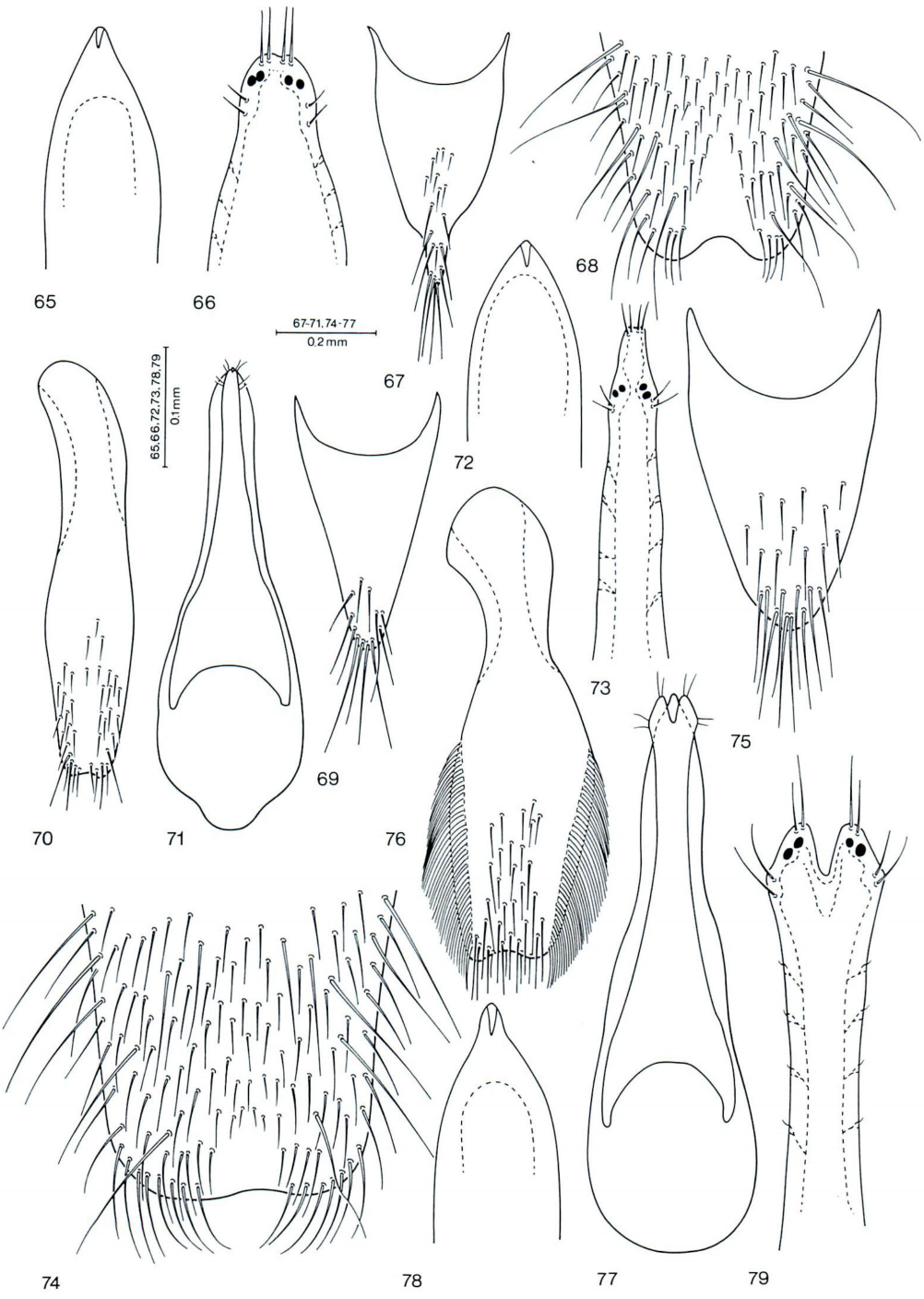
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sory peg setae on underside of paramere forming two lateral groups close to apex of paramere, each with one or two closely set pegs. Internal sac simple, without larger sclerotized structures.

Female. First four segments of front tarsus similar to those of male, but markedly less dilated; segment 2 about as wide as apex of tibia. Genital segment with tergite 10 similar to that of *Q. zheduo*, but with considerably longer, vaguely differentiated apical portion (Fig. 67).

Length 6.2–7.0 mm.

Type material. Holotype (male): China: "CHINA: N-Yunnan [C2005–10] Diqing Tibet. Aut. Pref., Deqin Co., Baima Shan, pass 15 km SE Deqin, 4330m"/ "28°22.68′N 99°00.57′E, meadows, Azalea, Juniperus, leaf litter, grass, moss, sifted, 12.VI.2005, M. Schülke [C2005–10]". In the SCHÜLKE collection, Berlin.

Allotype. China: "CHINA N-Yunnan Diqing Tibet. Aut. Pr. Deqin Co. Baima Shan E-side pass 12 km SE Deqin 28°23.86′N 98°59.04′E 4085 m 10.VI.2005 A. Smetana [C157]". In the SMETANA collection, Ottawa.

Paratypes: China: [Yunnan]: same data as holotype, 1♀ (MSC); same data as holotype, but A. Smetana [C159], 2♀♀ (ASC); same data as allotype, but 4200–4300 m, small creek valley (Abies forest with Rhododendron), D. W. Wrase [08B], 1♂, 2♀♀ (ASC, MSC); same data, but pass 25 km SE Deqin, 4225 m, 28°19.38′N 99°05.47′E, small creek valley, Rhododendron, Salix, leaf litter, moss, dead wood, sifted, 8.VI.2005, M. Schülke [C2005–06], 1♀; same data as previous, but alpine pasture, under stones, D.W. Wrase [06C], 1♂ (MSC).

Geographical distribution. *Quedius terng* is at present known only from the Baima Shan in northern Yunnan.

Biomomics. The specimens were collected in subalpine and alpine habitats by sifting moss, leaf litter, dead wood and other debris under Rhododendron, Azalea, Salix and Juniperus growths.

Recognition and comments. Specimens of *Q. terng* are in all external characters also quite similar to those of *Q. tronqueti* SMETANA, 1999 and *Q. janatai* SMETANA, 2004, but the aedoeagi of the two species are different (see SMETANA, 1999, 237, figs. 55–57; SMETANA, 2004, 93, figs. 28, 29).

Etymology. The specific epithet is the Chinese word "terng" (to ascend). It refers to the occurrence of this species in high altitude mountain habitats.

Quedius* (*Microsaurus*) *fabbrii sp. nov.

(Figs. 68–73)

Description. In all characters very similar to *Q. zheduo* and different mainly by sexual characters.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 markedly wider than apex of tibia (index 1.24), segment 4 narrower than preceding segments. Sternite 7 not

modified. Sternite 8 with six long setae on each side, with moderately wide and deep, arcuate medioapical emargination, large triangular area before emargination flattened and smooth (Fig. 68). Genital segment with tergite 10 markedly more elongate than that of *Q. zheduo* (Fig. 69); sternite 9 longer, with less wide basal portion, apical portion evenly narrowed toward subtruncate, medially slightly emarginate apex, with two differentiated apical setae at each side of medial emargination (Fig. 70). Aedoeagus (Figs. 71–73) with voluminous basal bulbus; median lobe narrowed anteriad to about apical third, from there subparallel-sided and then narrowed into subacute apex. Paramere symmetrical, very wide basally, middle portion narrowed into parallel-sided, narrow apical portion with narrowly subtruncate, feebly emarginate apex about reaching apex of median lobe; four fine setae at apex, two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming two lateral groups below apex, each with two closely set pegs. Internal sac simple, without larger sclerotized structures.

Female. Unknown.

Length 6.0–6.7 mm.

Type material. Holotype (male): China: "CHINA–NW Sichuan, 3500 m between Sanggarmai-Sanggarpar relict coniferous forest, 8.–29.VI.2004, leg. R. Fabbri. In the SCHÜLKE collection, Berlin.

Paratype: China: [Sichuan]: same data as holotype, 1 ♂ (ASC).

Geographical distribution. *Quedius fabbrii* is at present known only from the type locality in northwestern Sichuan.

Bionomics. Specimens were apparently collected from pitfall traps set in an original coniferous forest.

Recognition. Specimens of *Q. fabbrii* may be positively recognized only by the shape of the aedoeagus. Unlike the males of *Q. zheduo*, the males of *Q. fabbrii* lack the modification of the apical margin of the seventh abdominal sternite, but this character state is shared with the males of *Q. terng* sp. nov., *Q. tronqueti* and *Q. janatai*.

Etymology. Patronymic, the species was named in honour of the collector, Mr. R. FABBRI, Museo Civico di Storia Naturale, Ferrara, Italy.

Quedius* (*Microsaurus*) *lanugo sp. nov.

(Figs. 74–79)

Description. Black; abdomen slightly iridescent; maxillary and labial palpi brownish piceous, antennae piceous black, first three antennal segments paler at base, legs piceous black with paler tarsi. Head rounded, slightly longer than wide (index 1.19), gradually narrowed toward neck behind eyes, posterior angles entirely absent; eyes large, convex, tempora considerably shorter than eyes seen from above (index 0.34); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated close to posteriomedial margin of eye, separated from it by distance about equal to diameter of puncture, two punctures between it and posterior

margin of head, situated close to posterior margin, one additional puncture between posterior frontal puncture and temporal puncture, situated at posterior margin of eye; temporal puncture separated from posterior margin of eye by distance about twice as large as diameter of puncture; tempora with some fine punctures; surface of head with extremely fine, dense microsculpture of mostly transverse waves. Antenna moderately long, moderately widened toward apex, segment 3 longer than segment 2 (index 1.26), segments 4–7 longer than wide, gradually becoming shorter, segments 8–10 about as long as wide, last segment slightly shorter than two preceding segments combined. Pronotum about as long as wide, widest at about posterior third, slightly more narrowed anteriad than posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each with three punctures, posterior puncture situated behind level of large lateral puncture; microsculpture similar to that of head but still finer and denser. Scutellum impunctate, with very fine and dense microsculpture of transverse waves. Elytra relatively long, at base slightly narrower than pronotum at widest point, scarcely widened posteriad, at suture vaguely longer (index 1.07), at sides slightly longer (index 1.16) than pronotum at midline; punctation and pubescence very fine and rather sparse, transverse interspaces between punctures mostly 3–4 times larger than diameters of punctures; pubescence piceous-black; surface between punctures without microsculpture. Wings apparently fully developed. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation of abdominal tergites similar to that on elytra, but somewhat denser, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine and dense microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 markedly wider than apex of tibia (index 1.30), segment 4 narrower than preceding segments. Sternite 8 with seven long setae on each side, with extremely shallow, inconspicuous, arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 74). Genital segment with tergite 10 moderately large and wide, with arcuate apex, setose as in Fig. 75; sternite 9 with large basal portion, separated from apical portion by distinct constriction, apical portion very large and wide, irregularly subtruncate apically, without appreciably differentiated apical or subapical setae, but with both lateral portions densely covered with long, fine, hair-like setae (Fig. 76). Aedoeagus (Figs. 77–79) rather large, elongate; median lobe narrow, widely constricted at about apical third and then narrowed into apical portion with short, subtriangular apex. Paramere elongate, with narrow middle portion gradually dilated into characteristic apical portion with apex deeply emarginate and almost reaching apex of median lobe; two fine setae at apex on each side of medial emargination and two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming a group of two or three setae at each side of medial emargination. Internal sac simple,

without larger sclerotized structures.

Female. Unknown.

Length 7.1–7.5 mm.

Type material. Holotype (male): China: "CHINA: N-Yunnan Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000–3050 m 27°47.90′N 98°30.19′E 21.VI.2005 A. Smetana [C169]". In the SMETANA collection, Ottawa.

Paratype (male): China: [Yunnan]: same data, + "conif. Forest with *Rhododendron*, broad leaved bushes, litter, moss, dead wood, sifted along creek and snowfields", M. Schülke [C2005–16] (MSC).

Geographical distribution. *Quedius lanugo* is known only from the type locality in the Gaoligong Shan, a mountain range west of the Salveen river near the Myanmar border.

Bionomics. The specimens of the original series were taken in a large clearing in a coniferous forest by sifting leaf litter, various debris, moss and dead wood under rhododendron and brodleaved bushes along creeks and snowfields. Specimens of *Q. goong*, *Q. jaang*, *Q. kwang*, and *Q. pyn* were collected in the same habitats.

Recognition and comments. *Quedius lanugo* may be rather easily distinguished from all other species of the *Euryalus* group, in addition to the characteristic shape of the aedoeagus and the unique setation of sternite 9 of the male genital segment, by the dark coloration of the relatively large body and the appendages, and by the very inconspicuous medial emargination of the male sternite 8.

The paratype is missing the left antenna except for three basal segments, and the entire left hind leg.

Etymology. The specific epithet is the Latin noun *lanugo*, *-inis*, f. (delicate downy hairs) in apposition. It refers to the presence of the dense, delicate hair-like setae on the male sternite 9.

Acknowledgments

I thank Mr. Go SATO, Agriculture and Agri-Food Canada, Biodiversity, Ottawa, Canada, who carefully finished the line drawings.

要　　約

A. SMETANA：中国産ツヤムネハネカクシ亜族に関する知見．27．ツヤムネハネカクシ属 *Microsaurus* 亜属の15．—— *Microsaurus* 亜属のツヤムネハネカクシ類の12新種を云南省と四川省から記載し，併せて22既知種の新産地を記録した．そのうちの1種 *Quedius antennalis* については，*Q. birmanus* の上位同物異名であることを明らかにした．

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——— 1997 a. Ditto. Part 6. Subgenus *Microsaurus* DEJEAN, 1833. Section 5. *Ibid.*, **23**: 51–68.

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——— 1997 c. Ditto. Part 9. Subgenus *Microsaurus* DEJEAN, 1833. Section 7. *Ibid.*, **25**: 451–473.

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Elytra, *Tokyo*, **34** (1): 95–97, May 20, 2006

The First Record of *Prosthecarthron sauteri* RAFFRAY (Staphylinidae, Pselaphinae) from Vietnam

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Abstract *Prosthecarthron sauteri* RAFFRAY previously known from Taiwan, North Korea and Japan is recorded for the first time in Vietnam. Habitat of this species is also noted.

The brachyglutine species *Prosthecarthron sauteri* was originally described by RAFFRAY (1914) from Taiwan. More than half a century later, LÖBL (1974) described *Briara palpalis* from North Korea, which was transferred later to *Barbiera* by LÖBL (1977). He suggested that the habitat of this species is patches of halophilous grasses, a vegetation closest to the sea. NOMURA (1998) reported it from Japan (Honshu, Shikoku, Kyushu) and noted that its habitat in Japanese mainland is patches of the common Japanese reed on the mud at estuaries of rivers. BESUCHET (1999) revised some pselaphine genera and species taxonomically and concluded that *Barbiera palpalis* (LÖBL) is a junior synonym of *Prosthecarthron sauteri* RAFFRAY. Recently, ARAI, NOMURA and KAMEZAWA (2005) reviewed the distribution of this species in Japan and recorded it also from the Ryukyus (Amami-Oshima Is., Okinawajima Is. and Iriomote-jima Is.). They reported that its habitat is mangrove in the Ryukyus.

The last author AHN visited Vietnam in June 2005 and collected this species. This is the first record of the species from Vietnam as shown below. Before going further,



Fig. 1. *Prosthecarthron sauteri* RAFFRAY, male.

we wish to express our hearty thanks to Jong-Seok PARK and S. -I. LEE of Chungnam National University Insect Collection, Daejeon, for their kind assistance for the field works.

Prosthecarthron sauteri RAFFRAY

(Fig. 1)

Prosthecarthron sauteri RAFFRAY, 1914, Suppl. ent., **3**: 3. —— BESUCHET, 1999, Revue suisse Zool., **106**: 48. —— LÖBL & BESUCHET, 2004, Cat. Palaearct. Coleopt., **2**: 300. —— ARAI, NOMURA & KAMEZAWA, 2005, Coleopterists' News, Tokyo, (151): 19.

Briara palpalis LÖBL, 1974, Acta zool. cracov., **19**: 97.

Barbiera palpalis: LÖBL, 1977, Bull. Acad. pol. Sci., (Sci. Biol. V), **25**: 236. —— NOMURA, 1998, Elytra, Tokyo, **26**: 129.

Specimens examined. 3 males, 14 females, Cat Ba National Park, ex under stones on mangrove beach, Xa Gia Luan, Vietnam, N20°51.048′, E106°58.847′, 19–VI–2005, K.-J. AHN, S.-I. LEE & J.-S. PARK leg.

Distribution. North Korea, Japan, Taiwan and Vietnam.

Remarks. The specimens examined were collected from the underside of stones on the muddy ground of the mangrove seashore as shown in Fig. 2. As a conclusion concerning the records and the field observation, this species seems widely to inhabit

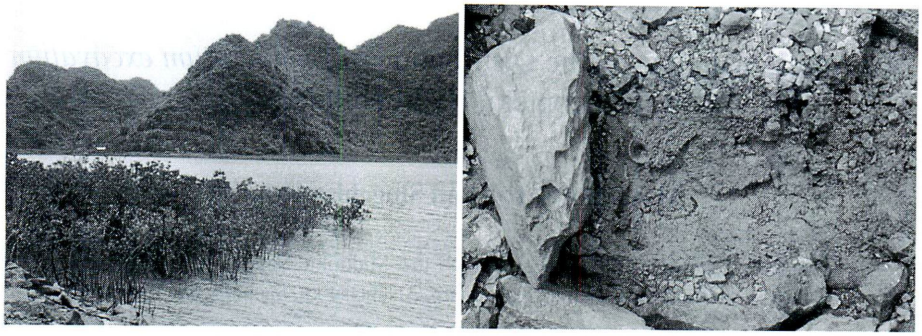

Fig. 2. Habitat of *Prosthecarthron sauteri* RAFFRAY at Cat Ba National Park, Vietnam.

various vegetations of the seaside ground in East to Southeast Asia.

要　　約

野村周平・N. T. TIEN・N. T. T. ANH・安　基晶：アシベアリヅカムシのベトナムからの初めての記録（ハネカクシ科・アリヅカムシ亜科）．—— ベトナム，カッ・バー国立公園で安が採集した標本に基づき，アシベアリヅカムシ *Prosthecarthron sauteri* RAFFRAY を初めてベトナムから記録した．本種はこれまで北朝鮮，日本，台湾から知られ，マングローブ（ベトナム，琉球）ヨシ群落（日本本土）など，河口近くのさまざまな植生から発見されている．

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NOMURA, S., 1998. Records of a brachyglutine species *Barbiera palpalis* (LÖBL) (Coleoptera, Staphylinidae, Pselaphinae) from Japan, with notes on its habitat. *Elytra, Tokyo*, **26**: 129–130.

RAFFRAY, A., 1914. H. SAUTER's Formosa-Ausbeute. Pselaphidae (Col.) II. *Suppl. ent.*, **3**: 1–5.

Elytra, *Tokyo*, **34** (1): 98, May 20, 2006

An Additional Note on the Distribution of *Emmidolium excavatum* (Coleoptera, Hydrophilidae)

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Emmidolium excavatum D'ORCHYMONT, 1937 was recorded for the first time from Ishigaki-jima, the Ryukyus and was given a redescription by HORI and SATÔ (2002). After that we were able to examine additional specimens from Yonaguni-jima, Kohama-jima and Kuro-shima of the Sakishima Islands as given below.

As was suggested in the previous report, this species should have spread by the wind or moved with cows. All the specimens recorded were collected from the dung of cows on the nearest island of Ishigaki-jima. This fact reveals that the species spread with cows brought by humans.

We are thankful to Mr. T. SHIMADA for his kind offer of the material.

Specimens examined. 1 ex., Minami Farm, Yonaguni-jima, Ryukyus, 19–XI–1998, T. SHIMADA leg.; 1 ex., Kohama-jima, Ryukyus, 21–IX–2003, M. SATÔ leg.; 3 exs., Kuroshima, Ryukyus, 20–IX–2003, M. SATÔ leg.

Distribution. Africa, Indonesia, Vietnam, Taiwan, Ryukyus (Ishigaki-jima, Kohama-jima, Kuro-shima, Yonaguni-jima).

Reference

HORI, S., & M. SATÔ, 2002. *Emmidolium excavatum* (Coleoptera, Hydrophilidae) found on Ishigaki-jima of the Ryukyu Islands, Southwest Japan. *Elytra*, *Tokyo*, **30**: 425–429.

Elytra, Tokyo, **34** (1): 99–102, May 20, 2006

Taxonomical Notes on Three Pselaphine Species (Staphylinidae, Pselaphinae) Described by WEISE, 1877 from Japan

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Abstract Three pselaphine species described by WEISE (1877) from Japan are revised on the basis of the type specimens preserved in the Museum für Naturkunde, Humboldt University (MNHU), Berlin. As the result, *Batrisoplisus nomurai* LÖBL (replacement name for *B. antennatus* (WEISE)) is synonymised with *B. tosanus* NOMURA, and *Bryaxis frontalis* JEANNEL is found identical with *B. subseriatus* (WEISE).

WEISE (1877) described three pselaphine species from Japan on the basis of HILLER's material collected from Hagi, Yamaguchi Prefecture, though no scientist has examined or redescribed the types of these species. The author visited the Museum für Naturkunde, Humboldt University (MNHU), Berlin in May 2005, and found the type material including probable syntypes. As the result of his examination, two new synonyms presented here were clarified.

The author is much indebted to Dr. Johannes FRISCH (MNHU) for his kind assistance for examination and loan of the material in MNHU.

Batrisoplisus tosanus NOMURA

[Japanese name: Tosa-fusahige-arizukamushi]

(Figs. 1–2)

Batrisus antennatus WEISE, 1877, Dtsch. ent. Z., **21**: 97. (preoccupied by MOTSCHULSKY, 1851).

Batrisocenus antennatus: RAFFRAY, 1904, Annls. Soc. ent. Fr., **73**: 98.

Batrisoplisus antennatus: RAFFRAY, 1908, Gen. Ins., (64): 180; 1911, Coleopt. Cat., (27): 74. —— JEANNEL, 1958, Mém. Mus. Hist. nat., Paris, (A), **18**: 54. —— NOMURA, 1991, Esakia, Fukuoka, (30): 289.

Batrisoplisus tosanus NOMURA, 1991, Esakia, Fukuoka, (30): 283. —— LÖBL & BESUCHET, 2004, Cat. Palaearct. Coleopt., **2**: 279.

Batrisoplisus nomurai LÖBL, 1998. Bull. Soc. ent. Suisse, **71**: 463. —— LÖBL & BESUCHET, 2004, Cat. Palaearct. Coleopt., **2**: 278 (replacement name for *B. antennatus*). *Syn. nov.*

Material examined. Probable syntype ♂ (Figs. 1, 2), Japan, Hiller / Batrisus auriculatus W.

Remarks. The probable syntype of *Batrisus antennatus* was labelled "*Batrisus auriculatus*", which is an undescribed name. The reason why the type was labelled with a different name is unknown. However, it must be a facter that the type has been untraceable by succeeding scientists.

Bryaxis subseriatus (WEISE)

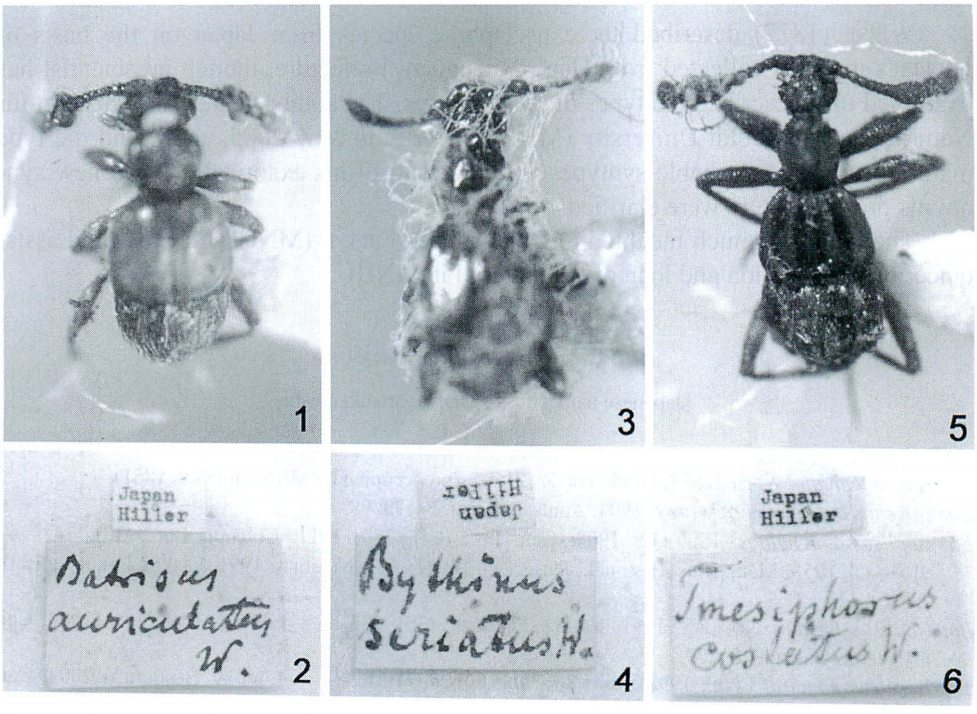
[Japanese name: Naga-onohige-arizukamushi]

(Figs. 3–4)

Bythinus subseriatus WEISE, 1877, Dtsch. ent. Z., **21**: 98.

Bryaxis subseriatus: RAFFRAY, 1904, Annls. Soc. ent. Fr., **73**: 287 (*subseriata*); 1908, Gen. Ins., (64): 279 (*subseriata*); 1911, Coleopt. Cat., (27): 121 (*subseriata*). —— JEANNEL, 1958, Mém. Mus. Hist. nat., Paris, (A), **18**: 90. —— LÖBL, KURBATOV & NOMURA, 1998, Spec. Div., Sapporo, **3**: 267. —— LÖBL & BESUCHET, 2004, Cat. Palaearct. Coleopt., **2**: 310.

Bryaxis frontalis JEANNEL, 1958, Mém. Mus. Hist. nat., Paris, (A), **18**: 87. —— LÖBL, KURBATOV & NOMURA, 1998, Spec. Div., Sapporo, **3**: 226. —— LÖBL & BESUCHET, 2004, Cat. Palaearct. Coleopt., **2**: 305. *Syn nov.*



Figs. 1–6. Type specimens and their labels of three pselaphine species described by WEISE (1877) preserved in MNHU. —— 1, Probable syntype of *Batrisus antennatus* WEISE; 2, ditto, labels; 3, probable syntype of *Bythinus subseriatus* WEISE; 4, ditto, labels; 5, holotype of *Tmesiphorus costatus* WEISE; 6, ditto, labels.

Material examined. Probable syntype ♂ (Figs. 3, 4), Japan, Hiller / Bythinus seriatus W.

Remarks. The type of "*Bythinus seriatus*" densely covered by fungi was identical with the well-known Japanese species, *Bryaxis frontalis* JEANNEL. It was also labelled with an undescribed name different from the one given in the original description, as in the foregoing case of *Batrisus antennatus*.

Tmesiphorus costatus WEISE

[Japanese name: Misuji-higekata-arizukamushi]

(Figs. 5–6)

Tmesiphorus costatus WEISE, 1877, Dtsch. ent. Z., **21**: 99; —— RAFFRAY, 1904, Annls. Soc. ent. Fr., **73**: 423; 1908, Gen. Ins., (64): 374; 1911, Coleopt. Cat., (27): 157. —— JEANNEL, 1958, Mém. Mus. Hist. nat., Paris, (A), **18**: 118. —— LÖBL & BESUCHET, 2004, Cat. Palaearct. Coleopt., **2**: 327.

Material examined. Holotype ♂ (Figs. 5, 6), Japan, Hiller / Tmesiphorus costatus W.

Remarks. The type of this species was found in the same collection of MNHU as the probable syntypes of *Batrisus antennatus* and *Bythinus subseriatus*. It could be regarded as the holotype by monotypy with no taxonomical problem, because WEISE commented on the type material "1 Stück (Männchen) bei Hagi aus Laub gesiebt." in the original description and the labelled name is coincident with that in the original paper.

要　　約

野村周平：WEISE (1877)によって記載された日本産アリヅカムシ３種に関する分類学的ノート（ハネカクシ科・アリヅカムシ亜科）．—— WEISE (1877)が日本（山口県萩）から記載したアリヅカムシ３種について，フンボルト大学自然史博物館（ドイツ，ベルリン）に所蔵されるタイプ標本に基づく分類学的検討を行なった．*Batrisus antennatus* WEISE（のちに*Batrisoplisus*属へ移された）のシンタイプと思われる標本には"*Batrisus auriculatus*"（未記載名）と書かれたラベルが付されていた．また，*Bythinus subseriatus* WEISE（のちに*Bryaxis*属に移された）のシンタイプと思われる標本のラベルには"*Bythinus seriatus*"（未記載名）と記されていた．上記２点は同時に記載された*Tmesiphorus costatus* WEISE ミスジヒゲカタアリヅカムシ（和名新称）のホロタイプと同じ場所に収納されていた．これらの事実と標本を検討した結果，*B. antennatus*の置換名である*Batrisoplisus nomurai* LÖBL は*B. tosanus* NOMURA トサフサヒゲアリヅカムシ（和名新称）の，また本州，四国，九州から知られる*Bryaxis frontalis* JEANNEL ナガオノヒゲアリヅカムシは*B. subseriatus* のそれぞれ下位シノニムであると結論づけられた．

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Elytra, Tokyo, **34** (1): 103–106, May 20, 2006

A Redescription of *Scydmaenus takaranus* (Coleoptera, Scydmaenidae) in Japan

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Abstract *Scydmaenus takaranus* NAKANE is redescribed and is placed in the subgenus *Scydmaenus* with some comments.

The genus *Scydmaenus* LATREILLE, 1802 belongs to the tribe Scydmaenini LEACH, 1815 (NEWTON & FRANZ, 1998), and seven species have been known to occur in Japan (SHARP, 1874, 1886; NAKANE, 1963; FRANZ, 1976; O'KEEFE & LI, 1998). Recently, I had an opportunity to examine the holotype of *Scydmaenus takaranus* NAKANE, 1963, and am going to redescribe this species in this report based on the holotype with some illustrations. Before going further, I am very grateful to Dr. Masahiro ÔHARA (Hokkaido University, Sapporo) who kindly loaned me the holotype.

Scydmaenus* (*Scydmaenus*) *takaranus NAKANE, 1963

[Japanese name: Hime-mukuge-kokemushi]

(Figs. 1–5)

Scydmaenus takaranus NAKANE, 1963, 22 (type locality: Takarajima, Tokara Is.). —— O'KEEFE & LI, 1998, 160.

Scydmaenus (*Scydmaenus*) *tarakanus*: FRANZ, 1976, 59. —— VÍT, 2004, 227.

Redescription. Measurement of holotype:— Body 2.2 mm in length; head 0.31 mm in length (from clypeus to base) and 0.40 mm in width; pronotum 0.60 mm in length and 0.54 mm in width; elytra 1.1 mm in length and 0.81 mm in width. Coloration:— Dorsum shining, almost concolorously reddish brown; palpi and legs brown; antennae a little darker.

Body about 2.7 times as long as wide (Fig. 1) and moderately pubescent on dorsum in general; head almost impunctate and smooth, sparsely pubescent, curved towards base from eyes along lateral margins (Fig. 1), dorsally convex on vertex; eyes oval, and about 0.28 times as long as length of head; antenna 1.1 mm in length; 7th, 8th, and 10th segments of antenna about as long as wide; other segments longer than wide; 11th segment slender (Fig. 2); relative lengths of antennal segments from 2nd to 11th segments as follows:— 0.9: 0.8: 0.8: 1.1: 0.9: 0.5: 0.5: 1.1: 1.0: 2.6; pronotum

widest approximately at basal 2/3, pubescent more densely than head, almost impunctate and smooth, bearing basal four foveae, and unclearly dished between inner two foveae (Fig. 1); elytra widest approximately at basal 2/5, pubescent as on pronotum, almost smooth, partially and minutely punctate; protarsi a little dilated; male genitalia as shown in Figs. 3–5.

Specimens examined. Holotype: ♂, Takarajima, Tokara Is., 27–V–1953, S. UÉNO leg. (preserved in the collection of the Hokkaido University Museum, Sapporo).

Distribution. Japan: Ryukyus (Takarajima).

Notes. In the original description, NAKANE (1963) discriminated *Scydmaenus takaranus* from other Japanese and Taiwanese species of *Scydmaenus* by having five basal foveae on pronutum. However, my examination of the holotype revealed that the central basal pit was not a fovea but an unexplicit dish (Fig. 1). It is not clarified so far whether or not the dish is characteristic of the regional population because only one specimen of *S. takaranus* has been collected till now.

NAKANE (1963) described this species without designation of any subgenus. Later, FRANZ (1976) regarded *S. takaranus* as a member of the subgenus *Scydmaenus* without any comments. VÍT (2004) followed FRANZ (1976) as regards the subgeneric position of *S. takaranus*. Definitions of many subgenera of *Scydmaenus* are not established as yet. It is for this reason that many species of *Scydmaenus* were described without subgenera (NEWTON & FRANZ, 1998). *Scydmaenus takaranus* has a pronotum with four basal foveae and a normally shaped antenna which can be considered to be the subgeneric characters of *Scydmaenus*. For convenience's sake, I tentatively place *S. takaranus* in the subgenus *Scydmaenus*.

要　　約

保科英人：日本産コケムシ科ヒメムクゲコケムシの再記載．—— ヒメムクゲコケムシは，NAKANE (1963)によって，1個体の正基準標本のみに基づいてトカラ列島より記載された種である．本稿にて，本種の再記載を行った．NAKANE (1963)は，ヒメムクゲコケムシの所属するべき亜属を指定しなかった．その後，FRANZ (1976)は，理由を明記しないまま，本種を*Scydmaenus*亜属として扱い，VÍT (2004)の旧北区のカタログでも，それを踏襲している．*Scydmaenus*属内の亜属には，定義があいまいなものが多いが，本種の前胸背板や触角の形態的特徴から，本種は*Scydmaenus*亜属の1種として扱うのが妥当であると思われる．

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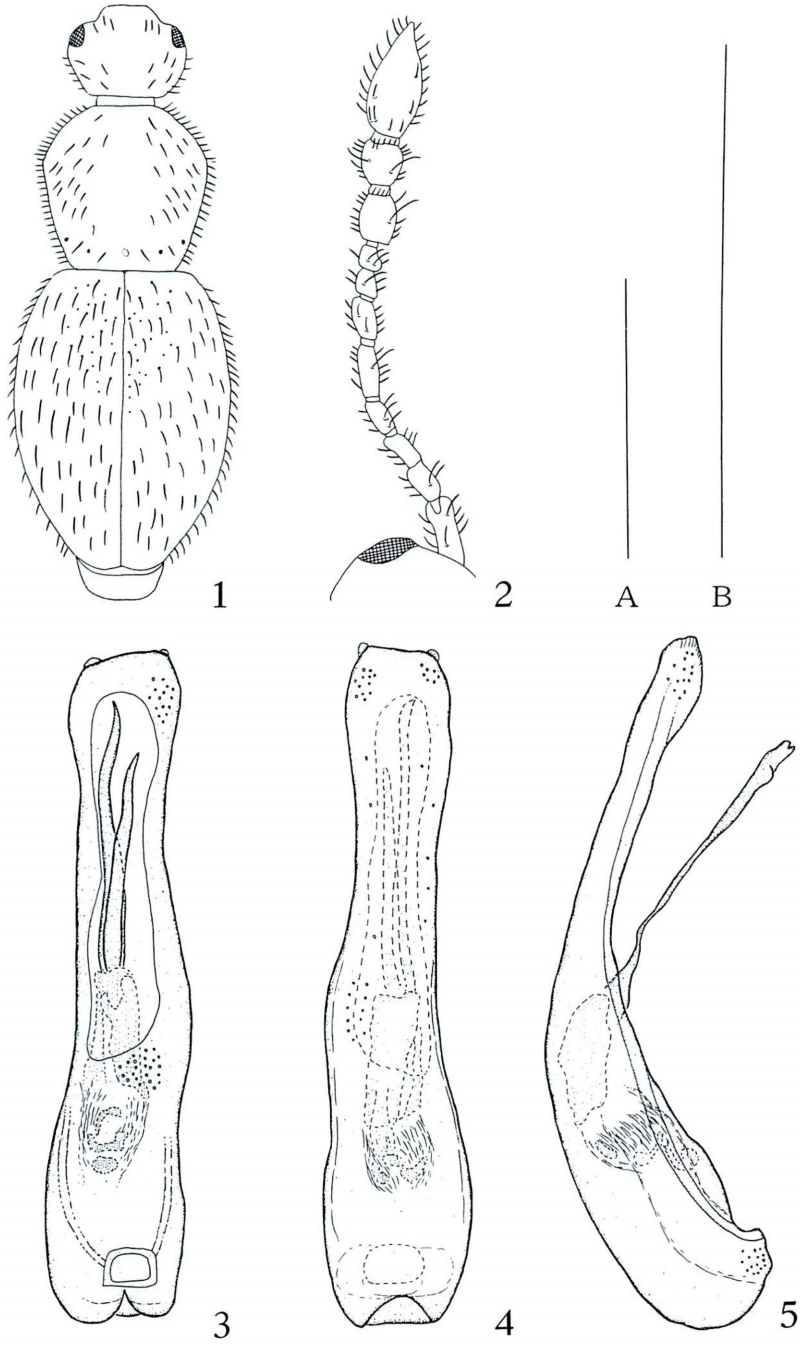

Figs. 1–5. *Scydmaenus* (*Scydmaenus*) *takaranus* NAKANE. —— 1, Body; 2, antenna; 3–5, male genitalia, ventral, dorsal, and lateral views, respectively. Scale A: 1 mm for Fig. 1. Scale B: 1 mm for Fig. 2 and 0.5 mm for Figs. 3–5.

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Elytra, Tokyo, **34** (1): 106, May 20, 2006

Additional Record of *Psalitrus sauteri* D'ORCHYMONT (Coleoptera, Hydrophilidae) from Japan

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Psaritrus sauteri D'ORCHYMONT, 1929, has been recorded from Taiwan, Okinawa Is. and Miyako Is. of the Ryukyus, Japan (D'ORCHYMONT, 1929; HOSHINA & SATÔ, 2005, 2006). Recently, we collected some specimens of this species from Amami-Ôshima Is. of the Ryukyus, and will report the new locality from the island in this paper.

Psalitrus sauteri D'ORCHYMONT, 1929

[Japanese name: Taiwan-mangetsu-gamushi]

Psalitrus sauteri D'ORCHYMONT, 1929, 92. —— HOSHINA & SATÔ, 2005, 18. —— HOSHINA & SATÔ, 2006, 13.

Distribution. Taiwan and Japan: Ryukyus (Amami-Ôshima Is., Okinawa Is., Miyako Is.).

Specimens examined. 12 exs., Santarô-tôge, Amami-Ôshima Is., Ryukyus, 25–III–2006, H. HOSHINA leg.

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Elytra, Tokyo, **34** (1): 107–117, May 20, 2006

Two New Species of *Aceraius* (Coleoptera, Passalidae) from Borneo, with a Key to the Bornean Species of *Aceraius*

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Abstract Two new species of *Aceraius* are described from Sabah, Borneo under the names of *A. hassani* sp. nov. and *A. sawaii* sp. nov. *Aceraius hassani* sp. nov. can be distinguished from the other known congeners by a combination of the following characters: the body is large (more than 47 mm); the anterior angle of head is rounded; the left inner tubercle is located slightly more anteriorly than the right one; the tenth rib of elytron is hairy in the anterior portion. *Aceraius sawaii* sp. nov. resembles *A. sabanus* but can be distinguished from the latter by the following points: the body is smaller (less than 35 mm); the fifth tarsomere is not strongly broadened distad.

Kaup (1868) established the genus *Aceraius* (Coleoptera, Passalidae) and, recently, Boucher (1993) revised the definition of *Aceraius*. This genus is distributed almost throughout the Oriental region and includes 32 known species (Hincks & Dibb, 1935, 1958; Boucher, 1993; Boucher & Kon, 1999; Iwase, 1993, 1994, 1995; Kon, 2001; Kon & Johki, 1989 a, b, 1992, 1993; Kon *et al.*, 1992, 1993 a, b, c, 1995 a, b). The highest species diversity of *Aceraius* is recorded in Borneo from where 23 species have been known (Hincks & Dibb, 1935; van Doesburg, 1941; Kon & Johki, 1989 a, b, 1992, 1993; Kon *et al.*, 1993 a, b, c, 1995 a, b; Boucher, 1993; Boucher & Kon, 1999; Iwase, 1993, 1995).

In the course of our taxonomic studies on the Passalidae from Sabah, Borneo, we found two species of *Aceraius* distinct from all the known congeners. After careful ex-

aminations and comparisons, we have concluded that these forms are new to science. Thus, we are going to describe two new species of *Aceraius* from Sabah, Borneo. In addition, we will also provide a key to the Bornean species of *Aceraius*.

In the following descriptions, we adopt the terminology of GRAVELY (1914) for external morphology and LINDROTH (1957) for male genitalia.

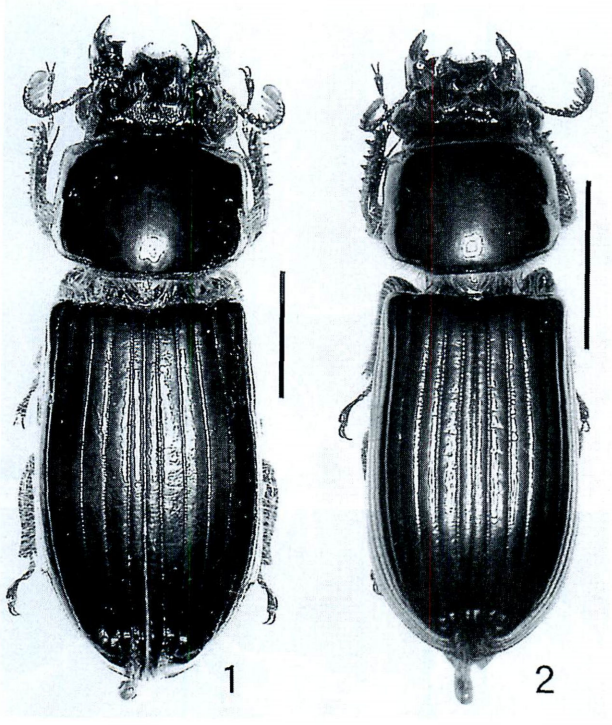
Aceraius hassani KON, ARAYA et MARYATI, sp. nov.

(Figs. 1, 3, 5, 6)

Description of holotype. Male. Length from anterior margin of head to apices of elytra 49.2 mm. Body black, polished.

Anterior angle of head rounded. Canthus without denticle pointed upwards. Left outer tubercle long and slender, much larger than the right one, obliquely truncated at distal end, with outer margin concave, inner margin almost straight; right outer tubercle small, represented as a swelling on anterior margin of head, rounded at distal end. Inner tubercle large, rounded at apex; left inner tubercle located slightly more anteriorly than the right one. Ridge between inner tubercles distinct, concave; frontal ridge vanished on a half way to inner tubercle, accompanied by distinct groove anteriorly; parietal ridge almost straight, not strongly swollen upwards in distal portion; supraorbital ridge weakly curved inwards in anterior portion; apical angle of supraorbital ridge distinct; supraoccipital ridge connected with supraorbital ridge. Area between both outer tubercles weakly hollowed, with a few hairs; areas between frontal and parietal ridges, behind parietal ridge and behind eye with setiferous hair-bearing punctures; frontal area wide, nearly U-shaped, impunctate, hairless. Upper margin of left mandible weakly concave behind upper tooth in lateral view; upper tooth of left mandible much higher than the right one, bifid at apex; anterior margin of left upper tooth concave, with a weak swelling near the base; anterior lower tooth of left mandible bifid dorso-ventrally at apex, much larger than left lowest terminal tooth; upper margin of right mandible slightly concave behind upper tooth; right upper tooth almost right-angled in lateral view; lowest terminal tooth of right mandible obsolete; upper portion of anterior lower tooth of right mandible represented as two weak swellings of inner margin of mandible, the distal swelling much weaker than the proximal one; lower portion of anterior lower tooth represented as a small denticle, located beneath the anterior swelling of upper portion. Labrum with setiferous hair-bearing punctures, anterior margin weakly concave, anterior angles rounded, the left angle more prominent forwards than the right one, left lateral margin almost straight, right lateral margin weakly convex. Mentum densely punctured and hairy in lateral portion, impunctate and hairless in central portion, weakly convex in central portion of anterior margin. Three distal antennal lamellae moderately long; three proximal ones short.

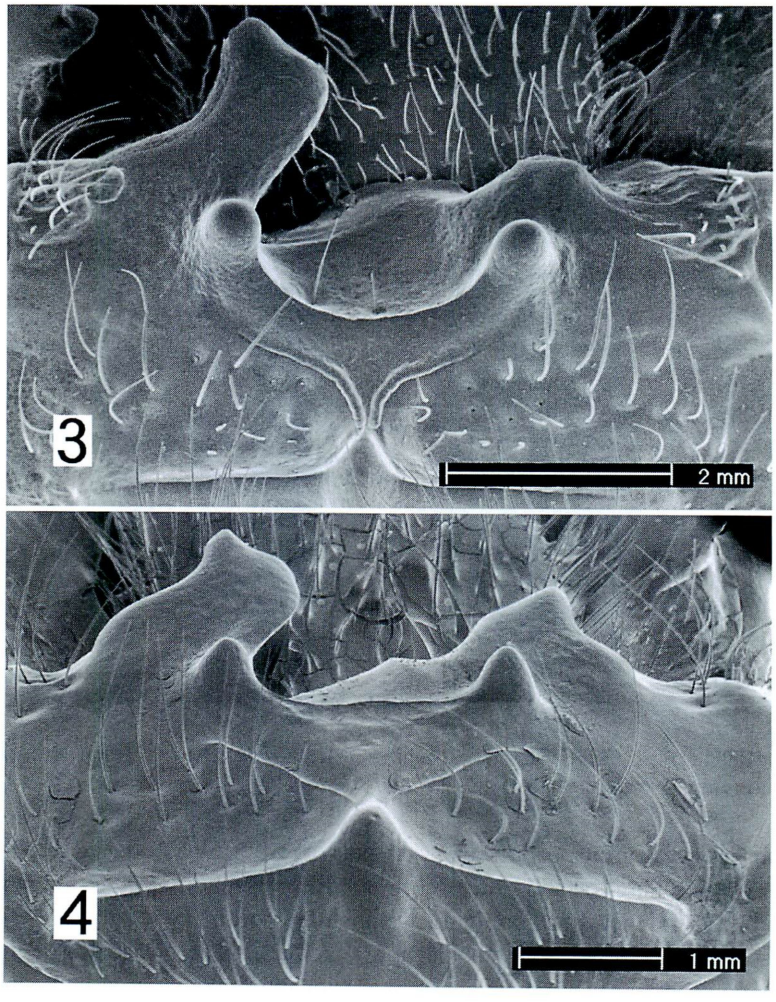
Pronotum polished, with setiferous hair-bearing punctures in lateral potion; posterior plate of prosternum with long hairs. Mesosternum impunctate, hairless, rugose in central portion, with narrow lateral scar; mesothoracic episternum impunctate and



Figs. 1–2. Habitus of *Aceraius* spp., scale 10 mm. —— 1, *Aceraius hassani* sp. nov., male, holotype; 2, *Aceraius sawaii* sp. nov., male, holotype.

hairless in centro-ventral portion, hairy in posterior portion, polished and with large punctures in both anterior and dorsal portions. Ridge separating anterior intermediate and lateral areas of metasternum distinct, punctured and hairy in anterior portion, impunctate and hairless in posterior portion; lateral and anterior intermediate areas densely punctured and hairy throughout; posterior intermediate area hairy in posterior portion along posterior margin of metasternum, hairless in anterior portion, with irregular dents along posterior margin of central area; central area impunctate and hairless throughout. Tenth rib of elytron punctured and hairy in anterior portion close to shoulder, impunctate and hairless in posterior portion; ninth densely punctured and hairy in anterior one-fourth, more sparsely in posterior portion; eighth impunctate and hairless along whole length; seventh sparsely punctured and hairy along whole length; first with a few hairs in posterior portion close to elytral tip. Elytral striae hairless. Fifth tarsomere broadened distally, with upper distal margin rounded.

Visible second abdominal sternite with a few hairs; third to sixth impunctate and hairless. Basal piece of male genitalia trapezoidal in ventral view, with anterior margin slightly concave; parameres united on ventral side, with very slight median sulcus at the middle of ventral side, with anterior margin rounded in lateral view; penis large,



Figs. 3–4. Anterior part of head of *Aceraius* spp. —— 3, *Aceraius hassani* sp. nov., male, holotype, scale 2 mm; 4, *Aceraius sawaii* sp. nov., male, holotype, scale 1 mm.

rounded at distal end, with orifice at the base of dorsal side.

Variation. No sexual dimorphism evident. Body length of paratypes (mean± SD, range), 48.6 mm±0.71, 48.0–49.4 (N=3).

Type series. Holotype: 1♂, Mt. Trus Madi, 1,000 m in altitude, Sabah, Borneo, 17–IX–1997, M. KON leg. Paratypes: 1♀, Mt. Trus Madi, Sabah, Borneo, 1,000–1,200 m in altitude, 11～13–V–1991; 1♀, Mt. Trus Madi, 28–III～12–IV–1994, N. KATSURA leg.; 1♀, North Borneo, Sabah, Crocker Range, 20–IV–1999, K. F. CHEW leg. The holotype is deposited in the collection of the Institute for Tropical Biology and Conservation, University Malaysia Sabah.

Etymology. This species is named in honor of Prof. Dato' Dr. Abu Hassan OTHMAN.

Notes. This species can readily be distinguished from the other known congeners by the combination of the following characters: the body is large (more than 47 mm); the anterior angle of head is rounded; the left outer tubercle is long and slender; the right outer tubercle is small and represented as a swelling; the frontal area is nearly U-shaped; the tenth rib of elytron is hairy in the anterior portion.

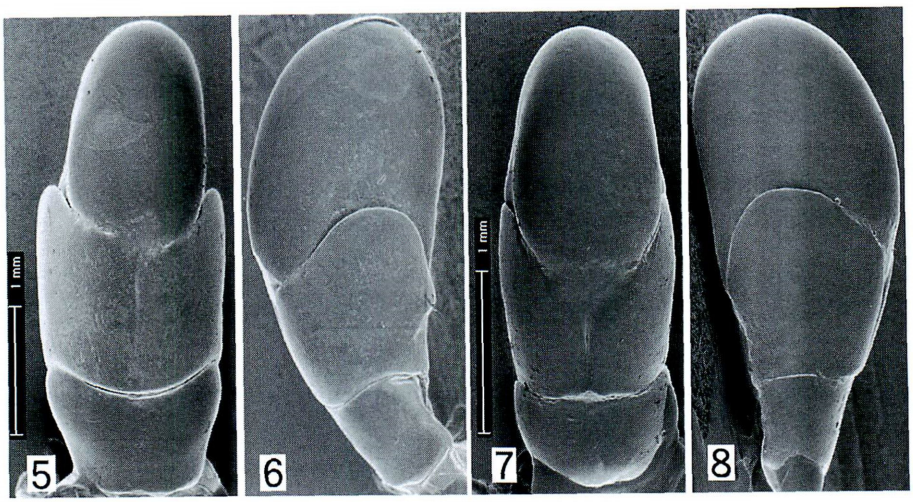
Aceraius sawaii KON, ARAYA et MARYATI, sp. nov.

(Figs. 2, 4, 7, 8, 10)

Description of holotype. Male. Length from anterior margin of head to apices of elytra 34.5 mm. Body black, polished.

Anterior angle of head rounded. Canthus without denticle pointed upwards. Left outer tubercle larger than the right one, obliquely truncated at distal end, with outer distal angle pointed forwards; outer margin of left outer tubercle slightly concave in distal portion, convex in proximal portion; right outer tubercle moderately large, obliquely truncated at distal end, with inner distal angle obtuse, less prominent forwards than the outer one; outer margin of right outer tubercle weakly swollen near the base. Inner tubercle large, triangular, strongly pointed forwards and upwards. Ridge between inner tubercles distinct, almost straight, accompanied by shallow groove posteriorly; frontal ridge slightly curved outwards in distal end, accompanied by distinct groove anteriorly; parietal ridge almost straight, not strongly swollen upwards in distal portion; supraorbital ridge not curved inwards in anterior portion: apical angle of supraorbital ridge distinct; supraoccipital ridge connected with supraorbital ridge. Area between both outer tubercles with a few hairs, hollowed in left half in dorsal view; areas between frontal and parietal ridges, behind parietal ridge and behind eye with setiferous hair-bearing punctures; frontal area wide, impunctate, hairless. Upper margin of left mandible almost straight behind upper tooth in lateral view; upper tooth of left mandible much higher than the right one, bifid at apex; anterior lower tooth of left mandible simple at apex, larger than left lowest terminal tooth; upper margin of right mandible slightly convex behind upper tooth; right upper tooth almost right-angled in lateral view; lowest terminal tooth of right mandible obsolete; upper portion of anterior lower tooth of right mandible represented by a low trapezoidal plate; lower portion of anterior lower tooth represented as a small denticle, located beneath the anterior angle of upper portion. Labrum with setiferous hair-bearing punctures, anterior margin weakly concave, anterior angles rounded, the left angle more prominent forwards than the right one, left lateral margin almost straight, right lateral margin weakly convex. Mentum with setiferous hair-bearing punctures throughout. Antenna with six short lamellae.

Pronotum polished, with a few setiferous hair-bearing punctures in lateral scar and marginal groove; posterior plate of prosternum with long hairs. Mesosternum pol-



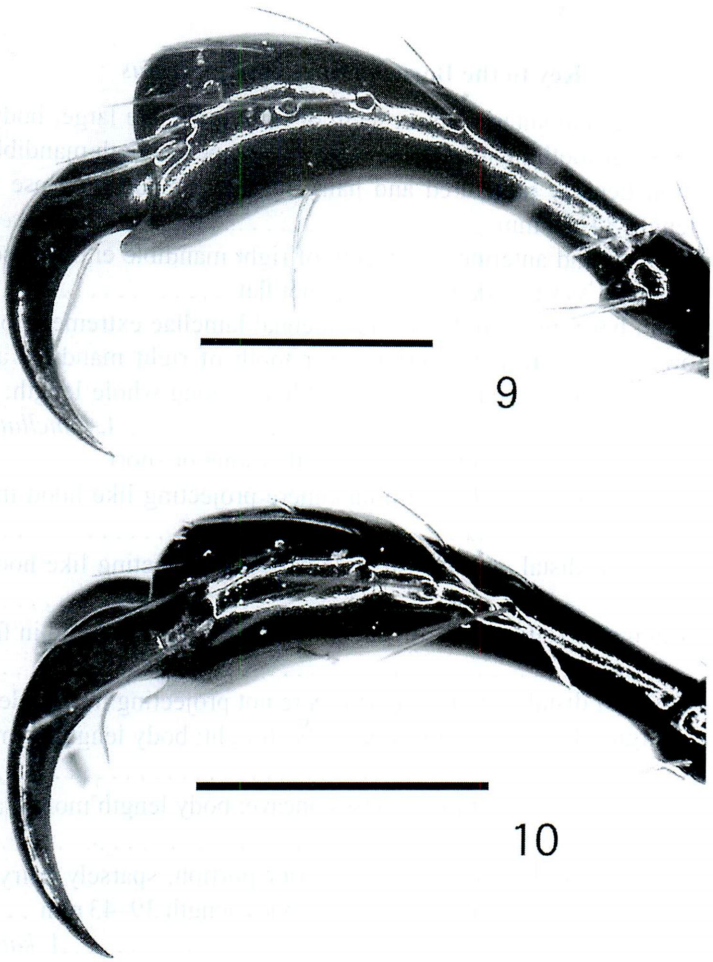
Figs. 5–8. Male genitalia of *Aceraius* spp., scale 1 mm. —— 5–6, *Aceraius hassani* sp. nov., holotype, ventral view (5), right lateral view (6); 7–8, *Aceraius sawaii* sp. nov., holotype, ventral view (7), left lateral view (8).

ished, impunctate, hairless, with lateral scar, rugose in the scar; mesothoracic episternum weakly frosted and impunctate in posterior portion, polished and with large punctures in both anterior and dorsal portions. Ridge separating anterior intermediate and lateral areas of metasternum blunt, punctured and hairy; lateral and anterior intermediate areas densely punctured and hairy throughout; posterior intermediate area hairy in posterior portion, hairless in anterior portion; central area impunctate and hairless throughout. Tenth rib of elytron punctured and hairy in anterior one-fourth, impunctate and hairless in posterior portion; ninth punctured and hairy in anterior one-fourth, more sparsely in posterior portion; eighth impunctate and hairless along whole length; seventh sparsely punctured and hairy along whole length; first with a few hairs in posterior portion close to elytral tip. Elytral striae hairless. Fifth tarsomere slender, moderately broadened distally in all legs.

Visible second abdominal sternite with a few hairs; third with a few hairs in lateral portion; fourth to sixth impunctate and hairless. Basal piece of male genitalia transverse, with anterior margin almost straight in ventral view; parameres united on ventral side, with median sulcus at the middle of ventral side, with anterior margin rounded in lateral view; penis large, rounded at distal end, with orifice at the base of dorsal side.

Variation. No sexual dimorphism evident. Body length of the female paratype, 34.2 mm.

Type series. Holotype: 1♂, Mt. Trus Madi, 1,500 m in altitude, Sabah, Borneo, 17–IX–1997, M. KON leg. Paratype: 1♀, the same data as for the holotype. The holotype is deposited in the collection of the Institute for Tropical Biology and Conserva-



Figs. 9–10. Fifth tarsomere of right hind leg of *Aceraius* spp., lateral view, scale 1 mm. —— 9, *Aceraius sabanus* KON, UEDA et JOHKI, male; 10, *Aceraius sawaii* sp. nov., male, holotype.

tion, University Malaysia Sabah.

Etymology. The specific name is dedicated to Mr. Minoru SAWAI, who has given us the opportunities of examining invaluable passalid specimens from Borneo.

Notes. This species is closely related to *A. sabanus* KON, UEDA et JOHKI but can be distinguidhed from the latter by the following points: the body is smaller (less than 35 mm), whereas, in *A. sabanus*, it is more than 35 mm; the fifth tarsomere is not strongly broadened distally (Fig. 10), whereas, in *A. sabanus*, it is strongly broadened distally (Fig. 9); the inner tubercle is larger; the side of elytron is not so densely hairy.

Specimens compared. *Aceraius sabanus* KON, UEDA et JOHKI: 1 ♂, Mt. Kinabalu, 1,700 m in altitude, 8–I–1997; 1 ♀, Gunung Emas, 1,600 m in altitude, Sabah, Borneo,

19–IX–1997, M. KON leg.

Key to the Bornean Species of *Aceraius*

1. Lowest terminal and anterior lower teeth of right mandible large; body rather flat; anterior lower tooth divided dorso-ventrally at apex in both mandibles; tenth rib of elytron densely punctured and hairy in anterior portion close to shoulder; body length 34–38 mm. . . . . *A. wallacei* (KUWERT).
— Lowest terminal and anterior lower teeth of right mandible either obsolete, absent or represented as small denticles; body not flat. . . . . 2.
2. Mesosternum hairy in central portion; antennal lamellae extremely long and slender; lowest terminal and anterior lower tooth of right mandible absent; ninth and tenth ribs of elytron punctured and hairy along whole length; body length 21–23 mm . . . . . *A. lamellatus* GRAVELY.
— Mesosternum hairless; antennal lamellae either long or short . . . . . 3.
3. Upper portion of distal end of fifth tarsomere projecting like hood in middle and hind legs . . . . . 4.
— Upper portion of distal end of fifth tarsomere not projecting like hood in all legs . . . . . 9.
4. Upper portion of distal end of fifth tarsomere projecting like hood in front leg . . . . . 5.
— Upper portion of distal end of fifth tarsomere not projecting in front leg. . . . . 8.
5. Anterior margin of labrum almost obliquely straight; body length 31 mm . . . . . *A. jenisi* IWASE.
— Anterior margin of labrum more or less concave; body length more than 35 mm . . . . . 6.
6. Ninth rib of elytron densely hairy in anterior portion, sparsely hairy in posterior portion; anterior angle of head rounded; body length 39–43 mm . . . . . *A. katsurae* IWASE.
— Ninth rib of elytron sparsely hairy in anterior portion, almost hairless in posterior portion; anterior angle of head either angular or prominent forwards . . . . . 7.
7. Anterior angle of head angular though not so prominent forwards; tenth rib of elytron sparsely hairy in anterior portion; body length 34–37 mm . . . . . *A. boucheri* KON, ARAYA et JOHKI.
— Anterior angle of head distinctly prominent forwards; tenth rib of elytron hairless; body length 39 mm. . . . . *A. riekoae* IWASE.
8. Inner angle of left outer tubercle rounded; ridge separating intermediate and lateral areas of metasternum blunt; length 48–54 mm. . . . . *A. laniger* ZANG.
— Inner angle of left outer tubercle pointed inwards; ridge separating intermediate and lateral areas of metasternum distinct; body length 43–47 mm . . . . . *A. kikutai* KON, JOHKI et BOUCHER.
9. Anterior angle of head prominent forwards. . . . . 10.

— Anterior angle of head not prominent forwards. . . . . 14.
10. Canthus with distinct denticle projecting upwards; body length 46–50 mm . . . . . *A. oculidens* ZANG.
— Canthus without denticle projecting upwards . . . . . 11.
11. Right outer tubercle long, obliquely truncated at distal end; outer angle of right outer tubercle much more prominent than the inner one, with acute apex; body length 43–45 mm . . . . . *A. illegalis* KUWERT.
— Right outer tubercle short and transversely truncated at distal end . . . . . 12.
12. Body length 45–55 mm . . . . . *A. grandis* (BURMEISTER).
— Body length less than 40 mm . . . . . 13.
13. Right outer tubercle strongly pointed downwards in anterior view; body length 35–39 mm . . . . . *A. moeschleri* KUWERT.
— Right outer tubercle not pointed downwards in anterior view; body length 30–35 mm . . . . . *A. laevicollis* (ILLIGER).
14. Upper margin of left mandible with convexity behind upper tooth . . . . . 15.
— Upper margin of left mandible without distinct convexity behind upper tooth . . . . . 16.
15. Seventh and eighth ribs of elytron sparsely punctured and hairy along whole length; ninth and tenth ribs densely punctured and hairy in anterior portion, more sparsely in posterior portion; body length 26–29 mm . . . . . *A. borneanus* KAUP.
— Eighth rib of elytron impunctate and hairless; ninth and tenth ribs densely punctured and hairy in anterior portion; seventh rib very sparsely punctured along whole length; body length 35–38 mm . . . . . *A. alutaceosternus* KUWERT.
16. Tenth rib of elytron punctured and hairy in anterior portion . . . . . 17.
— Tenth rib of elytron impunctate and hairless along whole length . . . . . 22.
17. Upper portion of right anterior lower tooth represented as a small semicircular swelling; left upper tooth simply pointed at apex; body length 31–35 mm . . . . . *A. alpinus* KON, UEDA et JOHKI.
— Upper portion of right anterior lower tooth represented as a low trapezoid; left upper tooth truncated at apex . . . . . 18.
18. Body length less than 35 mm . . . . . 19.
— Body length 35 mm or more . . . . . 20.
19. Central area of metasternum punctured in anterior portion close to mesocoxae; body length 29–32 mm . . . . . *A. hikidai* KON, UEDA et JOHKI.
— Central area of metasternum impunctate throughout; body length 34.2–34.5 mm . . . . . *A. sawaii* sp. nov.
20. Antennal lamellae moderately long; left outer tubercle with angular swelling in the middle of outer margin; left anterior lower tooth bifid dorso-ventrally at apex; body length 38–39 mm . . . . . *A. hidakai* KON, ARAYA et JOHKI.
— Antennal lamellae short . . . . . 21.
21. Right outer tubercle obliquely truncated at distal end; outer angle of right outer tu-

bercle more prominent forwards than the inner one; inner tubercles located symmetrically; body length 35–40 mm..... *A. sabanus* KON, UEDA et JOHKI.

— Right outer tubercle rounded at distal end; left inner tubercle located a little more anteriorly than the right one; body length 48–50 mm..... *A. hassani* sp. nov.

22. Body length less than 40 mm; antennal lamellae long and slender; left outer tubercle broad, weakly bifid at distal end; right outer tubercle triangular; body length 36–38 mm ..... *A. laevimargo* ZANG.

— Body length 45 mm or more; antennal lamellae short..... 23.

23. Right outer tubercle completely absent; left inner tubercle located a little more anteriorly than the right one; supraorbital ridge strongly curved inwards in anterior portion; body length 46–51 mm ..... *A.tricornis* ZANG.

— Right outer tubercle present; inner tubercles located symmetrically..... 24.

24. Right outer tubercle represented as a weak swelling of anterior margin of head; supraorbital ridge curved inwards in anterior portion; body length 45–49 mm... ..... *A. kuwerti* ZANG.

— Right outer tubercle distinct, obliquely truncated; outer angle of right outer tubercle more prominent than the inner one; supraorbital ridge not curved inwards in anterior portion; body length 47–49 mm..... *A. kinabalensis* KON et JOHKI.

Acknowledgments

We wish to express our cordial thanks to K. IWASE, M. SAWAI and A. GILLOGLY for giving us the opportunities to examine invaluable specimens. Our cordial thanks are also due to T. MATSUMOTO, C. A. NALEPA, S. KITADE, T. MIURA, K. MAEKAWA, M. MACHIDA and T. KIKUTA for warm companionship and assistance during the field researches. This study was supported in part by a Grant-in-Aid from the Japan Society for the Promotion of Science (No. 18405012).

要　　約

近　雅博・荒谷邦雄・Maryati MOHAMED：ボルネオからのオオクロツヤムシ *Aceraius* 属の2新種とボルネオ産のオオクロツヤムシの種への検索表．—— ボルネオからオオクロツヤムシ属の2新種を記載し，それぞれ*A. hassani* sp. nov. および*A. sawaii* sp. nov. と名付けた．*A. hassani* sp. nov. は同属の他種からは，体長が大きい（47 mm以上），頭部前角が丸まる，鞘翅の第10間室の前方に毛がある，左のinner tubercleが右のものより少し前に位置する，などによって区別できる．*A. sawaii* sp. nov. は*A. sabanus* に似ているが，体長がより小さく（35 mm未満），5番目の付節小片末端が強く広がらないことなどによって区別できる．

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Description of the Female of *Onthophagus* (*Phanaeomorphus*) *johkii* OCHI et KON (Coleoptera, Scarabaeidae)

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Onthophagus (*Phanaeomorphus*) *johkii* was described based on a single male specimen collected from Sepilok, Sabah by OCHI and KON (1994). Later, this species was also recorded from Mt. Kinabalu, Sabah (KIKUTA *et al.*, 1997). We herewith briefly describe the female of *O.* (*P.*) *johkii* based on the specimens from Mt. Kinabalu.

Onthophagus* (*Phanaeomorphus*) *johkii OCHI et KON

Onthophagus (*Phanaeomorphus*) *johkii* OCHI et KON, 1994, Elytra, Tokyo, **22**, p. 296.

Female. Body length: 6.7–7.2 mm. Head with anterior margin widely and deeply emarginate at the middle, the median portion of the emargination strongly produced as a reflexed and dichotomous process, both apices of the process not pointed but rounded. Pronotum a little declivous towards both anterior angles, with upper edge of the declivity distinctly carinate on both sides, each of which is clearly tuberculate; surface clearly microgranulose, densely and strongly punctate. Elytron with intervals strongly microgranulose.

Specimens examined. 3♀♀, Tahubang, 950–1,150 m in altitude, Mt. Kinabalu, Sabah, 24–I–1995, T. KIKUTA leg.

Notes. The female of *O.* (*P.*) *johkii* is distinguished from that of *O.* (*P.*) *quasijohkii* OCHI et KON, a closely related species, by the shape of dichotomous process of head (see also OCHI & KON, 2005).

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Correct Identification of the *Platycerus* Species (Coleoptera, Lucanidae) Occurring on the Yunling Mountains in Northwestern Yunnan, Southwest China

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Abstract A new species of the lucanid genus *Platycerus* is described from the Yunling Mountains in northwestern Yunnan under the name *P. cupreimicans*.

In the first volume of "Insects of the Hengduan Mountains Region" published in 1992 at Beijing, China, totally twelve species of the family Lucanidae were recorded by MA Wen-Zhen from northwestern Yunnan and Sichuan based upon the materials collected by "the comprehensive scientific expedition to the Hengduan Mountains Region, Academia Sinica". Of these, the most noticeable was "*Platycerus delicatulus*" which was said to have been collected from "Weixi, Pantiange, 2,920 m" of northwestern Yunnan. This record was very important, since nothing had been known on the same genus from Yunnan Province until that time. However, I cannot but strongly doubt the accuracy of this identification, or even of the record itself, because of several reasons as mentioned below.

In the first place, *P. delicatulus* is known to be endemic to Honshu, Shikoku and Kyushu of the Japanese Archipelago and its occurrence in northwestern Yunnan might be impossible unless artificially transplanted. Besides, its description made by the Chinese author contains several problems which cannot be overlooked. To make sure, I at first reproduce her description followed by its English translation below.

(p. 537)

(3) 绿宽缘甲 *Platycerus delicatulus* Lewis, 1883. 新记录

体型小，较狭长，背面蓝黑色，雌虫的颜色变化较大，通常为蓝绿或铜绿色，体表甚光亮；体下黑色，腹部大多褐色或褐红色；足呈褐色或褐红色。触角浅褐色，棒部端节呈叉状。

头部稍微短宽，且厚，前角近三角形，复眼之前微呈纵向隆脊形，上面有粗大刻点；复眼很突出。上颚通常呈黑色、深褐色或褐红色，雄性上颚较长，前端尖，外缘微呈弧形，上缘近端部有 1 齿，内缘有 3 齿；雌性上颚较短。前胸背板短宽，宽于鞘翅，前角稍微尖，侧角很大，后角近直角形，侧缘和后缘具有较窄边框；上面散布细小刻点。小盾片半圆形，散

布小刻点。鞘翅狭长，两侧平行，后外端角圆弧形；上面平，两侧向下外侧倾斜，肩凸明显，匀布粗大刻点，每翅具有 5—7 行明显刻点行。臀板不外露。后胸腹板中间光滑，两侧密布刻点和黄色短绒毛。腹部光亮，密布粗大刻点和黄色绒毛。足较细长，中、后足的胫节尤其细长，后足胫节微弧弯，前足胫节外缘有 5 个小齿；跗节细长而厚，爪大微弯曲。

(p. 538)

体长：14.9—18.5mm（带上颚），15.3—16.1mm（不带上颚）；体宽：6.1—7.5mm。
采集记录：云南（维西攀天阁，2 920m，1981. VII. 20—21，5♂♂）。
分布：云南；日本。

(3) Lükuanqiaojia *Platycerus delicatulus* LEWIS, 1883, new record

Body small, relatively narrow and elongated, with the dorsal surface bluish black, coloration of female rather variable, usually bearing bluish green or coppery green, body surface strongly polished; venter black, most part of abdomen brown or reddish brown; legs brown or reddish brown. Antennae pale brown, and fissate.

Head rather short, wide and thick, with the front angles nearly triangular in shape, a little convex above in front of eyes, upper surface scattered with large punctures; eyes strongly protruded [laterad]. Mandibles usually black, deep brown or reddish brown, those in male longer, pointed at apices, outer margins gently arcuate, bearing a single tooth on upper margin near the base, and three teeth in inner margin; female mandibles shorter. Pronotum short and wide, wider than elytra, with the front angles slightly pointed, lateral angles very large, hind angles nearly rectangular, lateral and basal margins narrowly bordered; upper surface scattered with minute punctures. Scutellum semicircular, scattered with small punctures. Elytra narrow and elongated, parallel-sided, postero-outer angles rounded; dorsal surface flat, with the lateral portions inclined outwards, shoulders distinct, homogeneously scattered with large punctures, each elytron with 5–7 rows of clearly set punctures. Pygidium not exposed. Central part of metasternum smooth and glossy, coarsely scattered with punctures and short yellow hairs bilaterally. Abdomen shiny, coarsely scattered with large punctures and yellow hairs. Legs rather narrow and long, above all in meso- and metatibiae, metatibia gently arcuate, protibia with five teeth on outer margin; tarsi narrow, long and thick, claws large and gently arcuate.

Length: 14.9–18.5 mm (including mandibles), 15.3–16.1 mm (excluding mandibles); width: 6.1–7.5 mm.

Collecting data: Yunnan (Weixi Pantiange, 2920 m, 1981. VII. 20–21, 5♂♂).

Distribution: Yunnan; Japan.

The most incomprehensible point is that the description contains the findings on the female at least in coloration and length of the mandibles, in spite of showing no record of the female in the collecting data. Besides, it is not acceptable that the length

of the specimens measured 14.9–18.5 mm. It is true that *P. delicatulus* is one of the largest species of the genus *Platycerus* distributed in East Asia, and yet its length including the mandibles reaches a little over 15 mm even in the largest individual. It is absolutely impossible to reach 18.5 mm, however large it may be. Moreover, this description informs us of almost nothing of taxonomic importance. It does not mention anything about detailed structure of the male mandibles and genital organ, both of which are indispensable in the classification of *Platycerus*. In my view, the author may have identified the species only because of similarity in body form and coloration, which she may have judged from the illustration shown in certain picture books of the Japanese Coleoptera. Impossibly large size of the specimens may have been caused simply by a mistake for some reason.

Thus, the truth about the *Platycerus* species recorded from Yunnan is still wrapped in mystery. If its description were accompanied with illustrations, we could know something more about the beetle. From the poor and partly incorrect description alone, however, it is impossible even to assume its identity. It may belong to the genus *Platycerus*, but its true systematic position remains unknown until the specimens in question are re-examined by an experienced specialists.

In order to dispel my doubt, I tried to re-examine the specimens in question which might be preserved in the collection of the Academia Sinica, Beijing. At my request, Dr. YU Peiyu, the former professor of the same institute, kindly took trouble to find the lucanid specimens, but the result was quite pessimistic. All the specimens once examined by MA seem to be missing now, and nobody can re-examine them.

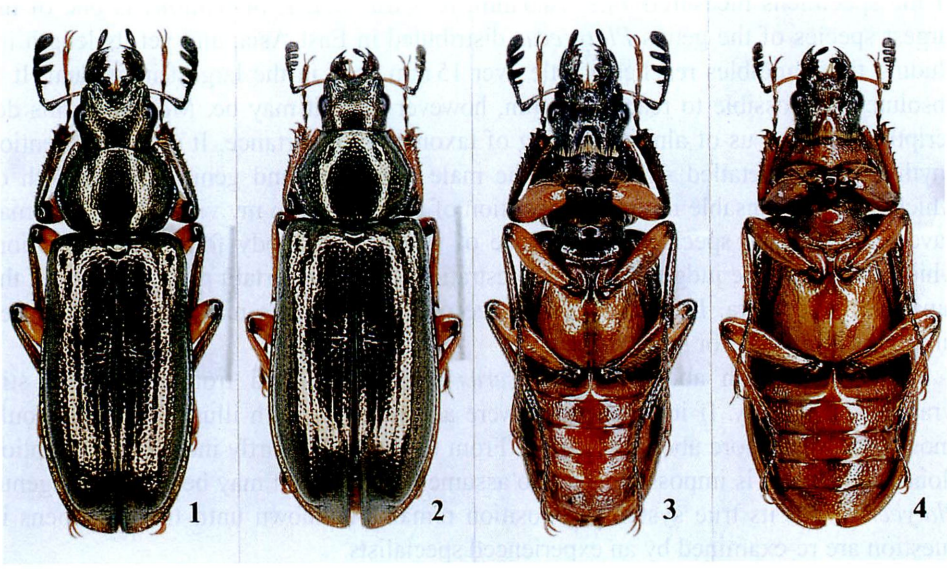
To solve the problem, I visited northwestern Yunnan at the beginning of October 2005. I made a survey in the high altitudinal area of the Yunling Mountains on which both Weixi and Pantiange are located, and succeeded in collecting a long series of *Platycerus* specimens at three different stations. The series was composed of a single species completely different from *P. delicatulus* in both external appearance and male genitalic structure, as was expected. The Yunnan race is considered to be most closely allied to *P. dundai* known from west-central and southern Sichuan, but apparently distinguishable from that species. In the following lines, I am going to introduce it into science under the name of *P. cupreimicans* nov.

Before going into description, I wish to express my sincere gratitude to Mr. Yoshiyuki NAGAHATA (Yonezawa) and Mr. FAN Ting (International Academic Exchange Center of the Academia Sinica, Chengdu) for their kind aid through my field work. Hearty thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for revising the manuscript of this paper.

Platycerus cupreimicans IMURA, sp. nov.

(Figs. 1–6)

Length (including mandibles): ♂, 9.6–12.7 (arithmetic mean 11.23) mm; ♀, 9.7–12.2 (arithmetic mean 11.05) mm. Dorsal surface strongly polished, with the col-



Figs. 1–4. *Platycerus cupreimicans* from a pass ca. 5 km east of Pantiange of northwestern Yunnan. —— 1, 3, Holotype (♂); 2, 4, paratype (♀) (1 & 2, dorsal view; 3 & 4, ventral view).

oration coppery or brassy with a faint greenish tinge in both sexes; venter reddish brown with the exception of head and pronotum which are much darker, above all in male; mandibles and palpi dark brown though partly reddish brown; antennae dark brown, though basal and median portions of scapes reddish brown; femora yellowish brown except for darker apical tips, tibiae also yellowish brown though usually a little darker than in femora, tarsi and claws brown though usually a little darker in basal parts.

Most closely allied to *P. dundai* IMURA et BARTOLOZZI (sensu IMURA, 2005) known from west-central and southern Sichuan, but distinguished from that species as follows: 1) size much smaller; 2) coloration very different; 3) male mandibles a little shorter on an average, with the outer margins a little more roundly arcuate, dorsal surface more narrowly concave in basal portions, inner margins of retinacula quadri- to hexadentate on each side; 4) lateral sides of pronotum more remarkably angulate at basal third and more strongly convergent therefrom towards front angles.

Male genital organ as shown in Fig. 6 a–h; paramere almost as in *P. dundai*, though obviously narrower and less acutely narrowed towards dorso-posterior angle in lateral view; aedeagus a little shorter and a little different in shape in lateral view; a pair of visor-like protuberances larger, wider and more obtusely rounded at tips.

Female genital organ as shown in Fig. 6 i, with the inner apical angle of gonocoxite nearly rectangular and hardly projected postero-internally, stylus robuster.

Type series. Holotype: ♂, pass ca. 5 km east of Pantiange [攀天阁], 2,850–

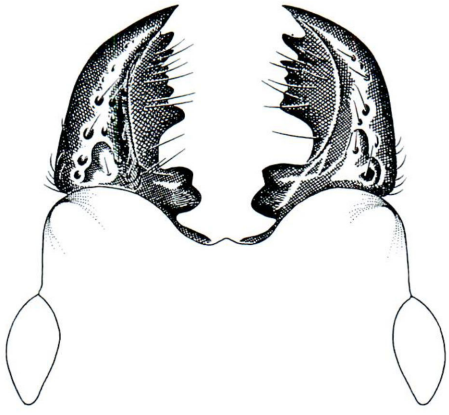


Fig. 5. Male mandibles of *Platycerus cupreimicans* from a pass ca. 5 km east of Pantiange of northwestern Yunnan.

2,950 m in altitude, in Weixi-lisuzu-zizhuxian [维西傈僳族自治县], of northwestern Yunnan, Southwest China, 3–X–2005, Y. IMURA & Y. NAGAHATA leg., to be deposited in the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes [totally 34♂♂, 41♀♀+7 exs.]: 1♂♂, 3♀♀(+1 broken specimen), same data as for the holotype; 10♂♂, 5♀♀(+3 broken specimens), same locality, 4–X–2005; 1♂, 3♀♀, same locality, larvae collected in the field and emerged in the laboratory in the winter of 2005–2006; 8♂♂, 9♀♀(+3 broken specimens), pass ca. 14 km east-southeast of Weixi, 3,200–3,400 m in altitude, on the borders of Weixi-lisuzu-zizhuxian and Lijiang-naxizu-zizhuxian [丽江纳西族自治县], of northwestern Yunnan, Southwest China, 5–X–2005; 5♂♂, 5♀♀, same locality, 6–X–2005; 3♂♂, 4♀♀, same locality, larvae collected in the field and emerged in the laboratory in the winter of 2005–2006; 6♂♂, 8♀♀, eastern slope of Mt. Laojun Shan [老君山], 3,000–3,400 m in altitude, near the borders between Lijiang-naxizu-zizhuxian and Jianchuan Xian [剑川县], of northwestern Yunnan, Southwest China, 7~8–X–2005; 4♀♀, same locality, larvae collected in the field and emerged in the laboratory in the winter of 2005–2006; all collected by Y. IMURA & Y. NAGAHATA and preserved in coll. Y. IMURA.

Notes. Hind angles of the pronotum of the new species are rounded, so that it belongs to the group of *P. delicatulus*. It is discriminated at a glance from all the hitherto known members of the genus in having uniquely colored dorsal surface. Its male mandibles and genital organ are also unique in the shape and useful for differential diagnosis. Judging from the basic structure of the male genital organ, the new species doubtless belongs to the same group as *P. dundai* (IMURA & BARTOLOZZI, 1994; see also IMURA, 2005) distributed in the west-central and southern part of Sichuan Province.

The new species was found from three different sites on the Yunling Mountains. Though geographical variation is hardly recognizable, the Laojun Shan specimens are

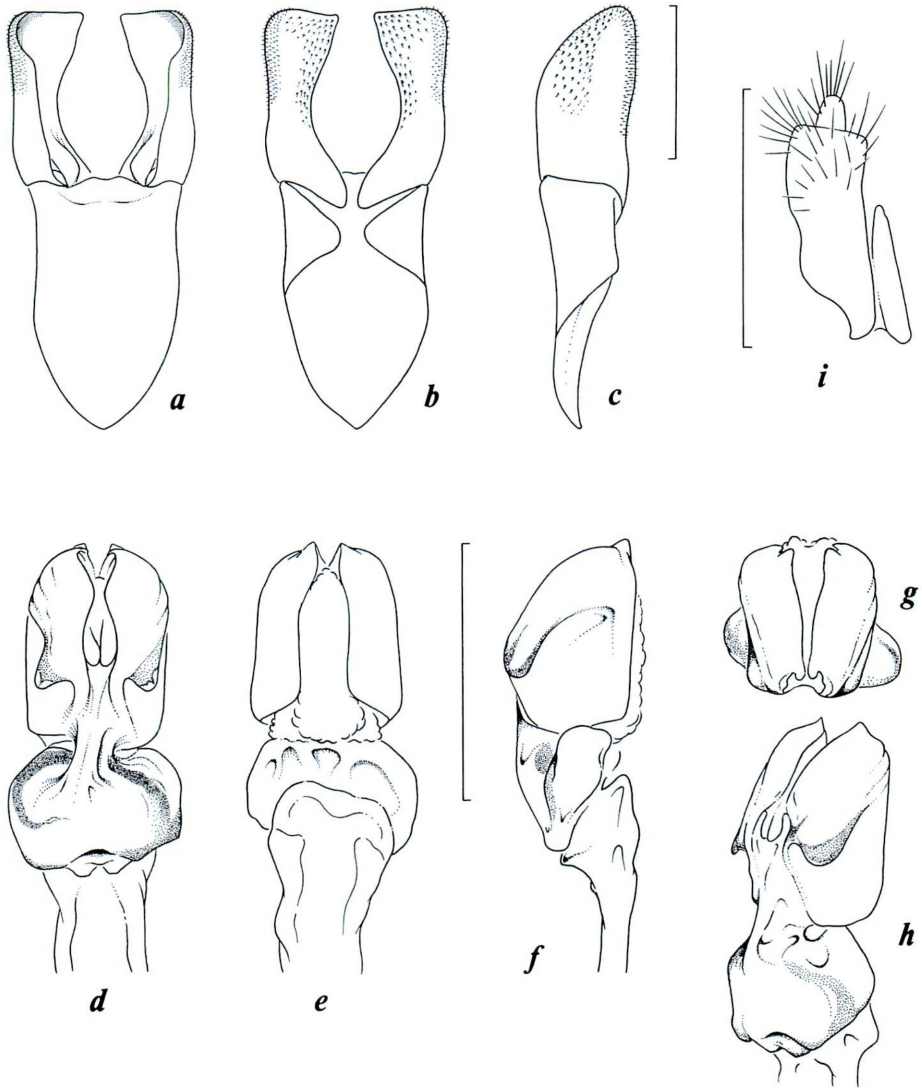


Fig. 6. Genital organ of *Platycerus cupreimicans* from a pass ca. 5 km east of Pantiange of northwestern Yunnan. —— a–c, Paramere (=lateral lobe) and basal piece; d–h, aedeagus (=median lobe), i, left gonocoxite of the female genitalia. —— a & d, Ventral view; b, e & i, dorsal view; c & f, right lateral view; g, view from aedeagal apex; h, right subventral view. Scale: 1 mm.

obviously larger than those from two other localities. The range of body length and the arithmetic mean (abbreviated to M) of the specimens from each locality are as follows:

1) Pass E of Pantiange: ♂, 10.2–12.0 (M 11.23) mm; ♀, 10.9–11.7 (M 10.87) mm.

2) Pass ESE of Weixi: ♂, 9.6–11.8 (M 10.87) mm; ♀, 9.7–12.0 (M 10.87) mm.
3) Laojun Shan: ♂, 11.7–12.7 (M 12.14) mm; ♀, 11.1–12.2 (M 11.72) mm.

The main habitat of the new species is deciduous broadleaved forest partly mixed with coniferous trees (*Pinus*, *Tsuga*, *Abies*, etc.) now rather sporadically remained in the high altitudinal area of the Yunling Mountains within the range between 2,800 m (above the pine tree and evergreen oak tree zone) and 3,400 m (below *Abies* and *Rhododendron* zone) in the altitude.

All the imagines collected were hibernating mainly in white-rotten part of old branch or trunk. The food plants often preferred by the new species are *Acer*, *Prunus*, *Betula*, *Tilia*, *Rhododendron* and certain kind of camphor tree. From the same environmental condition, were discovered many larvae of *Platycerus* most probably referable to the same species. The present new species also leaves a peculiar oviposition mark on the surface of its food plant.

要　　約

井村有希：中国云南省北西部云岭山脈に産するルリクワガタの正体．—— 中国科学院青藏高原綜合科学考察队による「横断山区昆虫」第一冊（1992年5月出版）のなかで，同院動物研究所の馬 文珍により，「云南，维西攀天阁，2,920 m」からルリクワガタ属の1種が*Platycerus delicatulus*という同定名のもとに記録された．云南省からはそれまで，ルリクワガタ属は知られていなかったので，これはたいへん貴重な記録として注目すべきものであった．しかしながら，わが国の特産種とみなされてきた*P. delicatulus*が云南省北西部に自然分布しているとは考えにくいうえ，記載文にも不可解な点が含まれており，同定あるいは記録そのものの信憑性につよい疑念がもたれたため，筆者は問題の標本について中国科学院に問い合わせたが，使用された標本は現在，行方がわからなくなっており，再鑑定をすることはできなかった．そこで，問題を解決するべく2005年10月上旬，筆者自ら「维西攀天阁」のある云南省北西部の云岭山脈高所を調査したところ，同所にはたしかにルリクワガタ属の1種が生息していたが，案の定，*P. delicatulus*とは似ても似つかぬまったくの別種であることが判明した．云岭山脈の種は，四川省中西部と南部から記録されているデュンダルリクワガタにきわめて類縁が近いものと考えられたが，比較検討の結果，未記載種と判断されたので，その特徴的な体色と強い光沢にちなみ，アカガネルリクワガタ*P. cupreimicans*という名を与え，新種として記載した．

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Elytra, *Tokyo*, **34** (1): 126, May 20, 2006

Record of *Scambocarabus shaanxiensis* (Coleoptera, Carabidae) from the Daba Shan Mountains in Northeastern Chongqing Shi, Central China

Yûki IMURA

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Scambocarabus shaanxiensis (DEUVE, 1991) was originally described from Ankang Xian of southern Shaanxi and is known to be distributed rather widely from southern Gansu (IMURA, 1995) to western Henan (*idem.*, 2005).

Recently, I made a collecting trip to the Daba Shan Mountains stretching along the borders of Chongqing and Shaanxi of Central China, and succeeded in obtaining a female specimen of this species collected by Mr. Yoshiyuki NAGAHATA by whom I was accompanied. It is the first record of the same species from the Daba Shan Mountains. So far as I have examined a single female specimen, it could be identified with the nominotypical subspecies.

Specimen examined. 1♀ (18.5 mm in length including mandibles), ESE shoulder of Mt. Shentian [神田], 2,000–2,200 m in altitude, on the borders of Chengkou Xian [城口县] in Chongqing Shi and Langao Xian [岚皋县] in Shaanxi, Central China, 28–III–2006, Y. NAGAHATA leg., in coll. Y. IMURA.

The beetle was found walking on the floor of deciduous broadleaved forest which was still partly covered by snow. I am indebted to Mr. Yoshiyuki NAGAHATA (Yamagata) for his kind assistance in the field and submitting the specimen to me for study.

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The Male of *Platycerus businskyi* (Coleoptera, Lucanidae), with Additional Records of Two Other Congeners from the Qinling Mountains of Central China

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Abstract *Platycerus businskyi* is redescribed based on 37 specimens including the first male from the type area. The taxon *bashanicus*, originally described as a subspecies of *P. businskyi*, is regarded as a distinct species. Two other species of the same genus, *P. hongwonpyoi qinlingensis* and *P. tabanai tabanai*, occurring on the Qinling Mountains are recorded with detailed collecting data and brief ecological notes.

Platycerus businskyi was described by IMURA (1996, p. 42) from Xunyangba, a small village located in the southeastern part of the Qinling Mountains in southern Shaanxi of Central China. The two *Platycerus* species known from the same mountains until that time, namely, *P. hongwonpyoi* and *P. tabanai*, were the members belonging to the group of *P. acuticollis* (or *P. caraboides*) and IMURA's species was the first record of the group of *P. delicatulus* from that mountain range and also from Shaanxi Province. This discovery suggested the possibility that there might be the area in China where more than three species of *Platycerus* occur sympatrically. Two years later, a new subspecies of *P. businskyi* was described from the Daba Shan Mountains on the borders between Chongqing Shi and Shaanxi Province under the name of *bashanicus* (IMURA & TANIKADO, 1998, p. 93). The species was later found to spread over western Hubei (IMURA, 2002, p. 38) and western Henan (IMURA, 2005, p. 497), though the subspecific account for the latter two populations were suspended because of too small number of the specimens available for study. Since the nominotypical subspecies of *P. businskyi* was known so far only from a single female specimen, we were unable to make detailed discussion on its taxonomy and inter-subspecific relationship based on the male and its genitalia. However, any more contribution has not been made on the nominotypical race for nearly ten years after the original description.

It was the beginning of November 2005 when I made a survey on *Platycerus* in the southeastern and central parts of the Qinling Mountains. I at first carried out a search for *P. businskyi* in Xunyangba and its nearby regions, the type area of the species, and succeeded in collecting a long series of additional specimens including the first male. During the same trip, I also collected the other two species already known from the same mountain range though their detailed type localities were not

shown in the original descriptions.

In this paper, I will first give a full description of *P. businskyi* based upon totally 37 specimens including the male, with detailed drawings of its mandibles and genital organ. The taxon *bashanicus* will be upgraded to a distinct species based on the difference in the external and genitalic morphologies of both sexes. In the latter part of the paper, records of two other species will be given with detailed collecting data and brief ecological notes.

Before going further, I wish to express my deep gratitude to Mr. Yoshiyuki NAGAHATA (Yonezawa) and Mr. FAN Ting (International Academic Exchange Center of the Academia Sinica, Chengdu), from whom I have received invaluable aid in the field investigation. Also I thank Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for revising the manuscript of this paper.

1. ***Platycerus businskyi*** IMURA, 1996

(Figs. 1–4)

Platycerus businskyi IMURA, 1996, Nat. & Ins., Tokyo, **31**(6), p. 42, figs. 1, 2; type locality: Xunyangba in Ningshan Xian on the southern slope of the Qinling Mountains, 1,400–2,100 m alt., Shaanxi Province, Central China.

Male. Length (including mandibles): 11.0–12.7 (arithmetic mean 11.96) mm. Body above bluish green with a bronzy tinge and not very strongly polished; mandibles, knees and tibiae black with a faint greenish tinge; palpi, antennae, tarsi and claws brownish black; femora except for the distal ends yellowish brown; venter dark brownish black. Colour variation is hardly recognizable concerning all the specimens examined.

Head as in the other members of the genus; its dorsal surface rather coarsely scattered with punctures which are not confluent with one another; mandibles (Fig. 3) very large and stout, distinctly concave above in basal portions, with the outer margins less strongly arcuate in basal two-thirds, rather acutely hooked inwards at about apical third, tapered therefrom towards apices which are sharply pointed; retinacula longitudinally elongated, their inner margins multi-dentate, with six to eight small teeth on each side.

Pronotum transverse, 1.46–1.53 times as wide as long, widest near the basal third at which the lateral sides are rather remarkably angulate, more acutely narrowed towards base than towards apex, with the front angles subtriangularly protruded anteriad with blunt tips, the hind angles obtuse though obviously subangulate; disc strongly convex above for a member of the genus, almost similarly punctate as on head.

Elytra relatively elongated for the genus, 1.73–1.79 times as long as wide, widest obviously behind the middle, with the lateral sides nearly parallel-sided in apical four-fifths and roundly arcuate near apices; shoulders distinct and subangulate, with a very small humeral tooth on each side; surface rather uniformly scattered with small punctures which are often arranged in longitudinal rows; intervals rather frequently rugoso-

striate above all near the sutural part.

Male genital organ as shown in Fig. 4; viewed ventrally, lateral side of each paramere weakly inflated in basal portion, its inner margin remarkably emarginate near the base, and acutely and narrowly protruded inwards at the base; apical margin of basal piece subtrapezoidally protruded apicad; viewed dorsally, inner margin of each paramere widely and roundly emarginate throughout, with the inner basal angle obliquely protruded, basal piece triangularly protruded inwards; aedeagus subcylindrical, almost parallel-sided in both ventral and dorsal views, subovoid in shape in lateral view, with a pair of visor-like protuberances on the ventral to lateral wall hardly protruded.

Female. Length (including mandibles): 10.8–12.1 (arithmetic mean 11.54) mm. Body above a little more strongly polished than in male, brassy with a faint blue-greenish tinge on head and pronotum, faintly but rather constantly with a purplish lustre on elytra; coloration of appendages and venter almost as in male.

External morphology as mentioned in the original description (IMURA, 1996).

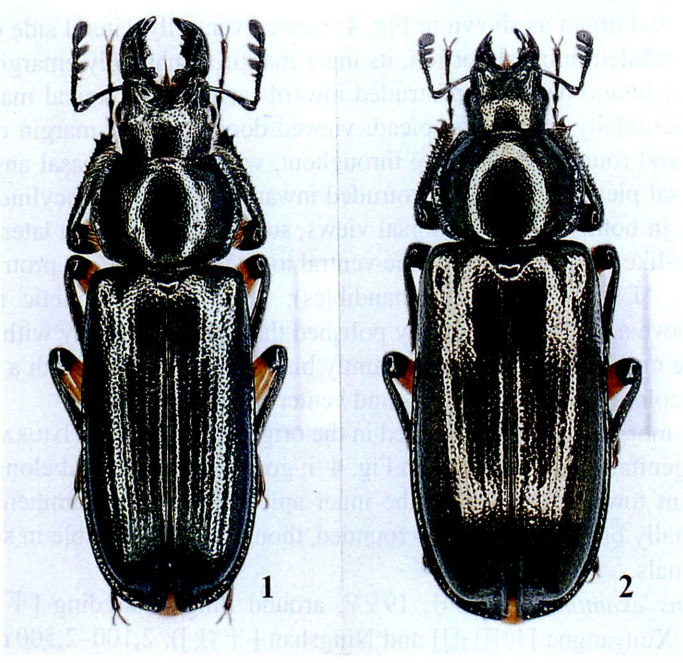
Female genital organ as shown in Fig. 4–i; gonocoxite large and elongated, gradually convergent towards apex, with the inner apical angle not prominently projected postero-internally but rather obtusely rounded, though a little variable in shape according to individuals.

Specimens examined. 18♂♂, 19♀♀, around Pingheliangding [平河梁顶] (= pass between Xunyangba [旬阳坝] and Ningshan [宁陕]), 2,100–2,500 m in altitude, on the southeastern part of the Qinling Mountains, in Ningshan Xian [宁陕县], of southern Shaanxi, Central China, 1～2–XI–2005, Y. IMURA & Y. NAGAHATA leg., preserved in the collection of Y. IMURA (Yokohama).

Notes. According to the discovery of the male, we now know that *Platycerus businskyi* is the species characterized mainly by less strongly shiny elytral surface of the male, stout male mandibles with long and hexa- to octadentate retinacula, relatively long elytra than in the other species in both sexes and characteristic features of the genital organ.

Two years after the discovery of this species, another new taxon of *Platycerus* belonging to the group of *P. delicatulus* was found from the Daba Shan Mountains and was described as a subspecies of *P. businskyi* under the name of *bashanicus* (IMURA & TANIKADO, 1998, p. 93). Since the male of the nominotypical race was not known at that time, the description of the new subspecies was given under comparison between the females alone. After examining a series of specimens containing both sexes, I have realized that the Daba Shan race is evidently different from the Qinling one as follows.

Male. 1) Size smaller on an average; 2) dorsal coloration more variable according to individuals, deep indigo blue or dark green with a faint bronzy tinge, while that of nominotypical *P. businskyi* is much more constantly bluish green with a bronzy tinge; 3) mandibles much smaller and shorter, less deeply concave above, with the retinacula much less elongated longitudinally and less multiply dentate; 4) pronotum flatter, with the lateral sides less strongly angulate near the widest part; 5) elytra relatively short, with the intervals less frequently rugoso-striate; 6) paramere with the lateral side



Figs. 1–2. *Platycerus businskyi* from Pingheliangding between Xunyangba and Ningshan in Ningshan Xian of southern Shaanxi, Central China (1, ♂, 2, ♀).

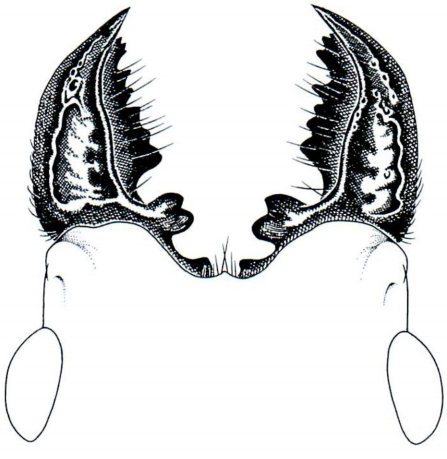


Fig. 3. Male mandibles of *Platycerus businskyi* from Pingheliangding between Xunyangba and Ningshan in Ningshan Xian of southern Shaanxi, Central China.

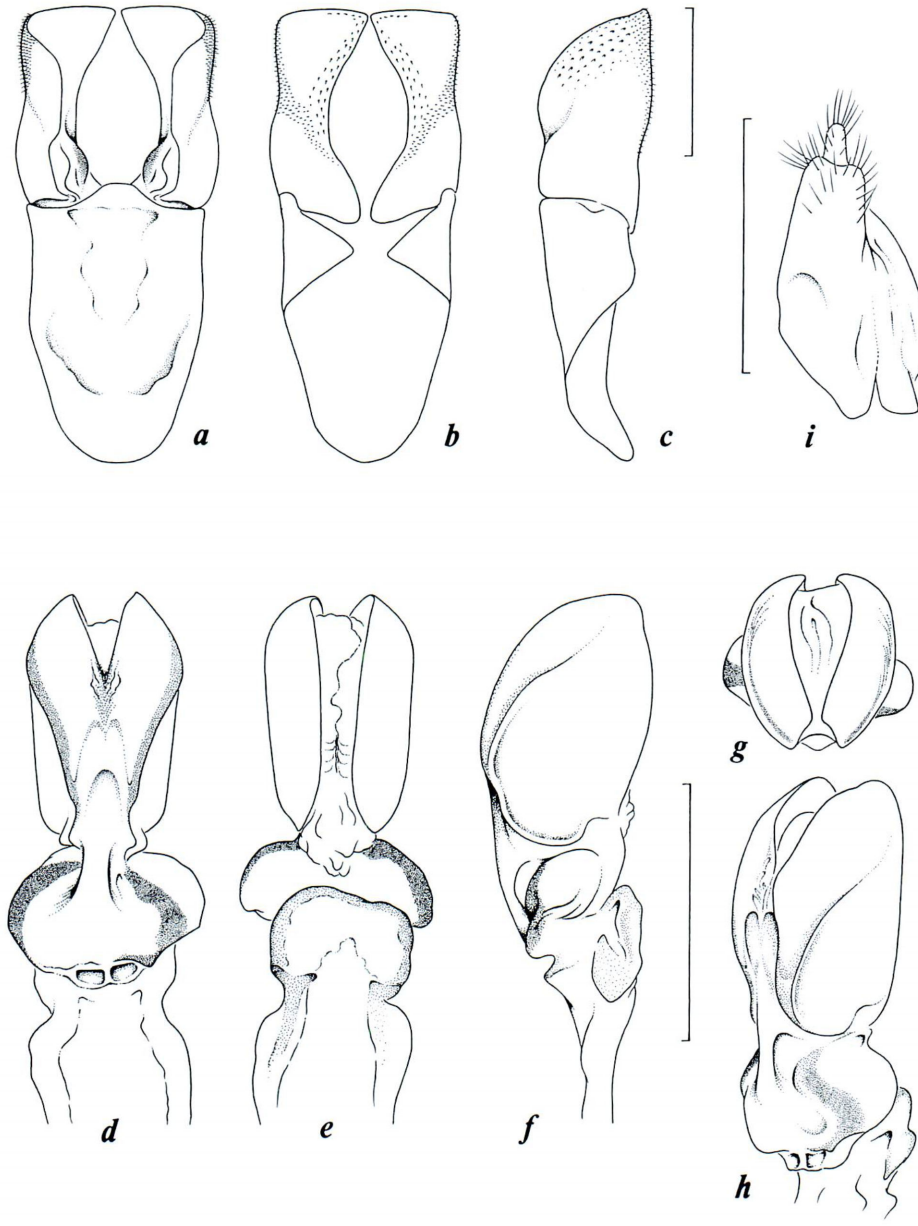


Fig. 4. Genital organ of *Platycerus businskyi* from Pingheliangding between Xunyangba and Ningshan in Ningshan Xian of southern Shaanxi, Central China. —— a–c, Paramere (=lateral lobe) and basal piece; d–h, aedeagus (=median lobe), i, left gonocoxite of the female genitalia. —— a & d, Ventral view; b, e & i, dorsal view; c & f, right lateral view; g, view from aedeagal apex; h, right subventral view. Scale: 1 mm.

more strongly inflated in basal portion and the inner basal angle less acutely and narrowly protruded inwards in ventral view; 7) apical margin of basal piece more remarkably protruded apicad in ventral view; 8) aedeagus narrower and more strongly convergent towards the base in ventral view, shorter and more obtusely rounded at tip in lateral view.

Female. 1) Size smaller on an average; 2) dorsal coloration more variable according to individuals, coppery with a weak greenish tinge or dark bluish green with a faint bronzy tinge, while that of the nominotypical *P. businskyi* is much more stable as mentioned above; 3) pronotum less widely depressed along the lateral margins; 4) elytra much shorter, with the surface more narrowly rugoso-striate; 5) gonocoxite shorter, above all in the apical portion.

These differences are evidently of specific importance, not subspecific, and the Daba Shan race is regarded as a distinct species (*Platycerus bashanicus* [stat. nov.]).

From the external appearance alone, *P. businskyi* seems to be more closely related to *P. kitawakii* which is sympatric with *P. bashanicus* on the Daba Shans. However, similarity in the basic structure of the male genital organ suggests that *P. businskyi* apparently belongs to the same group as that of *P. bashanicus*, not to that of *P. kitawakii* that might be a sister species of *P. turnai* (IMURA, 2001) of the Dashennongjia Massif of western Hubei.

A male specimen recorded as *P. businskyi* from Dashennongjia of western Hubei (IMURA, 2002, p. 38) is doubtless referable to *P. bashanicus* in view of both external and genitalic features. A female also recorded as *P. businskyi* from the Funiu Shan Mountains of western Henan (IMURA, 2005, p. 497) most probably belongs to *P. bashanicus*, but the final conclusion should be drawn after examination of the male specimen. In my view, it is most probable that *P. businskyi* is an endemic species on the Qinling Mountains and would be rather narrowly restricted to the high altitudinal area.

The main habitat of *P. businskyi* is deciduous broad-leaved forest mainly composed of *Betula*, *Tilia*, *Acer*, *Prunus* etc., partly mixed with coniferous tree, situated usually a little above the *Quercus* zone on the Qinling Mountains. In Pingheliangding, this species occurs sympatrically with *P. hongwonpyoi qinlingensis*. The former is found mainly from white-rotten part of old branch or trunk, most frequently from those of *Betula* and *Tilia*, while the latter is found mainly from softly rotten small branches on the ground. This is not consistent with the ecological difference generally observed between the group of *P. delicatulus* and that of *P. acuticollis*. From the same environmental condition, were discovered many larvae of *Platycerus* most probably referable to the same species. As is observed in all the other members belonging to the same genus in East Asia, *P. businskyi* leaves a peculiar oviposition mark on the surface of its hood plant.

2. ***Platycerus hongwonpyoi qinlingensis*** IMURA, 1993

Platycerus hongwonpyoi qinlingensis IMURA, 1993, Gekkan-Mushi, Tokyo, (272), p. 12, figs. 3, 4–7; type

locality: northern slope of the Qinling Mountains in Shaanxi Province, Central China; 1994, ibid., (278), p. 10, fig. 2. —— TANIKADAO & OKUDA, 1994, Gekkan-Mushi, Tokyo, (278), pl. 2 (on p. 3), figs. 11–15. —— TANIKADAO & TABANA, 1997, ibid., (316), p. 3, fig. 18 (larva).

Specimens examined. 1♀, between Xunyangba and Pingheliangding, 1,900 m in altitude, on the southeastern part of the Qinling Mountains, in Ningshan Xian, 1–XI–2005; 3♂♂, southeastern side of Pingheliangding, 2,450–2,500 m in altitude, 2–XI–2005; 3♂♂, 2♀♀, pass between Banfangzi [板房子] and Longzaoping [龙草坪], 2,200–2,220 m in altitude, on the borders of Zhouzhi Xian [周至县] and Foping Xian [佛坪县], on the main ridge of the Qinling Mountains, 3–XI–2005, all from southern Shaanxi, Central China, collected by Y. IMURA & Y. NAGAHATA and preserved in coll. Y. IMURA (Yokohama).

Notes. This taxon was described from "northern slope of the Qinling Mountains" and the exact type locality was not shown in the original description. Later, TANIKADO and TABANA (1997, p. 3, figs. 17, 18, 20) presented the photographs of its oviposition mark, larva and habitat taken in Chang'an Xian on the northern slope of the same mountain range and commented that they inhabited the deciduous broad-leaved forest ranged between 1,500–2,000 m in altitude. According to the present survey, the distributional range of *P. h. qinlingensis* on the Qinling Mountains now extends over such prefectures as Chang'an Xian, Zhouzhi Xian, Foping Xian and Ningshan Xian. The highest point of the habitat of this beetle reaches about 2,500 m. As was noted in the previous section, *P. h. qinlingensis* is found mainly from softly rotten small branches lying on the forest floor. It is sympatric with *P. businskyi* around Pingheliangding in the southeastern part of the Qinling Mountains, and with *P. tabanai* on the main ridge of the same mountains.

3. ***Platycerus tabanai tabanai*** TANIKADO et OKUDA, 1994

Platycerus tabanai TANIKADO et OKUDA,1994, Gekkan-Mushi, Tokyo, (278), p. 8, figs. 6–10 (on pl. 2 of p. 3), fig. 3–a on p. 6, fig. 4 on p. 7; type locality: Qinling Mountains, Shaanxi Province, Central China —— TANIKADAO & TABANA, 1997, ibid., (316), p. 3, fig. 16.

Specimens examined. 2♂♂, 3♀♀, pass between Banfangzi and Longzaoping, 2,200–2,220 m in altitude, on the borders of Zhouzhi Xian and Foping Xian, on the main ridge of the Qinling Mountains, in southern Shaanxi, Central China, 3–XI–2005, Y. IMURA & Y. NAGAHATA leg., preserved in coll. Y. IMURA (Yokohama).

Notes. Like the preceding species, the exact type locality of *P. tabanai* was not shown in the original description. Later, TANIKADO and TABANA (1997, p. 3, figs. 16, 20) presented the photographs of the male walking on the food plant and the habitat taken in Chang'an Xian, and commented that the species inhabit the deciduous broad-leaved forest ranged between 1,500–2,000 m sympatrically with *P. h. qinlingensis*. I was able to find this species only from the pass on the borders of Zhouzhi Xian and Foping Xian on the main ridge of the Qinlings, and the distributional range seems to be narrower than that of *P. h. qinlingensis*. At the same pass, this species is found from

softly-rotten small branches lying on the forest floor, and is completely sympatric with *P. h. qinlingensis*.

要　約

井村有希：ブジンスキィルリクワガタの♂に関する知見と秦岭山脈における同属2種の記録．—— ブジンスキィルリクワガタは，中国陝西省秦岭山脈南東部の旬阳坝から得られたただ1頭の♀に基づいて記載されていらい追加記録がなく，♂は未知のままであった．筆者は2005年11月，同山脈を訪れ，基準産地一帯において同種を再発見し，♂を含む複数の個体を得ることができたので，本論文において両性の標本に基づく同種の再記載をおこなった．重庆市北部と陝西省との境界にある大巴山から本種の1亜種として記載された*bashanicus*は，外部形態，交尾器形態ともにブジンスキイルリクワガタとは大きく異なっていることが判明したため，独立種バサンルリクワガタ*P. bashanicus*へと昇格した．湖北省西部の神农架および河南省西部の伏牛山塊からブジンスキィルリクワガタとして各1頭ずつ記録されている個体も，種としてはバサンルリクワガタに属するものと考えられる．本論文ではさらに，秦岭山脈に産する同属の2種（チョウセンコルリクワガタ秦岭山脈亜種とテツイロコルリクワガタ基亜種）を，正確な産地名に若干の生態的知見を添えて記録した．

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Elytra, Tokyo, **34** (1): 135–137, May 20, 2006

A New Subspecies of *Platycerus hongwonpyoi* (Coleoptera, Lucanidae) from Nei Mongol Zizhiqu of North China

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Abstract A new subspecies of the lucanid beetle *Platycerus hongwonpyoi* is described from Nei Mongol Zizhiqu of North China under the name *P. h. mongolicus*.

Platycerus hongwonpyoi IMURA et CHOE (1989, p. 20) was originally described from the Chiri-san Mountains in South Korea, and is rather widely distributed from the Korean Peninsula to the northeastern part of China (Liaoning Province). The population distributed in the Kumgang-san area of North Korea is represented by subsp. *merkli* (IMURA et CHOE, 1989, p. 21). It was later found to spread over the central part of China, and three more subspecies were described, namely, *qinlingensis* IMURA (1993, p. 12) from the Qinling Mountains of southern Shaanxi, *dabashanensis* OKUDA (1997, p. 12) from the Daba Shan Mountains on the borders of Chongqing Shi and Shaanxi, and *funiuensis* IMURA (2005, p. 498) from the Fu'niu Shan Mountains of western Henan. In addition, a female of the same species was recorded by IMURA (2004, p. 248) from Mt. Dalao Shan of western Hubei, though the subspecific identification has been suspended.

Recently, we had an opportunity to examine a long series of specimens of *P. hongwonpyoi* collected from the Daqing Shan Mountains of Nei Mongol Zizhiqu (=Inner Mongolia) in North China. After a careful comparative study, we have come to the conclusion that the Nei Mongol population can be distinguishable from all the known subspecies of this species. It will therefore be described as a new subspecies under the name of *mongolicus* nov. in the present paper.

Before going further, the first author wishes to express his hearty thanks to Mr. Tatsuya NIISATO of Bioindicator Co., Ltd., Tokyo, for kindly submitting the specimens for study. Thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for reading the manuscript of this paper.

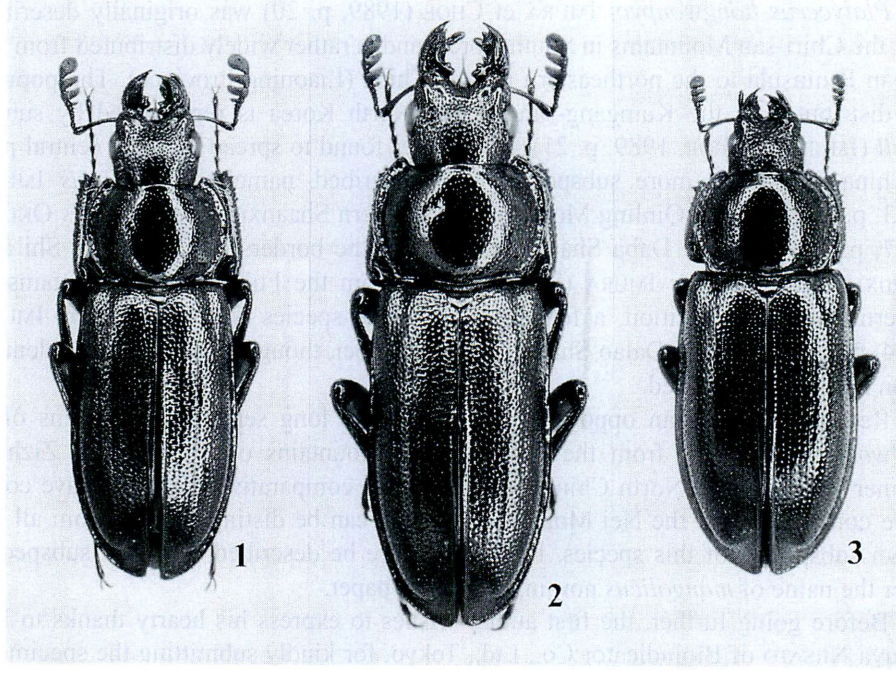
Platycerus hongwonpyoi mongolicus IMURA et BARTOLOZZI, subsp. nov.

(Figs. 1–3)

Length (including mandibles): ♂, 9.5–12.0 (arithmetic mean 10.97) mm; ♀, 9.2–11.1 (arithmetic mean 10.32) mm.

Differs from the nominotypical *hongwonpyoi* and subsp. *merkli* of the Korean Peninsula in the following respects: 1) male protibia more or less red-brownish, while it is constantly black in the populations distributed in the Korean Peninsula; 2) male mandibles less remarkably hooked inwards at apical quarter and more gradually tapered towards apices, with the dorsal surface flatter and less strongly convex above along the inner rim; 3) elytra more gradually narrowed posteriad behind apical third, above all in male; 4) a pair of visor-like protuberances on ventral margin of aedeagus hardly bent inwards but nearly straightly protruded bilaterally.

From subsp. *qinlingensis* (Qinling Mountains, Shaanxi), subsp. *dabashanensis* (Daba Shan Mountains, Chongqing–Shaanxi) and subsp. *funiuensis* (Funiu Shan Mountains, Henan), the new subspecies is readily distinguishable by the following points: 1) coloration of dorsal surface much more strongly bluish in male; 2) male protibia more or less red-brownish; 3) coloration of sternites VII and the lateral parts of sternites VI–IV darker in male; 4) male mandibles larger and less strongly hooked



Figs. 1–3. *Platycerus hongwonpyoi mongolicus* from Daqing Shan of Nei Mongol Zizhiqu, North China. —— 1, ♂, holotype; 2, ♂, paratype; 3, ♀, paratype.

inwards; 5) central part of elytra more narrowly rugoso-striate in male, also much narrowly or even hardly so in female; 6) aedeagus narrower in ventral view, with a pair of visor-like protuberances less remarkably bent inwards.

Type series. Holotype: ♂, Daqing Shan [大青山] Mountains, of Nei Mongol Zizhiqu [=Inner Mongolia], North China, 2～5–III–2005, local collectors leg., deposited in Museo di Storia Naturale della Universita di Firenze, Sezione di Zoologia "La Specola" (collection number 12414). Paratypes: 1♀, same data and depository as for the holotype (collection number 12415); 51♂♂, 27♀♀, "Wn-Ma-Gou, Ao-Han-Qi [傲汉旗?] County, Inner Mongolia (At. Mt. Da-Qing-Shan-Region)", 20～28–II–2005, separately deposited in the collections of Y. IMURA and T. NIISATO.

要　　約

井村有希・L. BARTOLOZZI：中国内蒙古自治区から発見されたチョウセンコルリクワガタの1新亜種．—— 中国内蒙古自治区の大青山塊から発見されたチョウセンコルリクワガタの標本を検した結果，既知の諸亜種から識別が可能な形態的特徴を有していることが判明したため，*Platycerus hongwonpyoi mongolicus* という新亜種名を与えて記載した．

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Elytra, *Tokyo*, **34** (1): 138, May 20, 2006

Record of *Platycerus bashanicus* (Coleoptera, Lucanidae) from Mt. Guangtou Shan in Northeastern Chongqing Shi, Central China

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Platycerus bashanicus IMURA et TANIKADO (1998) (sensu IMURA, 2006) was described from the Daba Shan Mountains of Central China. Its type locality shown in the original description is "above Bashan [巴山] (=Xinzong [新枞] at present), 1,600–2,200 m in alt." which is located near the northwestern end of Chengkou Xian of northeastern Chongqing Shi. However, almost all the known specimens were brought by the native collectors under the order by the late Mr. Wako KITAWAKI, and our knowledge is still very poor on the exact locality and range of distribution of this lucanid beetle.

Recently, I made a collecting trip to Chengkou Xian and succeeded in obtaining a short series of *P. bashanicus* from Mt. Guangtou Shan near the southeastern end of Chengkou Xian, which is about 80 km distant to the south by east in a beeline from Xinzong (=Bashan) and is just off the main ridge of the Daba Shans. These examples (length including mandibles: ♂, 10.5 mm; ♀, 9.7–10.7 mm) are slightly different from the nominotypical *bashanicus* in less strongly protruded front angles of the pronotum and more remarkably wrinkled central part of the elytra. However, taxonomic account of this population is suspended until I can examine more specimens from the same locality.

Specimens examined. 1♂, 4♀♀, above Jianfeng [尖峰], 1,800–2,000 m in altitude (rather old secondary forest of deciduous broadleaved tree), ENE shoulder of Mt. Guangtou Shan [光头山], on the borders of Chengkou Xian [城口县] and Wuxi Xian [巫溪县], of northeastern Chongqing Shi [重庆市], Central China, 30–III–2006, Y. IMURA & Y. NAGAHATA leg., in coll. Y. IMURA.

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Elytra, Tokyo, **34** (1): 139–144, May 20, 2006

A Revisional Study of the Taiwanese Scarabaeinae (Coleoptera, Scarabaeidae)

Part 3. Descriptions of a New Species and a Male of Known Species, Lectotype Designation, and Downgrading of an *Onthophagus* Species

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Abstract This is the third part of a revisional study of the Taiwanese Scarabaeinae. *Onthophagus* (s. str.) *yangi* sp. nov. is described. The lectotype is designated for *Onthophagus turmalis* Gillet. The male of *Cassolus gotoi* Masumoto is described. *Onthophagus hiurai* Ochi is regarded as a subspecies of *O. potanini* Kabakov.

The authors have been studying on Taiwanese dung beetles for these five years, particularly on the species of the subfamily Scarabaeinae. In the first part of this series (Masumoto *et al.*, 2004 a), they described two new *Onthophagus* species from Taiwan. In the second part (Masumoto *et al.*, 2004 b), they also described two other new species, an *Onthophagus* and a *Sinodrepanus*, and male specimens of two known *Onthophagus* species.

In the third part, they are going to describe a new *Onthophagus* species and a male of *Cassolus gotoi* Masumoto, 1986, and to designate the lectotype for *Onthophagus turmalis* Gillet, 1924. Finally, they are going to regard *Onthophagus hiurai* Ochi, 1984 as a subspecies of *O. potanini* Kabakov, 1979.

The authors wish to express their gratitude to Prof. Dr. Jeng-Tze Yang, and Dr. Man-Miao Yang, Department of Entomology, National Chung Hsing University, Taichung, for their kind arrangement in field works. They also thank Dr. Alain Drumont, Institut royal des Sciences naturelles de Belgique, for giving an opportunity of

examining the type series of *Onthophagus turmalis* GILLET, 1924, and Dr. Makoto KIUCHI, Tsukuba City, for taking very clear photographs inserted in this paper.

The abbreviations used herein are as follows: NCHU — National Chung Hsing University, Taichung; NMNST — National Museum of Natural Science, Taichung; NSMT — National Science Museum (Nat. Hist.), Tokyo; IRSNB — Institut royal des Sciences naturelles de Belgique; RCBAST — Research Center of Biodiversity, Academia Sinica, Taipei; TFRI — Taiwan Forestry Research Institute.

Onthphagus (s. str.) ***yangi*** sp. nov.

(Figs. 1, 4–5)

Brownish black, anterior margin of head and legs dark reddish brown, antennal footstalks, mouth parts and gula lighter in colour; head and pronotum with feeble dark coppery lustre, elytra gently, somewhat vitreously shining; each surface almost glabrous. Body ovate and compact, gently convex above.

Male. Head slightly transverse, rather strongly punctate; clypeus gently inclined anteriad, with apical margin weakly reflexed in front and angulate on each side, fronto-clypeal border produced anteriad and feebly raised; genae (ocular lobes) obtusely angulate laterad, fronto-genal and clypeo-genal borders continuously sulcate, the sulcations reaching outer margins; frons somewhat triangular, with basal part deeply concave, the concavity reaching vertex; vertex with a pair of upright horns at the middle of eyes, of which posterior parts are connected with each other in the middle of vertex, and anterior parts extend to fronto-genal sulcations.

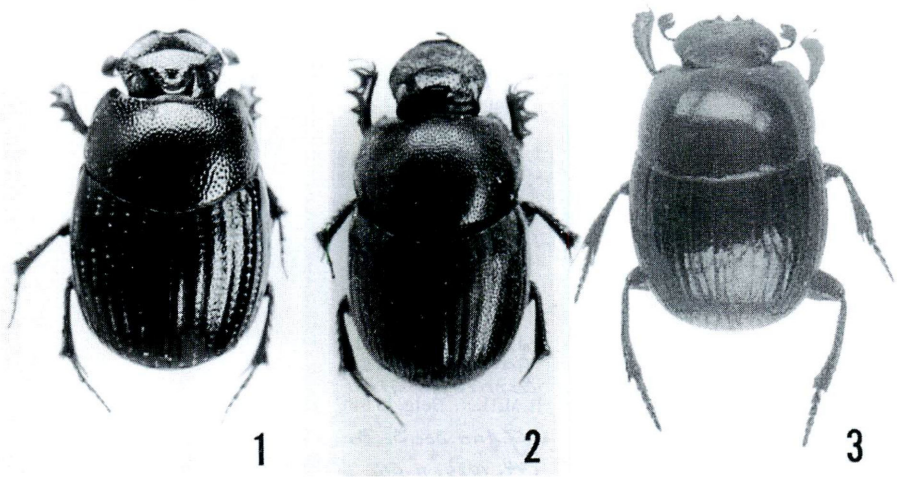
Pronotum transverse (7 : 5), gently narrowed apicad; apex moderately and widely emarginate, with a short, membranous part attached in medial 1/6; base almost rounded, slightly angulate at the middle; sides rather steeply declined to lateral margins, which are finely rimmed; front angles obtuse, hind angles rounded; disc rather closely punctate, the punctures in central part not so large, feebly ovate, those in lateral parts becoming closer and coarser.

Elytra shallowly punctato-striate, the striae finely ridged on each side, the punctures in striae seemingly transverse under low magnification, but actually they consist of a pair as confirmed under high magnification (×30–40); intervals rather wide, gently convex, scattered with small punctures, weakly, irregularly wrinkled.

Pygidium gently convex, rimmed, scattered with shallow umbilicate punctures. Metasternum gently triangularly inclined in anterior part, metasternal shield punctate, the punctures in medial part becoming sparser, with a shallow groove along the midline in posterior 1/4.

Legs rather bold; protibia with four outer teeth; terminal spur boldly pointed and gently curved ventrad; ratios of the lengths of metatarsomeres and terminal spur of metatibia: 1.00, 0.48, 0.35, 0.26, 0.48; 0.81.

Female. As compared with male, fronto-clypeal ridge longer, posterior part of frons and vertex gently raised, with gentle declivity along the border of the anterior



Figs. 1–3. Habitus of *Onthophagus* and *Cassolus*. ——1, *O. yangi* sp. nov., male, holotype; 2, *O. turmalis* GILLET, male, lectotype (=*Onthophagus* (s. str.) *hastifer* LANSBERGE); 3, *C. gotoi* MASUMOTO, male.



Figs. 4–5. Male genitalia of *Onthophagus yangi* sp. nov. (4, lateral view, 5, dorsal view).

part of frons, instead of a pair of cephalic horns.

Body length: 4.3–4.6 mm.

Holotype: ♂, Wuling, Shei-pa National Park, N. Taiwan, 1–V–2004, K. MASUMOTO leg. (NMNST). Paratypes: 1 ex., same data as for the holotype (NSMT); 1 ex., same data as for the holotype (NCHU); 5 exs., Fushan Research Station, TARI, Yilan Co., 28–V–2003, J.-F. TSAI & T.-C. WANG leg.; 4 exs., Fushan Botanical Garden,

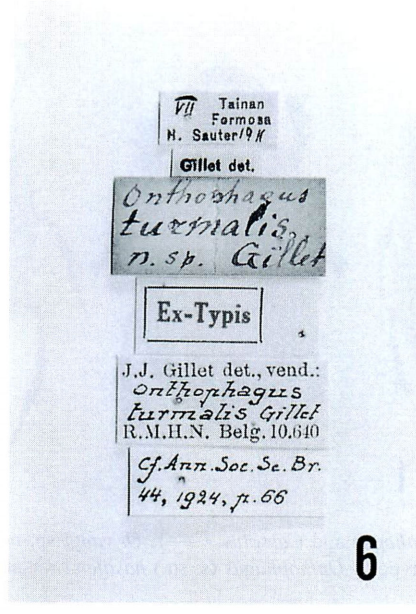


Fig. 6. Type label of *Onthophagus turmalis* GILLET.

Yilan / Taipei Co., 3–V–2004, K. MASUMOTO leg.; 4 exs., "Fushan Research Station, TFRI, III–2001, Wenbe HWANG leg. (RCBAST)".

Notes. This new species resembles *Onthophagus* (s. str.) *masumotoi* OCHI, 1985, originally described from Taiwan, but can be distinguished from the latter by the body a little larger and moderately shining, with the fronto-clypeal ridge stronger, the punctures on the dorsal surface sparser and not umbilicate.

The specific name is given in honor of Prof. Dr. Jeng-Tze YANG, National Chung Hsing University, who kindly arranged field survey in the Shei-Pa National Park.

Onthophagus (s. str.) ***hastifer*** LANSBERGE, 1885

Onthophagus hastifer LANSBERGE, 1885, Annli. Mus. civ. Stor. nat. Genova, **2**: 380. Type locality: Minhla, Birmanie.

Onthophagus turmalis GILLET, 1924, Annls. Soc. Sci. Brux., **44**: 66. Type locality: Tainan. (Holotype: Figs. 2, 6).

Onthophagus agilis MATSUMURA, 1938, Ins. matsum., Sapporo, **12**: 56. Type locality: Chokakurai (Shaochia). [*Syn. nov.*]

Onthophagus putealis MATSUMURA, 1938, Ins. matsum., Sapporo, **12**: 61. Chokakurai (Shaochia).

Distribution. Taiwan, C. & S. China, Vietnam, Annam, Myanmar, Thailand.

Lectotype designation for *Onthophagus turmalis* GILLET: Lectotype, ♂, labeled as follows: VII Tainan / Formosa / H. Sauter 1911 // Gillet det. // *Onthophagus* / *turmalis* / n. sp. Gillet // J.J. Gillet det., vend.: / *Onthophagus* / *turmalis* Gillet / R.M.H.N. Belg.

10.640 // Ex-Typis // cf. Ann. Soc. Sc. Br. / 44, 1924, p. 66. Paralectotypes: 8 exs., same data as for the lectotype; 5 exs., VII Tainan 11 / Formosa / H. Sauter // Gillet det. // J. J. Gillet det., vend.: / *Onthophagus* / *turmalis* Gillet / R.M.H.N. Belg. 10.640 // Ex-Typis // cf. Ann. Soc. Sc. Br. / T. 44, 1924, p. 66; 1 ex., VII Tainan/ Formosa / H. Sauter 11 // Gillet det. // J. J. Gillet det., vend.: / *Onthophagus* / *turmalis* Gillet / R.M.H.N. Belg. 10.640 // Ex-Typis // cf. Ann. Soc. Sc. Br. / T. 44, 1924, p. 66; 1 ex., VII 11 Tainan/ Formosa / H. Sauter // Gillet det. // J. J. Gillet det., vend.: / *Onthophagus* / *turmalis* Gillet / R.M.H.N. Belg. 10.640 // Ex-Typis // cf. Ann. Soc. Sc. Br. / T. 44, 1924, p. 66. [All the types are preserved in IRSNB.]

Cassolus gotoi MASUMOTO, 1986

(Fig. 3)

Cassolus gotoi MASUMOTO, 1986, Ent. Rev. Japan, Osaka, **41**: 85.

This species was described on a single female from Hewangshan, Nantou Hsien, Central Taiwan. Recently, the authors were able to obtain a male specimen to be additionally described below:

As compared with a female, head and pronotum more evenly, slightly more sparsely scattered with small punctures. Metatibia longer and more strongly curved, with inner face distinctly crenate. Ratios of the lengths of metatarsomeres and terminal spur of metatibia: 0.28, 0.22, 0.21, 0.19, 0.31; 0.36.

Body length: 5.9 mm.

Specimen examined. 1 ♂, Fushan Botanical Garden, Yilan Hsien, N. Taiwan, 28–V–2003, J.-F. TSAI & T.-C. WANG leg. (NMNST).

Onthophagus* (*Strandius*) *potanini hiurai OCHI, 1984

Onthophagus (*Strandius*) *hiurai* OCHI, 1984, Ent. Rev. Japan, Osaka, **39**: 63. Type locality: Sunkang (Sungkang).

Onthophagus angulatus: MIWA, 1930, Ins. matsum., Sapporo, **4**: 168. Collected localities: Kankau (Gangkou), Arisan (Alishan), Rantaizan (Luandashan, Sinyi, Nantou Hsien). [Nec REDTENBACHER, 1848].

Onthophagus gagates: NOMURA, 1973, Ent. Rev. Japan, Osaka, **25**: 47. Collected localities: Sungkang, Wushe, Funchiifo (Fenchihu). [Nec HOPE, 1831].

[*Onthophagus* (*Phanaeomorphus*) *potanini* KABAKOV, 1979, *in* Beetles of Far East and East Siberia, 80. Type locality: NE-China, Shen'iang Prov., Tsun-chzha-lo and Tao-Guan.]

Distribution. C. Taiwan.

Notes. The present subspecies can be easily distinguished from the nominotypical one by the following characteristics:

Elytra a little wider, with intervals rather densely covered with stronger and slightly larger punctures; head with anterior margin more deeply and noticeably notched at the clypeo-genal junction on each side, and clypeal margin more strongly produced and more clearly reflexed at the middle in male; head with clypeus a little

wider at base, and less noticeably notched at the clypeo-genal junction in female.

要　　約

益本仁雄・蔡　經甫・越智輝雄：台湾産タマオシコガネ亜科の再検討．その3．エンマコガネ属の1新種および*Cassolus*属の既知種雄の記載，後基準標本の指定，そして亜種降格について．—— 台湾産タマオシコガネ亜科エンマコガネ属の1新種*Onthophagus* (s. str.) *yangi* sp. nov.，および*Cassolus gotoi* MASUMOTOの雄を記載した．また，*Onthophagus turmalis* GILLET (=*Onthophagus* (s. str.) *hastifer* LANSBERGE)の後基準標本を指定するとともに，*Onthophagus hiurai* OCHIを*O. potanini* KABAKOVの亜種とした．

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———, M.-M. YANG & T. OCHI, 2004 b. Two new species and males of *Onthophagus roubali* and O. *hsui*. *Ibid.*, **32**: 371–365.

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——— 1985. Notes of the genus *Onthophagus* LATREILLE from Taiwan (Coleoptera, Scarabaeidae). *Ibid.*, **40**: 49–51.

Elytra, *Tokyo*, **34** (1): 145–152, May 20, 2006

A New Species of the Genus *Cyobius* (Coleoptera, Scarabaeidae, Onthophagini) from Borneo

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Abstract A new species of *Cyobius* (Onthophagini) is described from Sabah, Borneo under the name of *C. cheyi* sp. nov. The present new species is a second member for this genus and distinguished from *C. wallacei*, the type species of *Cyobius*, by having the elytra shorter than the pronotum.

SHARP (1875) established *Cyobius*, a monotypical genus of Scarabaeidae, and described *C. wallacei* as the type species based on a unique specimen collected by A. R. WALLACE from Sarawak, Borneo. Later, BALTHASAR (1963 b) assigned this genus to the tribe Onthophagini, and KRIKKEN (1971) revised the definition of *Cyobius* in comparison with the related genus *Anoctus*. Furthermore, OCHI *et al.* (1996) redefined the genera *Cyobius* and *Anoctus* in a key to the genera of Onthophagini from Borneo.

Recently, one of the authors (KASHIZAKI) has collected a peculiar-formed scarab beetle having the reduced tarsi by a flight intercept trap installed in a lowland forest of Gomantong near Sandakan, Sabah, Borneo. According to OCHI *et al.* (1996), we assigned it to the genus *Cyobius*. After a comparison with *C. wallacei*, we concluded that this form is new to science. Thus, we describe a new species of *Cyobius* from Borneo as a second member for this genus. In addition, we provide a revised key to the genera of the tribe Onthophagini from Borneo.

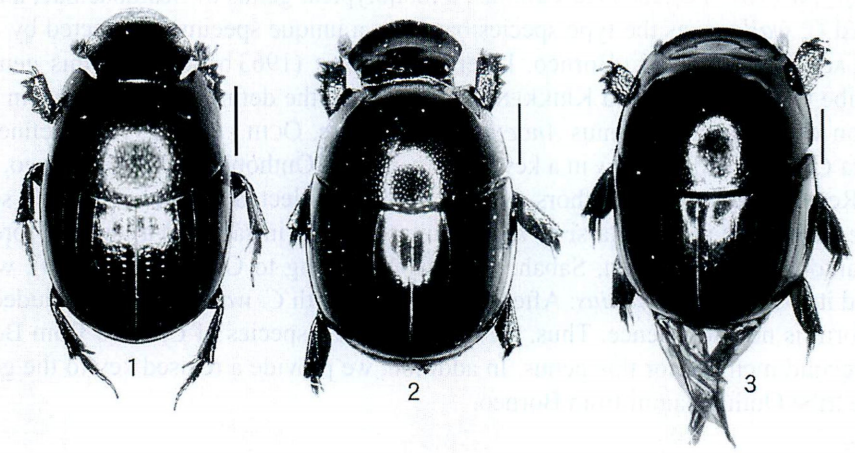
Key to the Genera of the Onthophagini from Borneo

1(2) Elytron with epipleura relatively broad, clearly continuous with ventral side, and distinctly defined from dorsal side by an acute edge. Pronotum and elytron with lateral margins perfectly or almost continuous in lateral view. Body strongly polished, entirely to almost glabrous on dorsal side, without constriction between pronotum and elytra. Elytron without distinct humeral callus; intervals entirely flat. Prothorax with anterior angle deeply and widely excavated on ventral side, the excavation clearly deepened even along lateral margins. 3

2(1) Elytron with epipleura relatively narrow, neither clearly continuous with ventral side, nor distinctly defined from dorsal side. Pronotum and elytron with lateral margins not continuous in lateral view. Body polished to opaque, glabrous to distinctly hairy on dorsal side, with deep constrictions between pronotum and elytra. Elytron with a distinct humeral callus; intervals convex to flat, with the 8th convex basally. Prothorax with anterior angle deeply to not entirely excavated on ventral side. 5

3(4) All femora and tibiae strongly dilated and plate-shaped; meso- and metafemora almost sub-circular in outline; meso- and metatarsi with four distal segments reduced and very small. Protibia with distal end almost straightly truncated and slightly swollen in the middle. Pronotum and elytron with lateral margins perfectly continuous in lateral view. . . . . *Cyobius* SHARP

4(3) All femora and tibiae ordinary, neither strongly dilated nor plate-shaped; meso- and metafemora ordinary in outline; meso- and metatarsi with four distal segments ordinary, neither reduced nor very small. Protibia with distal end



Figs. 1–3. Habitus, scale 1 mm. —— 1, *Anoctus laevis* SHARP; 2, *Cyobius wallacei* SHARP; 3, *C. cheyi* sp. nov., holotype.

straightly truncated. Pronotum and elytron with lateral margins almost continuous in lateral view. ..... *Anoctus* SHARP (Fig. 1)

5(6) Protibia short and stout, with distal end straightly truncated, anterior margin of the 1st tooth continuous with the truncation. Prothorax with anterior angle deeply and widely excavated on ventral side, the excavation clearly deepened even along lateral margin; external edge of the excavation sharply or distinctly carinate..... *Caccobius* THOMSON

6(5) Protibia mostly elongate or often short, with distal end usually not straightly truncated, anterior margin of the 1st tooth not continuous with the truncation. Prothorax with anterior angle not deeply excavated on ventral side, though sometimes shallowly excavated, if so, the excavation not clearly deepened along lateral margin..... *Onthophagus* LATREILLE

Cyobius cheyi sp. nov.

(Figs. 3–9)

Description of holotype. Male. Length, 6.2 mm; width, 3.5 mm.

Body large-sized, oval, strongly convex above, with pronotum and elytra perfectly continuous in outline, without distinct constriction between them; dorsal side strongly shining and smooth, at a glance glabrous though the elytron is sparsely clothed with very minute recumbent inconspicuous hairs; ventral side also shining and smooth, almost glabrous except for hairy posterior portion of prosternum, lateral portion of metasternum and narrow lateral portions of abdominal sternites; anterior and lateral margins of head, lateral margin of pronotum, and basal two-thirds of elytron sparsely fringed with short white hairs. Color black, with mouth organs, palpi, anterior portion of head, and legs more or less reddish brown; antennae yellowish brown.

Head transverse, about 1.61 times as wide as long, transversely depressed along anterior margin and also on frons; clypeus evenly produced forwards though less strongly produced at the middle than in *C. wallacei*, with clypeal margin somewhat parabolic in outline, finely bordered; clypeal suture with frontal section weakly and very finely carinate, the carina straight in the middle, briefly curved on both sides; genal section of clypeal suture not carinate though finely defined and extending almost prior to the level of anterior margins of eyes; gena strongly produced laterad, with margin finely bordered, genal corner obtusely angulate; vertex almost flat, not distinctly raised on both sides though very slightly depressed at the middle; surface shining and smooth, sparsely and finely punctate, the punctures becoming denser and coarser towards anterior margin.

Pronotum strongly convex, about 1.39 times as wide as long, longer than elytra, with an obsolete median longitudinal depression; anterior margin emarginate, finely bordered though the border slightly broadened at the middle; lateral margin gently rounded, distinctly bordered, the marginal border slightly produced laterad and clearly perceptible near posterior angle; anterior angle strongly produced forwards, with apex

subquadrate; posterior angle very distinct though obtuse; basal margin rounded, finely bordered in the middle, not bordered on both sides; disc rather steeply declivous in anterior third, with upper edge of the declivity faintly ridged in the middle, tuberculate on both sides; each tubercle briefly carinate postero-laterally, slightly depressed towards anterior angle, the depression clearly weaker and shallower than in *C. wallacei*; surface shining and smooth, sparsely and finely punctate in the middle, the punctures becoming denser, coarser and shallower towards marginal portion, especially near posterior angle.

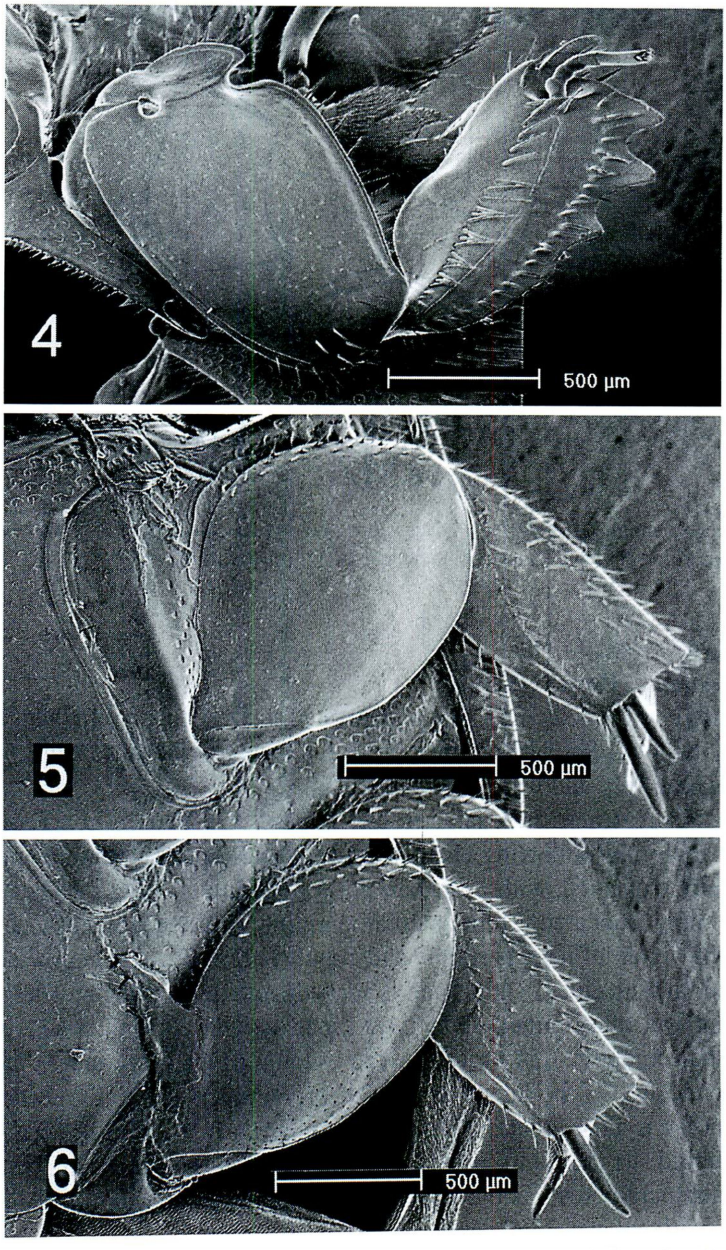
Elytra strongly convex, about 1.47 times as wide as long, with eight striae including one along epipleural margin; each stria finely impressed with strial punctures, the punctures slightly notching both margins of intervals; the 7th stria slightly curved and extending almost to near base; baso-lateral portion almost flat, without a distinct humeral callus; intervals entirely flat, shining and fairly smooth, very sparsely scattered with very fine punctures, each puncture bearing a recumbent, rather long, and minute hair.

Pygidium gently and rather evenly convex, not distinctly carinate at base, shining and smooth, fairly sparsely and very finely punctate. Prothorax with anterior angle deeply excavated on ventral side. Metasternum sparsely and finely punctate, the punctures becoming a little coarser in front and behind; lateral portion densely, coarsely, and shallowly punctate, some punctures near lateral margin bearing a short recumbent hair. Abdomen with apparently six sternites; the 1st sternite arranged with two transverse rows of small punctures, the 2nd to 5th with a single transverse row at the middle though the punctures increase in number at sides and each of them bears a short recumbent hair, the 6th scattered with similar punctures. Profemur very broad, about 1.69 times as long as wide, shining and smooth, sparsely and finely punctate. Meso- and metafemora almost subcircular in outline, shining and smooth, sparsely and finely punctate, the former about 1.20 times as long as wide, the latter about 1.56 times as long as wide. Protibia very broad, with four small external teeth, the 1st tooth sharp, the 2nd a little larger than the 1st, the 3rd a little small, the 4th almost obsolete; apical margin almost straightly truncated, with median portion slightly swollen; apical inner end very slightly produced as a spine; internal margin slightly concave at the middle; tarsi small though ordinary in shape. Meso- and metatibiae strongly dilated and plate-like; meso- and metatarsi fairly reduced; mesotarsus about 0.5 mm in length, the basal segment 0.3 mm in length, slightly longer than the remaining segments combined; metatarsus about 0.5 mm in length, the basal segment also about 0.3 mm in length, slightly longer than the remaining segments combined.

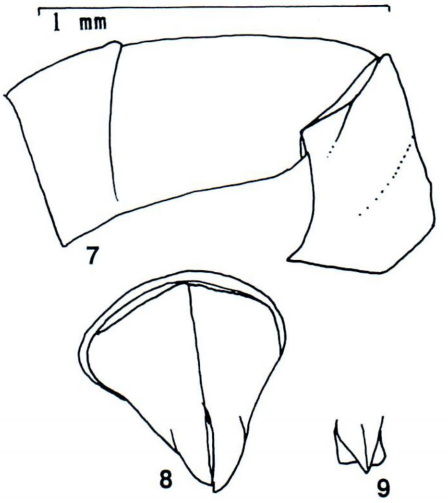
Aedeagus relatively robust; phallobase about 1.0 mm in length, about 0.5 mm in apical width; parameres simple, about 0.6 mm in length, each with slightly and laterally produced apical lobe though hardly visible in dorsal view because of being strongly curved towards base.

Female. Unknown.

Type series. Holotype: male, Gomantong, near Sandakan, Sabah, Borneo, 21~



Figs. 4–6. Legs of *Cyobius cheyi* sp. nov., ventral view, scale 500 μm. —— 4, Front leg; 5, middle leg; 6, hind leg.



Figs. 7–9. Male genitalia of *Cyobius cheyi* sp. nov., holotype, scale 1 mm; 7, aedeagus, lateral view; 8, parameres, dorsal view; 9, apices of parameres, ventro-distal view.

23–II–2005, A. KASHIZAKI leg.

Distribution. Borneo (Sabah).

Etymology. The specific name is dedicated to Dr. CHEY Vun Khen, the Chief of Entomology Section, Sandakan Forest Research Center, who has been giving the last author invaluable help and warm companionship.

Notes. The present new species can be distinguished from *Cyobius wallacei* SHARP (Fig. 2) by the following characteristics: 1) the apical margin of protibia is almost straightly truncated, with a median portion slightly swollen, whereas in *C. wallacei*, it is simply truncated; 2) the internal margin of protibia is slightly concave at the middle; 3) the vertex of head is simple and almost flat, whereas in *C. wallacei*, it is distinctly raised on both sides; 4) the head is sparsely and finely punctate on the vertex; 5) the pronotum is a little longer, about 1.40 times as wide as long, whereas in *C. wallacei*, it is shorter, about 1.51 times as wide as long; 6) the pronotum is more sparsely and finely punctate; 7) the lateral margin of pronotum is distinctly bordered and the marginal border is fairly remarkable behind, whereas in *C. wallacei*, it is not so remarkable behind; 8) the elytra are clearly shorter than the pronotum; 9) in the male genitalia, each parameres has the slightly and laterally produced apical lobe, whereas in *C. wallacei*, they have simple apices.

The genus *Cyobius* apparently resembles the genus *Larhodius* BALTHASAR, 1963, which was assigned to the tribe Dichotomini by MASUMOTO and UTSUNOMIYA (2003) (by the way, a re-evaluation seems needed to us for the taxonomic status of *Larhodius* in relation to *Cyobius*). However, the present new species is also distinct from all the known species of *Larhodius*, *L. calcaratus* (JANSSENS), *L. hashimi* MASUMOTO et

UTSUNOMIYA, *L. maruyamai* MASUMOTO et UTSUNOMIYA, by having the relatively large pronotum.

Specimens compared. *Anoctus laevis* SHARP: 1♀, Mt. Bawang, W. Kalimantan, VII–1991; 1♀, ditto, X–1991; 1ex., Mt. Matang, W. Sarawak, 28–XII–1913, G. E. BRYANT, labelled with "determined by BOUCOMONT, 1921, *Anoctus laevis* SHARP"; 1♀, Singapore, 1901, H. N. RIDLEY labelled with "determined from description, G. J. A."; 2♂♂, Kenyir Lake, Tekak River, Kuala Terrengganu State, West Malaysia, 3～7–III–2002, T. SHIMADA leg. *Cyobius wallacei* SHARP: 1♀, Mt. Bawang, Kalimantan, Indonesia, VII–1991; 1♀, Quop, W. Sarawak, 18–IV–1914, G. E. BRYANT, labelled with "*Cyobius wallacei* SHARP, BOUCOMONT det., 1925" and "*Cyobius wallacei* SHARP, det J. KRIKKEN 1970". *Larhodius maruyamai* MASUMOTO et UTSUNOMIYA: 1 ex., Ulu Gombak, Selangor, Malaysia, 2～18–III–2004, M. MARUYAMA leg. *Larhodius hashimi* MASUMOTO et UTSUNOMIYA: 1 ex. (paratype), Ulu Gombak, Selangor, Malaysia, 21–V～3–VI–2003, M. MARUYAMA leg. We referred to BALTHASAR (1963 a) for *Larhodius calcaratus* (JANSSENS, 1934) because no specimen was available.

Acknowledgments

We wish to express our cordial thanks to K. MASUMOTO, M. MARUYAMA, T. SHIMADA and M. KERLEY for giving us the opportunities to examine invaluable specimens. Thanks are also due to CHEY Vun Khen for supporting the last author's researches in Sabah. This study was supported in part by a Grant-in-Aid from the Japan Society for the Promotion of Science (No. 17405011).

要　　約

越智輝雄・近　雅博・柏崎　昭：ボルネオからのエンマコガネ族の*Cyobius*属の1新種．――ボルネオから*Cyobius*属（エンマコガネ族Onthophagini）の1新種を記載し，*C. cheyi* sp. nov. と名付けた．本種は*Cyobius*属の2種めのメンバーであり，本属の基準種*C. wallacei*からは，前胸背板が鞘翅より長いことによって区別できる．

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Elytra, Tokyo, **34** (1): 152, May 20, 2006

New Records of *Leptaulax loebli* KON, JOHKI et ARAYA (Coleoptera, Passalidae) from Laos and Myanmar

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Leptaulax loebli was described from Khao Yai, Thailand by KON *et al.* (2003). Recently, I have had opportunities to examine some specimens of this species from Laos and Myanmar. These are the first records of this species from the localities other than the type locality, Khao Yai, Thailand.

Leptaulax loebli KON, JOHKI et ARAYA

Leptaulax loebli KON, JOHKI et ARAYA, 2003, Jpn. J. syst. Ent., **9**, p. 181; type locality: Khao Yai, Thailand.

Specimens examined. 5♂♂, 3♀♀, Namo, Oudomxay Province, Laos, 6–VII–2004; 4♂♂, 1♀, Mong Hkok, Shan, Myanmar, 22–V–2005.

Distribution. Thailand, Laos (new record), Myanmar (new record).

Notes. There is no noticeable difference between the present specimens recorded from Laos or Myanmar and the type series of *Leptaulax loebli* from Thailand.

Reference

KON, M., Y. JOHKI & K. ARAYA, 2003. A new species of *Leptaulax* (Coleoptera, Passalidae) from Thailand, with a key to the Thai species of *Leptaulax*. *Jpn. J. syst. Ent.*, **9**: 181–185.

Elytra, *Tokyo*, **34** (1): 153–155, May 20, 2006

New or Little-Known Elateridae (Coleoptera) from Japan, XLVIII

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Abstract A new subspecies of elaterid beetle, *Homotechnes motschulskyi suzukii*, is described from Central Japan and illustrated.

In the present study I am going to describe a new subspecies of elaterid beetle from Central Japan. The holotype of the new taxon to be described in this paper is preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Before going further, I wish to express my sincere gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his reading the manuscript and Mr. Eiji SUZUKI of Okazaki-shi in Aichi Prefecture for his kindness in offering the specimen used in this study.

Homotechnes motschulskyi suzukii subsp. nov.

(Fig. 1 A–C)

Female. Body length 10 mm and width about 4 mm on the portion of posterior third of elytra, robust, oblong-ovate and rather convex above (Fig. 1A), surface black and shining except for margins of pronotum including posterior angles, lateral margins of elytra, and most parts of ventral surfaces of body more or less blackish brown; antennae blackish brown except for basal three or four segments and legs castaneous brown; vestiture fine, fulvous and semidecumbent.

This new subspecies can be distinguished from *H. motschulskyi yoshizawai* (ÔHIRA, 1996) from the Shirabiso Pass in IIda-shi, Nagano Prefecture, Honshû by the following points: the body robuster and more elongate; the 3rd segment of antenna a little longer than the 2nd which is as long as the 4th (Fig. 1B); the disc of pronotum almost glabrous, only finely and sparsely punctate (Fig. 1C); the posterior angles of pronotum more clearly and sharply produced postero-laterad (Fig. 1 C↑); the striae on elytra more deeply grooved, with the intervals more clearly elevated, finely and irregularly rugose.

Male. Unknown.

Holotype: ♀, Mt. Iwakoya (岩古谷山) (alt. 799 m) in Shitara-chô (設楽町) of Aichi Prefecture, Honshû, Japan, 4–VI–2005, E. SUZUKI leg.

Distribution. Mt. Iwakoya in Aichi Prefecture, Honshû, Japan.

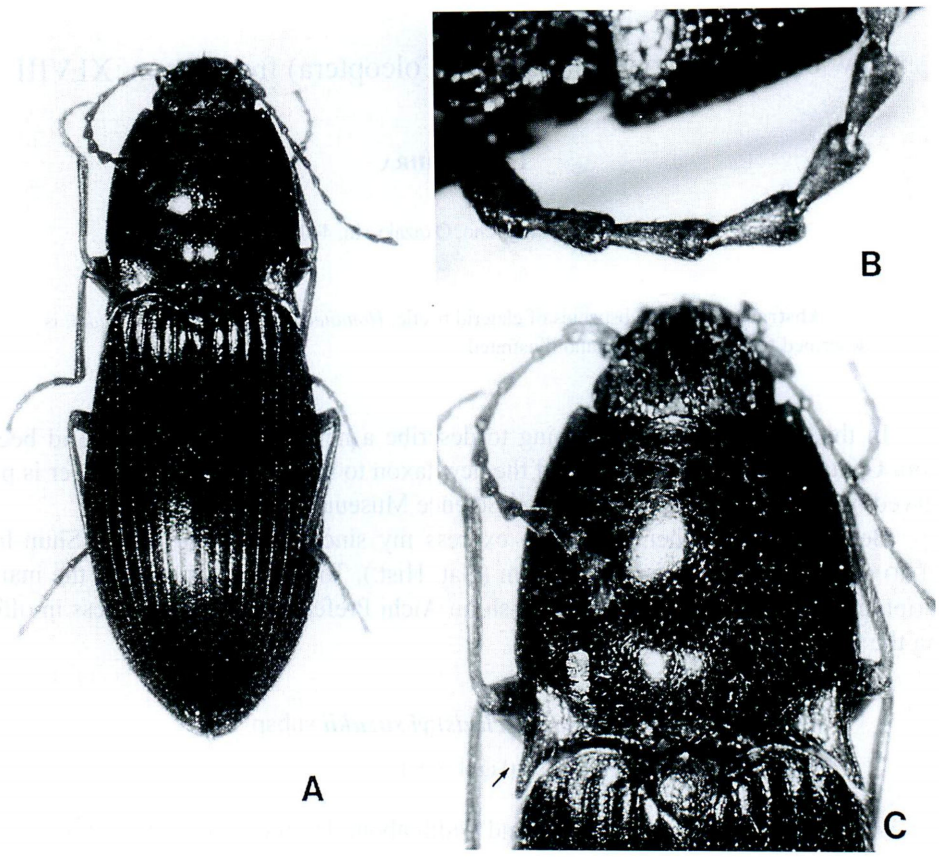

Fig. 1. *Homotechnes motschulskyi suzukii* subsp. nov. —— A, Holotype (female); B, some basal segments of left antenna; C, head and pronotum, dorsal aspect.

要　　約

大平仁夫：日本産コメツキムシ科の新種，XLVIII. —— 本報告では，ミヤマヒサゴコメツキ類の1新亜種を記載した．

Homotechnes motschulskyi suzukii（シタラミヤマヒサゴコメツキ）は，愛知県奥三河の設楽町の岩古谷山（標高799 m）の山麓の石下（標高約300 m）から，岡崎市の鈴木栄二氏が採集した，体長が約10 mmの1雌個体である．愛知県からミヤマヒサゴコメツキ類が見出されたのはこれが最初の記録であるでけでなく，このような周辺に高山もない低地で見出されたことは，きわめて興味深い．

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Elytra, Tokyo, **34** (1): 155–156, May 20, 2006

Cryptocephalus frontalis MARSHAM (Coleoptera, Chrysomelidae) Newly Recorded from Japan

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Through the courtesy of Mr. T. KATO, I had an opportunity to examine one female specimen of *Cryptocephalus* species which was collected by himself in Hokkaido. The specimen in question was determined as *C. frontalis* MARSHAM by MOHR's key (1966). Further, the determination was ascertained by Dr. L. N. MEDVEDEV in Moscow. This is the first record for the species from Japan.

Cryptocephalus frontalis MARSHAM, 1802

(Fig. 1)

Cryptocephalus frontalis MARSHAM, 1802, *Ent. Brit.*, **1**: 211.

Cryptocephalus frontalis: MOHR, 1966, Die Käfer Mitteleuropas, **9**: 142.

Cryptocephalus (*Burlinius*) *frontalis*: MEDVEDEV, 1989, Opredelitel' nasekomykh Dal'nego Vostoka SSSR, **3**: 562. —— MIKHAILOV & HAYASHI, 2000, Ent. Rev. Japan, **55**: 78. —— WARCHALOWSKI, 2003, The Leaf-beetles of Europe and the Mediterranean Area, 177.

Distribution. C. & N. Europe, Siberia, Russian Far East, Sakhalin; Japan (Hokkaido).

Specimen examined. 1 ex., Kitami, Hokkaido, Japan, 17–VII–1990, T. KATO leg. (TAKIZAWA collection).

Remarks. This small *Cryptocephalus* species is 2.5 mm in size and has regularly punctate-striate elytra. It is easily distinguished from the Japanese congeners by a combination of the small blackish body, the yellow anterior margin of pronotum and elytral epipleuron, and the transverse pronotum with smooth and impunctate disc. The male aedeagus is shown in MOHR (1966). In Europe and the Russian Far East, this species feeds on species of *Betula*, *Populus* and *Salix*. The discovery of such unknown species from the Japanese fauna strongly suggested ne-

cessity of more extensive researches in the lowland of Hokkaido.

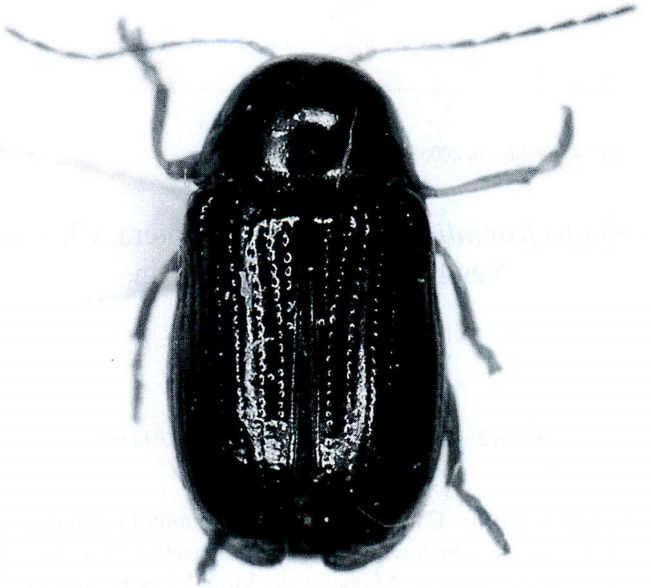

Fig. 1. *Cryptocephalus frontalis* MARSHAM, from Kitami, Hokkaido, Japan.

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Elytra, *Tokyo*, **34** (1): 157–163, May 20, 2006

Two New Species of *Agrilus* (Coleoptera, Buprestidae, Agrilinae) from Okinawa-jima, Japan

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Abstract Two new species of the buprestid genus *Agrilus*, *A. inadai* and *A. motobuanus*, are described based on material collected from *Acer oblongum* WALL. *itoanum* (HAYATA) HATSUSHIMA on the island of Okinawa-jima, Nansei-shotô, Japan. *Agrilus inadai* is similar to *A. sospes* LEWIS, known from mainlands of Japan, but is distinguished from it by the shorter prehumeral keel on the pronotum, and the elytra more rufescent. *Agrilus motobuanus* is closely similar to *A. priamus* KERREMANS and *A. obscurecinctus* OBENBERGER, both known from Taiwan, but distinguished from them by the vertex metallic green and prosternal process wide, parameres wider.

Ninety-three species of the genus *Agrilus* CURTIS, 1825 have been known in Japan, and 13 species of them, are recorded from the island of Okinawa-jima, Nansei-shotô. However, the buprestid fauna of the Okinawa-jima has not been satisfactorily clarified as yet. Indeed, a new species, *Agrilus sekii*, was recently discovered from Okinawa-jima and its adjacent islands (OHMOMO, 2004), and this suggested need of further investigation in the island.

From May to June of 2003, I made a collecting trip to Okinawa-jima and took three *Agrilus* species, theretofore unknown from Japan. In 2004, I had an opportunity to study additional material of these species in cooperation with Mr. Satoshi INADA. After examination of the material, two species of them were found to be new to science. They will be described herein.

In the present paper, the median lobe of the male genitalia was observed in detail for the first time in the taxonomy of *Agrilus*. It was found to be very useful for distinguishing species of the genus. Median lobe was pulled out from parameres, and was mounted in Euparal on a small piece of glass (MARUYAMA, 2004).

The holotypes of the new species are deposited in the National Science Museum, Tokyo (NSMT), and some paratypes are housed in the collections of Hirokazu FUKUTOMI, Mr. S. INADA and Dr. Sadahiro OHMOMO.

All measurements in the text are given in millimetres, and the following abbreviations are used for measurements: BL – body length; BW – body width; EL – elytral length; EW – elytral width; L – length; PL – pronotal length; PW – pronotal width; W – width.

The following abbreviations are also used in descriptions and figure captions;

DV – dorsal view; FV – frontal view; LV – lateral view; PDV – postero-dorsal view; VV – ventral view.

Agrilus inadai FUKUTOMI, sp. nov.

(Figs. 1, 3–9)

Type material. Holotype: 1♂, Oppa-dake, Tamashiro, Nakijin-son, Okinawa-ken, 12–V–2004, S. INADA leg. Paratypes; 1♂, 2♀♀, same data as holotype; 1♀, same data but 29–IV–2004; 1♂, same data but 2–VI–2003, H. FUKUTOMI leg.

Etymology. Dedicated to Mr. S. INADA, a collector of the type series, for his co-operation in this study.

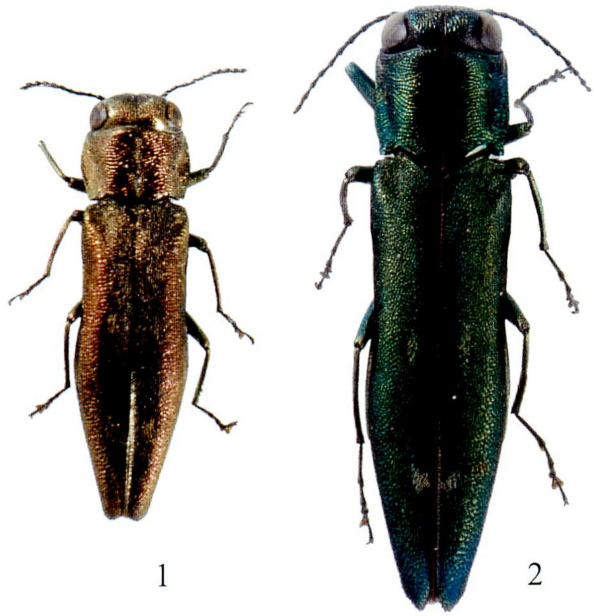
Diagnosis. Among the East Asian species, this new species is closely similar to *Agrilus sospes* LEWIS, 1893 in the mode of submarginal carinae and in the pattern of elytral maculations, but is distinguished from it by the brighter colour, the shorter prehumerus, and the longer and narrower parameres. This species is easily distinguished from other congeners distributed in the Nansei-shotô by the body colour and the pattern of the elytral maculations.

Description. Male. Body (Fig. 1) elongate. Colour:— pronotum and elytra metallic reddish brown, with silky lustre; frons and anterior part of vertex metallic yellowish green. Lower part of frons with white recumbent pubescence at pronotal side. Prosternum and prosternal process with white recumbent pubescence. Elytra uniformly covered with short, whitish and recumbent pubescence, except for two pairs of white maculations with suberect pubescence; posterior white maculation larger than the anterior one; dark brown between anterior and posterior maculations.

Frons in lower part densely and rugosely punctate, deeply, subtrianglarly impressed (FV); surface of impression smooth and with short medial longitudinal carina. Upper part of frons and vertex sparsely punctate, divided by a deep medial sulcus into two hemispheres (DV, PDV). Eyes small, convex (DV); lower part extending below upper side of antennal sockets. Vertex 2.0 times as wide as width of eye (DV); clypeus flat; antennae long and slender, overreaching pronotal length.

Pronotum (Fig. 3) transverse (L/W=0.67), widest at middle; narrowed posteriad (DV). Basal pronotal angles sharp; anteromedial lobe absent; anterior angles sharply projecting anteriad. Disc transversely rugose; medial sulcus obvious; lateral impressions moderate in depth; prehumerus short, about 1/10 as long as pronotal length. Marginal and submarginal carinae convergent around posterior 1/3 (LV). Scutellum (L/W=0.45) obsolete, without transverse carina. Prosternal process (Fig. 4) almost flat, triangular, subparalell-sided in anterior half, acutely pointed at apex. Elytra moderate in length (L/W=2.82), somewhat extending beyond abdominal apex (VV); humeral pits deep; apices (Fig. 5) regularly, separately rounded, with serrulate margins. Metatarsi much shorter than metatibia; tarsal claws bifid, inner tooth obviously shorter than outer one.

Pygidium (Fig. 6) grooved along lateral margins, uniformly covered with minute



Figs. 1–2. *Agrilus* spp. —— 1, *A. inadai* FUKUTOMI, sp. nov., holotype; 2, *A. motobuanus* FUKUTOMI, sp. nov., holotype.

setae. Eighth sternite (Fig. 7) rounded at apex, with marginal groove. Median lobe (Fig. 8) subparallel-sided, with a small projection at apex. Parameres (Fig. 9) subparallel-sided; apical emargination about 1/7 as long as parameral length, with a small projection medially.

Female. Head of the same colour as pronotum.

Measurements. BL 5.2–7.1 (5.8±0.7); BW 1.4–2.0 (1.6±0.2); PL 0.9–1.3 (1.1±0.1); PW 1.4–2.0 (1.6±0.2); PL/PW 0.58–0.71 (0.65±0.04); EL 4.1–5.7 (4.7±0.6); EW 1.5–1.9 (1.6±0.2); EL/EW 5.18–7.12 (5.81±0.69).

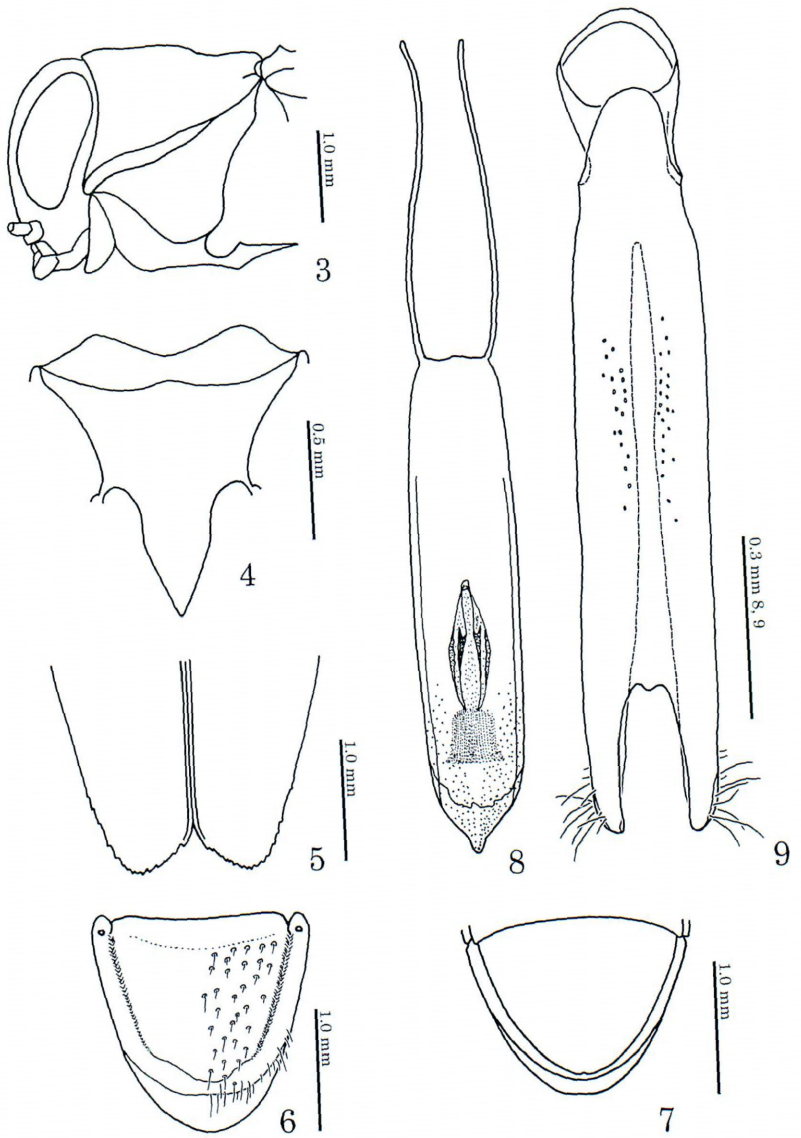
Holotype: BL 5.2; BW 1.5; PL 1.0; PW 1.5; EL 4.1; EW 1.5.

Bionomics. Adult beetles were collected from the end of April to the beginning of June by canopy sweeping of flying moth tree *Acer oblongum* WALL. *itoanum* (HAYATA) HATSUSHIMA of 4–6 m in height. This plant species is most probably an adult host plant of *Agrilus inadai*, but larval host plant has not been clarified. *Acer oblongum* is restricted to limestone areas in the Nansei-shotô of Japan, and the distribution of *Ag. inadai* may possibly be also confined to the range of *Ac. oblongum*.

Agrilus motobuanus FUKUTOMI, sp. nov.

(Figs. 2, 10–16)

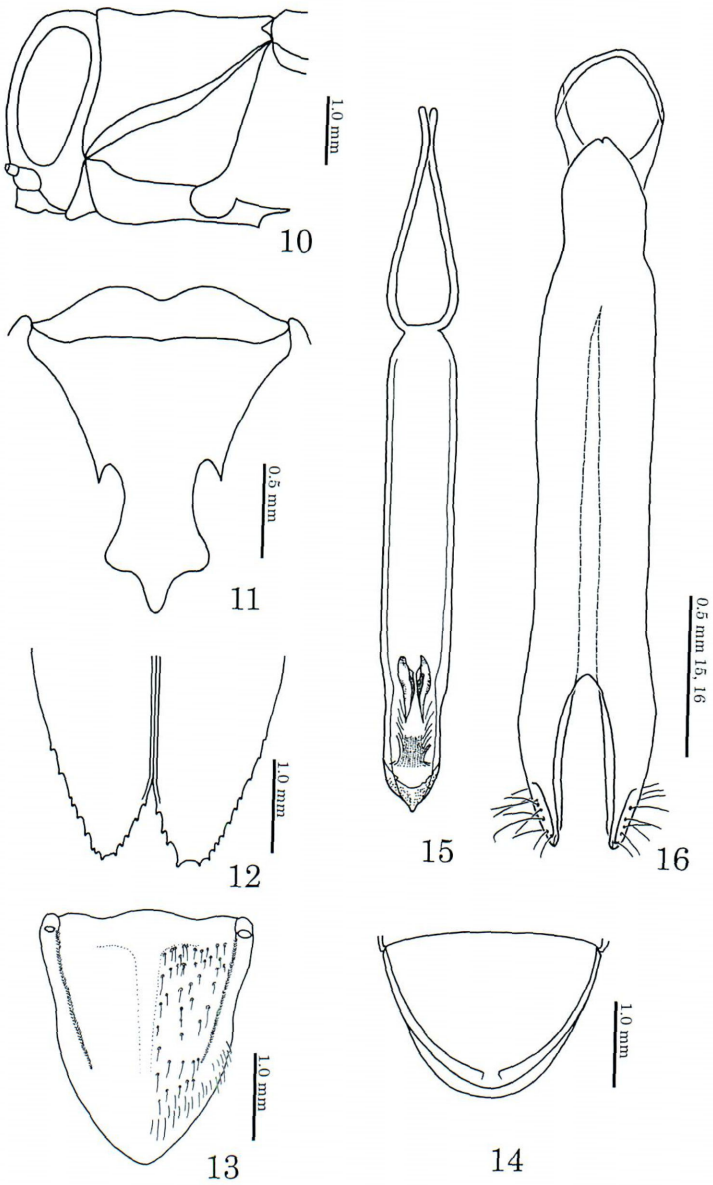
Type material. Holotype: 1♂, Oppa-dake, Tamashiro, Nakijin-son, Okinawa-



Figs. 3–9. *Agrilus inadai* FUKUTOMI, sp. nov. —— 3, Frons and pronotum (LV); 4, prosternal process (VV); 5, elytral apices (DV); 6, pygidium (DV); 7, eighth sternite (VV); 8, median lobe of male genitalia (DV); 9, parameres of male genitalia (DV). All figures are based on the holotype.

ken, 12–V–2004, S. INADA leg. Paratypes: 3♀♀, same data as holotype; 1♀, same data but 25–V–2005; 1♂, same data but 6–VI–2004; 1♀, same data but 2–VI–2003, H. FUKUTOMI leg.

Diagnosis. Among the East Asian species, this species is closely similar to *Agrilus priamus* KERREMANS, 1912 and *A. obscurecinctus* OBENBERGER, 1935 in the



Figs. 10–16. *Agrilus motobuanus* FUKUTOMI, sp. nov. —— 10, Frons and pronotum (LV); 11, prosternal process (VV); 12, elytral apices (DV); 13, pygidium (DV); 14, eighth sternite (VV); 15, median lobe of male genitalia (DV); 16, parameres of male genitalia (DV). All figures are based on the holotype.

absence of prehumeral keel on pronotum and in the pattern of elytral maculation, but is distinguished from them by the metallic green vertex, the presence of the metallic black area in the medial area of the pronotum, the narrower elytral suture, and the wider parameres. This species is easily distinguished from the other species distributed in the Nansei-shotô by the body colour and the pattern of elytral maculations.

Description. Male. Body elongate. Colour:— pronotum and elytra metallic green with silky lustre, but the median area of pronotum and elytral suture are metallic black; frons and anterior part of vertex metallic yellowish green. Prosternum and prosternal process with white recumbent pubescence. Elytra uniformly covered with short, whitish and recumbent pubescence, and with two pairs of maculations at middle and posteriorly.

Frons in lower part densely rugosely punctate, subtriangularly impressed (FV); impression with smooth surface and short medial carina. Upper part of frons and vertex sparsely punctate, divided by medial sulcus (DV, PDV). Eyes small, convex (DV), lower part extending below upper side of antennal sockets. Vertex 1.5 times as wide as width of eye (DV); clypeus flat; antennae long and slender, overreaching pronotal length.

Pronotum (Fig. 10) transverse (L/W=0.83), widest at middle; narrowed posteriad (DV). Basal pronotul angles sharp; anteromedial lobe absent; anterior angles sharply projecting forwards. Disc transversely rugose; medial sulcus obvious; lateral impressions moderate in depth; prehumerus absent. Marginal and submarginal carinae convergent anteriorly (LV). Scutellum (L/W=0.67) obsolete, without transverse carina.

Prosternal process (Fig. 11) trilobed, largely excavated mesally; lateral lobes rounded; medial lobe obtuse at apex.

Elytra moderate in length (L/W=3.1), somewhat extending beyond abdominal apex (VV); humeral pits very deep; apices (Fig. 12) regularly and separately rounded, with finely dentate margins.

Metatarsi much shorter than metatibiae; tarsal claws bifid, inner tooth obviously shorter than outer one.

Pygidium (Fig. 13) grooved along lateral margins, irregularly covered with minute setae, but without setae medially. Eighth sternite (Fig. 14) rounded at apex, with marginal groove separated postero-medially.

Median lobe (Fig. 15) subparallel-sided, narrowed from apical 1/4 toward apex, with a small projection at apex. Parameres (Fig. 16) subparallel-sided; apical emargination about 1/10 as long as parameral length, with a small projection medially, widened around apical 1/5.

Female. Fifth sternite depressed postero-medially.

Measurements. BL 7.5–8.8 (8.1±0.5); BW 1.8–2.2 (2.0±0.1); PL 1.5–1.7 (1.6±0.1); PW 1.8–2.1 (2.0±0.1); PL/PW 0.75–0.85 (0.81±0.04); EL 5.8–6.8 (6.3±0.4); EW 1.9–2.2 (2.0±0.1); EL/EW 7.53–8.82 (8.14±0.51).

Holotype: BL 7.5; BW 1.9; PL 1.5; PW 1.8; EL 5.8; EW 1.9.

Bionomics. Adults were collected together with *Agrilus inadai*.

Acknowledgments

I wish to express my sincere gratitude to Dr. Munetoshi MARUYAMA (NSMT) and Dr. S. OHMOMO (Ibaraki) for their continuous guidance and reading the original manuscript, especially to Dr. M. MARUYAMA for his instruction of line drawings used in this paper. Special thanks are also due to Mr. S. INADA (Okinawa) for his kind offer of the material, and to Mr. Nobuyuki KOBAYASHI (Kanagawa), Dr. Shûhei NOMURA (NSMT) and Mr. Akihiro SEKI (Tokyo) for their encouragement and advice. Last but not least, I thank Dr. Shun-Ichi UÉNO (NSMT) for reading the final version of the manuscript.

要　約

福富宏和：沖縄島から発見されたナガタマムシ属の2新種．—— 沖縄県今帰仁村玉城乙羽岳よりナガタマムシ属の2新種，*Agrilus inadai* sp. nov. オキナワシロテンナガタマムシ（新称）と *A. motobuanus* sp. nov. オキナワミドリナガタマムシ（新称）を記載した．オキナワシロテンナガタマムシは，北海道・本州・四国・九州より記録がある *A. sospes* LEWIS, 1893 シロテンナガタマムシに似ているが，体色が明るい赤褐色であること，内側隆線がより短いことなどで区別される．オキナワミドリナガタマムシは，台湾より記載された *A. priamus* KERREMANS, 1912 ミドリナガタマムシと *A. obscurecinctus* OBENBERGER, 1835 フタホシミドリナガタマムシに似ているが，前胸背板および上翅会合部の黒色帯の幅がより細いこと，前胸腹板突起先端がより幅広になることなどによって区別される．今回記載した両種とも，南西諸島からの近似種の記録はなく，同定は容易である．また，両種とも石灰岩地帯に多く自生するクスノハカエデのスイーピングによって得られており，成虫の後食植物と推察される．

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Elytra, Tokyo, **34** (1): 164, May 20, 2006

Additional Records of *Scirtes harmanni* and *Scirtes hamifer* (Coleoptera, Scirtidae)

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KLAUSNITZER (2005) described two new *Scirtes, S. harmanni* and *S. hamifer* from Nepal on the basis of several specimens. In this short paper, I will record additional specimens of these species. I thank Mr. Maxwell V. L. BARCLAY (BMNH) and Dr. Masataka SATÔ (Nagoya) for their kind help in offering precious materials.

Abbreviations of museums are as in previous papers of mine.

Scirtes harmanni KLAUSNITZER, 2005

Scirtes harmanni KLAUSNITZER, 2005, 40.

Specimens examined. 3♂♂, 3♀♀, & 10 exs. (BMNH, NMW, NSMT), "NEPAL: 4500′, Kathmandu, British Embassy, 20. v. – 23. vi, 1983", "M. J. D. BRENDELL B. M. 1983–222", "At MV light", genitalia on slide nos. HY 766, 772, 921, 934; 1♂ (EUM), "Nepal Kathmandu 31 V 1972 at light H. MAKIHARA".

Distribution. Nepal.

Scirtes hamifer KLAUSNITZER, 2005

Scirtes hamifer KLAUSNITZER, 2005, 42.

Specimens examined. 2♂♂, 2♀♀, & 20 exs. (BMNH, NMW, NSMT), "NEPAL: 4500′, Kathmandu, British Emassy, 20. v. – 23. vi. 1983", "M. J. D. BRENDELL B. M. 1983–222", "At MV light", genit. s. no. HY 767; 1♀, 1 ex., "NEPAL: 700′, Chitwan Nat. Pk, Sauraha, 3–6. vi. 1983", "M. J. D. BRENDELL B. M. 1983–222", "At MV light"; 2 exs., "NEPAL: 4500′, Kathmandu Dist., Gokarna, 7. vi. 1983", "M. J. D. BRENDELL B. M. 1983–222", "At MV light"; 2♂♂ (EUM), "[Central NEPAL] Sundarijal (1370 m) – Okhreni (2100 m) nr. Kathmandu, 6. X. 1981, M. SAKAI", genit. s. no. HY 770; 2♀♀, 1 ex. (BMNH), "NEPAL, 1350 m, Kathmandu, British Embassy, vi/1984, Malaise Trap", "BMNH {E} 1984–136, Col. M. G. ALLEN", genit. s. no. HY 935; 1♂ (EUM), "N. Myanmar, Kachin, Mt. Shwe-Taung, alt. 1,900 m, 25. VI. – 19. VII. 2000, S. NAGAI & H. MIYAMA", genit. s. no. HY 981.

Distribution. Nepal, Myanmar (new record).

Reference

KLAUSNITZER, B., 2005. Zwei neue Arten der Gattung *Scirtes* ILLIGER, 1807 aus Nepal (Col., Scirtidae). *Ent. Nachr. Ber.*, **49**: 39–43.

Elytra, Tokyo, **34** (1): 165–177, May 20, 2006

New *Malayaplamius* (Coleoptera, Tenebrionidae) from Southeast Asia

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Abstract Six new species of the genus *Malayaplamius* are described under the names *Malayaplamius luteifemoralis* sp. nov., *M. becvari* sp. nov., *M. fajar* sp. nov., *M. malayensis* sp. nov., *M. baehri* sp. nov. and *M. borneensis* sp. nov. A key to all the species of the genus *Malayaplamius* including the new species is also provided.

Members of the genus *Malayaplamius* are related to those of the genus *Plamius* FAIRMAIRE, 1896, but can be distinguished from the latter by the body more strongly convex above, with the head noticeably deeply grooved in lateral parts, the area between the grooves rather strongly raised, and the eyes rather small and often strongly projected laterad. Five species have hitherto been known from Borneo and the Malay Peninsula.

On occasions of our researching trips to Europe in 2003 and 2004, we were offered materials of this genus from Dr. Wolfgang SCHAWALLER, Staatliches Museum für Naturekunde, Stuttgart, Ing. Stanislav BEČVÁŘ, Czech Republic, and Dr. Martin BAEHR, Zoologische Staatssammlung, München. After a careful study of the materials, we have concluded that they include some species new to science. Thus, we are going to describe them as new species.

We wish to express our acknowledgement to the above persons for their permission to examine the invaluable materials, and we thank Dr. Ottó MERKL, the Hungarian Natural History Museum, Budapest, for loaning some holotypes for comparison, and also thank Dr. Makoto KIUCHI, Tsukuba City, for taking very clear photographs inserted in this paper.

The abbreviations used herein are as follows: NSMP: Natural Science Museum, Prague; NHMW: Naturhistorishes Museum, Wien; NSMT: National Science Museum (Nat. Hist.), Tokyo; SMNS: Staatliches Museum für Naturkunde, Stuttgart; ZSM: Zoologische Staatssammlung, München.

Malayaplamius MASUMOTO, 1986

Malayaplamius MASUMOTO, 1986, Elytra, Tokyo, **14**: 17. Type species: *Malayaplamius sakaii* MASUMOTO, 1986.

Malayaplamius luteifemoralis sp. nov.

(Fig. 5)

Female. Head, pronotum, scutellum, ventral parts and legs except for major parts of femora bluish black, elytra including epipleura dark blue, femora except for apical parts yellowish brown; head, pronotum and scutellum weakly, sericeously shining, elytra strongly metallically shining, ventral surface weakly, rather alutaceously shining, each surface almost glabrous. Body oblong-ovate, strongly convex dorsad.

Head semicircular, covered with isodiametric microsculpture, punctulate, with clypeus and genae continuously depressed; clypeus triangular, feebly raised in postero-medial part, subtruncate in front, fronto-clypeal border bisinuous and finely sulcate; genae feebly depressed in areas before eyes, with exterior margins obtusely angulate; frons strongly raised posteriad and continuing to vertex, deeply sulcate along lateral margins of the elevation, with a rather noticeable groove along median line, diatone about 2.5 times the width of transverse diameter of an eye. Eyes subcordate, rather roundly convex laterad, roundly, slightly obliquely inlaid into head. Antennae clavate, reaching basal 1/5 of pronotum, six apical segments flattened, segment X widest, ratio of the length of each segment from base to apex: 0.09, 0.05, 0.08, 0.07, 0.06, 0.07, 0.06, 0.07, 0.08, 0.09, 0.13.

Pronotum somewhat short barrel-shaped in dorsal view, 1.21 times as wide as long, widest at the middle; apex rather strongly produced anteriad, not bordered; base weakly produced in middle, sinuous on each side, finely bordered; sides rather steeply declined to lateral margins, which are finely rimmed and crenulate; front angles obtuse, hind angles nearly rectangular; disc strongly convex, highest at apical 2/5, feebly covered with isodiametric microsculpture, scattered with small punctures, which are almost of the same size as those on frons, each with a fine hair. Scutellum subcordate, feebly covered with isodiametric microsculpture, broadly depressed in medial part, microscopically, somewhat transversely impressed, sparsely scattered with microscopic punctures.

Elytra subovate, 1.57 times as long as wide, 2.76 times the length and 1.55 times the width of pronotum, widest at apical 2/5; dorsum strongly convex in posterior 4/5, highest at the middle, obliquely depressed in area around basal 1/4, weakly, somewhat transversely raised in basal 1/7 (areas before the oblique depressions); disc finely punctato-striate, the punctures in striae small, 5th stria stronger than the others close to base; intervals gently convex, almost smooth, sparsely punctulate, which are much smaller than those on pronotum; lateral margins bordered by grooves and fine rims; humeral parts swollen; apices weakly produced.

Legs without modification; femora punctate; tibiae rather noticeably covered with longitudinal sculpture; ratios of the lengths of pro-, meso- and metatarsal segments: 0.09, 0.05, 0.05, 0.08, 0.38; 0.09, 0.07, 0.06, 0.08, 0.40; 0.18, 0.08, 0.08, 0.42.

Body length: 5.28 mm.

Holotype: ♀, "Malaysia, Benom Mts., 15 km E. Kamopong Dong, 700 m, 3.53 N,

102.01 E, 1–IV–1998, DEMBICKÝ & PACHOLÁTKO leg." (NSMP).

Notes. This new species somewhat resembles *Malayaplamius schawalleri* UTSUNOMIYA et MASUMOTO, 2001, and *M. uenoi* MASUMOTO, 1986, both from Borneo, but can be distinguished from the latter two by the body not obviously widened posteriad but rather subparallel-sided, the femora yellowish brown in major basal parts, and the head strongly raised in medial and posterior parts, and gently grooved longitudinally.

Malayaplamius becvari sp. nov.

(Figs. 7, 12)

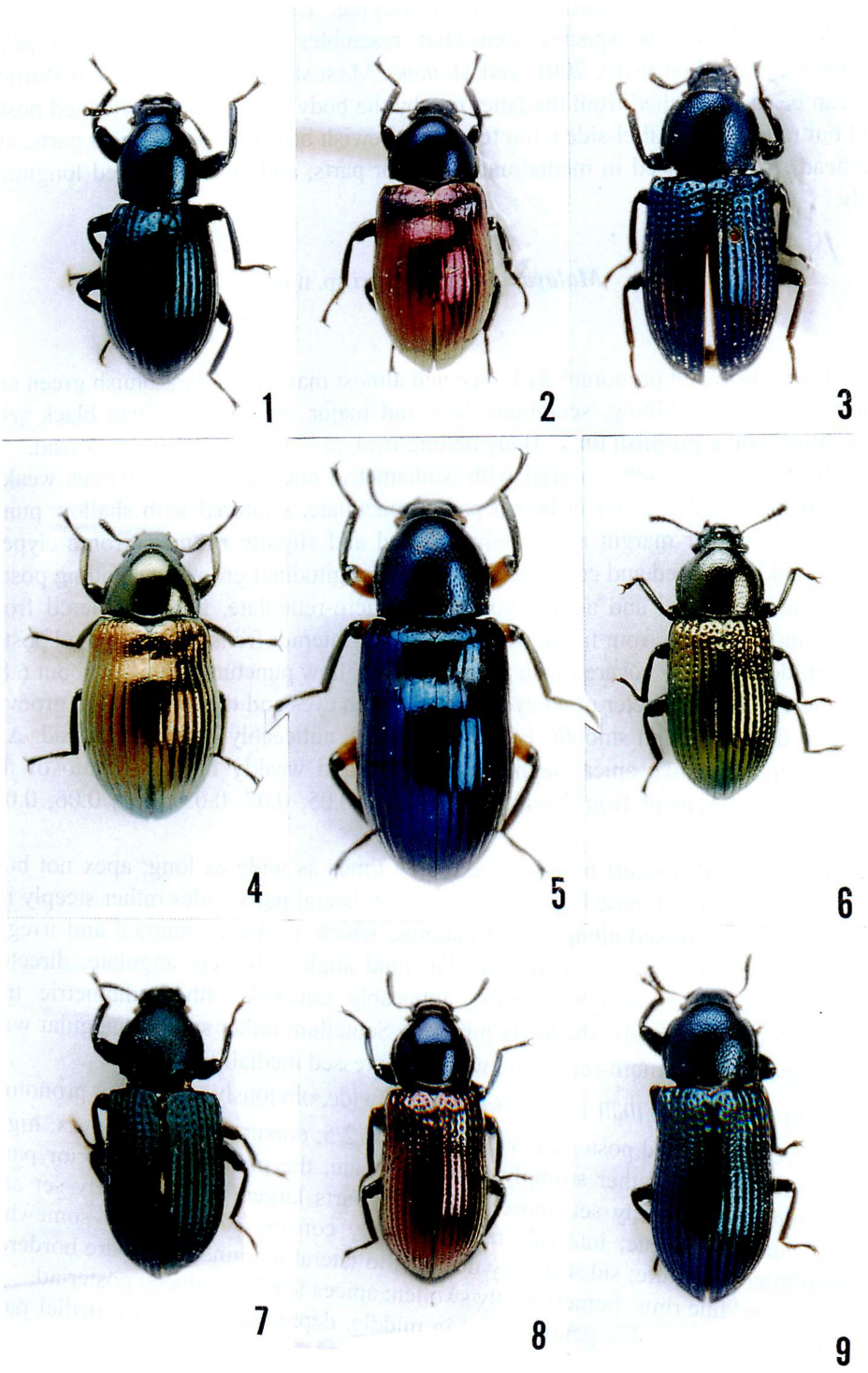
Black, head and pronotum dark blue and almost mat, elytra dark bluish green and gently sericeously shining, scutellum, legs and major parts of antennae black with weak brownish or purplish tinge. Body oblong-oval, rather strongly convex dorsad.

Head rather coarsely covered with isodiametric microsculpture; clypeus weakly raised in middle, depressed in lateral parts, punctulate, scattered with shallow punctures, with exterior margin moderately rounded and slightly rimmed, fronto-clypeal border weakly grooved and connected with deep longitudinal grooves extending posteriad; genae depressed and almost horizontal, micro-reticulate, finely bordered from clypeus and deeply so from frons, weakly produced laterad; frons broadly raised posteriad in middle, closely covered with rather large, shallow punctures, diatone about 6.80 times the width of diameter of an eye; areas between eyes and the longitudinal grooves obliquely depressed and smooth. Eyes rather small, noticeably produced laterad. Antennae subclavate, five apical segments widened and weakly flattened; ratio of the length of each segment from base to apex: 0.10, 0.05, 0.07, 0.05, 0.05, 0.06, 0.07, 0.08, 0.08, 0.08, 0.11.

Pronotum rather short barrel-shaped, 1.19 times as wide as long; apex not bordered, feebly produced; base bisinuous, rimmed in lateral parts; sides rather steeply inclined, weakly depressed along lateral margins, which are finely rimmed and irregularly crenulate; front angles subrectangular, hind angles obtusely angulate, directed postero-laterad; disc strongly convex, noticeably covered with isodiametric microsculpture, rather closely, shallowly punctate. Scutellum rather small, triangular with rounded apex, feebly micro-reticulate, weakly depressed medially.

Elytra slightly less than 1.4 times as long as wide, obviously wider than pronotum at bases, feebly widened posteriad, widest at apical 2/5; dorsum strongly convex, highest at basal 1/4; disc rather strongly punctato-striate, the punctures in interior parts smaller and rather closely set, those in exterior parts larger, more sparsely set and forming quadrate foveae; intervals rather strongly convex, covered with somewhat scaphoid microsculpture; sides steeply declined to lateral margins, which are bordered by grooves and fine rims; humeri gently swollen; apices feebly produced posteriad.

Mentum semicircular, gently raised in middle, depressed in postero-medial part,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Figs. 10–11. Habitus of *Malayaplamius* spp. —— 10, *M. baehri* sp. nov., holotype, ♂; 11, *M. borneensis* sp. nov., holotype, ♀.

with small numbers of long hairs; terminal segment of maxillary palpus subsecuriform in male, with exterior side longest and rounded, apical side nearly straight, and interior side nearly straight and about half the length of exterior side.

Abdomen smooth in medial parts, covered with isodiametric microsculpture in lateral parts, strongly punctate, the punctures in two basal sternites and medial part of the third rather strong, those in the remaining parts becoming smaller; postero-lateral parts of penultimate segment produced; anal sternite with simply rounded apex.

Legs rather stout; profemur with upper and lower edges along front face; protibia rather short, gently curved intero-ventrad, with a fine hook at apex of ventral side; tarsi rather long as compared with tibiae, ratios of the lengths of pro-, meso- and metatarsal segments: 0.07, 0.04, 0.05, 0.04, 0.31; 0.07, 0.04, 0.06, 0.05, 0.33; 0.09, 0.05, 0.06, 0.42; claws medium-sized and falciform.

Male genitalia elongated subfusiform, 0.65 mm in length, 0.13 mm in width, basal piece gently curved in lateral view; lateral lobes elongated triangular, 0.30 mm in length, weakly curved in lateral view, with apices bluntly pointed.

Body length: 4.4–4.9 mm.

Holotype: ♂, "W. Malaysia, Pahang, Baniaran Benom Mts., K. Ulu Dono, 10–15 km SSE, 17~23–IV–1997, D. HAUCK leg." (NSMP). Paratypes: 2 exs., same data as for the holotype, 2 exs., "Malaysia, Benom Mts., 15 km E Kampong Dong, 700 m, 3.53 N, 102.01 E, 1–IV–1998, DEMBICKÝ & PACHOLÁTKO leg.", 1 ex., "W.

Figs. 1–9 (on p. 168). Habitus of *Malayaplamius* spp. —— 1, *M. sakaii* MASUMOTO, paratype, ♂; 2, *M. uenoi* MASUMOTO, holotype, ♂; 3, *M. kaszabi* MASUMOTO, holotype, ♀; 4, *M. schawallari* UTSUNOMIYA et MASUMOTO, holotype, ♂; 5, *M. luteifemoralis* sp. nov., holotype, ♀; 6, *M. bremeri* MASUMOTO, holotype, ♂; 7, *M. becvari* sp. nov., holotype, ♂; 8, *M. fajar* sp. nov., holotype, ♂; 9, *M. malayensis* sp. nov., holotype, ♀.

Malaysia, Kelantan, Banjaran Titi Wangsa Mts., Ladang Pandrak env., 9～11–IV–1997, 1500–1800 m, P. ČECHOVSKÝ leg."; 1 ex., "C-Laos: Prov. Viangchian, Phou Khao Khouay NP, env. Tad Leuk Waterf. 1～8–VI–1996, 200 m, leg. SCHILLHAMMER (15)" (NHMW).

Notes. This new species can be distinguished from the known species by the dorsal surface wholly covered with isodiametric microsculpture; head and pronotum dark blue and almost mat, and elytra dark blue with a feeble greenish tinge, and sericeously shining.

Malayaplamius fajar sp. nov.

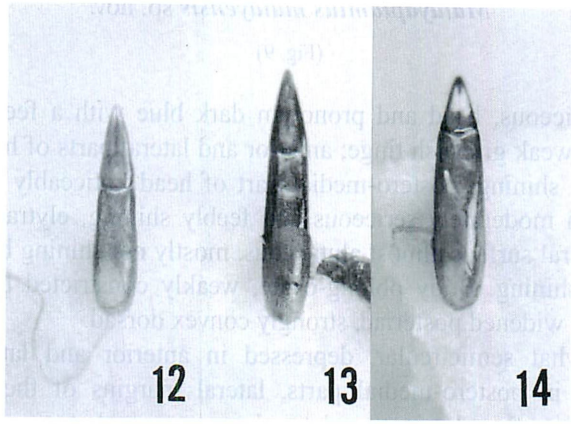
(Figs. 8, 13)

Black with a feeble bluish tinge, head and pronotum dark blue, elytra purplish with basal areas somewhat violet under a certain light, antennae and tibiae brownish black, apical parts of femora and tibiae with a dark greenish tinge; head, pronotum and scutellum rather strongly shining, elytra strongly, metallically shining; ventral surface rather alutaceous. Body oblong-ovate, rather strongly convex dorsad.

Head subdecagonal, raised posteriad, with distinct longitudinal grooves in lateral parts along borders between interior parts of head (frons and vertex) and exterior parts (genae); clypeus transverse, feebly convex in middle, depressed in lateral parts, moderately punctulate, with apical margin truncate in middle and rounded in lateral parts, fronto-clypeal border finely, transversely sulcate, feebly sinuous on each side; genae almost horizontal, finely, obliquely bordered from clypeus, subrectangularly produced laterad, scattered with small punctures; frons broadly raised and smoothly continuing to vertex, scattered with shallow, somewhat ovate punctures, each with a short bent hair, distance between eyes about five times the width of diameter of an eye; areas between eyes and longitudinal grooves rather steeply inclined, punctulate in anterior parts, smooth in posterior parts. Eyes noticeably protruded laterad, rather weakly inlaid into head. Antennae subclavate, five apical segments widened and weakly flattened; ratio of the length of each segment from base to apex: 0.07, 0.04, 0.05, 0.04, 0.05, 0.05, 0.08, 0.07, 0.09, 0.08, 0.10.

Pronotum somewhat barrel-shaped, 1.21 times as wide as long; apex not bordered, feebly produced; base bisinuous, boldly bordered; sides rather steeply inclined laterad, boldly grooved along lateral margins, which are finely rimmed and irregularly crenate; front angles obtuse, hind angles subrectangular; disc strongly convex, irregularly scattered with shallow punctures. Scutellum triangular, feebly elevated, smooth.

Elytra subovate, 1.56 times as long as wide, 2.73 times the length and 1.29 times the width of pronotum, gently widened posteriad, widest slightly after the middle, roundly narrowed apicad; dorsum strongly convex, highest at basal 2/5, gently, obliquely depressed in areas from basal 1/5 (near suture) to basal 2/5 (near lateral margins); disc with rows of punctures, those in interior parts small, rather closely set and



Figs. 12–14. Dorsal view of male genitalia. —— 12, *Malayaplamius becvari* sp. nov.; 13, *Malayaplamius fajar* sp. nov.; 14, *Malayaplamius baehri* sp. nov.

weakly striate, those in exterior parts larger, more sparsely set and often forming foveae; intervals weakly convex in interior part and strongly so in exterior and posterior parts, sparsely punctulate, weakly, rather transversely aciculate; sides steeply declined to lateral margins, which are bordered by grooves with punctures and finely rimmed; humeri gently swollen; apices feebly produced.

Mentum subhexagonal, longitudinally ridged in medial part, depressed in posterior part; maxillary palpus lost in the type specimen; labial palpi ovate; gula subelliptical, transversely sculptured.

Abdomen strongly punctate, the punctures in two basal sternites and medial part of the third rather large, those in the remaining parts becoming smaller; lateral margins of penultimate segment rounded; anal sternite with simply rounded apex.

Legs rather stout; femora with upper and lower edges along interior faces; protibiae rather short, gently curved intero-ventrad, with interior faces weakly gouged in medial part; tarsi rather long as compared with tibiae, ratios of the lengths of pro-, meso- and metatarsal segments: 0.08, 0.04, 0.04, 0.05, 0.28; 0.07, 0.04, 0.04, 0.05, 0.29; 0.15, 0.05, 0.05, 0.27.

Male genitalia elongated fusiform, 0.85 mm in length and 0.14 mm in width, feebly curved in lateral view; fused lateral lobes weakly elongated triangular in dorsal view, 0.03 mm in length, with slightly rounded apices.

Body length: 3.80 mm.

Holotype: ♂, "Kimanis, nr. Keningau, N. Borneo, III~V–1983, M. ITOH" (NSMT).

Notes. This new species somewhat resembles *M. bremeri* MASUMOTO, 1998, from Borneo, but can be distinguished from the latter by the body slenderer, the elytral intervals less strongly convex, and the dorsal surface less strongly punctate with different coloration.

Malayaplamius malayensis sp. nov.

(Fig. 9)

Female. Piceous, head and pronotum dark blue with a feeble greyish tinge, elytra blue with a weak greenish tinge; anterior and lateral parts of head and scutellum weakly, vitreously shining, postero-medial part of head noticeably sericeous and not shining, pronotum moderately sericeous and feebly shining, elytra strongly, metallically shining, ventral surface almost alutaceous, mostly not shining but medial parts of abdomen gently shining. Body oblong-ovate, weakly constricted between pronotum and elytra, weakly widened posteriad, strongly convex dorsad.

Head somewhat semicircular, depressed in anterior and lateral parts, rather strongly elevated in postero-medial parts, lateral margins of the elevation deeply grooved, the exterior edges being crenulate; clypeus somewhat transversely hexagonal, feebly convex in postero-medial part, irregularly punctulate, weakly covered with isodiametric microsculpture in apical part, weakly truncate at apex, lateral parts of the truncation roundly curved posteriad, fronto-clypeal border nearly straight and each lateral end connected with fronto-genal sulcus, and also with lateral groove, which extends to lateral part of occiput; genae (areas before eyes) feebly depressed, shallowly, sparsely ruguloso-punctulate in exterior parts, almost impunctate and smooth in interior parts, with exterior margins weakly produced, genae (areas behind eyes) rather steeply inclined, impunctate and smooth; frons noticeably raised, smoothly continued and widened posteriad, noticeably covered with isodiametric microsculpture, rather closely scattered with shallow coarse punctures. Eyes medium-sized, gently protruded laterad, rather weakly roundly inlaid into head, distance between them about six times their own diameter. Antennae somewhat clavate, reaching basal 1/4 of pronotum, five apical segments noticeably widened and flattened, 9th the widest, 11th nearly round, rough-surfaced and with trichoid sensillae in apical 1/4, ratio of the length of each segment from base to apex: 0.11, 0.04, 0.06, 0.04, 0.04, 0.04, 0.06, 0.06, 0.08, 0.07, 0.09.

Pronotum wider than long (4 : 3), widest at the middle, roundly narrowed towards base and apex, the former slightly wider than the latter; apex feebly produced and arched, not bordered; base weakly produced in middle, slightly sinuous in lateral parts, clearly bordered and rimmed, the rim becoming feebly bolder in middle; sides steeply declined to lateral margins, which are weakly bordered and finely rimmed, the rim irregularly crenulate; front angles obtuse and not angulate, hind angles subrectangular; disc strongly convex, noticeably covered with isodiametric microsculpture, rather closely, shallowly punctate, the punctures in antero-medial part somewhat ovate. Scutellum sublinguiform, weakly depressed, rather flat, weakly, microscopically wrinkled.

Elytra 1.60 times as long as wide, 2.55 times the length and 1.19 times the width of pronotum, widest at the middle, weakly narrowed basad and roundly apicad; dorsum strongly convex, highest at basal 1/3, weakly, obliquely depressed laterad in basal 1/4; disc punctato-striate, the punctures in striae rather strong, often transversely impressed

across intervals, becoming larger and forming foveae in anterio-lateral parts; intervals rather strongly convex, punctulate, transversely micro-aciculate in antero-lateral portions; sides steeply declined to lateral margins, punctate-grooved and finely rimmed; humeral portions gently swollen; apices feebly, roundly produced.

Legs rather short and stout; femora punctate, the punctures becoming coarser apicad; tibiae covered with elongated sculptures; ratios of the lengths of pro-, meso- and metatarsal segments: 0.08, 0.05, 0.06, 0.05, 0.18; 0.08, 0.04, 0.04, 0.05, 0.26; 0.10, 0.05, 0.07, 0.27.

Body length: 3.13 mm.

Holotype: ♀, "MALAYSIA: Benon Mts., 15 km E Kampong Dong, 700 m, 3°53′N, 102°01′E, 1–IV–1998, DEMBICKÝ & PACHOLÁTKO leg." (NSMP); 1 ex., "(Near K. Bahru), Selangor, Malaysia, 27–III–1976, Coll. K. SAKAI " (paratype of *M. kaszabi* MASUMOTO, 1998).

Notes. This new species somewhat resembles *Malayaplamius kaszabi* MASUMOTO, 1986, from Borneo, but can be distinguished from the latter by the body slenderer, head more widely elevated in postero-medial part, with exterior margins of longitudinal grooves along the elevation not so noticeably crenate, and the pronotum covered with isodiametric microsculpture, with the humeral parts not noticeably swollen.

Malayaplamius baehri sp. nov.

(Figs. 10, 14)

Piceous, head, pronotum and scutellum dark blue, elytra dark greenish blue, antennae with five basal segments and apical halves of terminal segments, mouth parts and claws dark brown; head, pronotum and scutellum rather vitreously shining, elytra strongly, metallically shining, ventral surface rather alutaceous. Body oblong-ovate, weakly constricted between pronotum and elytra, strongly convex dorsad.

Head somewhat semicircular, rather strongly elevated in postero-medial portion; clypeus widely trapezoidal, feebly convex in middle, irregularly punctulate, weakly truncate at apex, roundly curved in lateral parts of the truncation, fronto-clypeal border shallowly sulcate, the sulcus weakly curved anteriad and connected with fronto-genal sulci, and also with deep longitudinal grooves along margins of postero-medial elevation, which extend to the posterior parts of head; genae (areas before eyes) gently depressed, punctulate in exterior parts, sparsely and rugoso-punctate in interior parts, with exterior margins roundly produced, areas between grooves and eyes finely, straightly ridged; frons broadly elevated, rather closely scattered with shallow punctures, each with a short bent hair; vertex rather sparsely punctate, the punctures larger than those on frons; occiput covered with isodiametric microsculpture and closely punctate. Eyes medium-sized and subelliptical, gently protruded laterad, roundly, feebly obliquely inlaid into head, distance between them about four times their own diameter. Antennae somewhat clavate, reaching basal 1/4 of pronotum, five apical segments

noticeably widened and flattened, 10th the widest, 11th nearly round, rough-surfaced and with trichoid sensillae in apical 2/5; ratio of the length of each segment from base to apex: 0.06, 0.04, 0.05, 0.05, 0.05, 0.04, 0.05, 0.06, 0.07, 0.09, 0.10.

Pronotum 1.36 times as wide as long, widest slightly before the middle, roundly narrowed towards base and apex, the former slightly wider than the latter; apex feebly produced and arched, not bordered; base weakly produced in middle, slightly sinuous in lateral parts, clearly bordered; sides steeply declined to lateral margins, which are clearly bordered and rimmed, irregularly crenate; front angles obtuse and not angulate, hind angles obtuse but angulate; disc strongly convex, closely and shallowly punctate, each puncture with a minute decumbent hair. Scutellum triangular, weakly covered with isodiametric microsculpture, sparsely punctulate.

Elytra 1.53 times as long as wide, 2.27 times the length and 1.13 times the width of pronotum, widest at apical 2/3, weakly narrowed basad and more strongly, roundly so apicad; dorsum strongly convex, highest at the middle, weakly, obliquely depressed in antero-lateral parts; disc punctato-striate, the punctures in striae rather strong, sometimes impressing intervals or transversely connecting with one another, becoming larger and sparser antero-laterad; intervals rather strongly convex, sparsely punctulate, transversely micro-aciculate in antero-lateral parts; sides steeply inclined, with lateral margins grooved with sparse punctures and finely rimmed; humeral portions feebly swollen; apices feebly produced.

Legs moderate-sized and simple in shape; ratios of the lengths of pro-, meso- and metatarsal segments: 0.11, 0.09, 0.07, 0.08, 0.28; 0.12, 0.05, 0.06, 0.06, 0.32; 0.12, 0.05, 0.07, 0.30.

Male genitalia subfusiform, 0.60 mm in length, 0.07 mm in width, rather strongly curved in lateral view; fused lateral lobes triangular in dorsal view, 0.34 mm in length, with prolonged, ventrally bent apices.

Body length: 4.05 mm.

Holotype: ♂, "Malaysia West, 90 km NE of IPOH; Baniaran Titi Wangsa Mt. GERAH, 1~17–IV–2000, P. ČECHOVSKÝ, ex-Bremer Collection" (ZSM).

Notes. This new species somewhat resembles *M. borneensis* sp. nov., from Borneo, but can be distinguished from the latter by the eyes larger in dorsal view, the head scattered with shallow punctures in medial and posterior parts, the elytra with strial punctures transversely notching intervals, and the protibiae neither short nor stout.

Malayaplamius borneensis sp. nov.

(Fig. 11)

Female. Piceous, head dark greenish blue partly with a feeble golden tinge, pronotum dark blue, elytra dark blue with a feeble greenish tinge; head with antero-lateral parts feebly metallically shining, and interior parts almost mat, pronotum rather strongly, somewhat vitreously shining, scutellum moderately shining, elytra strongly,

metallically shining, ventral surface rather alutaceous. Body oblong, weakly constricted between pronotum and elytra, strongly convex dorsad.

Head somewhat hexagonal, depressed in anterior and lateral parts, strongly elevated in medial and posterior parts, the medial elevation with lateral margins deeply sulcate, whose exterior edges crenulate; clypeus somewhat obtrapezoidal, feebly convex in middle, weakly covered with isodiametric microsculpture, shallowly rugulosopunctulate, weakly truncate at apex, each lateral part of the truncation rounded, frontoclypeal border indistinctly sulcate, the sulcus feebly sinuate; genae (areas before eyes) weakly ruguloso-punctulate, with exterior margins raised and weakly produced, those in areas behind eyes rather smooth; frons raised and widened posteriad, smoothly continued to vertex, covered with isodiametric microsculpture, ruguloso-punctate, with a longitudinal medial impression from the fronto-clypeal border to the level of the midline of eyes. Eyes subelliptical in dorsal view, protruded laterad, roundly inlaid into head, distance between them about 3.5 times their own diameter. Antennae clavate, reaching basal 1/5 of pronotum, five apical segments noticeably widened and flattened, 10th the widest, 11th nearly round and rough-surfaced with trichoid sensillae in apical 2/5, ratio of the length of each segment from base to apex: 0.08, 0.06, 0.05, 0.04, 0.05, 0.05, 0.05, 0.07, 0.08, 0.07, 0.11.

Pronotum wider than long (6 : 5), widest slightly before the middle, roundly narrowed towards base and apex, the former feebly wider than the latter; apex gently produced and arched, not bordered; base weakly produced in middle, slightly sinuous in lateral parts, finely bordered and rimmed, the rim becoming bolder medially; sides steeply declined to lateral margins, which are grooved and finely rimmed, the rim irregularly crenate; front angles obtusely angulate, hind angles subrectangular; disc strongly convex, particularly so in anterior parts, covered with isodiametric microsculpture in antero-lateral parts, rather closely punctate, the punctures somewhat longitudinally ovate, each with a minute decumbent hair. Scutellum triangular, sparsely punctulate in apical part.

Elytra 1.51 times as long as wide, 2.17 times the length and 1.27 times the width of pronotum, widest at apical 3/7, feebly narrowed basad and roundly so apicad; dorsum strongly convex, highest at basal 1/3, weakly, obliquely depressed near bases; disc punctato-striate, the punctures in striae round, becoming larger and coarser laterad, distance among them being their own diameter, 5th striae impressed close to base; intervals gently convex, sparsely punctulate; sides steeply inclined, gently enveloping hind body, with lateral margins punctate-grooved and finely rimmed; humeral portions gently swollen; apices feebly, roundly produced.

Legs rather short and stout; femora closely rugoso-punctate; tibiae covered with rather longitudinal sculpture; ratios of the lengths of pro-, meso- and metatarsal segments: 0.08, 0.06, 0.07, 0.06, 0.28; 0.08, 0.04, 0.04, 0.05, 0.19; 0.09, 0.05, 0.04, 0.27.

Body length: 3.64 mm.

Holotype: ♀, "BORNEO: Sarawak, Belaga, Long Linau, 17~21–III–1990, leg. A. RIEDEL" (SMNS).

Notes. This new species somewhat resembles *Malayaplamius baehri* sp. nov., but can be distinguished from the latter by the eyes smaller in dorsal view, the head in anterior parts wrinkled, covered with microsculpture and shallow punctures in medial and posterior parts; elytra simply punctato-striate; protibiae obviously shorter and more stout.

Key to the Known Species of the Genus *Malayaplamius*

1 (6) Body obviously widened posteriad.
2 (3) Elytra strongly and simply convex above; body noticeably constricted between pronotum and elytra. Malay Peninsula. (Fig. 1) ..... *M. sakaii* MASUMOTO
3 (2) Elytra noticeably convex above in posterior portion; body not so noticeably constricted between pronotum and elytra.
4 (5) Pronotum more strongly narrowed anteriad; elytra more strongly widened laterad; intervals more strongly convex; head, pronotum and scutellum dark greenish golden, elytra with golden purplish tinge in major parts. Borneo. (Fig. 4)..... *M. schawalleri* UTSUNOMIYA et MASUMOTO
5 (4) Pronotum less strongly narrowed anteriad; elytra less strongly widened laterad; intervals less strongly convex; head, pronotum and scutellum dark blue, elytra purple except for humeral parts blue. Borneo. (Fig. 2)..... *M. uenoi* MASUMOTO
6 (1) Body not obviously widened posteriad, rather subparallel-sided.
7 (8) Elytra with posterior part noticeably convex above; femora yellowish brown in major basal parts; head strongly raised in medial and posterior parts, gently grooved longitudinally. Body length: 5.28 mm. Malay Peninsula. (Fig. 5).... *M. luteifemoralis* sp. nov.
8 (7) Elytra with posterior part not noticeably convex above; femora not yellowish brown in major basal parts (whole legs in the same coloration, mostly bluish black).
9(10) Dorsal surface wholly covered with isodiametric microsculpture; head and pronotum dark blue and almost mat, elytra dark blue with a feeble greenish tinge, sericeously shining. Body length: 4.4–4.9 mm. Malay Peninsula, Indochina. (Figs. 7, 12) ..... *M. becvari* sp. nov.
10 (9) Dorsal surface not wholly covered with isodiametric microsculpture.
11(14) Dorsal surface multi-colored.
12(13) Body more stout; elytral intervals more strongly convex; dorsal surface more strongly punctate, head, pronotum, scutellum and posterior parts of elytra golden green, antero-interior parts of elytra with a purplish luster. Borneo. (Fig. 6) ..... *M. bremeri* MASUMOTO
13(12) Body slenderer; elytral intervals less strongly convex; dorsal surface less strongly punctate; head and pronotum dark blue, elytra violet with basal parts bearing a dark greenish tinge. Borneo. Body length: 3.80 mm. (Figs. 8, 13)..

. . . . . *M. fajar* sp. nov.

14(11) Dorsal surface single-colored (blue, sometimes with feeble greenish tinge).

15(16) Humeral parts rather noticeably swollen; head and pronotum closely punctate; exterior margins of longitudinal sulci on head noticeably crenulate. Borneo. (Fig. 3). . . . . *M. kaszabi* MASUMOTO

16(15) Humeral parts not noticeably swollen; exterior margins of longitudinal sulci on head not noticeably crenulate.

17(18) Head, except clypeus and genae, and pronotum obviously covered with isodiametric microsculpture and more coarsely punctate, the punctures somewhat elliptical. Body length: 3.13 mm. Malay Peninsula. (Fig. 9). . . . . *M. malayensis* sp. nov.

18(17) Pronotum not covered with isodiametric microsculpture, scattered with rather round punctures.

19(20) Eyes smaller in dorsal view; head in antero-medial parts ruguloso-punctate, covered with microsculpture and shallow punctures in medial and posterior parts; elytra simply punctato-striate; protibiae obviously shorter and stouter. Body length: 3.64 mm. Borneo. (Fig. 11) . . . . . *M. borneensis* sp. nov.

20(19) Eyes larger in dorsal view; head simply punctate, the punctures rather large and shallow, each with a short hair in medial and posterior parts; elytra punctato-striate, the punctures in striae rather strong, sometimes impressing intervals, or transversely connecting with one another; protibiae neither short nor stout. Body length: 4.05 mm. Malay Peninsula. (Figs. 10, 14). . . . . *M. baehri* sp. nov.

要　　約

宇都宮由佳・益本仁雄：東南アジア産*Malayaplamius*属の新種について（コウチュウ目ゴミムシダマシ科）．—— 東南アジアに分布する*Malayaplamius*属の甲虫を検討し，6新種を記載した．すなわち，*Malayaplamius luteifemoralis* sp. nov., *M. becvari* sp. nov., *M. fajar* sp. nov., *M. malayensis* sp. nov., *M. baehri* sp. nov. および*M. borneensis* sp. nov.である．これらに既知種を含め検索表を作成し，さらにすべての種を図示した．

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Elytra, *Tokyo*, **34** (1): 178, May 20, 2006

Taxonomic Status of *Onthophagus nagasawai* (Coleoptera, Scarabaeidae)

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In 1930, MIWA recorded *Onthophagus armatus* BLANCHARD, 1853, from Taiwan. Then, MATSUMURA (1938) described *Onthophagus nagasawai* from "Taihoku" (=Taipei), Taiwan. BALTHASAR (1963) regarded *O. armatus* as a member of the subgenus *Onthophagus* sensu stricto. Later, MASUMOTO (1976) stated that the Taiwanese species should be regarded as *O.* (s. str.) *pseudoarmatus* BALTHASAR, 1944.

In the course of the revisional study on the Taiwanese dung beetles, the authors have studied the above-mentioned species in detail and were able to examine the holotype of *O. nagasawai* MATSUMURA preserved in the Hokkaido University Museum. They came to the conclusion that "*O. armatus*" and "*O. pseudoarmatus*" from Taiwan should be called *O. nagasawai*, which is a good species belonging to the subgenus *Colobonthophagus* BALTHASAR, 1935.

Onthophagus* (*Colobonthophagus*) *nagasawai MATSUMURA, 1938

Onthophagus nagasawai MATSUMURA, 1938, Ins. matsum., Sapporo, **12**: 60.
Onthophagus armatus: MIWA, 1930, Ins. matsum., Sapporo, **4**: 169. [Nec BLANCHARD, 1853.]
Onthophagus pseudoarmatus: MASUMOTO, 1976, Elytra, Tokyo, **4**: 26. [Nec BALTHASAR, 1944.]

In Taiwan, this species is collected from cow's dung in the hills and lowlands and not rare.

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Elytra, *Tokyo*, **34** (1): 179–183, May 20, 2006

Two New Alleculine Species (Coleoptera, Tenebrionidae, Alleculinae) from Japan

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Abstract Two new alleculine species collected from Japan are described under the names *Allecula akitai* sp. nov. and *Mycetochara kimotoi* sp. nov.

In the course of a revisional study on the Japanese alleculine species, the authors had an opportunity of examining two unknown species. One of them collected from Nara was assigned to the genus *Allecula* and the other from Yamanashi to the genus *Mycetochara*. After a careful study, the authors have concluded that both of them are new to science. Thus, they are going to describe two new species from Japan. Before going further into details, the authors wish to express their cordial thanks to Messrs. Katsumi AKITA, Hisai City, and Tatsunosuke KIMOTO, Tokyo, for offering invaluable materials for this study.

The holotypes will be deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Allecula akitai sp. nov.

(Figs. 1, 3–4)

Brownish black, basal halves of antennae, basal parts of femora, tibiae and tarsi, mouth parts, and gula, reddish brown, apical halves of antennae and apical parts of femora darker in colour; each surface rather opaque and covered with short yellowish

hairs. Body elongated fusiform, convex longitudinally.

Head subrhombic, closely covered with small punctures, each with a short suberect hair; clypeus subelliptical, noticeably depressed in basal part, truncate and bent ventrad in apical part, rather distinctly pubescent on each side of frontal edge, with fronto-clypeal border semicircular and finely impressed; frons slightly convex, obviously rugoso-punctate in area between eyes, interior margins of eyes gently grooved, diatone about 1.3 times the width of diameter of an eye in male (1.5 times in female); occiput narrowed. Eyes subreniform in dorsal view, noticeably strongly convex laterad. Antennae filiform, reaching the middle of elytra, ratio of the length of each segment from base to apex: 0.8, 0.45, 1.6, 1.6, 1.4, 1.4, 1.4, 1.3, 1.2, 1.1, 1.2.

Pronotum subquadrate and feebly convex laterad in dorsal view, closely, somewhat rugosely covered with small punctures, each with a short hair; front angles obtusely rounded and hind angles subrectangular in dorsal view; disc moderately convex broadly in middle; sides steeply declined to lateral margins, which are finely rimmed but invisible from above. Scutellum subpentagonal, almost flat, sparsely punctulate and haired.

Elytra about 2.5 times as long as wide, 4.8 times the length and 1.5 times the width of pronotum; dorsum gently convex longitudinally, feebly flattened in middle; disc shallowly grooved with rows of punctures; intervals gently convex, rather sparsely scattered with small granulate punctures, each with a short yellowish hair; sides steeply declined to lateral margins, which are finely rimmed but visible from above except in basal parts; humeri feebly humped antero-laterad; apices gently rounded.

Terminal segment of maxillary palpus noticeably strongly dilated apicad, with internal angle obviously produced in male, simply securiform in female. Prosternum scattered with shallow punctures; meso- and metasterna punctate, with areas before metacoxae impunctate; abdomen scattered with punctures, covered with yellowish hairs.

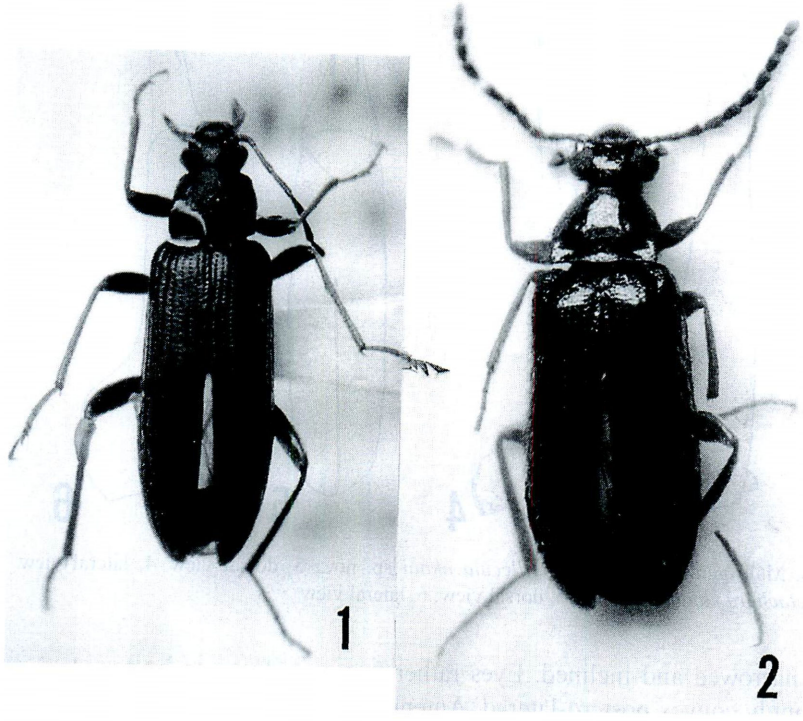
Legs somewhat short-sized for a member of this genus; ratios of lengths of pro-, meso- and metatarsal segments: 1.0, 0.5, 0.25, 0.5, 1.1; 2.0, 0.8, 0.5, 0.5, 1.4; 3.0, 1.0, 0.7, 1.3.

Male genitalia rather slender, about 1.05 mm in length and 0.18 mm in width, strongly curved in lateral view.

Body length: 5.6–6.8 mm.

Holotype: ♂, "Nara-ken, Nara-shi, Kasuga-yama, 140–200 m, 19–V–2002, K. AKITA leg." (NSMT). Paratypes: 7 exs., same data as for the holotype.

Notes. This new species somewhat resembles *Allecula noctivaga* LEWIS, 1895, originally described from Kashiwagi, Japan, but can be distinguished from the latter by the smaller and slenderer body with the pronotum nearly barrel-shaped (rather trapezoidal in *A. noctivaga*).



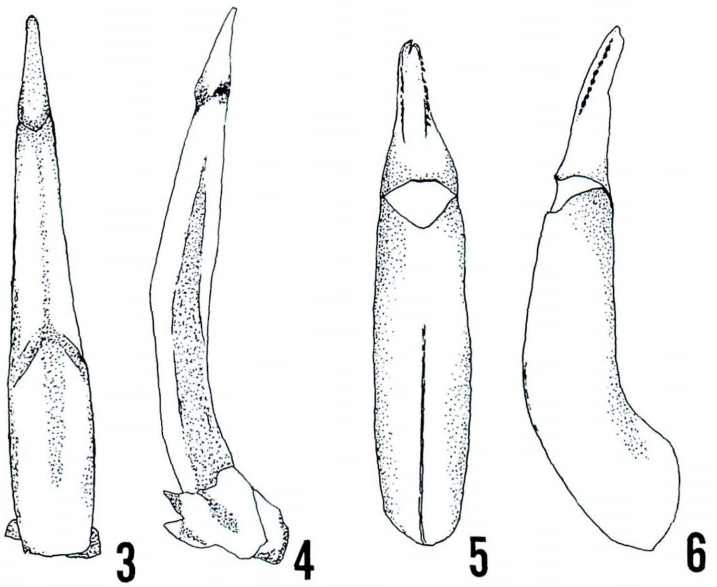
Figs. 1–2. Habitus of alleculine beetles. —— 1, *Allecula akitai* sp. nov., male, holotype; 2, *Mycetochara kimotoi* sp. nov., male, holotype.

Mycetochara kimotoi sp. nov.

(Figs. 2, 5–6)

Head except for clypeus, elytra, abdomen and antennae (mostly 5th to 10th segments) brownish black to blackish brown, clypeus, pronotum, scutellum, legs and the remaining parts of antennae reddish yellow; head, pronotum and antero-medial parts of elytra rather strongly, vitreously shining, postero-lateral parts of elytra and abdomen gently shining; dorsal surface clothed with rather long pale-yellowish hairs. Body elongated ovate, subparallel-sided, gently convex dorsad.

Head subrhombic, scattered with small punctures, each with a suberect, rather long hair; clypeus transversely subhexagonal, obviously depressed, weakly convex in middle, weakly inclined antero-laterad, truncate at apex, with fronto-clypeal border widely curved and clearly impressed; frons gently convex posteriad, feebly flattened in middle, where the punctures become sparser; interior margins of eyes finely rimmed, diatone about 1.5 times the width of diameter of an eye in male (unknown in female);



Figs. 3–6, Male genitalia. —— 3–4, *Allecula akitai* sp. nov.; 3, dorsal view, 4, lateral view. —— 5–6, *Mycetochara kimotoi* sp. nov., 5, dorsal view; 6, lateral view.

occiput narrowed and inclined. Eyes rather transversely ovate in dorsal view, noticeably strongly convex postero-laterad. Antennae feebly thickened apicad, reaching basal 1/3 of elytra in male (unknown in female), ratio of the length of each segment from base to apex: 0.7, 0.4, 1.0, 1.0, 0.8, 0.9, 0.8, 1.0, 0.8, 0.7, 0.7.

Pronotum trapezoidal, gently produced laterad, and weakly sinuate in dorsal view, scattered with small punctures, each with a rather long hair; apex very slightly produced, inclined and finely rimmed in lateral parts; base not bordered, very weakly produced in medial part, weakly sinuate on each side; front angles obtuse and almost invisible from above, hind angles nearly rectangular in dorsal view; disc weakly convex broadly in middle, somewhat triangularly depressed in postero-lateral parts; sides rather steeply inclined in anterior parts, nearly horizontal in posterior parts; lateral margins finely serrate and haired. Scutellum linguiform, weakly convex, punctulate and haired.

Elytra about 2.2 times as long as wide, 4.5 times the length and 1.27 times the width of pronotum; dorsum gently convex, weakly depressed medially, obliquely depressed close to base on each side; discal rows of small punctures with long hairs; intervals feebly convex, scattered with small punctures, which are about 1/4 in size of those in rows, each with a hair; sides steeply inclined in anterior parts, gently so in posterior parts; lateral margins bordered and finely rimmed, barely visible from above; humeri feebly humped antero-laterad; apices gently rounded.

Terminal segment of maxillary palpus triangular in male (unknown in female).

Pro- and metasterna somewhat coriaceous; abdomen weakly microsculptured, scattered with rather transverse punctures, each with a yellowish hair, anal sternite rounded at apex.

Legs somewhat long-sized for a member of this genus; tarsi not dilated towards each apex, ratios of lengths of pro-, meso- and metatarsal segments: 0.8, 0.5, 0.5, 0.3, 1.0; 1.2, 0.7, 0.6, 0.4, 0.9; 2.6, 1.2, 0.8, 1.1.

Male genitalia subfusiform in dorsal view, 1.00 mm in length and 0.20 mm in width, rather strongly curved in lateral view; fused lateral lobes with lateral faces of apical parts denticulate.

Body length: 5.3 mm.

Holotype: ♂, "Sudama-chô, Hatchôdaira, Yamanashi Pref., C. Honshû, Japan, 4–VII–1998, T. KIMOTO leg." (NSMT).

Notes. This new species somewhat resembles *Mycetochara elongata* MIYATAKE, 1985, originally described from Shikoku, but can be distinguished from the latter by the elytra neither striated nor maculated.

要　　約

花塚正裕・益本仁雄・近　雅博：日本産クチキムシ亜科の２新種．―― 日本産クチキムシ亜科（ゴミムシダマシ科）の甲虫で，クチキムシ属の１新種およびヒメクチキムシ属の１新種を記載し，*Allecula akitai* sp. nov. および *Mycetochara kimotoi* sp. nov. と命名した．

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Elytra, *Tokyo*, **34** (1): 184, May 20, 2006

A New Record of *Amarygmus cyaneipennis* (Coleoptera, Tenebrionidae) from Lutao Island

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Amarygmus cyaneipennis PIC, 1938 was originally described from the Philippines as a variety of *A. micans* (FABRICIUS, 1794). MASUMOTO and KONDO (1984) regarded it as a subspecies, and BREMER (2004) upgraded it to a full species.

Up to now, this species has been known from the Philippines (Luzon and Sibuyan Islands) and Taiwan (the main island and Lanyu Island). Recently, the first author had chances to collect this species from Lutao Island.

Specimens examined. 1 ex., TAIWAN: "Taitung, Lutao (=Lu Dao), leg. C.-F. LEE, 26–28. III. 1998"; 12 exs., "Taitung, Lutao, 5. IV. 2004, leg. C.-F. LEE". (All deposited at the Research Center for Biodiversity, Academia Sinica, Taipei, Taiwan.)

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Elytra, *Tokyo*, **34** (1): 185–188, May 20, 2006

New Host Plants of Two Japanese *Zeugophora* Species (Chrysomelidae, Zeugophorinae)

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Abstract Several new host plants are reported for two *Zeugophora* species (Chrysomelidae, Zeugophorinae) with some comments on their host preference. Three new host plants of the Celastraceae are newly recorded for *Zeugophora* (*Pedrillia*) *annulata* (BALY, 1873). Two plants of the Symplocaceae are recorded for the first time as hosts of *Z.* (*P.*) *varipes* (JACOBY, 1885). All of these observations were made in Toyama Prefecture, central Honshu, Japan.

Concerning the host plants of *Zeugophora* species (Chrysomelidae, Zeugophorinae) our knowledge is rather scarce (JOLIVET & HAWKESWOOD, 1995). Of the nine zeugophorine species hitherto known from Japan, host plants have been known for the following four species: several species of the Celastraceae for *Zeugophora* (*Pedrillia*) *annulata* (BALY, 1873) and *Z.* (*P.*) *bicolor* (KRAATZ, 1879) (CHÛJÔ & KIMOTO, 1961), *Salix* sp. of the Salicaceae for *Z.* (*Zeugophora*) *hozumii* CHÛJÔ, 1951 (TAKIZAWA, pers. comm.; SUZUKI & FUJIMOTO, 1997), and *Euonymus japonicus* THUNB. (?) (Celastraceae) for *Z.* (*Z.*) *chujoi* OHNO, 1961 (KIMOTO & TAKIZAWA, 1994).

In this short paper we report several new host plants for two *Zeugophora* species that we confirmed in Toyama Prefecture, central Honshu, Japan. In the following data table the adult specimens were collected by us.

Before going further, we wish to express our deep appreciation to Dr. Shun-Ichi UÉNO (National Science Museum (Nat. Hist.), Tokyo) for his critical reading of the manuscript, to Prof. Naohiro NARUHASHI (Toyama University) for his kind identification of host plants, to Dr. Haruo TAKIZAWA for his kind offer of valuable information about the host plant of *Z.* (*Z.*) *hozumii*, and to Ms. Eri MORIOKA for her kind assistance in the field survey.

1. *Zeugophora* (*Pedrillia*) *annulata* (BALY, 1873)

15 exs., 21–IV–2004, Yatsuo-machi (Mita), Toyama-shi, Toyama Pref., Honshu, Japan. Host plant: *Celastrus orbiculatus* THUNB. [Japanese name: Tsuruumemodoki] (Family Celastraceae, Subfamily Celastroideae, Tribe Celastreae) (New Record).

4 exs., 8–V–2004, Kamiichi-machi (Banba-jima), Naka-Niikawa-gun. Host plant: *Euonymus melananthus* FRANCH. et SAVAT. [Japanese name: Sawadatsu] (Celas-

troideae, Tribe Euonymeae; Section* Melanocarya) (New Record) [*Infrageneric classification of the Celastraceae will be mentioned below.]

2 exs., 8–V–2004, Kamiichi-machi (Banba-jima), Naka-Niikawa-gun, Toyama Pref. Host plant: *Euonymus lanceolatus* YATABE [Japanese name: Murasakimayumi] (Celastroideae, Euonymeae; Section Melanocarya) (New Record)

7 exs., 7–V–2004, Yatsuo-machi (Tochiori), Toyama-shi. Host plant: *Euonymus oxyphyllus* MIQ. [Japanese name: Tsuribana] (Celastroideae, Euonymeae; Section Uniloculares) [Reference data for discussion].

The following plants, all of which belong to the subfamily Celastroideae, have been known as hosts of this zeugophorine species: *Euonymus sieboldianus* BL. (belonging to the Section Euonymus), *Tripterygium regelii* SPRAGUE et TAKEDA (belonging to the Subfamily Tripterigioideae) (CHÛJÔ & KIMOTO, 1961), and *Euonymus oxyphyllus* MIQ. (belonging to the Section Uniloculares) (KIMOTO & TAKIZAWA, 1994). This species is commonly found on *Euonymus alatus* (THUNB.) SIEB. f. *striatus* (THUNB.) MAKINO (belonging to the Section Euonymus) in various localities of Toyama Prefecture. *Euonymus alatus* and *Tripterygium regelii* known as the hosts of *Z.* (*P.*) *annulata* have never been hitherto observed in Toyama Prefecture as hosts of the species.

The genus *Euonymus* includes a number of species. The following table shows the classification sysytem of the family Celastraceae from Japan demonstrated by SHIMIZU (1989). In his system 'Section' is used as an infrageneric category instead of ordinary 'Subgenus'. In the following table the taxa with asterisks show those including host plants of *Z.* (*P.*) *annulata*.

Family Celastraceae
- Subfamily Celastroideae
  - Tribe Euonymeae
    - Genus *Euonymus*
      - Section Melanocarya*
      - Section Multiovulatus
      - Section Ilicifolius
      - Section Euonymus*
      - Section Uniloculares*
    - Genus *Microtropis*
  - Tribe Celastreae
    - Genus *Celastrus**
    - Genus *Maytenus*
- Subfamily Tripterigioideae
  - Genus *Tripterygium**

This table suggests that *Z.* (*P.*) *annulata* is a species having a rather selective host preference, though it seems widely to feed on various plants of the Celastraceae. Ac-

cording to the categorization of host preference in phytophagous insects proposed by BERNAYS and CHAPMAN (1994), it belongs to a typical species showing the so-called 'disjunctive oligophagy'. It is noticed that as far as we know no host plant of this *Zeugophora* species has been known for two Sections Multiovulatus and Ilicifolius of the genus *Euonymus*. In Toyama Prefecture this species has not been hitherto found on the plants other than *Euonymus alatus*.

2. *Zeugophora* (*Pedrillia*) *varipes* (JACOBY, 1885)

6 exs., 21–IV–2004, Yatsuo-machi (Mita), Toyama-shi; 2 exs., 12–V–2004, same locality; 1 ex., 27–V–2004, Jôhana-machi (Nawa-ga-ike), Nanto-shi; 2 exs., 23–IV–2005, Yatsuo-machi (Mita); 6 exs., 27–IV–2005, same locality; 1 ex., 18–VI–2005, same locality. Host plants: *Symplocos coreana* (LEV.) OHWI [Japanese name: Sawafutagi]; *S. chinensis* (LOUR.) DRUCE var. *leucoarapa* (NAKAI) OHWI f. *pilosa* (NAKAI) OHWI [Japanese name: Tanna-Sawafutagi] (Symplocaceae) (Both New Records).

This zeugophorine species is considerably rare and no host plant has hitherto been recorded for the species. SUZUKI and FUJIMOTO (1997) recorded two adults of this species at Yatsuo-machi (Tochiori-tôge), Toyama-shi (first collecting record from Toyama Prefecture), but they were unable to confirm its host plant. SUZUKI, one of us, found six adults of this species feeding on the young leaves of *Symplocos coreana* and *S. chinensis* var. *leucoarapa* f. *pilosa* in April, 2000. We occasionally reconfirmed the adults feeding on the same plants at the same locality in 2004 and 2005. This is a typical species of 'monophagy' defined by BERNAYS and CHAPMAN (1994). We attempted to rear some adults in a cage in our laboratory and succeeded to make some of them lay eggs in leaves of the host plant. We also found many larvae mining the leaves of the two host plants at several localities of Toyama Prefecture. Furthermore, we succeeded to comprehend the synopsis of the life history of this species. Concerning the life history and morphology of immature stages we will report in a separate paper (SUZUKI & MATSUMURA, in preparation).

According to JOLIVET and HAWKESWOOD (1995), the following plant families have been known as the hosts of the family Zeugophorinae: Salicaceae, Juglandaceae, Corylaceae (*s.l.*; occasionally included in Betulaceae), Betulaceae, Santalaceae, and Celastraceae. JOLIVET and HAWKESWOOD (1995) mentioned as follows: "these plant families are somewhat closely placed in the classification of SWAIN (1963), although CRONQUIST (1981) placed the Salicaceae some distance from the others". Symplocaceae, which includes two species recorded here as the hosts of *Z.* (*P.*) *varipes*, is newly added as a plant family of the hosts of Zeugophorinae. It should be pointed out that all of the families listed by JOLIVET and HAWKESWOOD (1995) as the hosts of Zeugophorinae belong to the Subclass 'Choripetalae' of the Class Dicotyledoneae but the Symplocaceae to the Subclass 'Sympetalae'. This classification does not always reflect the true phylogenetic relationship among plants; i.e., the distinction of the Choripetalae and the Sympetalae is based on the so-called 'grades'. No reliable phylogenetic classification sys-

tem of the Dicotyledoneae has been established. At present we cannot put expectation and confidence in a specific existing system.

Postscript

After the completion of the manuscript, we became aware that KAWASE (2002) reported on the host plant of *Zeugophora* (*Pedrillia*) *varipes*. He collected several individuals of the species from *Symplocos coreana* at several places in Ishikawa Prefecture, Hokuriku District. Though he did not confirm it but pointed out the possibility of the latter plant was a host of this *Zeugophora* species. We thank Mr. T. MIZUNO (Toyama University) who kindly told us the existence of KAWASE's report.

KAWASE, H., 2002. Collecting data of *Zeugophora* (*Pedrillia*) *varipes* (JACOBY). *Tokkuribachi, Komatsu*, (69): 21. (In Japanese.)

要　　約

鈴木邦雄・松村洋子：日本産モモブトハムシ属2種の新寄主植物．—— モモブトハムシ亜科の日本産2種について，富山県下で観察された新寄主植物を記録した．ワモンモモブトハムシ *Zeugophora* (*Pedrillia*) *annulata* (BALY, 1873)の寄主植物としては，従来ニシキギ科のいくつかの種が知られていたが，新たにツルウメモドキ，サワダツ，ムラサキマユミの3種を追加記録した．アカイロモモブトハムシ *Z.* (*P.*) *varipes* (JACOBY, 1885)については，これまで寄主植物がまったく不明であったが，本論文でハイノキ科のサワフタギとタンナサワフタギを初めて記録した．ハイノキ科は，モモブトハムシ亜科の寄主植物として初めて記録される科である．この亜科の寄主植物選好性について，いくつかの問題を議論した．

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Elytra, *Tokyo*, **34** (1): 189–198, May 20, 2006

Description of a New Species of the Genus *Crepidodera* (Coleoptera, Chrysomelidae, Alticinae) from Honshu, Japan

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Abstract A new species of the genus *Crepidodera* is described from Honshu, Japan, under the name of *Crepidodera yahiroi*. This new species is easily distinguished from other known Japanese species by the following several morphological characteristics: smaller body, oblong-oval body form, dark yellowish brown 1st antennal segment with the anterior and upper surface of its central 2/3 area largely pale brownish black, dark brownish brown tibiae of all legs except for the apical halves dark yellow, and aedeagus with the apex truncated. Discussion on the geographical distribution and the host plants of this new species is given in comparison with those of the known Japanese *Crepidodera* species.

When I had an opportunity to examine many chrysomelid specimens preserved in the insect collections of the Lake Biwa Museum, Kusatsu-shi, Shiga Pref., through the courtesy of Dr. Kazuhiro MASUNAGA, I found a series of strange small alticine specimens collected from two places located in the vicinity of Lake Biwa by Dr. Katsuro YAHIRO of the museum. Based on a detailed comparative study of them with many specimens of this genus collected from various districts of Japan, I reached the conclusion that those specimens obviously belonged to the genus *Crepidodera* and should be regarded as a new species. I myself tried to survey the populations of the species in question with my young friend Ms. Yoko MATSUMURA and collected a number of additional specimens. Classification of the Japanese species of the genus *Crepidodera* is still in confusion but the identity of this new species is very distinct. Therefore, first of all I am going to describe this new species. Furthermore, I would like to discuss on some problems of its geographical distribution that should be quickly resolved.

Crepidodera yahiroi K. SUZUKI, sp. nov.

[Japanese name: Yahiro-midori-tobi-hamushi]

(Figs. 1–4)

This new species looks like small-sized *Altica* and medium-sized *Psylliodes* species because of their peculiar oblong-oval body form and cyaneous dorsal coloration and is easily distinguished from the known Japanese *Crepidodera* species by the following several characteristics: smaller body, oblong-oval body form (nearly par-

allel-sided body in both *C. sahalinensis* KONSTANTINOV, 1966 and *C. japonica* BALY, 1877), almost evenly metallic cyaneous dorsum, dark yellowish brown basal four antennal segments with the anterior and upper surface of the central 2/3 area of the 1st one largely pale brownish black (ordinarily almost light yellow basal four, very rarely basal five, antennal segments in *C. sahalinensis*; almost dark yellow to reddish or brownish yellow basal five to seven antennal segments in *C. japonica*), strongly convex pronotum narrowed anteriorly with the posterior halves of lateral sides nearly straight (weakly convex pronotum with the anterior corners weakly projected anteriad in *C. sahalinensis*; strongly convex pronotum not narrowed anteriorly with the anterior corners strongly and sharply projected outwardly in *C. japonica*), almost dark brownish to pitchy black femora of all legs (almost dark yellowish to dark reddish, very rarely brownish black, fore and mid femora in *C. sahalinensis*; dark reddish black femora of all legs in *C. japonica*), dark yellowish brown to dark reddish to brownish black tibiae with dark to light color gradation from the bases to the apices (light yellow to somewhat dark yellowish brown tibiae, rarely anterior halves thicker in coloration, in *C. sahalinensis*; almost dark yellowish brown to brown fore tibiae with dark to light color gradation from the apices to the bases in *C. japonica*), considerably densely pubescent on almost whole abdominal sternites except for the basal half area of metasternum (considerably sparsely pubescent on whole abdominal sternites in *C. sahalinensis*, densely pubescent on whole abdominal sternites with a peculiar (especially in ♂, much weaker in ♀) U-shaped long-haired bunch in the central area of the 1st abdominal sternite in *C. japonica*), ♂ genitalia with the apex nearly truncated, ♀ spermathecal organ with the distal part of spermathecal capsule long and ventrally curved, and so on.

Body smaller in size among the genus *Crepidodera* and somewhat oblong-oval in body form.

Body coloration:— General color of dorsal surface metallic cyaneous, sometimes with bluish or greenish, very rarely purplish, luster on pronotum and/or on whole dorsal surface. Undersurface almost completely dark bluish black. All femora almost dark brownish black, fore and mid femora sometimes dark reddish brown; all tibiae dark yellowish brown to dark reddish to brownish black with dark to light color gradation from the bases to the apices; all tarsi light yellow to slightly brownish yellow with claws light brownish. Head capsule almost slightly dark metallic cyaneous except for eyes; clypeus and labrum almost metallic black; mandibles metallic pitchy black with the apical 1/3 reddish brown to brownish black; maxillary and labial palpi dark reddish brown; antennae — 1st to 4th segments basically pale yellow to dark yellowish brown, 5th to 11th segments distinctly almost brownish to pitchy black, with the anterior and upper surface of the central 2/3 area of the 1st segment brownish black, 2nd and 3rd segments light yellowish brown, 4th segment light yellowish brown with the apical half light brownish, 5th segment brownish black with the base light brownish, 6th to 11th almost completely brownish black.

Head:— Surface of vertex nearly smooth, impunctate, very fine granulations scattered on whole area recognizable under high magnification; frontal tubercles (antennal

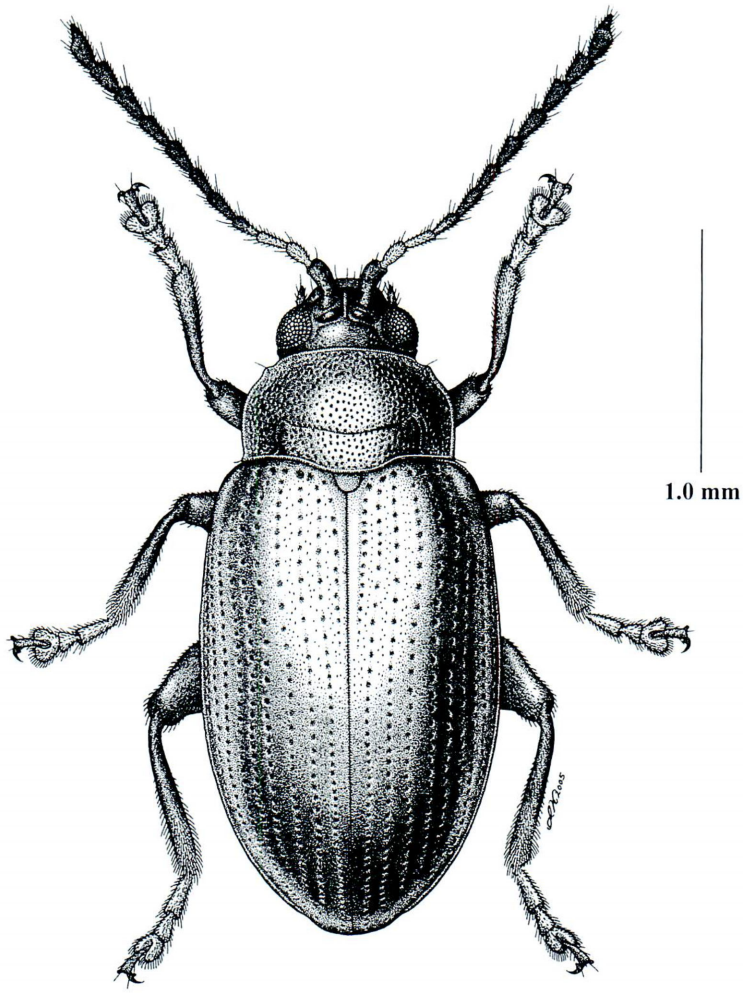
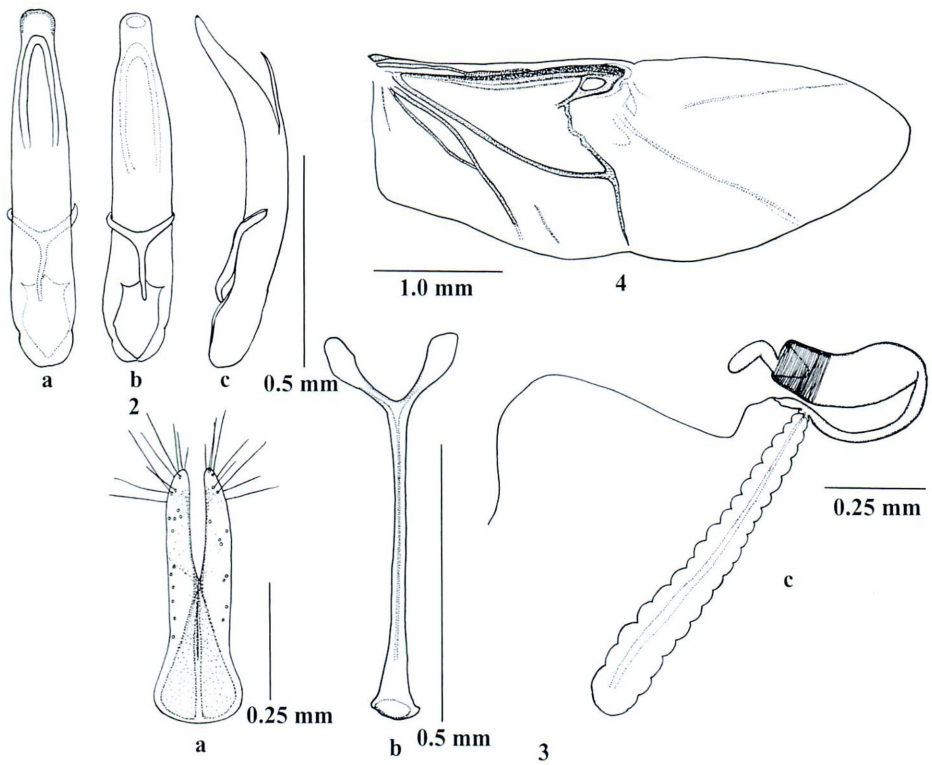


Fig. 1. *Crepidodera yahiroi* K. SUZUKI, sp. nov. (holotype, ♂), from Adogawa-chô (Yotsugawa), Takashima-gun, Shiga Pref., Kinki District, Honshu.

calli) subpentagonal, glabrous, weakly raised but distinctly bordered; frontal ridge distinctly raised with several whitish bristle-like long hairs on both sides; clypeus transverse with the front margin gently curved anteriad and several whitish bristle-like long hairs along the basal line, finely shagreened on whole surface. Mouth-parts:— Labrum transverse, with the front margin very weakly curved anteriad, with a row of six whitish bristle-like long hairs along and slightly under the central transversal line; maxillary palpi slender, three segments nearly equal in both length and maximum width, with the last segment strongly elongated conical with bluntly pointed apex. Eyes large. Antennae filiform, more than half (about 3/5) the length of body; 1st seg-



Figs. 2–4. *Crepidodera yahiroi*. —— 2, Male genitalia (a, dorsal, b, ventral, c, lateral views); 3, female genitalia (a, styli, b, tignum, c, spermathecal organ); 4, right hind wing (♀).

ments very strongly thickened and nearly twice as long as the width, 2nd segments with the outer margin slightly curved anteriad, 2nd to 4th segments nearly equal in length, shorter than 1st ones, and 11th segment the longest with the apices bluntly projected.

Pronotum subquatrate, narrowed anteriorly, the widest at the middle, about 2/3 as long as the width; dorsum strongly transversely convex especially in the anterior half area; distinctly punctured in whole area, with the distinct ante-basal tansversal impression, which is weakly curved posteriorly at the middle, near the basal margin, bounded on either side by short but deep ante-basal longitudinal impressions; front margin nearly straight with the corners rounded and projected anteriorly; lateral margins becoming narrower anteriad and their basal halves nearly straight. Scutellum glabrous, with the lateral margin gently curved outwards.

Elytra elongate, about 1.35 times as long as the width, lateral margins not parallel, gently curved outwards, the widest near the middle; dorsum convex, humeral calli distinct and protruded anterolaterally with the inner edges bordered by eight to nine large punctures constituting the 6th elytral striae, regularly and rather deeply punctate in ten

longitudinal rows on each elytron, 1st rows, the so-called scutellar rows, short and terminate at the point 1/3 from the bases, 2nd to 10th rows reaching near the apices, interstices of these regular longitudinal rows of large punctures sparsely bearing very fine pubescent-punctures.

Undersurface pubescent in nearly whole area except for the basal half area of metasternum.

Male genitalia (Fig. 2) simple, well sclerotized, gently curved ventrad, with the apex nearly truncated, anterior opening small, and tegmen well sclerotized and Y-shaped.

Female genitalia (Fig. 3):— Vaginal palpi (Fig. 3 a) and tignum (Fig. 3 b) (=styli, in part *sensu* KONSTANTINOV, 1994) are illustrated here because these structures will be useful for future comparative study of *Crepidodera*-species. Spermathecal organ (Fig. 3 c) one of typical alticine ones; spermathecal capsule well sclerotized with a distinct apex; outer surface of distal 1/3 with many transverse folds, the base of proximal part strongly transformed, lengthened and curved inwardly; spermathecal duct slender, more than twice as long as the capsule length, uniform in width through its whole length; spermathecal gland simple, less than twice as long as the capsule length.

Hind wing venation (Fig. 4):— Typical venation in the Alticinae, considerably reduced. Cu_{1a} very much reduced, still visible but almost vestigial, completely isolated from Cu_{1b} because of a complete loss of cu_{1a}-cu_{1b}-crossvein.

Measurement in mm. Body length (from anterior margin of frons to elytral apices): ♂, 2.20–2.95; ♀, 2.40–3.00. Maximum width of head (including eyes): ♂, 0.50–0.65; ♀, 0.50–0.65. Antennae length: ♂, 1.35–1.75; ♀, 1.35–1.75. Pronotum length (along the mid-line): ♂, 0.40–0.60; ♀, 0.40–0.60. Maximum width of pronotum: ♂, 0.75–1.05; ♀, 0.80–1.05. Elytra length: ♂, 1.60–2.15; ♀, 1.80–2.15. Elytra width: ♂, 1.15–1.45; ♀, 1.20–1.50. Hind tibiae length: ♂, 0.55–0.70; ♀, 0.55–0.70. Relative length of each of 1st to 11th antennal segments to 1st segment (no conspicuous difference in both sexes): 1.00 : 0.65 : 0.65 : 0.65 : 0.80 : 0.60 : 0.80 : 0.75 : 0.85 : 0.80 : 1.05.

Type series. Holotype: ♂ (NSMT–I–C2000108), allotype: ♀, Adogawa-chô (Yotsugawa) [N35°18′, E136°03′], Takashima-gun, Shiga Pref., Kinki District, Honshu, Japan, 19–VIII–2005, K. SUZUKI & Y. MATSUMURA leg. Paratypes, all of which were collected in Shiga Pref., Honshu: 13♂♂, 10♀♀, same data as for the holotype; 12♂♂, 13♀♀, Matsunoki-naiko [N35°18′, E136°03′], Adogawa-chô (Yotsugawa), 22–IV–2000, K. YAHIRO leg.; Imazu-chô (Kitoge-Higashi) [N35°25′, E136°16′], Takashima-gun, 19–VIII–2005, K. SUZUKI & Y. MATSUMURA leg.; 1♂, 1♀, Kinomoto-chô (Akao) [N35°28′, E136°13′], Ika-gun, 27–VIII–2005, K. SUZUKI & Y. MATSUMURA leg.; 13♂♂, 9♀♀, Kohoku-chô (Ebie) [N35°25′, E136°13′], Higashi-Azai-gun, 27–VIII–2005, K. SUZUKI & Y. MATSUMURA leg.; 6♂♂, 11♀♀, Biwa-chô (Yagihama) [N35°22′, E136°15′], Higashi-Azai-gun, 27–VIII–2005, K. SUZUKI & Y. MATSUMURA leg.; 1♂, 2♀♀, Biwa-chô (Hayazaki-naiko), Higashi-Azai-gun, 25–X–2005, Y. KITSUKI leg.; 3♂♂, 2♀♀, Biwa-chô (Anegawa-Ôhashi), Higashi-Azai-gun, 25–X–2005, Y. KI-

TSUKI leg.; 134♂♂, 111♀♀, Sumai-chô [N35°25′, E136°15′], Nagahama-shi, 27–VIII–2005, K. SUZUKI & Y. MATSUMURA leg.; 18♂♂, 15♀♀, Matsubara-chô [N35°17′, E136°15′], Hikone-shi, K. SUZUKI & Y. MATSUMURA leg.; 5♂♂, 3♀♀, Imahama-chô (Nagisa-Kôen) [N35°04′, E136°00′], Moriyama-shi, 26–IX–2005, K. SUZUKI & Y. MATSUMURA leg.; 1♂, 1♀, Shimomono-chô (Karasuma-Hantô) [N35°03′, E135°58′], Kusatsu-shi, 6–VII–1999, K. YAHIRO leg.; 7♂♂, 1♀, Niihama-chô [N35°00′, E135°55′], Kusatsu-shi, 26–IX–2005, K. SUZUKI & Y. MATSUMURA leg.

The holotype, allotype and several paratypes are deposited in the collection of the Department of Zoology, National Science Museum (Nat Hist.), Tokyo. Most paratypes collected by Dr. K. YAHIRO and by Mr. Y. KITSUKI will be preserved in the Lake Biwa Museum, Kusatsu-shi, Shiga Pref. and Mr. KITSUKI's private collection, respectively, after the publication of this paper. Though a part of the paratypes will be donated to several museums and several professionals of alticine systematics of Japan and several foreign countries, most remaining paratypes will be preserved in my private collection, now deposited in my laboratory at the Department of Biology, Faculty of Science, Toyama University.

Distribution. Honshu (Shiga Pref.; Kinki District), Japan.

Etymology. This species is named in honor of the first collector Dr. Katsuro YAHIRO.

Host plants. Salix chaenomeloides KIMURA (Salicaceae) [Japanese name: Akame-yanagi], several species of *Salix*.

Notes on the geographical distribution and the host plants (Fig. 5). After I found many specimens of this new species in the collection of the Lake Biwa Museum, Ms. Y. MATSUMURA and I tried to survey many places in the vicinity of Lake Biwa and its neighboring areas three times from August to September in 2005 and collected a number of additional individuals at nine localities. Most of the individuals were collected on *Salix chaenomeloides*. This plant preferably grows on a flood plain of a large river, marshy land and the vicinity of lakes and ponds and occasionally constitutes one of dominant species among the genus *Salix*. However, we collected several individuals of this new species also on some *Salix* species other than *S. chaenomeloides*. On the other hand, *Salix chaenomeloides* has been known as a main host plant of *Crepidodera sahalinensis* (cf. OHNO, 1999; SATO & TAKIZAWA, 2000). We collected a number of individuals that can be identified as those belonging to *C. sahalinensis* on *Salix* species other than *C. chaenomeloides* at several places in the vicinity of Lake Biwa. We observed that *C. yahiroi* and *C. sahalinensis* inhabited completely sympatrically at several very restricted sites in the vicinity of Lake Biwa; i.e., the former species were mainly collected on *Salix chaenomeloides* and the latter mainly on other *Salix* species. In our impression in the field survey, a kind of habitat segregation seems to exist between these two co-existing *Crepidodera* species.

Besides a number of specimens of the type series, I examined only one specimen, which obviously belonged to the new species, collected at somewhere (detailed data not available) in the Ki-no-kawa River System. The river flows through Nara and

Wakayama Prefectures, Kinki District. Therefore, I infer that this new species may be widely distributed in the Kinki District including the Kii Peninsula and its neighboring regions. I also expect that the geographical distribution of this new species will be promptly elucidated.

Concerning *Crepidodera sahalinensis* I would like to mention briefly here about my private experience, indeed, I had already collected a number of individuals of this species more than 40 years ago at Tsunashima in Yokohama-shi, Kanagawa Pref., Kantô District, which is located in a lowland area of central Honshu. Prof. Emeritus M. OHNO examined those specimens at that time. He also commented that they were clearly different from two known Japanese species, *C. japonicus* and *C. plutus picipes* (WEISE, 1887) [=*C. picipes*: KONSTANTINOV, 1996] and concluded that they should belong to a new species (cf. OHNO, 1999). Regrettably, the species has never been described since then until today (cf. OHNO, 1999). SATO and TAKIZAWA (2000) regarded those specimens as the same as one of the two *Crepidodera* species, *C. japonica* and *C. sahalinensis*, occurring in Tochigi Pref., Kantô District, northern Honshu. They identified them as the latter species *C. sahalinensis* that KONSTANTINOV described in 1996 based on several specimens from Sakhalin. According to SATO and TAKIZAWA these two species show considerably distinct allopatric distribution, though they occurred sometimes sympatrically with each other. Ms. MATSUMURA and I have also confirmed fundamentally the same situation in several localities of the Hokuriku District, central Honshu (SUZUKI & MATSUMURA, unpublished).

Ms. MATSUMURA and I also found the coexistence of this new species with a congener at several sites in the vicinity of Lake Biwa, the latter of which can be identified with *C. sahalinensis* at present, in the following localities: Imazu-chô (Takashima-gun), Kinomoto-chô (Ika-gun), Kohoku-chô and Biwa-chô (Higashi-Azai-gun), Nagahama-shi, Moriyama-shi, and Kusatsu-shi (Fig. 5). All known species of the genus *Crepidodera* feed on the plants of several genera of the Salicaceae, especially preferably on various *Salix* species. In our impression in the field survey, the two species in question seem to show a kind of habitat segregation concerning their host plants. In Sumai-chô (Nagahama-shi), only one individual belonging to *C. sahalinensis* was found among more than 250 individuals of this new species. *Salix chaenomeloides* was overwhelmingly dominant there. However, host preference among closely related herbivorous insect species is occasionally and complicatedly influenced by the floral difference of the habitat in question as, for example, SUZUKI and UÉHARA (1998) reported for attelabid species. At any rate a detailed survey on the actual condition between these two *Crepidodera* species should be made in the near future.

Comprehension of geographical distribution of this new species is important for discussing the speciation of this genus in Far East Asia including Japan because there are more than one other undescribed species at my hands and at least three different species groups of the genus seem to be distributed in the Japanese Archipelago (SUZUKI, in preparation).

Notes on the intraspecific variation of body coloration. Body coloration of this

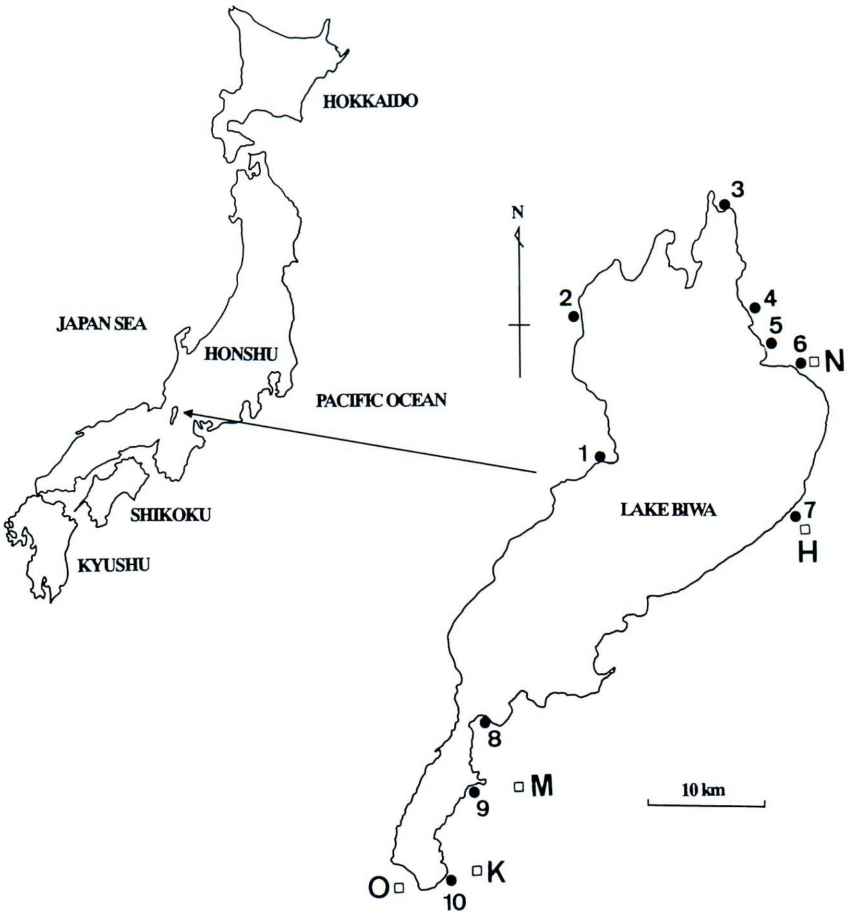


Fig. 5. A map showing the known localities of *Crepidodera yahiroi*. Arabian numerals on a map show the localities as follows: 1. Adogawa-chô (Yotsugawa), Takashima-gun; 2. *Imazu-chô (Kitoge-Higashi), Takashima-gun; 3. *Kinomoto-chô (Akao), Ika-gun; 4. *Kohoku-chô (Ebie), Higashi-Azai-gun; 5. *Biwa-chô (*Yagihama, *Anegawa-Ôhashi and *Hayazaki-naiko), Higashi-Azai-gun; 6. *Sumai-chô, Nagahama-shi; 7. Matsubara-chô, Hikone-shi; 8. *Imahama-chô (Nagisa-Kôen), Moriyama-shi; 9. Shimomono-chô (Karasuma-Hantô), Kusatsu-shi; 10. *Niihama-chô, Kusatsu-shi. The localities with asterisks show known co-existing places of two *Crepidodera* species, *C. yahiroi* and *C. sahalinensis*. □: Main cities — H, Hikone, K, Kusatsu, M, Moriyama, N, Nagahama, O, Ohtsu.

new species is considerably stable. Dorsum is generally metallic cyaneous in most individuals. In some individuals pronotum and sometimes together with elytra show evenly or rarely partly greenish, purplish, and/or red-purplish luster.

Acknowledgements

I wish to express my hearty thanks to the following persons: Dr. K. YAHIRO and

Dr. K. MASUNAGA (Lake Biwa Museum, Kusatsu) kindly gave me an opportunity to examine valuable specimens of this interesting species; Dr. Shun-Ichi UÉNO (National Science Museum (Nat. Hist.), Tokyo) kindly made a critical reading of the manuscript; Ms. Y. MATSUMURA (Toyama University) devotedly assisted me in various ways; Prof. Emerit. Yoshiaki KOMIYA (Tokyo) and Dr. Haruo TAKIZAWA (Hasuda) fully supported my taxonomic study of the Japanese *Crepidodera* species; Dr. A. S. KONSTANTINOV (National Museum of Natural History, Washington, D.C.) generously sent me his valuable writings with deep friendship; Mr. Yoshimichi KITSUKI (Tokyo) kindly offered several valuable specimens; Mr. Itsuro KAWASHIMA (Yokosuka) exhausted his energy in drawing a beautiful habitus of the holotype specimen of *Crepidodera yahiroi*.

要　約

鈴木邦雄：本州産ミドリトビハムシ属*Crepidodera*の1新種の記載．—— 滋賀県の琵琶湖周辺地域の10カ所から得られたミドリトビハムシ属*Crepidodera*（ハムシ科，トビハムシ亜科）の1新種を，*C. yahiroi*の名のもとに記載した．和名は，学名を献名し，本種の最初の採集者である琵琶湖博物館の八尋克郎氏に因んで「ヤヒロミドリトビハムシ」としたい．本種は，本属の他種が，いずれも体側が略平行で細長いのに較べ，体形が略卵形で，体色も全体に青藍色が強く，一見したところカミナリハムシ属*Altica*の小型種やスネナガトビハムシ属*Psylliodes*の中型種を思わせる外見をもつ（体背面の色彩変異については，本文中に記述）．本属は全北区に広く分布し，いずれもヤナギ科植物を寄主としているが，本種は，琵琶湖周辺地域では，おもにマルバヤナギ*Salix chaenomeloides* KIMURAを寄主としている．日本産の本属の種の分類は混乱しており，北海道と本州の山地帯に広く生息するニホンミドリトビハムシ（改称）*C. japonica* BALY, 1877 1種に属するとする見解のほか，他にやはり山地性のホソミドリトビハムシ*C. plutus picipes* (WEISE, 1887) [=*C. picipes*: KONSTANTINOV, 1996] なる種も存在するとする2種説，さらに本州の関東地方の平野部などから知られている個体群が近年樺太から記載された*C. sahalinensis* KONSTANTINOV, 1996なる種に相当する（学名の確定以前に和名先行でスズキミドリトビハムシ*Crepidodera* sp. として報告された）という3種説が提唱されるなど，ひじょうに混乱してきた．前2者の関係はいまだに不明瞭で結着がついていない．スズキミドリトビハムシについても，その地理的分布の詳細は不明で，関東地方以外の地域から得られている個体群のすべても同種に属するのか否か，現時点では不明瞭である．私は，現在，樺太や千島産のものを含め，日本各地の多数の標本に基づいて本属の分類学的再検討を行なっているが，日本産の本属は少なくとも5種以上から構成される可能性が高いと推測している．ここで新種として報告するヤヒロミドリトビハムシは，従来知られている本属の他種とは多くの点でかなり異質の特徴を持つと同時に，日本列島における本属の種分化を解明するうえで重要な鍵を握っていると考えられるため，取り敢えず記載報告しておくことにした．なお，私は，詳細な採集データの不明な，奈良県～和歌山県を流れる紀ノ川水系産の標本を1個体検しているので，本新種は，今後，近畿地方とその周辺地域の平野部の河川敷などに生育するヤナギ類，とくにマルバヤナギとその近縁種を中心に詳しく調べることによって，各地から得られる可能性が高いものと推測している．

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Elytra, Tokyo, **34** (1): 199–205, May 20, 2006

Studies on the Genus *Lipromorpha* (Alticinae, Chrysomelidae, Coleoptera) in Japan, with Description of a New Species

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Abstract The alticine chrysomelid beetle known from Amami-Ôshima Is., Tokunoshima Is. and Okinawa-Hontô Is. under the name of *Lipromorpha difficilis loochooana* (CHÛJÔ, 1961) is a good species distinct from *L. difficilis* (CHEN, 1934), and is raised to a species rank, *Lipromorpha loochooana* (CHÛJÔ, 1961). In addition a second member of the genus is described as a new species *Lipromorpha sakishimana* Y. KOMIYA, sp. nov. from Miyakojima Is., Ishigakijima Is. and Taketomijima Is., southern Japan. A key to the Japanese species of the genus *Lipromorpha* is provided.

The sole representative of the genus *Lipromorpha* CHÛJÔ et KIMOTO, 1960 in Japan has been *L. difficilis loochooana* CHÛJÔ, 1961, from the Ryukyu Archipelago. It was first described from Amami-Ôshima Is. as a subspecies of *L. difficilis* CHEN, 1934, then synonymized with it by KIMOTO (1965). By comparing specimens from the Ryukyu population carefully with those of Taiwan, the author came to the conclusion that the former is clearly separable from the latter and should be regarded as a good species. In addition, a second member of the genus was found in the southern Ryukyu Archipelago, and is described as a new species in the present paper.

Lipromorpha loochooana CHÛJÔ, 1961, stat. nov.

(Figs. 1 & 2)

Lipromorpha difficilis loochooana CHÛJÔ, 1961, Ent. Lab., Univ. Osaka Pref., Publ., (6): 89 (Asani, Ikari and Kominato in Amami-Ôshima Is.).

Lipromorpha difficilis: KIMOTO, 1965, J. Fac. Agric. Kyushu Univ., **13**: 419 (Amami-ôshima Is.), synonymized. —— KIMOTO & GRESSITT, 1966, Pacif. Ins., **8**: 542 (Santaro-tôge and Naze in Amami-Ôshima Is., Mikyô in Tokunoshima Is., Yona in Okinawa-Hontô Is.). —— KIMOTO & TAKIZAWA, 1994, Leaf Beetles (Chrysomelidae) of Japan, p. 321 (Ryukyu Is., S. China, Taiwan, Vietnam).

As pointed out by CHÛJÔ (1961) in his original description, the Japanese population is clearly distinguishable from the Taiwanese. The main points of discrimination are as follows:

1. Body coloration is pitchy brown with antennae, tibiae and tarsi much paler. In contrast, the Taiwanese population is light yellowish brown with head, pronotum and basal portion of elytra darker.

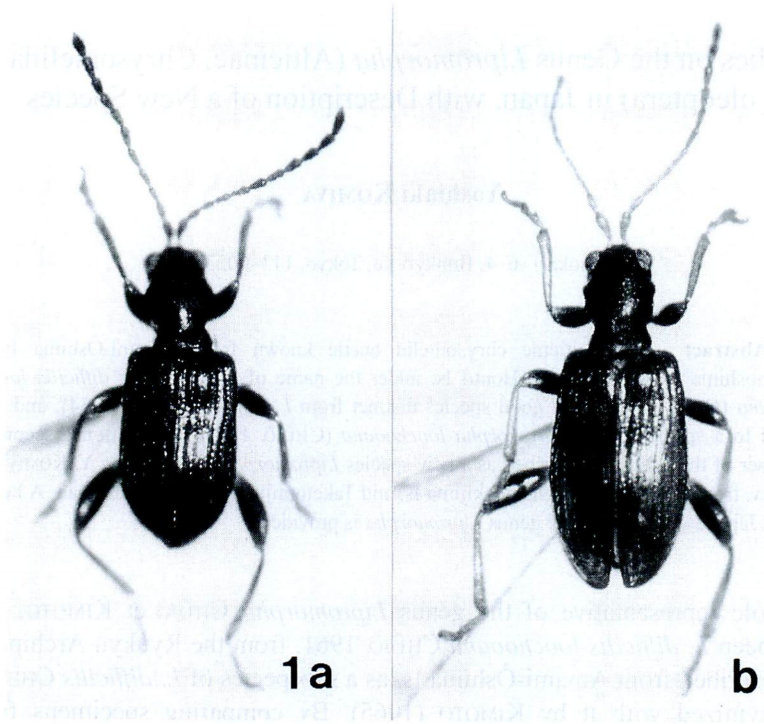

Fig. 1. Habitus of *Lipromorpha loochooana* CHÛJÔ, 1961; a: male, b: female.

2. Frons is evenly convex without any depression in the middle. In Taiwanese specimens, frons has a shallow but wide depression with another small one in the middle of occiput.

3. Antenna is distinctly shorter than the body length, but in *L. difficilis* from Taiwan, antenna is almost equal to the body length.

4. Pronotum has a deep constriction behind the middle without any additional furrow. In the latter species, the pronotum also has a deep constriction behind the middle, but with an additional shallow and narrow sulcus between the middle and the anterior margin, which is more distinct in the lateral portion of the pronotum.

5. Elytra are covered with regular rows of punctures, each interstice of punctate-striae is a little raised, smooth and shining with a row of yellowish hairs. In the Taiwanese population, each interstice of punctate-striae is almost flat and finely granulated in the posterior portion with a row of yellowish hairs.

6. Male genitalia are different between two populations (Fig. 2). In *L. loochooana*, the aedeagus is uniformly arched dorsally in lateral view, with terminal process short and evenly rounded apically (Fig. 2). In *L. difficilis,* the aedeagus is almost straight in lateral view, with terminal process narrow and sharp, truncated apically.

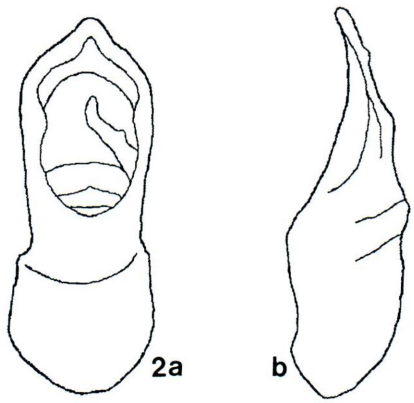

Fig. 2. Male genitalia of *Lipromorpha loochooana* CHÛJÔ, 1961; a: dorsal view, b: lateral view.

Body length: male, 2.00±0.14 (n=31) mm, female, 2.33±0.15 (n=38) mm.

Body breadth: male, 0.81±0.05 (n=31) mm, female, 0.95±0.07 (n=38) mm.

Specimens examined. Okinawa-Hontô Is., Okinawa Pref., Japan: 1♀, Nakijin-jôshi (89 m alt.), Nakijin-son, 11–IV–2005, Y. KOMIYA lgt.; 1♀, Yona (18 m alt.), Kunigami-son, 12–IV–2005, Y. KOMIYA lgt.; 1♀, Yona, Kunigami-son, 1~3–V–1976, H. TAKIZAWA lgt.; 1♀, Hedo, Kunigami-son, 5–IV–1979, H. TAKIZAWA lgt. Amami-Ôshima Is., Kagoshima Pref., Japan; 26♂♂, 26♀♀, Kuninao (31 m alt.), Yamato-son, 13–IV–2005, Y. KOMIYA lgt.; 1♂, 2♀♀, Sumiyôgawa Power Station (31 m alt.), Sumiyô-son, 14–IV–2005, Y. KOMIYA lgt.; 1♂, 1♀, Sumiyôgawa Dam Road (133 m alt.), Sumiyô-son, 14–IV–2005, Y. KOMIYA lgt.; 1♂, Sumiyôgawa Dam Road, Sumiyô-son, 19–IV–2005, Y. KOMIYA lgt.; 1♂, 2♀♀, Chinase (51 m alt.), Naze-shi, 17–IV–2005, Y. KOMIYA lgt.; 1♂, 3♀♀, Mt. Yuidake, Setouchi-chô, 15–VII–1962, Y. KOMIYA lgt.; 4♂♂, 7♀♀, Amami-Ôshima Is., 25–IV~5–V–1967, H. TAKIZAWA lgt.; 1♂, Nishinakama, Sumiyô-son, 2~6–VI–1970, H. MAKIHARA lgt.

Distribution. Ryukyu Archipelago (Amami-Ôshima Is., Tokunoshima Is. and Okinawa-Hontô Is.), Kagoshima and Okinawa Prefs., Japan.

Adult food plant. *Ampelopsis heterophylla* SIEB. et ZUCC.

Lipromorpha sakishimana sp. nov.

(Figs. 3 & 4)

Male. Body oblong, parallel-sided. Totally light yellowish brown with abdominal sternites, except for the last, a little darker.

Frons convex, anterior portion slightly depressed and granulated, separating vertically situated frontal tubercles, and furnished sparsely with long hairs; occiput evenly convex, anterior portion weakly wrinkled transversely and the posterior almost smooth and shining.

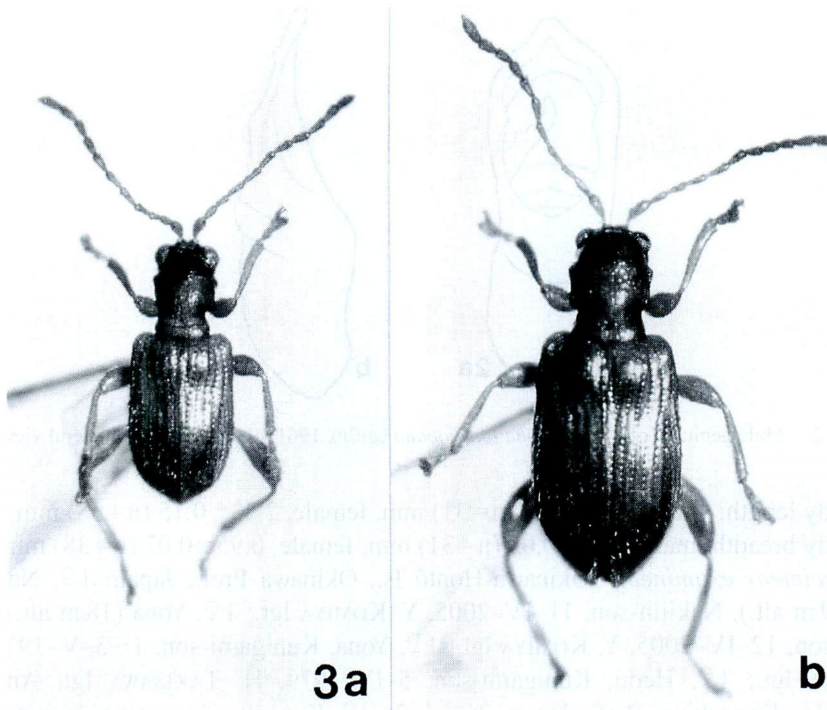

Fig. 3. Habitus of *Lipromorpha sakishimana* Y. KOMIYA, sp. nov.; a: holotype, male, b: paratype, female.

Antennae slender, equal to the body in length; first segment robust, longest, and club-shaped, second and third subequal to each other in length, third slightly thinner, from fourth to tenth a little longer than the preceding two, almost equal to each other in length but distinctly thicker from eighth onward, eleventh second longest, its apex pointed.

Pronotum subcylindrical, as long as wide [pronotal ratio=breadth / length: male, 1.016±0.032 (n=122); female, 1.048±0.035 (n=73)], widest at anterior corner, which is protrudent laterally with setigerous pore at its antero-lateral end, strongly constricted behind middle [constriction ratio=maximal breadth / minimal breadth: male, 1.477±0.055 (n=122); female, 1.438±0.083 (n=73)], constriction bisinuated with a small fovea in the median portion; surface minutely shagreened throughout, bearing small punctures sparsely in anterior half but more densely in basal, and furnished with scattered long hairs.

Scutellum triangular with pointed apex; surface smooth with a few hairs along posterior margin.

Elytra elongate, distinctly wider than pronotum at base, slightly widened posteriorly; surface convex with broad transverse depression before middle, covered with strong punctures arranged in regular longitudinal rows, each interstice of punctate-

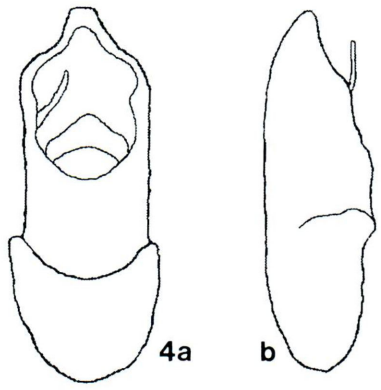

Fig. 4. Male genitalia of *Lipromorpha sakishimana* Y. KOMIYA, sp. nov.; a: dorsal view, b: lateral view.

striae shining and furnished with a row of yellowish hairs.

Hind femur incrassate.

Last visible abdominal sternite trilobed, with a longitudinal broad depression in the middle.

Aedeagus subcylindrical, straight and parallel-sided, with terminal process triangular with its apex narrowly truncated (Fig. 4).

Female. Antennae distinctly shorter than body length. Last abdominal sternite entire with broadly truncated apex.

Body length: male, 1.98±0.11 (n=118) mm, female, 2.33±0.17 (n=73) mm.

Body breadth: male, 0.83±0.06 (n=118) mm, female, 0.98±0.07 (n=73) mm.

Holotype: ♂, Miyakojima Is., Kadekari (35 m alt.), Miyakojima-shi (former Gusukube-chô, Miyako-gun), Okinawa Pref., Japan, 4–IV–2005, Y. KOMIYA lgt.

Paratypes: Miyakojima Is., Miyakojima-shi, Okinawa Pref., Japan: 74♂♂, 25♀♀, the same data as the holotype; 14♂♂, 10♀♀, the same locality as the holotype, 7–IV–2005, Y. KOMIYA lgt.; 4♂♂, 6♀♀, Tomori (55 m alt.), Gusukube-chô Miyako-gun, 4–IV–2005, Y. KOMIYA lgt.; 4♂♂, 4♀♀, Tomori, Gusukube-chô Miyako-gun, 7–IV–2005, Y. KOMIYA lgt.; 3♀♀, Tomori, Gusukube-chô Miyako-gun, 17–VI–1975, S. IMASAKA lgt.; 1♀, Ônosanrin (39 m alt.), Hirara-shi, 5–IV–2005, Y. KOMIYA lgt.; 8♂♂, 6♀♀, Nishisatosoe (119 m alt.), Gusukube-chô Miyako-gun, 4–IV–2005, Y. KOMIYA lgt. Ishigakijima Is., Ishigaki-shi, Okinawa Pref., Japan: 4♂♂, 3♀♀, Mt. Bannadake (209 m alt.), 3–IV–2005, Y. KOMIYA lgt.; 1♂, Sukuji Beach, Kabira, Ishigaki-shi, 2–IV–2005, Y. KOMIYA lgt. Taketomijima Is., Taketomi-chô Yaeyama-gun, Okinawa Pref., Japan: 10♂♂, 17♀♀, Higashiyashiki (17 m alt.), Taketomi-chô 30–III–2005, Y. KOMIYA lgt.

The type series is tentatively housed in the author's collection, but will be deposited in the most appropriate institution together with the whole collection of the author.

Distribution. Southern Ryukyu Archipelago (Miyakojima Is., Ishigakijima Is.

and Taketomijima Is.), Okinawa Pref., Japan.

Adult food plant. *Ampelopsis heterophylla* SIEB et ZUCC. The beetles seem to prefer host vines creeping on the ground to those hanging from other trees or bush.

Key to the Japanese Species of the Genus *Lipromorpha*

1. Pronotum distinctly broader than long (pronotal ratio: 1.10–1.30) with a weak or distinct constriction behind middle (constriction ratio: 1.08–1.30). . . . . Genus *Pseudoliprus* CHÛJÔ et KIMOTO, 1960
— Pronotum nearly as broad as long (pronotal ratio: 0.99–1.03) with a strong constriction behind middle (constriction ratio: 1.41–1.47). . . . . Genus *Lipromorpha* CHÛJÔ et KIMOTO, 1960 2
2. Upper surface totally light yellowish brown without any darkened area. Pronotum very minutely shagreened throughout, bearing small punctures sparsely in anterior half but more densely in basal, and furnished with scattered long hairs (Ryukyu Archipelago, Okinawa Pref., Japan; Miyakojima Is., Ishigakijima Is. and Taketomijima Is.). . . . . *Lipromorpha sakishimana* Y. KOMIYA, sp. nov.
— Upper surface entirely pitchy brown or light yellowish brown with head, pronotum and basal portion of elytra distinctly darker. Pronotum very strongly shagreened throughout, bearing large punctures sparsely in anterior half but more densely in basal, and furnished with scattered long hairs. 3
3. Body coloration pitchy brown with antennae, tibiae and tarsi much paler. Antennae distinctly shorter than the body length. Pronotum with a strong constriction behind the middle without any additional furrow (Ryukyu Archipelago, Okinawa and Kagoshima Prefs., Japan; Amami-Ôshima Is., Tokunoshima Is. and Okinawa-Hontô Is.). . . . . *Lipromorpha loochooana* CHÛJÔ, 1961
— Body coloration light yellowish brown with head, pronotum and basal portion of elytra distinctly darker. Antennae almost equal to the body in length. Pronotum with a deep constriction behind the middle as well, but with an additional shallow and narrow sulcus between middle and anterior margin, which is more distinct in the lateral portion of pronotum (Vietnam, South China and Taiwan). . . . . *Lipromorpha difficilis* (CHEN, 1934)

Acknowledgement

The author expresses his hearty thanks to Dr. H. TAKIZAWA, Messrs. S. IMASAKA and M. MINAMI for materials.

要　　約

小宮義璋：日本産*Lipromorpha*属に関する研究，および1新種の記載．—— これまで南西諸島から記録されていた*Lipromorpha difficilis* (CHEN, 1934)を独立種と認め，*Lipromorpha loo-*

chooana CHÛJÔ, 1961 リュウキュウクビボソトビハムシとした．さらに南西諸島南部（宮古島，石垣島および竹富島）より得られた本属の種を新種と認め，*Lipromorpha sakishimana* sp. nov.サキシマクビボソトビハムシ（新種新称）として記載した．またこの種を含む日本産*Lipromorpha*リュウキュウクビボソトビハムシ属の検索表を作成した．

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Elytra, Tokyo, **34** (1): 205–206, May 20, 2006

Two Lines of Evidence of Allotrophy in *Plateumaris sericea* (LINNAEUS, 1761) (Coleoptera, Chrysomelidae, Donaciinae) in Japan

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In the Tanbara Shitsugen Marsh (about 1,200 m above sea-level), Gunma-ken, Central Japan, a donaciine beetle, *Plateumaris (Euplateumaris) sericea* (LINNAEUS, 1761) is first found about two weeks after disappearance of covering snow, usually in the middle of May, and one adult beetle is alive at least for six to seven weeks after its appearance, as confirmed by marking experiment. They are observed to swarm on many kinds of flowers, feeding on their nectar. The main nectar source is three species of sedges. The flowering season of these sedges is usually from the middle of May to the middle of June. From the end of June onward, few flowers are available for nectar source for the beetles. *Veratrum stamineum* is one of the few flowering plants in this season, though the *Plateumaris* beetles are never found on the flowers of this species, but many on the leaves. They are feeding on the secretion of aphids, not directly from

the insects, mostly interfered by guarding ants, but on secreted honeydew by aphids on the leaves. The aphid species on *Veratrum stamineum* was identified with *Aphis veratrii takagii* TAKAHASHI, 1966. The *Plateumaris* beetles are also observed frequenting on the leaves of a fern, *Osmundastrum cinnamomeum*, where again many aphids are found. The aphid species is *Micromyzus* sp. The observation on *Veratrum stamineum* was made every season between the year 2000 and 2004, and that on fern only in the year 2000.

In Yumigaike Lake (about 2,010 m above sea-level), Mt. Kusatsu-shirane-yama, Gunma-ken, Central Japan, the same species of *Plaeumaris* beetle was observed visiting the sporophylls of *Osmundastrum cinnamomeum* after the flowering season of sedges, which are the main nectar source of the beetles also in this area, suggesting the possibility of sporophage of *Plateumaris* beetles during nectar depleting period. The observation was performed twice on July 4th, 2002 and on June 29th, 2004.

A part of this observation has already been published elsewhere in Japanese, KOMIYA & KURACHI (2003) and KOMIYA (2004).

The author expresses his hearty thanks to Drs. H. TORIKURA and T. NAKAIKE for identification of aphids and fern, respectively.

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Elytra, Tokyo, **34** (1): 207–221, May 20, 2006

A New Obriine Genus *Uenobrium* (Coleoptera, Cerambycidae) and its Components

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Bioindicator Co., Ltd., Yarai-chô 126, Shinjuku, Tokyo, 162–0805 Japan

Abstract A new obriine genus *Uenobrium* nov. is established for the Indochinese species, *Obrium laosicum*. Though agreeing in basic structure with *Obrium* CURTIS, the new genus has such synapomorphies as the elongate pronotum with prominent tubercles on the disc and at the sides, and provided with dense recumbent pubescence on the surface, the less developed palpi of the mouthparts, and the simple female abdominal ventrites. Three component species of *Uenobrium* nov. are known from relatively wide areas from the southern Ryukyus and Taiwan to Southwest China and Indochina.

Introduction

Three peculiar obriine species are allopatrically known from rather a wide area in East Asia, *viz.*, *Obrium laosicum* GRESSITT et RONDON from eastern Indochina and Southwest China, *O. piceorubrum* HAYASHI from Taiwan, and *O. takeshitai* NIISATO et OHMOTO from the southern Ryukyus. As was suggested by NIISATO and OHMOTO (1994), they should be placed in an independent lineage which is strictly separated from the genus *Obrium* CURTIS for the reason of such peculiar characters as the dense recumbent pubescence on the dorsum of fore body, the elongate pronotum with prominent tubercles on the disc and at the sides, and the simple ventrites of female abdomen.

In the present paper, I am going to erect a new genus, *Uenobrium* nov. for the above species, and to discuss its systematic position according to my previous opinion. Additionally, I will redescribe three members of *Uenobrium* nov. in view of their new status.

Genus ***Uenobrium*** nov.

Type species: *Obrium laosicum* GRESSITT et RONDON, 1970.

Relatively large-sized obriine of robust body, basically similar to *Obrium* and forming its sister group, but clearly distinguished by the conformation of pronotum and female abdomen. Colour brownish, shiny in general, without any maculation. Hair and pubescence long and dense in general, partially provided with dense waved recumbent pubescence on surfaces of fore body.

Head rather voluminous including well developed eyes, hardly convex, distinctly

wider than pronotum and slightly so than elytral humeri; frons strongly transverse, nearly 2.5–3.0 times as long as wide, distinctly concave towards deep median groove, arcuately emarginate to margin, with distinct fronto-clypeal suture; clypeus elongate trapezoidal; mandible short and broad, slightly hooked at apices; maxilla with lacinia less developed, and forming short arcuate lobe, galea slightly dilated apicad, terminal segment of palpus simply elongate, slightly constricted at apex, a little shorter than the preceding three segments combined; labium with paraglossa and palpi less developed as in maxilla; labrum transverse; eyes expanded, very large, coarsely faceted, moderately approximate above; genae very shallow; vertex and occiput flattened or slightly raised, weakly raised near antennal cavities, clothed with waved recumbent pubescence. Antennae filiform, moderately long, longer than body in both sexes, densely clothed with long hairs on basal four or five segments, with scape weakly clavate, a little longer than segment 3, segments 3 and 4 thickened at apices.

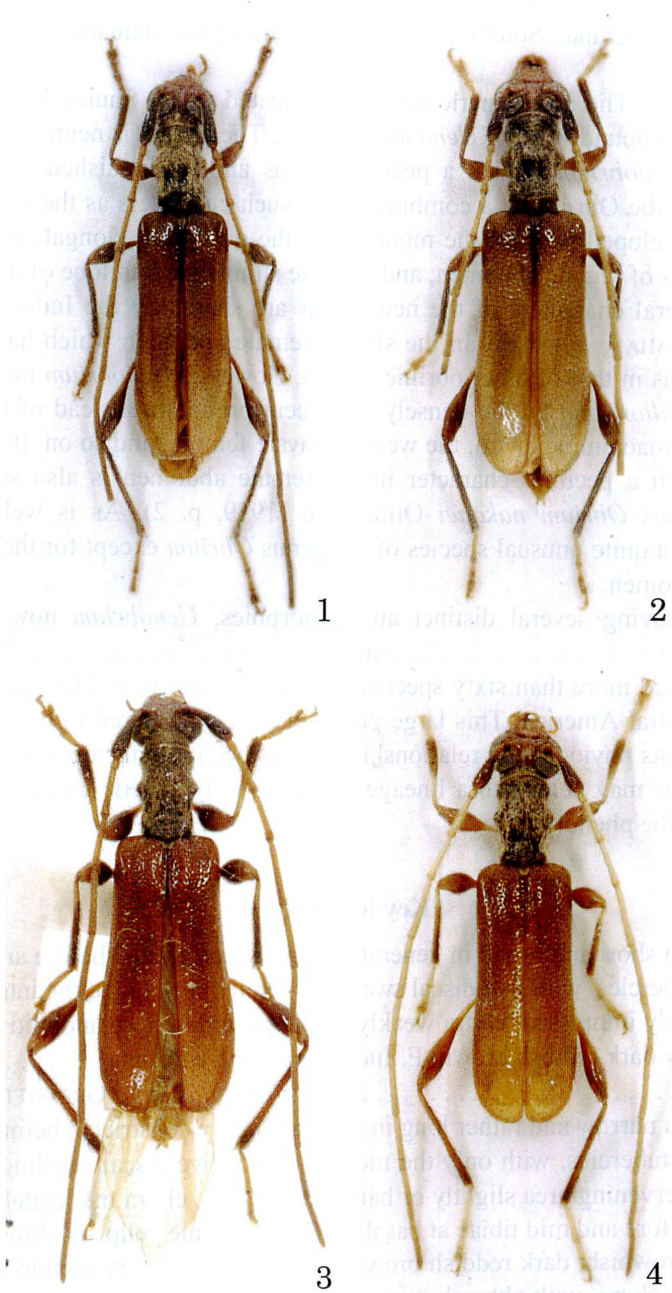
Pronotum elongate and narrow, subparallel-sided or a little dilated to apex, with lateral tubercles large and usually distinct, with base nearly a half the width of elytra; disc strongly uneven, entirely clothed with waved recumbent pubescence, and provided with five swellings, of which two pairs of oblique ones are at apical third and basal fourth, and a median one near middle. Scutellum elongated lingulate.

Elytra broad and moderate in length, ample posteriad, narrowly dehiscent at apices, with quadrate humeri and arcuate basal margins; disc slightly impressed near suture behind scutellum and middle, densely provided with conspicuous punctures which become smaller and sparser in apical fourth. Hind wings with vein Pcu branching in apical third, veins $1A_3+2A$ and 3A present though not reaching the margin, connected with one another at middle.

Prosternum not reduced, moderately long, completely closed behind coxal cavities by broad pleural processes, with intercoxal process very narrow just before subquadrate apex. Mesosternum with intercoxal process rather narrow, coxal cavities widely opened to mesepimera. Metepisternum with wide and deep longitudinal groove which almost reaches base. Male abdomen elongate, gently arcuate at sides, with basal ventrite nearly equal in length to the following three ones, anal ventrite transverse semicircular. Female abdomen broad, with basal ventrite broad and long, nearly equal in length to the following four ones, ventrites 2–4 strongly reduced and arcuately narrowed apicad, without any fringes of hairs as in those of other groups of Obriini, anal ventrite somewhat obtusely produced.

Legs stout and rather long, with femoral clubs relatively weak.

Male genital organ large, about 2/5 the length of abdomen, and rather well sclerotized. Tergite 8 semicircular, truncate or slightly emarginate at apical margin. Sternite 8 transverse, with strongly emarginate apical margin. Median lobe spindle-shaped, well convex, with short and narrow median struts, without any specialized structure in apical lobe; dorsal plate simply pointed apicad and almost reaching the extremity of ventral plate; ventral plate narrowly notched just behind apex, bluntly thickened at the extremity; endophallus densely provided with minute dents. Tegmen uni-lobed, with long



Figs. 1–4. *Uenobrium* species. —— 1, *U. laosicum* (GRESSITT et RONDON, 1970), comb. nov., ♂, from Phu Pan (Mts.) of NE. Laos; 2, ditto, ♀; 3, *U. piceorubrum* (HAYASHI, 1971), comb. nov., ♂, from Taiwan; *U. takeshitai* (NIISATO et OHMOTO, 1994), comb. nov., ♂ from the S. Ryukyus.

to medium-sized terminal setae.

Range. Indochina, Southwest China (Yunnan and Hainan), Taiwan and the Ryukyus.

Etymology. The new generic name is dedicated to Dr. Shun-Ichi UÉNO. *Uenobrium* is the compound word of *Ueno* and *Obrium*. The gender is neutral.

Notes. *Uenobrium* nov. is a peculiar genus and distinguished from the other genera of the tribe Obriini by a combination of such characters as the well developed eyes, the undeveloped palpi of the mouthparts, the pubescent elongate pronotum, the simple ventrites of female abdomen, and also the simple median lobe of the male genital organ. Several characters of the new genus are shared by the Indochinese genus *Ibidionidum* GAHAN, especially in the simple female abdomen which has no specialized structure as in that of other obriine genera. However, *Uenobrium* nov. is also different from *Ibidionidum* by the densely pubescent pronotum instead of thinly pubescent one, the broad ample elytra, the weakly clavate femora, and so on. It is very interesting that such a peculiar character in the female abdomen is also shared by the Japanese species *Obrium nakanei* OHBAYASHI (1959, p. 2). As is well known, *O. nakanei* is not a quite unusual species of the genus *Obrium* except for the character of the female abdomen.

Though having several distinct autapomorphies, *Uenobrium* nov. is doubtless closely related to *Obrium* CURTIS. The genus *Obrium* is a large group in the tribe Obriini and contained more than sixty species from the Palearctic and Oriental Regions to North and Central America. This large genus may be considered to be a polyphyletic group, though its phylogenetic relationship has not been satisfactorily analyzed so far. *Uenobrium* nov. may belong to a lineage of such a polyphyletic group though highly specialized in the phenotype.

Key to Species

1(2) Pronotum short and broad in general, distinctly constricted before and behind lateral tubercles, with five discal swellings wholly prominent, the intervening area distinctly impressed; elytra weakly ample posteriad; fore and mid tibiae almost entirely dark reddish brown; E. Indochina and SW. China . . . . . *U. laosicum* (GRESSITT et RONDON).

2(1) Pronotum narrow and rather long in general, hardly constricted before and behind lateral tubercles, with only the median one of five discal swellings prominent, the intervening area slightly or hardly impressed; elytra moderately ample posteriad; fore and mid tibiae at basal parts always pale yellowish brown.

3(4) Colour brownish, dark reddish brown to brown in elytra; pronotum 0.32 times as long as elytra, with obtusely triangular lateral tubercles; antennal scape entirely clothed with blackish brown hairs; Taiwan . . . . . *U. piceorubrum* (HAYASHI).

4(3) Colour yellowish, yellowish brown to light yellowish brown in elytra; pronotum 0.30 times as long as elytra, with rounded lateral tubercles; antennal scape

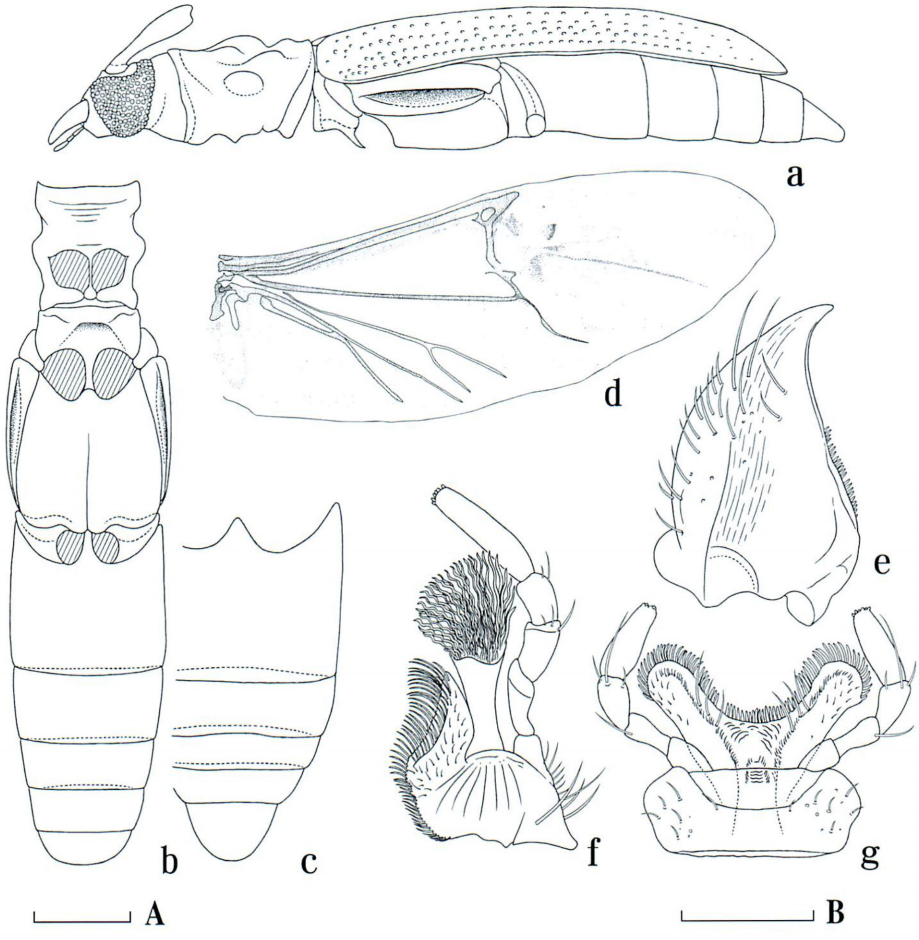


Fig. 5. *Uenobrium laosicum* (GRESSITT et RONDON, 1970), comb. nov., male except for Fig. c. —— a, Body in lateral view; b, thoraces and abdomen in ventral view; c, female abdomen in ventral view; d, right hind wing; e, left mandible in dorsal view; f, left maxilla in ventral view; g, labium in ventral view. Scale A: 1.0 mm for a–d; B: 0.5 mm for e–g.

clothed with brownish hairs near apex; S. Ryukyus .....
..... *U. takeshitai* (NIISATO et OHMOTO).

Uenobrium laosicum (GRESSITT et RONDON, 1970), comb. nov.

(Figs. 1, 2, 5, 6 a & 7)

Obrium laosicum GRESSITT et RONDON, 1970, Pacif. Ins. Mon., **24**, p. 107, fig. 20 d; type locality: Phou Khao Khoay, 1,040 m, Vientiane Prov., Laos.

Body length 7.2–8.0 mm in ♂ and 6.7 mm in ♀ (from apical margin of clypeus to

elytral apices).

Not much specialized species with short broad pronotum like *Obrium*. Colour reddish brown to dark reddish brown, shiny; head dark reddish brown, yellowish in palpi, black at apices and margins of mandibles; antennae blackish brown in scape, pale yellowish brown in the rests though slightly darker towards apical segments; pronotum blackish brown, usually reddish on discal tubercles; scutellum dark reddish brown, infuscate near apex; elytra yellowish brown, darker near base and infuscate at suture just behind scutellum; ventral surface reddish brown, though darker in prosternum; legs dark reddish brown, brighter in peduncles of femora, darker in tibiae (sometimes slightly paler at bases of fore and mid pairs), and tarsi pale yellow.

Male. Head 1.5–1.6 times or 1.3 times as wide as the apical or the maximum width of pronotum, sparsely provided with coarse punctures, clothed with recumbent silvery golden hairs on the posterior half, sparsely with some hairs on the rests; frons nearly third as wide as long, provided with a few punctures, thinly haired, with apical margin arcuately emarginate though slightly produced at middle, median groove reaching just before vertex; clypeus 2/5 length of the basal width which is twice of the api-

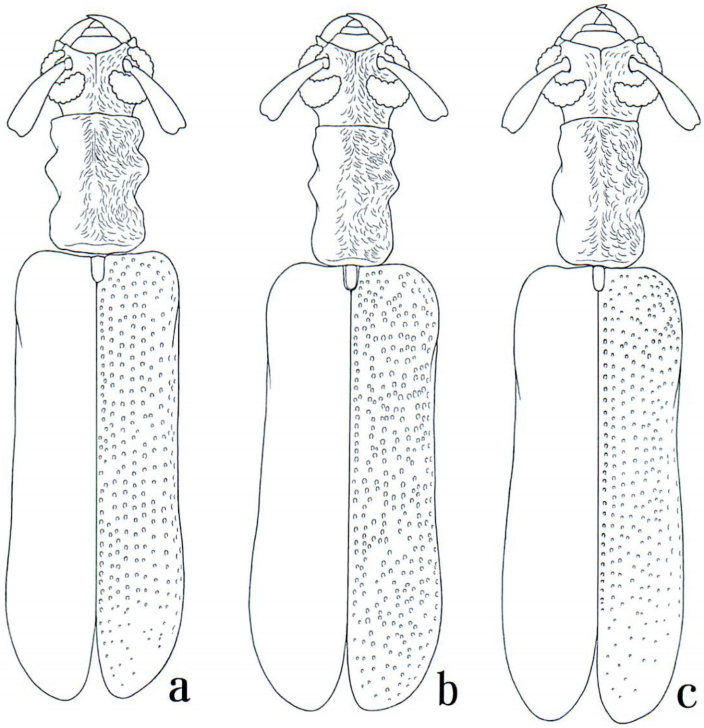


Fig. 6. Dorsal habitus of *Uenobrium* species. —— a, *U. laosicum* (GRESSITT et RONDON, 1970), comb. nov.; b, *U. piceorubrum* (HAYASHI, 1971), comb. nov.; c, *U. takeshitai* (NIISATO et OHMOTO, 1994), comb. nov.

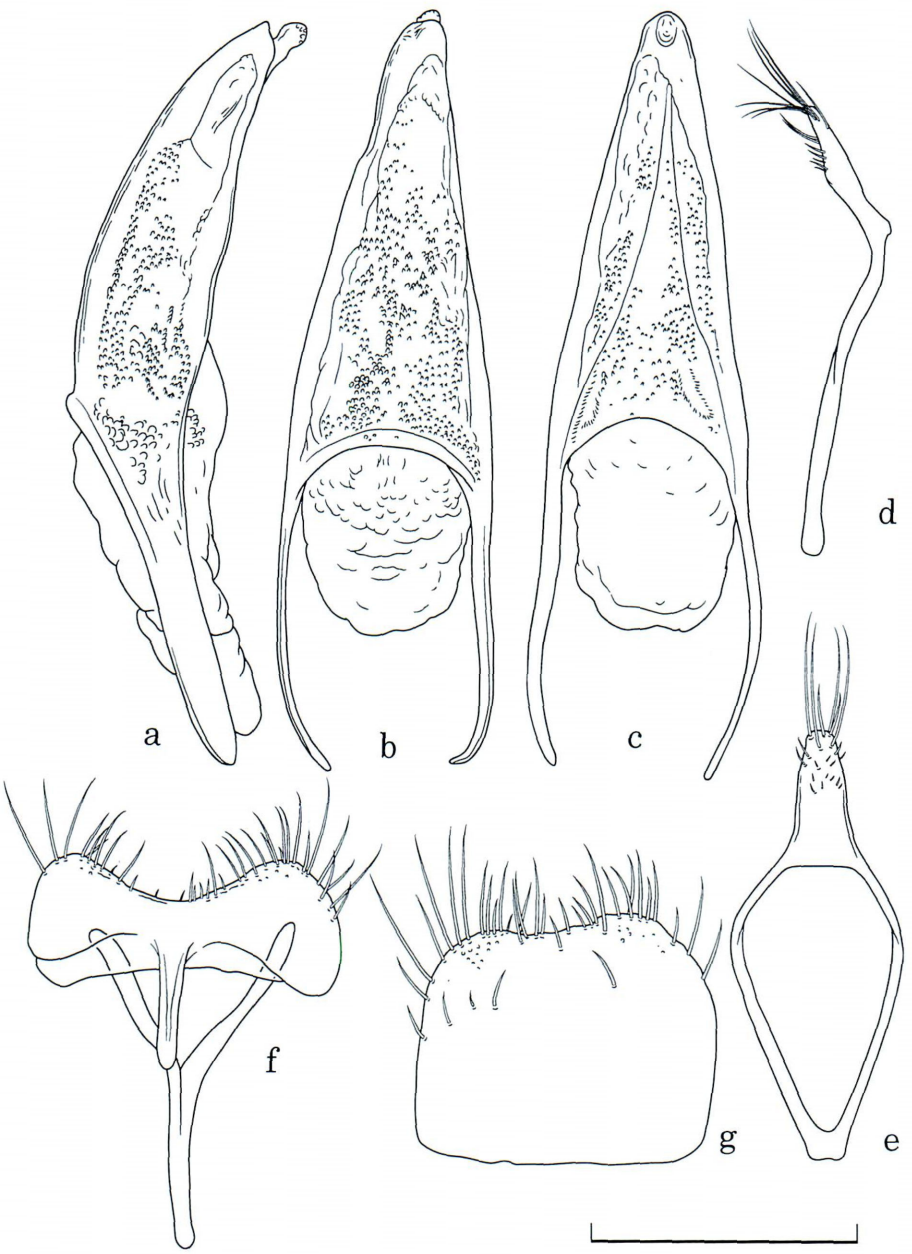


Fig. 7. Male genital organ of *Uenobrium laosicum* (GRESSITT et RONDON, 1970), comb. nov. —— a, Median lobe in lateral view; b, ditto in dorsal view; c, ditto in ventral view; d, tegmen in lateral view; e, ditto in dorsal view; f, sternite 8 with spiculum gastrale in ventral view; g, tergite 8 in dorsal view. Scale: 0.5 mm.

cal, punctured and haired as on frons; genae less than a fifth as deep as lower eye lobes; eyes separated from each other by 1/5 above or 1/4 below of the maximum width of head; occiput weakly raised, usually forming a weak costa on the anterior half. Antennae fairly long, 1.5–1.6 times as long as body, reaching elytral apices at middle of segment 8, densely clothed with rather long pale yellow hairs on basal five segments; scape 1.13 times as long as segment 3, sparsely provided with small punctures, segment 3 a little shorter than segment 4, segment 5 usually the longest though nearly equal in length to segments 6 and 7 combined, terminal segment gently arcuate.

Pronotum rather broad, slightly dilated to apex, 1.5 times or 1.3 times as long as the apical width or the maximum width across lateral tubercles, with base nearly a half the width of elytral humeri, with triangular lateral tubercles near middle; disc strongly uneven, with five tubercles distinct, provided with a few large coarse punctures, clothed with waved recumbent silvery golden hairs, and with a few flying pale hairs. Scutellum pubescent near apex, which is narrowly truncate.

Elytra long and relatively narrow, 2.6 times as long as the humeral width, 3.4 times as long as pronotum, weakly ample in apical 2/5, moderately rounded at each apex; disc closely provided with large punctures, which more or less form irregular rows, and become smaller and sparser from apical 3/10 to apex, bearing rather long pale yellow hair from each puncture.

Prosternum strongly furrowed near middle, rather sparsely clothed with long pale yellow hairs. Meso- and metathoraces, and abdomen almost smooth, very sparsely scattered with weak and fine punctures, thinly clothed with pale yellow hairs, though densely so on mesothorax. Abdomen with anal ventrite 2/5 the length of basal width.

Legs long and rather stout; hind femur distinctly swollen in apical 2/5; hind tarsus thin, with basal segment 1.2 times as long as the following two segments combined.

Male genital organ as shown in Fig. 7. Tergite 8 subparallel-sided in basal half, then arcuate to margin, which is slightly emarginate. Median lobe a little less than 2/5 the length of abdomen, straightly narrowed to apex which is rather broadly rounded, well convex even in apical part, with distinctly thickened extremity of ventral plate which is slightly exposed in dorsal view. Paramere broad, weakly narrowed to subtruncate apex, provided with a few long and medium-sized setae near apex, and short ones on dorsum in apical half.

Female. Head a little narrower than in male, 1.2 times the maximum width of pronotum, with eyes separated above by 1/4 the width of head. Antennae extending to elytral apex at the base of segment 9. Pronotum a little shorter, 1.25 times as long as the maximum width across lateral tubercles. Elytra shorter, 2.5 times as long as the humeral width, 3.15 times as long as pronotum. Abdomen with basal ventrite a little less than a half the length of abdomen, anal ventrite 5/8 the length of the basal width. Legs a little shorter and thinner.

Specimens examined. 1♀ (holotype), Phou Khao Khoay, 1,040 m, Vientiane Prov., Laos, 15–IV–1965, J. A. RONDON leg.; 1♂, Phu Pan, 1,750 m, Ban Saleui, Houaphan Prov., NE. Laos, 28–IV~2–V–2002, M. SATÔ leg.; 1♂, same locality as the

preceding, 1,700 m, 12–IV–2004, T. NIISATO leg.; 1 ♀, same locality as the preceding, 1,500–1,800 m, 17–V–2004, T. MIZUSAWA leg.; 1 ♂, near Sapa, Lai Chau Prov., N. Vietnam, 20–V–1995, N. KATSURA leg.; 1 ♀, Jian-Feng Tian-Chi, Hainan Is., S. China, 12–V–1980, collected at light, PU F.-J. leg.; 1 ♀, He-Kong, 80 m alt., Yunnan, SW. China, 5–V–1956, HUANG K.-L. leg.

Distribution. Laos, N. Vietnam, Yunnan and Hainan.

Notes. *Uenobrium laosicum*, the type species of the genus, seems to have less specialized habitus among all three species of the genus. The general habitus of *U. laosicum* reminds us of the ordinary form of the genus *Obrium* because of the relatively short and broad pronotum, and less ample posterior parts of the elytra. This species is externally distinguished from the other two species by such a weaker specialized habitus. Though widely distributed from eastern Indochina to Southwest Southwest China, *U. laosicum* shows no distinct geographical variation and almost perfectly agrees in coloration and structure through all local populations.

The adults of this obriine are usually found from the blossoms of *Castanopsis* trees and come in flight to light trap. According to my experience in northeastern Laos, this species is rarely found from blossoms at a period from late April to late May at a place more than 1,600 m in altitude.

Uenobrium piceorubrum (HAYASHI, 1971), comb. nov.

(Figs. 3, 6 b & 8)

Obrium piceorubrum HAYASHI, 1971, Ent. Rev. Japan, **18**, p. 5; type locality: Sungkan, Central Taiwan.

Body length 8.2–9.0 mm in ♂ and 8.9 mm in ♀ (from apical margin of clypeus to elytral apices).

Rather highly specialized species with elongate and uneven pronotum. Colour almost as in *U. laosicum* though always darker generally, with elytra dark reddish brown to brown (slightly yellowish in apical parts according to individuals), tibiae blackish brown to dark reddish brown, though yellowish brown at basal half of fore and basal fourth of mid ones. Fore body in dorsal surface densely haired as in *U. laosicum*, though the hairs are rather short and sparsely arranged.

Male. Head almost as in *U. laosicum*; frons 2.5 times as long as wide, scattered with a few small punctures and pale yellow hairs; clypeus punctured only near base; interspace of eyes 1/4 above or 7/20 below the maximum width of head. Antennae 1.4 times as long as body, extending elytral apices at apical third of segment 8, with scape moderately clavate in apical 2/5, provided with shallow punctures and densely clothed with dense blackish brown hairs, segments 2–4 with dense pale yellow hairs, segment 5 only with a sparse row of pale yellow hairs.

Pronotum narrow, nearly parallel-sided, not divergent to apex, 1.7 times as long as apical or basal width, 1.4 times as long as the maximum width across lateral tubercles, with base nearly a half width of elytral humeri; sides hardly constricted before and behind the triangular lateral tubercles near middle; disc uneven though not so strongly as

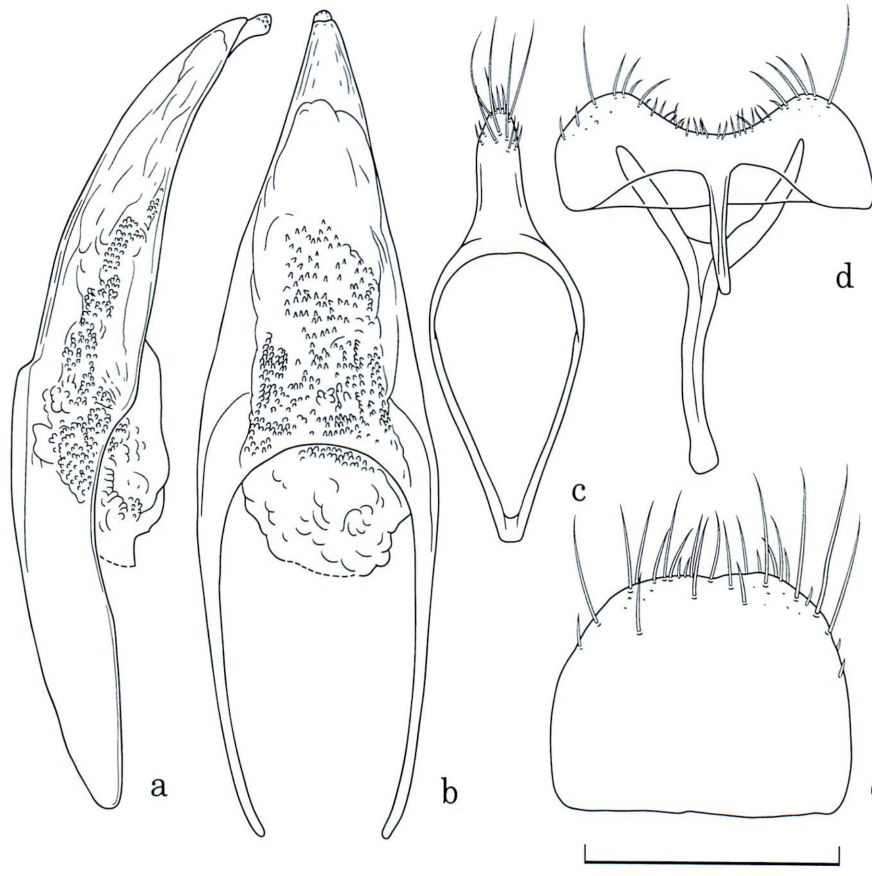


Fig. 8. Male genital organ of *Uenobrium piceorubrum* (HAYASHI, 1971), comb. nov. —— a, Median lobe in lateral view; b, ditto in dorsal view; c, tegmen in dorsal view; d, sternite 8 with spiculum gastrale in ventral view; e, tergite 8 in dorsal view. Scale: 0.5 mm.

in *U. laosicum*, with median tubercle prominent, the anterior and posterior pairs only weakly raised, provided with a few large punctures near middle. Scutellum densely pale pubescent.

Elytra a little less than 2.6 times as long as the humeral width, 3.1 times as long as pronotum, strongly ample in apical 5/11, broadly weakly rounded at each apex; disc densely provided with medium-sized punctures which do not form irregular rows, and become smaller and sparser from apical 3/10 to apex, with rather short pale yellow hairs.

Ventral surface almost as in *U. laosicum*. Abdomen with anal ventrite 2/5 the length of basal width.

Legs slightly longer and thinner than in *U. laosicum*, with hind femur rather weakly swollen in apical 2/5.

Male genital organ as shown in Fig. 8. Tergite 8 almost completely semicircular. Median lobe 2/5 the length of abdomen, straightly and distinctly narrowed to pointed apex which is narrowly truncate, hardly convex throughout, with ventral plate weakly thickened at apex which is slightly exposed in dorsal view. Paramere broad, subparallel-sided in basal 2/3, then bluntly rounded, provided with a few long and medium-sized setae near apex.

Female. Sexual dimorphism the same as in *U. laosicum*. Eyes a little more widely separated above. Antennae 1.25 times as long as body, exceeding elytral apices at middle of segments 10. Abdomen with anal ventrite 3/4 the length of basal width, narrowly truncate at apex.

Specimens examined. 1♂, near Mt. Lala Shan, Taoyuan Hsien, N. Taiwan, 3–V–1978, T. KOBAYASHI leg.; 1♀, Mt. Lala Shan, 21~24–V–1980, H. MAKIHARA leg.; 1♀, Shenmu, Hwalien Hsien, C. Taiwan, 20–VI–1987, S. TSUN leg.; 1♂, almost the same as for the preceding but on 15–VI–1988.

Distribution. Taiwan.

Notes. This is the most specialized species of the three known members of the genus in having the narrow elongate pronotum and the distinctly ample posterior parts of elytra. It has closer relationship to *U. takeshitai* than to *U. laosicum*, and is barely discriminated from the former species of the Ryukyus by the darker coloration, the shape of pubescent pronotum and the conformation of male genital organ.

The adults of *U. piceorubrum* are rather rarely found from the blossoms and at light on the higher mountain ranges of Taiwan.

Uenobrium takeshitai (NIISATO et OHMOTO, 1994), comb. nov.

(Figs. 4, 6 c & 9)

Obrium takeshitai NIISATO et OHMOTO, 1994, Elytra, Tokyo, **22**, p. 350, fig. 1; type locality: Nakamagawa Rindô, Iriomote-jima Is., Yaeyama Isls.

Body length 6.9–7.2 mm in ♂ and 7.0–8.6 mm in ♀ (from apical margin of clypeus to elytral apices).

Intermediate between the preceding two species, but no doubt closer in relationship to *U. piceorubrum*. Colour pattern almost as in *U. piceorubrum* though always paler in general, with fore body reddish brown to light dark reddish brown, elytra yellowish brown to light yellowish brown, antennal segments 2–5 (or–6), basal parts of fore and mid tibiae, and all tarsi pale yellow. Fore body in dorsal surface densely haired though the hairs are shortest and sparsest among the three species.

Male. Head almost as in *U. piceorubrum*; frons 2.2 times as long as wide, scattered with a few small punctures and pale yellow hairs; clypeus scattered with small punctures and pale hairs mostly on base and at sides; occiput only weakly raised; interspace of eyes 1/5 on dorsum and 2/5 on venter the maximum width of head. Antennae 1.35 times as long as body, exceeding elytral apices at apex of segment 8, with scape rather weakly clavate in apical 2/5, provided with shallow medium-sized punctures in

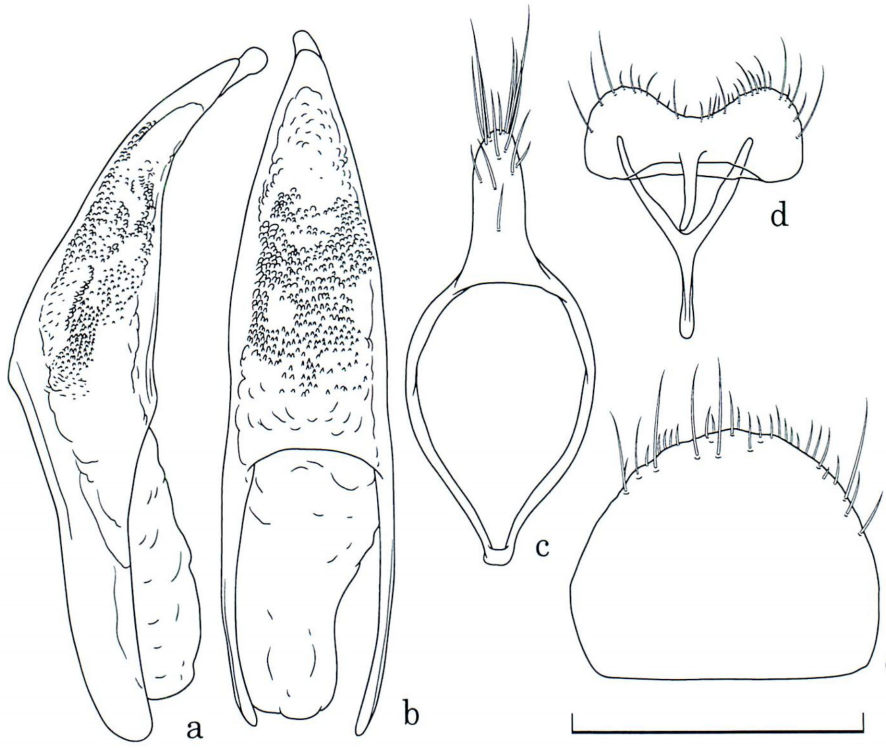


Fig. 9. Male genital organ of *Uenobrium takeshitai* (NIISATO et OHMOTO, 1994), comb. nov. —— a, Median lobe in lateral view; b, ditto in dorsal view; c, tegmen in dorsal view; d, sternite 8 with spiculum gastrale in ventral view; e, tergite 8 in dorsal view. Scale: 0.5 mm.

irregular rows, densely clothed with pale yellow hairs, and partly with blackish brown ones near apex, segments 2–4 with dense pale yellow hairs, segment 5 only with a very sparse row of pale hairs.

Pronotum almost as in *U. piceorubrum* though not so narrow, 1.50–1.65 times as long as apical or basal width, 1.3 times as long as the maximum width across lateral tubercles, with base nearly 2/5 the width of elytral humeri; sides hardly constricted before and behind lateral tubercles which are only obtusely rounded; disc slightly uneven, with five swellings weak except for somewhat conspicuous median one, the intervening areas hardly depressed, provided with a few large punctures near middle. Scutellum as in *U. piceorubrum.*

Elytra almost as in *U. piceorubrum*, though not so strongly ample posteriad, nearly 2.6 times as long as the humeral width, 3.3 times as long as pronotum.

Ventral surface almost as in *U. piceorubrum.*

Legs almost as in *U. piceorubrum* though slightly thinner.

Male genital organ as shown in Fig. 9. Tergite 8 almost semicircular. Median lobe

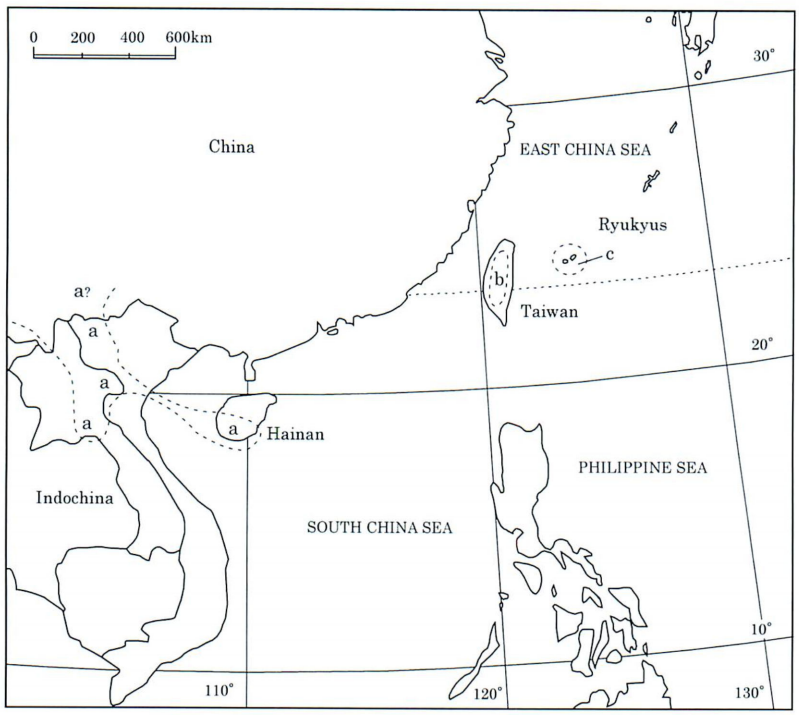


Fig. 10. Distribution of *Uenobrium* species. —— a, *U. laosicum* (GRESSITT et RONDON, 1970), comb. nov.; b, *U. piceorubrum* (HAYASHI, 1971), comb. nov.; c, *U. takeshitai* (NIISATO et OHMOTO, 1994), comb. nov.

9/20 the length of abdomen, arcuately narrowed to bluntly pointed apex, well convex near base, then arcuate and more or less depressed in apical 2/3, with ventral plate weakly thickened at apex which is slightly turned to the left and exposed in dorsal view. Paramere elongate lingulate, provided with long to very long setae near apex, and a few long ones on dorsum.

Female. Sexual dimorphism according well with that of the other two species. Eyes a little more widely separated above. Antennae about 1.2 times as long as body, exceeding elytral apices at apex of segments 9. Abdomen with anal ventrite rounded triangular, 3/5 the length of basal width, slightly emarginate at truncate apex.

Specimens examined. 2♂♂, 4♀♀ (holotype, allotype & 4 paratypes), Nakamagawa Rindô, Iriomote-jima Is., Yaeyama Isls., SW. Japan, emerged out from the host in III–1991, Y. TAKESHITA leg.; 1♀, Shiramizu, Ishigaki-jima Is., Yaeyama Isls., emerged out from the host on 30–IV–1995, H. NISHINO leg.

Distribution. S. Ryukyus (Iriomote-jima Is. and Ishigaki-jima Is.), SW. Japan.

Host plants. *Distylium racemosum* SIEB. & ZUCC. (Hamamelidaceae) by NIISATO and OHMOTO (1994); *Ternsteroemia japonica* THUNB.? (Theaceae) by HOSOKAWA

(1999). The larvae feed on the inside of bark of dead host plant.

Notes. This species was firstly discovered from Iriomote-jima Is. of the Sakishima Isls. of Southwest Japan (NIISATO & OHMOTO, 1994). After that, NIISATO (1996) added Ishigaki-jima Is. of the same island group as a new locality, and KAWADA (1998) reported the adult record in field of the same island. Besides, HOSOKAWA (1999) gave ecological information of this species including the immature stage and the adult behavior. According to the above observation mostly by HOSOKAWA (1999) and KAWADA (1998), the adults of this species appear in such winter season as early January to mid February, and come flying to light. The larvae feed on the inside of bark of dead branches of the host. A single generation almost always spends one year or occasionally two years.

Acknowledgements

I wish to express my hearty thanks to Dr. Shun-Ichi UÉNO for his continuous guidance. I am deeply indebted to the following entomologists for offering the specimens used in this study: Drs. Masataka SATÔ, G. Allen SAMUELSON and Nobuo OHBAYASHI, Messers. Takao ARAI, Michiaki HASEGAWA, Toshio KOBAYASHI, Hiroshi MAKIHARA, Takashi MIZUSAWA, Tokuzo OHMOTO and the late Santai TSUN.

要　　約

新里達也：メダカアメイロカミキリ属とその構成種．—— リュウキュウメダカアメイロカミキリおよび近縁の2種は，じゅうらいムナミゾアメイロカミキリ属*Obrium*の一員として扱われてきたが，密に被毛された細長い前胸背板や特別の構造物をもたない雌の腹部腹板などの特徴から，独立の属とすべきであることが，NIISATO & OHMOTO (1994)により指摘されていた．本論文では，これら近縁種群に対して，*Obrium laosicum*を基準種に新属メダカアメイロカミキリ属*Uenobrium*を創設するとともに，属の構成種3種についても新たな視点から再記載を行った．このメダカアメイロカミキリ属既知3種と分布域は次のとおりである．

1) *U. laosicum* (GRESSITT et RONDON, 1970), comb. nov.；インドシナ東部，云南，海南．
2) *U. piceorubrum* (HAYASHI, 1971), comb. nov.；台湾．
3) *U. takeshitai* (NIISATO et OHMOTO, 1994), comb. nov.；琉球（石垣島，西表島）．

メダカアメイロカミキリ属はいくつかの固有派生形質をもつが，基本的な体構造からみればムナミゾアメイロカミキリ属に近縁であることに疑いはない．いっぽう，ムナミゾアメイロカミキリ属は多様な形態をもつ60種以上の構成種が知られるなか，系統の解析は精査されておらず，少なくとも現状では多系統群といわざるをえない．本論文で創設したメダカアメイロカミキリ属は，そのような系統のなかでもとりわけ表現形質の特殊化が進んだ一群なのだろう．

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Elytra, Tokyo, **34** (1): 221–222, May 20, 2006

A New *Chlorophorus* (Coleoptera, Cerambycidae) from Muko-jima Island of the Ogasawara Islands

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In this short report, we will describe a new *Chlorophorus* species from Muko-jima Island of the Ogasawara Islands. The new species was erroneously recorded as *C. kusamai* M. SATÔ by misidentification (NIISATO & KARUBE, 2000, 2002), and was recognized as an undescribed species by recent examination of the holotype. The difference between *C. kusamai* and the new species will be reviewed in detail in the next issue of the present journal.

We wish to express our hearty thanks to Drs. Masataka SATÔ, Nobuo OHBAYASHI and

Masatosi TAKAKUWA for their kind help extended to our study. The new specific name is given after the first name of SATÔ.

Chlorophorus masatakai sp. nov.

[Japanese name: Mukojima-kiiro-tora-kamikiri]

Chlorophorus kusamai: NIISATO & KARUBE, 2000, Elytra, Tokyo, **28**, p. 440, figs. 4–5, 10; 2002, ibid., **30**, p. 254.

Body length (measured from apical margin of clypeus to elytral apices) 8.4–10.6 mm in ♂, 9.2–12.0 mm in ♀.

Related to *C. kobayashii* KOMIYA from Haha-jima and Chichi-jima Groups of the Ogasawaras, a sibling species, but distinguished by the following characteristics: 1) Pubescence on pronotum and elytra almost always light greenish yellow, hardly reddish as in *C. kobayashii*, 2) two pairs of black pubescent maculation at middle and sides of pronotum evidently smaller, the median formed by two isolated spots, 3) black pubescent maculation on elytra more reduced, 3) median lobe with shorter apical lobe which is 4/9 the length of median lobe, gently narrowed apicad, bluntly rounded at apex of dorsal plate, 4) paramere large, constricted near basal fifth, then markedly broadened before apices, narrowly but deeply dehiscent in apical 5/6, provided with ventral ridges at basal 2/5.

Type series. Holotype ♂, Muko-jma Is., Muko-jima Group, Ogasawara Isls., 28–VI–2000, H. KARUBE leg. Paratypes: 1♂, same data as the holotype; 1♀, same data as the holotype but K. MATSUMOTO leg.; 5♂♂, same locality as the holotype, 14–VI–2001, H. KARUBE leg.; 9♂♂, 2♀♀, same as the preceding but 27–VI–2001; 5♂♂, 2♀♀, same as the preceding but 22–VI–2003; 4♂♂, 3♀♀, same localty and collector, host collected in X–2003, emerged out in 2004; 1♀, Nakôdo-jima Is., Muko-jima group, 27–VI–2004, MIURA leg. The type series including the holotype, except for a few paratypes in our private collections, are preserved in the Kanagawa Prefectural Museum of Natural History, Odawara.

Distribution. Ogasawara Isls.: Muko-jima Is. and Nakôdo-jima Is. (Muko-jima Group).

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A Review of *Glaphyra hattorii* (Coleoptera, Cerambycidae), with Description of a New Subgenus

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Abstract A new subgenus, *Yamatoglaphyra* nov. is established for *Glaphyra hattorii* (OHBAYASHI) for the reason of such peculiarities as the fine velvety pubescence on the antennae starting from segment 3, the vestigial prosternal process, the simple anal vein of the hind wing, and the markedly elongate male genital organ. The lectotype of *G. hattorii* is designated in view of the loss of the holotype. Two components of the new subgenus are redescribed.

Introduction

Glaphyra hattorii (OHBAYASHI, 1954) is a rather rare molorchine monophagous on *Elaeagnus* (Elaeagnaceae), and is known to occur in eastern Honshu and southern Hokkaido of the Japanese Islands. Though having unicolored small black body ordinary looking in facies at first sight, *G. hattorii* is provided with such highly specialized structures as the fine velvety pubescence on the antennae starting from segment 3, the vestigial prosternal process, the simple anal vein of the hind wing, and so on. It is doubtless that a new higher taxon should be proposed for *G. hattorii* since its autapomorphies are clearly discriminated from those of any other congeners of the genus *Glaphyra* NEWMAN.

The main purpose of the present paper is to erect the subgenus *Yamatoglaphyra* nov. for *G. hattorii*, and also to redescribe two components of the new subgenus, with designation of the lectotype for the type species.

Subgenus ***Yamatoglaphyra*** nov.

Type species: *Molorchus hattorii* OHBAYASHI, 1954.

Small-sized molorchine of wholly blackish coloration, with relatively short appendages. Colour black to blackish brown, more or less dull, without maculation on elytra. Hairs and pubescence sparse in general, without pubescent maculation on pronotum and ventral surface; antennae, clothed with fine velvety pubescence from segment 3 to terminus.

Head less voluminous with large but weakly prominent eyes, almost equal in width to the base of pronotum; genae very shallow; mandibles short, briefly hooked at apices; maxillary and labial palpi relatively short. Antennae as long as or slightly

longer than body in ♂, 11-segmented, slightly broadened towards apical segments, with scape hardly clavate, middle segments compressed, terminal segment simple, not pedunculate at the extremity in ♂. Pronotum elongate, moderately narrowed apicad, with small tubercles at sides behind middle, with disc almost evenly punctured except for the smooth areas at sides and posterior to middle. Elytra long, about 1.4 times as long as wide, attaining to abdominal tergite 3, completely covered with the sides of metathorax, narrowly dehiscent at least in apical fifth, completely flattened in profile even near apices. Hind wing reaching tergite 6, with simple vein $1A_3+2A$, and without vein 3A. Prosternal process vestigial, invisible in external view. Legs with hind femur weakly clavate, tarsal segments short.

Median lobe of male genital organ markedly long and slender, elongate, with long median struts, dorsal plate simply narrowed apicad. Tegmen with paramere saturate-formed, with a few very short setae at apex. Tergite 8 longer than wide. Sternite 8 subquadrate, concave at middle of apical margin.

Range. Japan: S. Hokkaido (Oshima Pen.) and E. Honshu; China: Sichuan and Gansu.

Notes. It may be possible to establish a full genus for *G. hattorii* because of such highly specialized character states as mentioned above. It is doubtless that the pubescence on the antennae, the vestigial prosternal process and the wing venation in the type species are all autapomorphies separable from any other congeners of *Glaphyra*. In the members of the nominotypical subgenus, the fine velvety pubescence on the antennae starts from segment 4 or 5, the prosternal process is usually well developed, and the hind wings are provided with well developed vein 3A. The new subgenus is composed of the following two isolated species from Japan and China.

Glaphyra* (*Yamatoglaphyra*) *hattorii (OHBAYASHI, 1954)

(Figs. 1–3, 5–6)

Molorchus (s. str.) *hattorii* OHBAYASHI, 1954, Ent. Arb. Mus. Frey, **5**, p. 13; type locality: Inadanoborito, Tokyo [sic; correctly Kanagawa].

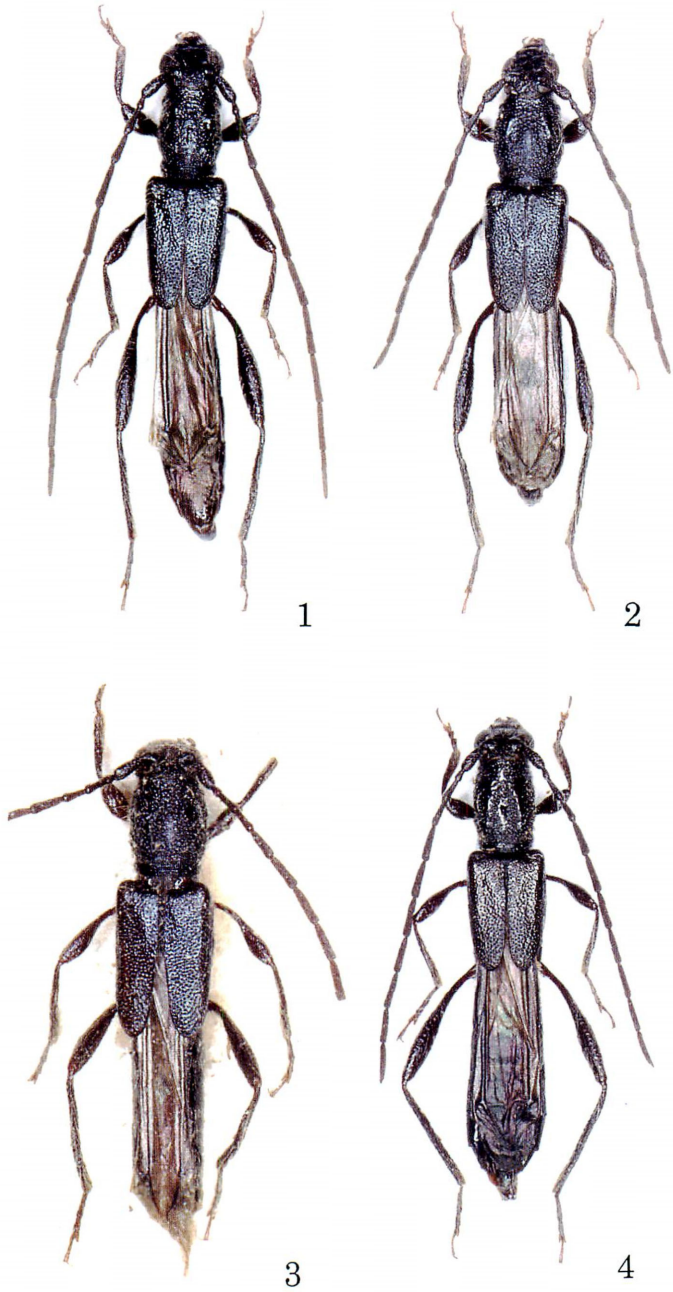
Glaphyra hattorii: HAYASHI, 1983, Check-list Coleopt. Japan, (24), p. 11.

Glaphyra (subgen.?) *hattorii*: NIISATO, 1992, Illustr. Guide Longic.-Beetl. Japan, p. 492.

Body length 5.0–8.4 mm (from apical margin of clypeus to abdominal apex).

Small to medium-sized species of relatively slender body. Colour black to brownish black, weakly shiny, with faint dark bluish green tint on elytra, almost always chestnut brown on appendages, tarsi and palpi yellowish brown. Hairs in general long, rather sparse and silvery white in colour, especially long and erect on head, pronotum and at elytral bases.

Male. Head moderate, as wide as the maximum width of pronotum, scattered with coarse punctures; frons 3/4 the length of the basal width, flattened, with a fine weak median groove, usually smooth on anterior half; clypeus strongly transverse, arcuately emarginate at both basal and apical margins; genae 1/3 the depth of lower eye-



Figs. 1–4. *Glaphyra* (*Yamatoglaphyra*) species. —— 1, *G.* (*Y.*) *hattorii* (OHBAYASHI), ♂ from the Oshima Pen. of Hokkaido; 2, ditto, ♀ from Aomori of N. Honshu; 3, ditto, lectotype ♀ from Tsukechi of Gifu Pref., C. Honshu; 4, *G.* (*Y.*) *aemulata* HOLZSCHUH, ♀ from Gansu, NW. China.

lobes in frontal view. Antenna rather stout, nearly equal in length to body, with pale brown velvety pubescence on apical eight segments; scape conical, coarsely punctured, slightly longer than segment 3 and equal in length to segment 4, segments 3 and 4 distinctly thickened apicad, segments 5–9 more or less compressed, segments 6 and 7 (or 8) nearly equal in length and the longest, 1.4 times as long as scape, terminal segment hardly arcuate.

Pronotum moderately long, 1.6 times as long as apical and 1.2 times as long as maximum width, slightly contracted to apex; sides almost straightly dilated to blunt lateral tubercles at basal 7/20, then arcuately narrowed to basal collar; disc weakly convex, almost always raised at middle and sides of basal fourth, sometimes at the sides of apical fourth, closely coarsely punctured throughout except for the longitudinal smooth area just behind middle and two pairs of rounded ones at sides before and behind middle, though the lateral smooth areas are sometimes connected or inconspicuous according to individuals. Scutellum small, spatulate, densely pale pubescent.

Elytra long, 1.4 times as long as the humeral width, attaining to the base of tergite 3; sides with weakly but roundly produced humeri, almost straightly narrowed to apical 2/7, then arcuately narrowed to separately rounded apices, with suture narrowly dehiscent in apical 3/14; disc completely flattened in profile, rather widely depressed near suture behind scutellum, gently so on oblique part near middle, closely coarsely punctured throughout.

Venter of thoraces closely and heavily punctured, with strong transverse furrows on prosternum, densely pale pubescent on mesothorax and near hind coxae. Abdomen elongate, arcuately dilated apicad in basal three ventrites, then arcuately narrowed to anal ventrite which is widely emarginate at apical margin, rather sparsely provided with large punctures and pale hairs.

Legs rather stout; hind pair with femur weakly clavate in apical 3/5, tibia densely provided with minute dents, 1st segment of tarsus a little shorter than the following two combined.

Male genital organ moderately sclerotized and remarkably elongate, with median lobe a little less than half the length of abdomen. Tergite 8 with weakly rounded apical margin which bears several medium-sized setae. Sternite 8 separately rounded at apical margin due to deep median concavity, with each lobe provided with short to medium-sized setae. Median lobe markedly slender except for somewhat thickened base, weakly arcuate in profile, with dorsal plate almost straightly narrowed to the subtruncate apex, which exposes the blunt apical part of ventral plate; median struts slender, a little less than a half the length of median lobe. Tegmen with paramere elongate spatulate, slightly thickened toward apex, which is provided with two very short setae.

Female. Antennae more slender than in ♂, reaching the base of tergite 5. Pronotum shorter than in ♂, with length 1.5 times at apical or 1.2 times at the maximum width; sides gently arcuately dilated to very weak tubercles at basal 5/2. Abdomen fairly arcuate at sides, with anal ventrite truncate at apex.

Lectotype designation. *Glaphyra hattorii* (OHBAYASHI, 1954) was originally de-

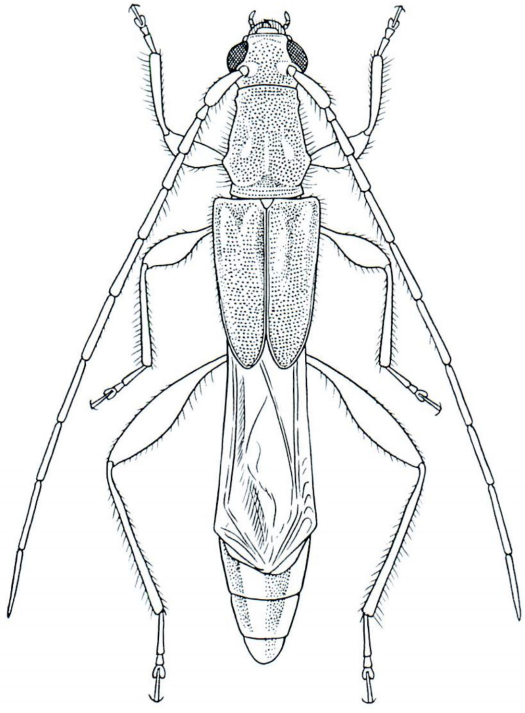


Fig. 5. *Glaphyra* (*Yamatoglaphyra*) *hattorii* (OHBAYASHI), ♂ from Minamiaizu, Honshu.

scribed under the genus *Molorchus* on the basis of two female specimens collected at two different localities, "Inadanoborito, Tokyo" and "Tsukechi, Gifu". The holotype from Inadanoborito was preserved in the private collection of Hitoshi HATTORI and the paratype from Tsukechi is in the author's collection as was mentioned in the original description. According to a personal communication from Mr. H. HATTORI, the holotype specimen in his private collection was lost more than thirty years ago. Therefore, I would like to designate the female paratype from Tsukechi as the lectotype of this species. This lectotype specimen was illustrated in OHBAYASHI (1963, pl. 144, fig. 19).

Lectotype: ♀, *Molorchus hattorii* OHBAYASHI: "Tsukechi / Gifu / V.3.1952 / H. Ohira leg." "Paratype (yellowish orange card)" "Molorchus (s. str.) hattorii mihi / DET. K. OHBAYASHI" "Ohbayashi-zu 251". The following two labels are added to the lectotype: "LECTOTYPE / *Molorchus hattorii* OHBAYASHI, 1954 (red card)" and "*Glaphyra* (*Yamatoglaphyra*) *hattorii* (OHBAYASHI, 1954) / Det. T. NIISATO, 2006. The lectotype is at present preserved in the Entomological Laboratory, Ehime University, Matsuyama.

Specimens examined. [Hokkaido] 12♂♂, 3♀♀, Haraguchi, Matsumae-chô, O-shima Pen., Hokkaido, N. ISHIHAMA leg.; 35♂♂, 19♀♀, same locality and collector as the preceding, 29–V–1996. [Honshu] 2♂♂, 2♀♀, Hirataki-mura, Kizukuri-machi, Nishitsugaru-gun, Aomori Pref., N. Honshu, 18–V–1996, R. MIKAMI leg.; 1♂, 1♀,

Yoshizumi-chô, Yonezawa City, Yamagata Pref., 21–IV–1984, K. YOSHIKAWA leg.; 2♂♂, 4♀♀, Yunohana-Hinoemata, Minamiaizu-gun, Fukusima Pref., 22～23–V–1982, H. MIURA & M. TAKEDA leg; 2♀♀, Shimobe, Yamanashi Pref., C. Honshu, host coll. in XI–2003, emerged out in IV–2004, T. NIISATO leg.; 1♂, 1♀, Kaida-kôgen, Kaida-mura, host collected in V–1982, emerged out on 24～26–IV–1983, K. YOSHIKAWA leg.; 1♂, 1♀, Yokoi Sports Park, Shimada City, Shizuoka Pref., 17–IV–1988, K. ICHIKAWA leg.; 3♂♂, 4♀♀, Tokunokuchi, Ishikawa Pref., C. Honshu, 12–V–1990, M. IMURA leg.; 1♀ (lectotype designated above), Tsukechi, Gifu Pref., 3–V–1952, H. ÔHIRA leg.

Distribution. Hokkaido (Oshima Pen.) (new record) and E. Honshu, Japan.

Host plants. *Elaeagnus multiflora* THUNB. var. *crispa* (MAXIM.). It is most probable that *G. hattorii* is monophagous on *E. multiflora* or at least on *Elaeagnus* shrubs. The report of *Acer aidzuense* may be misidentification of the *Elaeagnus* species (nec YUZAWA, 1977).

Notes. No geographical variation is shown in the specimens listed above. The specimens from various localities of East Japan as listed above perfectly agree in every respect in the colorartion, body size and other external morphology.

This species was considered to be one of the rarest species in the Japanese molorchines until the discovery of the host plant in 1982 by the late Kenichi EMOTO. For instance, the habitat at the type locality near "Inadanoborito" was deteriorated by urbanization, and only a few additional specimens were collected before the 1970's. Larvae of *G. hattorii* are easily found at present from freshly dead twigs of *E. multiflora*. However, natural habitats of *G. hattorii* are generally much limited, and usually threatened by the impact of collectors.

Glaphyra* (*Yamatoglaphyra*) *aemulata HOLZSCHUH, 1998

(Fig. 4)

Glaphyra aemulata HOLZSCHUH, 1998, FBVA-Berichte, (107), p. 38, fig. 48; type locality: "China, Sichuan, Nanping: Jiuzhaigou, 2500 m".

Body length 6.2–7.4 mm. Closely related to *G. hattorii* in coloration, arrangement of pubescence and conformation of body, but barely discriminated by the following characteristics: 1) Antennae longer and slenderer, exceeding body at segment 10 in ♂ or reaching the base of tergite 6 in ♀; 2) pronotum longer, 1.4 times in ♂ or 1.3 times in ♀ as long as the width across blunt lateral tubercles behind middle, with discal punctation weaker than that of *G. hattorii*. Such other characters as the relative length of antennal segments shown in the original description cannot be used for differentiation, at least in the additional specimen examined.

Additional specimen examined. 1♀, Liujiaping (劉家坪), 2,000 m in alt., Wen Xin, Gansu Prov., 27–VI–1998, W.-I CHOU leg.

Distribution. Sichuan and Gansu (new record for the province), China.

Notes. The single additional specimen examined from Gansu Province doubtless belongs to this species since no difference was observed in comparison with the

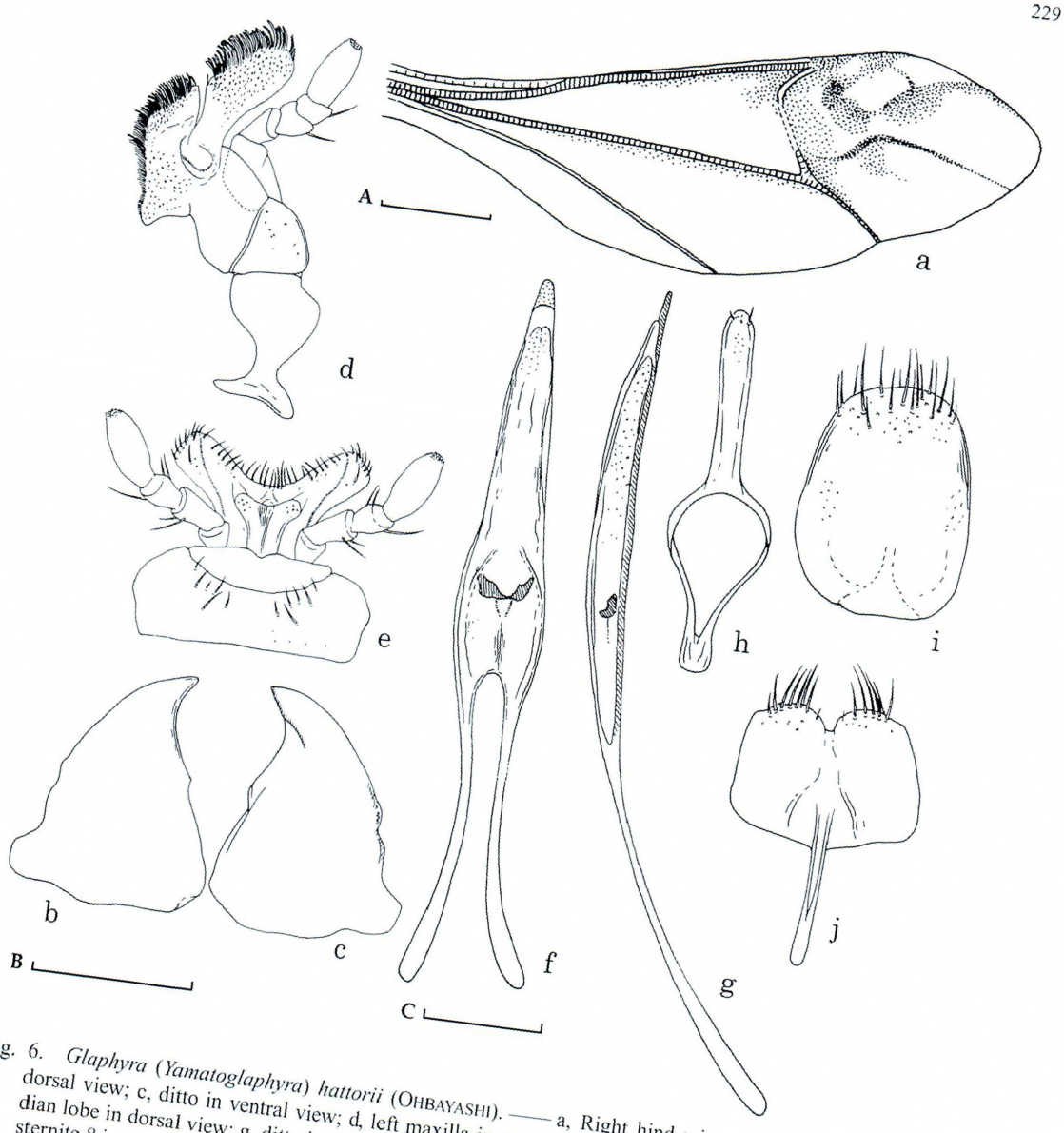


Fig. 6. *Glaphyra* (*Yamatoglaphyra*) *hattorii* (OHBAYASHI). —— a, Right hind wing; b, left mandible in dorsal view; c, ditto in ventral view; d, left maxilla in ventral view; e, labium in ventral view; f, median lobe in dorsal view; g, ditto in lateral view; h, tegmen in dorsal view; i, tergite 8 in dorsal view; j, sternite 8 in ventral view. Scale A (1.0 mm) for a, B (0.25 mm) for b–e, C (0.25 mm) for f–j.

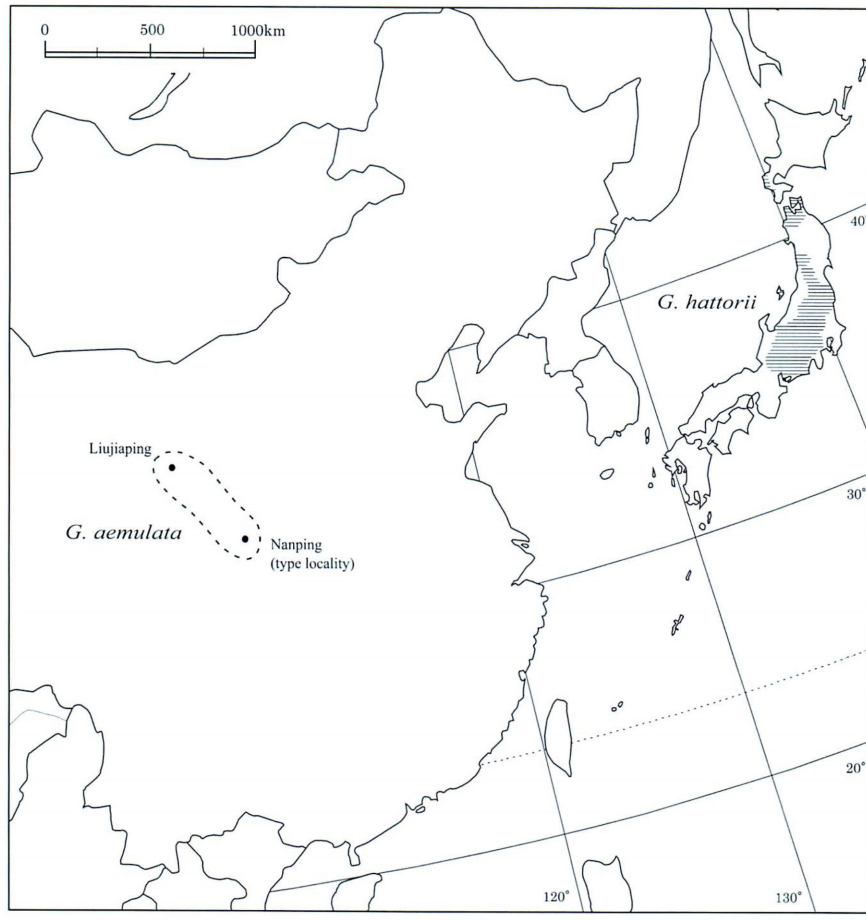


Fig. 7. Distribution of *Glaphyra* (*Yamatoglaphyra*) species.

original description made on the specimens from Sichuan. *Glaphyra aemulata* may occur rather widely on higher mountains of western to northwestern China.

Glaphyra aemulata almost perfectly agrees with the Japanese *G. hattorii* and is barely distinguished by the slender body form, especially in the longer antennae and pronotum. It is very interesting that such close similarities are found between two isolated species from eastern Japan and western China; the origin of *Yamatoglaphyra* may be rather old within the members of *Glaphyra* in spite of the highly specialized body structure.

Acknowledgements

I wish to express my indebtedness to Dr. Shun-Ichi UÉNO for his continuous guid-

ance and for reading the original manuscript of this paper. Special thanks are due to Dr. Nobuo OHBAYASHI of Ehime University and Dr. Wen-I CHOU of Taiwan University, Messrs. Kyôji ICHIKAWA, Norio ISHIHAMA, Hideaki MIURA, Masashi TAKEDA and Ken YOSHIKAWA for their lending or offering the invaluable *Glaphyra* material used in the present study, and also to Dr. Yasuaki WATANABE and Mr. Hitoshi HATTORI for their kindness in giving me detailed information about the holotype of *Molorchus hattorii*.

要　　約

新里達也：クロツヤヒゲナガコバネカミキリの分類学的考察ならびに新亜属の記載．――クロツヤヒゲナガコバネカミキリは東日本にやや局所的に分布する種で，幼虫はグミ類（バラ科）の専門食として知られている．本種は，一見すると黒色で目立った特徴の少ないヒゲナガコバネカミキリ類であるが，触角第3節以降に細微毛を備え，前胸腹板突起が退化して見かけ上消失し，後翅臀脈が1本の縦脈 ($1A_3$+2A) で構成されるなどの特異性が，新里 (1992) によりすでに指摘されてきている．これらの一連の形態は，ヒゲナガコバネカミキリ属のいかなる種とも明確に区別でき，本種と近縁種に固有の派生形質と考えられるため，本種を基準種に新亜属 *Yamatoglaphyra*（クロツヤヒゲナガコバネカミキリ亜属；和名新称）を創設した．

新亜属の構成種は東日本のクロツヤヒゲナガコバネカミキリとともに，中国西部から比較的最近になって発見された *Glaphyra aemulata* の合計2種が知られている．この2種は大陸中央部と日本列島東部にそれぞれに隔離された分布域をもつが，形態的にはきわめて近縁で，わずかに触角や前胸背板が長いなどの点で区別できるにすぎない．大陸と本州に遠く離れて孤立した集団が，このように形態的分化の低い状態にあることはたいへん興味深く，多くの派生的な形質をもつクロツヤヒゲナガコバネカミキリ亜属の起源が，予想外に古いものではないかという可能性を暗示している．

なお，クロツヤヒゲナガコバネカミキリの正基準標本の紛失したことが保管者により証明されたために，本論文のなかで，基準標本系列の岐阜県産の副基準標本を後基準標本に指定した．

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Elytra, Tokyo, **34** (1): 233–238, May 20, 2006

A New Species of the Genus *Xylotrechus* (Coleoptera, Cerambycidae) from Northern Vietnam

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Abstract A remarkable new clytine species belonging to the genus *Xylotrechus* CHEVROLAT is described from northern Vietnam. This new species shares basic characters with *X. villioni* VILLARD and *X. magnificus* PIC. The *Xylotrechus villioni* group is proposed for these three species of the genus.

An interesting large and hairy species of the clytine genus *Xylotrechus* CHEVROLAT was collected from Ha Gang of northern Vietnam, approximate to the border of Yunnan Province of China. It is obvious that the clytine species has several common characters with *X. villioni* VILLARD from Japan and *X. magnificus* PIC from Laos, but is easily distinguished from them by the hairly black body with a broad yellow band on the elytra. Although only one male specimen with slightly damaged body is examined, I am going to introduce it into science in this paper because of the peculiarity of the species.

Before going further, I wish to express my deep gratitude to Dr. Kiyohiko IKEDA for his kind advice and encouragement to the present study, and to Dr. Tatsuya NIISATO for giving me many important information of the Clytini and reading the early draft of the manuscript. I also thank Mr. Yasuhiko ITO for checking the English description and Mr. Yoshiyasu KUSAKABE for lending some invaluable materials for comparison with the new species.

Xylotrechus aureounifasciatus sp. nov.

(Figs. 1–3)

Male. Large species for the genus, with robust and hairy body, characterized by broad pale golden yellow band on elytra. Color mostly dark brown to blackish brown; head black, except for dark brown palpi and amber clypeus and labrum; antennae blackish brown; pronotum black; scutellum blackish brown; elytra black in basal third, yellowish brown in apical 2/3 including the median yellowish band; legs dark reddish brown, black at bases of femora, tarsi including claws dark reddish brown; ventral sides of thoraces black; abdomen reddish brown.

Head small and short, 0.54 times as wide as the maximal width of pronotum, with

a longitudinal deep groove running from upper part of frons to vertex, densely clothed with reddish brown pubescence; frons trapeziform, 1.13 times as long as the narrowest width at middle, without median carina, slightly swollen near clypeus, coarsely sparsely punctured, sparsely pubescent; clypeus glabrous; eyes medium-sized, weakly swollen, separated from each other by 0.45 times the width of head; mandibles coarsely sparsely punctured, with a few thin hairs; occiput very short; genae deep, 1.25 times as deep as lower eye-lobes. Antenna short and stout, reaching basal tenth of elytra, clothed with a few yellow hairs on segments 3rd to 6th, with segments 6–10 more or less compressed and slightly serrate extero-apically; ratio of length of each segments: 2.5, 1, 2.6, 2.5, 2.2, 2.2, 2.1, 1.5, 1.5, 1.1, –.

Pronotum large and globose, 0.85 times as long as wide, widest at basal third, closely provided with irregular-sized reticulations, furnished with sparse tufts of black pubescence from about half numbers of the reticulations, the pubescence becoming thicker and longer from center to sides; disc provided with a pair of arcuate shallow grooves at sides, which are furnished with reddish brown hairs, and deeply concave at both the anterior part and the middle, a small concavity at middle near basal margin, and also a shallow longitudinal groove extending from center to just before basal collar. Scutellum triangular, rounded at apex, clothed with thick blackish brown pubescence.

Elytra 2.09 times as long as the basal width, almost parallel-sided, with apices slightly toothed at sutural angles and rounded externally; punctation coarse and somewhat sparse near base, finer and denser near middle, and very fine near apices; pubescence setigerous, usually forming tufts, partly longer near basal fifth and sparser in apical fifth, blackish brown in color; each elytron with the following pubescent maculations: 1) a pair of vague brown pubescent spots near base, 2) a pale golden yellow broad band at a level between basal and apical third, zigzag on anterior margin, oblique then abruptly rounded upwards just before external margin on posterior margin.

Pro- and mesosterna deeply and densely punctured, sparsely clothed with blackish brown hairs. Metasternum finely densely punctured, clothed with reddish brown hairs. Abdomen finely punctured, densely clothed with yellowish brown hairs.

Legs stout; femur densely and tibia rather sparsely clothed with long wavy yellowish brown hairs, though the hairs are much sparser on anterior pairs; hind femora not reaching elytral apices; hind tarsi with 1st segment very short, 1.42 times as long as the following two segments combined.

Male genital organ relatively large, with median lobe nearly 1/7 the length of body. Eighth sternite provided with dense long setae on apical margin except for the arcuately emarginate middle, arcuately concave at sides of basal margin. Eighth tergite nearly trapezoidal, densely provided with short setae, with apical margin slightly emarginate near middle and roundly angulate at sides. Median lobe relatively long, 3.8 mm in length, with apical lobe moderately arcuate in profile, markedly exposing the reflexed apical part of ventral plate; dorsal plate barely reaching apical fourth of ventral plate, with bluntly pointed extremity. Tegmen 4/5 the length of median lobe; paramere

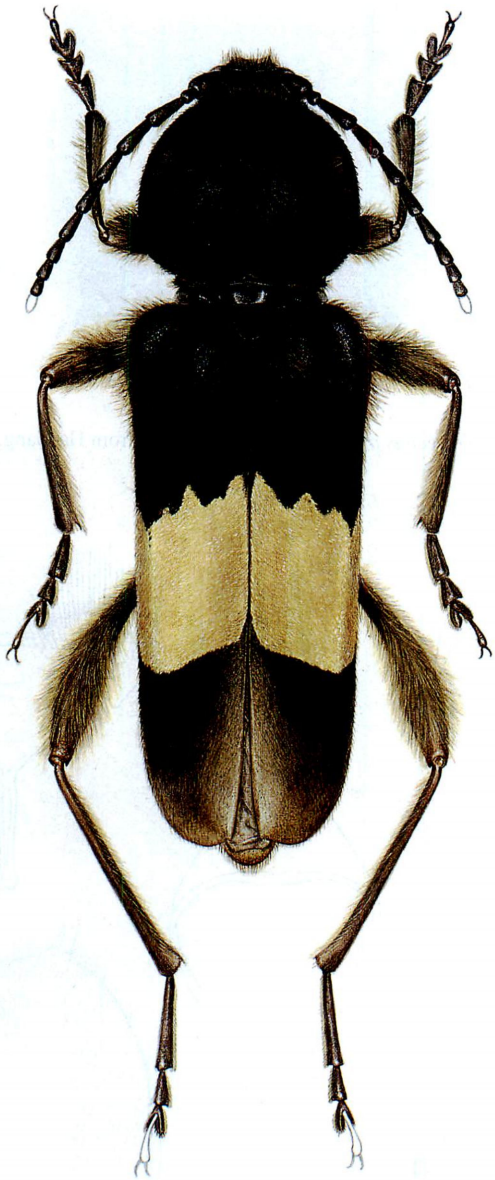

Fig. 1. *Xylotrechus aureounifasciatus* sp. nov., holotype ♂, from Ha Gang, northern Vietnam.

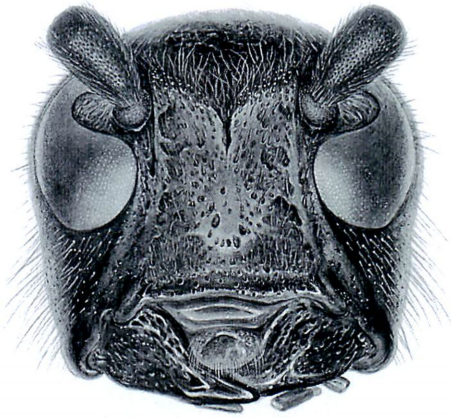

Fig. 2. Head of *Xylotrechus aureounifasciatus* sp. nov., from Ha Gang, northern Vietnam.

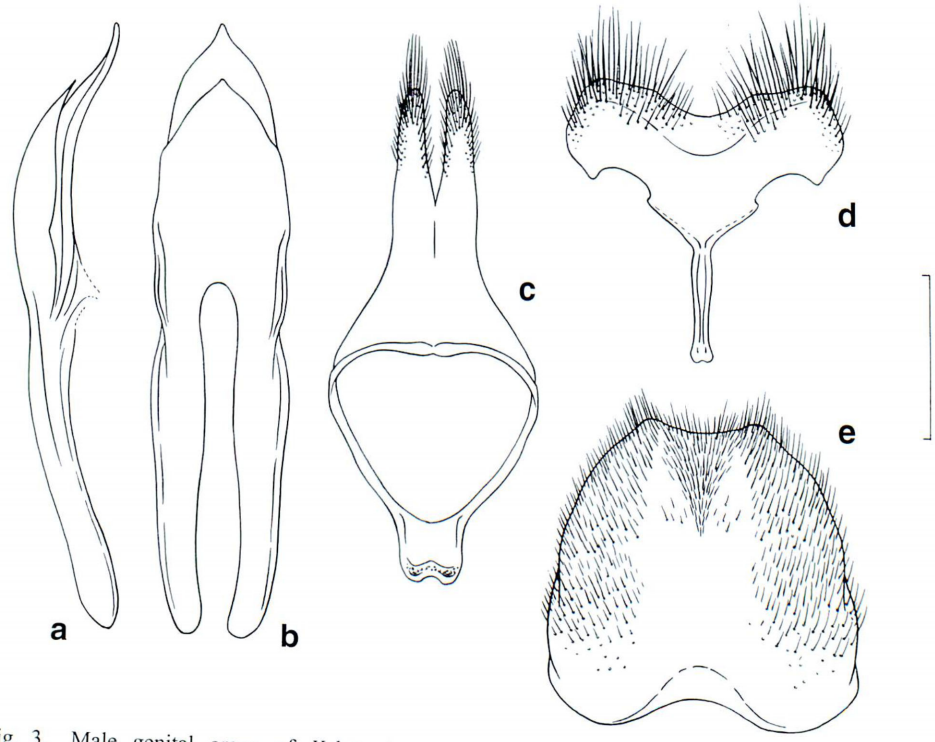

Fig. 3. Male genital organ of *Xylotrechus aureounifasciatus* sp. nov., from Ha Gang, northern Vietnam. —— a, Median lobe, lateral view; b, ditto, dorsal view; c, tegmen, dorsal view; d, 8th sternite; e, 8th tergite. Scale 1 mm.

rather narrowly dehiscent just after apical half measured along midline, densely provided with long setae near apices and short ones at sides.

Baby length 26.5 mm; width: 8.5 mm.

Female. Unknown.

Type material. Holotype ♂, Ha Gang, Ha Tuyen Province of northern Vietnam, VII–2004, (preserved in the National Science Museum (Nat. Hist.), Tokyo). The holotype is slightly damaged and the following parts are missing: the apical four segments of left antenna, the terminal segment of right antenna, the left mid claw, the left hind tarsus and the right claw.

Distribution. So far known only from the type locality, Ha Gang of northern Vietnam.

Notes. As described above, this new species has closer relationship to *X. villioni* VILLARD and *X. magnificus* PIC among all the members of the genus *Xylotrechus*. The three species share the following characteristics: 1) Large in size, usually over 25 mm; 2) head very small, slightly more than half the width of pronotum; 3) vertex provided with a deep median groove; 4) frons without clear carina (usually vestigial or lacking entirely); 5) pronotum large and globular, slightly wider than long, widest at the posterior to middle; 6) male pronotal disc provided with a pair of arc-shaped grooves including some concavities; 7) elytra almost parallel-sided; 8) hind femora not reaching elytral apices; 9) 1st segment of hind tarsus very short, less than 1.5 times as long as the following two segments combined.

Consequently, I would like to propose a species-group to be named the *villioni* group for the three species of the genus *Xylotrechus* in view of a combination of the above characteristics.

要　　約

分島徹人：ベトナム北部より発見された大型のトラカミキリ属の新種．—— 中国雲南省との国境に近い北ベトナムのハ・ザンで2004年に得られた標本に基づき，トラカミキリ属の1種を*Xylotrechus aureounifasciatus* sp. nov.と命名，記載した．現在知られているのは1雄個体のみであるが，じゅうぶんにトラカミキリ属の他既知種と明確に区別できる特徴を備えている．本種は，既知種のなかでは日本のオオトラカミキリ*X. villioni*およびラオスの*X. magnificus*に近縁で，これら3種は，1) 体が非常に大型，2) 頭部は小さく，頭頂に溝状の陥没部をもち，前頭に中央隆起を欠く，3) 前胸背板は大きく横長の球形で，雄では複数の小陥没部をともなう1対の弧状縦溝を両側に備え，4) 上翅は両側がほぼ並行，5) 後腿節は上翅端を越えず，後付節第1節が短い，という特徴を共有する．この3種はトラカミキリ属において一つの単系統群を形成すると考えられるため，その特徴を記載し，本論文において*X. villioni*種群（オオトラカミキリ種群）を提唱した．

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投稿された原稿は，原則として2名の校閲者によって査読される．重大な修正が要求されない場合は，変更箇所などについて，事前に著者に通知を行わない．

原稿作成要領

1．原稿は横書きとし，A4判用紙を用い，上下左右各3 cm以上の余白をあけ，ワープロ等で清書する．また，原稿1ページ目の上部には，少なくとも1/4ページ以上の余白をあける．清書する活字の大きさは欧文14ポイント（和文12ポイント），1ページあたり30行とし，句読点には「．，：；・」を用いる．なお，欧文では，表題や見出しを含めて，いかなる場合にも大文字だけで表記しない．動植物の属およびそれ以下の学名には下線（イタリック書体指定）を，人名の2文字目以降に二重線（スモールキャピタル書体指定）を引く．

2．論文原稿は，表題，著者名，所属機関とその所在地（または住所），原則として刷り上がり15行以内の英文抄録（Abstract），本文，要約（和文）および文献の順に配列する．

3．短報原稿は，表題，著者名，所属機関とその所在地（または住所），本文，文献の順に配列する．著者が2人以上である場合は，著者名と所属機関およびその所在地（または住所）はそれぞれまとめて記す．

4．新タクサの命名記載をともなう報文には，正基準標本（ホロタイプ）の全形写真あるいは図を掲載することが望ましい．

5．文献は著者名のアルファベット順に並べて，下記の形式で記す．

FLEUTIAUX, E., 1942. Entomological result from the Swedish Expedition to Burma and British India. Coleoptera, Elateridae, recueillis par René MALAISE. *Ark. Zool.*, **33A**(18): 1–24.

WATANABE, Y., 1995. A new micropeplid species (Coleoptera) from Yunnan, Southwest China. *Elytra, Tokyo*, **23**: 245–249.

——— & LUO, Z., 1991. The micropeplids (Coleoptera) from the Tian-mu Mountains in Zhejiang Province, East China. *Ibid.*, **19**: 93–100.

6．報文中の標本採集データは次のように略記する．

（例）3♂♂, 1♀, Iryuda, Odawara-shi, Kanagawa Pref., C. Honshu, Japan, 9–V–2003, M. TAKAKUWA leg.

20 exs., Phu Pan (Mt.), 1,600 m alt., Ban Saleui, Houaphan Prov., NE Laos, 1–V–2002, H. YOSHITOMI leg.

7．原稿には，原稿用紙と同質の表紙をつけ，これに表題，ランニングタイトル（簡略した報文表題，欧文50字以内），著者名，連絡先を記し，赤字で原稿枚数，別刷部数（表紙の有無を明記），そのほか連絡事項があれば記入する．また，電子データの入ったフロッピィディスクをかならず添付する．

8．図はすべて挿図（text-figure）として扱い，カラー写真などを除いて図版（plate）にしない．線画は耐水性黒色インク等で鮮明に描き，そのまま印刷できるようにする．印刷された図の拡大（縮小）率を示したい場合には図中にスケールを入れる．原図には薄紙のカバーをかけ，これに著者名，図の番号，上になる方向を示す．原図版上に取り扱い指定文字を入れたい場合には，かならず青鉛筆を用いる．なお，原図の大きさは台紙を含めてB4判以内とする．

9．図の説明および表は，それぞれ別紙に書き，原稿末につける．図表のだいたいの挿入位置を，原稿本文に鉛筆で記入する．

10．原稿の送付先は下記学会宛とする．

〒169–0073　東京都新宿区百人町3–23–1

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