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Discovery of *Hemicarabus macleayi* (Coleoptera, Carabidae) from the Alpine Zone of the Island of Rishiri-tô, Northeast Japan

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Abstract *Hemicarabus macleayi* DEJEAN is recorded for the first time from the alpine zone of the Island of Rishiri-tô, Northeast Japan, and is described as a new subspecies under the name *amanoi*.

In the summer of 2001, a female specimen of a strange carabid beetle was collected by Mr. Masaharu AMANO on a path leading to the top of Mt. Rishiri-zan on the Island of Rishiri-tô, off the western coast of the northern tip of Hokkaido, Northeast Japan. Three years later, it was submitted to me for examination through the courtesy of Mr. Naoki TODA. It was evident at a glance that the beetle was identical with or very closely related to *Hemicarabus macleayi*, though somewhat different in details from all the known races of the species. This was most unexpected, since the main distributional range of *H. macleayi* was the northeastern part of the Eurasian Continent (Southeast Siberia, Amur, Maritime Territory, northeastern North Korea, Yakut, Magadan, the Kamchatka Peninsula, etc.) and the range extended onto the Island of Sakhalin at the most. Anyway, it was apparent that the carabid in question was an unrecorded species from the Japanese territory. To prove its indigenousness on Rishiri-tô and to know its own characteristics more precisely, it was necessary to collect additional specimens. In the summer of this year, I myself made an investigation on Rishiri-zan together with Mr. TODA and Mr. Yoshiyuki NAGAHATA,[1)] and fortunately succeeded in collecting another female specimen in the alpine zone of the same mountain. In the following lines, I am going to record them and describe this completely isolated population as a new subspecies of *H. macleayi*.

The higher system of the subtribe Carabina adopted in this paper is the same as that proposed by IMURA (2002).

This study will be presented at the 17th Annual Meeting of the Japanese Society of Coleopterology to be held in Odawara, 20–21 November 2004.

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1) This survey was performed under the permission of the Ministry of Environment (permission No. 040721009 of the West Hokkaido Regional Office for Nature Conservation).

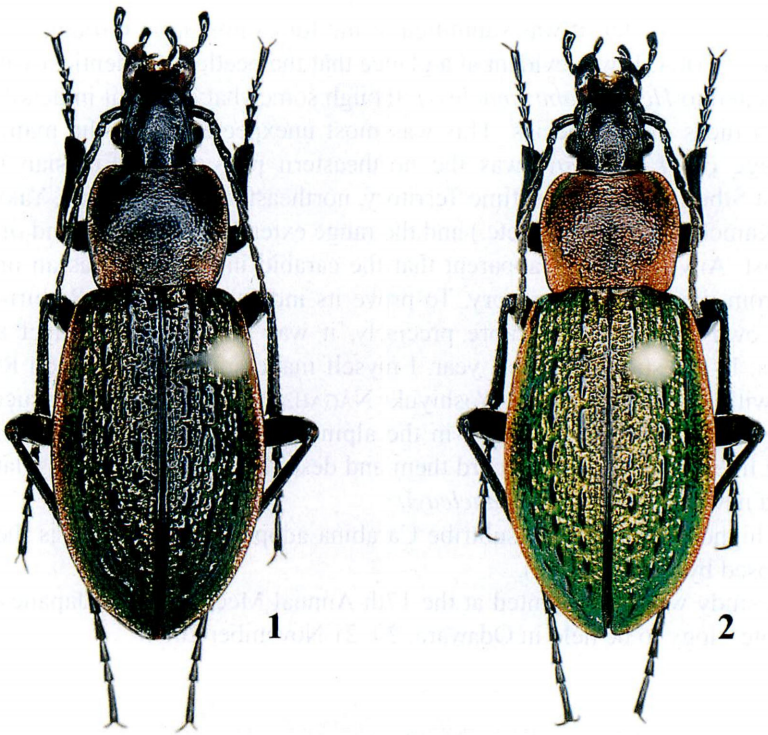
Hemicarabus macleayi amanoi IMURA, subsp. nov.

[Japanese name: Rishiri-no-makkurei-seaka-osamushi]

(Figs. 1–2)

Length: 17.2–17.8 mm (including mandibles). Head black, partly bearing a faint coppery reddish tinge in fresh individual; pronotum and elytral margins coppery red with a strong metallic lustre; elytra excluding the marginal areas dark to light yellowish green with rather strong metallic lustre; elevated part of pronotum and elytra almost black and not strongly polished; venter and appendages black.

Most closely allied to subsp. *coreensis* BREUNING (1933, p. 857; type locality: "Korea, Mts. Paik-to-san" [=Baegdu San in North Korea]), but distinguishable from that race in the following points: 1) pronotum with the lateral sides a little less roundly arcuate; 2) elytra apparently slenderer, 1.54 times as long as wide in both the specimens examined, and less acutely narrowed towards apices; 3) secondary and tertiary intervals of elytra more strongly developed and irregularly connected with primaries. From the nominotypical *macleayi* DEJEAN (1826, p. 485; type locality: "Daourie"



Figs. 1–2. *Hemicarabus macleayi amanoi* IMURA, subsp. nov., from the alpine zone of Mt. Rishiri-zan (*1*, holotype, ♀; 2, paratype, ♀).

[=Daurija in Southeast Siberia]) and *splendidulus* SÉMENOW[2] (1888, p. 207; type locality: "la baie De-Castries dans la Sibérie orientale maritime" [=De-Kastri in the Maritime Territory]), the new race is readily discriminated by a little longer antennae, much slenderer elytra and robuster elytral intervals.

Male unknown.

Type series. Holotype: ♀, 11～12–VIII–2004, Y. IMURA, N. TODA & Y. NAGAHATA leg., deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratype: 1♀, summer of 2001, M. AMANO leg., now preserved in the collection of Y. IMURA.

Type locality. Alpine zone of Mt. Rishiri-zan, on Is. Rishiri-tô, off the western coast of the northern tip of Hokkaido, Northeast Japan.

Derivation of the name. The present new race is named after Mr. Masaharu AMANO [天野正晴] who first collected the specimen and submitted it to me for study.

Discussion

Hemicarabus macleayi is distributed mainly in the subarctic zone of northeastern Eurasia and Sakhalin, and is recorded for the first time from the Japanese territory in the present paper. The Rishiri-zan (1,721 m in height at the highest point), on which the Japanese race inhabits, is a stratovolcano formed on the bed rock of the Neocene (KOBAYASHI, 1999) and was volcanically active until the Pleistocene (SEGAWA, 1974). Therefore, the origin of *H. macleayi* in the same island cannot be older than that geological time and the species seems to have been established rather recently when the island was connected with the continent via Sakhalin by the regression of the sea in certain stage of the Glacial Period. The Rishiri population is thus considered to be a relict of the past cold time and must have been isolated in the alpine zone of Rishiri-zan where the environmental condition suitable for this species is barely maintained. This distributional pattern is similar to that of *Miscodera arctica* or *Trechus apicalis*, both of which are widely distributed in the subarctic zone of Eurasia and North America, and have so far been found, within the Japanese territory, only from the high altitudinal area of Rishiri-tô (cf. HABU, 1972, p. 30; UÉNO, 1966, pp. 69–74, 1984, p. 142). Incidentally, average annual temperature observed near the summit of Rishiri-zan is estimated at about −2.6°C (TAKAHASHI, 1999, p. 58) which is a little lower than that observed at the same height on the Daisetsu-zan Mountains, a central massif of Hokkaido.

The first specimen of *H. macleayi* in Rishiri-tô was picked up somewhere on a climbing route to the summit of Rishiri-zan, and the second one was obtained by pitfall traps set in a narrow scree slope along the path in the alpine zone. The beetle was not collected from such environments as the alpine snow meadow, community of *Pinus*

2) This taxon, originally described as "*Carabus Mac-Leayi* FISCH, Var. *splendidulus*", should be regarded as a mere colour variation of the nominotypical subspecies.

Table 1. List of the subtribe Carabina recorded from Is. Rishiri-tô.

1. *Hemicarabus macleayi amanoi* IMURA, subsp. nov.
2. *Hemicarabus tuberculosus tuberculosus* DEJEAN et BOISDUVAL, 1829
3. *Aulonocarabus kurilensis rishiriensis* NAKANE, 1957
4. *Asthenocarabus opaculus opaculus* PUTZEYS, 1875
5. *Carabus arvensis hokkaidensis* LAPOUGE, 1924
6. *Carabus granulatus yezoensis* BATES, 1883
7. *Pachycranion kolbei hanatanii* IMURA, 1991
8. *Acoptolabrus gehinii aereicollis* HAUSER, 1921

pumila or dwarf scrub of *Betula ermanii* and *Alnus maximowiczii*, etc. Though our knowledge is still too poor on its true biotope and mode of life, the species may prefer rather barren place as is often observed in the other species belonging to the same genus. This might be a reason why we have been unable to find the carabid in question until recent years in spite of systematic surveys made by experienced carabidologists (cf. UÉNO, 1961, in HABU, 1972; MATSUMOTO, 1978, in UÉNO, 1984, pp. 141–142; UÉNO, NISHIKAWA, SAITO & SATÔ, 1990, in UÉNO, 1991, p. 110; YASUDA *et al.*, 1991, etc.).

The most noticeable characteristics of the Rishiri population are the relatively slender elytra, which are much less acutely narrowed towards the apices than in the other races of *H. macleayi*. Its elytral sculpture is also unique in having more strongly developed secondary and tertiary intervals. Since the two specimens examined had the same character states and were distinguishable from the other races even in comparison between the females, I have decided to describe the Rishiri one as a new subspecies. Needless to say, however, the final conclusion should be drawn after examining the male and its genitalic organ.

Totally seven species of the subtribe Carabina have hitherto been recorded from the Island of Rishiri-tô, and the present new race becomes the eighth constituent (Table 1). Of these, *Hemicarabus macleayi*, *Aulonocarabus kurilensis* and *Pachycranion kolbei* are differentiated to the subspecies endemic to the island and the other five are common at the subspecific level with those distributed in the mainland of Hokkaido. The most noticeable difference in the carabid fauna between Rishiri-tô and Hokkaido is the absence of *Homoeocarabus maeander*, *Leptocarabus arboreus* and *Damaster blaptoides* in the former. The biotope of *H. maeander* is usually restricted to moors or marshy meadows, and it is no wonder that the carabid fauna of Rishiri-tô lacks this species, as there is little environmental condition suitable for this species in the island. On the contrary, it is very strange that the latter two are not found on Rishiri-tô, since they are the commonest everywhere in the mainland. This may be due to some geohistorical or ecological reason, but it is difficult to elucidate at present why the carabid fauna of Rishiri-tô lacks these two species. It is worth noting that the two *Hemicarabus* species occur in the same island, though they are not strictly sympatric. One of the two, *H. tuberculosus*, mainly inhabits grassy or barren plain in the low altitudinal area,

while *H. macleayi* is considered to be restricted to a distinctive environment in the alpine zone. In the same zone of Rishiri-zan, there also inhabit *Aulonocarabus kurilensis*, *Asthenocarabus opaculus*, *Pachycranion kolbei* and *Acoptolabrus gehinii*. However, they are usually dominant in the meadows or dwarf scrubs and rarely collected from barren places.

Though the habitat of the new race is located in the special protection zone of the national nature conservation area called the Rishiri-Rebun-Sarobetsu National Park, a special attention should be paid for its protection mainly against disturbance caused by poachers aimed at this beetle, since it is a beautifully colored newcomer added to the Japanese carabid fauna for the first time in long years.

Acknowledgements

I wish to express my sincere thanks to Mr. Masaharu AMANO (Seto, Aichi) for his kindness in submitting invaluable specimen to me for study. Mr. Naoki TODA (Nagoya, Aichi) entrusted me with the study of the very important specimen and helped my investigation in the field together with Mr. Yoshiyuki NAGAHATA (Yonezawa, Yamagata). Deep gratitude should be expressed to these colleagues of mine. I have to thank Mr. Mitsumasa KAWATA (Sapporo, Hokkaido), Dr. Akiko SAITO (Natural History Museum and Institute, Chiba), Mr. Helmut SCHÜTZE (Gleichen, Germany), Prof. Nobuyuki TAKAHASHI (Hokkai-Gakuen University, Sapporo, Hokkaido) and Mr. Nobuki YASUDA (Daisetsuzan National Park Sounkyo Visitor Center, Hokkaido) for their help in providing either specimens for comparative study or necessary literature. Hearty thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) not only for kindly taking trouble to get a permission of my survey in the special protection zone of Rishiri-tô, but also for providing necessary literature and reviewing the manuscript of this paper.

要　　約

井村有希：利尻島の高山帯におけるマックレイセアカオサムシの発見．—— マックレイセアカオサムシは，ユーラシア大陸北東部を中心に分布する種で，北朝鮮の北東部やカムチャツカ半島，さらにサハリンにも生息しているが，これまでわが国からは知られていなかった．ところがさいきん，利尻島の高山帯に生息していることがあきらかになったため，日本産オサムシのあらたなメンバーとして記録するとともに，外部形態の差に基づき，新亜種名を与えて記載した．本種の生息地は，国立公園の特別保護区域内に位置しているものの，その範囲は利尻山高所の特殊な環境に限定されており，日本のファウナに種のレベルであらたに加わったオサムシ，しかも美麗種であることから，まんいち本種に狙いを定めた密猟が行われると，採集圧による個体数の激減，ひいては個体群としての存続の危機が現実のものとなりかねない．本種の詳しい分布状況や生態は未知であるため，こんごさらに綿密な調査が必要であることは論を待たないが，同時にその保護に対する対策が急務となるだろう．

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Elytra, *Tokyo*, **32** (2): 241–247, November 20, 2004

Records of the Cychrini and Carabini (Coleoptera, Carabidae) from Heizhugou and Hong'ya Xian of South-central Sichuan, Southwest China

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Abstract Seven species of the tribes Cychrini and Carabini are recorded from the Heizhugou in Ebian Yizu Zizhixian and several localities in Hong'ya Xian of south-central Sichuan, Southwest China. Of these, two new taxa are described as follows: *Cychropsis* (*Sinocychropsis*) *nagahatai* sp. nov. and *Archaeocarabus nestor gongtong* subsp. nov.

Early in the summer of 2004, I made a collecting trip to the south-central part of Sichuan Province in Southwest China and obtained several species of the Cychrini and Carabini in the northern part of Ebian Yizu Zizhixian of Leshan Shi and the southern part of Hong'ya Xian. In this paper, I am going to record totally seven species with descriptions of a new species and a new subspecies. For the application of the generic names to each taxon, I follow the higher system proposed by myself (IMURA, 2002), and the abbreviations used herein are the same as those explained in previous papers of mine.

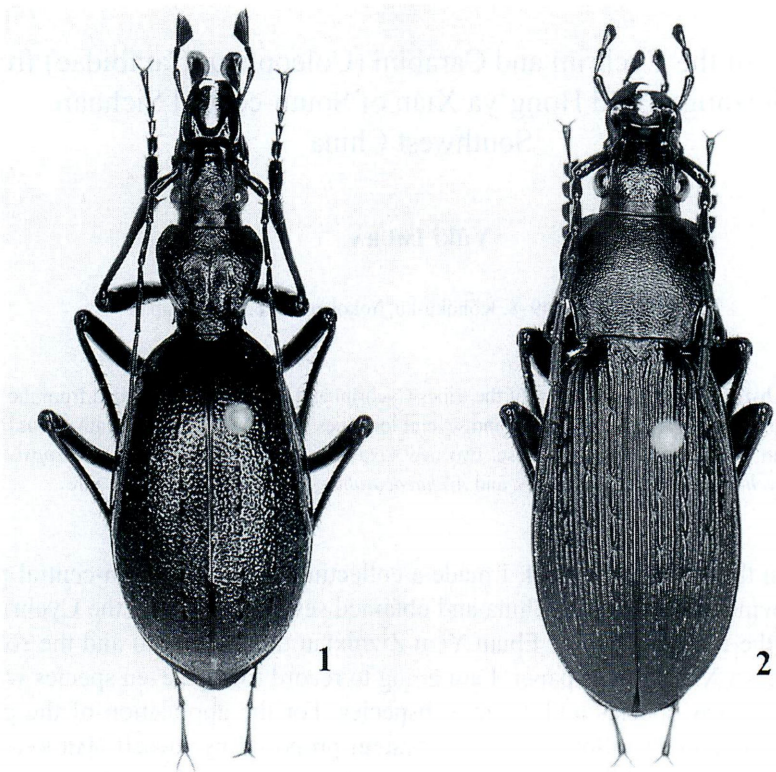
I have received invaluable aid in the field investigations from Mr. Yoshiyuki NAGAHATA (Yonezawa, Yamagata) and Mr. FAN Ting (International Academic Exchange Center of the Academia Sinica, Chengdu). Deep gratitude should be expressed to these friends of mine. Also I thank Dr. Thierry DEUVE (Muséum National d'Histoire Naturelle, Paris) for kindly taking trouble to make the loan of the type specimen of *Cychropsis* (*Sinocychropsis*) *korelli kazantsevi* and Mr. Helmut SCHÜTZE (Gleichen, Germany) for providing necessary literature. Hearty thanks are due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for revising the manuscript of this paper.

1. *Cychropsis* (*Sinocychropsis*) *nagahatai* IMURA, sp. nov.

(Figs. 1, 3)

Description. Length 23.6 mm (including mandibles). Upper surface entirely black, not bearing blue-purplish reflection at all and rather mat. Venter and appendages black and polished.

Most closely allied to *Cychropsis* (*Sinocychropsis*) *korelli* KLEINFELD and its subspecies, *kazantsevi* DEUVE, but discriminated from them as follows: 1) pronotum more



Figs. 1–2. Holotypes of newly described taxa. —— 1, *Cychropsis* (*Sinocychropsis*) *nagahatai* sp. nov. (holotype, ♂) from Heizhugou 616 Linchang; 2, *Archaeocarabus nestor gongtong* subsp. nov. (holotype, ♂) from between Gufopeng and Jinhuaqiao on the northeastern slope of Mt. Wawu Shan.

transverse, a little wider than long (PL/PW 0.98), while it is a little longer than wide (PL/PW 1.05–1.10) in the two subspecies of *Cy. korelli*; 2) elytra slenderer, less acutely narrowed towards apices, with the shoulders more effaced; 3) antennae and legs much slenderer; 4) aedeagus evidently different in shape, more strongly arcuate inwards throughout, less strongly sinuate on ventral side at about apical third, with the apical lobe much longer and slenderer, about six times as long as wide.

Holotype: ♂, Heizhugou No. 616 Linchang (=Woodland or Timberland) [黑竹沟616号林场], 2,100–2,600 m in altitude, in Ebian Yizu Zizhixian [峨边彝族自治县] of Leshan Shi [乐山市], south-central Sichuan, Southwest China, 29～31–V–2004, Y. IMURA & Y. NAGAHATA leg., deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Notes. This is the first record of *Sinocychropsis* from the eastern side of the Xiaoxiang Ling Mountains on the southern bank of the Dadu He River. Though considered to be most closely allied to *Cy.* (*S.*) *korelli* known from the Siguniang Shan and Xilingxue Shan, the new race is obviously different from that species in configura-

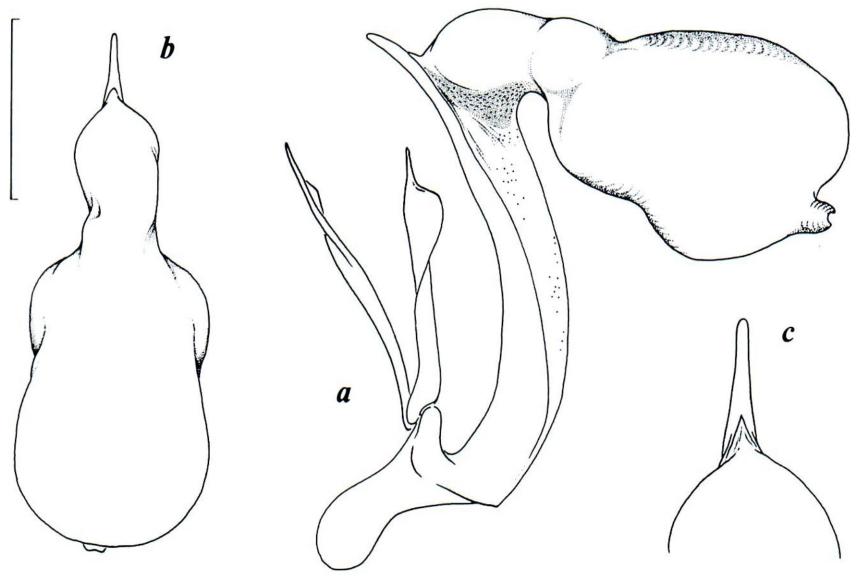


Fig. 3. Male genital organ of *Cychropsis* (*Sinocychropsis*) *nagahatai* sp. nov. —— a, Aedeagus with fully everted endophallus and parameres in right lateral view; b, endophallus in dorsal view; c, apical part of aedeagus in dorsal view. Scale: 2 mm for a & b, 1 mm for c.

tion of the male genitalia. The much slenderer antennae and legs are also unique and diagnostic. These peculiarities are evidently of specific importance, not subspecific. A single male specimen of the new species was collected by baited pitfall traps set along the margin of the mixed forest whose floor was covered with the low-growth bamboos. The present new species is named after Mr. Yoshiyuki NAGAHATA [永幡嘉之] who collected the type specimen together with the author.

2. *Apotomopterus* (s. str.) *eccoptopterus eccoptopterus* KRAATZ, 1894

Carabus eccoptopterus KRAATZ, 1894, Dt. ent. Z., Berlin, **1894**, p. 137, figs. 17–18; type locality: Omei-Shan (=Emei Shan) in Central-China.

Specimens examined. 2♀♀, between Gufopeng [古佛坪] and Jinhuaqiao [金花桥], alt. 1,650–1,700 m, on the northeastern slope of Mt. Wawu Shan [瓦屋山], 25–V~2–VI–2004; 3♂♂, 12♀♀, same area (alt. 1,500–1,550 m), 24–V~2–VI–2004; 2♀♀, Shuwangdian [蜀王殿], alt. 1,200 m, on the northeastern slope of Mt. Wawu Shan, 24–V~2–VI–2004; 1♂, 7♀♀, Fuxingcun [復兴村], alt. 1,500–1,600 m, in Ganhegou [干河沟], 26–V~3–VI–2004; 10♂♂, 14♀♀, between Gaomiaozhen [高庙鎮] and Zhangcun [张村], alt. 1,100–1,350 m, 1–V~3–VI–2004; 4♂♂, 8♀♀, near Qilixiaoxue [七里小学], alt. 1,300 m, South of Lanbazi [烂坝子] in Gaomiaozhen, 1–V~3–VI–2004; all from Hong'ya Xian [洪雅县] of south-central Sichuan, Southwest China, collected by Y. IMURA & Y. NAGAHATA.

3. *Apotomopterus* (s. str.) *grossefoveatus stoetznerianus* HAUSER, 1924

Apotomopterus Stoetznerianus HAUSER, 1924, Soc. ent., Stuttgart, **39**, p. 1; type area: Chinae provincia Szetschuan (=Sichuan).

Specimens examined. 6♂♂, 12♀♀, Shuwangdian, alt. 1,200 m, on the northeastern slope of Mt. Wawu Shan, 24–V~2–VI–2004; 1♂, 2♀♀, Jinhuaqiao, alt. 1,100–1,200 m, on the northeastern slope of Mt. Wawu Shan, 24–V~3–VI–2004; 1♂, 3♀♀, between Gaomiaozhen and Zhangcun, alt. 1,100–1,350m, 1–V~3–VI–2004; 6♂♂, 5♀♀, near Qili-xiaoxue, alt. 1,300 m, South of Lanbazi, in Gaomiaozhen, 1–V~3–VI–2004; all from Hong'ya Xian of south-central Sichuan, Southwest China, collected by Y. IMURA & Y. NAGAHATA.

4. *Apotomopterus* (*Dolichocarabus*) *ascendens ascendens* SÉMÉNOW, 1898

Carabus ascendens SÉMÉNOW, 1898, Horae Soc. ent. ross., S.-Peterburg, **31**, p. 349; type locality: China occid.: pars septentrionalis provinciae Se-tschuan (=Sichuan): angustiae Cho-dzi-gou, haud procul ab urbe Lun-ngan-fu (=Pingwu).

Specimens examined. 1♀, between Gufopeng and Jinhuaqiao, alt. 1,650–1,700 m, on the northeastern slope of Mt. Wawu Shan, 25–V~2–VI–2004; 2♂♂, 3♀♀, same area (alt. 1,500–1,550 m), 24–V~2–VI–2004; 3♂♂, 3♀♀, Shuwangdian, alt. 1,200 m, on the northeastern slope of Mt. Wawu Shan; 4♂♂, 4♀♀, Jinhuaqiao, alt. 1,100–1,200 m, on the northeastern slope of Mt. Wawu Shan, 24–V~3–VI–2004; 6♂♂, 12♀♀, Fuxingcun, alt. 1,500–1,600 m, in Ganhegou, 26–V~3–VI–2004; 5♂♂, 8♀♀, near Qili-xiaoxue, alt. 1,300 m, South of Lanbazi in Gaomiaozhen, 1–V~3–VI–2004; all from Hong'ya Xian of south-central Sichuan, Southwest China, collected by Y. IMURA & Y. NAGAHATA.

5. *Archaeocarabus vigilax vigilax* BATES, 1890

Carabus vigilax BATES, 1890, Entomologist, Dorking, **23**, p. 211; type locality: Wa-shan, alt. 6,000 feet; Chia-ting Fu (=Leshan), 1,000 feet.

Specimens examined. 2♀♀, Gufopeng, alt. 1,900–1,950 m, on the northeastern slope of Mt. Wawu Shan in Hong'ya Xian of south-central Sichuan, Southwest China, 24–V~2–VI–2004, Y. IMURA & Y. NAGAHATA leg.

Notes. It should be noted that "Wawu Shan", the locality recorded here, and "Wa Shan", the type locality of the species, are not the same. The Wa Shan in BATES' sense means a mountain called the Dawa Shan [大瓦山] (3,236 m) at present, which is situated near the northern bank of the Dadu He River in the western part of Jinkouhequ [金口河区] at the western end of Leshan Shi. The Wawu Shan is a mountain about 35 km distant to the north from there. Though sometimes confused with each other, these two localities must be discriminated.

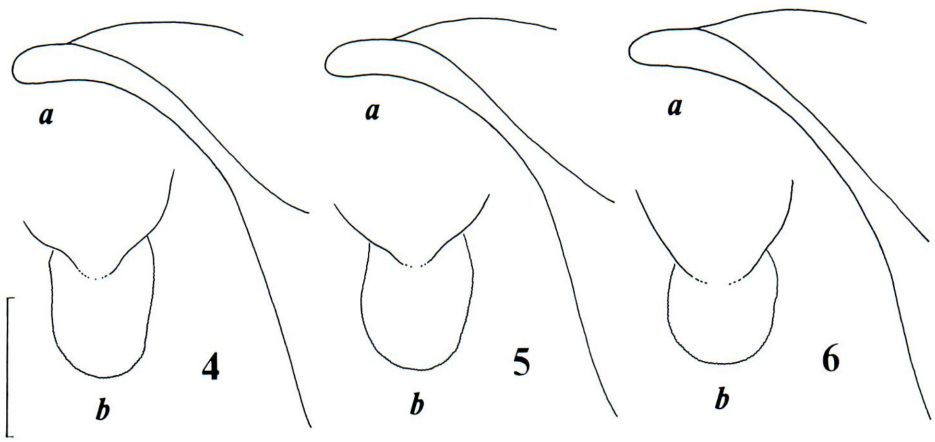


Fig. 4–6. Male genital organ of *Archaeocarabus nestor* subspp. —— 4, Subsp. *gongtong* (holotype) from between Gufopeng and Jinhuaqiao on the northeastern slope of Mt. Wawu Shan; 5, intergrading form between subsp. *gongtong* and subsp. *emeicola* from Ganhegou in Hong'ya Xian; 6, subsp. *emeicola* (holotype) from Mt. Emei Shan. —— a, Apical part of aedeagus in right lateral view; b, digitulus in dorsal view. Scale: 1 mm for a, 0.5 mm for b.

6. *Archaeocarabus nestor gongtong* IMURA, subsp. nov.

(Figs. 2, 4)

Description. Length: 24.7–25.8 mm (including mandibles). Closely allied to subsp. *emeicola* DEUVE et IMURA (type locality: Mt. Emei Shan, 1,700 m), but discriminated from that race in the following points: 1) size a little smaller on an average; 2) lateral margins of pronotum a little more strongly reflexed above near hind angles which are a little more sharply protruded posteriad; 3) tertiary intervals of elytra weaker and partly interrupted; 4) granules on striae between intervals more prominently recognized; 5) apical lobe of aedeagus a little robuster and a little more strongly bent ventrad in lateral view; 6) digitulus more elongate in dorsal view.

Type series. Holotype: ♂, between Gufopeng and Jinhuaqiao, alt. 1,650–1,700 m, on the northeastern slope of Mt. Wawu Shan in Hong'ya Xian of south-central Sichuan, Southwest China, 25–V~2–VI–2004, Y. IMURA & Y. NAGAHATA leg. Paratypes: 1♂, 4♀♀, same data as for the holotype, in coll. Y. IMURA.

Derivatio nominis. The new name comes from Gongtong [珙桐] which means *Davidia involcrata* in Chinese, since the habitat of this new subspecies is a natural growth area of this meager plant.

7. Intergrading form between *Archaeocarabus nestor gongdong* and *A. n. emeicola*

(Fig. 5)

Specimens examined. 2♂♂, 2♀♀, Fuxingcun, alt. 1,500-1,600m, in Ganhegou, Hong'ya Xian of south-central Sichuan, Southwest China, 26–V～3–VI–2004, Y. IMURA & Y. NAGAHATA leg.

Notes. The specimens from Fuxingcun appear intermediate in both the external and male genitalic features, and are considered to be an intergrading population between subsp. *gongdong* and subsp. *emeicola*.

8. *Archaeocarabus nestor emeicola* DEUVE et IMURA, 1992

(Fig. 6)

Carabus (s. str.) *nestor emeicola* DEUVE et IMURA, 1992, Elytra, Tokyo, **20**, p. 131, figs. 1, 5–8; type locality: China, Sichuan, Mont Emei Shan, 1,700 metres.

Specimens examined. 2♀♀, between Gaomiaozhen and Zhangcun, alt. 1,100–1,350 m, 1–V～3–VI–2004; 1♂, 3♀♀, near Qili-xiaoxue, alt. 1,300 m, South of Lanbazi in Gaomiaozhen, 1–V～3–VI–2004; all from Hong'ya Xian of south-central Sichuan, Southwest China, collected by Y. IMURA & Y. NAGAHATA.

9. *Coptolabrus pustulifer pustulifer* LUCAS, 1869

Carabus pustulifer LUCAS, 1869, Annls. Soc. ent. Fr., Paris, **6** (9), p. 10; type area: Sé-Tchuem (=Sichuan).

Specimens examined. 1♂, Shuwangdian, alt. 1,200 m, on the northeastern slope of Mt. Wawu Shan, 24–V～2–VI–2004; 4♂♂, 1♀, Fuxingcun, alt. 1,500–1,600 m, in Ganhegou, 26–V～3–VI–2004; all from Hong'ya Xian of south-central Sichuan, Southwest China, collected by Y. IMURA & Y. NAGAHATA.

要　　約

井村有希：中国四川省黒竹沟と洪雅县のセダカオサムシ族とオサムシ族. —— 中国四川省中部乐山市の峨边彝族自治县にある黒竹沟と同省洪雅县の数地点から，セダカオサムシ類とオサムシ類の計7種を記録し，ニセセダカオサムシ属の1新種とネストルクロガネオサムシの1新亜種を記載した.

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Elytra, *Tokyo*, **32** (2): 247–248, November 20, 2004

Record of *Platycerus hongwonpyoi* (Coleoptera, Lucanidae) from the Dalao Shan in Western Hubei, Central China

Yûki IMURA

Shinohara-chô 1249–8, Kôhoku-ku, Yokohama, 222–0026 Japan

Platycerus hongwonpyoi IMURA et CHOE (1989, p. 20) was originally described from the Chiri-san Mountains in South Korea, and is rather widely distributed in South Korea and the southern part of North Korea. 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 northeastern and central parts of China, and two other subspecies were additionally described, namely, *qinlingensis* IMURA (1993, p. 12) from the Qinling Mountains of southern Shaanxi and *dabashanensis* OKUDA (1997, p. 12) from the Dabashan Mountains of northeastern Chongqing Shi.

Recently, I received from Mr. Jaroslav TURNA a specimen of a *Platycerus* collected from the Dalao Shan in western Hubei, with the features agreeing with *P. hongwonpyoi*. It is the first record of the same species from Hubei Province, and also the first record from the same province of the *Platycerus* belonging to the *acuticollis* group.

Specimen examined. 1♀(10.07 mm in length including mandibles), Dalao Shan [大老山] Forest Park (31°03′N / 110°57′E), in the western part of Yichang Xian [宜昌县] near the borders of Xingshan Xian [兴山县] and Zigui Xian [秭归县], in western Hubei, Central China, 9～15–VI–2004, preserved in the collection of Y. IMURA.

Remarks. So far as I have examined the external and female genitalic features, the Dalao Shan specimen could be identical with or very closely related to subsp. *dabashanensis*. However, I will suspend judgement on its taxonomic account until I have examined more specimens including the male. The distributional range of *P. hongwonpyoi* in China now extends over the following four provinces and city: Liaoning, Shaanxi, Chongqing (=a part of Sichuan formerly) and Hubei. I am grateful to Mr. Jaroslav TURNA (Czech Republic) for his kindness in submitting the invaluable specimen to me for study.

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Elytra, *Tokyo*, **32** (2): 249–251, November 20, 2004

A New Subspecies of *Apotomopterus cheni* (Coleoptera, Carabidae) from the Northern End of Vietnam

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and

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Abstract A new subspecies of *Apotomopterus cheni* is described from the northern end of Vietnam under the name *longi*.

Up to the present, totally five species of the genus *Apotomopterus* have been recorded from Vietnam, that is, *A. clermontianus clermontianus* BREUNING, *A. tonkinensis tonkinensis* DEUVE, *A. vitalisi mourzinei* DEUVE et IMURA, *A. kouichii kouichii* IMURA et MIZUSAWA and *A. fallettiellus fallettiellus* DEUVE. Recently, the second author of this paper found two female specimens belonging to the same genus in the collection of his institute and submitted them to the first author for identification. They were collected from Mt. Tay-Con-Linh located at the northern end of Vietnam near the Yunnan border, and were apparently unrecorded species from the same country. After a close examination, we have come to the conclusion that the species in question must be a new race of *A. cheni* DEUVE originally described from the Dawei Shan Mountains in southern Yunnan and has so far been known only from the type mountain range. In this short article, we are going to describe the Vietnamese race as a new subspecies under the name *longi*. For the higher classification of the subtribe Carabina, we will follow IMURA's system (2002), which means that *Apotomopterus* will be regarded as an independent genus, not a subgenus of the grand genus *Carabus*.

Before entering into the description, we wish to thank Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for reading the manuscript of this paper.

Apotomopterus cheni longi IMURA et NGUYEN, subsp. nov.

(Fig. 1)

Description. Length: 26.0–27.0 mm (including mandibles). Entirely black with a faint dark bluish tinge on the upper surface. Differs from the nominotypical *cheni* (DEUVE, 1992, p. 230; type locality: Chine, Yunnan, Dawei Shan, environs de Bin Bian, 1,900 mètres) in the following points: 1) median tooth of mentum less sharply pointed at the tip; 2) front angles of pronotum less strongly protruded anteriad; 3) pronotum a little more strongly constricted towards the base, with the lateral sides a little more remarkably sinuate behind; 4) elytra robuster, more strongly convex above, with the lateral sides a little more roundly arcuate; 5) granules on the striae between elytral intervals much smaller and less prominently recognized.

Holotype: ♀, Mt. Tay-Con-Linh (primary forest, at an altitude of 1,300 m), in Ha Giang Prov., northern Vietnam, V–2000, Dang-Long KHUAT leg., deposited in the col-

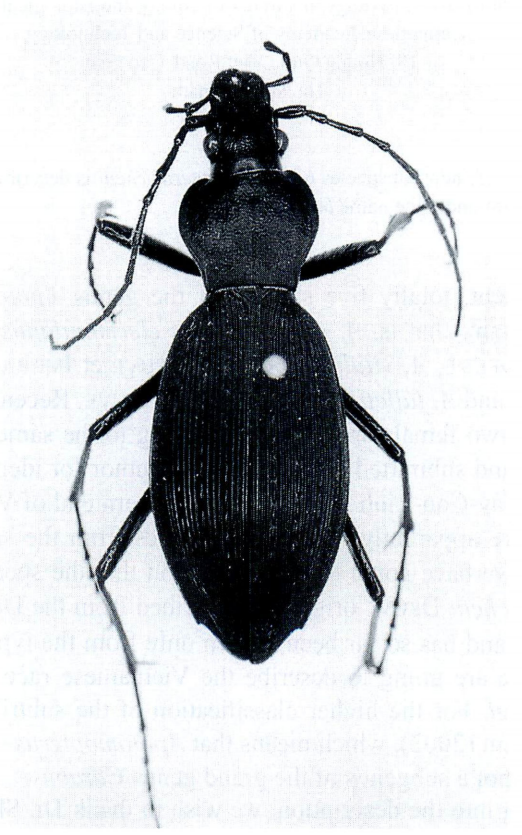

Fig. 1. *Apotomopterus cheni longi* IMURA et NGUYEN, subsp. nov. (holotype, ♀) from Mt. Tay-Con-Linh, northern Vietnam.

lection of the Department of Insect Ecology, Institute of Ecology and Biological Resources, Vietnamese Academy of Science and Technology, Hanoi. Paratype: ♀, same data as for the holotype, deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Derivatio nominis. The present new race is dedicated to Dr. Dang-Long KHUAT, Associate Professor of the Institute of Ecology and Biological Resources in the Vietnamese Academy of Science and Technology, who collected the type specimens.

要　　約

井村有希・Duc-Hiep NGUYEN：ベトナム北端部から発見されたチェントゲオサムシの1新亜種．—— ベトナム科学院に保管されているオサムシ科甲虫のコレクション中に，同国北端部のHa Giang省にあるMt. Tay-Con-Linhから得られたトゲオサムシ属の1種をみいだし，検討を加えた結果，中国云南省南部の大围山から記載され，これまで同山塊だけから知られていたチェントゲオサムシの新亜種と判断されたので，これに*longi*という新名を与えて記載した．

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Elytra, *Tokyo*, **32** (2): 252, November 20, 2004

A New Subspecies of *Leptinocarabus zhubajie* (Coleoptera, Carabidae)

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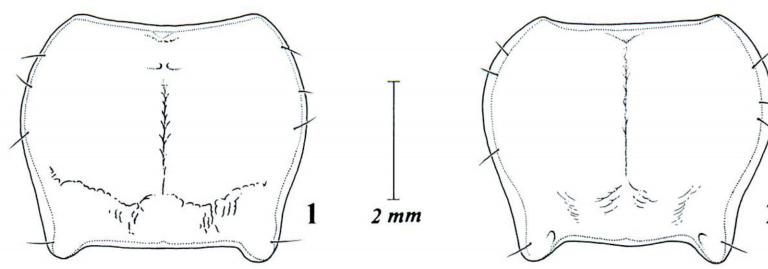
Leptinocarabus zhubajie was originally described by IMURA (1993, Elytra, Tokyo, **21**, p. 363, figs. 1, 7) as a member of *Rhigocarabus* from the Qinling Mountains in southern Shaanxi, and has so far been known only from the type area. In 1995, a female specimen referable to this species was obtained from Tianshui of southeastern Gansu, and was brought to me later through the courtesy of Mr. Satoshi KOIWAYA. It is the first record of both the genus and species from Gansu Province, and the beetle from this new locality is evidently different from the nominotypical race in configuration of the prothorax and elytra. Though the single female specimen now at my hands is not necessarily sufficient for evaluation of its taxonomic account, I have decided to describe it as a new subspecies of *L. zhubajie* in view of its importance in several respects. The new race is named after its locality, Tianshui, that means Sky Water in Chinese.

Leptinocarabus zhubajie caeliaquarius IMURA, subsp. nov.

(Fig. 2)

Description. Length: 21.1 mm (including mandibles). Differs from nominotypical *zhubajie* in having darker coloration of dorsal surface, more strongly cordate pronotum with the lateral margins more remarkably reflexed above and the discal surface less strongly rugulose, and differently sculptured elytra (triploid homodyname with weaker primaries and secondaries, while it is partly heterodyname with stronger primaries and secondaries in the nominotypical race).

Holotype: ♀, Tianshui Shi [天水市], 1,700 m alt., in southeastern Gansu, China, 30–VII–1995, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.



Figs. 1–2. Pronota in two subspecies of *Leptinocarabus zhubajie*. —— 1, *L. z. zhubajie*, ♀, paratype, from the Qinling Mts.; 2, *L. z. caeliaquarius*, ♀, holotype, from Tianshui.

Elytra, Tokyo, **32** (2): 253–258, November 20, 2004

New Records of the Cychrini and Carabini (Coleoptera, Carabidae) from Hubei Province in Central China, with Descriptions of Three New Subspecies

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Abstract Nine taxa of the tribes Cychrini and Carabini are recorded from Hubei Province in Central China. Of these, three are described as new subspecies under the names *Cychrus bispinosus dalaoshanicus*, *Apotomopterus longeantennatus dalaonis* and *A. manlius luecongponis*.

Through the courtesy of Mr. Jaroslav TURNA, I recently had an opportunity to examine a series of carabine specimens collected from Hubei Province in Central China. In this paper, I am going to give the new records of totally nine taxa belonging to the genera *Cychrus*, *Apotomopterus*, *Isiocarabus* and *Coptolabrus*, three of which will be described as new subspecies. For the higher classification of the subtribe Carabina, I will follow the system proposed by myself (IMURA, 2002).

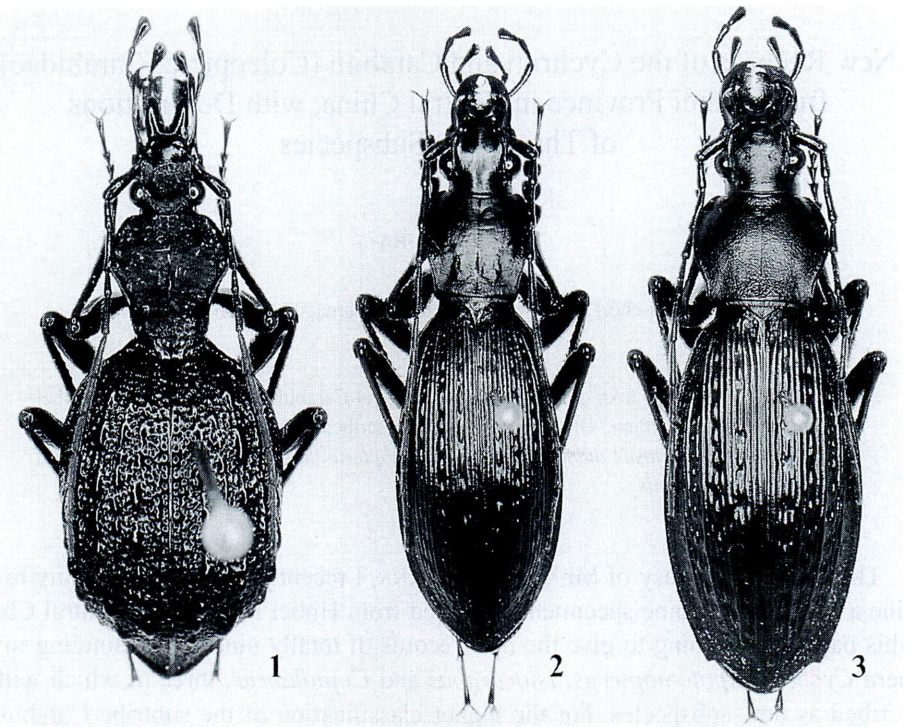
Before going further, I wish to thank Mr. Jaroslav TURNA (Czech Republic) for his kind help in various ways. Hearty thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for reading the manuscript of this paper.

1. *Cychrus bispinosus dalaoshanicus* IMURA, subsp. nov.

(Fig. 1)

Description. Length: 17.6 mm (including mandibles). Entirely black except for mandibles, palpi, antennae and tarsi which are reddish brown. Head and pronotum rather mat, marginal areas of pronotum and elytra rather strongly polished. Allied to subsp. *dabashanensis* IMURA (1995, p. 125) of the Daba Shan Mountains in northeastern Chongqing or subsp. *shennongding* IMURA, ZHOU et SU (1999, p. 653) of Dashennongjia in western Hubei, but readily discriminated from them as follows: 1) pronotum less strongly convergent towards apex, with the polished marginal areas wider and more strongly reflexed above; 2) hind angles of pronotum much more strongly protruded posteriad, with the apices more sharply pointed; 3) elytra a little more strongly polished, with the granules between intervals larger and irregularly connected with one another.

Holotype: ♀, Dalao Shan [大老山] Forest Park (31°03′N/110°57′E), in the west-



Figs. 1–3. Holotypes of newly described taxa from Hubei in Central China. —— 1, *Cychrus bispinosus dalaoshanicus* from Dalao Shan; 2, *Apotomopterus longeantennatus dalaonis* from Dalao Shan; 3, *A. manlius luecongponis* from Lücongpo.

ern part of Yichang Xian [宜昌县] near the borders of Xingshan Xian [兴山县] and Zigui Xian [佁归县], in western Hubei, Central China, 9～15–VI–2004, deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo (=NSMT).

2. *Apotomopterus longeantennatus satoi* IMURA, 2003

Apotomopterus longeantennatus satoi IMURA, 2003, Spec. Bull. Jpn. Soc. Coleopterol., Tokyo, (6), p. 57, figs. 1–2, 5; type locality: Shiruguan, 1,750 m in altitude, Xinglong Zhen of Fengjie Xian, in Chongqing Shi, Southwest China.

Specimens examined. 44♂♂, 65♀♀, ca. 3 km south of Lücongpo [绿葱坡] (30°48′N/110°15′E), in the central part of Badong Xian [巴东县], in western Hubei, Central China, 20–V～11–VI–2004, in colls. Y. IMURA & J. TURNA.

Notes. At the above locality, this race is sympatric with *Apotomopterus manlius luecongponis*, *A. prattianus prattianus* and *Coptolabrus principalis principalis*.

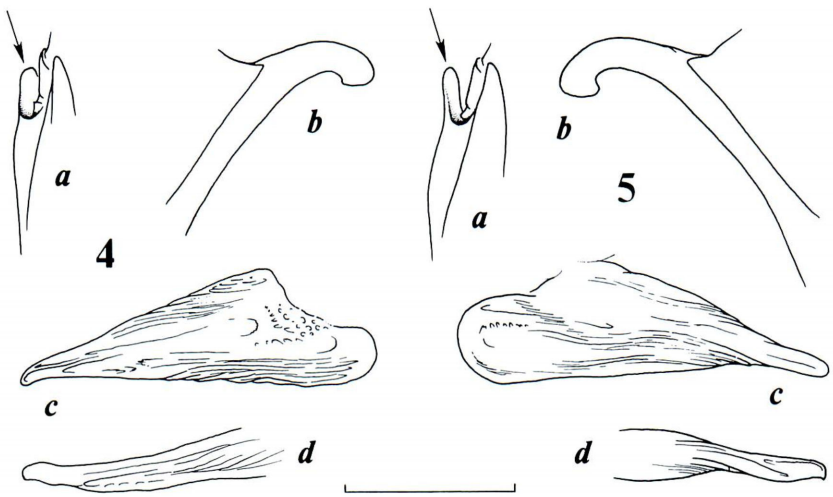
3. *Apotomopterus longeantennatus dalaonis* IMURA, subsp. nov.

(Figs. 2, 4)

Description. Length: 24.8–27.0 mm (including mandibles). Entirely black and not strongly polished. Most closely allied to subsp. *satoi* IMURA (2003, p. 57) distributed from Chongqing Shi to western Hubei on the southern bank of the Chang Jiang River, but differs from that race in the following points: 1) appendages almost entirely black, while they are more or less red-brownish in subsp. *satoi*; 2) head a little more hypertrophic in both sexes; 3) median tooth of mentum not prominently protruded ventrad as in subsp. *satoi* but almost flat in lateral view; 4) hind angles of pronotum more strongly protruded posteriad; 5) apical lobe of aedeagus a little shorter, less strongly bent ventrad and less remarkably hooked at the tip; 6) spinula a little more acutely narrowed towards apex. The present new subspecies must be compared with subsp. *changyangensis* KLEINFELD (1998, p. 487) described from Changyang of southwestern Hubei, but definitely differs from that race in having much shorter and less strongly hooked aedeagal apex.

Type series. Holotype: ♂, Dalao Shan Forest Park (31°03′N/110°57′E), in the western part of Yichang Xian near the borders of Xingshan Xian and Zigui Xian, in western Hubei, Central China, 9～15–VI–2004, in coll. NSMT. Paratypes: 7♀♀, same data as for the holotype, in colls. Y. IMURA & J. TURNA.

Notes. This is the first record of *Apotomopterus longeantennatus* from the northern side of the Chang Jiang River. At the type locality, the new race occurs sympatrically with *Isiocarabus dargei tianzhuicus*.



Figs. 4–5. Mentum and male genital organ of *Apotomopterus longeantennatus* subspp. —— 4, Subsp. *dalaonis* (holotype, with inverted genitalia); 5, subsp. *satoi* (holotype). —— a, Mentum in left lateral view (arrow indicates median tooth); b, apical part of aedeagus in left (4) or right (5) lateral view; c, spinula in dorsal view; d, ditto in lateral view. Scale: 1 mm.

4. *Apotomopterus luschanensis luschanensis* HAUSER, 1919

Apotomopterus Luschanensis HAUSER, 1919, Soc. ent., Stuttgart, **34**, p. 25; type locality: Luschan (=Lu Shan), einem Gebirgszug nördlich von Kiu Kiang (=Jiujiang).

Specimen examined. 1♀, Mt. Jiugong Shan [九宮山] (29°24′N/114°42′E), in the southern part of Tongshan Xian [通山县], in southeastern Hubei, Central China, 5～28–V–2004, in coll. J. TURNA.

Notes. This long-established species has been known so far only from the type locality, and is recorded for the first time from Hubei Province. On Jiugong Shan, the present race is sympatric with *Apotomopterus sauteri eleganticollis* and *Coptolabrus augustus augustus*.

5. *Apotomopterus manlius luecongponis* IMURA, subsp. nov.

(Fig. 3)

Description. Length 27.1–28.8 mm (including mandibles). Entirely black, with a faint purple-brownish tinge on elytra. Discriminated from the nominotypical *manlius* IMURA (1995, p. 305) of the Daba Shan Mountains by the following points: 1) dorsal surface of elytra with a faint purple-brownish tinge, while it is nearly piceous in the nominotypical subspecies; 2) pronotum a little less acutely narrowed towards apex, its lateral margins more remarkably reflexed above, disc a little less strongly convex above, and the hind angles more prominently protruded posteriad; 3) elytral intervals with the primary callosities narrower and more weakly convex above, tertiaries not reduced to rows of granules but indicated by linearly continuous low costae though partly and irregularly interrupted; 4) preapical emarginations of elytra in female a little shallower.

Type series. Holotype: ♀, ca. 3 km south of Lücongpo (30°48′N/110°15′E), in the central part of Badong Xian, in western Hubei, Central China, 20–V～11–VI–2004, in coll. NSMT. Paratypes: 2♀♀, same data as for the holotype, in coll. J. TURNA.

6. *Apotomopterus prattianus prattianus* BATES, 1890

Carabus prattianus BATES, 1890, Entomologist, Dorking, **23**, p. 210; type locality: Ichang (=Yichang).

Specimens examined. 13♂♂, 11♀♀, ca. 3 km south of Lücongpo (30°48′N/110°15′E), in the central part of Badong Xian, in western Hubei, Central China, 20–V～11–VI–2004, in colls. Y. IMURA & J. TURNA.

7. *Apotomopterus sauteri eleganticollis* DEUVE et IMURA, 1992

Carabus (*Apotomopterus*) *eleganticollis* DEUVE et IMURA, 1991, Elytra, Tokyo, **19**, p. 142, figs. 1, 5; type locality: Chine, Jiangxi, Mont Lu Shan.

Carabus (*Apotomopterus*) *sauteri eleganticollis*: IMURA, 1994, Elytra, Tokyo, **22**, p. 11.

Specimens examined. 10♂♂, 10♀♀, Mt. Jiugong Shan (29°24′N/114°42′E), in the southern part of Tongshan Xian, in southeastern Hubei, Central China, 5～28–V–2004, in colls. Y. IMURA, J. TURNA & V. RYJACEK.

Notes. Though somewhat different in configuration of the pronotum and aedeagal apex, the Jiugong Shan specimens almost agree with subsp. *eleganticollis* described from the Lu Shan, which is located about 120 km east of Jiugong Shan.

8. *Isiocarabus dargei tianzhuicus* IMURA, 1996

Carabus (*Isiocarabus*) *kiukiangensis tianzhuicus* IMURA, 1996, Gekkan-Mushi, Tokyo, (299), p. 13, fig. 8 (p. 2, pl. I); type locality: Tianzhu Mts., 600–1,300 m alt., Qianshan Xian, SW Anhui, China.

Carabus (*Isiocarabus*) *dargei tianzhuicus*: DEUVE, 2004, Ill. Cat. *Carabus* World, Pensoft, Sofia–Moscow, p. 130.

Specimen examined. 1♀, Dalao Shan Forest Park (31°03′N/110°57′E), in the western part of Yichang Xian near the borders of Xingshan Xian and Zigui Xian, in western Hubei, Central China, 9～15–VI–2004, in coll. Y. IMURA.

Notes. Though recorded under the name as shown above, taxonomic account of the Dalao Shan specimen is still tentative, since only a single female specimen is now available for study. It is somewhat different from typical *tianzhuicus* in having a little robuster and more strongly convex elytra.

9. *Coptolabrus augustus augustus* BATES, 1888

Coptolabrus augustus BATES, 1888, Proc. zool. Soc. London, **1888**, p. 381; type locality: Kiu-Kiang (=Jiujiang).

Specimens examined. 1♂, 1♀, Mt. Jiugong Shan (29°24′N/114°42′E), in the southern part of Tongshan Xian, in southeastern Hubei, Central China, 5～28–V–2004, in colls. Y. IMURA & J. TURNA; 1♀, ca. 20 km northwest of Tongshan (29°42′N/114°18′E), in Tongshan Xian, 7～17–VI–2004, in coll. J. TURNA.

Notes. All the above specimens well agree in every feature with the nominotypical *augustus* from Jiujiang. This is the first record of the species from Hubei Province.

要　　約

井村有希：中国湖北省におけるオサムシ類の記録と3新亜種の記載．—— 中国湖北省西部の大老山と绿葱坡，および南東部の九宮山と通山から，8種9亜種のオサムシ類を記録し，そのうちのみっつを新亜種として記載した．

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Elytra, Tokyo, **32** (2): 259–263, November 20, 2004

An Additional Species Belonging to the *Trechiama notoi* Complex (Coleoptera, Trechinae) from the Southern Part of the Tajima Area in Hyôgo Prefecture, Central Japan

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Abstract A new species belonging to the *notoi* complex of the group of *Trechiama oni* is described from Santô-chô in the southern part of the Tajima area, Hyôgo Prefecture, Central Japan, under the name *T. siva* ASHIDA, sp. nov. Though closely allied to *T. soumai* ASHIDA from Wadayama-chô in Hyôgo Prefecture, this species is easily distinguished from the latter by arming a smaller and shorter copulatory piece in the inner sac of aedeagus.

Trechiama notoi S. UÉNO, a remarkable species with peculiar characteristics in the male genitalia, was described from an abandoned mine adit in the northern tip of Osaka Prefecture and was tentatively included in the *kosugei* complex of the group of *Trechiama oni* (UÉNO, 1981, 1985). Recently, I reported six new species related to *T. notoi* from the Tajima area in the northeastern part of Hyôgo Prefecture, which is far apart from the type locality of *T. notoi*. Since these species including *T. notoi* share several characteristics of both external morphology and male genitalia, I raised them to a distinct species-complex of *T. notoi* in the group of *T. oni* (ASHIDA, 2002 a, b). In this paper, I am going to describe a new species belonging to this complex from Santô-chô that is located at the southernmost part of the Tajima area.

Before going further, I thank Mr. Shun-Ichi YAMASHITA, who discovered the interesting new species described in this paper, and Messrs. Yoshihide OKUDA, Takumi SAITÔ, Kazue ITÔ, Satoshi NAKAMURA and Yoshimi SHIMADA, who helped me in field works and provided the materials for study. Hearty thanks are also due to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his continuous guidance.

The abbreviations used herein are the same as those in my previous papers (ASHIDA, 2002 a, b).

Trechiama (s. str.) ***siva*** ASHIDA, sp. nov.

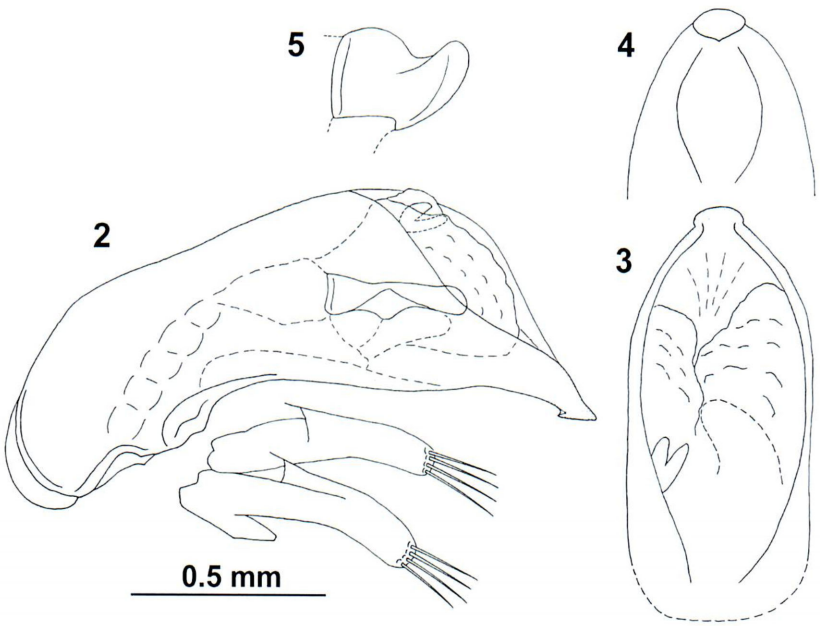
(Figs. 1–5)

Length: 5.50–6.30 mm in ♂; 5.20–5.85 mm in ♀ (from apical margin of clypeus to apices of elytra).

Fig. 1. *Trechiama* (s. str.) *siva* ASHIDA, sp. nov., ♂, from the Tôsaka-tôge in Santô-chô; dorsal view.

Belonging to the *notoi* complex of the group of *Trechiama oni* and closely similar to *T. soumai* ASHIDA (2002 a, p. 52, figs. 3, 7–10) from the Itoi-keikoku Valley, though distinguished from that species by relatively smaller body and by slenderer pronotum. Strikingly different from the latter in the shape of the copulatory piece.

Color reddish brown with yellowish appendages. Body smallest on an average among the known members of the *notoi* complex. Head, antennae and mouthparts as in *T. soumai*. Pronotum similar to that of *T. soumai* though a little narrower, especially in apical half; PW/HW 1.33–1.41 (M 1.38) [1.40–1.51 (M 1.45) in *T. soumai*], PW/PL 1.06–1.12 (M 1.10), PW/PA 1.35–1.50 (M 1.42), PW/PB 1.23–1.37 (M 1.30) [1.33–1.47 (M 1.39) in *T. soumai*], PB/PA 1.03–1.18 (M 1.09) [1.00–1.09 (M 1.04) in *T. soumai*]; sides moderately arcuate in front, slightly emarginate at basal third, and then feebly divergent again towards hind angles; postangular setae present; basal margin almost straight; front angles obtuse; front margin slightly emarginate. Elytra similar to those of *T. soumai*, though a little slenderer; EW/PW 1.74–1.79 (M 1.76) in ♂, 1.65–1.72 (M 1.69) in ♀; EL/PL 3.00–3.13 (M 3.03) in ♂, 2.78–3.00 (M 2.86) in ♀; EL/EW 1.54–1.62 (M 1.57) in ♂, 1.47–1.60 (M 1.54) in ♀ [1.45–1.54 (M 1.49) in ♂,



Figs. 2–5. Male genitalia of *Trechiama* (s. str.) *siva* ASHIDA, sp. nov., from the Tôsaka-tôge in Santô-chô; left lateral view (2), apical part of aedeagus, dorso-apical (3) and ventral (4) views, and separated copulatory piece, dorsal view (5).

1.46–1.51 (M 1.48) in ♀ of *T. soumai*]; prehumeral borders less oblique and shoulders less distinct than in *T. soumai*; sides, apices, striation and chaetotaxy as in *T. soumai*. Legs as in *T. soumai*.

Male genital organ basically similar to that of *T. soumai*, large, robust, and heavily sclerotized. Aedeagus two-fifths as long as elytra; basal part a little more strongly curved ventrad than in *T. soumai*; middle part of apical lobe somewhat robuster than in *T. soumai*; viewed ventrally, apical plate at the tip wider than length, and shorter than that of *T. soumai*. Inner sac armed with a copulatory piece and a teeth plate; copulatory piece rather similar to that of *T. soumai* though much shorter, about one-fourth as long as aedeagus, heavily sclerotized, thick especially in apical part, moderately twisted, its left margin being emarginate, left-apical margin regularly arcuate, right side deeply sinuate, and apical part rounded, slightly reflexed and protruded right-apicad; teeth plate small and horseshoe-shaped as in *T. soumai*, lying at the right dorsal side of apical orifice. Styles as in *T. soumai*.

Type series. Holotype: ♂, 10–V–2003, H. ASHIDA leg. Paratypes: 1♂, 1♀, 28–VII–2002, S. YAMASHITA leg.; 1♀, 14–VI–2003, S. YAMASHITA leg.; 2♂♂, 4♀♀, 23–IX–2003, Y. OKUDA & H. ASHIDA leg.; 1♀, 25–X–2003, H. ASHIDA leg.; 2♂♂, 2♀♀, 4–VII–2004, H. ASHIDA leg.; 4♂♂, 5♀♀, 18–VII–2004, K. ITÔ, T. SAITÔ, S. YAMASHITA & H. ASHIDA leg.; 1♂, 1♀, 7–VIII–2004, H. ASHIDA leg. The holotype and

one female paratype are preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Type locality. Shiba (300–340 m in altitude), western side of the Tôsaka-tôge, Santô-chô, Hyôgo Prefecture, Central Japan.

Etymology. The name of the present species is derived from the type locality, Shiba.

Notes. *Trechiama siva* is the seventh species of the *notoi* complex from the Tajima area and is at present the southernmost species in that area. The Tôsaka-tôge at which lies the type locality of this species is 10 km south from the Itoi-keikoku Valley, the type locality of *T. soumai*, and 10 km southwest from Mt. Imo-yama, that of *T. foliolatus*. Since the plate on the undersurface of the aedeagal tip of *T. siva* is simplest as in *T. soumai* and the copulatory piece is the shortest and smallest among those of its relatives, this species may be most primitive in the known members of the *notoi* complex. The Tôsaka-tôge Pass is the watershed between the river systems of the Maruyama-gawa and the Kako-gawa; the former flows into the Sea of Japan and the latter into the Seto Inland Sea, respectively. *Trechiama siva* was found from the head of the Shiba-gawa River, one of the branches of the Maruyama-gawa River, on the western side of the pass, whereas it has not been found from the opposite side of the pass. The type locality of *T. notoi*, the only species in the complex known from the side of the Seto Inland Sea, is 52 km distance in a beeline to the southeast of the Tôsaka-tôge, and is located in the different drainage area from that of the Kako-gawa. Thus, the biogeographical link between the Tajima population and *T. notoi* remains unknown.

The type specimens of the present species were obtained from two gullies at different altitude. In both gullies, trechines were dug out from colluvia deposited at the streamside in the cryptomeria plantation.

要　　約

芦田　久：兵庫県但馬地方南部から発見されたノトメクラチビゴミムシ系の１新種．――兵庫県山東町柴の遠阪峠より発見されたオニメクラチビゴミムシ群ノトメクラチビゴミムシ系の１新種を，サントウメクラチビゴミムシ *Trechiama siva* ASHIDA, sp. nov.と命名し，記載した．本種は兵庫県和田山町糸井渓谷から記載されたイトイメクラチビゴミムシ *T. soumai* ASHIDA にきわめて類似するが，ノトメクラチビゴミムシ系の種としては小型であり，雄交尾器内袋中のキチン化した交尾片がイトイメクラチビゴミムシのそれに比較して短小であるなどの点から容易に識別される．サントウメクラチビゴミムシは但馬地方のノトメクラチビゴミムシ系の第７の種であり，この地域における分布南限の種となる．遠阪峠は，中国山地を日本海側と瀬戸内海側に二分する中央分水界のひとつであり，北西の円山川流域と南東の加古川流域を分けている．本種は峠の西側の柴川源流部より得られたが，現在のところ峠の反対側では見つかっていない．唯一，瀬戸内海側から記録されているノトメクラチビゴミムシ *T. notoi* S. UÉNO の基準産地は，遠阪峠の 52 km南東であり，加古川とは異なる河川流域にある．そのため，但馬の個体群とノトメクラチビゴミムシとの生物地理学的な関係はいまだに明らかではなく，今後の調査が望ま

れる.

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Elytra, Tokyo, **32** (2): 263–264, November 20, 2004

New Records of *Awatrechus simplicior* S. UÉNO (Coleoptera, Trechinae)

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Awatrechus simplicior S. UÉNO (2003, Elytra, Tokyo, **31**: 422, figs. 6–7, 10) is an anophthalmic trechine beetle originally described on three specimens found in the upper hypogean zone of Nakahigashi-yama on the Bunsui Range, the main southward branch of the Tsurugi Mountains in eastern Shikoku, Southwest Japan. Three years before its description, Takumi SAITÔ took a female of an *Awatrechus* near the northern col of Tsurugi-san itself, but its true systematic status remains unclarified due to the lack of males. Through the courtesy of my friends including SAITÔ, however, I was recently able to examine all the known specimens of this rare beetle and to determine conclusively their specific identity with *A. simplicior*. Their collecting data are as recorded below.

Additional specimens examined. 1♀, "Nishijima-dani", 1,420 m alt., Tsurugi-san, Higashiiyayama-mura, Tokushima Pref., 11–VI–2000, T. SAITÔ leg. (in SAITÔ's coll.); 1♂, "Minokoshi", 1,420 m alt., Tsurugi-san, Higashiiyayama-mura, Tokushima Pref., 15–VI–2002, K. KITAYAMA leg. (in KITAYAMA's coll.); 1♀, Sanpeiizumi, 1 km W by N of Meoto-iké, 1,420 m alt., Ichiu-son, Tokushima Pref., 22–VII–2004, Ke. MATSUMOTO leg. (NSMT); 1♂, 1♀, same locality, 25–VII–2004, S. UÉNO & Y. ITÔ leg. (NSMT); 1♀, same locality, 24–VIII–2004, Y. ITÔ leg. (found in a baited trap set by Y. ITÔ on 25–VII–2004) (NSMT).

Notes. Of the localities recorded above, "Nishijima-dani" and "Minokoshi" are two nar-

row galleys near to each other on the north-northwestern slope of Tsurugi-san, and can be regarded practically as one and the same place. It is about 8 km distant to the northeast in a beeline from the type locality of *A. simplicior*, Nakahigashi-yama. The other locality, Sanpeiizumi, is also 8 km distant to the north-northeast from the latter, but lies on the Tônomaru ridge at the northern side of the Iya-gawa Valley. In a beeline, it is not far from the Nishijima-dani, only 2.2 km distant to the west-northwest.

The Nishijima-dani specimens (3.90–4.05 mm in body length) are perfectly identical with the type series in external morphology, with the following ratios of body parts: PW/HW 1.30–1.39, PW/PL 0.95–1.03, PW/PA 1.36–1.41, PW/PB 1.45–1.53, PA/PB 1.06–1.08, EW/PW 1.55–1.67, EL/PL 2.39–2.45, EL/EW 1.51–1.55. In the single male examined, the apical disc of the aedeagus is hardly developed.

In the specimens from the Sanpeiizumi population (3.65–4.15 mm in body length), the head is slightly narrower than in the others, but otherwise they agree well with the type series. The standard ratios of body parts: PW/HW 1.40–1.52 (M 1.44), PW/PL 1.02–1.05 (M 1.04), PW/PA 1.39–1.45 (M 1.43), PW/PB 1.42–1.60 (M 1.52), PA/PB 1.02–1.11 (M 1.06), EW/PW 1.51–1.56 (M 1.55), EL/PL 2.39–2.59 (M 2.49), EL/EW 1.49–1.63 (M 1.55).

All the specimens recorded above were dug out from screes deposited along gullies in deciduous broadleaved forests. They were by no means common, and were found one by one usually at a depth of 50 cm or more.

Before closing this brief report, I wish to thank the following friends of mine for their kindness in submitting invaluable specimens to me for taxonomic study: Messrs. Yoshiyuki Itô, Kenji Kitayama, Keiichi Matsumoto, Takumi Saitô, and Masataka Yoshida.

Reference

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Elytra, *Tokyo*, **32** (2): 265–275, November 20, 2004

A New Genus with Two New Species of Hygrophilous Trechine Beetles (Coleoptera, Trechinae) from the Daba Shan Mountains, West-central China

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Abstract A new genus is erected for two hygrophilous trechine beetles belonging to the *Agonotrechus* series from the Daba Shan Mountains in West-central China. It is related to *Deuveotrechus* S. UÉNO from northwestern Yunnan, but is readily distinguished by mandibular, labial and chaetotaxial peculiarities. The new names given are *Dabatrechus* for the genus, *D. eccentricus* for the western species, and *D. hygrophilus* for the eastern species. The two new species are closely similar in general appearance, but are incredibly different from each other in conformation of the male genitalia.

Early in the summer of this year, I had an opportunity to make an investigation of the coleopteran fauna of the Daba Shan Mountains that stretch from west to east on the borders of Shaanxi and Sichuan Provinces and extend eastwards into the westernmost part of Hubei on the northern side of the Yangzi Jiang River. Collaborated with Masataka SATÔ, I visited various places including thirteen limestone caves on either side of the mountain range, and collected a fair number of trechine beetles, among which were found two specimens apparently belonging to the *Agonotrechus* series. They look like *Deuveotrechus yinae* from western Yunnan in particular, but are evidently different from it in some critical points. One of them was found near the westernmost part of the mountain range, and the other at the easternmost part about 430 km apart from the collecting site of the former.

Though similar to each other at first sight, the two specimens are different in many details of external morphology, and besides, incredibly differ in conformation of the male genitalia. The genitalic difference almost attains to the level that could be considered as that of generic importance. At the present moment, however, I prefer to regard them as belonging to the same genus in view of the close similarity in diagnostic features of external morphology, and am going to erect for them a new genus to be called *Dabatrechus*. Similar discrepancy between external and genitalic peculiarities is also known in the genus *Deuveotrechus* S. UÉNO (1995, p. 99, and also 1996) and the genus *Luzonotrechus* S. UÉNO (1979, p. 26, and also 1987), and can be regarded as a unique diversification exhibited by the members of the *Agonotrechus* series and its derivatives.

These interesting new trechines will be described in the present paper under the names *Dabatrechus eccentricus* and *D. hygrophilus*, the former from Mt. Guangwu Shan lying at the Sichuan side of the westernmost part of the Daba Shan Mountains and the latter from the Yidao Xia Valley at the easternmost part of the same mountains in western Hubei. The abbreviations used 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 Dr. Masataka SATÔ for his collaboration in the field, and to Mr. FAN Ting of the Academia Sinica for his unfailing help to our investigations.

Genus ***Dabatrechus*** S. UÉNO, nov.

Type species: *Dabatrechus eccentricus* S. UÉNO, sp. nov.

Belonging to the *Agonotrechus* series and related to *Deuveotrechus* S. UÉNO from northwestern Yunnan, but different from it in the bidentate right mandible, fused labium, and the absence of supernumerary dorsal pores on the third elytral stria.

Medium-sized trechines with relatively short broad body either constricted between prothorax and hind body (*D. hygrophilus*) or not; dorsal surface glabrous and polished, venter either glabrous (*D. eccentricus*) or provided with several short hairs on the median part of each sternite (*D. hygrophilus*); microsculpture either completely absent (*D. hygrophilus*) or present only in marginal areas of pronotum as fine transverse lines (*D. eccentricus*); colour dark brown with paler palpi and legs; inner wings atrophied.

Head transverse, with deep entire frontal furrows strongly arcuate or even subangulate at middle and widely divergent in front and behind; two pair of supraorbital pores present on lines subparallel to each other or slightly divergent posteriad, the anterior pair foveolate and lying near to the posterior pair; eyes fairly large and convex together with genae, either clearly faceted (*D. eccentricus*) or not, genae either glabrous (*D. hygrophilus*) or with a few vestigial hairs (*D. eccentricus*); labrum transverse and dilated anteriad, with the apical margin deeply and evenly emarginate. Mandibles stout though acute at the incurved apical portions, right mandible bidentate, devoid of premolar tooth. Labium fused though vestige of labial suture is recognizable; mentum longitudinally depressed on each side, mental tooth broad, either truncated or rounded at the tip; submentum sexsetose; ligula porrect at the middle, octosetose as usual; paraglossae thin and arcuate, extending much beyond ligula; labial palpus fairly slender, penultimate palpomere gradually dilated towards apex and quadrisetose, apical palpomere slightly longer than the penultimate. Maxillae short, stout and arcuate, lacinia with several stout spines and hairs on the inner margin; maxillary palpus with short penultimate palpomere which is widely dilated towards apex and bears vestiges of a few minute hairs, apical palpomere elongated subconical, about 1.3 times as long as the penultimate. Antennae subfiliform, not reaching the middle of elytra.

Pronotum subcordate and convex, either gradually narrowed posteriad (*D. eccen-*

tricus) or rather strongly contracted at the base (*D. hygrophilus*), which is either briefly or vestigially subpedunculate; sides completely bordered, more or less strongly rounded in front, either straight (*D. eccentricus*) or briefly sinuate just before hind angles (*D. hygrophilus*), with two pair of marginal setae, of which the anterior pair is inserted at about or a little before the widest part and the posterior one almost on hind angles; front angles completely rounded off, hind angles either obtuse (*D. eccentricus*) or subrectangular (*D. hygrophilus*); no postangular carinae. Scutellum small.

Elytra ovate, evidently wider than fore body, with distinct but rounded shoulders; dorsum convex; sides bordered, prehumeral border either complete to basal peduncle (*D. eccentricus*) or diminishing antero-internally though reaching the site of the base of stria 5; striae vanished with the exception of inner two or three and apical half of 8, the former of which (at least the sutural one) are coarsely punctate or crenulate on the disc; scutellar striole distinct, apical striole also distinct though short and free at the anterior end; one or two setiferous dorsal pores present on or on the site of stria 3, none on stria 5; preapical pore either present (*D. eccentricus*) or absent (*D. hygrophilus*); two apical pores present as usual; marginal umbilicate pores regular, four pores of the humeral set ranged almost equidistantly.

Ventral surface smooth, either glabrous or bearing several short hairs on each sternite between a pair of paramedian setae; anal sternite bisetose in ♂. Legs of moderate length; protibiae pubescent though rather minutely on the anterior face, either simple (*D. hygrophilus*) or vestigially grooved on the external face (*D. eccentricus*); tarsi thin; in ♂, two proximal tarsomeres of each protarsus more or less dilated, inwardly produced or denticulate at apices, and furnished beneath with adhesive appendages.

Male genitalia surprisingly variable in conformation according to species. Aedeagus gutter-like, widely membraneous on dorsum from base to apical lobe, with the basal part open on both dorsal and ventral sides, sometimes forming a kind of ring, though the basal extremity is completely closed and bears a sagittal aileron; apical lobe either very short (*D. eccentricus*) or long and narrow (*D. hygrophilus*); inner sac scaly at the apical part and bearing one (*D. hygrophilus*) or two (*D. eccentricus*) copulatory pieces, spoon-like and hyaline in the former, palp-like and heavily sclerotized in the latter. Styles narrow at the apical parts, left style obviously longer than the right and bearing reduced ventral apophysis, each provided with four, relatively short setae at the apex.

Range. Known so far only from the Daba Shan Mountains in West-central China.

Notes. Though similar in many respects to *Deuveotrechus*, this new genus may not be directly related to it in view of the radical difference in some fundamental features, and the overall similarity between the two genera may have been brought about through parallel evolution. On the other hand, similar unusual divergence of genitalic conformation is also known in *Deuveotrechus*. In describing *Deuveotrechus yinae* (Uéno, 1996, p. 14, figs. 1–3) from the Diancang Shan Mountains in western Yunnan, I noticed that the male genitalia of the new species were strikingly different from those

of the type species, *D. yuae* (DEUVE, 1992, p. 171, figs. 1, 12; UÉNO, 1995, p. 100, figs. 4–5), and that the peculiar modification of male genitalia shown by *D. yinae* was to some extent similar to that shown by the *bontoc* group of the genus *Luzonotrechus*, which might have a remote relationship to the genera of the *Agonotrechus* series. The discovery of *Dabatrechus* seems to give another example of unusual diversification, suggesting that the genitalic divergence may not be exceptional in the *Agonotrechus* series.

As will be described under the headings of the new species, the known members of *Dabatrechus* are unusually hygrophilous and are found in coexistence with bembidiines. This is quite exceptional for the apterous members of the *Agonotrechus* series, most of which are either humicolous, muscicolous or saproxylophilous.

Dabatrechus eccentricus S. UÉNO, sp. nov.

(Figs. 1–3)

Length: 4.10 mm (from apical margin of clypeus to apices of elytra).

Body short and broad, glabrous and polished on both dorsum and venter; microsculpture mostly vanished but perceptible as fine transverse lines in marginal areas of pronotum and in small fragmentary portions along frontal furrows. Colour dark brown, shiny, lighter in basal halves of elytral disc, which is weakly iridescent; palpi and legs light yellowish brown.

Head wide, depressed above, with deep frontal furrows which are not angulate at middle and more widely divergent posteriad than anteriad; supraorbital areas gently convex, with two pair of supraorbital pores on lines subparallel to each other and closely located one after the other, the anterior pair being located slightly behind the mid-eye level; eyes moderately convex and distinctly faceted; genae oblique and only slightly convex, two-thirds as long as eyes, and practically glabrous though bearing a few vestigial hairs; neck very wide, with the anterior constriction sharply marked at the sides; palpi short though labial palpus is fairly slender; mental tooth broad, truncated at the tip; antennae fairly stout, reaching basal three-eighths of elytra, scape as long as and about 1.5 times as thick as segment 3, which is slightly shorter than segment 4, pedicel the shortest, five-sevenths as long as segment 3, segments 5–8 gradually decreasing in length towards apex, each about three times or a little less as long as wide, segments 8–10 equal in length to one another, terminal segment the longest, a little longer than scape though two-thirds as wide as the latter.

Pronotum relatively large, transverse subcordate, much wider than head, evidently wider than long, widest at about two-thirds from base, and more rapidly and strongly narrowed towards apex than towards base, with the basal part briefly subpedunculate; PW/HW 1.34, PW/PL 1.29, PW/PA ca. 1.57, PW/PB 1.37; sides rather widely reflexed before middle, narrowly so in basal third, strongly rounded in front, almost straightly convergent behind, and very briefly sinuate at about basal sixth at the sides of postangular denticles; apex slightly arcuate forwards, front angle on each side widely

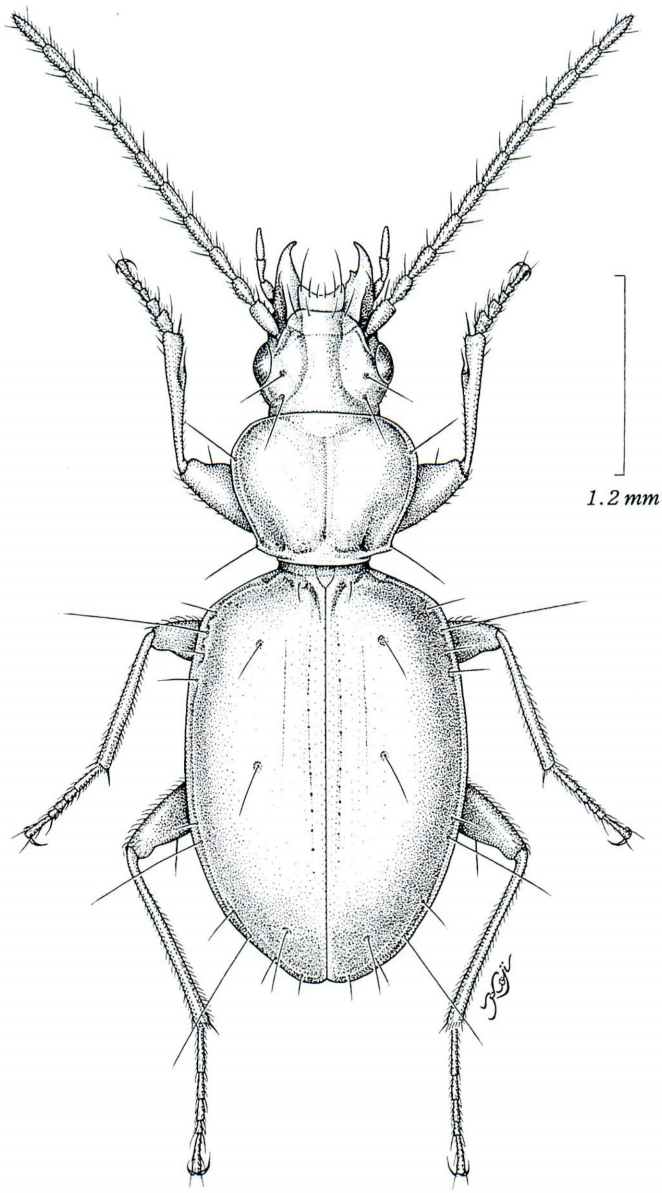


Fig. 1. *Dabatrechus eccentricus* S. UÉNO, sp. nov., ♂, from Mt. Guangwu Shan.

rounded off; base wider than apex, PA/PB ca. 0.87, gently oblique on each side inside hind angle, which forms an obtuse denticle slightly produced laterad; dorsum convex, with vague, irregularly transverse striations; median line shallow, reaching neither apex nor base; apical transverse impression mal-defined; basal transverse impression superficial and uneven, with a foveole on each side of median line; basal foveae small but

fairly deep; basal area above basal peduncle narrow and smooth.

Elytra ovate, wider than pronotum, widest slightly before the middle, with small basal parts and relatively pointed apices; EW/PW 1.52, EL/PL 2.78, EL/EW 1.41; shoulders widely rounded inclusive of arcuate prehumeral borders, which are rather widely bordered and complete to basal peduncle; sides widely bordered in anterior parts but narrowly so behind middle, feebly arcuate to near apices, which are narrowly rounded and relatively pointed, preapical emargination slight; dorsum convex though depressed on the disc before middle, steeply declivous at the sides though the apical declivity is rather gentle; only two inner striae present, stria 1 almost complete and coarsely punctate before middle, stria 2 shallower than 1, nearly smooth, and obsolete near base and in apical two-thirds; apical striole short though sharply impressed, hardly arcuate in anterior part; intervals flat even near suture, apical carina obtuse; two setiferous dorsal pores present on the site of stria 3 at about basal sixth and slightly before the middle; preapical pore present on apical declivity just behind the level of the terminus of apical striole and a little more distant from apex than from suture.

Ventral surface glabrous and smooth. Legs moderate in length, with thin tibiae and tarsi; protibiae straight, gently dilated towards apices, each with a vestigial groove on the external face and a few short hairs on the anterior face; tarsi short, tarsomere 1 longer than tarsomeres 2–3 combined but shorter than tarsomeres 2–4 combined in mesotarsus, as long as tarsomeres 2–4 combined in metatarsus; in ♂, protarsomeres 1 and 2 widely dilated and stoutly produced inwards at apices.

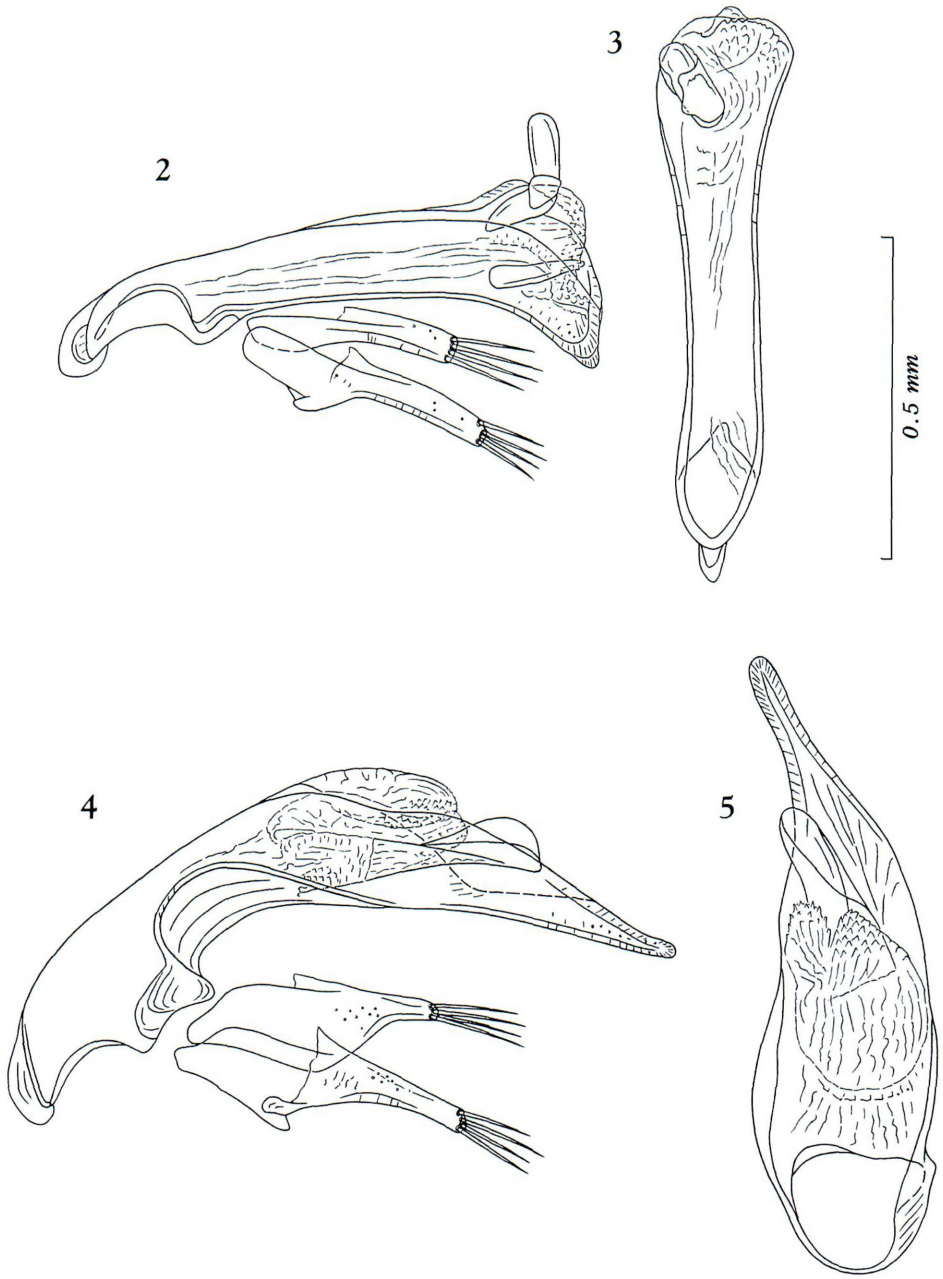
Male genital organ small though moderately sclerotized. Aedeagus one-third as long as elytra, elongate, hardly arcuate except at the apical part, nearly parallel-sided but rather widely dilated at the apical part, and widely membraneous on dorsum; basal part not curved ventrad, being formed by two narrow lobes deeply emarginate at each ventral side and completely connected at the proximal extremity; sagittal aileron small but protrudent, hyaline except for the core; apical part dilated in both dorsal and right lateral views, curved ventrad, and abruptly ending in a very short apical lobe, which is directed to the left and rounded at the extremity in dorsal view, small and obtuse in left lateral view; left aedeagal wall not dilated at the apical part; ventral margin nearly straight at middle, moderately emarginate at the apical part. Inner sac minutely scaly at the apical part, bearing a pair of palp-like sclerotized copulatory pieces just inside apical orifice at the right dorsal and left ventral sides, each of which is imperfectly articulated at the middle and foldable. Styles slender.

Female unknown.

Type specimen. Holotype: ♂, 17–VI–2004, S. UÉNO leg. Deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mt. Guangwu Shan, Zhaipo on the northeastern side, 1,780 m in altitude, in Nanjiang Xian of Sichuan, Southwest China.

Notes. The single known specimen of this extraordinary new species was taken at the side of a forestry road on the northeastern slope of Mt. Guangwu Shan, which lies at the southern side of the westernmost part of the Daba Shan Mountains in Nan-



Figs. 2–5. Male genitalia of *Dabatrechus* spp.; left lateral view (2, 4), and apical part of aedeagus, dorso-apical view (3, 5). —— 2–3. *D. eccentricus* S. UÉNO, sp. nov., from Mt. Guangwu Shan (the left copulaory piece is folded). —— 4–5. *D. hygrophilus* S. UÉNO, sp. nov., from the Yidao Xia in Baokang Xian.

jiang Xian of eastern Sichuan. The unpaved road is made through a broadleaved forest and has a shallow ditch at the mountain side, which is fed by trickles and either wet or keeping a very little, slowly moving water.

At the collecting site of the trechine beetle, the bottom of the ditch was thinly covered with stagnant water and scattered with fallen leaves. Two species of bembidiines were found here and there from beneath wet fallen leaves, and the trechine beetle was also found from beneath a fallen leaf half-immersed in the water. It was not particularly agile when exposed just like saproxylophilous members of the genus-group.

Since further searches did not yield any more specimens, we went back to that particular spot on the next day and spent many hours for seeking additional material, but all our efforts ended in vain.

Dabatrechus hygrophilus S. UÉNO, sp. nov.

(Figs. 4–6)

Length: 4.15 mm (from apical margin of clypeus to apices of elytra).

Closely similar in general appearance to *D. eccentricus*, but different from it in many details, above all in the shape of pronotum. Incredibly different from *D. eccentricus* in conformation of male genitalia, as will be described later.

Body constricted between prothorax and hind part, glabrous and polished on dorsum but partially pubescent on venter; microsculpture completely vanished. Colour very dark brown, shiny and not iridescent, head and prothorax almost black, elytra dark brown with reddish basal areas; clypeus and scape reddish; palpi and legs yellowish brown.

Head similar to that of *D. eccentricus*, but the eyes are larger and devoid of facets, the genae are less oblique, the frontal furrows are subangulate at middle, and the antennae are shorter; frontal furrows subangulate at middle, and more widely divergent in front and behind; supraorbital areas relatively flat, bearing two pair of supraorbital pores on lines slightly divergent posteriad; eyes hemispherically convex together with genae, but the facets are so degenerated except along peripheries, that the convex surfaces of eyes are smooth and shiny; genae convex at the anterior portions in continuation of the convexity of eyes, rapidly convergent behind towards neck constriction, and completely glabrous; neck constriction deeper than in *D. eccentricus*; mental tooth broad, rounded at the tip; antennae a little shorter than in *D. eccentricus*, reaching basal three-tenths of elytra.

Pronotum cordate, obviously narrower than in *D. eccentricus*, widest at about two-thirds from base, and more strongly contracted at base than at apex; PW/HW 1.23, PW/PL 1.11, PW/PA ca. 1.41, PW/PB 1.60; sides rather narrowly bordered throughout, strongly arcuate in front, less so behind, briefly but deeply sinuate at about basal two-thirteenths, and briefly parallel in basal area; apex slightly arcuate forwards, with front angles rounded off; base obviously narrower than apex, PA/PB ca. 1.14, almost straight at middle, and briefly and a little obliquely emarginate at each lateral end,

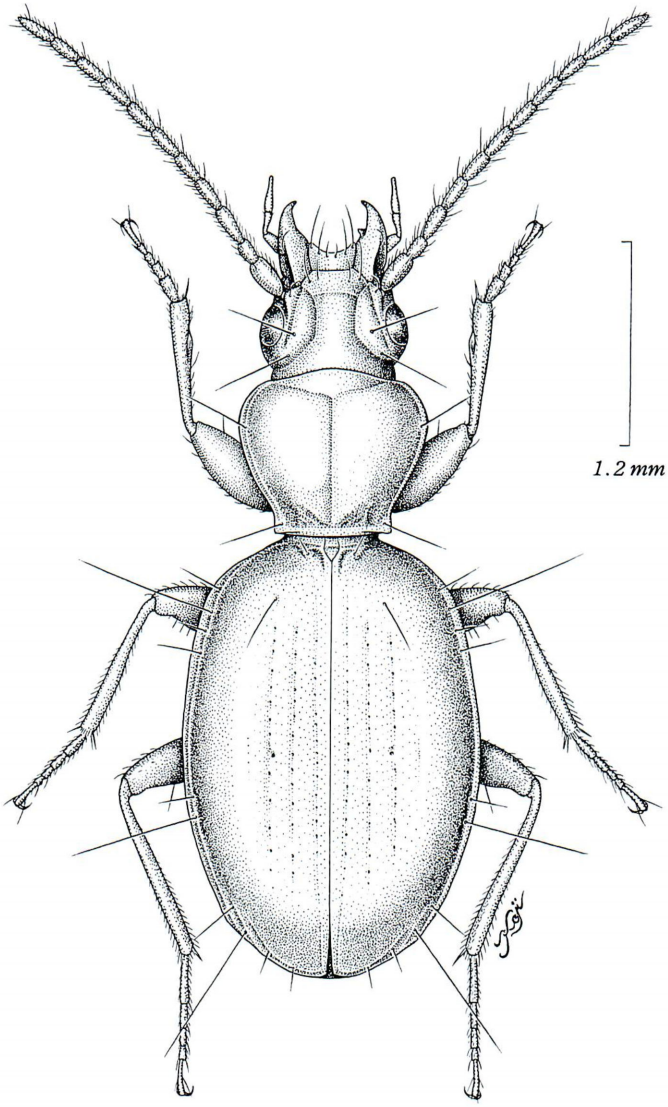


Fig. 6. *Dabatrechus hygrophilus* S. UÉNO, sp. nov., ♂, from the Yidao Xia in Baokang Xian.

basal peduncle extremely short and hardly recognizable; hind angles nearly rectangular though blunt at the corners; dorsum strongly convex and smooth, steeply declivous in marginal areas; median line fine except near basal transverse impression, which is continuous, somewhat sulciform and smooth, laterally merging into very small basal foveae; basal area very narrow, forming a collar.

Elytra suboval rather than ovate, evidently wider than pronotum, widest slightly before the middle, and almost equally narrowed towards bases and towards apices;

EW/PW 1.63, EL/PL 2.60, EL/EW 1.44; shoulders rounded, less salient than in *D. eccentricus*; prehumeral borders obviously more oblique than in *D. eccentricus* and only very slightly arcuate, with very narrow marginal gutter, which diminishes anteriorly and reaches the site of the base of stria 5; sides rather widely reflexed at the humeral part but very narrowly so in apical two-thirds, gently arcuate for the most part, and widely and conjointly rounded at apices, each without appreciable preapical emargination; dorsum strongly convex though somewhat depressed at the anterior part of the disc, very steeply declivous at the sides but rather gently so at the apical part; three inner striae distinctly impressed on the disc, all coarsely crenulate, stria 1 almost entire, 2–3 obsolete in both basal and apical areas; apical striole short though sharply impressed; intervals slightly convex near suture, apical carina obtuse; stria 3 with a single setiferous dorsal pore at two-fifteenths from base; in the holotype, vestige of a second pore perceptible on stria 3 at four-ninths from base, though not setiferous; preapical pore absent.

Ventral surface mostly glabrous and smooth, but each sternite bears several hairs at the median part. Legs as in *D. eccentricus*, but the protibiae are devoid of vestigial groove on the external face, and the two proximal protarsomeres in ♂ are only weakly dilated and minutely denticulate inwards at the apices; protarsomere 1 in ♂ elongate, 1.5 times as long as wide, protarsomere 2 about three-fourths as long as 1, also elongate in the same proportion as the latter.

Male genital organ strikingly different from that of *D. eccentricus*, a little larger and a little more heavily sclerotized. Aedeagus two-fifths as long as elytra, twisted to the right, lightly arcuate as a whole, widely concave at the left side before middle, and thoroughly membraneous on dorsum, with the right wall obviously lowered at the base of apical lobe; basal part straightly extended, open on both dorsal and ventral sides but the lateral walls are much higher than in *D. eccentricus*; basal orifice deeply emarginate at the sides; sagittal aileron elongate, wholly hyaline; apical lobe elongate, protruding right apically, and narrowly rounded at the tip in dorsal view, gradually tapered towards blunt extremity and somewhat reflexed at the terminal portion in lateral view; ventral margin nearly straight at middle in profile. Inner sac rather coarsely scaly at the apical part, bearing a large hyaline copulatory piece, which is about two-sevenths as long as aedeagus, spoon-like, right dorsally concave in apical half, and obliquely lying just inside apical orifice. Styles fairly wide in basal halves and with short narrow apical parts, left style obviously longer than the right and bearing short ventral apophysis, each provided with four, rather short apical setae.

Female unknown.

Type specimen. Holotype: ♂, 11–VI–2004, M. SATÔ leg. Deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Yidao Xia, 580 m in altitude, at Houping Cun of Houping Zhen in Baokang Xian, western Hubei, West-central China.

Notes. In ordinary trechine taxonomy, this new species could be regarded as belonging to a genus different from *Dabatrechus*, mainly in view of the marked differ-

ence in the pronotal configuration, elytral chaetotaxy and conformation of the male genitalia. However, it shares many other character states with *D. eccentricus*, and is discriminated at first sight from other genera of the *Agonotrechus* series. Even the male genitalia of the present species show the same trend of modification of the aedeagus, above all of its basal part, as that of *D. eccentricus*, though the apical lobe is considerably developed in this species in contrast with the extremely reduced one in the latter species. In all probability, these species are congeneric and the genitalic divergence between them may be a result of exceptional differentiation sometimes found among Chinese trechines.

The single known specimen of the present species was found walking on a wet vertical rock covered with humid mosses on the left side of the Yidao Xia, one of the five valleys of the Wudao Xia Nature Reserve, in a hilly area at the easternmost part of the Daba Shan Mountains. The moss-covered rock was at the bottom of the valley with its base about 2 m removed from the edge of the stream but nearly on the same level as the stream water. Peeling off the moss-mat, SATÔ found several bembidiines and the trechine walking on the bare rock about 20 cm above the bottom. Then we made every effort to find out some additional specimens but failed in finding any.

要　　約

上野俊一：中国西部，大巴山脈に固有の好湿性チビゴミムシ類．—— 中国の西部，四川省と陝西省の省境を東西に走り，東端部が湖北省の西部に達する大巴山脈から，好湿性チビゴミムシ類の1新属2新種を記載し，これらに *Dabatrechus eccentricus* S. UÉNO および *D. hygrophilus* S. UÉNO という新名を与えた．新属 *Dabatrechus* は，云南省の北西部から知られる *Deuveotrechus* 属に似ている点が多いが，大顎，下唇，剛毛式などの特徴に決定的な相違があり，分布域も大きく離れているので，大巴山脈に固有の別属だと考えられる．既知の2種は，山脈の西端部に位置する光雾山と，東端部に位置する保康县の一道峡とで濡れた落ち葉やコケの下から発見されたが，一見たがいによく似ているにもかかわらず，細かい形態的特徴にはかなり大きい差異があり，とくに雄交尾器の構造には，別属のものを思わせるほど顕著な相違がある．同じような現象は *Deuveotrechus* にもみられるので，中国産の古い型のチビゴミムシ類に特有の発現様式だろうと思われるが，世界的な観点からすれば異常で，分類上の異端者だといえるだろう．

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Elytra, Tokyo, **32** (2): 276, November 20, 2004

A Permanent Slide Pinned under a Specimen

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Among the European and Japanese coleopterologists, plastic (or celluloid) card and mounting media, *e.g.*, Euparal, Canada balsam, and polyvinylpyrrolidone, are commonly used as material of slide of body parts pinned under specimen. The method is that cleaned and dehydrated body parts (normally, genital parts) of a specimen are mounted in drops of mounting medium on one side of small plastic card (5–7×12–14 mm), then the other side of the card is pinned under the specimen from which the body parts were detached. For curating specimens, this method is in many cases much more convenient than the traditional preparation, which is made by normal slide glass and should be separately preserved from the specimens concerned. However, the plastic card is problematical, i.e., degeneration (curvature, deformation, and colour changes) is often observed in old (>10 years) preparation. Degeneration of mounting card is dangerous because mounted medium (usually together with body parts) is sometimes cracked coming up with degeneration of the mounting card. Therefore, the use of more permanent material is desirable for this method.

As was shortly introduced by MARUYAMA (2003) and MARUYAMA *et al.* (2003), the author recommends the use of small glass piece (5×10 mm, 0.3 mm in thickness) instead of plastic card for permanent preservation. One side of the glass piece is glued on a small papercard (5×10 mm) pinned under a specimen with fish glue. Glass, paper and fish glue are the materials that have actual performance in preservation stability at least for 200 years, and without doubt, these are much better than celluloid or plastic card. Moreover, glass has higher transparency and more suitable for observation of microstructure than plastic. The same small glass piece is available in Roppon-Ashi Entomological Books, Tokyo (http://www.kawamo.co.jp/roppon-ashi/), and the sample pictures of the preparation can be seen on the author's web-page (http://www.myrmecophile.net).

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Two New Humicolous Trechines (Coleoptera, Trechinae) from Shennongjia, Western Hubei

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Abstract Two new humicolous species of trechine beetles are described from Shennongjia in western Hubei, West-central China. One of them belongs to a new genus whose true affinity is not certain, but may have a remote relationship to the *Agonotrechus* series. It is named *Shennongotrechus politus*. The other species is a member of the grand genus *Trechus*, and is closely similar to *T. qinlingensis* (MORAVEC et WRASE). It is regarded as a new subspecies of the Qin Ling species and is named *T.* (*Epaphius*) *qinlingensis shennongi*.

Shennongjia Linqu, or the Shennongjia forest area, lies near the eastern end of the Daba Shan Mountains and is well known for the conservation of beautiful natural forests consisting of various elements from the warm-temperate to the cold-temperate floras. Its southern part is rigidly protected as a national nature reserve, faunal investigations in which are severely controlled by the government. For this reason, only a limited number of entomologists have been able to make collectings in the reserve.

Four different species of trechine beetles have hitherto been recorded from the forest reserve, that is, *Epaphiopsis* (*Epaphiama*) *lamellata* S. UÉNO et YU (1997, p. 25, figs. 1–3), *Boreaphaenops angustus* S. UÉNO (2002, p. 415, figs. 1–3), *Trechus* (*Epaphius*) *shennongjianus* (DEUVE) (2002, p. 158, figs. 2, 14), and *Balazucellus hubeicola* (DEUVE, 2001, p. 46, fig. 3). With the exception of cavernicolous *Boreaphaenops angustus*, all the three species were recorded from the subalpine forest of *Abies* and *Rhododendron* on or near Dashennongjia, above 2,500 m above sea-level. Through the arrangement made by FAN Ting of the Academia Sinica, I have been given opportunities to visit the nature reserve twice and to pursue faunal researches, mainly of ground-living beetles. I have succeeded in finding out the natural habitats of all the described species of trechine beetles, and besides, in bringing forth two more species in the Shicao He Valley (formerly called the Shimie He Valley) at the eastern foot of Dashennongjia.

This valley is a tributary of the Shennongjia Xi River (formerly called the Muyu He River), arising from the eastern and southeastern sides of Dashennongjia. It is forked near Guanmen Shan at about 6 km east by south of Dashennongjia in a beeline. The northern branch is called the Xiangshui He (or the Xiang'yan He) and the south-

ern one the Yang'juan He. The trechine beetles were discovered at the left side of the latter about 500 m upstream from the fork.

There were small depressions between the riverside road and the steep forested slope, in which was accumulated leaf litter, particularly among stones fallen from the slope. These depressions were shaded by deciduous broadleaved trees and very humid. A series of specimens of a small apterous species of *Trechus*, to be named *T. qinlingensis shennongi* in the present paper, were first sifted out from the litter, and then three specimens of a larger species came out mingled with the *Trechus*. After a close examination, it became apparent that the *Trechus* is a geographical race of *T. qinlingensis* (MORAVEC et WRASE) (1998, p. 211, figs. 1, 16), but that the true affinity of the larger species was not satisfactorily clarified at present. It resembles *Dabatrechus* S. UÉNO, 2004 in many respects, but appears to have some relationship to certain genera of the *Trechoblemus* series from different viewpoints. In any case, it cannot be placed in any of the described genera of the Trechinae, so that a new genus, to be called *Shennongotrechus*, will be erected for the species, which will be named *Shennongotrechus politus*.

The abbreviations employed in this paper are the same as those explained in previous papers of mine.

Before going into further details, I wish to express my heartfelt thanks to Dr. Masataka SATÔ as well as to Messrs. FAN Ting and ZHAO Ben Yuan for their invaluable help extended to me in field works. Hearty thanks are also due to Mr. David W. WRASE, who kindly gave me the opportunity to examine the paratypes of *Epaphius qinlingensis* and *E. castificus* from the Qin Ling Mountains, which were indispensable for determining the true systematic position of the Shennongjia beetle.

Genus ***Shennongotrechus*** S. UÉNO, nov.

Type species: *Shennongotrechus politus* S. UÉNO, sp. nov.

Erected for a relatively small humicolous trechine of uncertain affinity with fairly elongate body devoid of hind wings. Body surface covered with minute pubescence on both dorsum and venter; microsculpture mostly evanescent, though vestiges of fine transverse lines are perceptible on limited portions of head and pronotum. Colour brown, shiny; legs paler.

Head transverse, depressed above, with deep frontal furrows and only feebly convex frons; supraorbital areas relatively flat, each with two supraorbital pores closely located one after the other; eyes small and flat, though clearly faceted and covered with minute pubescence; genae tumid, a little shorter than eyes, and sparsely covered with very short hairs; labrum transverse, with the apical margin deeply emarginate. Mandibles stout though sharply hooked at apices; right mandible tridentate, with prominent premolar tooth but very obtuse proximal tooth of retinaculum. Mentum fused with submentum, deeply foveolate on each side, mental tooth broad, truncated and slightly emarginate at the apex; submentum quadrisetose, outer pair of setae being

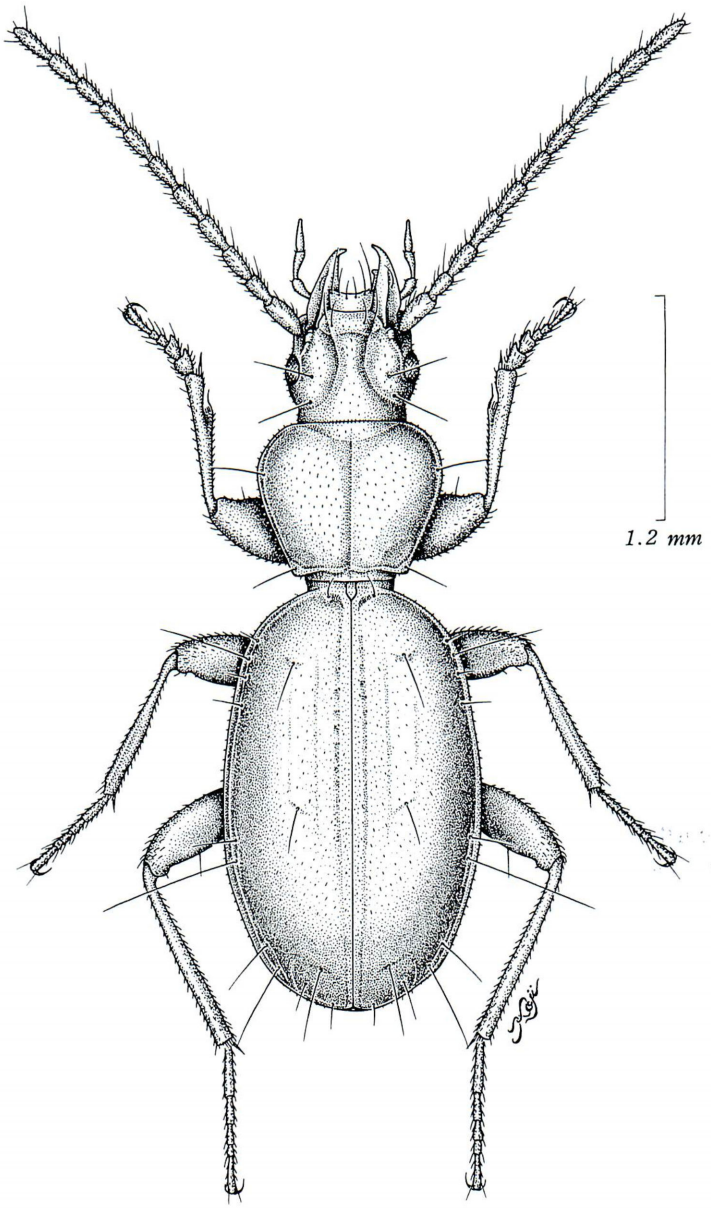


Fig. 1. *Shennongotrechus politus* S. UÉNO, gen. et sp. nov., ♂, from the Shicao He Valley in Shennongjia.

much longer than the inner; ligula protrudent at the middle, octosetose, paraglossae thin; labial palpus short and stout, penultimate palpomere dilated towards apex and quadrisetose, apical palpomere slightly shorter than the penultimate. Maxillae stout,

arcuate, and bearing several spines and hairs on the inner margin; maxillary palpus short and stout, penultimate palpomere particularly short, widely dilated towards apex and with several minute hairs, apical palpomere slightly more than twice as long as the penultimate, elongated subconical. Antennae short and stout, subfiliform.

Pronotum subcordate and convex, with the sides narrowly and sharply bordered throughout, though the borders become much narrower and diminished towards front angles; lateral margins minutely ciliated except for basal portions, particularly densely near front angles, with two pair of marginal setae, of which the anterior one is located at the widest part and the posterior one slightly before hind angles; apex gently arcuate forwards, with front angles rounded off; base briefly subpedunculate, nearly straight at middle and deeply emarginate on each side just inside hind angle, which is narrowly rounded at the corner; dorsum covered with minute pubescence; basal transverse impression somewhat sulciform, parallel to basal margin. Scutellum small.

Elytra elongated oval, widest at about middle, with obtuse shoulders; sides completely bordered, moderately reflexed at middle, but the borders become diminished anteriorly at the prehumeral parts though almost reaching basal peduncle; lateral margins minutely ciliated in basal third; dorsum convex, minutely pubescent, more densely so at the sides than on the disc; striae deeply impressed and crenulate near suture but obsolete at the sides, striae 1 and 2 deep on the disc but evanescent in both basal and apical areas, 3 either perceptible between dorsal pores or superficial and fragmentary, 4 vestigial, 5–7 obsolete, 8 impressed only in apical portion; scutellar striole very short, arcuate; apical striole deep but very short, straight in anterior part; stria 3 with two setiferous dorsal pores, preapical pore present on apical declivity and more distant from apex than from suture; marginal series of umbilicate pores not perfectly aggregated, the fourth pore of the humeral set evidently distant from the anterior three and the first pore somewhat isolated, the two pores of the middle and apical sets close to each other, respectively.

Ventral surface minutely pubescent; each sternite with a pair of paramedian setae; anal sternite provided with a pair of marginal setae in ♂, two pair of them in ♀. Legs of moderate length; protibiae gently dilated towards apices, wholly pubescent, and not externally grooved; metatibia about four-ninths as long as elytra; tarsi rather short, metatarsus about three-fourths as long as metatibia, tarsomere 4 with a long ventral apophysis in pro- and mesotarsi; in ♂, two proximal protarsomeres rather widely dilated, stoutly produced inwards at apices, and furnished beneath with adhesive appendages.

Aedeags small, elongate, widely membraneous on dorsum, markedly curved to the right and twisted at the apical part, and abruptly dilated into two acute triangular lobes, which are produced in the opposite direction on a straight line oblique to the axis of aedeagus; basal part hardly curved ventrad, with large basal orifice whose sides are emarginate; sagittal aileron very large though thin and hyaline. Inner sac armed with a large elongate anisotopic copulatory piece, which is thin, lamellar and spatulate, being covered with poorly sclerotized scales. Styles short and stout, with short apical

parts, each bearing four or five thin setae at the apex.

Range. Known so far only from the type species endemic to Shennongjia in western Hubei, West-central China.

Notes. With the exception of the elongate body form, this new genus resembles *Dabatrechus* S. UÉNO (2004, p. 266) of the *Agonotrechus* series in many respects. They share similar buccal organ excluding mandibular dentition, degeneration of microsculpture, subpedunculate pronotal base, simple dorsal chaetotaxy of elytra, and pubescent protibiae. Peculiar modification of the male genitalia also suggests its relationship to the *Agonotrechus* series. On the other hand, *Shennongotrechus* is unique in the microscopical pubescence covering its body surface and the pubescent eyes. The latter peculiarity is currently considered as an archaic character, well known in the members of the tribe Perileptini but quite exceptional in the tribe Trechini. One of such exceptions is the genus *Oroblemus* S. UÉNO et A. YOSHIDA (1966, p. 77; also UÉNO, 1983), which belongs to the *Trechoblemus* series. The elongate body form shown by *Shennongotrechus* also resembles that of the oculate members of this genus-group. However, the resemblance appears superficial, since there are many definite differences between the new genus and the genera of the *Trechoblemus* series. The true affinity of *Shennongotrechus* could be determined when more information can be obtained by future investigations on or near the Daba Shan Mountains on which lies the Shennongjia forest area.

This new genus is named after Shennong, god of agriculture and pharmacy, whose residence is called Shennongjia.

Shennongotrechus politus S. UÉNO, sp. nov.

(Figs. 1–3)

Length: 3.55–3.73 mm (from apical margin of clypeus to apices of elytra).

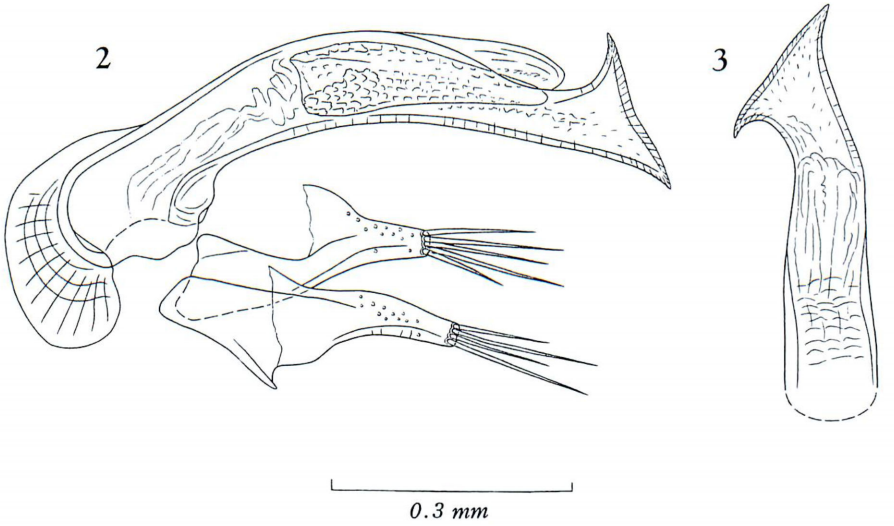
Since the genus *Shennongotrechus* is monotypical at present, all the characteristics described under the genus are naturally possessed by the type species. Therefore the following description of the species is mainly concerned with morphometric data.

Body fairly elongate with appendages of moderate length, wholly covered with very minute pubescence, but polished due to the absence of microsculpture. Colour brown, with more or less darker elytra which bear faint iridescence; antennae, palpi, venter of hind body, and legs yellowish brown.

Head transverse, about three-fourths as long as wide, widest at the mid-eye level, with small flat eyes and tumid genae, the latter of which are five-sevenths to five-sixths as long as the former; frontal furrows deep throughout and widely divergent in front and behind; antennae fairly short and stout, reaching basal three-eighths of elytra, scape thick, pedicel the shortest, about two-thirds as long as segment 3, which is subequal in length to 4, segments 5–10 gradually decreasing in length towards apex, 5 or 6 nearly three times as long as wide, terminal segment about as long as scape and nearly 1.5 times as long as segment 10.

Pronotum subcordate, wider than long, evidently wider than head, widest at two-thirds from base, and more gradually narrowed towards base than towards apex; PW/HW 1.28–1.40 (M 1.35), PW/PL 1.14–1.17 (M 1.16), PW/PA ca. 1.53–1.61 (M ca. 1.57), PW/PB ca. 1.52–1.59 (M ca. 1.56); sides strongly rounded in front, nearly straight behind middle or sometimes almost invisibly sinuate before hind angles, which are obtuse and narrowly rounded; lateral borders extremely narrow at front angles but continuous inwardly; apex gently arcuate forwards, very slightly narrower than base, PA/PB ca. 0.98–0.99 (M ca. 0.99); front angles rounded off; base briefly but deeply emarginate on each side just inside hind angle; dorsum well convex, steeply declivous at the sides; median line sharply impressed, reaching neither apex nor base; apical transverse impression distinct at the median part, either longitudinally wrinkled or smooth; basal transverse impression somewhat sulciform, laterally extending to lateral emargination of basal margin; basal foveae small but deep.

Elytra elongated oval, evidently wider than prothorax, much longer than wide, widest at about middle, and a little more gradually narrowed towards bases than towards apices which are conjointly rounded and rather narrow; EW/PW 1.40–1.49 (M 1.45), EL/PL 2.54–2.65 (M 2.58), EL/EW 1.52–1.56 (M 1.54); shoulders widely arcuate, with prehumeral borders oblique and very slightly arcuate; sides feebly arcuate from behind shoulders to the level of the apicalmost pore of the marginal umbilicate series, and hardly emarginate before apices; dorsum convex though longitudinally depressed on the disc, steeply declivous at the sides, apical declivity rather gentle; striae as described under the genus, stria 3 with two setiferous dorsal pores at basal 1/6 or a little before that level and about middle; preapical pore located on apical declivity at



Figs. 2–3. Male genitalia of *Shennongotrechus politus* S. UÉNO, gen. et sp. nov., from the Shicao He Valley in Shennongjia; left lateral view (2), and apical part of aedeagus, dorso-apical view (3).

about apical 2/9 and not adjoining any stria.

Legs moderate in length; tarsi rather short, tarsomere 1 about as long as tarsomeres 2–4 combined in both meso- and metatarsi.

Male genital organ small and rather lightly sclerotized. Aedeagus one-third as long as elytra, feebly arcuate at middle but nearly straight at the basal part; apical part fairly broad, right apical lobe protrudent dorso-proximally, while the left apical lobe is produced ventro-apically, each with acute, slightly recurved tip; ventral margin widely and lightly emarginate at middle in profile; copulatory piece elongate, about three-sevenths as long as aedeagus, gradually narrowed apicad and blunt at the extremity. Each style with four or five thin apical setae of various lengths.

Type series. Holotype: ♂, allotype: ♀, paratype: 1 ♂, 10–VI–2004, S. UÉNO leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Shicao He Valley, Longtouzhai, 1,460 m in altitude, in Muyu Zhen of Shennongjia, western Hubei, West-central China.

Notes. As was noted in the introduction of the present paper, this interesting species was found in coexistence with *Trechus* (*Epaphius*) *qinlingensis shennongi* to be described on the following pages. Every specimen of the type series was sifted out from a handful of humid leaf litter together with one or two specimens of *T. q. shennongi*, though both the species were by no means common. This mode of occurrence looks similar to that of certain species of the *Agonotrechus* series, and is different from that of the oculate members of the *Trechoblemus* series, which are always highly hygrophilous even in brachypterous ones.

Trechus* (*Epaphius*) *qinlingensis shennongi S. UÉNO, subsp. nov.

(Fig. 4)

Length: 2.78–3.00 mm (from apical margin of clypeus to apices of elytra).

Closely similar to the nominotypical subspecies and agreeing well with the latter inclusive of the standard ratios of body parts and basic configuration of male genitalia, but different from it in the following points: antennae a little shorter and stouter, reaching basal fifth to two-ninths of elytra, with thicker middle segments; pronotum widest at a level between five-ninths and two-thirds (usually at about five-eighths) from base; lateral portions of pronotal base almost perpendicular to the mid-line though usually somewhat arcuate, instead of being oblique, with hind angles less obtuse but usually denticulate; front angles of pronotum more narrowly rounded; striae 1 and 2 of elytra more deeply impressed and more coarsely punctate, stria 3 shallower and often fragmentary, though coarsely punctate; preapical pore absent. Elytral stria 3 with two setiferous dorsal pores at basal 1/7–1/6 and about middle. Standard ratios: PW/HW 1.34–1.40 (M 1.37), PW/PL 1.35–1.46 (M 1.41), PW/PA 1.44–1.59 (M 1.51), PW/PB 1.34–1.40 (M 1.37), PB/PA 1.05–1.18 (M 1.11), EW/PW 1.52–1.59 (M 1.55), EL/PL 2.87–3.08 (M 2.99), EL/EW 1.32–1.42 (M 1.37).

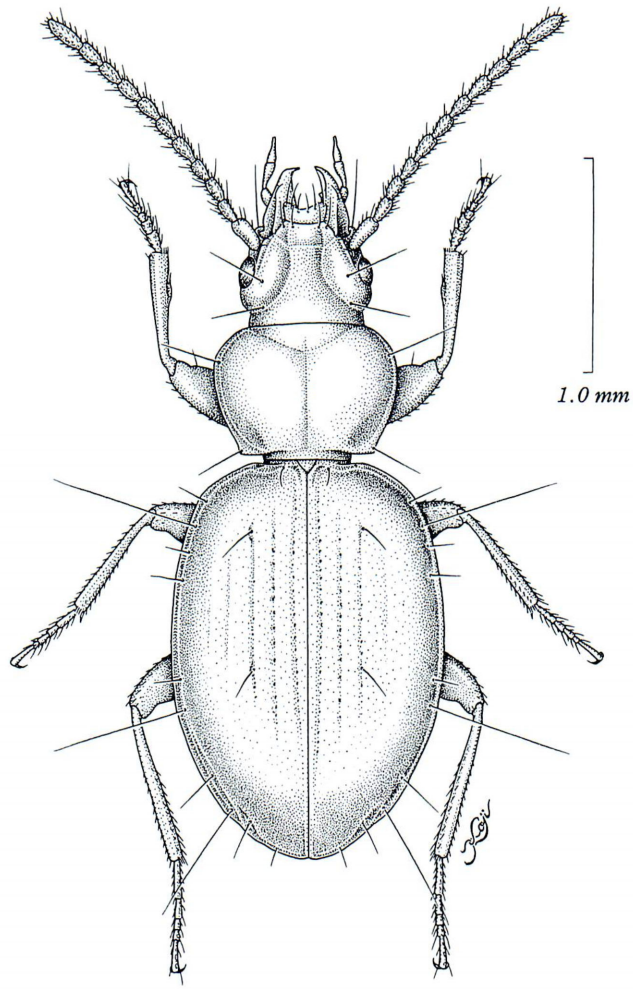


Fig. 4. *Trechus* (*Epaphius*) *qinlingensis shennongi* S. UÉNO, subsp. nov., ♂, from the Shicao He Valley in Shennongjia.

Aedeagus a little smaller and shorter than in the nominotypical subspecies, about one-fourth as long as elytra, with the basal part obviously shorter and proximally less produced and the apical lobe narrower in profile and not reflexed. Styles bisetose as in the nominotypical subspecies.

Type series. Holotype: ♂, allotype: ♀, paratypes: 9 ♂♂, 1 ♀, 10–VI–2004, S. UÉNO leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Shicao He Valley, Longtouzhai, 1,460 m in altitude, in Muyu Zhen of Shennongjia, western Hubei, West-central China.

Notes. It was most unexpected that an isolated population of *Trechus qinlingen-*

sis was found in Shennongjia at the eastern part of the Daba Shan Mountains. The new locality is nearly 300 km distant to the southeast in a beeline from the locality of the type population on the Qin Ling Mountains, and besides, the two mountain ranges on which lie the localities of the respective populations are separated by the wide valley of the Han Shui River. It is therefore possible that complete speciation could have taken place between the two isolated populations of the apterous trechines.

For this reason, I have carefully compared the Shennongjia specimens with a paratype of *T. qinlingensis* and its original description given by MORAVEC and WRASE, and finally come to the conclusion that the differences observed between them do not suffice for recognition of a full new species for the Shennongjia trechine. Even the presence or absence of the preapical pore on the elytra is subject to individual variation in certain Chinese species of trechines, and in the paratype of *T. qinlingensis* before me, the pore is vestigial and devoid of seta on both the elytra though its trace is clearly detectable. In my present opinion, the Shennongjia trechine can be regarded most appropriately as a new subspecies of *T. qinlingensis*.

Trechus shennongjianus (DEUVE) (2002, p. 158, figs. 2, 14), occurring at higher elevations of the same mountain, is also closely related to *T. qinlingensis*, but is readily discriminated from the present subspecies by the more brownish coloration (often with infuscated fore body) and less strongly convex elytra with less deeply impressed second stria. It is evidently different from *T. q. shennongi* also in the configuration of the male genitalia; the aedeagus is much larger (about two-fifths as long as elytra), more elongate, with distinctly reflexed apical lobe and apically blunt copulatory piece. Incidentally, my specimens of *T. shennongjianus* were collected on 8 June 2004 at Chang'yanwu (2,240 m above sea-level) at the northern skirts of Dashennongjia (3,052 m in height) or rather at the west-northwestern skirts of Jinhou Ling (3,019 m in height). They were sifted out from leaf litter deposited among moss-covered rocks in a deciduous broadleaved forest at the side of a swiftly running stream.

As regards the etymology of the new subspecific name, refer to the notes following the description of the genus *Shennongotrechus*.

要　　約

上野俊一：中国湖北省神农架で見つかった腐植性チビゴミムシ類の1新属新種と1新亜種．—— 中国湖北省の西端部にある神农架林区は，大巴山脈の東端部近くに位置し，山麓から頂上部まで原生林のよく保全されていることで知られる．とくに林区の南部は，国家級自然保護区のひとつとして厳重に管理され，特別の許可を受けなければ調査することができない．この保護区からこれまでに報告されたチビゴミムシ類は4種あるが，石灰洞で発見された1種を除けば，いずれも最高点の大神农架付近からただ1点の標本に基づいて記載されたものであった．しかし，今年の初夏に行った調査で，大神农架の南東麓を流れる石槽河の渓谷から腐植性の2種が発見され，いずれも未知のものだと判定されたので，この論文で命名して記載した．

2種のうちのひとつは，陝西省の秦岭山脈から記載された *Trechus* (*Epaphius*) *qinlingensis* の1

地方型だと考えられるが，他のひとつは，今のところ真の類縁関係が明らかでない．ハバビロチビゴミムシ群のものに似ている点も少なくないが，体形は細長く（つまり幅広ではなく），アトスジチビゴミムシ群のものともいくつかの重要な形質を共有する．それで，この種に新属を設けて *Shennongotrechus politus* S. UÉNO と名づけ，もういっぽうの種には *Trechus* (*Epaphius*) *qinlingensis shennongi* S. UÉNO という新名を与えた．

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Elytra, Tokyo, **32** (2): 287–292, November 20, 2004

Notes on *Pterostichus cordatissimus* (STRANEO) (Coleoptera, Carabidae)

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Abstract A pterostichine carabid beetle from Central Japan, *Pterostichus cordatissimus* (STRANEO), is redescribed on the basis of the holotype, but its true systematic position as well as its exact type locality are not clear.

Pterostichus cordatissimus (STRANEO) is a rather small pterostichine carabid beetle originally described from Japan under the name *Feronia cordatissima* (1937, p. 447). It was redescribed by JEDLIČKA (1962, p. 286) in his monograph of the pterostichine carabids from East Asia. NAKANE (1983, p. 11) gave a detailed redescription, but his account was based on a translation of the original description.

KASAHARA (1988) regarded the species as a member of *Pterostichus* (*Nialoe*) *ohdaisanus* NAKANE known from Central Japan, though he did not make a critical re-examination of STRANEO's type. Since then, his view has been widely accepted by Japanese specialists of carabid beetles. The species assigned by KASAHARA to *P. cordatissimus* was very recently described under the name *P.* (*N.*) *naokii* MORITA (2003, p. 5).

In order to clarify its true systematic position, I studied the holotype of this species. I am therefore going to redescribe it, though it has become evident that there still remain several problems concerning its true systematic position as well as its exact location of the habitat.

The following abbreviations are used herein: HW–greatest width of head; GL–length of gena, measured along the mid-line; eL–length of eye, measured along the mid-line; PW–greatest width of pronotum; PL–length of pronotum, measured along the mid-line; PA–width of pronotal apex; PB–width of pronotal base; EL–greatest length of elytra; EW–greatest width of elytra; EB–width of elytral base; FL–length of metafemur; ML–length of metatrochanter; TL–length of hind tarsus; MSNM – Museo Civico di Storia Naturale Milano.

Before going further, 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 and for giving me information of the type locality of *P. cordatissimus*.

Thanks are also due to Dr. Fabrizio RIGATO and Dr. Maurizio PAVESI for loan of

the type material of *Pterostichus cordatissimus* (STRANEO) under their care. Similar prompt aid was given by Dr. Luca TOLEDANO.

Pterostichus cordatissimus (STRANEO)

[Japanese name : Tsuyakeshi-naga-gomimushi]

(Figs. 1–2)

Feronia (*Pterostichus*) *cordatissima* STRANEO, 1937, Annli. Mus. civ. Stor. nat. Genova, **59**: 447.
Pterostichus cordatissimus: JEDLIČKA, 1962. Ent. Abh. Mus. Tierk. Dresden, **26**: 286, fig. 80. —— NAKANE, 1983. Nat. & Ins., Tokyo, **18** (8): 11.

Diagnosis. Rather small species (12.6 mm); elytra opaque; antennal segment II with two setae on each side; antennae slender and reaching basal third of elytra; pronotum strongly constricted towards base; base of pronotum emarginate throughout; basal halves of elytra rather narrow; basal part of elytral intervals without wrinkles; elytral interval III with five setiferous dorsal pores; elytral microsculpture consisting of isodiametric and granular meshes; anal sternite widely arcuate and slightly produced at middle.

Redescription based on the holotype. Length: 12.6 mm (measured from apical margin of clypeus to apices of elytra).

Body black; dorsal surface shiny, but the elytra are opaque; ventral side dark brown, but the gula and the ventral sides of genae are black; mandibles, labrum, antennae, apical half of clypeus and mouth parts dark brown, but the palpi are brown.

Head moderately convex; frontal furrows linear, shallow, slightly divergent posteriad and reaching a level a little before the anterior supraorbital pores on each side; eyes moderately convex; lateral grooves straight, becoming wider towards apices, reaching the level of posterior supraorbital pore, and slightly curved outwards at the posterior ends on each side; posterior supraorbital pore situated at the post-eye level; genae short, weakly convex and obliquely arcuate in dorsal view; microsculpture consisting of isodiametric meshes; surface microscopically and sparsely punctate; apex of labrum straight; clypeal suture shallow; mentum tooth wide, bifid, and rounded at each tip; mandibles long and strongly hooked at apices; antennae slender and reaching basal third of elytra; antennal segment II with two setae on dorsal and ventral sides; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI ≒ 1 : 0.61 : 1.05 : 0.92 : 0.94 : 0.98 : 0.94 on the right, ≒ 1 : 0.63 : 1.08 : 0.95 : 0.97 : 0.98 : 0.92 on the left.

Pronotum cordate, moderately convex, and with narrow base; disc moderately convex; sides strongly arcuate in front, strongly sinuate and weakly crenulate, and then slightly divergent towards hind angles; reflexed lateral borders narrow; apex moderately emarginate; apical angles moderately produced and obtuse at the tips; hind angles rectangular and smooth at the sides; base strongly emarginate throughout; basal foveae narrow, shallow and linear at the bottom; outer spaces of basal foveae coarsely and sparsely punctate; inner spaces of basal foveae and basal part with short and longitudi-

Fig. 1. Holotype of *Pterostichus cordatissimus* (STRANEO) and labels attached to the holotype.

nal wrinkles; anterior marginal seta situated a little before the widest part; microsculpture consisting of isodiametric meshes on the disc and of wide ones on the basal part; anterior transverse impression very shallow; median line clearly impressed, rather deep, reaching neither apex nor base, and with transverse wrinkles.

Elytra elongate with rather narrow basal part; shoulders oblique and widely arcuate; sides weakly arcuate towards the widest parts, and then moderately so at the apical parts; preapical emargination very wide and shallow; apex of each elytron subangulate and conjointly rounded; scutellar striole short, deep, weakly arcuate, free at the apical end, situated on interval I, and joining basal border on each side; basal pore situated at the meeting point of striae I and II; basal border very weakly arcuate on the left, obliquely straight on the right; striae clearly impressed and not punctate; striae 1–4 reaching basal border; striae 5–7 not reaching basal border; intervals moderately convex; marginal series consisting of 16 pores on the left and of 17 on the right; setiferous dorsal pores on interval III composed of five pores; on the left elytron, the first pore on stria 3, the second and third on stria 2, and the fourth and fifth joining stria 2 , and situated at basal 1/5, 2/5, a little behind the middle, 4/5 and 9/10, respectively; on the right elytron, the second and third on stria 2, the fourth and fifth joining stria 2, and situated

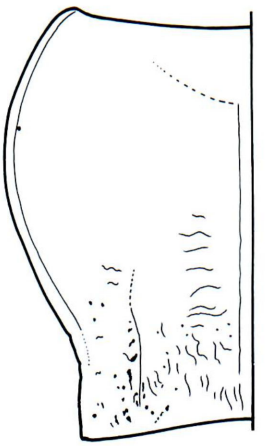

Fig. 2. Left side of pronotum in the holotype of *Pterostichus cordatissimus* (STRANEO).

at basal 2/5, 3/5, 4/5 and 9/10, respectively, but the presence or absence of the first pore is unclear; microsculpture consisting of isodiametric and weakly granular meshes.

Ventral surface smooth. Anal sternite widely arcuate, slightly produced at middle, narrowly bordered throughout, and with two pair of setae; narrow space along the margin between a pair of outer setae depressed, and with short and oblique wrinkles.

The holotype has the following standard ratios of body parts: PW/HW 1.31, GL/eL 0.44, PW/PL 1.30, PW/PA 1.37, PW/PB 1.48, PA/PB 1.08, EW/PW 1.25, EL/EW 1.55, EB/EW 0.60, ML/FL 0.47, and TL/HW 1.14.

Specimen examined. 1 ♀ (MSNM), "Japan / Kurenji" // "N. 13" // "Typus" // "Museo Civico di / Storia Naturale / MILANO" // "cordatissima STRANEO".

Notes. The anal projection in the male and the male genitalia serve as important characteristics in the pterostichine taxonomy. Unfortunately, the holotype of this species is a female and this makes its classification extremely difficult, and to make matters worse, STRANEO did not show the locality "Kurenji" in the original description, though the label "Japan / Kurenji" is attached to the holotype. Besides, I am unable to specify the exact location of Kurenji. There is only one place called Kurenji in Japan, which is situated in Sasagawa-chô of Matsuzaka-shi, Mie Prefecture, Central Japan, but that place is a temple and is always called Kyuren-ji by local people. It is possible that male specimens agreeing the holotype could be found in above place. However, it is more probable that this species belongs to a lineage different from the known Japanese species, so that the study should be enlarged to cover all pterostichine species from East Asia. In the future, the diagnostic characters of this species can be determined only by association with males collected at its exact type locality.

In order to facilitate the understanding of this species, the following comparative studies of my own are shown below.

1. The result of the comparison between the holotype and the female of *P.*

(*Nialoe*) *rhanis* TSCHITSCHÉRINE from Mt. Akagi-san of Gunma Prefecture.

The holotype of *P. cordatissimus* (STRANEO) is distinguished from the latter by the following points: 1) body much smaller and narrower, 2) lateral grooves on the head straight, 3) antennal segment II with two setae on each side, 4) sides of pronotum more strongly constricted towards the base, 5) elytral shape and microsculpture decisively different.

2. The result of the comparison between the holotype and a female paratype of *P.* (*N.*) *uchiyamai* MORITA from Mt. Kisokoma-ga-take of Nagano Prefecture.

The holotype of *P. cordatissimus* (STRANEO) is distinguished from the latter by the following points: 1) body slightly smaller, 2) genae more convex, 3) antennae slenderer, 4) antennal segment II with two setae on each side, 5) basal foveae of pronotum deeper, 6) base of pronotum more strongly emarginate, 7) elytral shoulders more oblique, 8) elytral microsculpture composed of isodiametric meshes, and 9) elytral apices conjointly rounded.

3. The result of the comparison between the holotype and the female of *P.* (*N.*) *ohdaisanus* NAKANE from Mt. Inamura-ga-take of Nara Prefecture.

The holotype of *P. cordatissimus* (STRANEO) is distinguished from the latter by the following points: 1) body form decisively different, 2) antennae slenderer, and 3) basal foveae of pronotum sparsely punctate. The microsculpture on dorsal surface in these two species is almost identical.

4. The results of the comparison between the holotype and the female of *P. kyushuensis* HABU from Mt. Hiko-san of Fukuoka Prefecture and the female of *P.* (*Paralianoe*) *daisenicus* ISHIDA from Mt. Daisen of Tottori Prefecture.

The body form of these species are decisively different.

要　　約

森田誠司：ツヤケシナガゴミムシ（新称）について．――ツヤケシナガゴミムシ *Pterostichus cordatissimus* (STRANEO) は，1頭の雌の標本を基に記載されたナガゴミムシである．原記載以降，本種の再記載は，おもに原記載からの引用または翻訳を基に公表されたものである．

原記載の中で“Fukui?”と記載されたために，そのまま和名が与えられ，福井県付近に産する *rhanis* 種群の種を本種とみなしてきた．筆者は正基準標本を調査し，わが国に産するすべての種の雌の標本と直接比較研究したが，一致することはなかった．したがって，本種の雄は未知であるばかりか，その分類学的位置も明らかにできなかった．そのため，和名をツヤケシナガゴミムシと改称した．また，基産地のKurenjiに関しても，三重県松坂市にそのような名称の寺が存在するが，地元では「きゅうれんじ」と呼ばれ真の基産地であることを，証明できなかった．

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Elytra, *Tokyo*, **32** (2): 292, November 20, 2004

Record of *Rostricephalus vitalisi* (Coleoptera, Elateridae) from Laos

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Through the courtesy of Dr. T. NIISATO, I was able to examine a relatively large and strange elaterid beetle collected from Laos. After a careful examination, it has become apparent that it is identical with *Rostricephalus vitalisi* FLEUTIAUX originally described from Tonkin. I will record it as a new distribution to the Laotian fauna in the following lines.

I wish to thank Dr. Tatsuya NIISATO for his kindness in supplying with valuable material.

Rostricephalus vitalisi FLEUTIAUX, 1918

Rostricephalus vitalisi FLEUTIAUX, 1918, Annls. Soc. ent. Fr., **187**: 253 (Tonkin: Chapa). —— SCHENKLING, 1927, Coleopt. Cat., pars 88 (Elateridae II): 425. —— FLEUTIAUX, 1936, Annls. Soc. ent. Fr., **105**: 285–286 (Tonkin: Chapa) [redescription]. —— SUZUKI, 1999, Misc. Rept. Hiwa Mus. nat. Hist., (38): 82 (Taiwan: Mt. He-wang Shan); 2003, Coleopterist's News, Tokyo, (143): 13–15, figs. 1–6 [redescription].

Rostrocephalus [sic] *Vitalisi* FLEUTIAUX, 1924, Opusc. Inst. scient. Indoch., (2): 141 (Tonkin: Chapa). —— SCHENKLING, 1927, Coleopt. Cat., pars 88 (Elateridae II): 425.

Specimen examined. 1♀, Phu Pan, 1,600–1,700 m, Ban Saleui, Houaphan Prov., Laos, 5–V–2002, local collector.

Distribution. Vietnam, Laos (new record), Taiwan.

Elytra, *Tokyo*, **32** (2): 293–298, November 20, 2004

A New Apterous *Lathrobium* (Coleoptera, Staphylinidae) from the Island of Dôgo of the Oki Islands off Western Honshu, Japan

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Abstract A new apterous species of the staphylinid genus *Lathrobium* is described under the name of *L.* (s. str.) *okiense*. It was extracted by a Tullgren funnel from leaf-litter accumulated in broadleaved forests, mainly consisting of evergreen trees, on the Island of Dôgo of the Oki Islands, West Japan.

The group of *Lathrobium* (s. str.) *monticola* is distinguishable from the other apterous members of the genus *Lathrobium* of Japan by the small body without positive sexual characters of abdominal sternites in the male. The second author obtained a number of specimens of an apterous *Lathrobium* from several localities on the Island of Dôgo of the Oki Islands off western Honshu, Japan. These specimens are recognized as a single species which seems to be a member of the group of *L. monticola* in having small body and similar configuration of the 8th abdominal sternite in the male. After a careful examination, it has become clear that it is new to science on account of disagreement in the configuration of the male genital organ with those of the previously known species. Therefore, we are going to describe the new species in the present paper. The type specimens are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture, except for a pair of paratypes in the collection of the Oki Natural History Museum.

Before going further, we would like to express our hearty thanks to Dr. Shun-Ichi UÉNO, Visiting Professor at Tokyo University of Agriculture, for his kindness in giving us valuable advice on the present study. Deep gratitude is also due to Mr. Koji ARAI, Ranzan-machi, Saitama, for his assistance in drawing the figures (Figs. 1 & 2) inserted in this paper, and Mr. Koji YAWATA, Saigô-chô, Dôgo Is., for his kind help in field works by the second author.

Lathrobium (s. str.) ***okiense*** Y. WATANABE et SHIMADA, sp. nov.

[Japanese name: Oki-kuro-chibikobane-nagahanekakushi]

(Figs. 1–8)

Body length: 5.9–6.5 mm (from front margin of head to anal end); 2.7–2.9 mm (from front margin of head to elytral apices).

Body elongate, almost parallel-sided and depressed above. Colour brownish black and shining, with mandibles and antennae reddish brown, though the latter is somewhat paler in apical four or five segments, palpi and legs brownish yellow, abdomen reddish brown except for two apical segments which are brownish yellow, and elytra

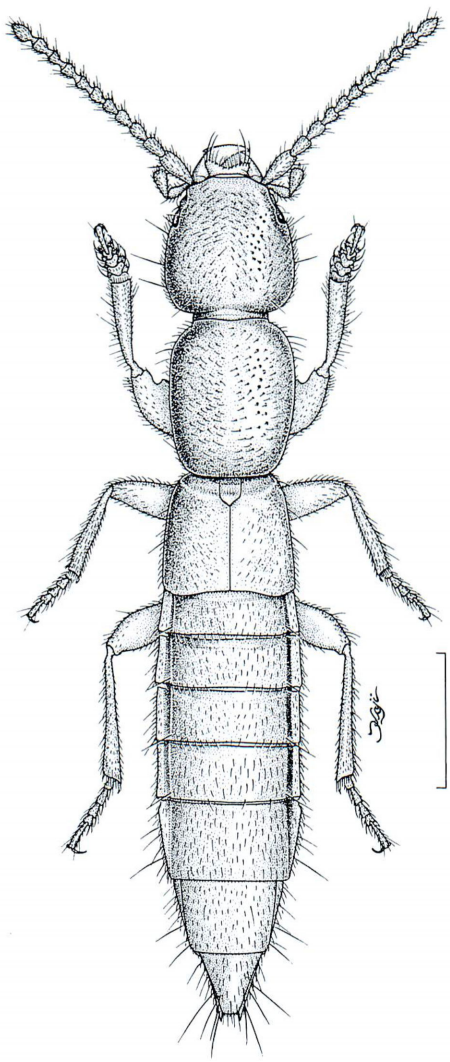


Fig. 1. *Lathrobium* (s. str.) *okiense* sp. nov., holotype, from Washi-ga-mine of the Island of Dôgo of the Oki Islands, Japan. Scale: 1.0 mm.

sometimes reddish brown in sutural and apical parts.

Male. Head subtrapezoidal, distinctly narrowed anteriad and somewhat convex, slightly transverse (width/length=1.06); lateral side gently arcuate, frontal area flattened and glabrous along frontal margin, provided with a large setiferous puncture inside each antennal tubercle; surface sparingly, coarsely and setiferously punctured, the punctures becoming closer and less coarse in temporal areas, and covered with fine coriaceous ground sculpture all over; eyes minute and flat, each longitudinal diameter about one-fifth as long as postocular part. Antennae elongate, extending a little beyond the middle of pronotum, not thickened towards the apical segment, 6th to 10th segments more or less moniliform, two proximal segments polished, 3rd subopaque and the remainings opaque; 1st robust and strongly dilated apicad, more than twice as long as broad, 2nd constricted at the base, 1.5 times as long as broad, a half as long as and distinctly narrower (2nd/1st=0.73) than 1st, 3rd equal to 2nd in both length and width, 4th to 10th almost equal to one another in both length and width, each a little longer than broad (length/width=1.18) though somewhat shorter (each of 4th to 10th/3rd=0.75) and slightly narrower (each of 4th to 10th/3rd=0.95) than 3rd, 11th fusiform, nearly twice as long as broad and distinctly longer (11th/10th=1.56) than though as broad as 10th, subacuminate at the tip.

Pronotum oblong though slightly narrowed posteriad, more convex than head, clearly longer than broad (length/width=1.22), distinctly longer (pronotum/head=1.22) though as broad as or slightly narrower (pronotum/head=0.95) than head; lateral sides almost straight except near anterior and posterior angles, anterior margin truncate or slightly emarginate at the middle, posterior margin almost straight, anterior angles obtuse and not visible from dorsal side, posterior ones narrowly rounded; surface more finely and more numerously punctured than in vertexal area of head except for a narrow smooth median space through the length of pronotum. Scutellum subtriangular and provided with a few small setiferous punctures on the surface. Elytra subtrapezoidal and dilated posteriad, somewhat transverse (width/length=1.19), distinctly

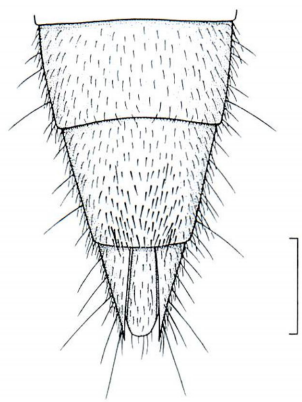


Fig. 2. Last three abdominal sternites in male of *Lathrobium* (s. str.) *okiense* sp. nov. Scale: 0.5 mm.

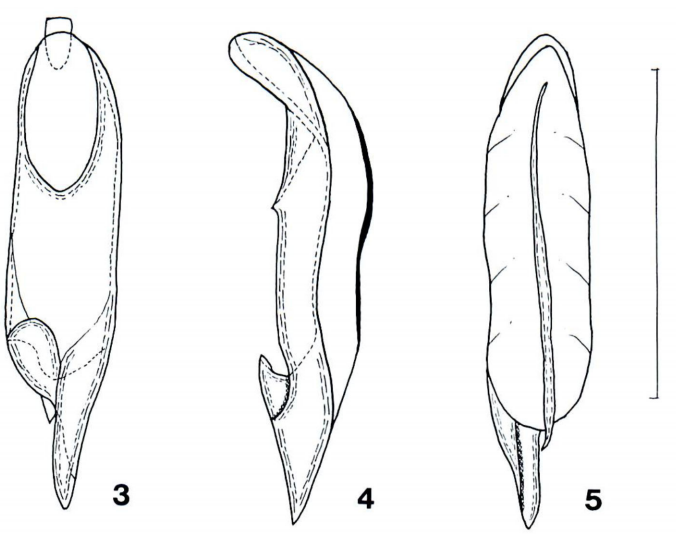
shorter (elytra/pronotum=0.73) though slightly broader (elytra/pronotum=1.06) than pronotum; lateral sides weakly arcuate, posterior margin broadly emarginate at the middle, posterior angles rounded; surface closely, superficially punctured and covered with fine brownish pubescence. Legs moderately long; profemora, protibiae and protarsi similar in structure to those of the members of the group of *L. monticola*.

Abdomen elongate, almost parallel-sided from 3rd to 7th segments, and then abruptly narrowed towards the anal end; each tergite sparingly, minutely and superficially punctured, and covered with fine brownish pubescence similar to those on elytra; 8th sternite almost straight at the middle of posterior margin, surface slightly flattened at the median area in posterior half, the flattened area sparingly provided with short blackish setae; 7th sternite slightly, broadly emarginate at the middle, surface similar to that of 6th sternite.

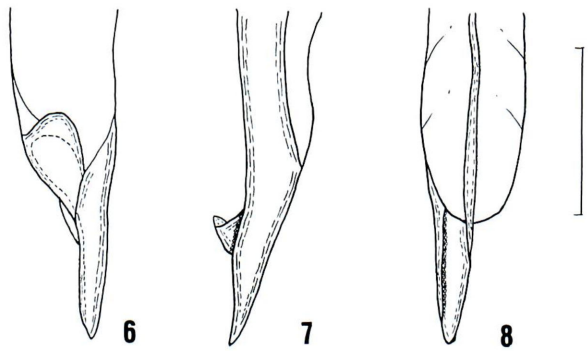
Genital organ elongate and sclerotized except for the ventral side of median lobe. Median lobe nearly parallel-sided and broadly rounded at the apical margin, provided with a remarkable elongate sclerite on the ventral side along the median line. Fused paramere asymmetrical, considerably longer than median lobe, and abruptly narrowed in apical fourth as seen from dorsal side, strongly hollowed at apical fifth in profile.

Female. Similar in facies to male, but different from it in the 8th abdominal sternite narrowed towards the rounded apex.

Type series. Holotype: ♂, allotype: ♀, Washi-ga-mine, Fuse-mura, Dôgo Is., Oki Isls., Shimane Pref., Japan, 7–XI–2003, T. SHIMADA leg. Paratypes: 1♂, 1♀, same data as for the holotype, 10♂♂, 3♀♀, same locality and collector as for the holotype, 25–III–2004; 1♂, Higashi-dani, Saigô-chô, Dôgo Is., Oki Isls., Shimane Pref., Japan,



Figs. 3–5. Male genital organ of *Lathrobium* (s. str.) *okiense* sp. nov.; dorsal view (3), lateral view (4), and ventral view (5). Scale: 0.5 mm.



Figs. 6–8. Apical part of the male genital organ of *Lathrobium* (s. str.) *okiense* sp. nov., from near Kanbi-Tunnel of Saigô-chô of the Island of Dôgo of the Oki Islands; dorsal view (6), lateral view (7), and ventral view (8). Scale: 0.25 mm.

7–XI–2003, T. SHIMADA leg.

Further specimens examined. 2♂♂, 5♀♀, Tsudo, Tsuma-mura, Dôgo Is., Oki Isls., Shimane Pref., Japan, 11–II–2004, T. SHIMADA leg.; 1♂, 1♀, near Kanbi-Tunnel, Saigô-chô, Dôgo Is., Oki Isls., Shimane Pref., Japan, 2–IX–2003, T. SHIMADA leg.; 4♀♀, Kanbi, Saigô-chô, Dôgo Is., Oki Isls., Shimane Pref., Japan, 11–II–2004, T. SHIMADA leg.

The specimens obtained at Tsudo and Kanbi in Fuse-mura are somewhat different from the type specimens in slightly larger body (6.2–6.8 mm) and narrower apical part of fused paramere of the male genital organ, but the difference can be regarded as infraspecific variation.

Distribution. Japan (Dôgo Is. of the Oki Islands).

Bionomics. The type specimens obtained on Washi-ga-mine were extracted by a Tullgren funnel from leaf-litter accumulated in a broadleaved forest, consisting of *Quercus crispula*, *Rhododendron degronianum* var. *okiense* and *Thuja standishii*, at an altitude of about 550 m. One paratype was also extracted by a Tullgren funnel from leaf-litter accumulated in a broadleaved forest of Higashi-dani in Saigô-chô at an altitude of about 280 m.

Remarks. The present new species is similar in body size and facies to *L. monticola* SHARP (1889, p. 255), but is distinguishable from it by the following points: head more strongly narrowed anteriad, surface more closely punctured and covered with much coarser ground sculpture; pronotum more convex, more closely and more coarsely punctured; elytra more coarsely punctured; abdomen much more sparingly and more superficially punctured, and the male genital organ remarkably different in configuration. Similar also to *L. masaoi* Y. WATANABE (1999, p. 109) from Mt. Wasamata-yama of Nara Prefecture, in the 8th abdominal sternite in male, but different from it in the configuration of the male genital organ.

Etymology. The specific epithet of this new species is derived from the "Oki Is-

lands", in which lies the type locality (Dôgo Is.)

要　　約

渡辺泰明・島田　孝：隠岐諸島の島後から採集された*Lathrobium monticola*種群の1新種．—— *L. monticola*種群は，雄の腹部第8腹板に顕著な第二次性徴が認められないことで，他の後翅の退化したナガハネカクシ種群から容易に区別される．筆者の一人，島田が隠岐諸島の島後で採集したこの種群の1種を検討した結果，未記載種と判定したので下記のとおり命名・記載した．記載に用いた基準標本は，すべて島後の標高550 m地点の，主として照葉樹で形成されている広葉樹林内に堆積した落葉ないし腐植をツルグレンファンネルを用いて抽出したものである．

Lathrobium (s. str.) *okiense* Y. WATANABE et SHIMADA オキクロチビコバネナガハネカクシ

本種は体長，色彩および外部形態が*L. monticola*に類似しているが，頭部および前胸背板はより密に，翅鞘はより粗く，腹部の各背板は，はるかに疎で浅く点刻されること，また雄交尾器の形状が著しく異なっていることで容易に区別される．

なお，西郷町神尾（標高30~50 m）と都万村津戸（標高25 m）から得られた個体は，基準標本より体がわずかに大きく(6.2~6.8 mm)，雄交尾器側葉末端域がより細長いが，これらは同一種内の変異と判断された．

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Elytra, *Tokyo*, **32** (2): 299–313, November 20, 2004

The Myrmecophilous Species of the *Quedius hirticornis* SHARP, 1889 Complex (Coleoptera, Staphylinidae, Staphylinini, Quediina)

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Abstract The myrmecophilous species of the *Quedius hirticornis* complex are treated. The Japanese species, *Quedius hirticornis* SHARP, 1889 and *Q. aurorus* HERMAN, 2001, are redescribed, and their bionomical data are presented. A new species, *Quedius myrmex*, is described from two males taken in the Beijing district, People's Republic of China. All the species were found to be associated with ants of the subgenus *Dendrolasius* of the genus *Lasius*, and the following symbiotic hosts were clarified: *Quedius hirticornis* and *Q. aurorus* – *Lasius nipponensis*, *L. spathepus*, *L. capitatus*, *L. morisitai*; *Q. myrmex* – *Lasius nipponensis*. A key to the species of the *Quedius hirticornis* complex is given.

Introduction

SHARP (1889) described *Quedius hirticornis* from a single specimen collected from Mizusawa, Miyagi-ken, northern Honshu, Japan. MARUYAMA & TOYODA (2000) published additional records of this species and reported its myrmecophily in association with ants of the subgenus *Dendrolasius* RUZSKY, 1912, of the genus *Lasius* FABRICIUS, 1804 (Hymenoptera, Formicidae, Formicinae).

In the same paper SHARP also described *Q. laticollis* from a single specimen collected from Sapporo, Hokkaido, Japan, and stated that the species was closely allied to *Q. hirticornis*. The specific epithet "*laticollis*" was preoccupied by another *Quedius* species described by GRAVENHORST (1802), and HERMAN (2001 a) provided a new replacement name for it: *Q. aurorus*. No additional specimen of this species has been reported until now.

Only a few specimens of *Quedius hirticornis* have been collected after the original description, but many additional specimens have been taken from *Dendrolasius*

nests by several colleagues after the report on habitat by MARUYAMA & TOYODA (2000).

The senior author found that those specimens belonged to two species, which are externally very similar to each other and characterised by having numerous long setae on whole body. They were identified as *Q. hirticornis* and *Q. aurorus*, based on the examination of the type specimens.

In addition, we had an opportunity to study a *Quedius* species collected near a nest of *Dendrolasius* ant in the Beijing district, People's Republic of China, which was found to be a new species closely allied to *Q. hirticornis* and *Q. aurorus*.

In this paper, we redescribe *Q. hirticornis* and *Q. aurorus*, describe the new species from mainland China, and present data on their bionomics.

Materials and Methods

The specimens used in the present study were collected mostly under dead leaves accumulated around entrance to *Dendrolasius* ant nest. The following abbreviations are used for the names of ants from which the beetles were collected: *Lasius* (*Dendrolasius*) *nipponensis* FOREL, 1912 (LDN); *L.* (*D.*) *spathepus* WHEELER, 1910 (LDS); *L.* (*D.*) *capitatus* KUZNETSOV-UGAMSKY, 1927 (LDC); *L.* (*D.*) *morisitai* YAMAUCHI, 1979 (LDM).

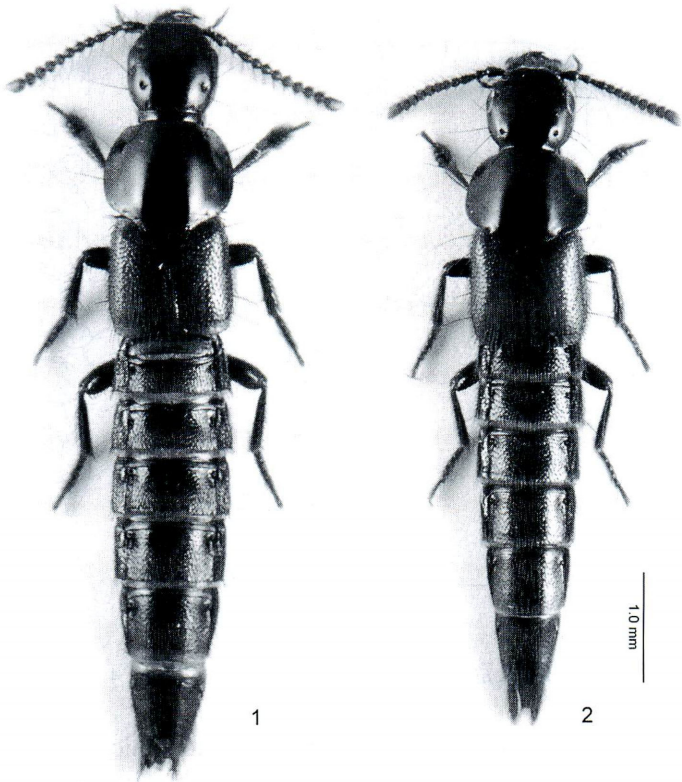
Quedius (*Microsaurus*) *hirticornis* SHARP, 1889

(Figs. 1, 3–11)

Quedius hirticornis SHARP, 1889, 31 (original description); HERMAN, 2001 b, 3167 (catalogue).

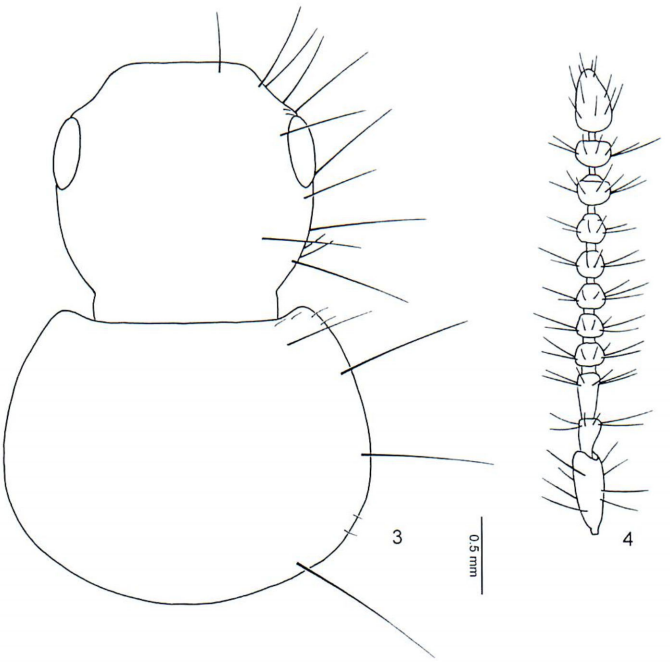
Quedius (*Microsaurus*) *hirticornis*: BERNHAUER & SCHUBERT, 1916, 424 (catalogue); SCHEERPELTZ, 1933, 1443 (catalogue); SHIBATA, 1984, 123 (catalogue); MARUYAMA & TOYODA, 2000, 65 (in part, host records).

Redescription. Large species bearing numerous long setae (Fig. 1). Head black with anterior margin of clypeus narrowly reddish brown; pronotum black with lateral portions narrowly paler; elytra pale brown with narrowly paler suture; abdomen slightly iridescent, blackish brown with paler apical margins of tergites; maxillary and labial palpi pale reddish brown; antennae reddish brown with basal three segments slightly darker; legs reddish brown with apices of tibiae and tarsi paler. Head (Fig. 3) rounded, slightly wider than long (ratio 1.06–1.21), slightly narrowed posteriad behind eyes, with posterior angles entirely obsolete; eyes small and convex, much shorter than tempora (ratio 0.65); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture shifted posteriad, situated slightly closer to posterior margin of head than to posteriomedial margin of eye, two punctures between it and posterior margin of head, situated close to posterior margin of head; one additional setiferous puncture at posteriomedial margin of eye, separated from it by distance slightly larger than diameter of puncture; temporal puncture shifted posteriad, situated distinctly closer to posterior margin of head than to posterior margin of eye; surface of



Figs. 1–2. Facies of *Quedius* spp. —— 1, *Quedius hirticornis*, male; 2, *Q. aurorus*, male.

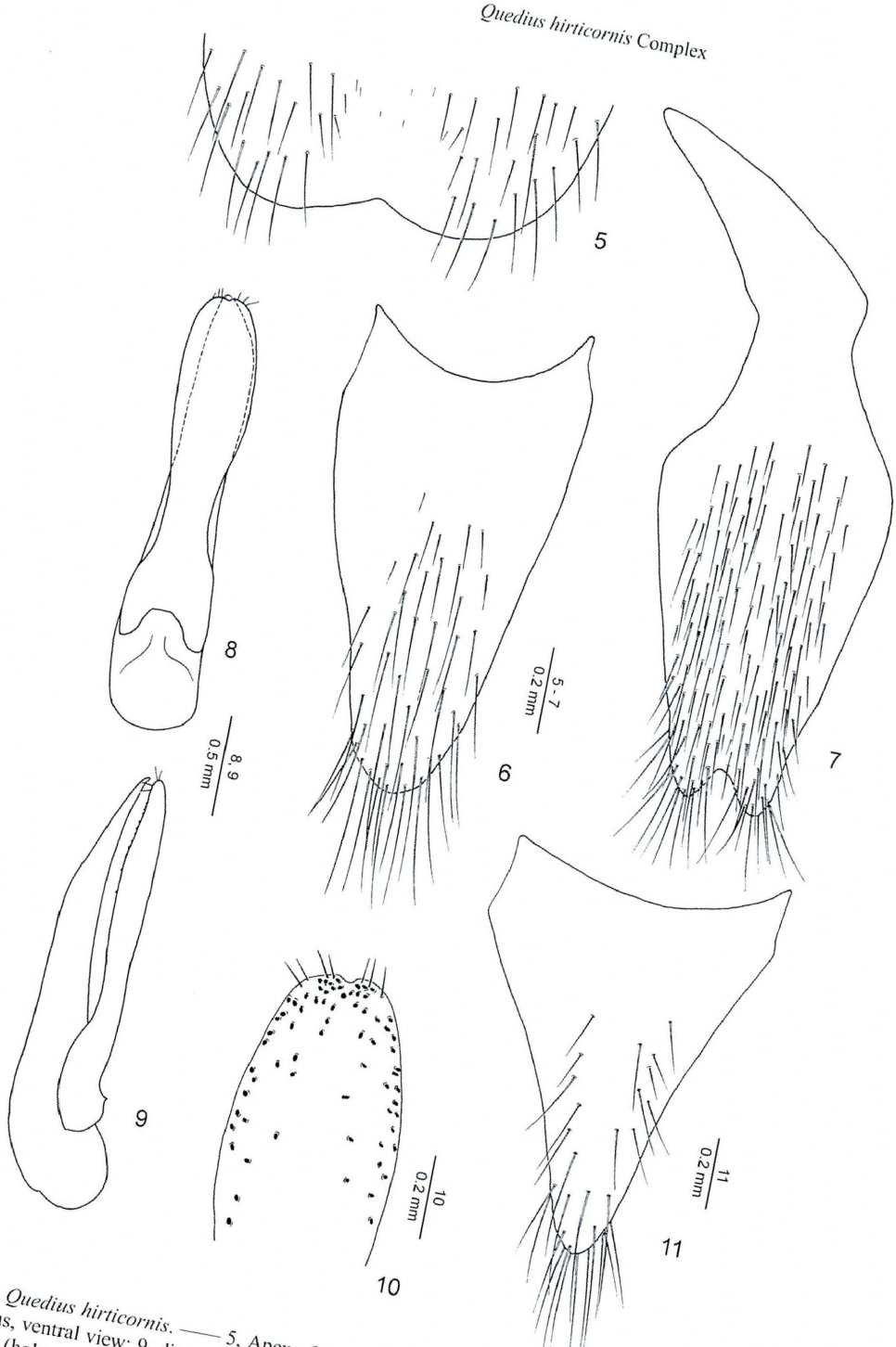
head with fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Right mandible with two large teeth at middle of which apical one oriented apicad, basal one oriented mediad and truncate apically; left mandible with two teeth, oriented apicad. Antennae (Fig. 4) short, scarcely widened toward apex, with segments 4–10 moniliform and each wider than long; surface bearing very long setae, which are 1.5–1.8 times as long as diameter of each segment, and some shorter setae. Pronotum (Fig. 3) wider than long (ratio 1.28–1.30), widest behind middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex with lateral portions explanate; dorsal rows of punctures entirely absent; sublateral rows each with only one puncture, situated before level of large lateral puncture; microsculpture similar to that on head but finer and denser. Scutellum impunctate, with very fine and dense microsculpture of transverse waves. Elytra rather short, markedly narrower than pronotum, scarcely widened posteriad, at suture slightly shorter, at sides somewhat longer than pronotum at midline (ratio 1.35–1.39); puncturation and setae moderately sparse;



Figs. 3–4. *Quedius hirticornis.* —— 3, Head and pronotum; 4, right antenna.

setae black; surface somewhat rugosely punctured, without microsculpture. Wings well developed, functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; puncturation finely rugose, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; setae black; surface between punctures with fine and dense microsculpture of transverse waves.

Male. First four segments of front tarsus moderately dilated, sub-bilobed, each densely covered with modified, long and pale setae ventrally; segment 2 as wide as apex of tibia; segment 4 slightly narrower than preceding segments. Sternite 8 (Fig. 5) with three long setae on each side, with shallow, subarcuate medioapical emargination; small triangular area before emargination flattened and smooth. Genital segment with tergite 10 (Fig. 6) elongate, narrowly triangular, arcuate apically, with numerous setae in mesal area to apical margin; sternite 9 (Fig. 7) with narrow and elongate basal portion, with apical portion deeply emarginate apically, densely covered with setae, those in mesal area characteristically arranged into two longitudinal groups jointed apically. Aedoeagus (Figs. 8–10) large; median lobe gently narrowed anteriad, subparallel-sided around apical half to third, with apex narrowly arcuate; paramere quite large, paddle-shaped, anteriorly much wider than median lobe, with medioapical margin slightly emarginate, with two setae on each side of emargination, one or two setae at each lateral margin below apex; underside of paramere with numerous sensory peg setae absent around midline; internal sac without larger sclerotized structures.



Figs. 5–11. *Quedius hirticornis*. —— 5, Apex of male tergite 8; 6, male tergite 10; 7, male sternite 9; 8, aedoeagus, ventral view; 9, ditto, lateral view; 10, apical portion of paramere, dorsal view; 11, female tergite 10 (holotype).

Female. First four segments of front tarsus similar to those of male, but less dilated; segment 2 narrower than apex of tibia. Genital segment with tergite 10 (Fig. 11) narrowly triangular, narrowly arcuate apically, asetose around midline.

Length 11.3–11.8 mm.

Type material. Holotype: ♀, "♀/Quedius hirticornis/Type D.S. (written on board which specimen is glued on)// Type (red round curator label)// Kannari/18.10. '80. (=18–X–1880)// G. Lewis. 1910–320".

Holotype in the Natural History Museum, London (NHM).

Other material. JAPAN: [HOKKAIDO]: 1♂, Taihei, Maruseppu-chô, 17–VI–2000, Y. KIDA leg. (LDN); 1♀, Ôsawa-guchi, Nopporo-shinrin-kôen, Ebetsu-shi, 13–VI–1999, M. MARUYAMA leg. (LDN); 1♂, Shibumbetsu, Nopporo-shinrin-kôen, Ebetsu-shi, 31–V–1999, M. MARUYAMA leg. (LDS); 2♀♀, 5 exs., Tomambetsu, Nopporo-shinrin-kôen, Ebetsu-shi, 4–V–2000, M. MARUYAMA leg. (LDS); [HONSHU]: 1♀, Aobayama, Sendai-shi, Miyagi-ken, 22–IX–2001, M. MARUYAMA leg. (LDC); 1♂, Yahiko-san, Yahiko-mura, Nishikambara-gun, Niigata-ken, 27–V–1990, M. NISHIKAWA leg. (LDN); 1♀, Sakura-yama, Onishi-machi, Tano-gun, Gumma-ken, 22–V–1999, K. ARAI leg. (LDN); 1♂, 1♀, Shio-yama, Ranzan-machi, Hiki-gun, Saitama-ken, 27–VIII–1997, K. ARAI leg. (LDS); 1♂, 1♀, Shiroishi-tôge, Higashichichibu-mura, Chichibu-gun, Saitama-ken, 9–V–1999, K. ARAI leg. (LDS); 3♂♂, 1♀, same data but, 23–V–1999; 1♀, ditto, 30–V–1999; 1♀, ditto, 20–VI–1999; 1♀, ditto, 26–IX–1999; 1♂, ditto, 19–VIII–2001; 1♀, Ôno-tôge, Yokoze-machi, Chichibu-gun, Saitama-ken, 8–VIII–2000, K. ARAI leg. (LDN); 1♂, Zushi-machi 771, Machida-shi, Tokyo, 5–VI–2003, Y. SHIBATA leg. (LDS); 1♀, same data but, 9–VI–2003; 1♂, Ogamigô, Shôkawa-mura, Ôno-gun, Gifu-ken, 6–VIII–1998, M. MARUYAMA leg. (LDN); 1♂, Kentô-san, Shôkawa-mura, Ôno-gun, Gifu-ken, 11–VIII–2003, K. KINOMURA leg. (LDN); 1♂, same data but, 27–VI–2004; 2♂♂, 1♀, Isshiki, Shôkawa-mura, Ôno-gun, Gifu-ken, 6–VIII–2003, K. KINOMURA leg. (LDS); 12 exs., same data but, 7–IX–2003; 2♂♂, same data but, 27–VI–2004; 3 exs., same data but, 7–IX–2003 (LDM); 1 ex., same data but, 22–V–2004 (LDC); 1♂, same data but, 27–VII–2004, M. MARUYAMA leg.; 1♀, Bijo-kôgen, Kuguno-chô, Ôno-gun, Gifu-ken, 5–VIII–2003, K. KINOMURA leg. (LDN); 2 exs., same data but, 23–IX–2003; 1♂, 1♀, Nakao, Kamitakara-mura, Yoshiki-gun, Gifu-ken, 4–VIII–2003, K. KINOMURA leg. (LDC); 1♂, 1♀, Morimo, Kamioka-chô, Yoshiki-gun, Gifu-ken, 27–VII–2003, K. KINOMURA leg. (LDN); 1♀, Imamura, Neo-mura, Motosu-gun, Gifu-ken, 31–VII–2003, K. KINOMURA leg. (LDS); 1 ex., same data but, 27–IX–2003; 1♀, Nukata-chô, Nukata-gun, Aichi-ken, 27–IX–2000, Y. HIRANO leg.

Geographical distribution. *Quedius hirticornis* is at present known only from Japan (Hokkaido, Honshu).

Symbiotic hosts. *Lasius* (*Dendrolasius*) *nipponensis*, *L.* (*D.*) *spathepus*, *L.* (*D.*) *capitatus*, *L.* (*D.*) *morisitai.* (New host records from *L.* (*D.*) *capitatus* and *L.* (*D.*) *morisitai.*)

Bionomics. Mr. K. KINOMURA (pers. comm.) observed four times an adult *Q.*

hirticornis (from Gifu-ken) to prey upon worker ant of *Lasius* (*Dendrolasius*) *nipponensis* in the laboratory; the beetle ate only abdomen of the ant.

On 4th May 2000, MARUYAMA excavated a nest of *L.* (*D.*) *spathepus*, which still hibernated under the snow, in Ebetsu-shi, Hokkaido. Seven individuals of *Q. hirticornis* were found in the deepest portion of the nest. Nests of *Dendrolasius* ants are most probably hibernacula of this species.

This species is sometimes collected together with *Q. aurorus* in the same ant nest.

Quedius* (*Microsaurus*) *aurorus HERMAN, 2001

(Figs. 2, 12–20)

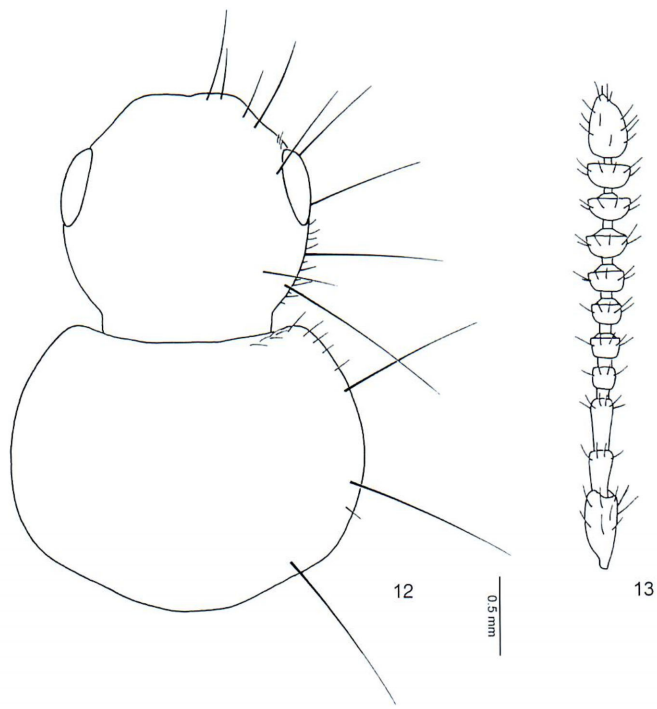
Quedius laticollis SHARP, 1889, 31 (original description, preoccupied by GRAVENHORST, 1802, 173); HERMAN, 2001 b, 3183 (catalogue).

Quedius (*Microsaurus*) *laticollis*: BERNHAUER & SCHUBERT, 1916, 424 (catalogue); SCHEERPELTZ, 1933, 1446 (catalogue); SHIBATA, 1984, 125 (catalogue).

"*Quedius hirticornis*": SHIBATA, 1985, 309, pl. 54, fig. 13 (misidentification); MARUYAMA & TOYODA, 2000, 65 (misidentification, in part, host records).

Quedius aurorus HERMAN, 2001 a, 49 (replacement name for *laticollis* SHARP); HERMAN, 2001 b, 3108 (catalogue).

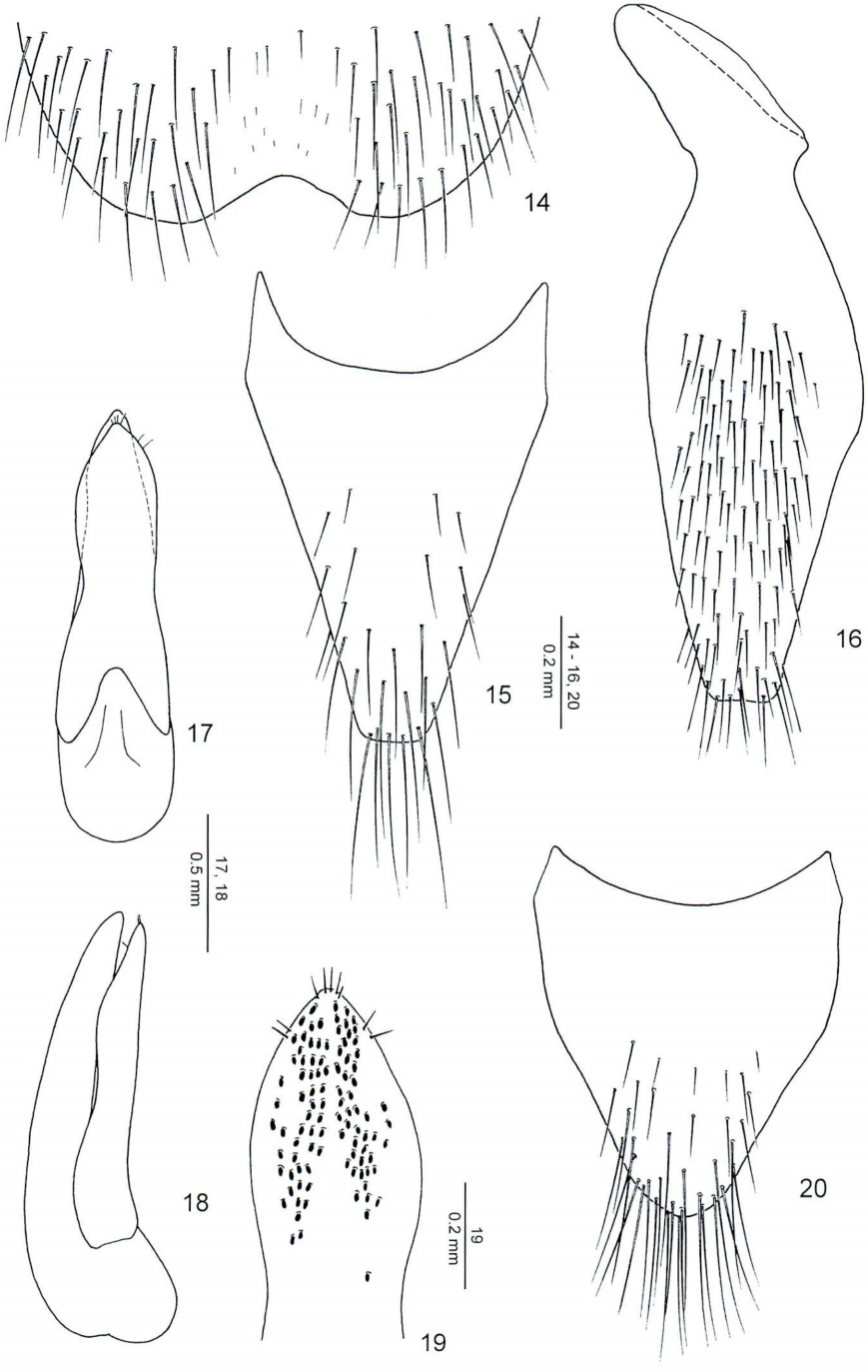
Redescription. Large species bearing numerous setae (Fig. 2). Head black with anterior margin of clypeus narrowly reddish brown; pronotum black with lateral portions narrowly paler; elytra pale brown with narrowly paler suture; abdomen slightly iridescent, blackish brown with paler apical margins of tergites; maxillary and labial palpi pale reddish brown; antennae reddish brown with basal three segments slightly darker; legs reddish brown with apices of tibiae and tarsi paler. Head (Fig. 12) rounded, slightly wider than long (ratio 1.16–1.19), markedly narrowed posteriad behind eyes, with posterior angles entirely obsolete; eyes moderate in size and convex, somewhat shorter than tempora (ratio 0.84); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture shifted posteriad, situated slightly closer to posterior margin of head than to posteriomedial margin of eye, two punctures between it and posterior margin of head, situated close to posterior margin of head; temporal puncture shifted posteriad, situated distinctly closer to posterior margin of head than to posterior margin of eye; surface of head with fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Right mandible with one tooth at middle, oriented mediad; left mandible with two small teeth, of which apical one is gently oriented mediad. Antennae (Fig. 13) short, gently widened toward apex, with segments 6–10 each wider than long; surface bearing long setae, which are slightly shorter than diameter of each segment, and some shorter setae. Pronotum (Fig. 12) wider than long (ratio 1.29–1.30), widest at about middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex with lateral portions explanate; dorsal and sublateral rows of punctures entirely absent; microsculpture similar to that on head but finer and denser. Scutellum impunctate, with very fine and dense



Figs. 12–13. *Quedius aurorus*. —— 12, Head and pronotum; 13, right antenna.

microsculpture of transverse waves. Elytra moderately long, markedly narrower than pronotum, scarcely widened posteriad, at suture slightly shorter, at sides somewhat longer than pronotum at midline (ratio 1.33–1.44); puncturation and setae moderately sparse; setae black; surface somewhat rugosely punctured, without microsculpture. Wings well developed, functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; puncturation finely rugose, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; setae black; surface between punctures with excessively fine and dense microsculpture of transverse waves.

Male. First four segments of front tarsus moderately dilated, sub-bilobed, each densely covered with modified, long and pale setae ventrally; segment 2 widest; segment 4 narrower than preceding segments. Sternite 8 (Fig. 14) with three long setae on each side, with shallow, subarcuate medioapical emargination; small triangular area before emargination flattened and smooth. Genital segment with tergite 10 (Fig. 15) subtriangular, slightly truncate apically, with numerous setae in mesal area to apical margin; sternite 9 (Fig. 16) with narrow and short basal portion, with apical portion narrowly truncate apically, densely covered with setae. Aedoeagus (Figs. 17–19) large; median lobe gently narrowed anteriad, with apex narrowly arcuate; paramere quite large, wide, anteriorly much wider than median lobe, from narrowest point dilated an-



Figs. 14–20. *Quedius aurorus*. —— 14, Apex of male tergite 8; 15, male tergite 10; 16, male sternite 9; 17, aedoeagus, ventral view; 18, ditto, lateral view; 19, apical portion of paramere, dorsal view; 20, female tergite 10. Figures of male body parts are based on holotype.

teriad in straight line and then abruptly narrowed into apical portion with pointed apex, with four setae at apex, two setae at each lateral margin below apex; underside of paramere with numerous sensory peg setae absent around midline and along lateral margins; internal sac without larger sclerotized structures.

Female. First four segments of front tarsus similar to those of male, but less dilated; segment 2 slightly narrower than apex of tibia. Genital segment with tergite 10 (Fig. 20) subtriangular, narrowly arcuate apically, with numerous setae at apex.

Type material. Holotype: ♂, "Quedius laticollis / Type D.S. (written on board which specimen is glued on) // Type (red round curator label) // Sapporo. / 5.VIII.–16.VIII.80 // G. Lewis. 1910–320".

Holotype in NHM.

Other material. JAPAN: [HONSHU]: 1♂, Aobayama, Sendai-shi, Miyagi-ken, 22–IX–2001, M. MARUYAMA leg. (LDC); 1♀, Shimokomoriya, Môka-shi, Tochigi-ken, 2–V–2004, M. MARUYAMA leg. (LDN); 1♂, Hashidate, Chichibu-shi, Saitama-ken, 30–VII–2000, K. ARAI leg. (LDN); 1♂, Nakano, Shôwa-machi, Kitakatsushika-gun, Saitama-ken, 14–IV–2003, H. KAMEZAWA leg. (LDN); 1♂, same data but, 4–V–2003; 1♂, Daiyû-zan, Kanagawa-ken, 15–V–1983, M. NISHIKAWA leg. (used in the colour plate of SHIBATA, 1985); 1♀, Isshiki, Shôkawa-mura, Ôno-gun, Gifu-ken, 12–VII–2003, K. KINOMURA leg. (LDM); 1♂, Kentô-san, Shôkawa-mura, Ôno-gun, Gifu-ken, 10–VIII–2003, K. KINOMURA (LDN); 1 ex., same data but, 27–IX–2003; 1 ♂, same data but, 27–VI–2004, M. MARUYAMA leg. (LDN); 1 ex., Sandani, Shôkawa-mura, Ôno-gun, Gifu-ken, 13–VI–2004, K. KINOMURA leg. (LDS); [KYUSHU]: 1♀, Sobo-san, Ôita-ken, 4–VIII–1954, K. OHBA leg.

Length 10.1–10.4 mm.

Geographical distribution. *Quedius aurorus* is at present known only from Japan (Hokkaido, Honshu, Kyushu).

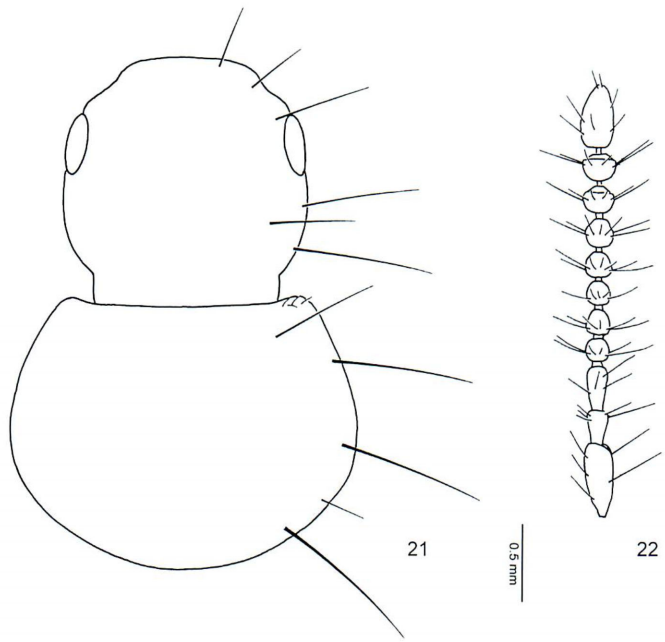
Symbiotic hosts. *Lasius* (*Dendrolasius*) *nipponensis*, *L.* (*D.*) *spathepus*, *L.* (*D.*) *capitatus*, *L.* (*D.*) *morisitai*.

Bionomics. Dr. K. MURASE (pers. comm.) observed in the laboratory an adult *Q. aurorus* (from Tochigi-ken) to prey upon other myrmecophilous staphylinids associated with *Dendrolasius* ants, namely *Homoeusa* spp. and *Pella* spp. The beetle also consumed a freshly killed host ant, but it never attacked living ants.

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

(Figs. 21–28)

Description. Moderately large species, bearing numerous long setae. Head black; pronotum black with lateral portions gradually, inconspicuously paler; elytra reddish-brown with slightly darker suture; abdomen piceous black with inconspicuously paler apical margins of tergites, slightly iridescent; maxillary and labial palpi reddish brown; antennae reddish brown with first segment indistinctly darker; legs dark brown to brownish piceous, with apices of tibiae and tarsi slightly paler. Head (Fig. 21)



Figs. 21–22. *Quedius myrmex*. —— 3, Head and pronotum (most setae are missing in the type series, and only major setae are indicated); 4, right antenna.

rounded quadrangular in shape, slightly wider than long (ratio 1.17), almost parallel-sided behind eyes, with posterior angles entirely obsolete; eyes small, moderately convex, considerably shorter than tempora (ratio 0.58); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture shifted posteriad, situated about midway between posteriomedial margin of eye and posterior margin of head, two punctures between it and posterior margin of head, situated close to posterior margin of head (see *Comments*); one additional setiferous puncture at posterio-medial margin of eye, separated from it by distance slightly larger than diameter of puncture; temporal puncture shifted posteriad, situated distinctly closer to posterior margin of head than to posterior margin of eye; surface of head with very fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Mandibles with teeth developed in a similar way as described for *Q. hirticornis*. Antennae (Fig. 22) relatively short, only slightly widened toward apex, segment 3 scarcely longer than segment 2, segments 4–6 moniliform, segments 7–10 gradually becoming more distinctly wider than long, markedly transverse, last segment acuminate, about as long as two preceding segments combined; setation of antennal segments similar to that described for *Q. hirticornis*. Pronotum (Fig. 21) distinctly wider than long (ratio 1.27), widest behind middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions explanate; dorsal rows of punctures entirely missing;

sublateral rows each with only one puncture, situated before level of large lateral puncture; microsculpture similar to that on head but even finer and denser. Scutellum impunctate, with extremely fine, dense microsculpture of transwerse striae. Elytra relatively short, at base markedly narrower than pronotum at widest point, scarcely widened posteriad, at suture slightly shorter (0.89), at sides slightly longer (ratio 1.10) than pronotum at midline; punctation and pubescence moderately dense, transverse interspaces between punctures about three times as large as diameters of punctures; pubescence piceous; surface between punctures without microsculpture, but with microscopical rugae on basal third of each elytron. Wings well developed, functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites finer and denser than that on elytra, becoming slightly 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 moderately dilated, sub-bilobed, each densely covered with modified, long pale setae ventrally; segment 2 about as wide as apex of tibia; segment 4 slightly narrower than preceding segments. Sternite 8 (Fig. 23) with two long setae on each side; with shallow, subarcuate medioapical emargination, small triangular area before emargination flattened and smooth. Genital segment with tergite 10 (Fig. 24) similar to that of *Q. hirticornis*, but somewhat shorter and wider; sternite 9 (Fig. 25) shorter and wider, less deeply emarginate apically and with setae evenly dispersed. Aedoeagus (Figs. 26, 27) relatively small and short; median lobe with apical portion wide, subparallel-sided, narrowed into narrowly arcuate apex. Paramere (Fig. 28) large, wide, with deep and narrow medioapical emargination, entirely covering apical portion of median lobe, with apex not quite reaching apex of median lobe; two setae at each side of emargination, two similar setae at each lateral margin below apex; underside of paramere with sensory setae not numerous, situated as in Fig. 28; internal sac without larger sclerotized structures.

Female. Not known.

Length 8.0–8.2 mm.

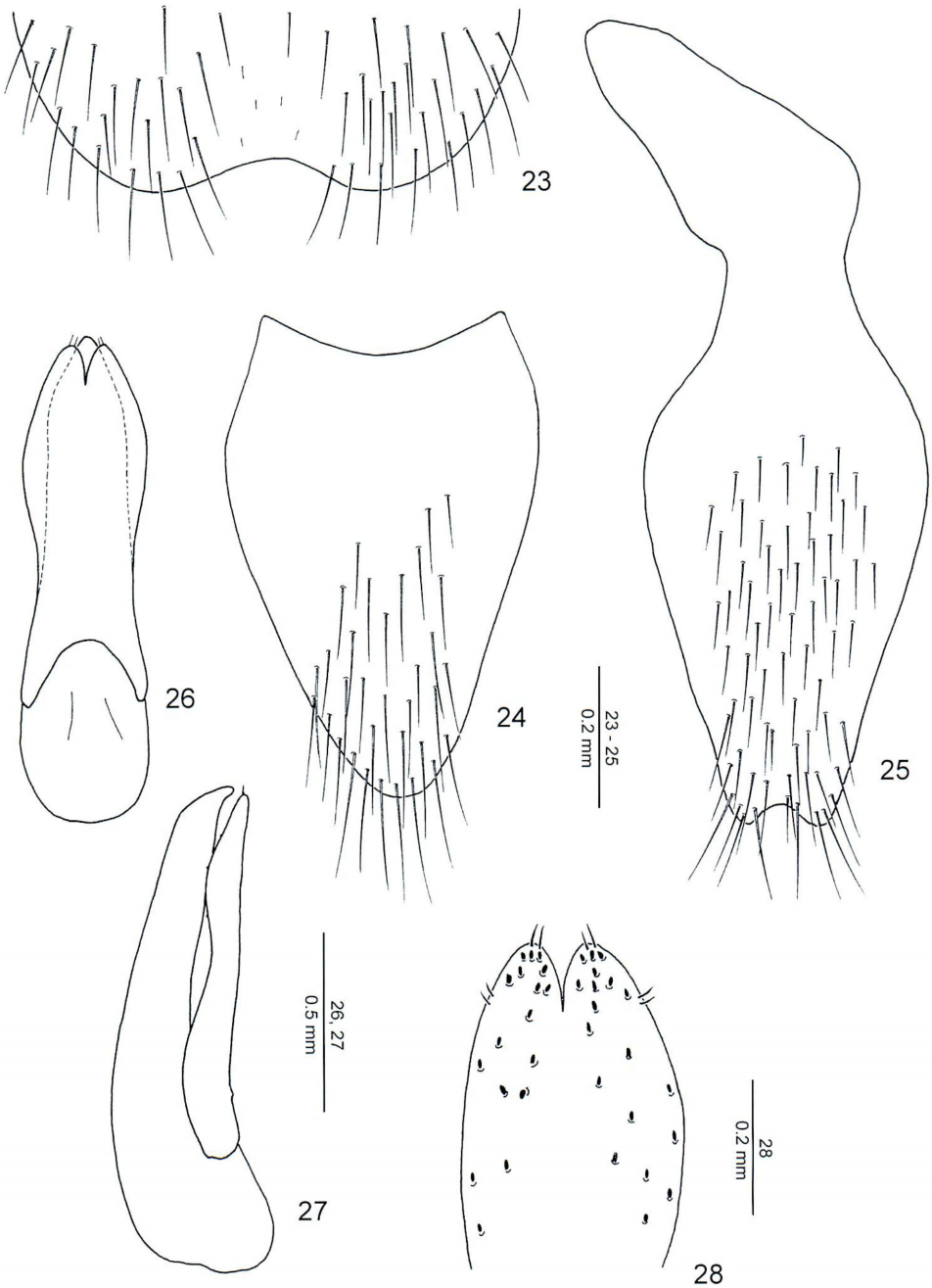
Type material. Holotype (male) and paratype (male): China: "CHINA. BEIJING distr / Yan Shan, Dongling Mts. / (1400 m) Xiaolongmen, / 15–16. vi. 2001 / Hlaváč & Cooter lgt." (LDN).

Holotype in the collection of Institute of Zoology, Academia Sinica, Beijing China. Paratype temporarily in the SMETANA collection, Ottawa. Canada (to be eventually deposited in the Muséum d'Histoire naturelle, Geneva, Switzerland).

Geographical distribution. *Quedius myrmex* is at present known only from the type locality in the Beijing district, China.

Symbiotic hosts. *Lasius* (*Dendrolasius*) *nipponensis*.

Bionomics. The two specimens of the original series were taken in a mixed temperate forest by sifting various debris around bases of trees with colonies of *Lasius* (*Dendrolasius*) *nipponensis* (HLAVÁČ, pers. comm.).



Figs. 23–28. *Quedius myrmex*. —— 23, Apex of male tergite 8; 24, male tergite 10; 25, male sternite 9; 26, aedoeagus, ventral view; 27, ditto, lateral view; 28, apical portion of paramere, dorsal view. Figures are based on holotype.

Recognition and comments. *Quedius myrmex* may be easily distinguished from both *Q. hirticornis* and *Q. aurorus*. In addition to the distinctly different aedoeagus, mainly by the smaller size, by the slightly different position of the posterior frontal puncture on the head, and by the presence of microscopical rugae on basal third of each elytron. The two punctures near the posterior margin of the head are somewhat instable. One is missing on the left side both in the holotype and paratype and the right one is shifted quite close to the posterior frontal puncture in the holotype.

Etymology. The specific epithet is the Greek noun μυρμεξ (ant). It reflects the apparent myrmecophily of the species.

Key to the Species of *Quedius hirticornis* Complex

1. Antennal long setae slightly shorter than diameter of each segment; pronotum with sublateral rows without puncture; male sternite 9 apically truncate . . . *Q. aurorus*
   Distribution: Japan (Hokkaido, Honshu, Kyushu).
— Antennal long setae 1.5–1.8 times as long as diameter of each segment; pronotum with sublateral rows each with one puncture; male sternite 9 apically emarginated 2
2. Larger species with body length 11.3–11.8 mm; paramere with small medioapical emargination, each elytron without microscopical rugae on basal third . . . . . *Q. hirticornis*
   Distribution: Japan (Hokkaido, Honshu).
— Smaller species with body length 8.0–8.2 mm; paramere with deep and narrow medioapical emargination, each elytron with microscopical rugae on basal third . . . . . *Q. myrmex*
   Distribution: China (Beijing district).

Acknowledgment

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This study is supported by a grant from the Research Fellowship of the Japan Society for the Promotion of Science for Young Scientists (Postdoctoral Fellow) to MARUYAMA.

要　　約

丸山 宗利・Aleš SMETANA：ツノヒゲツヤムネハネカクシ複合群の好蟻性種. —— 日本産種の

ツノヒゲツヤムネハネカクシ *Q. hirticornis* およびエゾツヤムネハネカクシ *Q. aurorus* を生態学的情報とともに再記載し，中国の北京近郊で採集された2雄の標本をもとに *Q. myrmex* を記載した．本複合群の全種がケアリ属クサアリ亜属のアリを寄主とし，以下の寄主関係が判明した：*Q. hirticornis*·*Q. aurorus*－クロクサアリ，クサアリモドキ，フシボソクサアリ，モリシタケアリ；*Q. myrmex*－クロクサアリ．また，本複合群の種への検索表を附した．

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Elytra, *Tokyo*, **32** (2): 314, November 20, 2004

Occurrence of *Ochthephilum shibatai* ITO (Coleoptera, Staphylinidae) on the Island of Iriomote-jima of the Ryukyu Islands, Japan

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Ochthephilum shibatai was originally described by T. ITO (1996, p. 81) based on four specimens obtained on the Island of Ishigaki-jima of the Ryukyu Islands. After that, this species has never been reported from any other locality. Recently, the second author obtained three specimens of this species on the Island of Iriomote-jima of the Ryukyus. It is recorded below with the collecting data.

1♂, 2♀♀, Kanpira-waterfall – Maryûdo-waterfall, Iriomote-jima Is., Ryukyus, 29–IV–2003, H. SATÔ leg.

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Elytra, *Tokyo*, **32** (2): 315–320, November 20, 2004

A New Species of the Myrmecophilous Genus *Goniusa* (Coleoptera, Staphylinidae, Aleocharinae) from Canada

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Abstract *Goniusa carrorum* sp. nov. is described based on material collected from nests of *Formica obscuripes* FOREL in Alberta, Canada. It is distinguished from the other species of the genus by the wider pronotum, the rounded apical margin of the male tergite VIII, and the truncated apical margin of the male sternite VIII. A diagnostic feature of the genus defined by GUSAROV (2003), male sternite VIII with a broad apical emargination, does not agree with *G. carrorum*, and it should be deleted from the diagnosis of the genus. Additional records for *G. alperti* KISTNER are provided. It was first collected from nests of *Formica oreas* WHEELER (new host record).

Introduction

GUSAROV (2003) revised Nearctic species of the genus *Goniusa* CASEY, 1906, recognizing two species: *G. caseyi* GUSAROV, 2003 (generic type species) and *G. alperti* KISTNER, 1976. Both the species have been known to be associated with ants of the genus *Formica* LINNAEUS, 1758 (Hymenoptera, Formicidae, Formicinae).

Recently, we had the opportunity to study myrmecophilous beetles of the subfamily Aleocharinae housed in the Canadian Forest Service, Laurentian Forestry Centre (LFC). The material revealed one species of *Goniusa* new to science, which is described below.

We thank Dr. Shun-Ichi UÉNO for refereeing the manuscript. We also acknowledge the assistance of Ms. Pamela CHEERS (LFC) in editing the manuscript. This study is supported by a grant from the Research Fellowship of the Japan Society for the Promotion of Science for Young Scientists (Postdoctoral Fellow) to M. M.

Genus *Goniusa* CASEY

Goniusa CASEY, 1906, 348 (original description). —— GUSAROV, 2003, 2 (revision).

Notes. GUSAROV (2003) regarded the presence of a broad apical emargination on the male sternite VIII as a diagnostic feature of the genus. However, the present new species does not share this character state. The new species agrees with the diagnosis of the genus in all the other characters mentioned by GUSAROV (2003) and is apparently a member of the genus. Thus, the diagnostic feature, the presence of a broad apical emargination on the male sternite VIII, should be deleted from the diagnosis of the genus.

Goniusa carrorum sp. nov.

Type series. Holotype, ♂, CANADA: Alberta: "Calgary, Alberta / 10. IV 1957 / Lot 1 B.F. & J.L. Carr". Patatypes: same locality and collector as the holotype: 2♀♀, 15–IX–1955; 1♂, 1♀, 1–IX–1956; 3♂♂, 1♀, 3–III–1957; 1♂, 31–III–1957; 1♂, 10–IV-1957; 1♂, 16–IV–1958; ♂, 20–IV–1970; 3♂♂, "Twp. 13 Rge. 14 / W 4 Mer. Alberta / 27. III 1982 / Lot 2 B.F. & J.L. Carr"; 1♂, 1♀, "Twp. 17 Rge. 14 / W 4 Mer. Alberta / 1. IV 1984 / Lot 1 B.F. & J.L. Carr".

Most specimens are pinned with its host ant. The holotype and most paratypes are deposited in the René Martineau Insectarium, Natural Resources Canada, Canadian Forest Service, Laurentian Forestry Centre, and some paratypes are deposited in the private collection of M. M.

Type locality. Calgary, Alberta, Canada.

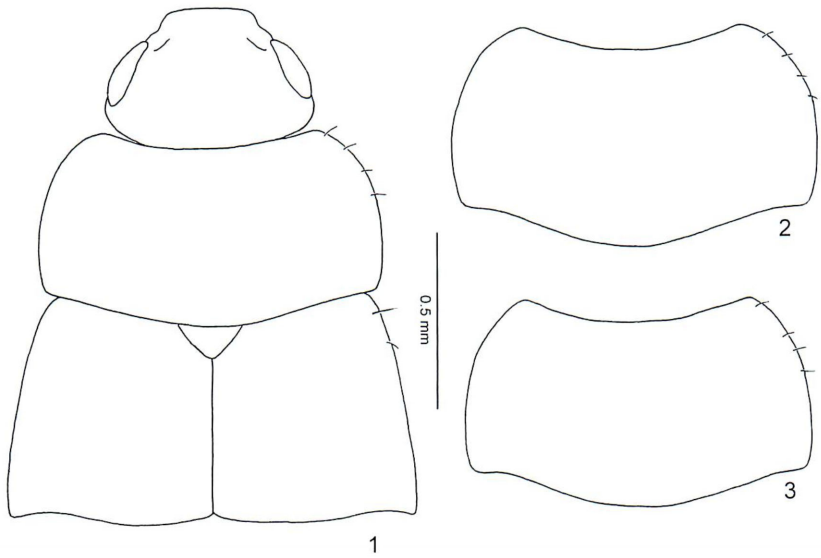
Etymology. Named for Bertha F. and John L. CARR, collectors of the type series.

Symbiotic host. *Formica obscuripes* FOREL, 1886 (*F. rufa* group). Determined by M. M.

Diagnosis. This species may be easily distinguished from the other species of *Goniusa* by the wider pronotum (ratio 1.76–1.80) (ratio 1.5 in *G. caseyi*; 1.6 in *G. alperti*) and the rounded apical margin of the male tergite VIII (slightly crenulated and truncated in the other species) and the truncated apical margin of male sternite VIII (broadly emarginate in the other species). The shape of the median lobe of *G. carrorum* is also different from those of the other species and somewhat intermediate between them. The spermatheca is very similar in shape to those of the other species.

Description. Body reddish brown; head and borders of abdominal segments IV–VI brown; mouthparts, antennae, elytra and legs yellowish brown.

Head (Fig. 1) transverse (HW/HL=1.20–1.21), widest at temples, gently convex above; surface moderately covered with short recumbent setae, and with weak isodiametric microsculpture. Antennae short, somewhat shorter than head and pronotum combined; antennomere I much longer than II; antennomere II almost as long as III; antennomeres IV–X slightly transverse; antennomeres XI very long, longer than I; relative lengths of antennomeres from basal to apical:— 11: 7.5: 7: 4: 4: 4: 4: 4.5: 5: 5:



Figs. 1–3. *Goniusa carrorum* sp. nov.; 1, forebody; 2, 3, shape variations of pronota.

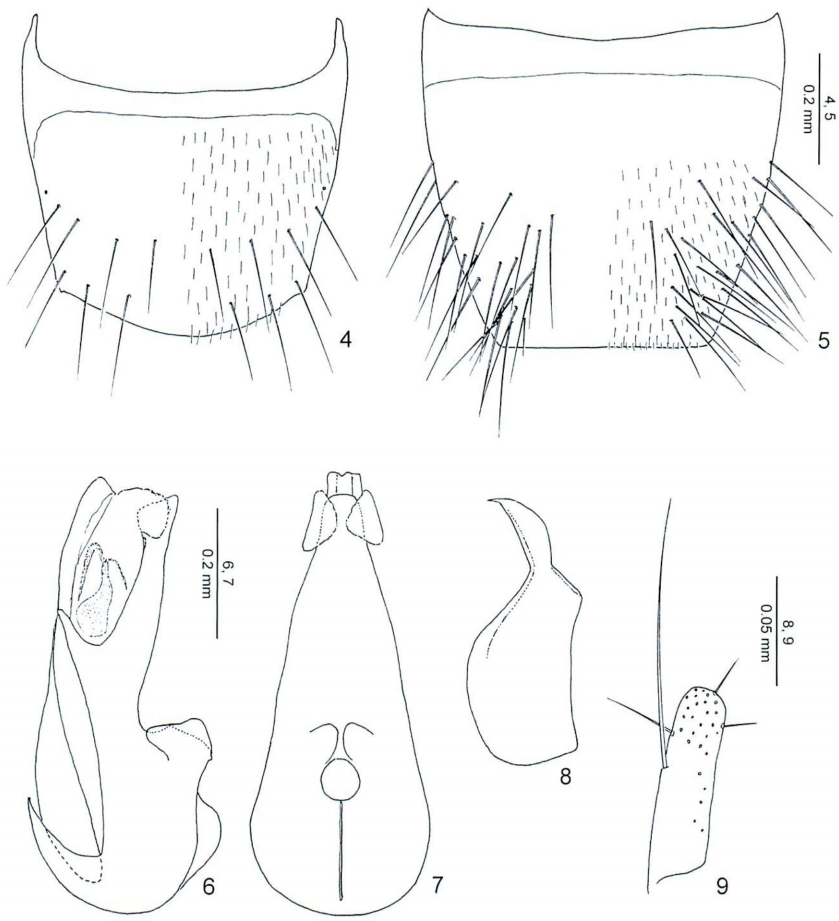
16.

Pronotum (Figs. 1–3) strongly transverse (PW/PW=1.76–1.80), widest just behind middle or just behind posterior corners, about 2.5 times as wide as head, largely emarginate anteriorly, with four macrosetae anterolaterally; surface moderately densely covered with short recumbent setae, and with weak isodiametric microsculpture. Elytra wide, much wider than pronotum, dilated apicad, widest at lateral corners; setation and sculpture as on pronotum.

Abdomen with tergites glossy, with fine transverse microsculpture; apical halves of tergites II–V moderately densely covered with long recumbent setae; apical margin of tergite VII with white palisade fringe; tergite VIII with seven (rarely eight) pairs of macrosetae.

Male. Pronotum with a pair of asetose depressions posteromesally; mesal area mat and more coarsely punctured than lateral areas. Tergite VIII (Fig. 4) rounded apically; sternite VIII (Fig. 5) truncated at apex, with about 25 pairs of macrosetae. Median lobe (Figs. 6, 7) with apical part slightly convex ventrally; copulatory piece as in Fig. 8; apical lobe of paramerite (Fig. 9) with a long basal seta, which is longer than apical lobe.

Female. Surfaces of head and pronotum less sculptured and more glossy than in male. Tergite VIII (Fig. 10) longer than the male tergite VIII, with apical margin rounded; sternite VIII (Fig. 11) with apical margin rounded, with 18 or 19 pairs of macrosetae. Spermatheca (Figs. 12, 13) with distal portion 2.5 times coiled at base; apical portion much shorter than proximal portion, dilated apicad, its inner wall densely wrinkled in apical half.



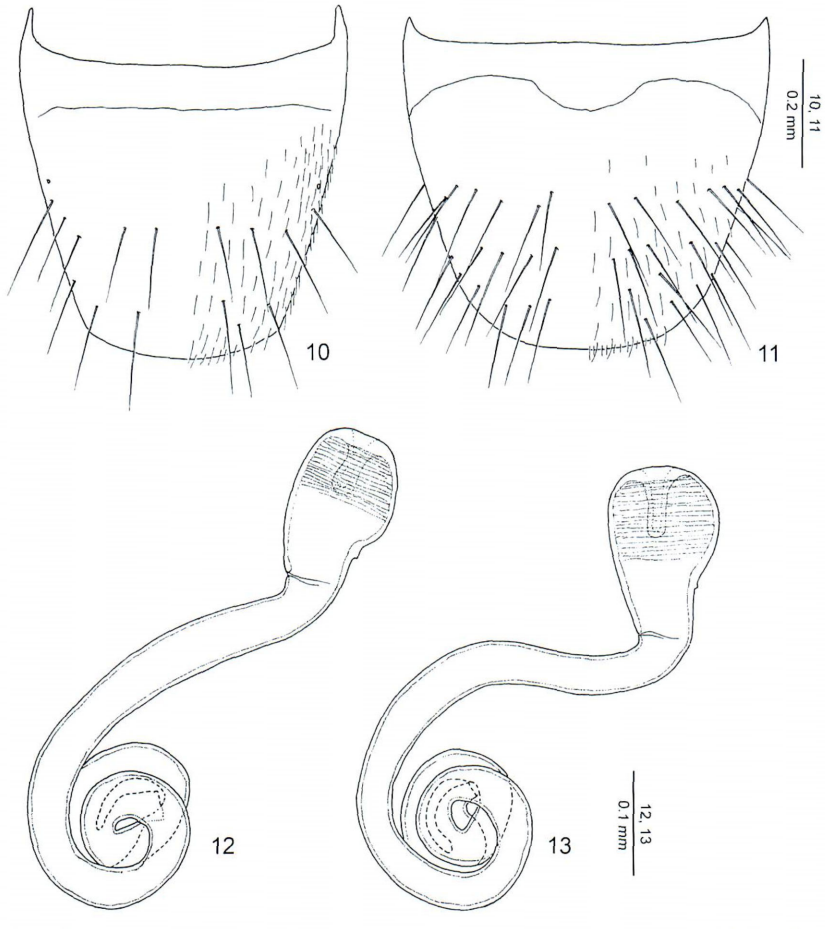
Figs. 4–9. *Goniusa carrorum* sp. nov., male. —— 4, Tergite VIII; 5, sternite VIII; 6, median lobe, lateral view; 7, ditto, ventral view; 8, copulatory piece; 9, apical lobe of paramerite.

Measurements. Body length: ca. 2.9–3.0 mm; forebody length (from apex of clypeus to apices of elytra): ca. 1.40–1.41 mm; head length: 0.48–0.50 mm; head width: 0.58–0.60 mm; antennal length: 0.95–0.99 mm; pronotal length: 0.58–0.59 mm; pronotal width: 1.03–1.04 mm; elytral length: 0.65–0.66 mm; elytral width: 1.19–1.21 mm; foretibial length: 0.43–0.45 mm; midtibial length: 0.56–0.57 mm; hindtibial length: 0.61–0.68 mm.

Goniusa alperti KISTNER

Goniusa alperti KISTNER, 1976, 89 (original description). —— GUSAROV, 2003, 14 (redescription).

New records. CANADA: Alberta: 1♂, 1♀, "Twp. 20 Rge. 3 / W 5 Mer. Alberta /



Figs. 10–13. *Goniusa carrorum* sp. nov., female. —— 10, Tergite VIII; 11, sternite VIII; 12, 13, spermathecae.

16. VI 1962 / Lot 3, B. F. & J. L. Carr"; 3♀♀, same data but, 19–IV–1964; 1♂, 2♀♀, "Twp. 12 Rge. 1 / W 5 Mer. Alberta / 11. IV 1976 / Lot 3, B. F. & J. L. Carr".

Symbiotic host. *Formica obscuripes*, *F. ravida* CREIGHTON, 1940, *F. oreas* WHEELER, 1903 (*F. rufa* group) (new host record from *F. oreas*). Determined by M. M.

要　　約

丸山宗利・Jan KLIMASZEWSKI：カナダで見つかった好蟻性*Goniusa*属の1新種. —— *Goniusa*属は新北区に分布する好蟻性ハネカクシの一群で，これまでにヤマアリ属を寄主とする2種のみが知られていた．今回，ケベック州のカナダ森林局に保存されている好蟻性ハネカクシの標本を調査した結果，ヤマアリの一種*Formica obscuripes*の巣より採集された本属の1新種を見出

したので，ここに*G. carrorum*として記載命名した．本種は，より幅広の前胸背板，先端が丸まった腹部第8背板，および先端が裁断状になった腹部第8腹板により，他の2種から容易に区別できる．GUSAROV (2003) によって定義された腹部第8腹板の先端が広くえぐられるという属徴のひとつは，今回の新種には当てはまらないので，削除すべきである．また，*G. alperti*の追加記録を行うとともに，ヤマアリの1種*F. oreas*を新寄主として記録した．

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Elytra, *Tokyo*, **32** (2): 321–325, November 20, 2004

A New Myrmecophilous Species of *Batraxis* (Coleoptera, Staphylinidae, Pselaphinae), Associated with *Lasius* (*Chthonolasius*) sp. (Hymenoptera, Formicidae, Formicinae) from Hokkaido, Japan

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Abstract A myrmecophilous pselaphine beetle, *Batraxis kawaharai* sp. nov., is described based on the material collected from nests of *Lasius* (*Chthonolasius*) sp./spp. in Hokkaido, Japan. This species is closely similar in general appearance to *Batraxis macedonica* (KARAMAN) but is distinguished from it by some character states indicated in the diagnosis.

Introduction

Only a few myrmecophilous pselaphine species have been reported from Hokkaido, northeastern Japan. In 2000, Mr. Y. KIDA passed over the senior author a specimen of an unusual pselaphine collected by Mr. S. KAWAHARA from a nest of *Lasius* (*Chthonolasius*) sp. in Shari-chô, eastern Hokkaido, which was eventually identified as an undescribed species belonging to the genus *Batraxis* REITTER, 1881 (Goniaceritae, Brachyglutini).

We once tried to collect additional material of this species at the same site, but no beetle has been collected. In 2001, however, we happened to find an additional specimen of this species in a nest of *Chthonolasius* ants in Hakken-zan of Sapporo-shi, Hokkaido.

The genus *Batraxis* is represented by 44 species described mainly from the Oriental Region, and partly from southern Europe and Australia. From Japan, only one species, *B. splendida* NOMURA, 1986, has been known from the Nansei-shotô (the Ryukyu Archipelago). It is often collected from ant nests and considered to be myrmecophilous. All the known species have been recorded from temperate to tropical areas.

Thus, discovery of the new species from Hokkaido, which belongs to subarctic area, seems remarkable.

Although only two male specimens have been available for study, we are going to describe the species herewith with a short bionomical note for attracting attention of colleagues for further collecting.

The technical procedures adopted herein are generally the same as those explained in MARUYAMA *et al.* (2003). The terminology of the foveal system follows CHANDLER (2001).

Batraxis kawaharai MARUYAMA et SUGAYA, sp. nov.

(Figs. 1–6)

Type material. Holotype, ♂, Hakken-zan, Minami-ku, Sapporo-shi, Hokkaido, Japan, 10–VIII–2001, H. SUGAYA & M. MARUYAMA leg. Paratype, 1♂, Kanayama, Makoi, Shari-chô, Hokkaido, Japan, 28–V–2000, S. KAWAHARA leg. Both the type specimens were collected from nests of *Lasius* (*Chthonolasius*) sp. The holotype is deposited in the National Science Museum, Tokyo (NSMT).

Type locality. Sapporo-shi, Hokkaido, Japan.

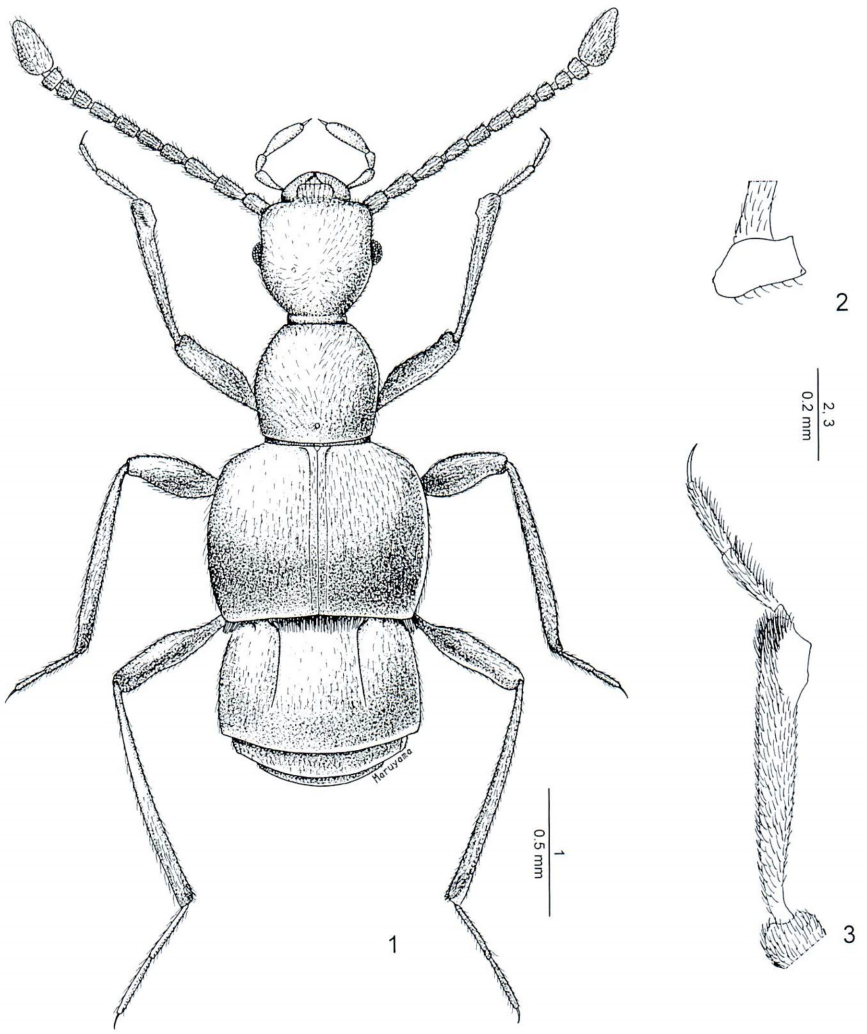
Symbiotic host. *Lasius* (*Chthonolasius*) sp./spp.: *L. umbratus* (NYLANDER, 1846) or *L. meridionalis* (BONDROIT, 1920), which are almost indistinguishable based on worker material. Only worker materials were available.

Etymology. Dedicated to Mr. Susumu KAWAHARA, a collector of the type series.

Diagnosis. This species is closely similar in general appearance to *Batraxis macedonica* (KARAMAN, 1967) described from Macedonia, but distinguished from it by the absence of transverse sulcus on the frons and basal discal foveae on the elytra, the longer discal carinae on the tergite IV, and the shape of the aedeagus.

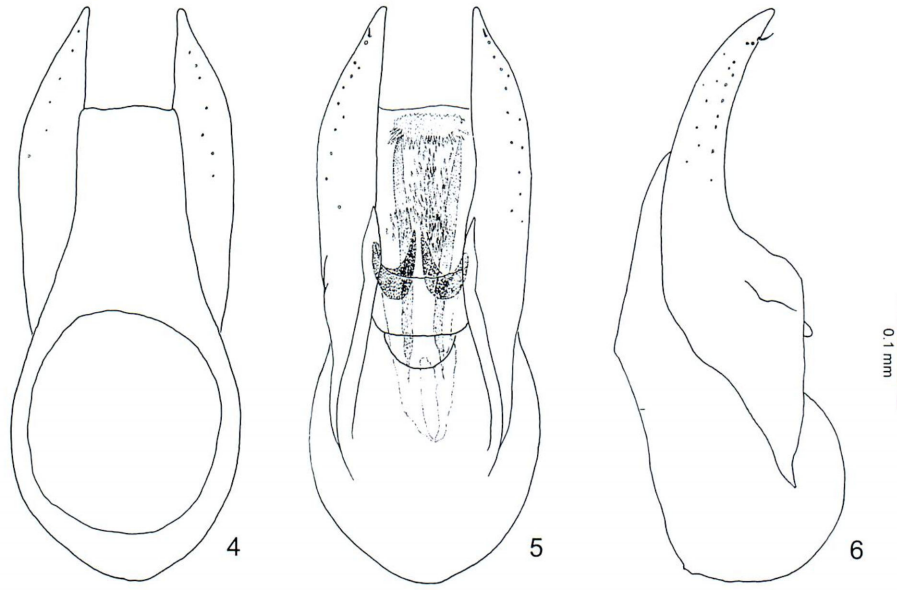
Batraxis splendida is confined to the Nansei-shotô (the Ryukyu Archipelago) in Japan, and most probably its distribution does not overlap that of *B. kawaharai*. They are easily distinguished by body size and shape (see NOMURA, 1986).

Description. Male. Pale reddish brown; mouthparts and tarsi paler. Head (Fig. 1) slightly longer than wide (ratio ca. 1.15) as long as wide, subparallel-sided in anterior half; frons flattened, almost truncated anteriorly; vertex gently convex, with inconspicuous vertexal foveae; dorsal surface densely covered with long recumbent setae, except for clypeus with thicker suberect setae; eyes ovoidal, higher than long, each composed of about 35 facets. Antennae long and slender, densely covered with setae; antennomeres I–VII each longer than wide; antennomere VIII as long as wide; antennomeres IX and X each wider than long; antennomere XI the largest, ovate; relative lengths of antennomeres from basal to apical:— 6 : 5 : 5 : 5 : 5 : 5 : 6 : 4.5 : 4 : 3.5 : 12. Maxillary palpi slender; with palpomere II gently curved, much dilated apicad; palpomere III short, curved near base, one-third as long as II; palpomere IV fusiform, four times as long as wide, almost as long as II, widest at basal two-fifths; palpal spine small, one-fifth as long as IV.



Figs. 1–3. *Batraxis kawaharai* sp. nov. —— 1, Habitus; 2, male trochanter, left dorsal view; 3, male fore tibia and tarsus, left, dorsal view. Figures are based on holotype.

Pronotum slightly wider than head (ratio ca. 1.08), almost as long as wide (ratio ca. 1.04), widest around middle or anterior three-sevenths, with a relatively conspicuous median antebasal fovea, and at the same level with lateral antebasal foveae, which are hardly recognised; dorsal surface densely covered with long recumbent setae. Elytra well convex, wider than long (ratio ca. 1.25), widest at middle, with a pair of shallow basal foveae, devoid of discal foveae, and with sutural striae deep and obvious; surface densely covered with long recumbent setae. Legs long, densely covered with setae; fore trochanter (Fig. 2) flume-shaped, truncated apically in dorsal view; fore



Figs. 4–6. *Batraxis kawaharai* sp. nov. —— 4, Aedeagus, dorsal view; 5, ditto, ventral view; 6, ditto, lateral view. Figures are based on holotype.

tibia (Fig. 3) with a subtrapezoidal projection near apex, and its dorsal surface glabrous.

Abdomen narrower than elytra (ratio ca. 0.91), longer than wide (ratio ca. 1.18), moderately covered with long recumbent setae; tergite IV large, slightly convex, completely fused with paratergites and sternite; mediobasal foveae shallow, inconspicuous; discal carinae long, four-fifths as long as tergite IV; basolateral foveae small and poorly recognised; trichomes long, dense, located between bases of discal carinae, almost uniform in length; sternite IV with trichomes along basal margin; segments V–VIII deflected, short. Aedeagus (Figs. 4–6) large, ovate; internal sac with a pair of U-shaped sclerites and a pair of longitudinal bands, covered with pinules at inner side; parameres gently narrowed apicad from middle in dorsal and ventral views, curved ventrad in lareral view.

Female unknown.

Measurements. Body length: ca. 2.60–2.63 mm; head length (excl. neck): 0.55–0.56 mm; head width: 0.48–0.49 mm; antennal length: 1.28–1.30 mm; pronotal length: 0.50–0.51 mm; pronotal width: 0.52–0.53 mm; elytral length: 0.75–0.77 mm; elytral width: 0.93–0.95 mm; abdominal length: 1.00–1.02 mm; abdominal width: 0.85–0.87 mm; foretibial length: 0.65–0.66 mm; midtibial length: 0.85–0.87 mm; hindtibial length: 1.04–1.07 mm.

Bionomics and collecting notes. Mr. S. KAWAHARA collected a specimen of this species in a nest of *Chthonolasius* ants. The ants nested at the base of a dead standing

tree, and the nest was exposed due to fall of the tree caused by a storm.

In the evening of 10th August, 2001, we collected a specimen above ground near a nest of *Chthonolasius* ants, which was covered with numerous workers and sexual forms; it was just the time of their nuptial flights.

Ordinarily, collecting inquiline insects of *Chthonolasius* ants is difficult because of subterranean habitat of the ants. The latter example may be a good collecting method for inquilines of *Chthonolasius* ants, though the collecting season is strictly limited.

Acknowlegments

We thank Mr. Yasunari KIDA (Maruseppu Insectarium, Maruseppu-chô, Hokkaido) and Mr. Susumu KAWAHARA (Koshimizu-chô, Hokkaido) for providing us the material. Thanks are also due to Dr. Shun-Ichi UÉNO and Dr. Shûhei NOMURA (NSMT) for reviewing the manuscript and valuable comments.

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要　　約

丸山宗利・菅谷　洋：ケアリ属アメイロケアリ亜属の1種と共生するアトキリアリヅカムシ属の北海道産1新種．—— *Batraxis kawaharai* sp. nov. キタアトキリアリヅカムシ（和名新称）を，北海道でケアリ属アメイロケアリ亜属の1種の巣より採集された個体をもとに記載した．本種はバルカン半島より記載された*B. macedonica* (KARAMAN) に酷似するが，いくつかの形質状態により区別できる．

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Elytra, *Tokyo*, **32** (2): 326, November 20, 2004

Symbiotic Host of the Myrmecophilous Histerid Beetle, *Hetaerius optatus* (Coleoptera, Histeridae, Hetaeriinae)

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KUBOTA (1965) recorded *Hetaerius optatus* from Manazuru, Kanagawa-ken, Honshu, as an inquiline of *Aphaenogaster famelica* SMITH, 1874. NISHIKAWA (1987) reported that the species was collected near a nest of *Lasius* (*Dendrolasius*) *fuliginosus* LATREILLE, 1798, and regarded the ant species as a symbiotic host of *H. optatus*. ÔHARA (1994) followed NISHIKAWA's report.

The author investigated more than one hundred nests of *L. fuliginosus* in the distributional range of *H. optatus* in Japan. However, no additional specimen of the histerid was found in/near nests of the ants.

Recently, the author has examined three specimens of *Hetaerius optatus* collected from nests of *Aphaenogaster famelica*. Therefore, *Aphaenogaster famelica* is most probably a certain symbiotic host of *H. optatus*. The record from *L. fuliginosus* could be accidental.

The author thanks Dr. Shûhei NOMURA for the material.

Hetaerius optatus LEWIS, 1884

Hetaerius optatus LEWIS, 1884, 137; KUBOTA, 1965, 1; NISHIKAWA, 1987, 12; ÔHARA, 1994, 146.

Specimens examined. 1 ex., Miyajima, Hiroshima-ken, Honshu, 7–VIII–1988, K. OGATA leg.; 2 exs., Fushimi, Sapporo-shi, Hokkaido, 29–IV–1938, H. NISHIJIMA leg.

All the specimens were collected from nests of *Aphaenogaster famelica* and deposited in the National Science Museum, Tokyo.

Symbiotic host. *Aphaenogaster famelica* SMITH, 1874.

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Elytra, Tokyo, **32** (2): 327–328, November 20, 2004

Corrections and Supplements to NOMURA (2001): Taxonomical Review and a List of the Pselaphine Species (Staphylinidae, Pselaphinae) Known from Japan

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NOMURA (2001) revised Japanese species of the subfamily Pselaphinae as the result of examination of 111 types (holotypes and syntypes) preserved in the Natural History Museum, London (BMNH) and the Muséum Nationale d'Histoire Naturelle, Paris (MHNP). It proposed ten synonyms, a homonym and two new combinations, and listed up 279 pselaphine species and 20 subspecies recorded from Japan until that time. After the publication, some errors and misunderstandings were kindly pointed out by Dr. I. LÖBL, Dr. C. BESUCHET in Genève and Mr. P. HLAVÁČ in Slovakia, which will be corrected in this note.

Before going further, I am much indebted to Dr. Ivan LÖBL, Dr. Claude BESUCHET and Mr. Peter HLAVÁČ for their continuous guidance and kind advice on this study.

1) The record of *Leptoplectus remyi* (JEANNEL) was overlooked.

Euplectus remyi belonging to the tribe Euplectini, the subtribe Euplectina was described by JEANNEL, 1961 from Sri Lanka. It was reclassified into the genus *Leptoplectus* and newly recorded from India, Nepal, Senegal, Switzerland and Japan (Kôbe) by BESUCHET, 1999, which was overlooked in the list of the Japanese species in NOMURA (2001). I am going to present the data and habitus (Fig. 1) of the specimen from Kôbe and insert it to the list with a new Japanese name as follows.

Leptoplectus remyi (JEANNEL, 1961)

[Japanese name: Ko-naga-arizukamushi].
(Fig. 1)

Euplectus (*Archeuplectus*) *remyi* JEANNEL, 1961, Bull. Brit. Mus. (Nat. Hist), Ent., **10**: 428.
Leptoplectus remyi : BESUCHET, 1999, Revue suisse Zool., **106**: 47.

Material examined: 1♂ (Fig. 1), "Japan, Kobe, Harada, 18. VI. 30, J. E. A. LEWIS / Gorden manure heap / Field Mus. Nat. Hist., Orlando Park, Pselaphidae Colln. / Leptoplectus remyi Jeannel, Cl. Besuchet, det. 2004."

2) *Trissemus grandicollis* (JEANNEL) should be returned to *Bryaxis*.

NOMURA (2001) moved *Bryaxis grandicollis* JEANNEL, 1958 to the genus *Trissemus* on the basis of an examination of the "holotype" preserved in MHNP, though the type had been mislabeled according to Dr. I. LÖBL (pers. comm.). Then this species should be returned to *Bryaxis*,

Fig. 1. *Leptoplectus remyi* (JEANNEL), male from Kôbe.

and the whereabouts of the true holotype is unknown. It is also noted in LÖBL, KURBATOV & NOMURA (1998, p. 267). As the result, the combination of the scientific and Japanese names of this species is as follows: *Bryaxis grandicollis* JEANNEL, 1958 [Japanese name: Ryûgadô-onohige-arizukamushi] .

3) Correction of errors on the list of species

p. 142, l. 16: *Phthaltomerus nanus* K. SAWADA, 1957 → *Phthaltomerus nanus* K. SAWADA, 1956

p. 150, l. 27: *B. cristatus* (JEANNEL) → *B. cristatus* JEANNEL

p. 155, l. 25: *B. sparsepunctatus* → *B. sparcepunctatus*

p. 158, l. 10: *H. schistodactyloides* → *H. schistodactyroides*

p. 157, l. 9: *P. fujiyamai* (KUBOTA, 1943) → *P. fujiyamai* (KUBOTA, 1944)

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Elytra, *Tokyo*, **32** (2): 329–335, November 20, 2004

A New Species of the Genus *Awas* (Coleoptera, Staphylinidae, Pselaphinae) from the Malay Peninsula

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Abstract A new pselaphine species, *Awas rajah* sp. nov. is described from Endau-Rompin State Park, Pahang, Malay Peninsula.

Key words: Coleoptera, Staphylinidae, Pselaphinae, *Awas*, Malaysia, new species.

Introduction

The genus *Awas* is an eccentric genus described by LÖBL (1994) from the Malay Peninsula. It is characterized by the large and elongate body, the distinctly prolonged neck and the stout legs. As the result of an comparison with some genera of the supertribe Goniaceritae, LÖBL (1994) classified it into the tribe Arnylliini. Later, NOMURA (1995) described *A. shunichii* from Taiwan. Up to the present, two species have been known in this genus. Behavior and habitat of the species in this genus have been little known, but recently, SUGAYA & NOMURA (2003) reported a habitat of *A. shunichii* in Taiwan with its additional records.

The authors discovered a new species of this genus in Endau-Rompin State Park, Pahang, southern part of the Malay Peninsula. It was collected by flight intercept traps. In the present study, the new species of *Awas* is described and the collecting method is noted.

Materials and Methods

All the materials were collected by flight intercept traps (abbreviated to FIT below) set on the ground of the tropical rainforest in Endau-Rompin (Fig. 5). The FIT

consists of a barrier and a receiver, both made of transparent plastic sheet of 0.1 mm in thickness. The barrier is pentagonal sheet sized 1,420 mm wide×940 mm high. The receiver is transverse V-shaped and fitted to the lower margin of the barrier. The collected insects were preserved in water of the central pool of the receiver with a spoon of sorbic acid powder against decay. After picked up and sorted, they were transferred to 70% ethanol. The same type of FIT is also shown in NOMURA & IDRIS (2003).

Dissections were made using standard techniques, genitalia and hind wings were mounted in Canada balsam on an acetate piece on the same pin with the specimen. Leica MZ Apo microscope was used for observation and drawing in this study.

Genus *Awas* LÖBL, 1994

Awas LÖBL, 1994, Revue suisse Zool., **101**: 686. —— NOMURA, 1995, Spec. Bull. Jpn. Soc. Coleopterol., Tokyo, (4): 359. Type species: *Awas giraffa* LÖBL, 1994.

Remarks. This genus is closely allied to the genus *Harmophorus* MOTSCHULSKY which is the senior synonym of the type genus *Arnyllium* REITTER. It is easily distinguished from *Harmophorus* by having the elongate body, the strongly prolonged head and the basally constricted abdomen.

Key to the Species of the Genus *Awas*

1. Body large (4.2 mm in length); eyes reniform and roundly convex; elytra shallowly concave in basimedian part; each elytron with a round basimedian fovea. . . . . *A. shunichii* NOMURA.
— Body small (3.3–3.6 mm in length); eyes U-shaped, very weakly convex; postgenae each prolonged anterolaterally onto posterolateral margin of eye; elytra normally convex in basimedian part; each elytron with or without indistinct basimedian fovea. . . . . 2.
2. Scutellum scarcely exposed; elytron without basimedian fovea; abdominal segment IV with semicircular process on ventromedian nodule. . . . . *A. giraffa* LÖBL.
— Scutellum exposed in small part between elytral bases; elytron with an indistinct basimedian fovea; abdominal segment IV without semicircular process on ventromedian nodule. . . . . *A. rajah* sp. nov.

Awas rajah sp. nov.

(Figs. 1–4)

Etymology. The specific name *rajah* means "king" in Malay.

Holotype: ♂, Endau-Rompin Nat. Res., FIT st. 2: fogging site, Pahang, Malaysia, 6~9–VII–2003, S. NOMURA (UKM). Paratype: 1♂, same data as holotype (NSMT).

Male (Fig. 1). Body length 3.30–3.57 mm, width 0.88–0.90 mm. Very elongate, thick, color reddish brown and shiny, mouthparts and tarsi yellowish.

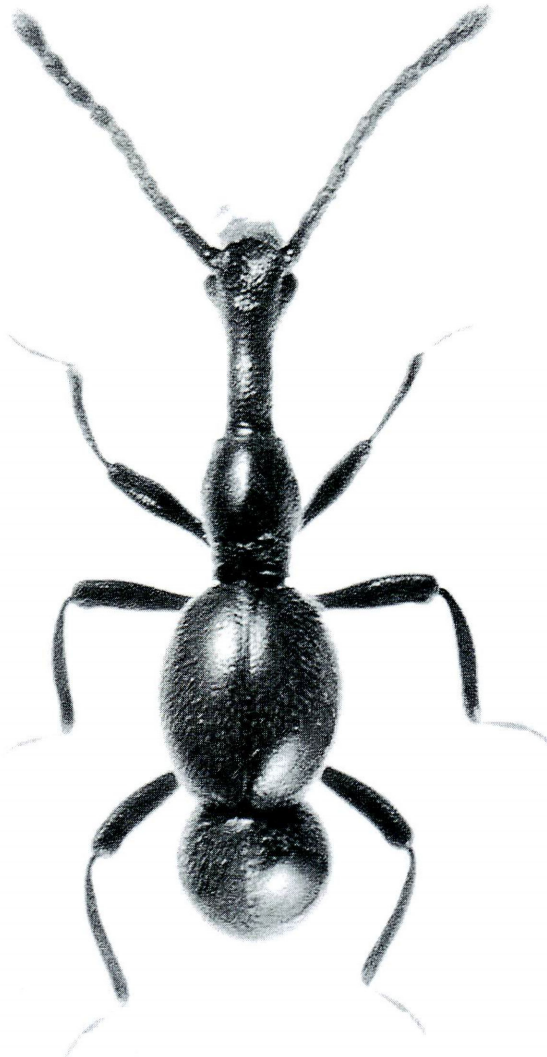

Fig. 1. *Awas rajah* sp. nov., male habitus.

Head elongate, about 2.5 times as long as wide, cylindrical in basal half, then broadened and thickened anteriorly in anterior half, widest at anterior 2/7, covered with short pubescence; clypeus expanded anteriorly, arcuate on anterior margin, frons strongly convex on antennal bases, weakly concave along median line, densely covered with coarse punctures; vertex flattened, with a pair of indistinct dorsal tentorial pits at middle of head; neck narrowed, cylindrical, sparsely covered with finer punctures than in frons, almost glabrous in basal 1/10 of head on dorsal side, with two glabrous, trans-

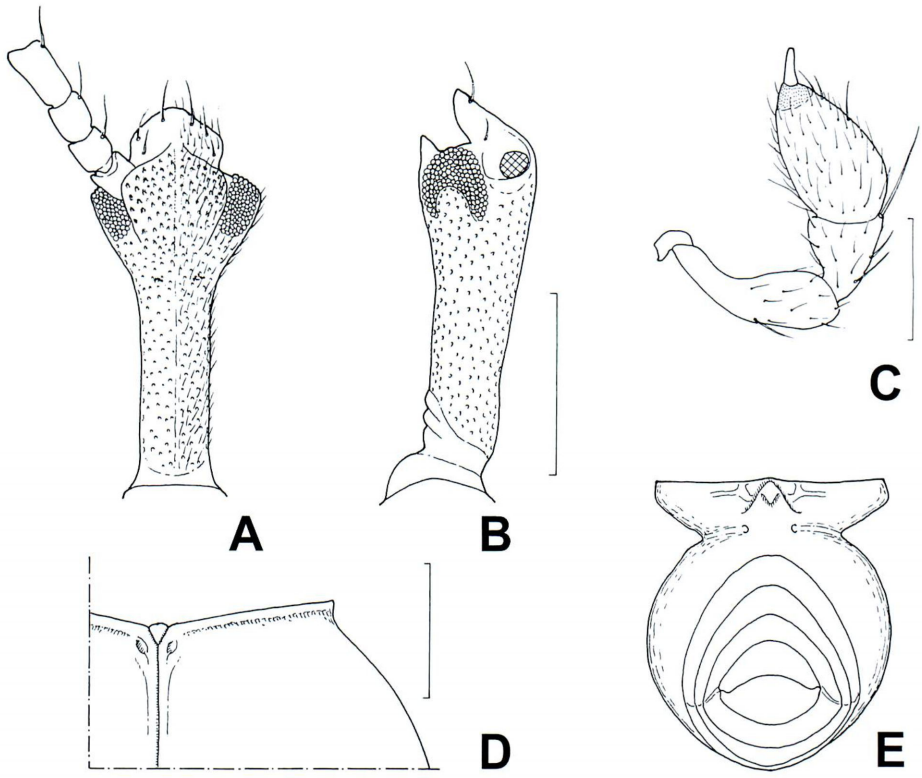

Fig. 2. *Awas rajah* sp. nov. —— A, Head and left antennal segments I to IV (pubescence excluded on left side); B, head in lateral view (pubescence excluded); C, left maxillary palpus; D, elytral base; E, abdominal segments IV to VIII in ventral view. Scale for A, B, E: 0.5 mm; scale for C: 0.1 mm; scale for D: 0.2 mm.

verse swellings on basiventral side; postgenae each strongly expanded anteriad onto posterolateral side of eye. Eyes very large, U-shaped in lateral view, scarcely convex on anterolateral side. Maxillary palpi very short; palpal segment I short, curved; II elongate, thickened distally, weakly curved near middle; III short, triangular, with a long and bold seta at external corner; IV the largest, fusiform, 1.8 times as long as wide; palpal spine elongate and conical, about 1/5 as long as IV. Antennae elongate, slender, 1.44–1.54 mm in length, densely with short setae; antennal segment I curved near middle, cylindrical in apical half; II short, cylindrical, as long as wide; III slightly longer than II, subcylindrical; IV to VI subequal, each slightly larger than III, 1.2 times as long as wide; VII to X subequal, each slightly longer than IV; XI the largest, nearly ovoid, widest at apical 2/5, twice as long as wide; relative length (width) of each segment to width of segment I from base to apex: 1.1 (1.0) : 1.0 (1.0) : 1.1 (1.0) : 1.3 (1.0) : 1.3 (1.0) : 1.3 (1.0) : 1.6 (1.1) : 1.6 (1.1) : 1.6 (1.1) : 1.6 (1.1) : 2.5 (1.2).

Pronotum slightly wider than head, 1.3–1.4 times as long as wide, subcylindrical,

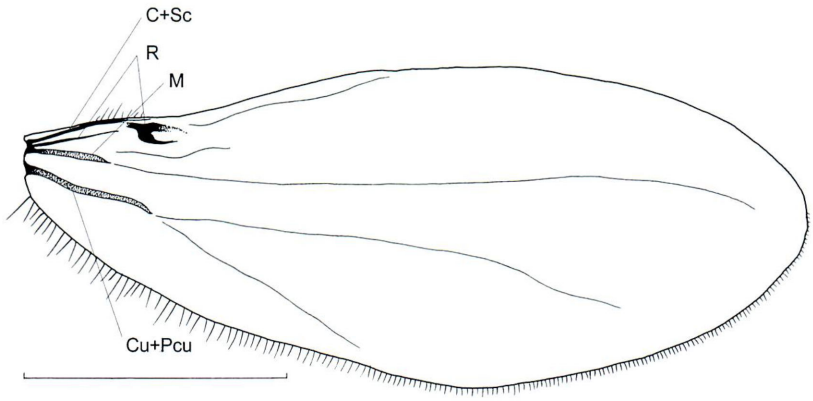

Fig. 3. Right hind wing of *Awas rajah* sp. nov. Scale: 1 mm.

swollen near middle, with a transverse sulcus at basal 1/3, sparsely covered with minute punctures in anterior 2/3, then with coarse punctures behind transverse sulcus. Scutellum exposed in very small part between elytral bases (Fig. 2 D). Metasternum simply convex on ventral surface, covered with short, dense pubescence. Elytra about 1.1 times as long as wide, ovoid in dorsal view, convex on dorsal surface, widest near middle, limbate at base, uniformly covered with short pubescence; each elytron with an indistinct basimedian fovea, short, indistinct adsutural sulcus in basal 1/4 (Fig. 2 D). Hind wings developed (Fig. 3), 3.10 mm in length from wing base to tip, 1.21 mm in maximum width; veins C+Sc, R, M, Cu+Pcu weakly sclerotized in basal part of the wing, sometimes untraceable in apical part; C+Sc short, attached to anterior margin at apical part; R very thin in basal part, strongly broadened and strongly sclerotized just inside first transverse fold; M short and less sclerotized than in R, followed by very thin longitudinal wrinkle reaching near apex of wing; Cu+Pcu slightly shorter than R, about as broad as M, followed by very thin, divergent two longitudinal wrinkles in apical part of wing.

Abdomen (Fig. 2 E) slightly wider than long, subspherical, convex on dorsal surface, uniformly covered with short pubescence; abdominal segment IV predominantly large, strongly constricted at base, with a small, triangular ventromedian nodule, a deep transverse sulcus reaching just outside of ventromedian nodule, without any marking between tergite and sternite; segments V to VII successively shortened posteriad, each very short, annular, densely with pubescence in posterior part; VIII small, nearly circular in ventral view (Fig. 2 E).

Male genitalia (Fig. 4) large, weakly sclerotized, parameres not demarcated; median lobe ovoid, with a broad and transverse ventral sclerite, a pair of L-shaped dorsal sclerites in apical part and cordiform ventroapical nodule (Fig. 4 A); endophallus (Fig. 4 D) nearly symmetrical, composed of two pairs of long and slender spines, with many hair-like structures on ventral side of ventral pair of spines.

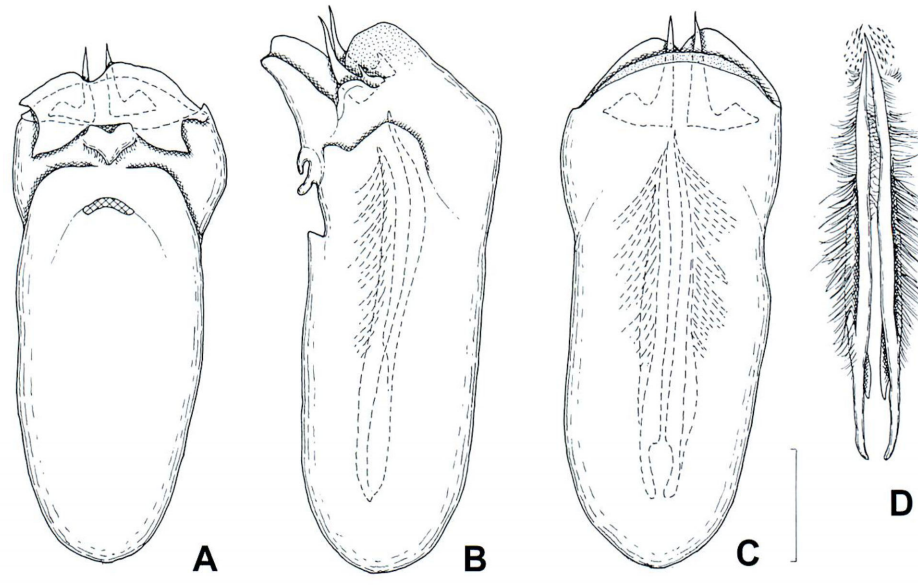

Fig. 4. Male genitalia of *Awas rajah* sp. nov.; A, ventral view; B, lateral view; C, dorsal view; D, endophallus in dorsal view. Scale: 0.1 mm.

Fig. 5. A, A view of Endau-Rompin State Park; B, a FIT set on the ground of the rainforest in Endau-Rompin.

Female. Unknown.

Distribution. Malay Peninsula.

Remarks. This new species is very similar to the type species of the genus *Awas giraffa* LÖBL described from Fraser's Hill, Malay Peninsula. However, it is separated from *A. giraffa* by having the exposed scutellum, the elytron with an indistinct basime-

dian fovea and some characters of the male genital structures. The male genitalia of this species is characterized by the L-shaped paird dorsal sclerites at apical part of the median lobe, the cordiform nodule in the ventroapical part and the endophallus composed of four long and slender spines with many hair-like structures.

Acknowledgements

We wish to express our hearty thanks to Dr. Shun-Ichi UÉNO for his critical reading of the manuscript. Our cordial thanks are also due to Dr. Osamu YATA, Dr. Hiroaki KOJIMA, Mr. Naoki TAKAHASHI and Mr. Hidenori UMADA (Kyushu Univ.) and Dr. Kazunori YOSHIZAWA (Hokkaido Univ.) for their kind assistance in various ways.

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要　　約

野村周平・A. G. IDRIS：マレーシア産キリンアリヅカムシ属の1新種（コウチュウ目ハネカクシ科アリヅカムシ亜科）．—— キリンアリヅカムシ属 *Awas* は，オノヒゲアリヅカムシ上族，Arnylliini族に所属し，マレー半島および台湾から各1種が知られている．筆者らはマレー半島パハン州，エンダウ・ロンピン州立公園より1新種を見いだしたので，本属3番目の種として記載した．本種は同じくマレー半島から記載された本属のタイプ種，*A. giraffa* によく似ているが，上翅会合部基部に小盾板が露出する，上翅基部に不明瞭ながら1対の孔点を備える，第4腹板基部突起に半円形の突出部を欠く，雄交尾器の構造が異なる，などの点により明らかに区別できる．タイプ標本となった2頭はいずれも熱帯雨林内に設置したFIT（フライト・インターセプト・トラップ）によって採集された．

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SUGAYA, H., & S. NOMURA, 2003. Additional records of *Awas shunichii* (Coleoptera, Staphylinidae, Pselaphinae), with a note on its habitat in Taiwan. *Elytra, Tokyo*, **31**: 183–186.

Elytra, *Tokyo*, **32** (2): 336, November 20, 2004

New Record of *Oxytelopsis shibatai* (Coleoptera, Staphylinidae, Oxytelinae) from Kyushu, Japan

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Oxytelopsis shibatai ITO (1987, p. 75) was described on the basis of specimens collected at Imoyama in Nara Prefecture, Honshu. After that, it was recorded by KISHIMOTO (1993) from Tomiyama, the Bôsô Peninsula of Chiba Prefecture, Honshu. According to his report, a single specimen of this staphylinid beetle was first found on a rotten wood in an evergreen broadleaved forest, and additional specimens were also collected by sifting leaves or litter around there.

Recently, I had an opportunity to examine two specimens of this species in Kyushu, both collected by sifting leaves or litter in an evergreen broadleaved forest. This is the first record of the species from Kyushu. The collecting data are as given below.

Specimens examined. [Kyushu] 1♂, 1♀, Kirishima-jingû (450 m alt.), Makizono-chô, Kagoshima Pref., 27–VIII–2001, S. ARAI leg.

In closing this brief report, I wish to express my hearty thanks to Dr. Yasuaki WATANABE of Tokyo University of Agriculture, for his continuous guidance, and to Ms. Shiho ARAI of Ranzan-machi of Saitama Prefecture, for her kindness in giving me the specimens.

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Elytra, *Tokyo*, **32** (2): 337–341, November 20, 2004

A Redescription of *Leptaulax arrowi* (Coleoptera, Passalidae) Based on the Holotype

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Abstract *Leptaulax arrowi* Hincks is redescribed based on the holotype and compared with *L. uenoi* Iwase, which appears to be most closely related to *L. arrowi*. It is also briefly discussed on the exact position of the type locality of *L. arrowi*.

Leptaulax arrowi was described by Hincks (1933) from Mt. Balis based on the unique holotype. Up to the present, no additional specimen has been known. Furthermore, it has not been clear in which area is the type locality of *L. arrowi*, Mt. Balis.

Recently, we have had an opportunity to examine the holotype of *Leptaulax arrowi* Hincks preserved in the collection of the Manchester Museum. Thus, we herewith redescribe it based on the holotype and compare it with the known members of this genus based on specimens or literature. In the following redescription, we adopt the terminology of Gravely (1914) and Iwase (1996).

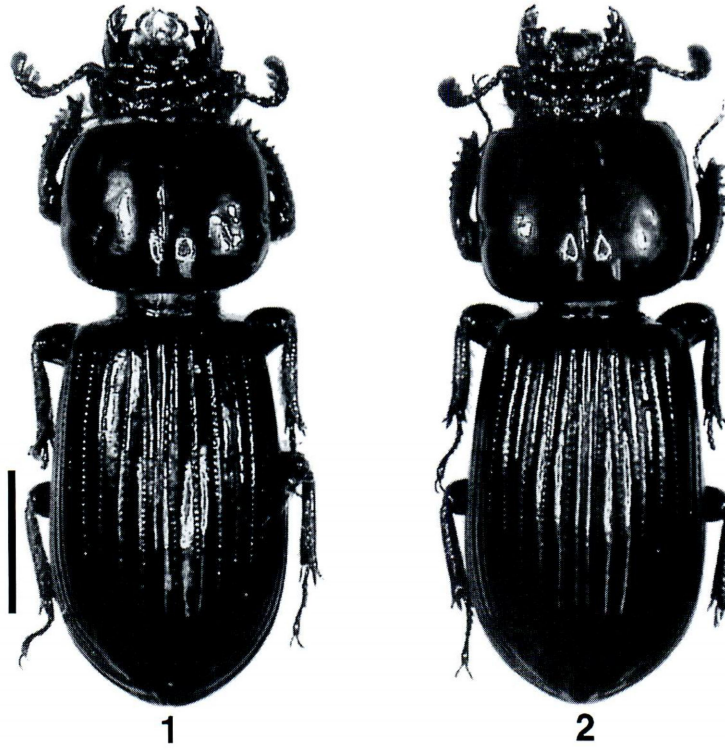
Leptaulax arrowi Hincks

(Figs. 1, 3)

Leptaulax arrowi Hincks, 1933, Entomologist's month. Mag., **69**, p. 12.

Redescription of the holotype. Female. Length from anterior margin of head to apices of elytra 24.3 mm. Body polished, black, convex, ratio of prothorax thickness to pronotum width 0.62.

Inner marginal tubercle triangular, larger and much more prominent forwards than outer one, with apex rounded; distance between inner tubercles more than twice as long as that between inner and outer ones; outer marginal tubercle triangular, pointed forwards and a little outwards; ridge between inner tubercles slightly swollen at the



Figs. 1–2. Habitus of *Leptaulax* spp., scale 5 mm. —— 1, *L. arrowi*, holotype (female); 2, *L. uenoi*, paratype (male).

middle. Canthus with anterior angle weakly produced laterally, without ridge on upper surface. Eye small, not projecting laterally beyond canthus. Frontal area almost rectangular, much wider than long, with a few hair-bearing punctures, without median keel; area behind outer tubercle impunctate and hairless; depressed area prior to parietal ridge with a few hairs in outer portion, impunctate and hairless in inner portion; area behind parietal ridge with hair-bearing punctures; frontal ridge almost transverse in proximal portion, turning towards inner tubercle at right-angle in distal portion, with weak tubercle at the turning point; parietal ridge gently curved, extending to supraorbital ridge. Outer margin of mandible with obtuse angle near base; upper margin swollen behind upper tooth; upper inner surface without punctures; upper tooth obtuse-angled; anterior lower tooth triangular, larger than lowest terminal tooth. Labrum punctured and hairy, almost symmetric, anterior margin straight. Labium without median ridge, with anterior margin rounded. Mentum polished, with setiferous punctures in lateral portion, impunctate and hairless in central portion, with a scar like a semicircular arch opening forwards between central and lateral portions; anterior margin convex forwards in central portion. Hypostomal process hairless, with a longitudinal groove,

mat in the groove, lateral margins convergent anteriad. Antenna with three short lamellae; upper surface of scape mat.

Pronotum convex, median sulcus distinct, with a few hairs in scar, anterior and posterior angles rounded. Prosternum impunctate and hairless in posterior plate, with some hairs in middle portion between procoxae. Mesothoracic episternum mat; mesosternum smooth and impunctate in central portion, with hair-bearing punctures at the middle of lateral portion, hairless and rugged in postero-lateral portion. Central area of metasternum polished, impunctate; anterior intermediate area punctured and hairy; posterior intermediate area punctured in inner portion, more sparsely in outer portion; lateral area rough, hairless, narrow, slightly widened posteriad. Elytra united, convex, widened posteriad, rounded and hairy at humerus, simply punctured in all striae, polished in all ribs. Upper surfaces of middle and hind tibiae mat, densely punctured and hairy. Abdominal sternites hairless.

Specimen examined. Holotype: female, attached with the labels: "Mt. Balis", "5073", "Ex Staudinger & Bang, Dresden", "Manchester Museum Holotype", "Holotype *Leptaulax arrowi* Hincks, 1933".

Distribution. Mt. Balis.

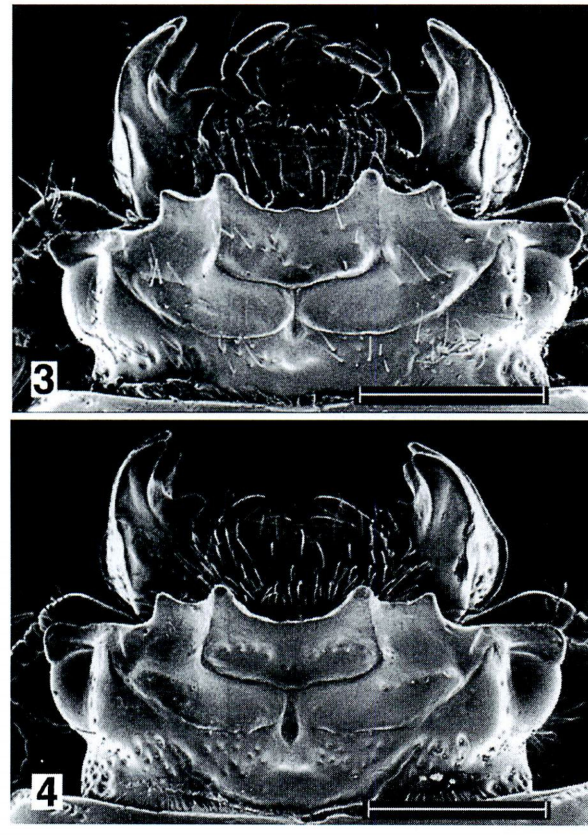
Specimens compared. *Leptaulax uenoi* IWASE: 1 male (holotype), Banaue, Ifugao, Luzon, V–1988; 1 male (paratype), the same data as for the holotype. *L. sambawae* GRAVELY: 1 male, Sumbawa, VIII–1999.

Discussion

HINCKS (1933) noted that *Leptaulax arrowi* appeared to be closely related to *L. sambawae* GRAVELY. However, based on the examination of the holotype of *L. arrowi*, it was revealed that *L. arrowi* is not so similar to *L. sambawae*; the former is diagnosed by the following characters: the body convex (the ratio of prothorax thickness to pronotum width, 0.62); the elytra united, rounded at the humerus, whereas in *L. sambawae*, the body rather flat (the ratio of prothorax thickness to pronotum width, 0.58); the elytra not united, angular at the humerus. In contrast, *L. arrowi* appears to be most closely related to *L. uenoi* IWASE from Luzon, the Philippines, which shares all the aforementioned diagnostic characters with *L. arrowi* but is slightly different from *L. arrowi* in the following points: the ridge between inner tubercles not swollen at the middle; the pronotum somewhat larger and less rounded at the angles (Figs. 1–4).

The holotype of *Leptaulax arrowi* bears the label, "Mt. Balis". It has been unknown where is Mt. Balis, although HINCKS (1933) suggested that it was possibly from Bali Island. He also noted that the holotype of this species was found in a box including *Leptaulax* species chiefly from the Philippines and New Guinea. As mentioned above, *L. arrowi* resembles *L. uenoi* from the Philippines most closely. Thus, we suggest another possibility that the type locality of *L. arrowi* may be somewhere in the Philippines.

It is hoped to obtain additional specimens (especially the male) of *Leptaulax ar-*



Figs. 3–4. Head of *Leptaulax* spp. in dorsal view, scale 2 mm. —— 3, *L. arrowi*, holotype (female); 4, *L. uenoi*, paratype (male).

rowi for determining the exact area in which lies its type locality.

Acknowledgments

We thank Drs. D. V. LOGUNOV and C. JOHNSON of the Manchester Museum for giving us the opportunity to examine the holotype of *Leptaulax arrowi* on loan. Thanks are also due to Drs. S. NOMURA and S.-I. UÉNO of the National Science Museum (Natural History), Tokyo and Mr. M. FUJIOKA of Tokyo for giving us the opportunities to examine the type specimens of *L. uenoi*. This study was supported in part by a Grant-in-Aid from the Japan Society for the Promotion of Science (No. 14405013).

要　　約

近　雅博・常喜　豊：ヒラタクロツヤムシの一種 *Leptaulax arrowi* のホロタイプにもとづく再

記載．—— ヒラタクロツヤムシの一種 *Leptaulax arrowi* をホロタイプにもとづいて再記載し，もっとも近縁と思われる *L. uenoi* と比較した．また，*L. arrowi* のタイプ・ローカリティの Mt. Balis の場所について論議した．

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Elytra, *Tokyo*, **32** (2): 341–342, November 20, 2004

New Record of *Paranaspia frainii* (FAIRMAIRE) from Northeast Laos

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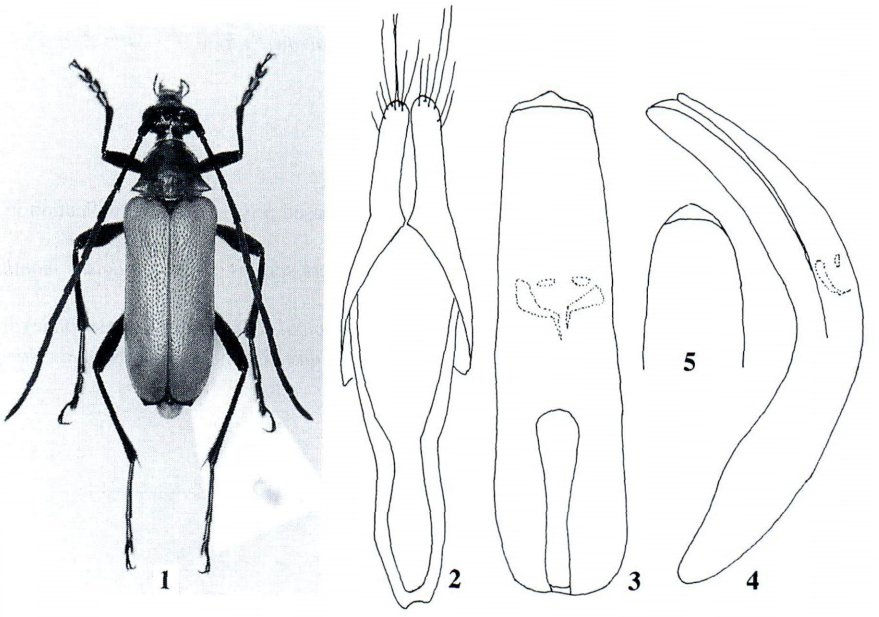
Paranaspia frainii was first described by FAIRMAIRE (1897) as a species of the genus *Strangalia* from Sikkim and British Bhutan, and was transferred to the genus *Paranaspia* by HAYASHI and VILLIERS (1985). The latter authors also synonymized *Leptura reductipennis* PIC, which was described from Yunnan, China, with *Paranaspia frainii*.

I found several specimens which are identical with *P. frainii* in the collection of our survey on Mt. Phu Pan in Houapan Province of northeastern Laos. A close examination of the genitalia of this species showed a structure quite similar to that of other congeners (cf. OHBAYASHI, 2001). As the result, it is concluded that the species actually belongs to the genus *Paranaspia* though it has rather heterogeneous appearance when compared with the others. Here I newly record this species from Laos and illustrate the structure of male genitalia for the first time.

I thank Dr. Tatsuya NIISATO for his kind offer of valuable specimens.

Specimens examined. 1 female, Mt. Phu Pan, Xam Neua, Houapan Province, Laos, alt. 1,500–1,800 m, 1–V–2002, N. OHBAYASHI leg.; 4 males, same locality, 16–IV～15–V–2004, native collector.



Figs. 1–5. *Paranaspia frainii* (FAIRMAIRE); 1, habitus, male; 2, tegumen; 3, median lobe in dorsal view; 4, ditto in lateral view; 5, ditto, antero-dorsal view.

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Elytra, *Tokyo*, **32** (2): 343–346, November 20, 2004

A New Species of *Copris* (Coleoptera, Scarabaeidae) from Guizhou, China[1)]

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Abstract A new species of *Copris* is described from Guizhou, South China under the name of *C.* (*Copris*) *pseudochus* sp. nov. The present new species is closely related to *C.* (*C.*) *ochus* but can be distinguished from the latter by the following characteristics: the pronotum with the anterior angle truncated; the elytron with very fine striae and flat interstriae.

When we examined a series of specimens of Scarabaeidae from Guizhou, South China, we found three specimens (1♂, 2♀♀) of a *Copris* species that seemed different from any known Oriental species of this genus. This form appears to be most closely related to *C.* (*Copris*) *ochus* Motschulsky, 1860 that has been recorded from Mongol, northern and middle China, Korea and Japan (Balthasar, 1963), but it is distinct from the latter in several external characters and the shape of the male genitalia. Thus, we are going to describe a new species of *Copris* from Guizhou, China.

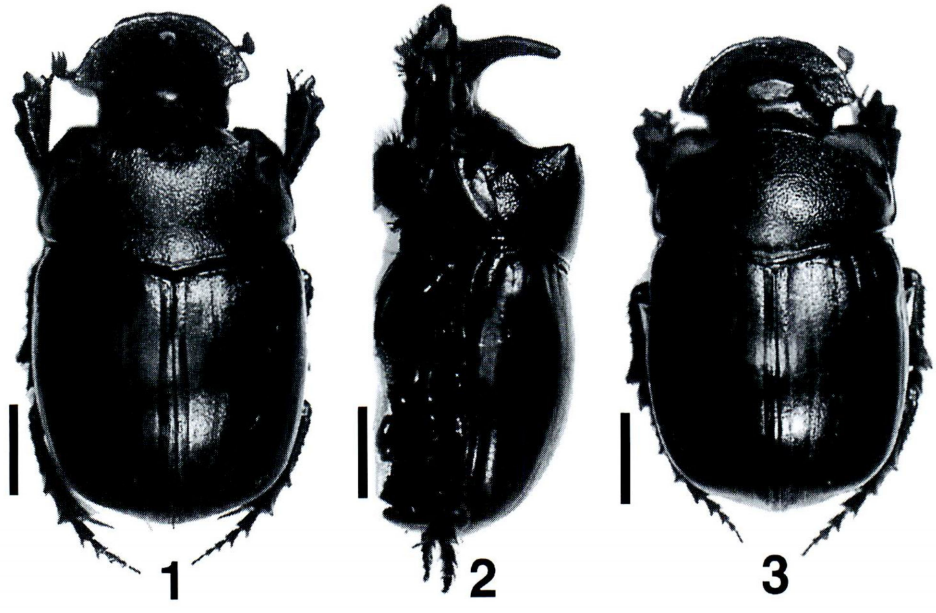
Copris* (*Copris*) *pseudochus sp. nov.

(Figs. 1–5)

Length: 26.5–28.5 mm; width: 14.8–15.5 mm (n=3).

Body large-sized, oval, very strongly convex above; dorsal side rather opaque, entirely glabrous; ventral side somewhat shining; pro- and mesosterna sparsely clothed with reddish-brown hairs; metasternum clothed with reddish-brown hairs except for almost glabrous metasternal shield; abdominal sternites clothed with reddish-brown hairs in basal portion along margins. Color entirely black except for mouth parts, palpi,

1) This study was supported in part by a Grant-in-Aid from the Japan Society for the Promotion of Science (No. 14405013).

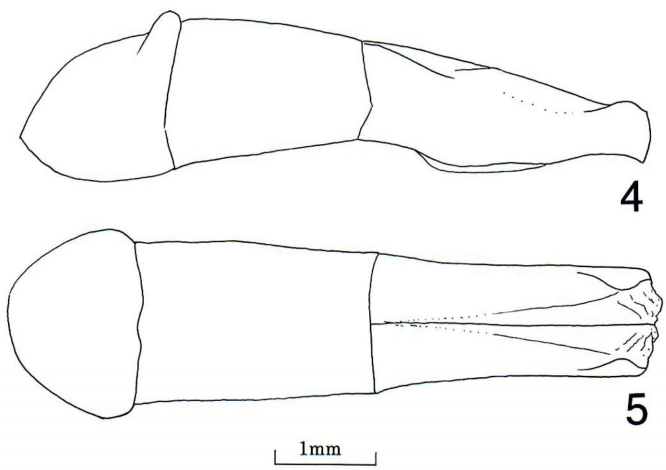


Figs. 1–3. Habitus of *Copris* (*Copris*) *pseudochus* sp. nov., scale 5 mm. —— 1, Male (holotype) in dorsal view; 2, male (holotype) in left lateral view; 3, female (paratype) in dorsal view.

and antennae blackish-brown.

Male. Head semicircular in outline; clypeus slightly and widely incised at the middle, both sides of the incision reflexed; clypeal margin bordered by a broad marginal line; gena strongly produced laterad, with genal corner a little narrower than right angle, margin distinctly bordered, almost straight in front, strongly curved inwards in posterior portion; cephalic horn placed in the middle, rather short, about 5.5mm in length, tapering and pointed distally, slightly curved backwards, subquadrate in cross-section at base, with a longitudinal carina on either posterior side; area posterior to the base of cephalic horn simple, without a pair of teeth; surface transversely rugose on clypeus, granulate and vaguely punctulate at gena, a little shining, smooth and sparsely punctulate on vertex.

Pronotum very strongly convex, about 1.48 times as wide as long (n=1), with an obsolete longitudinal impression along midline in basal three-fifths, coarsely and somewhat rugosely punctate in posterior portion; anterior margin fairly strongly bisinuate and bordered, the marginal border becoming conspicuously broad near sinuation; lateral margins subparallel-sided in basal three-fifths, a little widened anteriad and then again straightly narrowed towards anterior angle, with marginal border fine though distinct in basal three-fifths and not distinct in apical two-fifths; anterior angle truncated, with outer corner obtuse; posterior angle rounded; basal margin clearly bordered, obtusely angulate at the middle; disc strongly convex above in posterior three-fifths and sloping down anteriad in anterior two-fifths; the upper edge of the slope forming a pair



Figs. 4–5. Male genitalia of *Copris* (*Copris*) *pseudochus* sp. nov., scale 1 mm; 4, right lateral view; 5, dorsal view.

of obtuse transverse carinae in central portion, the carina distinctly produced at the outer and inner extremities, the former is a little larger than the latter; the anterior slope slightly hollowed in front of the carina, depressed near anterior angle, rugose and sculptured in the middle, smooth and impunctate laterally; lateral portion also sloping down outwards, with a small pointed tubercle near the middle, with a short curved longitudinal carina near lateral margin.

Elytra strongly convex, about 1.1 times as wide as long (n=1), each with ten striae, the 9th and 10th confluent in the basal third, then separated towards apex; the 1st and 10th, the 2nd and 9th, the 3rd, 4th, 5th and 8th joined at apex, the 6th and 7th not clearly joined at apex; the 8th interrupted a little prior to the junction with the 3rd; all the striae weakly, shallowly, and very finely impressed, with strial punctures small, simple, not distinctly crenulating interstriae; interstriae entirely flat, densely and microrugosely puncticulate throughout.

Pygidium gently convex, rather densely, coarsely, and indefinitely punctate on basal half, somewhat shining and almost impunctate on apical half. Metasternum with a longitudinal impression along midline in basal seven-tenths, then suddenly effaced towards apex; metasternal shield a little lustrous, almost glabrous, sparsely and finely punctate except for the basal portion rather densely and coarsely punctate; lateral part fairly densely covered with strong punctures bearing long setae. Meso- and metafemora with ventral side sparsely and finely punctate, the punctures becoming coarser at apical portion. Protibia broad, with three strong lateral teeth; terminal spur normal, pointed at apex.

Aedeagus robust, about 6.2 mm in total length. Parameres about 2.7 mm in length, about 1.29 times as long as phallobase; apical part distinctly compressed and not attenuate, dorsal lobe slightly but clearly raised in lateral view.

Female. Head with a strongly elevated transverse carina on vertex, which is well arched, sharp at the summit, and occupying two-thirds width between eyes; gena with genal corner a little wider than that of male, posterior margin more gently curved inwards than in the male. Pronotum briefly and slightly declivous in front, with the upper edge of the declivity forming a well arched transverse carina; lateral margin finely bordered throughout; surface a little unevenly, coarsely, and somewhat rugosely punctate except near anterior angle. Elytron more lustrous than in the male. Otherwise like the male.

Type series. Holotype: ♂, NE. Guizhou, China, 1998. Paratypes: 2♀♀, the same data as for the holotype. The holotype is at present preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Notes. The present new species is closely related to *Copris* (*Copris*) *ochus*, but can be distinguished from the latter by the following characteristics: 1) the pronotum with the anterior angle truncated, whereas in *C. ochus*, it is strongly produced forwards; 2) the pronotum with the lateral margin almost straight in basal three-fifths, whereas in *C. ochus*, it is almost evenly rounded; 3) the elytron with the interstriae flat, not convex, not clearly crenulating along the margin; 4) the elytral striae very fine, with small punctures, whereas in *C. ochus*, they are rather broad, with large punctures; 5) in the male, the prothoracic carina not strongly produced on either side; 6) in the male genitalia, the paramere compressed and not attenuate at the apex, whereas in *C. ochus*, it is gradually attenuate towards the apex.

要　　約

越智輝雄・近　雅博：中国貴州省からのダイコクコガネ属*Copris*の1新種．—— 中国貴州省からダイコクコガネ属*Copris*の1新種を，*C.* (*Copris*) *pseudochus* sp. nov. と名付け記載した．本新種は*C.* (*C.*) *ochus*にもっとも近縁のものだと思われるが，前胸背板の前角が切断状であることと，鞘翅の溝がかすかで，鞘翅の間室が平らであることによって，後者と区別することができる．

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Elytra, *Tokyo*, **32** (2): 347–356, November 20, 2004

Two New Species of the Genus *Sinodrepanus* (Coleoptera, Scarabaeidae, Oniticellini) from China and Thailand

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Abstract Two new species of the genus *Sinodrepanus* are described from Guizhou, China and Thailand under the names of *S. uenoi* sp. nov. and *S. thailandicus* sp. nov., respectively. *Sinodrepanus uenoi* sp. nov. resembles *S. similis*, but can be distinguished from the latter by having the following characteristics: in the male, the elytron with the 6th interstria distinctly widened in the posterior portion; in the female, the 6th interstria of elytron almost of the same width as the 4th one in the posterior portion. *Sinodrepanus thailandicus* sp. nov. resembles *S. besucheti*, but can be distinguished from the latter by having the following characteristics: the median longitudinal ridges on the pronotum widely separated from each other and not strongly elevated; in the male, the clypeal margin with the antero-median portion strongly produced and directed upwards at the apical end. In addition, *S. similis* is recorded from China for the first time.

The genus *Sinodrepanus* was erected by Simonis (1985) for *S. falsus* (Sharp) as the type species. Simonis (1985) transferred the three species, *Oniticellus falsus* Sharp, *O. exsul* Sharp and *Drepanocerus rex* Boucomont, to *Sinodrepanus* and described the three species, *S. besucheti* and *S. rosannae* from Fujian, China and *S. similis* from Thailand. Later, Kabakov and Napolov (1999) regarded *S. exsul* as a junior synonym of *S. falsus*.

When we examined specimens of *Sinodrepanus* in our hands, we found two species that appeared to be distinct from any known species of the genus. After we compared the two forms with known members of this genus based on specimens or lit-

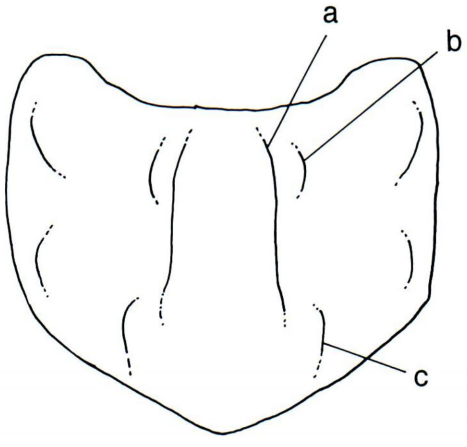


Fig. 1. A schematic presentation of the pronotum of *Sinodrepanus*; a; median longitudinal ridge; b, paramedian anterior short ridge; c, paramedian basal short ridge.

erature, we have concluded that the two forms are new to science. Thus, we are going to describe two new species of *Sinodrepanus* from Guizhou, China and Thailand. In addition, we shall record *S. similis* from China for the first time.

In the following descriptions, we use the terminology for the ridges on the pronotum as shown in Fig. 1.

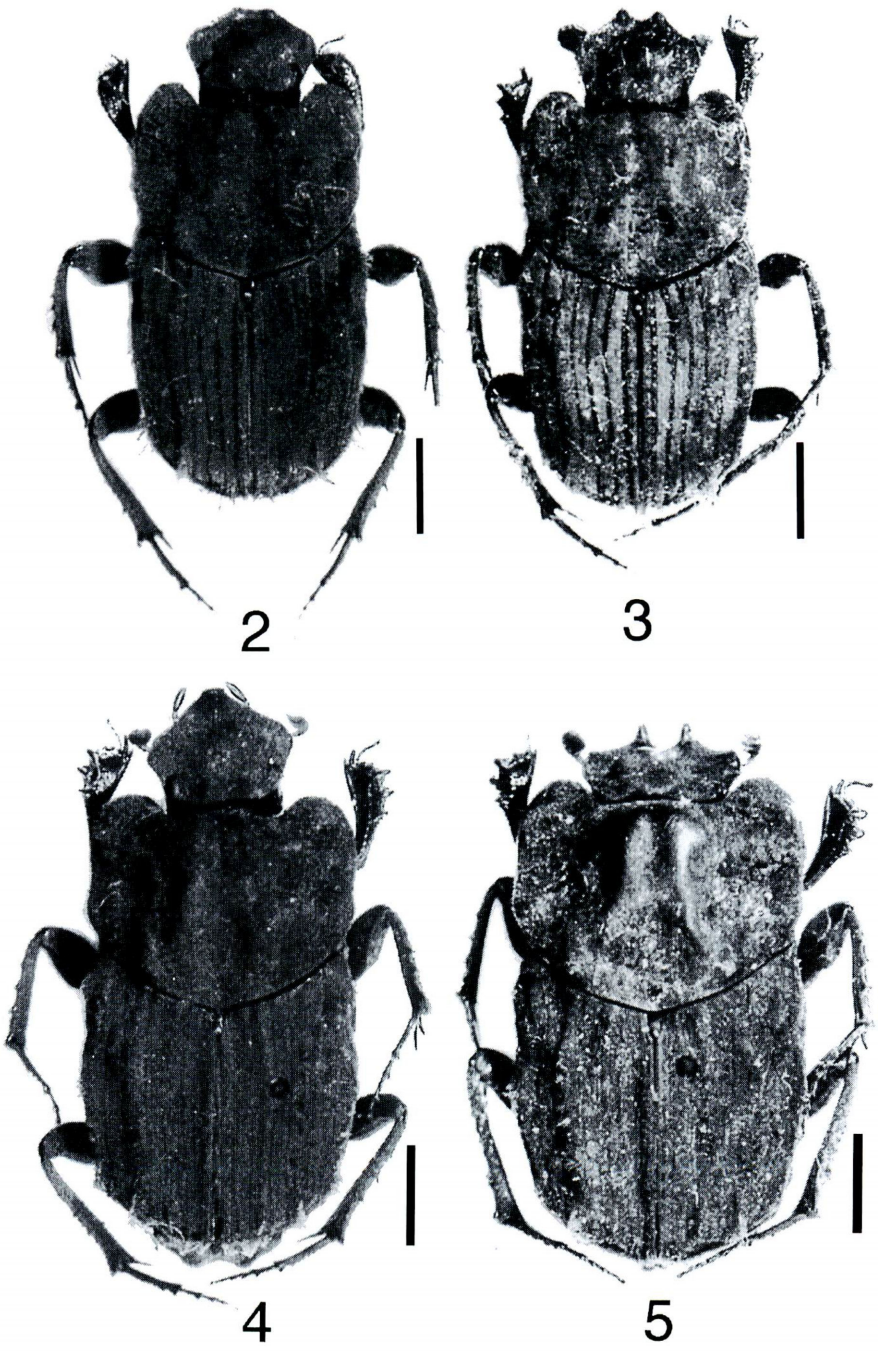
Sinodrepanus uenoi sp. nov.

(Figs. 2, 3, 6, 7, 10, 11, 14–17)

Length: 10.6–11.7 mm; width: 5.1–5.9 mm (n=3).

Body medium-sized, oblong-oval, strongly flattened in posterior portion of dorsal side; dorsal and ventral sides very thickly covered with earthy scale-like hairs except for glabrous scutellum, metacoxa, and dorsal side of protibia; the scale-like hairs changing into long to very long bristles forming tufts in the following dorsal portions: longitudinal carina of posterior portion of head, dorsal ridges and elevations on pronotum, 1st, 5th and 7th interstriae of elytron along whole length, 2nd in posterior portion, 3rd in anterior and posterior portions, 8th in anterior portion, and pygidium in basal and middle parts. Colour brown though the ground colour is dark brown to blackish-brown, partly with slight metallic lustre; scutellum, metacoxa, and dorsal side of protibia tinged with distinct greenish to purplish luster.

Male. Head a little transverse, slightly depressed behind anterior margin at the middle; clypeal margin widely subtrapezoidal in outline, truncated at the middle, weakly sinuate on either side, with marginal line reflexed and finely bordered; median truncation of clypeus a little upturned on either side; clypeo-genal suture fine, not carinate in front, gradually becoming raised towards vertex and changing into obtuse and longitudinal carina near posterior margin; clypeo-frontal suture effaced; gena strongly

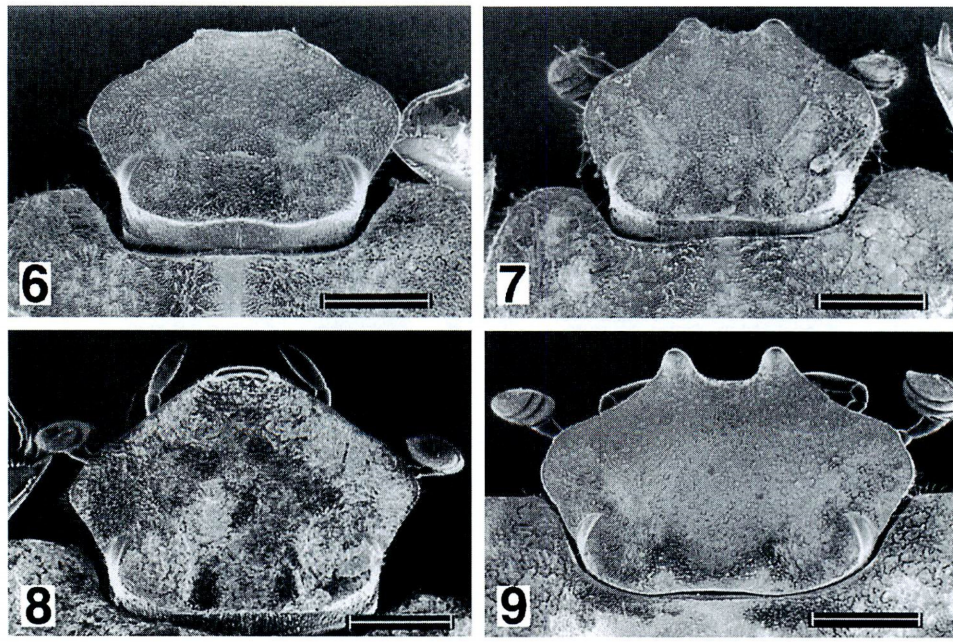


Figs. 2–5. Habitus of *Sinodrepanus* spp., scale 2 mm. —— 2, Male (holotype) of *S. uenoi* sp. nov.; 3, female (paratype) of *S. uenoi* sp. nov.; 4, male (holotype) of *S. thailandicus* sp. nov.; 5, female (paratype) of *S. thailandicus* sp. nov.

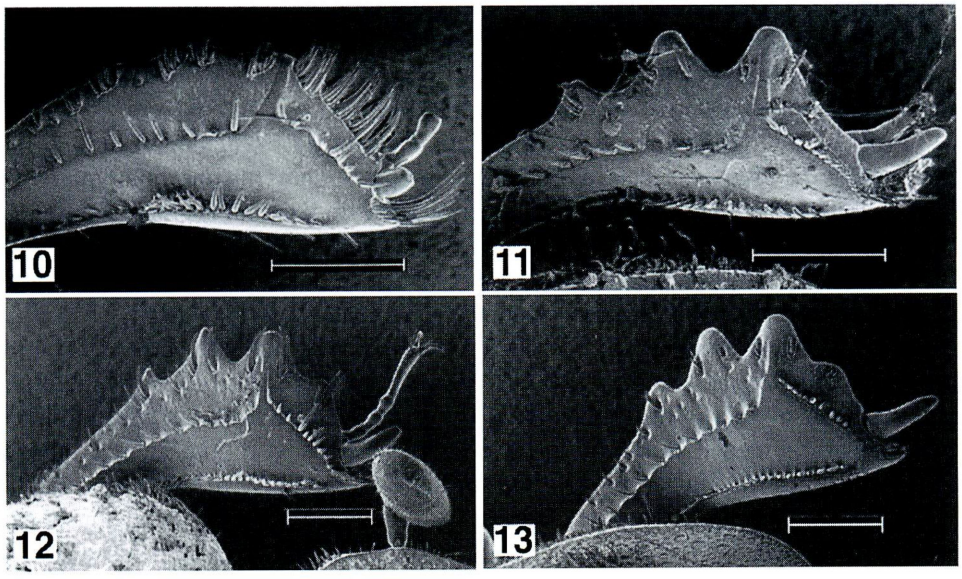
produced laterad and a little reflexed in front, with margin obtusely angulate a little prior to the middle, finely bordered; posterior margin clearly edged; surface very thickly covered with setiferous punctures; the punctures shallowly annular, coarse, a little uneven.

Pronotum depressed and distinctly uneven on dorsal side, about 1.36 times as wide as long (n=1); anterior margin emarginate and finely bordered; lateral margin slightly sinuate at the middle and behind, gently rounded towards apex, and finely borderd throughout; anterior angle subtruncated, with inner corner obtusely angulate and clearly more produced forwards than the rounded outer one; posterior angle rounded; disc rather depressed, with five pairs of obtuse ridges or elevations; the median longitudinal ridge not so strongly elevated, not reaching basal margin, almost straight in anterior half, widened posteriad; paramedian anterior short ridge distinct and well developed; paramedian basal short ridge longitudinal and not so strongly elevated; surface densely covered with earthy scale-like hairs, with punctures coarse, shallow, and clearly elongate in postero-median portion. Prepisternum slightly visible along anterior portion of lateral margin of pronotum in dorsal view. Scutellum small, lingulate, impunctate and shining.

Elytra distinctly hollowed dorsally, about 1.11 times as wide as long (n=1); disc strongly uneven, each with three small excavations, the basal one located on 5th to 7th



Figs. 6–9. Head of *Sinodrepanus* spp., scale 1 mm. —— 6, Male (holotype) of *S. uenoi* sp. nov.; 7, female (paratype) of *S. uenoi* sp. nov.; 8, male (holotype) of *S. thailandicus* sp. nov.; 9, female (paratype) of *S. thailandicus* sp. nov.



Figs. 10–13. Left protibia of *Sinodrepanus* spp., scale 1 mm. —— 10, Male (holotype) of *S. uenoi* sp. nov.; 11, female (paratype) of *S. uenoi* sp. nov.; 12, male (holotype) of *S. thailandicus* sp. nov.; 13, female (paratype) of *S. thailandicus* sp. nov.

interstriae, the median lateral one on 6th to 7th, the lateral one on 7th to 8th, of these the last one is strongly depressed laterally; striae finely and clearly impressed except for the wide 1st one, with strial punctures rather sparse though those on the 1st fairly dense; both sides of each stria finely ridged throughout; 1st interstria convex near base, gradually and weakly costate towards apex; 2nd to 5th almost flat or depressed; 6th distinctly widened in posterior portion; 6th to 8th uneven, densely covered with earthy scale-like hairs.

Pygidium distinctly longitudinal, rather shallowly hollowed at base, longitudinally carinate along midline in basal two-fifths; integument almost covered with earthy scale-like hairs, with tuft of long hairs along the median carina, with a pair of long hair bunches a little prior to the middle. Protibia strongly dilated apicad, slightly curved upwards a little prior to the middle, with three obtuse lateral teeth (they may have become obtuse due to the abrasion); anterior margin of protibia obliquely truncated. Meso- and metatibiae slender; the latter almost of the same length as metatarsus; basal segment of metatarsus 1.78 times as long as terminal spur.

Aedeagus rather slender, with phallobase about 2.5 mm in length (n=1). Paramere also slender in lateral view, about 1.2 mm in length (n=1); apical tooth strongly projected ventrad; lateral tooth fairly slender, a little separated from the apical tooth. Copulatory lamella of internal sac composed of two major branches, the larger one suboval in outline, the other one curved; raspula of internal sac with very dense short setae.

Female. Head with clypeal margin strongly produced as a pair of upturned triangular teeth at the middle. Pygidium more strongly hollowed than in the male; a pair of long hair bunches located near apex. Protibia more strongly dilated apicad, with three teeth stronger; terminal spur sharp, clearly decurved.

Type series. Holotype: ♂, Yuwunshan, 1,600 m alt., Guizhou, China, 1998. Paratypes: 2♀♀, the same data as for the holotype. At present, the holotype is deposited in the collection of the National Science Museum (Natural History), Tokyo.

Distribution. China (Guizhou).

Etymology. The present new species is named in honor of Dr. S.-I. UÉNO, who has been giving us invaluable advice and encouragement.

Notes. The present new species is very similar in having three outer teeth on the protibia to *Sinodrepanus similis* SIMONIS, 1985, from Thailand, but is distinguished from the latter by the following points: 1) in the male, the elytron with the 6th interstria distinctly widened in the posterior portion, whereas in *S. similis*, it is narrow throughout; 2) in the female, the 6th interstria of elytron almost of the same width as the 4th one in the posterior portion, whereas in *S. similis*, the former is obviously narrower than the latter; 3) in the male, the head with the clypeal margin not distinctly bidentate, whereas in *S. similis*, the head with the clypeal margin bidentate; 4) in the male, the anterior angle of pronotum with the inner corner a little produced forwards than the outer one, whereas in *S. similis*, the inner corner of anterior angle is not more produced forwards than the outer one; 5) in the male genitalia, the paramere with the apical tooth strongly projected ventrad and the lateral tooth slender in lateral view, whereas in *S. similis*, the former is less projected ventrad and the latter is clearly robust in lateral view; 6) in the male, the internal sac of aedeagus with the copulatory lamella different in shape from that of *S. similis* (Figs. 16, 17; see also SIMONIS, 1985).

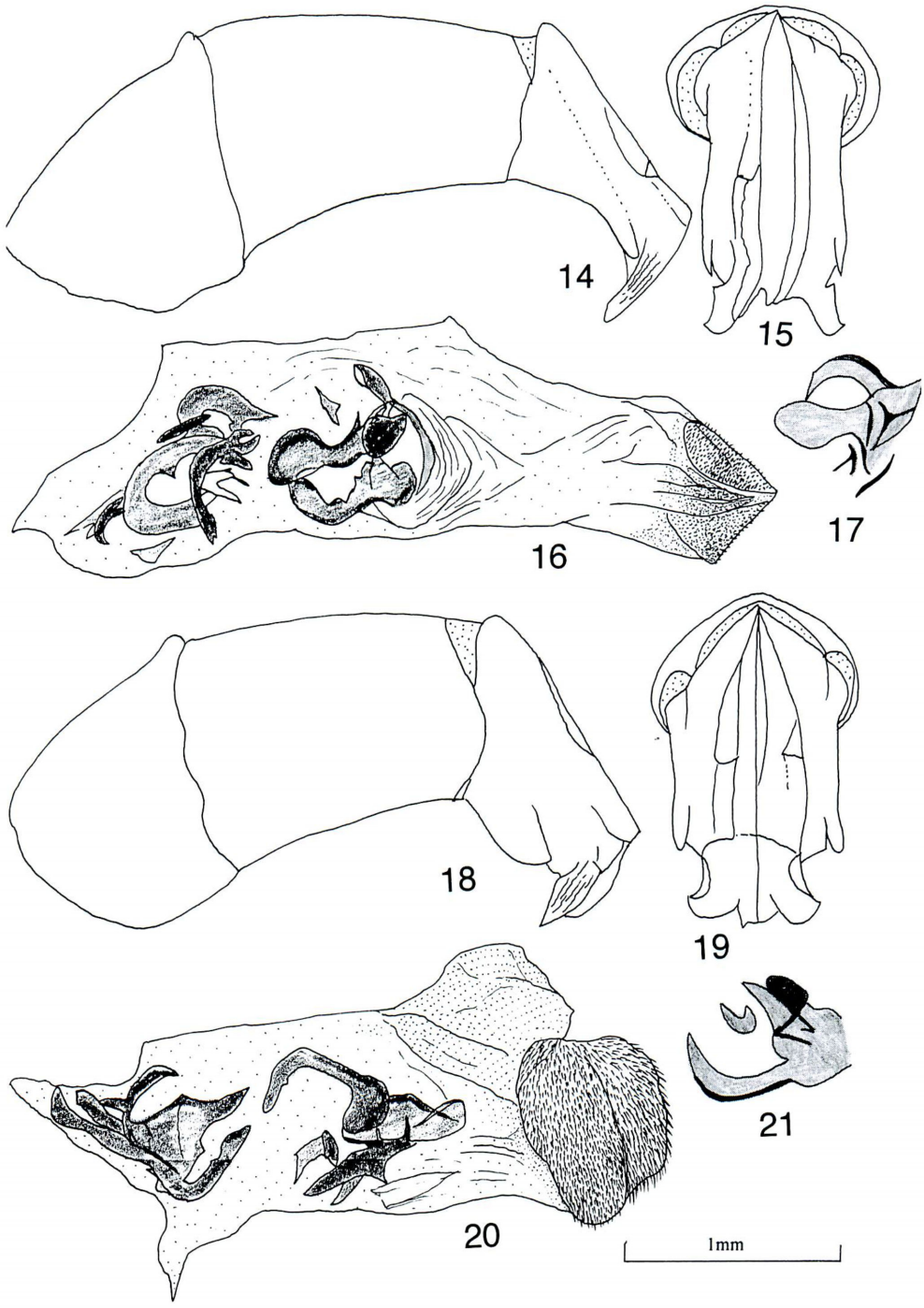
Sinodrepanus thailandicus sp. nov.

(Figs. 4, 5, 8, 9, 12, 13, 18–21)

Length: 10.5–12.7 mm; width: 5.5–6.5 mm (n=14).

Body large-sized, oblong-oval to oval, strongly flattened in posterior portion of dorsal side; dorsal and ventral sides very thickly covered with earthy scale-like hairs except for glabrous scutellum, metacoxa, dorsal side of protibia; the scale-like hairs changing into long to very long bristles forming tufts in the following dorsal portions: longitudinal carina of posterior portion of head; ridges and elevations on pronotum; 1st, 5th and 7th interstriae of elytron almost along whole length; 2nd in posterior portion; 3rd in anterior and posterior portions; 8th in anterior portion; pygidium in basal and middle parts. Colour brown though the ground colour is dark brown to blackish-

Figs. 14–21. Male genitalia of *Sinodrepanus* spp.; 14, 18, male genitalia, lateral view; 15, 19, ditto, dorsal view; 16, 20, internal sac, lateral view; 17, 21, copulatory lamella of internal sac in view from the opposite side. —— 14–17. *Sinodrepanus uenoi* sp. nov. —— 18–21. *S. thailandicus* sp. nov.


14
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brown, partially with a weak metallic luster; scutellum, metacoxa, and dorsal side of protibia tinged with distinct greenish to purplish luster.

Male. Head less transverse than in the preceding species, strongly depressed behind anterior margin at the middle; clypeal margin widely subtriangular in outline, with antero-median portion strongly produced as an upward process which is truncated at the apex; clypeo-genal suture fine, not carinate in front, gradually becoming raised towards vertex and changing into obtuse and longitudinal carina near posterior margin; clypeo-frontal suture effaced; gena strongly produced laterad, clearly reflexed in front, with margin obtusely angulate a little prior to the middle, finely bordered; posterior margin clearly edged; surface very thickly covered with setiferous punctures; the punctures very dense and uneven.

Pronotum depressed and strongly uneven on dorsal side, about 1.38 times as wide as long (n=1); anterior margin bisinuate and finely bordered; lateral margin slightly sinuate at the middle and behind, gently convex and rounded in anterior porton, finely borderd throughout; anterior angle subtruncated, with inner corner angulate and not clearly more produced forwards than the outer one; posterior angle rounded; disc rather depressed though distinctly uneven, with five pairs of obtuse ridges or elevations; the median longitudinal ridge strongly elevated, almost straight in anterior half, widened posteriad, not reaching basal margin; the paramedian anterior short ridge distinct and well developed; the paramedian basal short ridge longitudinal and strongly elevated; surface densely covered with earthy scale-like hairs, with punctures coarse, shallow, and clearly elongate in postero-median portion. Prepisternum not so clearly visible along anterior portion of lateral margin of pronotum in dorsal view. Scutellum small, elongated lingulate, impunctate and shining.

Elytra distinctly hollowed dorsally, about 1.18 times as wide as long (n=1); disc strongly uneven, each with three small excavations, the basal one located on 5th to 7th interstriae, the median lateral one on 6th to 7th, the lateral one on 7th to 8th, of these the last one is strongly depressed laterally; striae finely and clearly impressed except for the wide 1st one, with strial punctures rather sparse though those on the 1st are fairly dense; both sides of each stria finely ridged throughout; 1st stria strongly costate along whole length; 2nd to 5th almost flat or depressed; 6th to 8th uneven, densely covered with earthy scale-like hairs.

Pygidium markedly longitudinal, clearly hollowed at base, longitudinally carinate along midline in basal fifth; integument almost covered with earthy scale-like hairs, with tuft of long hairs along the median carina, with a pair of long hair bunches a little prior to the middle. Protibia strongly dilated apicad, slightly curved upwards a little prior to the middle, with four obtuse lateral teeth; anterior margin of protibia truncated; terminal spur decurved, with apex not so sharp. Meso- and metatibiae slender; the latter slightly longer than metatarsus; basal segment of metatarsus 1.75 times as long as the terminal spur.

Aedeagus robust, with phallobase about 2.3 mm in length (n=1). Paramere also robust, about 1.4 mm in length (n=1); apical tooth well produced ventrad and pointed

in lateral view; lateral tooth broad in lateral view, clearly separated from apical tooth. Copulatory lamella of internal sac composed of several elongate branches, the longer one curved, the others short; raspula of internal sac with dense setae.

Female. Head with clypeal margin strongly produced at the middle as a pair of triangular teeth pointed upwards. Pygidium more strongly hollowed than in the male; a pair of long hair bunches placed near apex. Protibia more strongly dilated apicad, with four teeth; terminal spur clearly decurved, with apex sharp.

Type series. Holotype: ♂, Doi Inthanon, Chiang Mai Prov., Thailand, 1–X–1988, Y. MANIT leg. Paratypes: 1♀: the same locality as for the holotype, 15–IX–1989, K. MASUMOTO leg.; 1♂, ditto, 23–V–1989, K. MASUMOTO leg.; 1♀, Doi Inthanon, 12–X–1989, Y. MANIT leg.; 1♂, 1♀, Doi Inthanon, 15–IV–1991, Y. MANIT leg.; 1♂, 1♀, ditto, 4–IV–1995, K. MASUMOTO leg.; 2♂, 2♀, Chiang Mai, 10–V–1989; 1♂, 1♀, Doi Inthanon, 24–VIII–2004, K. MASUMOTO leg. The holotype is deposited in the collection of the National Science Museum (Natural History), Tokyo.

Distribution. Thailand.

Notes. The present new species appears to be closely related to *Sinodrepanus besucheti* SIMONIS, 1985, but is distinguished from the latter by the following points: 1) the body clearly larger; 2) the pronotum with the median longitudinal ridges widely separated from each other and not strongly elevated, whereas in *S. besucheti*, they are narrowly separated and strongly elevated; 3) in the male, the clypeal margin with the antero-median portion strongly produced as a process directed upwards, whereas in *S. besucheti*, it is truncated and upturned in anterior margin; 4) in the female, the clypeal margin with a pair of median teeth strong and narrowly separated, whereas in *S. besucheti*, they are weak and more widely separated; 5) in the male genitalia, the paramere with the apical tooth strongly pointed and the lateral tooth very close to the apical tooth in lateral view, whereas in *S. besucheti*, the former is not distinctly pointed and the latter is widely separated from the apical tooth in lateral view; 6) in the male genitalia, the copulatory lamella of internal sac is quite different in shape from that of *S. besucheti* (Figs. 20, 21; see also SIMONIS, 1985).

Sinodrepanus similis SIMONIS

Sinodrepanus similis SIMONIS, 1985, Revue suisse Zool., **92**, p. 102.

Specimens examined. 4♂♂, 3♀♀, Guizhou, China, 1998.

Disribution. Thailand, China (Guizhou) (new record).

Specimens compared. *Sinodrepanus besucheti* SIMONIS: ♂ (holotype), Kuatun, Fukien, China, 11–5–46, Tschung SEN leg. *S. falsus* (SHARP): 1♂, 1♀, Pak Chong, Thailand. *S. rosannae* SIMONIS: ♂ (holotype), Chine, 25–IX–46, Kuatun, Fukien, Tschung SEN leg.

Acknowledgments

We thank Dr. Giulio CUCCODORO for giving us the opportunity to examine the type specimens in the collection of the Muséum d'Histoire naturelle, Genève. This study was supported in part by a Grant-in-Aid from the Japan Society for the Promotion of Science (No. 14405013).

要　　約

越智輝雄・近　雅博・益本仁雄：中国とタイからの*Sinodrepanus*属の2新種．—— *Sinodrepanus*属の2新種を中国，貴州省とタイから記載し，それぞれ，*S. uenoi* sp. nov. と *S. thailandicus* sp. nov. と名付けた．*S. uenoi* sp. nov. は*S. similis* と似ているが，雄の鞘翅の第6間室の後半部分が顕著に広くなることと，雌の鞘翅の第6間室の後半部分が第4間室とほぼ同じ幅であることによって区別できる．*S. thailandicus* sp. nov. は*S. besucheti* と似ているが，前胸背板の左右の中央縦隆起がたがいに離れ，それらが強く隆起していないこと，および雄の頭部前縁の中央部が強く伸び，先端が上を向くことによって区別できる．さらに，*S. similis* を中国から初めて記録した．

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Elytra, *Tokyo*, **32** (2): 357–365, November 20, 2004

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

Part 2. Two New Species and Males of *Onthophagus roubali* and *O. hsui*

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Abstract This is the second part of a revisional study of the Taiwanese Scarabaeinae. *Onthophagus* (*Parascatonomus*) *kiuchianus* sp. nov. and *Sinodrepanus tsaii* sp. nov. are described, and a male specimen of *O.* (s. str.) *roubali* Balthasar, 1935 and a small-sized male of *O.* (*Indachorius*) *hsui* Masumoto, Chen et Ochi, 2004 are described for the first time.

The authors have been studying Taiwanese dung beetles for these three years, particularly species of the subfamily Scarabaeinae. In the first part of this series (Masumoto *et al.*, 2004), two new *Onthophagus* species from Taiwan were described. As the second part, other two new species and male specimens of two known species will be described.

Nomura (1973) recorded two species from Taiwan under the names *Onthophagus* (s. str.) *kuatunensis* Balthasar, 1942 and *Drepanocerus arrowi* Balthasar, 1932, both originally described from China. The authors have carefully re-examined the specimens collected from Taiwan, and have concluded that they are new to science.

Of the other two species, one has been known from only females. In the other species, a small male individual has not developed the cephalic horn completely, and instead it is provided with a pair of small tubercles. It will be described together with the male of the former species.

The authors would like to express their gratitude to Mr. Yasuyuki UEDA, Fujisawa City, Dr. Chun-Lin LI, National Taiwan University, Taipei City, Dr. Li-Cheng TANG* and Mr. Kuo-Hung CHUANG, Department of Entomology, National Chung Hsing University, for offering materials, and Dr. Chi-Feng LEE, Institute of Zoology, Academia Sinica, Taipei City, Mr. Hui-Yung LEE, National Taiwan University, and Jing-Fu TSAI, National Chung Hsing University, Taichung City, for their kind assistance in field works. They also thank Dr. Giulio CUCCODORO, Muséum d'Histoire Naturelle, Genève, for loaning the type specimens and also thank Dr. Makoto KIUCHI, Tsukuba City, for taking very clear photographs inserted in this paper and offering invaluable suggestions.

Depositories of the type specimens to be designated are given under each description. 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; NTU – Department of Entomology, National Taiwan University, Taipei; TARI – Taiwan Agricultural Research Institute, Wufeng; COO – Collection OCHI, Osaka.

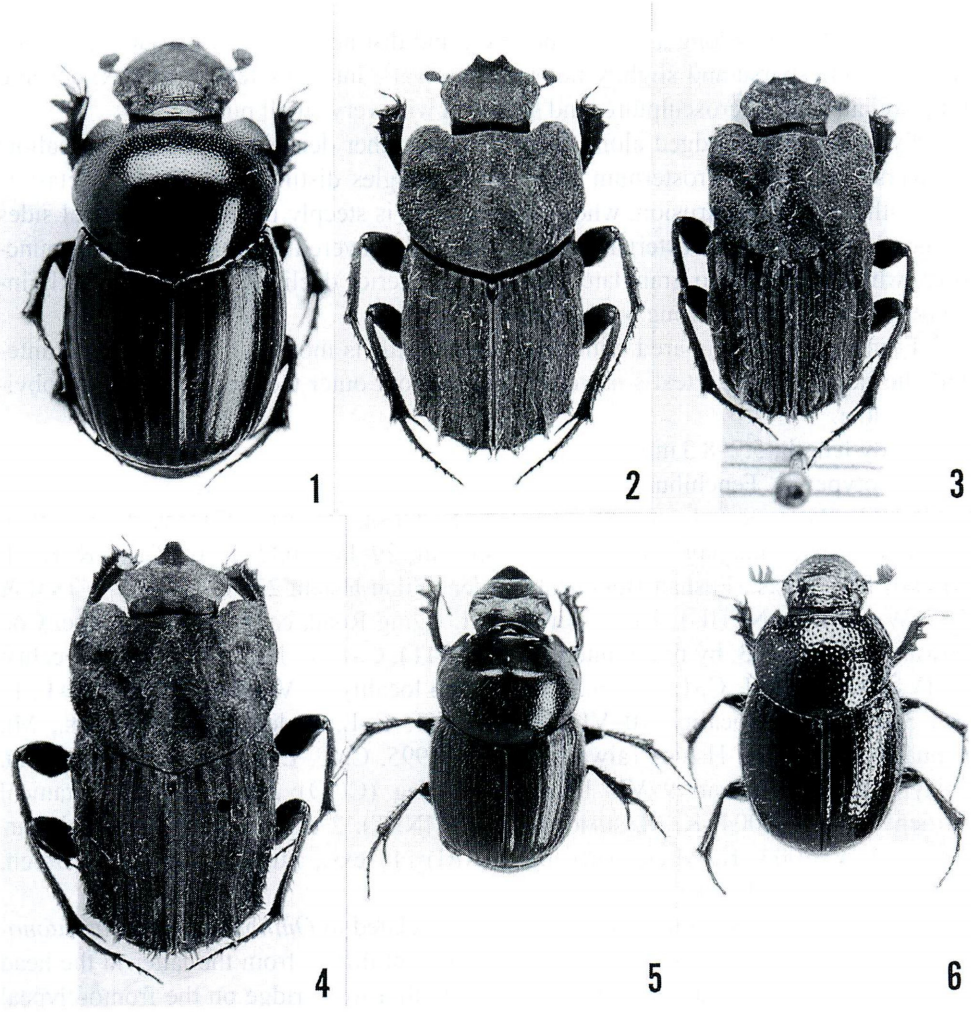
Onthophagus* (*Parascatonomus*) *kiuchianus sp. nov.

(Fig. 1)

Piceous, with anterior margin of head, basal parts of antennae, mouth parts and legs dark reddish brown, head and pronotum with a weak purple tinge in some individuals, antennal clubs pale brown; head and pronotum rather strongly shining, elytra feebly sericeous, ventral surface mostly alutaceous; dorsal surface almost glabrous, ventral surface clothed with rather long hairs. Body ovate, rather strongly convex dorsad, gently flattened in posterior part, and rather remarkably constricted between pronotum and elytra.

Male. Head gently produced apicad, almost flat in anterior part; clypeus rugoso-punctate, with apical margin produced in middle, weakly reflexed and slightly indented at the borders of genae; clypeo-frontal border curved and weakly carinate; geno-clypeal sutures partly impressed and partly slightly ridged; ocular lobes (genae) somewhat parallelogrammatic, obtusely produced laterad, feebly concave, and weakly rugoso-punctate; frons short, quadrate, gently, transversely concave, transversely rugoso-punctate; vertex with a distinct ridge in the middle a little before the posterior margin, which becomes bolder in middle, with a flattened top, whose surface is rather smooth and scattered with small punctures. Antenna short and compact; scape short, invisible from dorsal view; club segments compact, with three segments successively diminishing distad in size.

* Under projects, "The study on monitoring of TA-CHIA-SHI working circle 22nd–24th compartment burned area (II) supported by Donghih Forest District Office, Forestry Bureau and "Survey of the insects at Shei-Pa National Park-Hseuh-Gine area" supported by Shei-Pa National Park.



Figs. 1–6. Habitus of *Onthophagus* and *Sinodrepanus* spp. from Taiwan; 1, *Onthophagus* (*Parascatonomus*) *kiuchianus* sp. nov., holotype ♂; 2, *Sinodrepanus tsaii* sp. nov., holotype ♂; 3, *S. besucheti* SIMONIS, holotype ♂; 4, *S. rosannae* SIMONIS, holotype ♂; 5, *Onthophagus* (s. str.) *roubali* BALTHASAR, ♂; 6, *Onthophagus* (*Indachorius*) *hsui* MASUMOTO, CHEN et OCHI, ♂ (minor).

Pronotum evenly convex, about 1.33 times as wide as long, with a feeble longitudinal groove along median line in basal half; anterior margin gently emarginate; lateral margins evenly and roundly produced laterad, slightly sinuate in posterior parts, finely bordered; base somewhat triangular with rounded sides, bluntly angulate at the middle, with marginal border effaced throughout; anterior angles gently produced and subangulate; surface smooth, covered with small but deep punctures, which are intermixed with minute punctures, the larger punctures becoming denser and coarser antero-lat-

erad.

Elytra almost as long as wide, shallowly and distinctly punctato-striate, the punctures in striae sparse and slightly notching intervals; intervals feebly convex, covered with isodiametric microsculpture, and scattered with very small punctures.

Pygidium finely ridged along basal margin, rather densely covered with shallow transverse punctures. Prosternum with anterior angles distinctly hollowed. Metasternum with a medial protrusion, whose anterior side is steeply inclined and lateral sides are gently hollowed; metasternal shield moderately covered densely with small punctures, which change into granulate ones on the anterior declivity. Protibiae weakly incurved, each with four strong outer teeth.

Female. As compared with male, the clypeus is more strongly produced anteriad, the ridge on the vertex is narrower, and the four outer teeth of protibiae are obviously bolder.

Body length: 5.7–8.3 mm.

Holotype: ♂, Fenchihu, Chiayi Hsien, Taiwan, 23–XI–2003, K. MASUMOTO leg. (NMNST). Paratypes: 1 ex., "Funchiifo", Formosa, 21–VI–1971, Y. MAEDA leg. (NSMT); 1 ex., Shuejian, Miaoli Hsien, Taiwan, 29–IV–2002, L.-C. TANG & K.-H. CHUANG leg., 5 exs., Fushan Botanical Garden, Yilan Hsien, 27–V–2004, J.-F. TSAI & T.-C. WANG leg. (NCHU); 1 ex., Nei Dong Logging Road, ca. 850 m alt., Taipei Co., Taiwan, 18–IV–2003, by flying intercept trap (FIT), C.-L. LI leg., 5 exs., same locality, 24–IV–2003, by FIT, C.-L. LI leg., 2 exs., same locality, 3–VI–2003, by FIT, C.-L. LI leg., 3 exs., same locality, 10–VI–2003, by FIT, C.-L. LI leg., (NTU); 2 exs., Mt. Hehuanshan, Nantou Hsien, Taiwan, 13–VIII–1995, C.-C. LUO leg., 1 ex., Fenchihu, Chiayi Hsien, C. Taiwan, 9–VII–1974, T. OCHI leg. (COO); 2 exs., Fushan Botanical Garden, 7~8–V–2004, K. MASUMOTO leg. (NMNST); 2 exs., Fushan Botanical Garden, 7~8–V–2004, K. MASUMOTO leg. (TARI); 45 exs., Fushan Botanical Garden, 7~8–V–2004, K. MASUMOTO leg.

Notes. The present new species is closely related to *Onthophagus* (*Parascatonomus*) *kuatunensis* BALTHASAR, 1942 from China, but differs from the latter in the head with a transverse ridge on the vertex and also with a weak ridge on the fronto-clypeal border (entirely flat and simple in *O.* (*P.*) *kuatunensis*), and the pronotum with anterior angles more strongly produced. NOMURA (1973, p. 48) recorded *O.* (s. str.) *kuatunensis* from Taiwan, but actually it is *O.* (*P.*) *kiuchianus*. This new species also resembles *O.* (s. str.) *formosanus* GILLET, 1924, but can be distinguished from the latter by the head with two transverse ridges and the pronotum not grooved along the median line.

The specific name is given after Dr. Makoto KIUCHI, Tsukuba City, who has assisted our study on the Taiwanese dung beetles.

Sinodrepanus tsaii sp. nov.

(Figs. 2, 7–8)

Brownish black with feeble coppery tinge, almost wholly covered with brownish

grey earthy matter, rather sparsely clothed with long scale-like hairs on ridges of dorsal surface, which often form small bundles. Body subrectangular, flattened above.

Male. Head somewhat widely pentagonal, flattened but raised in apical and lateral parts, feebly covered with isodiametric microsculpture, scattered with small and large punctures, the latter becoming somewhat ring-shaped and denser anteriad; clypeus with the anterior margins straightly convergent apicad and strongly reflexed and bidentate at the apex, the area between the teeth rather deeply emarginate; ocular lobes gently produced laterad, with outer margins obtusely angulate, areas before eyes weakly concave; frons not defined from clypeus and ocular lobes, gently raised in middle; vertex with a pair of low longitudinal ridges close to hind margin, areas among and outside the ridges weakly concave. Eyes oblique and crescent-shaped.

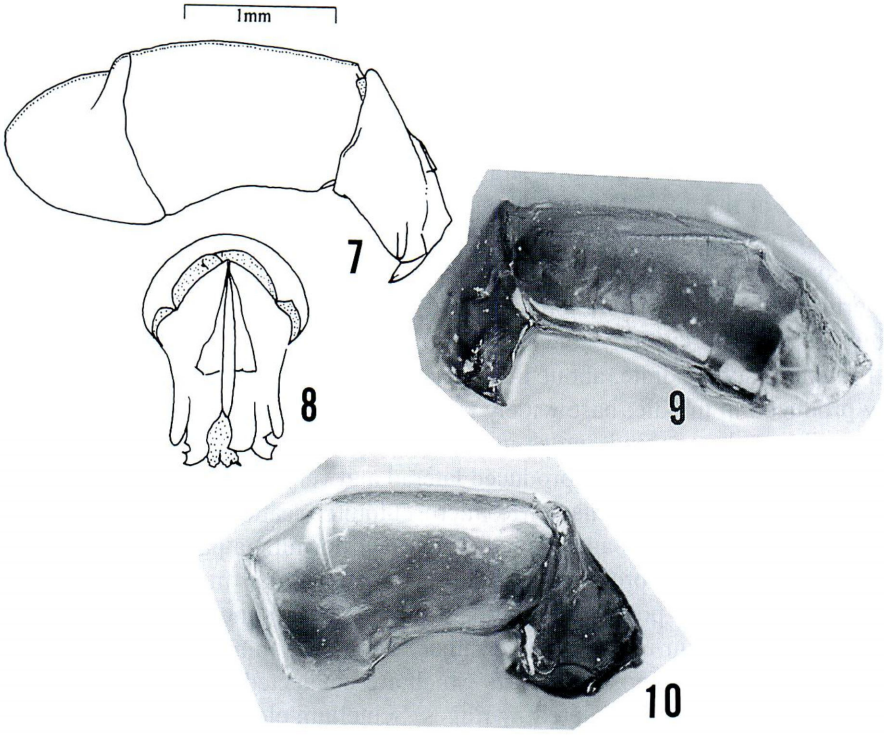
Pronotum subquadrate, about 1.2 times as wide as long; apex widely emarginate, feebly produced in middle; base widely triangular, with weakly curved sides; front angles roundly produced, hind angles invisible being covered with protrusion of lateral margins; lateral margins feebly produced laterad and very slightly narrowed in middle; disc feebly covered with isodiametric microsculpture, scattered with small and large punctures, gently convex in antero-medial part, and forming a pair of longitudinal elevations, with shallow depressions as follows: a narrow one in antero-medial part, a wide triangular one in postero-medial part, a pair of indistinct ones in anterior parts near front angles, a pair of oblique and rather strong ones in medio-lateral parts, a pair of subtriangular ones in posterior parts which are connected with medio-lateral ones; most of these depressions bordered by ridges. Scutellum elongated linguiform, weakly raised medially, glabrous, and covered with isodiametric microsculpture.

Elytra slightly longer than wide, widest near base; disc covered with isodiametric microsculpture, scattered with small punctures, punctato-striate, the striae glabrous and finely margined, the punctures in striae very shallow, notching intervals, each with a small tussock; 1st (sutural) intervals raised and densely covered with scale-like hairs, 2nd to 4th flattened and slightly concave, 5th and 7th raised and provided with tufts of rough scale-like hairs, 6th concave in basal part and depressed outwards in posterior 2/3, 7th strongly produced laterad in middle; distal parts of elytra with tufts of long hairs.

Pygidium sublinguiform, covered with isodiametric microsculpture, shallowly punctate, the punctures ill-shaped, depressed in basal 3/5, ridged in basal 2/5 medially, with a pair of humps at the middle, whose tops are covered with tussocks. Metasternal shield closely punctate, covered with short scale-like hairs, glabrous along medial line, with a subpentagonal depression in medial part close to hind margin. Protibiae with three outer teeth.

Female. As for the characteristics on the dorsal parts, there is no difference from the male. On the ventral part, the female possesses shorter pygidium and longer abdominal segments than the male.

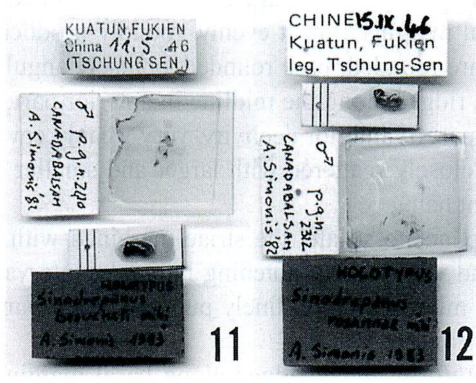
Holotype: ♂, Huanshan (ex-Hung Mao), 1,500 m alt. (attracted by rotten chicken meat), Taichung Hsien, C. Taiwan, 26–IV–2003, L.-C. TANG & K.-H. CHUANG leg.



Figs. 7–10. Male genitalia of *Sinodrepanus*; 7, *S. tsaii* sp. nov. (lateral view); 8 ditto (frontal view); 9, *S. besucheti* SIMONIS (lateral view); 10, *S. rosannae* SIMONIS (lateral view).

(NMNST). Paratypes: 1 ex., "Summit of ???", Formosa, 11–VI–1933, T. KANO leg. (NSMT); 1 ex., Peitungyen Shan, Nantou Hsien, C. Taiwan, 27–VIII–2003, J.-F. TSAI leg. (NCHU); 1 ex., Mt. Kuantao Shan, Nantou Hsien, C. Taiwan, 26–VII–1995, C.-C. LUO leg.; 1 ex., same collecting data (Y. UEDA collection); 1 ex., Baibara (Meiyuan, Nantou Hien), Formosa, 7–VII–1939, Y. MIWA leg. (TARI); 1 ex., Shuejian, Miaoli Hsien, C. Taiwan, 27–VII–2002, L.-C. TANG & K.-H. CHUANG leg.; 1 ex., 29–IX–2002, same collecting data; 4 exs., Huanshan, Taichung Hsien, 3–XI–2002, L.-C. TANG & K.-H. CHUANG leg.; 6 exs., 18–VIII–2003, same locality; 2 exs., Chu-yun-shan, Tengchi, Kaohsiung Hsien, S. Taiwan, 16–V–2004, J.-F. TSAI & T.-C. WANG leg.

Notes. This new species resembles *Sinodrepanus besucheti* SIMONIS, 1985, from Kuatun, Fukien (Figs. 3, 9 & 11) but can be distinguished from the latter by the clypeus noticeably bidentate and reflexed in front, the ocular lobes more strongly produced laterad, the pronotum more widely produced postero-laterad, and the male genitalia differently shaped. This new species also resembles *S. rosannae* SIMONIS, 1985, also from Kuatun, Fukien (Figs. 4, 10 & 12), but can easily be distinguished from the latter by the body narrower with the apex of clypeus bidentate. As mentioned in the in-



Figs. 11–12. Holotype labels. —— 11, *Sinodrepanus besucheti* SIMONIS; 12, *S. rosannae* SIMONIS.

troduction, NOMURA (1973) recorded *Drepanocerus arrowi* BALTHASAR, 1932, but it is actually this new species.

The specific name is given after Mr. Jin-Fu TSAI, a young entomologist of National Chung Hsing University, who has been a member of our joint-study team on the Taiwanese fauna of dung beetles and has contributed in various ways.

Onthophagus (s. str.) ***roubali*** BALTHASAR, 1935

(Fig. 5)

Onthophagus (s. str.) *roubali* BALTHASAR, 1935, Folia zool. hydrobiol., **8**: 316.
O. roubali: NOMURA, 1973, Ent. Rev. Japan, Osaka, **25**: 49 [nec BALTHASAR].

BALSTHASAR (1935) described this species based on a female from "Tatsienlu, Szechouan". Since then, there has never been any account of a male. Recently, Dr. Chun-Lin LI, National Taiwan University, offered two strange *Onthophagus* specimens collected from North Taiwan to the authors. After a careful study, the authors have concluded that they are males of *Onthophagus roubali* BALTHASAR, 1935. They will be described below.

Piceous to dark reddish brown, head and pronotum rather shining and elytra rather mat; noticeably covered with short pale hairs. Body oblong-ovate, rather convex dorsad but gently flattened in posterior part.

Head strongly produced and inclined anteriad, rather closely scattered with small punctures; clypeus feebly concave in anterior part, reflexed in front, feebly rugulose in lateral parts, fronto-clypeal border weakly ridged, the ridge sinuous on each side and almost reaching lateral margins; ocular lobes feebly concave, weakly produced laterad; frons widened anteriad, with a pair of somewhat elongated triangular impunctate areas; fronto-genal borders weakly sulcate; vertex with a pair of slightly flattened horns, which are connected with each other at the base, gently curving outwards, and slightly inclined backwards.

Pronotum wider than long (10 : 7); apex weakly emarginate, slightly produced anteriad in middle; lateral margins almost evenly, roundly produced; front angles rather acute, but the corners are rounded; base rounded, obtusely angulate at the middle; disc rather strongly convex, ridged along the midline in anterior part, which is briefly interrupted at the posterior part of anterior declivity, very weakly covered with isodiametric microsculpture, rather closely scattered with larger and smaller punctures, each of the former with a short bent hair.

Elytra shallowly punctato-striate, the striae margined with low ridges, the punctures in striae small and very weakly notching intervals; intervals feebly convex, covered with isodiametric microsculpture, finely punctate, each puncture with a bent seta and a small granule in front.

Pygidium sublinguiform, finely ridged along basal margin, covered with isodiametric microsculpture, scattered with umbilicate punctures, each with a bent hair. Metasternal shield covered with small punctures and bent hairs, minutely punctate among the former, and glabrous along medial line. Protibiae with four outer teeth.

Specimens examined. 1 ex., Nei Dong Logging Road, ca. 850 m alt., Taipei Co., N. Taiwan, 24–IV–2003, C.-L. LI leg. (NTU); 1 ex., 9 km, Nei Dong Logging Road, ca. 850 m alt., Taipei Co., N. Taiwan, 4–X–2002, C.-L. LI leg. (NSMT).

Onthophagus* (*Indachorius*) *hsui MASUMOTO, CHEN et OCHI, 2004

(Fig. 6)

Onthophagus (*Indachorius*) *hsui* MASUMOTO, CHEN & OCHI, 2004, Elytra, Tokyo, **32**: 126.

The most distinctive male characteristics of the species, *Onthophagus* (*Indachorius*) *hsui* MASUMOTO, CHEN et OCHI, 2004, is the possession of a thin oblong horn on the vertex, whose upper edge is pointed at each lateral corner, and armed with an elongate, backwardly curved finger at the middle in larger individuals. In smaller individuals, the cephalic horn is reduced to a low triangular prominence. In the course of their research project, the authors have obtained very small male individuals (4.6–4.9 mm in length), whose vertexes are armed with pairs of tubercles. Though such a feature is of a female, they were determined as male of *O. hsui* for the reasons of its legs with three outer teeth (four outer teeth in female), and of the clypeus more strongly produced apicad.

Specimens examined. 1 ex., Rongshu Community, Hualien Hsien, Taiwan, 3–V–2004, J.-H. TSAI leg. (NCHU); 1 ex., Fushan Botanical Garden, Ilan Hsien, Taiwan, 7～8–V–2004, K. MASUMOTO leg. (NSMT).

要　　約

益本仁雄・楊　曼妙・越智輝雄：台湾産タマオシコガネ亜科の再検討．その2．エンマコガネ属および*Sinodrepanus*属の各1新種，および*Onthophagus roubali* BALTHASARの雄と*O. hsui* MASUMOTO, CEHN et OCHIの小型の雄の記載．—— 台湾産タマオシコガネ亜科の研究の第2報と

して，まず*Onthophagus* (*Parascatonomus*) *kiuchianus* sp. nov. および*Sinodrepanus tsaii* sp. nov. を記載した．前者は中国大陸から記載された*Onthophagus* (*Parascatonomus*) *kuatunensis* BALTHASAR, 1942，また後者は同じく中国大陸から記載された*Drepanocerus arrowi* BALTHASAR, 1932とされていたものであるが，詳細に検討した結果，新種であることが判明した．また，第3の種は，*O.* (s. str.) *roubali* BALTHASAR, 1935であるが，♀のみで記載され，♂がどのような形態をしているか今日まで不明であった．検討中の標本から当該種の♂を見出したので，改めて♂を記載した．第4の種は*O.* (*Indachorius*) *hsui* MASUMOTO, CHEN et OCHI, 2004である．本種の♂は通常頭頂に顕著な一角を有するが，小型の♂では角の代わりに♀の特徴である2顆粒を具える個体が見られたのであわせて報告した．

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Elytra, *Tokyo*, **32** (2): 366, November 20, 2004

Lectotype Designation for *Copris siamensis* GILLET (Coleoptera, Scarabaeidae)

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In the course of our study on Asian dung beetles, Dr. Alain DRUMONT, Institut royal des Sciences naturelles de Belgique, has given us an opportunity of examining the type series of *Copris siamensis* GILLET, 1921. We are going to designate the lectotype and paralectotypes for this species.

Lectotype designation. Lectotype: ♂, the first label: Coll. R. I. Sc. N. B. (printed) / Siam (handwriting) / ex coll. J. GILLET (printed); the second label: det. (printed) Gillet 1910 (handwriting) / *Copris* ♂♀ / *siamensis* / n. sp. Gillet (handwriting); the third label: Lectotype (printed) / *Copris siamensis* / GILLET / design. by MAS. et OCHI, 2004 (handwriting). The remaining 13 specimens of the syntypes are herewith designated to paralectotypes.

Notes. The specimen designated to the lectotype is a large (ca. 21 mm in length) male in a rather good condition, though the whole of the left front tarsi, the claws of right front leg, and four apical segments including claws of the right middle leg are missing. The male genitalia have been extracted and attached to the specimen. All the specimens herewith designated to paralectotypes are collected from "Siam".

Before closing this brief note, we wish to express our cordial thanks to Dr. Alain DRUMONT for permission to examine the type materials.

Reference

GILLET, J. J., 1910. Espèces nouvelles du genre *Copris* et relevé synonymique des espèces décrites à ce jour. *Not. Leyden Mus.*, **32**: 1–31.

Elytra, *Tokyo*, **32** (2): 367–369, November 20, 2004

An Additional New Species of *Metallidascillus* (Coleoptera, Dascillidae) from Taiwan

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Abstract An additional new species of the genus *Metallidascillus* is described and illustrated from Taiwan under the name of *M. yangi*. It is interesting that *M. yangi* is more related to *M. wakaharai* from Laos than to *M. sasajii* from Taiwan.

It is interesting from the zoogeographical viewpoint that the genus *Metallidascillus* was found in Taiwan by SATÔ and OSAWA (2002) as an element of the fauna of evergreen broadleaved forest. Another species of the same genus was recently found at the high altitudinal area of Taiwan. After careful studies of the latter, we have concluded that it is a new species more closely allied to *M. wakaharai* M. SATÔ from Laos than to *M. sasajii* M. SATÔ et OSAWA from Taiwan. This is also one of the elements mentioned above.

Metallidascillus yangi sp. nov.

(Fig. 1)

Female. Body robust, elongated oval and polished. Pronotum, epipleuron, scutellum, elytra and elytral epipleuron reddish brown: head, meso- and metasterna, antennae, legs except for brownish claws black: abdomen dark reddish brown. Head broader than long and finely microreticulate; vertex somewhat flat, closely and finely

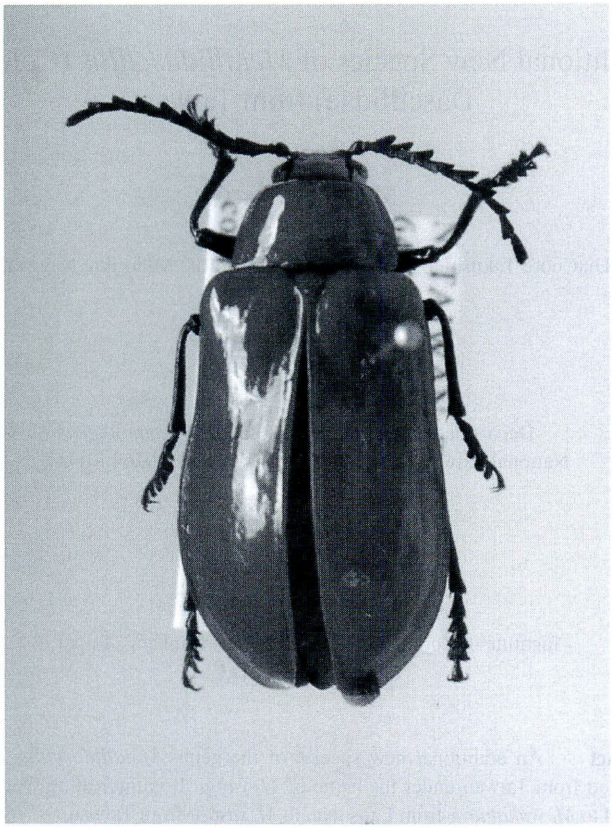

Fig. 1. *Metallidascillus yangi* sp. nov. (Holotype).

punctate anteriad, sparsely so posteriad, and sparsely pubescent in front; mandibles stout, distinctly rugoso-punctate and pubescent in posterior halves, each provided with an evident tooth at apical third; labrum prolonged anteriad, and furnished with long cinereous bristles; clypeus transverse, sparsely punctate and pubescent; eyes hemispherical, lateral, ratio of the diameter of an eye to interocular space 1: 5.5–6.5 (6.5 in the holotype); antennae strongly serrate, attaining to the basal fifth of elytra, 1st segment stout and 2.3 times as long as 2nd which is the shortest, 3rd subtriangular and 1.4 times as long as 1st, 3rd to 10th subequal, 11th oblong and longer than 10th. Terminal segment of maxillary and labial palpi dolabrate.

Pronotum trapezoidal, 1.4–1.7 (1.7) times as wide as head, 1.7–2.0 (2.0) times as wide as long, moderately convex and smooth on integument; posterior and lateral margins bordered; anterior angles rounded, posterior angles obtuse; disc sparsely and obsoletely punctate. Scutellum cordate and smooth.

Elytra elongate, 1.5–1.6 (1.6) times as wide as pronotum, 1.5–1.6 (1.6) times as long as wide, well convex, though somewhat concave at basal third, highest at the cen-

tre and smooth on integument; shoulders distinctly recognized; lateral sides reflexed, gently divergent posteriad, with rounded apices, though slightly constricted at basal fourth and most widely distant from each other at apical third; disc sparsely and obsoletely punctate, and provided with 12 punctate striae which consist of minute and somewhat irregular punctures and become disappeared anteriad and posteriad.

Ventral surface and legs closely covered with recumbent pubescence. Prosternal process prolonged into mid-intercoxae, with rounded apex. Mesosternum lanceolate and pointed at the apex. Legs moderate in length; femora transversely rugose; tibiae rugosely punctate; tarsi 5-segmented, 1st to 4th bilobate, 5th simple; claws simple, but slightly dilated at the base.

Length of body: 13.9–17.8 (17.8) mm (from front margin of clypeus to elytral apices); breadth of body: 10.1–13.1 (13.1) mm.

Male. Unknown.

Type series. Holotype: ♀, 64 km north of Crossing Highway, 121°26′0″E/24°38′45″N, alt. ca. 1,100 m, Tao Yuan Hsien, 11–VI–2004, C.-L. Li leg. Paratypes: 1♀, Pilu Shenmu, alt. 2,200 m, Hualien Hsien, 2–VI–1999, W. I. Chou leg.; 1♀, Xuanyuan, Tao Yuan Hsien, 17–IV–1989, C.-L. Li leg.

The holotype is deposited in the collection of National Taiwan University, Taiwan, one paratype in the National Museum of Natural Science, Taichung, Taiwan, and one paratype in Ehime University, Japan.

This new species is closely related to *Metallidascillus wakaharai* M. Satô from Laos, but can be distinguished from the latter in the body small in size, the pronotum less convex, and the pronotum and elytra finely punctate. It is also related to *M. sasajii* M. Satô et Osawa from Taiwan, but can easily be separated in the different coloration of the pronotum.

The specific name is given in honour of Prof. Ping-Shih Yang of National Taiwan University, Taipei. We would like to express our sincere gratitude to Prof. P.-S. Yang for his contribution, and to Mr. W. I. Chou for his offering specimen.

要　　約

佐藤正孝・李　春霖・李　奇峯：*Metallidascillus*属の台湾での追加新種．—— 佐藤・大澤 (2001) は，*Metallidascillus*属に含まれる種を初めて台湾から記載した．それは低山帯で得られたものであったが，この度，高地帯で別の1種が得られた．先に記載された台湾の*M. sasajii*は前胸背板が黒色で，新種としてここに記載する*M. yangi*は赤褐色であり，容易に前者と区別できる．そして，後者がかえってラオスの種，*M. wakaharai*に似ていることは興味深い．

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Elytra, *Tokyo*, **32** (2): 370, November 20, 2004

A New Record of *Penthe reitteri* NIKITSKY (Coleoptera, Tetratomidae) from Taiwan

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Penthe reitteri NIKITSKY was described from China, Sechuan (Sichuan). Since the following specimens well coincide with its original description, we would like to record it newly from Taiwan.

These specimens, when alive, have red hair on the scutellum and on the basal portion of the pronotum just before the scutellum, but the red color changes to yellowish within a few days after death.

Specimens examined. 1♂, Meifeng, Taiwan, 29–XII–1974, K. MASUMOTO leg.; 1♂, 1♀, Fengkangshan, Taiwan, 10–VI–1984, K. MASUMOTO leg.; 1♀, Wulai, Taiwan, 16–XII–2002, H. Y. LEE leg.; 4♂♂, 1♀, Shitou, Taiwan, 18–III–2004, C. F. LEE leg.

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Elytra, *Tokyo*, **32** (2): 371–388, November 20, 2004

Study of Asian Strongyliini (Coleoptera, Tenebrionidae)

XV. Ten New *Strongylium* Species from Southeast Asia

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Abstract This is the fifteenth part of the study concerning the Asian Strongyliini and deals with ten new species of the genus *Strongylium*, described under the following names: *Strongylium schawallerianum* sp. nov., *S. yunnanatrum* sp. nov., *S. taliopacium* sp. nov., *S. lakhonense* sp. nov., *S. gaoliense* sp. nov., *S. foochouense* sp. nov., *S. stanislavium* sp. nov., *S. tonkinense* sp. nov., *S. harmandi* sp. nov. and *S. kuvani* sp. nov.

This paper is the fifteenth part of my study of the Asian Strongyliini, and deals with species of the genus *Strongylium* from Southeast Asia including China. I am going to describe ten new species.

Major materials were supplied by Dr. Claude Girard, Muséum National d'Histoire Naturelle, Paris, Dr. Wolfgang Schawaller, Staatliches Museum für Naturkunde in Stuttgart, and Ing. Stanislav Bečvář, Institute of Entomology, Czech Academy of Sciences.

Appreciation is due to the above persons who offered me the materials, and also to Mr. Seiji Morita, Tokyo, for taking photographs. Finally, my deepest thanks should be expressed to Emeritus curator, Dr. Shun-Ichi Uéno, National Science Museum (Nat. Hist.), Tokyo, for his constant guidance in my taxonomic studies.

Depositories of the holotypes to be designated are given under each description. The abbreviations used herein are as follows: MNHNP – Muséum National d'Histoire Naturelle, Paris; SMNS – Staatliches Museum für Naturkunde in Stuttgart; NMNHP – National Museum of Natural History, Prag.

Strongylium schawallerianum sp. nov.

(Figs. 1, 11–12)

Almost piceous, with apical parts of antennae, tarsi and mouth parts brownish; dorsal surface moderately and feebly sericeously shining, ventral surface rather alutaceous. Body elongate, longitudinally convex.

Head subdecagonal, covered with isodiametric microsculpture; clypeus widely semicircular, weakly concave in basal part, flattened in middle, bent ventrad in apical part, closely punctate, each puncture with a minute bent hair, fronto-clypeal border

widely U-shaped and finely impressed; genae below eyes strongly raised laterad, sparsely punctulate in inner parts, closely punctulate in outer parts, with outer margins rounded; frons narrowly T-shaped, steeply inclined anteriad, coarsely rugoso-punctate, interocular space very narrow; vertex weakly convex, closely, irregularly punctate, with a longitudinal impression medially. Eyes very large, subreniform in dorsal view, rather strongly convex laterad, broadly, slightly obliquely inlaid into head. Antennae subfiliform, extending beyond basal 1/4 of elytra, each segment weakly dilated apicad, ratio of the length from basal to apical segments: 0.98, 0.26, 1.24, 1.14, 1.12, 0.98, 0.92, 0.88, 0.88, 0.82, 0.90.

Pronotum subquadrate, slightly wider than long (6 : 5), widest at the middle and base; apex sublinear, rimmed, the rim becoming narrower laterad, minutely punctate; base weakly bisinuous, more strongly bordered and rimmed than apex, the rim impunctate in anterior part, finely punctulate in posterior part; sides steeply inclined, weakly rounded laterad, finely bordered from prosternum, though the borders are not visible from above; front angles rounded and bordered, hind angles subrectangular; disc moderately convex, impressed along the medial line and at basal 1/3 on each side, covered with isodiametric microsculpture, rather closely punctate, each puncture with a minute bent hair. Scutellum sublinguiform, feebly elevated, covered with isodiametric microsculpture, irregularly scattered with microscopic punctures.

Elytra elongated subfusiform, 2.3 times as long as wide, 4.7 times the length and 1.62 times the width of pronotum; dorsum longitudinally convex; disc punctato-striate, the strial punctures small and closely set in interior part, larger and sparser in lateral and posterior parts, with 5th striae reaching base; intervals rather strongly raised, covered with isodiametric microsculpture, scattered with microscopic punctures, weakly, transversely aciculate; humeri gently swollen; apices rounded.

Fifth abdominal (anal) sternite covered with isodiametric microsculpture, closely scattered with microscopic punctures, finely pubescent, with apical part weakly concave in male. Legs slender; male protibia gently curved ventrad, with ventral face slightly gouged and haired in apical half; male metatibia very weakly twisted, with interior face slightly gouged and haired in apical 3/5; ratios of the lengths of pro-, meso- and metatarsomeres: 0.48, 0.25, 0.24, 0.26, 1.63; 2.05, 0.96, 0.84, 0.62, 1.88; 2.37, 0.94, 0.78, 1.95.

Male genitalia elongated subfusiform, 3.88 mm in length, 0.71 mm in width, gently curved in lateral view, with basal piece 2.38 mm in length; fused lateral lobes 1.63 mm in length, irregularly scattered with minute punctures on dorsal surface, and acutely prolonged apicad.

Body length: 22.0 mm.

Holotype: ♂, "615 NEPAL: Dolakha Distr. / lower Khare Khola / 1200 m, 3–4. VI. 2000 / leg. W. SCHAWALLER" (SMNS). Paratypes: 6 exs., same data as for the holotype; 1ex., "H^{te}. Birmanie / Mines des Rubis / 1200^{m}–2300^{m} / Doherty 1880 // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR" (MNHNP).

Notes. The new species resembles *Strongylium atricolor* PIC, 1922, originally de-

scribed from Tonkin, but can be distinguished from the latter by the clypeus more noticeably protruded apicad, the head and pronotum more strongly but sparsely punctate, the pronotum more noticeably grooved along the median line, the scutellum more strongly punctulate, and elytral intervals more clearly aciculate. This new species also resembles *S. opacicolle* FAIRMAIRE, 1891, from China, "Mou-pin", but can be distinguished from the latter by the antennae bolder, punctures on the head and pronotum larger and sparser, and the elytral striae and punctures deeper.

The specific name is given after Dr. Wolfgang SCHAWALLER, who collected the specimens of the type series.

Strongylium yunnanatrum sp. nov.

(Figs. 2, 13–14)

Brownish black, with claws, mouth parts and gula rather brown, hairs on verntral sides of legs yellowish brown; dorsal surface moderately, feebly sericeously shining, ventral surface wholly alutaceous; each surface almost glabrous. Body rather elongate; convex longitudinally.

Head widely subdecagonal, covered with isodiametric microsculpture, closely, irregularly punctate, each puncture with a minute bent hair; clypeus transversely subquadrate, flattened in basal part, gradually inclined medially, strongly bent ventrad in front, fronto-clypeal border widely curved and impressed; genae raised outwards, scattered with fine punctures, with obtuse outer margins; frons T-shaped and finely ridged, with an irregularly punctate impression between posterior parts of eyes. Eyes large and subreniform in dorsal view, more strongly convex laterad, obliquely inlaid into head. Antennae subfiliform, reaching basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.80, 0.22, 1.03, 1.02, 0.93, 0.91, 0.88, 0.89, 0.79, 0.77, 0.89.

Pronotum wider than long (5 : 4), roundly narrowed anteriad, convex laterad in middle, and feebly sinuous before base; apex nearly straight, finely ridged, the ridge tapering laterad, scattered with small punctures; base strongly bordered and boldly ridged, the ridge almost impunctate on anterior slope, finely punctulate in posterior part; sides steeply declined to lateral margins, which are separated from ventral parts by borders and ridges; front angles rounded and visible from above, hind angles weakly angulate; disc moderately convex, covered with isodiametric microsculpture, rather closely punctate, though the punctures are not fused with one another, shallowly grooved and impunctate along median line, with a pair of large impressions at basal 1/3. Scutellum sublinguiform, slightly convex, scattered with small punctures in lateral portions.

Elytra 2.36 times as long as wide, 4.55 times the length and 1.46 times the width of pronotum, widest at apical 1/3, feebly sinuous in basal 1/3; dorsum rather strongly convex, highest at basal 2/5; disc punctato-striate, the punctures in striae rather dense, 1st and 2nd striae connected with each other close to base; intervals gently convex, covered with isodiametric microsculpture, scattered with microscopic punctures, trans-

versely micro-aciculate; humeri gently swollen; apices feebly, roundly produced.

Fifth abdominal sternite covered with isodiametric microsculpture, closely scattered with microscopic punctures, finely pubescent, weakly, elliptically concave in male. Legs slender; male protibia almost straight, with ventral face slightly gouged and haired in apical 2/5; male metatibia weakly twisted, with interior face weakly gouged and haired in middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.37, 0.31, 0.33, 0.35, 1.63; 2.26, 1.02, 0.78, 0.64, 1.63; 2.31, 0.91, 0.88, 1.61.

Male genitalia elongated subfusiform, a little more than 3.80 mm in length (apices lost in the holotype), 0.62 mm in width, feebly curved in lateral view, with basal piece 2.51 mm in length; dorsal surface of fused lateral lobes irregularly scattered with small punctures.

Body length: 21.0 mm.

Holotype: ♂, "Chine / Yunnan / Recu de Lou-Nan / 1931 // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR" (MNHNP). Paratypes: 11 exs., same data as for the holotype; 1 ex., "Muséum Paris / Yunnan / 160 km E de Yunnan Fou / (Père Souyris) / P. CUERRY 1924 // DÉCEMBRE"; 2 exs., "Yunnan / (Cuerry) // Muséum Paris / Coll. M. PIC".

Notes. This new species closely resembles *Strongylium atricolor* PIC, 1922 from Tonkin, but can be distinguished from the latter by the eyes in male more strongly convex laterad and approximate with each other (interocular space narrower), the pronotum narrower in the anterior part and less strongly grooved along median line, the scutellum more densely punctate, and the elytral intervals less strongly convex.

This new species is a member of the group of *Strongylium carbonarium* GEBIEN, 1913, which contains *S. atricolor* PIC, 1922, *S. doisuthepense* MASUMOTO, 1996, and so on.

Strongylium taliopacium sp. nov.

(Figs. 3, 15–16)

Piceous, with apical parts of antennae, mouth parts and gula brownish, dorsal surface weakly, somewhat sericeously shining, ventral surface rather alutaceous; each surface almost glabrous. Body elongated subfusiform, longitudinally convex.

Head subdecagonal, covered with isodiametric microsculpture; clypeus semicircular, inclined anteriad, gently produced in apical part, bent ventrad in front, frontoclypeal border unclear; genae obliquely, strongly raised outwards, scattered with small punctures, with rounded outer margins; frons T-shaped and weakly ridged, impunctate in anterior part, coarsely, closely punctate in middle (the interocular space), diatone about 1/12 times the width of transverse diameter of an eye; vertex with a rather deep median impression. Eyes subreniform in dorsal view, strongly convex laterad, obliquely inlaid into head. Antennae subfiliform, feebly becoming bolder apicad, ratio of the length of each segment from base to apex: 0.65, 0.21, 1.32, 0.91, 0.85, 0.88,

0.71, 0.68, 0.65, 0.61, 0.78.

Pronotum short barrel-shaped in dorsal view, 1.18 times as wide as long, widest at the middle, noticeably sinuous before base; apex sublinear, finely rimmed, the rim sparsely scattered with minute punctures; base boldly rimmed, the rim more closely scattered with minute punctures than apical one; sides convex laterad, steeply inclined laterad, bordered from ventral side by fine rims; front angles rounded, hind angles rather acutely protruded obliquely posteriad; disc moderately convex, covered with isodiametric microsculpture, rather closely, irregularly scattered with strong punctures, which are often fused with one another, shallowly grooved along median line (the groove narrowly impunctate in posterior half), deeply impressed along base, with a pair of ovate impressions at basal 1/3, and also with an oblique impression close to base on each side. Scutellum subequilateral triangular, very feebly convex, covered with isodiametric microsculpture, sparsely, irregularly scattered with small punctures in lateral parts.

Elytra elongated subfusiform, 2.32 times as long as wide, 4.39 times the length and 1.58 times the width of pronotum, widest slightly before the middle; dorsum longitudinally convex, highest at basal 1/4; disc rather deeply but finely punctato-striate, the punctures in striae small; intervals rather strongly convex, covered with isodiametric microsculpture, scattered with shallow microscopic punctures, rather noticeably, transversely micro-aciculate; humeri gently swollen; apices rounded.

Male anal sternite slightly depressed in apical part, with apex feebly produced. Legs slender; male protibia nearly straight, with ventral side gouged and haired in middle; male metatibia very weakly twisted, with interior side very weakly gouged and haired in medial part, ratios of the lengths of pro-, meso- and metatarsomeres: 0.61, 0.33, 0.31, 0.34, 1.52; 2.02, 0.90, 0.77, 0.67, 1.69; 2.62, 0.89, 0.66, 1.79.

Male genitalia subfusiform, 3.3 mm in length, 0.64 mm in width; fused lateral lobes elongated triangular, 1.60 mm in length, with apices noticeably prolonged.

Body length: 20.5–22.0 mm.

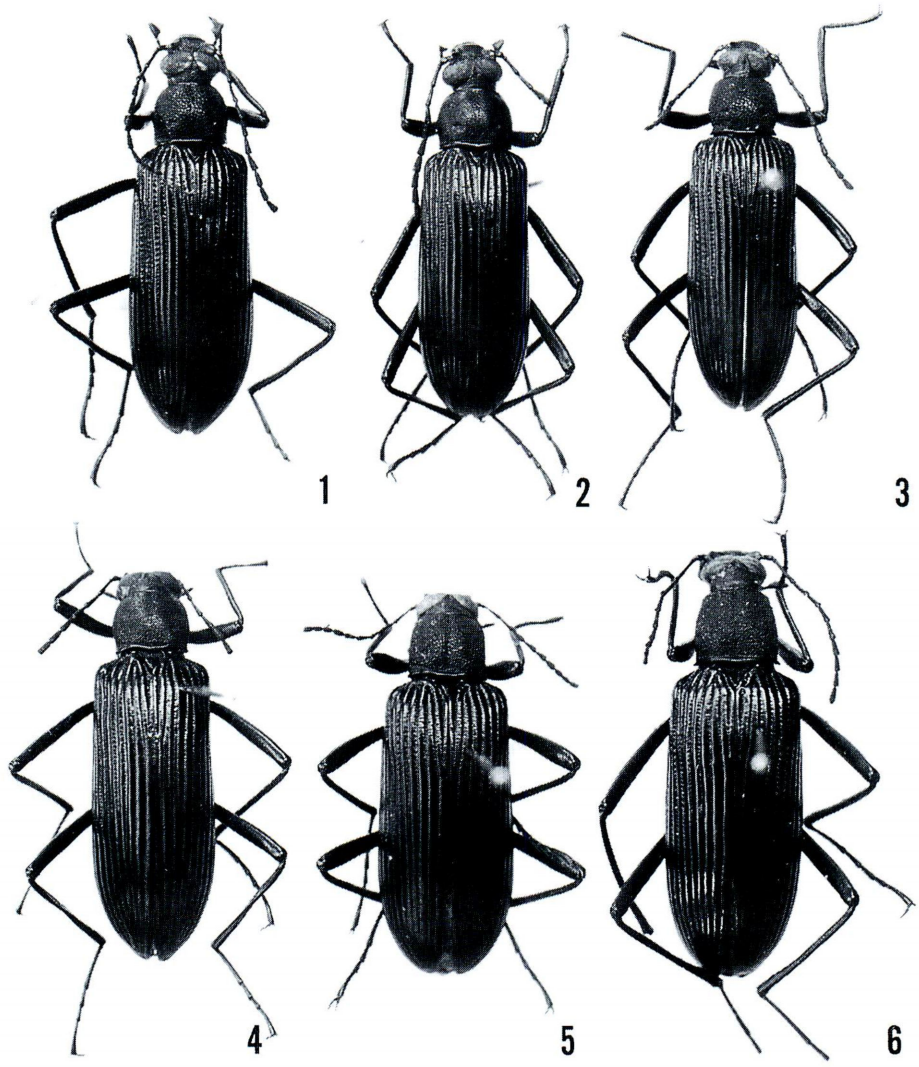
Holotype: ♂, "Tali / Haut Yunnan // Muséum Paris / Coll. M. Pic" (MNHNP). Paratypes: 3 exs., same data as for the holotype.

Notes. This new species resembles *Strongylium opacicolle* FAIRMAIRE, 1891, originally described from China (Mou-pin) in having the blackish body with the similarly shaped male genitalia, but can be distinguished from the latter by the head and pronotum less closely punctate, and the ventral side of male protibia obviously gouged.

Strongylium lakhonense sp. nov.

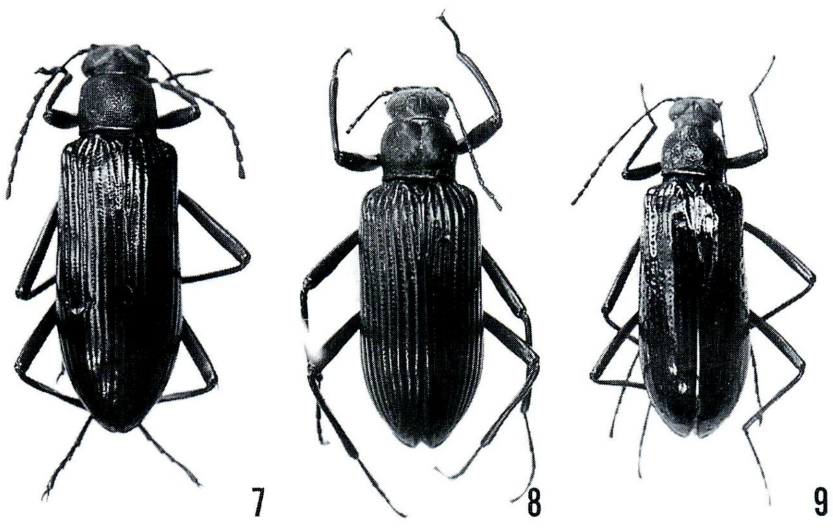
(Figs. 4, 17–18)

Piceous, with major basal parts of femora lighter in colour, hairs on ventral surface of legs yellowish brown, head and pronotum sericeous and almost mat, scutellum and elytra sericeously shining, ventral surface alutaceous; each surface almost glabrous. Body elongate, convex longitudinally.



Figs. 1–6. Habitus of *Strongylium* spp. from Southeast Asia. —— 1, *S. schawallerianum* sp. nov., holotype, ♂; 2, *S. yunnanatrum* sp. nov., holotype, ♂; 3, *S. taliopacium* sp. nov., holotype, ♂; 4, *S. lakhonense* sp. nov., holotype, ♂; 5, *S. gaoliense* sp. nov., holotype, ♂; 6, *S. foochouense* sp. nov., holotype, ♂.

Head subdecagonal, covered with isodiametric microsculpture; clypeus semicircular, flattened in basal part, steeply inclined anteriorly, bent ventrad and truncate in front, fronto-clypeal border widely curved and finely sulcate; genae obliquely raised, rather sparsely scattered with small punctures, areas before eyes coarse; frons somewhat T-shaped, steeply inclined anteriad, almost vertical in front, interocular space



Figs. 7–9. Habitus of *Strongylium* spp. from Southeast Asia. —— 7, *S. stanislavium* sp. nov., holotype, ♂; 8, *S. tonkinense* sp. nov., holotype, ♂; 9, *S. harmandi* sp. nov., holotype, ♂.

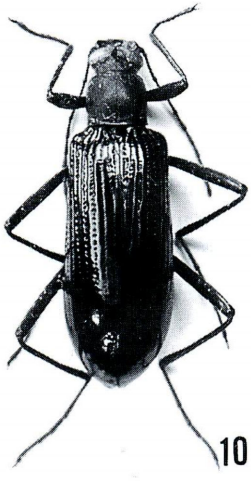


Fig. 10. Habitus of *Strongylium kuvani* sp. nov., holotype, ♂.

about 1/10 the transverse diameter of an eye, area between posterior part of frons and vertex longitudinally, rather strongly impressed. Eyes rather transverse, subreniform in dorsal view, strongly convex laterad, obliquely inlaid into head. Antennae presumably subfiliform, though three apical segments are lost in the holotype, each feebly becoming bolder apicad, ratio of the length of each segment from base to apex: 0.61, 0.23, 1.26, 1.22, 1.03, 0.93, 0.91, 0.82, –, –, –.

Pronotum slightly transverse (5 : 4), roundly produced laterad, gently sinuous near base; apex sublinear, rimmed, the rim minutely punctulate and tapering laterad; base gently bisinuous, bordered and ridged, the ridge rather closely, minutely punctulate in basal part, tapering laterad; sides rather steeply declined to lateral margins, which are finely ridged, though the ridges are not visible from above; front angles rounded, hind angles rather acute; disc gently convex, covered with isodiametric microsculpture, rather closely, irregularly punctate, vaguely grooved along median line, with pairs of impressions at the middle and basal 1/4. Scutellum subequilateral triangular with slightly rounded sides, feebly elevated posteriad, covered with isodiametric microsculpture, scattered with shallow punctures, which are connected by very shallow grooves.

Elytra elongated subfusiform, about 2.54 times as long as wide, 4.71 times the length and 1.48 times the width of pronotum, widest at apical 3/8, feebly sinuous at basal 1/4; dorsum rather strongly convex, highest slightly before the middle; disc punctato-striate, the punctures in striae small and closely set; intervals strongly convex, covered with isodiametric microsculpture, scattered with microscopic punctures, transversely, finely aciculate, 1st stria and 2nd, and 3rd and 4th connected with each other close to base, 5th reaching base; humeri weakly convex; apices roundly produced.

Male anal sternite weakly, subelliptically depressed in apical part, rounded at apex. Legs slender; male protibia almost straight, with ventral face weakly gouged and haired in apical 3/5; male metatibia noticeably twisted in middle, with interior face gouged and haired in medial part; ratios of the lengths of pro-, meso- and metatarsomeres: 0.42, 0.24, 0.23, 0.26, 1.58; 2.21, 1.07, 0.79, 0.61, 1.64; 2.53, 1.11, 0.78, 1.74.

Male genitalia elongate, 4.48 mm in length and 0.63 mm in width, gently curved in lateral view; fused lateral lobes elongated triangular, 1.84 mm in length, feebly concave along medial line, with acute apices.

Body length: 10-11 mm.

Holotype: ♂, "Muséum Paris / Lakhon / HARMAND 1878" (MNHNP). Paratypes: 2 exs., same data as for the holotype.

Notes. In general features, this new species rather resembles *Strongylium atricolor* PIC, 1922 from Tonkin, but can be distinguished from the latter by the frons steeply inclined anteriad, the pronotum more closely and evenly punctate, strial punctures on the elytra finer, and the male genitalia longer.

Strongylium gaoliense sp. nov.

(Figs. 5, 19–20)

Piceous, with apical segments of antennae, mouth parts and tarsi feebly brownish; head, pronotum (except for apex and base), and posterior part of elytra weakly, sericeously shining, apex and base of pronotum, scutellum and anterior part of elytra

moderately, somewhat sericeously shining; ventral surface rather alutaceous; each surface almost glabrous. Body rather elongate, longitudinally convex.

Head subdecagonal, covered with isodiametric microsculpture; clypeus semicircular, steeply inclined anteriad and rugoso-punctate in posterior part, produced ventrad and closely, finely punctulate in anterior part, fronto-clypeal border not defined; genae obliquely, strongly raised outwards, rather closely scattered with small punctures, with rounded outer margins; frons somewhat Y-shaped, weakly ridged and rugulose between eyes, diatone about 1/18 times the width of transverse diameter of an eye; vertex rugoso-punctate, with a deep medial impression. Eyes large and approximate with each other, strongly convex laterad, broadly, obliquely inlaid into head. Antennae subfiliform, feebly becoming bolder apicad, ratio of the length of each segment from base to apex: 0.88, 0.21, 1.28, 0.99, 0.89, 0.91, 0.69, 0.66, 0.53, 0.46, 0.58.

Pronotum subquadrate in dorsal view, wider than long (5 : 4), widest at the middle, gently sinuous before base; apex sublinear, finely rimmed, the rim sparsely scattered with minute punctures; base gently sinuous on each side, rimmed, the rim being bolder than the apical one, more closely scattered with minute punctures; sides gently convex laterad, steeply inclined laterad, bordered from ventral side by fine rims; front angles rounded, hind angles rather acutely protruded obliquely posteriad; disc moderately convex, covered with isodiametric microsculpture, rather strongly, closely scattered with strong punctures, which are often fused with one another, sparsely intermixed with minute punctures, shallowly grooved along median line, with pairs of impressions at basal 1/3 and obliquely close to base. Scutellum subequilateral triangular, gently raised posteriad, feebly covered with isodiametric microsculpture, irregularly scattered with small, somewhat ovate punctures, with an impunctate area in medial part.

Elytra elongated subfusiform, 2.34 times as long as wide, 4.71 times the length and 1.69 times the width of pronotum, widest slightly behind the middle; dorsum longitudinally convex, highest at basal 1/4; disc punctato-striate, the strial punctures small but notching intervals in anterior part, becoming smaller posteriad; intervals covered with isodiametric microsculpture and transversely micro-aciculate, rather strongly convex in anterior part, becoming weaker posteriad, scattered with microscopic punctures in anterior part; humeri gently swollen; apices rounded.

Male anal sternite slightly concave in apical part, with rounded apex. Legs slender; male protibia nearly straight, with ventral side haired in apical half; male metatibia feebly curved, with interior side very weakly gouged and finely haired in apical 2/5, ratios of the lengths of pro-, meso- and metatarsomeres: 0.53, 0.33, 0.35, 0.34, 1.56; 2.18, 0.87, 0.73, 0.59, 1.72; 2.49, 1.02, 0.68, 1.67.

Male genitalia subfusiform, 3.37 mm in length, 0.73 mm in width; fused lateral lobes elongated triangular, 2.21 mm in length, with prolonged and boldly nib-shaped apices.

Body length: 21.5 mm.

Holotype: ♂, "CH, Yunnan 14–21.6.93 / 100 km W of Baoshan / GAOLIGONG-

SHAN NAT. RES. / E. Lendek, O. Sausa leg.", Coll. S. BEČVÁŘ (NMNHP).

Notes. The nearest named species to this new *Strongylium* might be *S. yunnanicum* MASUMOTO, 1999, originally described from Gaoligongshan, China, but can be distinguished from the latter by the head and pronotum less closely rugoso-punctate, the interocular space narrower (0.29 times the width of an eye diameter in *S. yunnanicum*), the scutellum subequilateral triangular (sublinguiform in *S. yunnanicum*), the elytral intervals noticeably transversely micro-aciculate, and the male genitalia subfusiform with noticeably prolonged and boldly nib-shaped apices (fusiform with simply acute apices in *S. yunnanicum*).

Strongylium foochouense sp. nov.

(Figs. 6, 21–22)

Piceous, with mouth parts, gula and claws lighter in colour, hairs on ventral surface of legs yellowish brown; head and pronotum sericeous and almost mat, scutellum and elytra sericeously shining, ventral surface alutaceous; each surface almost glabrous. Body elongate, convex longitudinally.

Head subdecagonal, covered with isodiametric microsculpture; clypeus transversely subhexagonal, gently inclined anteriad, bent ventrad and truncate in front, closely punctate, the punctures becoming finer anteriad, fronto-clypeal border finely sulcate, nearly straight widely in middle, obliquely bent in lateral parts and reaching outer margins; genae obliquely raised, closely scattered with small punctures, areas before eyes sparsely punctate and rather coarse; frons T-shaped, rather steeply inclined anteriad, irregularly punctate, interocular space about 1/8 the transverse diameter of an eye, with a weak rather longitudinal impression between posterior parts of eyes. Eyes rather transverse, subreniform in dorsal view, strongly convex laterad, obliquely, roundly inlaid into head. Antennae subfiliform, reaching basal 1/5 of elytra, each segment becoming bolder apicad, ratio of the length of each segment from base to apex: 1.03, 0.23, 1.79, 1.31, 1.29, 1.21, 1.13, 0.87, 0.78, 0.75, 0.87.

Pronotum slightly transverse (10 : 9), narrowed anteriad, sinuous before base, covered with isodiametric microsculpture; apex feebly produced anteriad, rimmed, the rim minutely punctate and tapering laterad; base weakly bisinuous, bordered and ridged, the ridge tapering laterad, almost impunctate on anterior slope, rather closely, minutely punctate on basal slope; sides roundly produced laterad, rather steeply declined to lateral margins, which are finely bordered in anterior 1/4; front angles obtusely angulate, hind angles acute and protruded in dorsal view; disc gently convex, closely, coarsely punctate, the punctures fused with one another in antero-medial part, vaguely grooved along median line, with a pair of impressions at basal 2/5. Scutellum subequilateral triangular, feebly depressed in antero-medial part, weakly elevated postero-laterad, feebly covered with isodiametric microsculpture, and sparsely scattered with small, somewhat ovate punctures.

Elytra elongated subfusiform, about 2.43 times as long as wide, 3.78 times the length and 1.40 times the width of pronotum, widest slightly before the middle, feebly sinuous at basal 1/3; dorsum rather strongly convex, highest slightly before the middle; disc punctato-striate, the striae rather wide, the punctures in striae small at the bottom and rather closely set in interior and posterior parts, those in lateral parts becoming larger and rather foveate; intervals strongly convex, covered with isodiametric microsculpture, scattered with microscopic punctures, transversely, finely aciculate, 1st stria and 2nd connected near base, 5th almost reaching base; humeri moderately convex; apices roundly produced.

Male anal sternite transversely, elliptically depressed in apical part, rounded at apex. Legs slender; male protibia almost straight, with ventral face very slightly gouged and haired in anterior half; male metatibia twisted, with interior face weakly gouged and haired in medial part; ratios of the lengths of pro-, meso- and metatarsomeres: 0.78, 0.37, 0.39, 0.53, 1.59; 3.02, 1.28, 1.01, 0.78, 1.81; 3.58, 1.36, –, –.

Male genitalia subfusiform, 3.74 mm in length and 0.81 mm in width, gently curved in lateral view; fused lateral lobes triangular, 1.63 mm in length, scattered with microscopic punctures on dorsal surface, with strongly prolonged apices.

Body length: 23.5–2.65 mm.

Holotype: ♂, "Foochou // Muséum Paris / Coll. M. Pic" (MNHNP). Paratypes: 1 ex., "Fokien // Muséum Paris / Coll. M. Pic"; 1 ex., "Coll. A. v. d. Trappen, Stuttgart / Pojang / China" (SMNS).

Notes. This new species somewhat resembles *Strongylium longurium* FAIRMAIRE, 1903 from Tonkin, but can be distinguished from the latter by the larger and wider body with eyes more strongly convex laterad, the pronotum more closely rugoso-punctate, and the legs not brownish.

Strongylium stanislavium sp. nov.

(Figs. 7, 23–24)

Piceous, with tarsi, claws and mouth parts lighter in colour, hairs on ventral surface of legs yellowish brown, head and pronotum weakly, sericeously shining, scutellum and elytra gently, feebly sericeously shining, ventral surface rather alutaceous; each surface almost glabrous. Body elongate, convex longitudinally.

Head slightly widely subdecagonal, weakly covered with isodiametric microsculpture; clypeus transverse, flattened and closely punctate in basal part, gently inclined anteriad, rather sparsely punctate in middle, bent ventrad and closely, finely punctate in front, fronto-clypeal border very weakly curved; genae obliquely raised, irregularly scattered with small punctures, areas before eyes coarse; frons finely ridged in somewhat T-shape, closely punctate, steeply inclined anteriad, almost vertical along the border of fronto-clypeal border, interocular space about 1/20 the transverse diameter of an eye, with an impression at the area between posterior parts of eyes. Eyes rather transversely subreniform in dorsal view, strongly convex laterad, obliquely inlaid

into head. Antennae rather boldly subfiliform, each segment feebly becoming bolder apicad, ratio of the length of each segment from base to apex: 0.83, 0.23, 1.26, 1.14, 0.98, 1.02, 0.94, 0.96, 0.91, 0.89, 0.97.

Pronotum subquadrate, wider than long (5 : 4), widest at the middle, gently produced laterad, feebly sinuous near base, weakly covered with isodiametric microsculpture; apex slightly produced, rimmed, the rim minutely punctulate and tapering laterad; base gently bisinuous, strongly bordered and ridged, the ridge almost impunctate on anterior slope, rather closely, minutely punctate on posterior slope, tapering laterad; sides steeply declined to lateral margins, which are clearly ridged though the ridges are not visible from above; front angles rounded, hind angles subrectangular; disc gently convex, rather closely, punctate, each puncture with a small granule and minute bent hair at the centre, vaguely grooved along median line in middle, with pairs of impressions at basal 1/3 and close to base. Scutellum subcordate with rather acute apex, feebly raised posteriad, weakly covered with isodiametric microsculpture, scattered with somewhat ovate punctures in lateral parts, each with a microscopic bent hair.

Elytra elongated subfusiform, about 2.36 times as long as wide, 4.71 times the length and 1.56 times the width of pronotum, widest at apical 3/5, feebly sinuous at basal 3/8; dorsum rather strongly convex, highest slightly before the middle; disc punctato-striate, the punctures in striae small but notching intervals; intervals rather strongly convex in anterior parts, covered with isodiametric microsculpture, scattered with microscopic punctures, finely, transversely, aciculate, 1st and 2nd striae connected with each other close to base, 5th almost reaching base; humeri rather strongly convex; apices weakly, roundly produced.

Male anal sternite covered with isodiametric microsculpture, scattered with microscopic punctures, finely pubescent, very feebly depressed in apical part, with rounded apex. Legs rather stout; male protibia gently curved ventrad, with ventral face weakly gouged and haired in apical 3/5; male metatibia twisted in middle, with interior face gouged and haired in medial part; ratios of the lengths of pro-, meso- and metatarsomeres: 0.47, 0.35, 0.38, 0.36, 1.38; 2.04, 0.97, 0.78, 0.59, 1.68; 2.41, 1.00, 0.78, 1.72.

Male genitalia elongate, 3.82 mm in length and 0.78 mm in width, gently curved in lateral view; fused lateral lobes elongated triangular, 1.72 mm in length, scattered with microscopic punctures in lateral parts, with acute apices.

Body length: 21.2 mm.

Holotype: ♂, "YUNNAN 1500–2500 m / 25.22N 98.49E 17–24/5 / GAOLIGONG mts / Vít Kubáň leg. 1955 // COLLECTION STANISLAV BEČVÁŘ" (NMNSP).

Notes. In general features, this new species closely resembles *Strongylium gaoliense* sp. nov., but can be distinguished from the latter by the body bolder, with the head and pronotum less coarsely, closely punctate, the pronotum wider with the apex bolder, the elytra more clearly punctato-striae, intervals not transversely aciculate but simply punctulate, and the male genitalia larger and slenderer.

Strongylium tonkinense sp. nov.

(Figs. 8, 25–26)

Head and pronotum (except for basal part) piceous, apical halves of antennae, basal part of pronotum, elytra, metafemora, and meso- and metatibiae brownish black, claws dark reddish brown; dorsal surface weakly, sericeously shining, anterior half of ventral side sericeous and rather mat, posterior part of ventral side alutaceous and gently shining; each surface almost glabrous. Body oblongo-ovate; rather strongly convex ventrad.

Head subdecagonal, weakly covered with isodiametric microsculpture; clypeus semicircular, rather closely scattered with small punctures, gently inclined anteriad, weakly concave and transversely impressed in basal 1/3, bent ventrad in front, fronto-clypeal border moderately curved and rather strongly impressed; genae obliquely, moderately raised, scattered with microscopic punctures, with rounded outer margins; frons somewhat T-shaped, almost impunctate in anterior part, closely, minutely punctulate in posterior part, gently inclined anteriad, steeply so before fronto-clypeal border, with a shallow impression at the middle, diatone about 2/9 times the width of transverse diameter of an eye; vertex with a longitudinal impression along median line, areas behind eyes obliquely grooved. Eyes rather large, moderately convex laterad, obliquely inlaid into head. Antennae presumably subfiliform though two apical segments are lost in the holotype, ratio of the length of each segment from base to apex: 0.78, 0.23, 1.28, 1.04, 0.96, 0.94, 0.86, 0.88; 0.79, –, –.

Pronotum slightly wider than long, widest at apical 2/5, weakly covered with isodiametric microsculpture; apex sublinear, raised in wide triangular, sparsely scattered with microscopic punctures; base gently sinuous in lateral parts, bordered and ridged, almost impunctate in medial part; front angles obtusely angulate, hind angles acutely projected postero-laterad in dorsal view; sides gently inclined and rounded laterad, bordered by fine ridges in anterior 1/3; disc gently convex, covered with isodiametric microsculpture, sparsely scattered with microscopic punctures, shallowly grooved along median line, with pairs of spot-like impressions slightly after the middle and basal 1/3, and also with a pair of oblique impressions close to base. Scutellum widely sublinguiform, feebly elevated, covered with isodiametric microsculpture, sparsely scattered with shallow, microscopic punctures.

Elytra subcylindrical, 2.12 times as long as wide, 4.58 times the length and 1.66 times the width of pronotum, widest at apical 3/8, slightly narrowed at basal 1/3; dorsum rather strongly convex, highest at basal 3/8; disc covered with isodiametric microsculpture, punctato-striate, the striae rather wide, the strial punctures rather deep, those in interior parts small and closely set, those in medio-lateral parts becoming larger and sparser; intervals sparsely scattered with shallow, minute punctures, rather transversely micro-aciculate; base gently produced on each side; humeri weakly convex; apices weakly, roundly produced.

Male anal sternite feebly covered with isodiametric microsculpture, scattered with

minute punctures (each with a bent hair), subelliptically depressed and pubescent in apical part, truncate and haired at apex, whose lateral parts are noticeably raised and tufted. Legs medium-sized; male protibia curved ventrad, with ventral face weakly gouged and haired in apical 2/3; male metatibia almost straight but feebly twisted, with interior face gouged and haired in medial part, ratios of the lengths of pro-, meso- and metatarsomeres: 0.59, 0.28, 0.26 0.24, 1.36; 2.23, 0.99, 0.63, 0.38, 1.39; 2.46, 0.88, 0.41, 1.39.

Male genitalia elongated subfusiform, tapering apicad, 3.31 mm in length, 0.59 mm in width, strongly curved in lateral view; fused lateral lobes 1.76 mm in length, with apices strongly prolonged.

Body length: 20.3 mm.

Holotype: ♂, "Tonkin / Backan / P. Lemee / 1907.08 // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR" (MNHNP). Paratype: 1 ex., "MUSÉUM PARIS / TONKIN / REG DE HOA BINH / A. DE COOMAN, 1928".

Notes. This new species somewhat resembles *Strongylium taoi* MASUMOTO, 1996 from Thailand, but can be distinguished from the latter by the larger eyes (narrower interocular space), the pronotum more sparsely punctulate on the disc with a shallower median groove, the scutellum more weakly punctate, strial punctures on the elytra finer, and the male genitalia less strongly curved in lateral view.

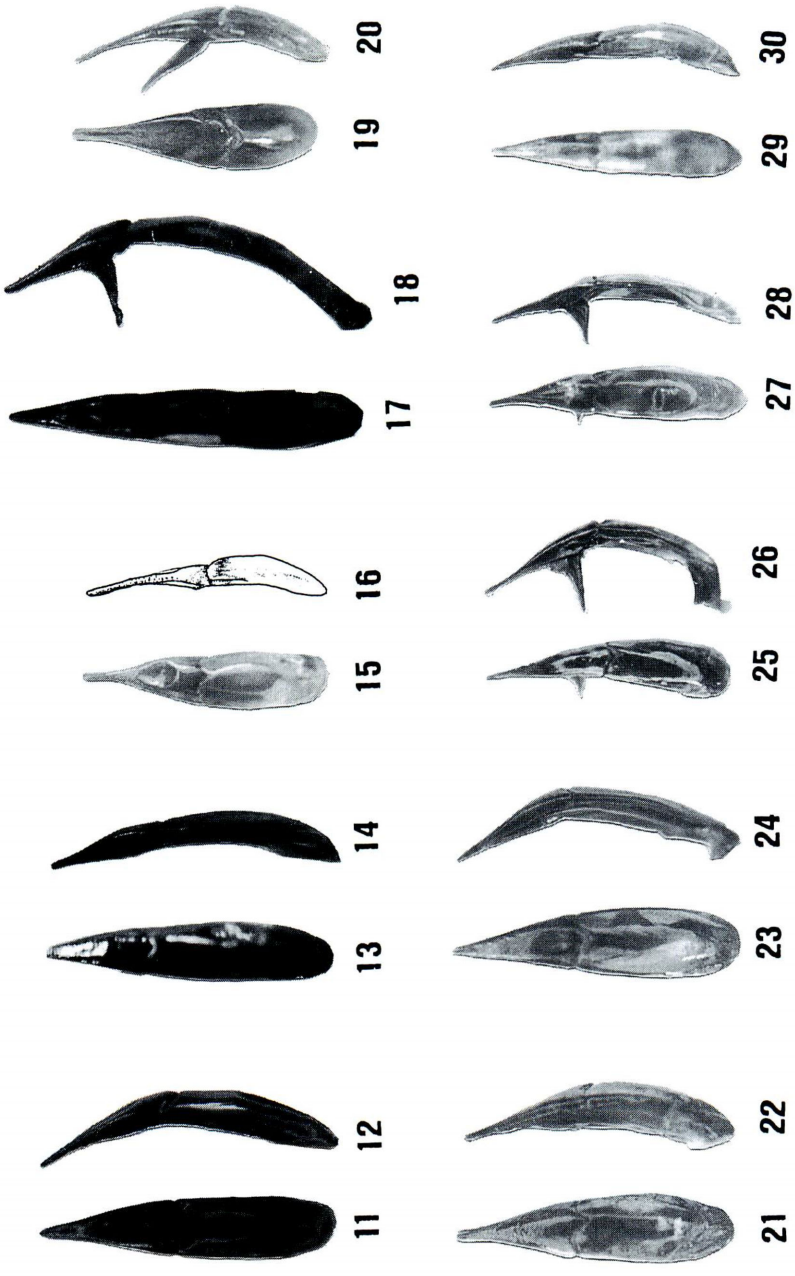
Strongylium harmandi sp. nov.

(Figs. 9, 27–28)

Brownish black with coppery lustre, mouth parts, major basal parts of femora and tarsi lighter in colour, hairs on ventral surface of tarsi yellowish brown; posterior part of head feebly shining, pronotum and scutellum moderately shining, elytra strongly, metallically shining, ventral sides rather noticeably alutaceous and weakly with dark greenish reflection; each surface almost glabrous. Body subcylindrical.

Head subdecagonal, weakly covered with isodiametric microsculpture; clypeus rather transverse, gradually inclined anteriad, steeply bent ventrad in front, closely, finely punctulate, fronto-clypeal border gently curved and finely sulcate; genae obliquely subrhombical, gently raised outwards, scattered with small punctures, with obtuse outer margins; frons ridged in rather T-shape, steeply inclined anteriad, sparsely, coarsely punctate, with an impression at the medio-posterior part, diatone about 1/9 times the width of transverse diameter of an eye. Eyes rather large, subreniform in dor-

Figs. 11–30. Male genitalia. —— 11–12, *S. schawallerianum* sp. nov., 11, dorsal view, 12, lateral view; 13–14. *S. yunnanatrum* sp. nov., 13, dorsal view, 14, lateral view; 15–16, *S. taliopacium* sp. nov., 15, dorsal view, 16, lateral view; 17–18, *S. lakhonense* sp. nov., 17, dorsal view, 18, lateral view; 19–20, *S. gaoliense* sp. nov., 19, dorsal view, 20, lateral view; 21–22, *S. foochouense* sp. nov., 21, dorsal view, 22, lateral view; 23–24, *S. stanislavium* sp. nov., 23, dorsal view, 24, lateral view; 25–26, *S. tonkinense* sp. nov., 25, dorsal view, 26, lateral view; 27–28, *S. harmandi* sp. nov., 27, dorsal view, 28, lateral view; 29–30, *S. kuvani* sp. nov., 29, dorsal view, 30, lateral view.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sal view, strongly convex laterad, obliquely, roundly inlaid into head. Antennae rather slender, reaching basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.72, 0.23, 1.37, 0.98, 1.12, 0.96, 0.79, 0.72, 0.69, 0.61, 0.67.

Pronotum trapezoidal in dorsal view (5 : 4), widest at the middle, feebly sinuous before base; apex sublinear, rimmed, the rim tapering and bordered laterad; base bisinuous, clearly bordered and boldly ridged, the ridge scattered with microscopic punctures and tapered laterad; sides gently convex laterad, steeply inclined ventrad, bordered from ventral parts by fine rims, which are invisible from above; front angles rounded, hind angles subrectangular in dorsal view; disc gently convex, partly, feebly covered with isodiametric microsculpture, rather closely, irregularly punctate, the punctures often approximate with one another, vaguely grooved along median line, with a pair of impressions at basal third. Scutellum triangular, gently elevated, weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures in lateral parts.

Elytra elongated subfusiform, 2.37 times as long as wide, 5.07 times the length and 1.67 times the width of pronotum, widest at apical 5/14; dorsum longitudinally convex, very weakly depressed in basal 1/4, also depressed in areas along scutellar strioles; disc with rows of punctures, which are connected by fine striae in intero-basal parts, those in interior parts small and closely set, those in lateral parts becoming larger and coarser, forming elongate foveae; intervals very slightly convex, very weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures, transversely, shallowly aciculate; humeri gently swollen; apices rounded.

Male anal sternite weakly, subelliptically depressed in apical part, with rounded apex. Legs slender; protibia nearly straight, with ventral face feebly gouged and haired in apical 3/5; metatibia weakly twisted, gently gouged and haired in middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.38, 0.26, 0.24, 0.25, 1.22; 1.78, 0.77, 0.68, 0.52, 1.53: 2.27, 0.82, 0.66, 1.54.

Male genitalia subfusiform, 3.35 mm in length, 0.62 mm in width; fused lateral lobes subequilateral triangular, 1.48 mm in length, with strongly prolonged apices.

Body length: 17.5–20.5 mm.

Holotype: ♂, "MUSÉUM PARIS / Lakhon / HARMAND 1878" (MNHNP). Paratypes: 3 exs., same data as for the holotype.

Notes. This new species somewhat resembles *Strongylium dimidiatum* FAIRMAIRE, 1891 from China (Mou-pin) in general features, but can easily be distinguished from the latter by the dorsal surface more metallically shining, eyes larger and more closely approximate with each other, the pronotum more strongly punctate, the elytral punctures hardly striate, and the intervals not convex.

This new species belongs to the species-group of *Strongylium dimidiatum*, which contains *S. subaeneum* PIC, 1917, from Yunnan, *S. soncai* MASUMOTO, 1996, from Thailand, *etc*.

Strongylium kubani sp. nov.

(Figs. 10, 29–30)

Brownish black, dorsal surface with bronzy tinge, antennae, major parts of ventral side and legs dark brown, hairs on ventral surface of tarsi brownish yellow; head and pronotum sericeous, scutellum and elytra rather strongly, somewhat vitreously shining, ventral sides alutaceous; each surface almost glabrous. Body elongate and subcylindrical.

Head subdecagonal, covered with isodiametric microsculpture; clypeus rather transverse, weakly depressed near base, gradually inclined anteriad, strongly bent ventrad in front, rather closely, irregularly punctate, fronto-clypeal border gently curved and very finely sulcate; genae obliquely, strongly raised outwards, rather closely scattered with small punctures, with rounded outer margins; frons ridged somewhat in X-shape, steeply inclined anteriad, closely, irregularly punctate, with a rather rhombical impunctate impression at the medio-posterior part, diatone about 1/4 times the width of transverse diameter of an eye. Eyes subreniform in dorsal view, strongly convex laterad, obliquely, roundly inlaid into head. Antennae rather slender, reaching basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.62, 0.22, 1.38, 1.03, 1.10, 0.97, 0.82, 0.69, 0.64, 0.62, 0.63.

Pronotum short barrel-shaped and slightly wider than long (8 : 7) in dorsal view, widest at the middle, feebly sinuous before base, feebly covered with isodiametric microsculpture; apex feebly produced, finely bordered in lateral parts; base feebly sinuous in lateral parts, rather boldly bordered and ridged, the ridge aciculate on anterior slope and scattered with microscopic punctures on posterior slope; sides gently convex laterad, steeply declined to lateral margins, which are finely rimmed and visible from above; front angles rounded, hind angles weakly angulate in dorsal view; disc gently convex, rather closely, irregularly punctate, the punctures shallow, often approximate with one another, vaguely grooved along median line in posterior half, with a pair of oblique impressions close to base. Scutellum linguiform, elevated, very weakly covered with isodiametric microsculpture, very sparsely shallowly scattered with microscopic punctures, and irregularly, weakly aciculate.

Elytra elongated subfusiform, 2.17 times as long as wide, 4.55 times the length and 1.78 times the width of pronotum, widest at apical 1/3; dorsum longitudinally convex, very weakly depressed in basal 1/8, highest at basal 1/3; disc with rows of ovate or elongated punctures, which are connected by fine striae in basal parts, those in interior parts small and closely set, those in lateral parts becoming larger and sparser, forming elongated foveae; intervals convex in anterior part, almost flat in posterior part, very weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures and aciculate in anterior part, punctures and aciculation diminishing in posterior part; humeri rather strongly swollen; apices weakly produced and very slightly dehiscent.

Male anal sternite weakly, subelliptically depressed in apical part, finely pubes-

cent, with rounded apex. Legs slender; protibia nearly straight, with ventral face feebly gouged and haired in apical 3/5; metatibiae feebly curved, with interior face very slightly gouged and haired in middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.62, 0.34, 0.37, 0.36, 1.37; 2.09, 0.98, 0.88, 0.57, 1.47: 2.47, 1.13, 0.69, 1.64.

Male genitalia elongated fusiform, 3.32 mm in length, 0.48 mm in width; fused lateral lobes subequilateral triangular, 1.53 mm in length, with gently prolonged apices.

Body length: 18.5–20.5 mm.

Holotype: ♂, "YUNNAN 1500–2000 m / 25.22N 98.49E 17–24/5 / GAOLIGONG mts. / Vít Kubáň leg. 1995 // coll. S. BEČVÁŘ" (NMNHP). Paratypes: 1 ex., "YUNNAN 2800–3000 m / 25.12N 100.24E / WEIBAOSHAN mts. / 29–30/6.92 / Vít Kubáň leg. // coll. S. BEČVÁŘ"; 3 exs., "YUNNAN 2000–2800 m / 25.11 N 100.24E / WEIBAOSHAN mts. / W slope 25–28/6.92 / Vít Kubáň leg."

Notes. This new species resembles *Strongylium harmandi* sp. nov., but can be distinguished from the latter by the interocular space wider, the pronotum obviously sericeous and more finely punctate, the scutelllum linguiform, the elytra more strongly grooved with intervals more strongly convex in the anterior parts, and the male genitalia slenderer.

This new species also belongs to the species-group of *Strongylium dimidiatum*.

要　　約

益本仁雄：アジア産ナガキマワリ族（Strongyliini）の研究．XV．東南アジア産ナガキマワリ属（*Strongylium*）について．——アジア産ナガキマワリ族（Strongyliini）研究の第15回として，東南アジア産のナガキマワリ属（*Strongylium*）を取り上げた．10種の新種を記載し，それぞれ *Strongylium schawallerianum* sp. nov., *S. yunnanatrum* sp. nov., *S. taliopacium* sp. nov., *S. lakhonense* sp. nov., *S. gaoliense* sp. nov., *S. foochouense* sp. nov., *S. stanislavium* sp. nov., *S. tonkinense* sp. nov., *S. harmandi* sp. nov., および *S. kuvani* sp. nov. と命名した．

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The Lampyrid Genus *Stenocladius* (Coleoptera, Lampyridae) from the Okinawa Islands, Middle Ryukyus, Southwest Japan, with Descriptions of Two New Local Populations

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Abstract Four populations of the lampyrid genus *Stenocladius* distributed in the Okinawa Islands, the middle Ryukyus, are reported and described. Two new local populations from Iheya-jima and Tokashiki-jima Islands are described and illustrated, respectively as new subspecies of *S. azumai* NAKANE, 1981, named from Okinawa-jima Is.: *S. a. iheyanus* and *S. a. keramensis*. External morphology of larviform adult female of *S. flavipennis* KAWASHIMA, 1999, from Kume-jima Island is also described and illustrated for the first time.

Introduction

In Japan, four species of the lampyrid genus *Stenocladius* were recorded from the Ryukyu Islands (KAWASHIMA *et al.*, 2003). Since then, several small populations of fireflies of this genus have been newly discovered from several small islands of the Okinawa Group, the middle Ryukyus (SATÔ & KAWASHIMA, 2003). In this paper, we will describe and illustrate two new populations from small islands lying at the western side of Okinawa-jima Island as the subspecies of *S. azumai* NAKANE, 1981. In addition, we will also describe and illustrate for the first time the larviform adult female of *S. flavipennis* KAWASHIMA, 1999, from Kume-jima Island.

Materials and Methods

All the specimens used in this paper were collected by naked eyes in both the day- and nighttimes. The specimens used in the present study are described under the heading "*Type series*" and/or other headings following the descriptions of each taxon. For dissection, dried specimens were relaxed in hot water, then male genitalia were removed from the body, mounted on slide glasses with glycerol, observed through opti-

cal microscope (OLYMPUS CH-2, max. magnification ×1,000), and sketched with the aid of an attached drawing tube. External characters in adult male, adult female and larvae were observed and sketched with a stereoscopic microscope (OLYMPUS SZH10, max. magnification ×140) equipped with a drawing tube. The abbreviations used herein are as follows: BL – length of body, from anterior margin of frons to elytral apices; HW – maximum width of head, including eyes; PL – length of pronotum, along the mid-line; PW – maximum width of pronotum; EL – maximum length of elytra; EW – maximum width of elytra; EHW – humeral width of elytra; HTL – length of hind tibiae; HUM – The Hokkaido University Museum, Sapporo; KNCC – The Kumejima Natural & Cultural Center; FS – Fumiyasu SATOU; HS – Hirobumi SUZUKI; IK – Itsuro KAWASHIMA; YG – Yoshimasa GOTO.

Descriptions

Common external structure of whole body including appendages in adult males are given in the general diagnoses of the Japanese species in KAWASHIMA (1999, pp. 142–143.).

Stenocladius azumai azumai NAKANE, 1981

[Japanese name: Tateobi-hige-botaru]

(Fig. 13)

Additional specimens examined. [Okinawa-jima Is., Okinawa Isls.] 1♀, Mt. Nekumachiji-dake, Ôgimi-son, XII–2000, collector unknown & IK bred; 20♂♂, 10 larvae, Yona, Kunigami-son, 3–XII–2001, HS & IK leg.; 1♀, 1 larva, same locality as above, 4–XII–2001, HS, IK & YG leg.; 5♂♂, 1♀, ditto, 5–XII–2001, HS, IK & YG leg.; 5 larvae, Sueyoshi-kôen Park, Naha-shi, 13–V–2004, IK leg.

Male. *Coloration.* Head capsule dark to blackish brown, more or less tinged with yellowish coloration in frontal area. Antennae frosted blackish, but only scape shiny, paler than the other segments, brown to dark brown. Eyes blackish with violet tint. Labrum yellowish brown. Mandibles shiny and dark brown, paler towards the bases. Both maxillary and labial palpi brown to pale blackish brown. Pronotum almost unicolorous, yellowish brown, sometimes tinged with brownish on the disc and anterior and basal margins. Scutellum dark to blackish brown. Elytra grayish to dark brown, becoming darker towards the bases, more or less paler in marginal areas including suture though devoid of clear boundaries; paler areas along sutural margins variable individually. Ventral surface of meso- and metathoraces almost yellowish, only epimeron of metathorax tinged with brownish. Femora almost yellowish, sometimes tinged with brownish in anterior sides. Tibiae dark brown. Tarsi dark brown, paler towards the apical tarsomeres. Claws yellowish brown, darker towards the apices. Body closely and constantly covered with pale subrecumbent pubescence; antennae, maxillary and labial palpi, tibiae and tarsi more densely covered with dark brownish minute

setae.

External morphology. Relative length of each antennal segment in a specimen as follows:— 11 : 4.5 : 13.5 : 18.5 : 18.5 : 17 : 16.5 : 14.5 : 14 : 13 : 30; pectina fairly short, about twice to 3.2 times as long as the stem itself, almost twice in 3rd, about 2.3 times in 4th, 2.4 times in 5th, 2.8 times in 6th, three times in 7th and 9th, 3.2 times in 8th, 2.9 times in 10th. PW/PL 1.29–1.44 (mean: 1.38); PW/HW 1.38–1.57 (mean: 1.47); PL/PW 0.64–0.73 (mean: 0.68); PW/HHW 0.80–0.89 (mean: 0.85); EL/PL 4.58–5.14 (mean: 4.87); EL/EW 2.29–2.67 (mean: 2.44); EW/PW 1.31–1.45 (mean: 1.36). Male genitalia as shown in KAWASHIMA (1999, figs. 23–24); aedeagus wide; both sides feebly and gradually convergent towards the rounded apex; each paramere nearly straight, feebly divergent towards the apices, which are sometimes well bent inwards.

Measurement in mm. BL: 5.80–7.90; HW: 1.10–1.40; PL: 1.00–1.40; PW: 1.45–2.00; EL: 4.85–6.60; EHW: 1.70–2.35; EW: 1.95–2.75; HTL: 1.50–2.00.

Female. Wingless larviform (OHBA *et al.*, 1997).

Color and marking pattern mainly in full grown larva. The color and marking patterns of tergites continuous from thoraces to abdomen were described in OHBA *et al.* (1996). They are redescribed herewith (Fig. 13) as follows: Ground color fresh red; pronotum usually devoid of blackish markings; mesonotum to 6th abdominal tergite each with a pair of triangular blackish markings on anterior corners, usually widely separated from each other; 7th to 9th abdominal tergites each with a pair of moderately vague blackish markings at the sides of anterior margin, which are sometimes almost vanished in the 7th.

Distribution. Okinawa-jima Is., Okinawa Isls.

Notes. The external morphology of adult male was twice described (NAKANE, 1981, 1997), while the external characters of larval stage and the larviform adult female were reported in detail by OHBA *et al.* (1996, 1997).

This nominotypical subspecies is very common in the northern area of Okinawa-jima Island, so-called "Yambaru", which means the terrace-like hills, while it is much less abundant in the southern part of the island. The adult male has a pair of luminescent organs at the sides of the 7th abdominal segment, while the larviform adult female weakly glows in almost whole body. However, other biological information is still very scanty.

Stenocladius azumai iheyanus KAWASHIMA et F. SATOU, subsp. nov.

(Figs. 1, 3, 5, 7–8, 14)

Type series. [Iheya-jima Is., Okinawa Isls.] Holotype: ♂, Mt. Koshi-dake, 10–XII–2003, FS leg. Paratypes: 11♂♂, same data as for the holotype; 10♂♂ (incl. 4♂♂ preserved in 90% ethyl alcohol), ditto, 10–XII–2001, FS leg.

Type depository. The holotype (Fig. 1) is deposited in the insect collection of HUM. The paratypes are distributed to the insect collections of HUM, KNCC and IK.

Etymology. The subspecific name is derived from the type locality, Iheya-jima

Island.

Additional specimens examined (*larvae*). 2 larvae, same locality as for the holotype, 3–XII–2001, IK leg.; 1 larva, Tana (=Dana, in old times), Iheya-jima Is., Okinawa Isls., 11–XII–2001, FS leg.; 7 larvae, ditto, 10–XII–2003, FS leg.

Male. *Coloration.* Body color closely similar to that of nominotypical *S. a. azumai* as a whole, but often darker than in the latter.

Distinguished from the nominotypical subspecies by a combination of the following points: 1) maxillary and labial palpi darker, blackish brown; 2) elytra basically the same, grayish to dark brown, becoming also darker towards the bases, but darker areas are more enlarged than in nominotypical *azumai*; 3) tibiae darker, blackish brown.

External morphology. Differences from the nominotypical subspecies, *S. a azumai*, are mainly described below. Relative length of each antennal segment in a male specimen (Fig. 5) is as follows:— 11 : 5.5 : 11.5 : 18 : 17 : 17 : 16.5 : 16 : 15.5 : 14.5 : 50.0; pectina longer than in *S. a. azumai*, about 3.6 to 4.9 times as long as the stem, almost 3.8 times in 3rd, 3.6 times in 4th and 10th, 4.1 times in 5th and 6th, 4.8 times in 7th, 4.5 times in 8th and 4.3 times in 9th. PW/PL 1.33–1.76 (mean: 1.49); PW/HW 1.25–1.44 (mean: 1.32); PL/PW 0.57–0.71 (mean: 0.68); PW/HHW 0.80–0.89 (mean: 0.84); EL/PL 4.30–5.62 (mean: 4.93); EL/EW 2.41–2.96 (mean: 2.27); EW/PW 1.10–1.44 (mean: 1.29). Male genitalia as shown in Figs. 7–8; aedeagus wide but moderately short; sides gradually but clearly convergent towards the rounded apex; each paramere nearly straight and slender, hardly open or feebly open towards the distal parts, with the apices not so much bent inwards (relatively well bent inwards in nominotypical *azumai*).

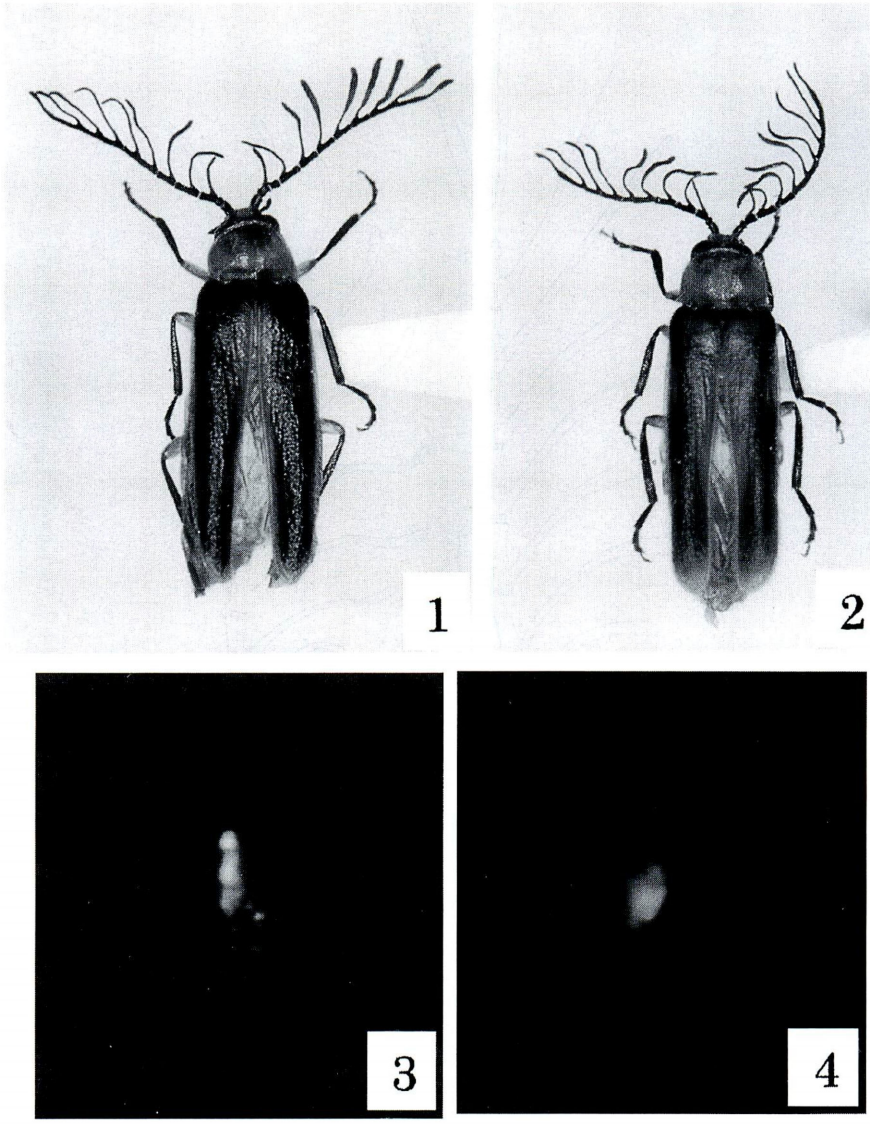
Measurement in mm. BL: 7.90 (in the holotype) (range 6.80–8.60); HW: 1.45 (1.35–1.60); PL: 1.30 (1.05–1.55); PW: 1.90 (1.75–2.30); EL: 8.30 (5.90–7.70); EHW: 2.30 (2.10–2.75); EW: 2.45 (2.20–2.80); HTL: 1.90 (1.60–2.10).

Female. Unknown (probably wingless larviform).

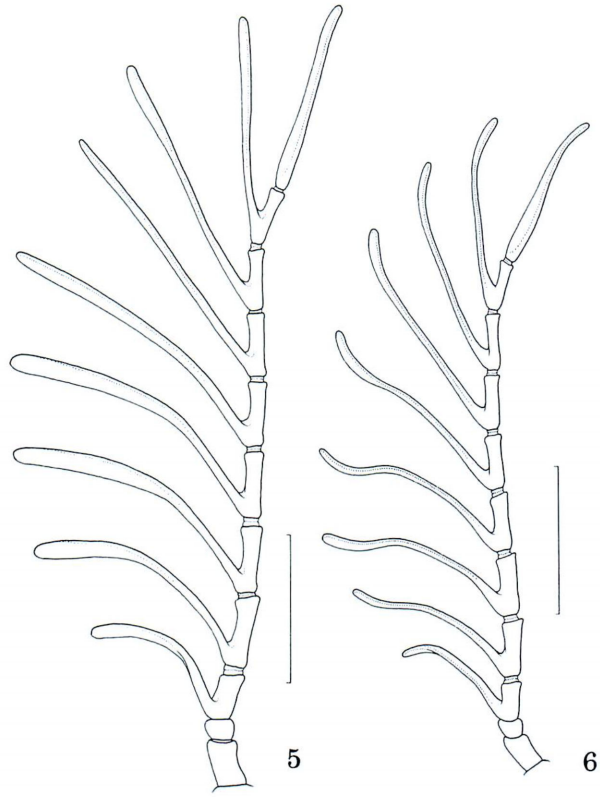
Color and marking pattern mainly in fully grown larva. Color and marking pattern of tergites continuous from thoraces to abdomen (Fig. 14):— Ground color fresh red; mesonotum to 8th abdominal tergite each with a pair of blackish and triangular markings on anterior corners, usually widely separated from each other; hind margins of pronotum to 9th abdominal tergite constantly margined with blackish markings, which become gradually wider towards the sides, sometimes connected with the markings on anterior corners in lateral marginal areas.

Distribution. Iheya-jima Is., the northern tip of the Okinawa Group of the Ryukyu Islands.

Notes. This new subspecies resembles the nominotypical subspecies of *S. azumai* in body coloration, general appearance, etc., but can be discriminated from the other subspecies inclusive of *S. a. azumai* by a combination of the following points: 1) body coloration of adult male frequently darker, especially increasing of darker areas of elytra; 2) relative lengths of pectinae in 3rd to 10th antennal (1st to 8th flagellar) segments much longer; 3) aedeagus of male genitalia shorter; parameres almost



Figs. 1–4. Holotypes of *Stenocladius azumai* subspp. —— 1, *S. azumai iheyanus* KAWASHIMA et F. SATOU, subsp. nov., from Iheya-jima Is.; 2, *S. azumai keramenisis* KAWASHIMA et F. SATOU, subsp. nov., from Tokashiki-jima Is., Kerama Group. —— 3–4. Luminescence of *Stenocladius azumai* subspp.; 3, *S. azumai iheyanus* KAWASHIMA et F. SATOU, subsp. nov., from Iheya-jima Is.; 4, *S. azumai keramensis* KAWASHIMA et F. SATOU, subsp. nov., from Tokashiki-jima Is., Kerama Group.



Figs. 5–6. Right male antennae of *Stenocladius azumai* subspp. —— 5, *S. azumai iheyanus* KAWASHIMA et F. SATOU, subsp. nov., from Iheya-jima Is.; 6, *S. azumai keramensis* KAWASHIMA et F. SATOU, subsp. nov., from Tokashiki-jima Is., Kerama Group. Scale: 1.0 mm.

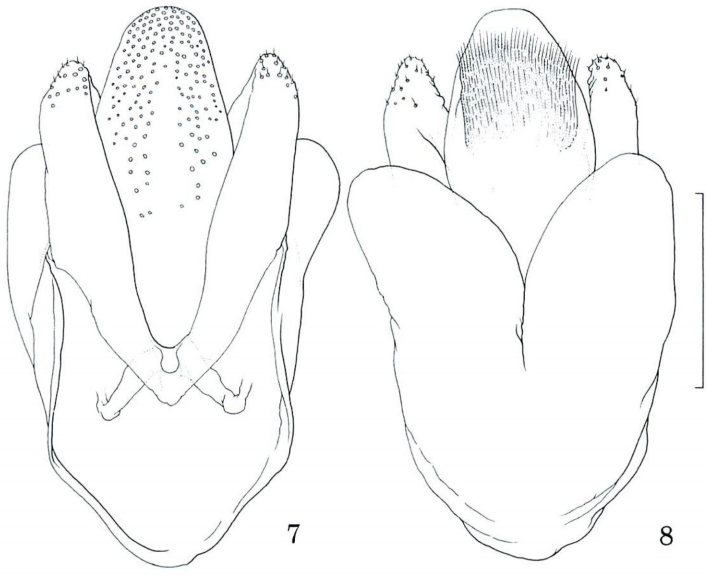
straight, with the apices hardly bent inwards; 4) the difference of color and marking patterns of tergites continuous from thoraces to abdomen in larval stage.

This new subspecies seems fairly common on Iheya-jima Is., but the period of adult appearance may be much limited to early weeks of the winter season. The senior author was unable to see it in December 2001 on Noho-jima Island, which is located off the southern tip of Iheya-jima Is. The adult male has a pair of luminescent organs at the sides of the 7th abdominal segment (Fig. 3), but other biological informations are almost completely unavailable.

Stenocladius azumai keramensis KAWASHIMA et F. SATOU, subsp. nov.

(Figs. 2, 4, 6, 9–10, 12)

Type series. [Kerama Group, Okinawa Isls.] Holotype: ♂, Tokashiki-jima Is. (upper course of the Tokashiki-gawa Riv.), 8–XII–2003, FS leg. Paratypes: 1♂ (pre-



Figs. 7–8. Male genitalia of *S. azumai iheyanus* KAWASHIMA et F. SATOU, subsp. nov.; dorsal view (7), ventral view (8). Scale: 0.25 mm.

served in 90% ethyl alcohol), same locality as for the holotype, 12–XII–2001, FS leg.; 4♂♂, same data as for the holotype; 6♂♂, same locality as for the holotype, 15–XII–2001, FS leg.

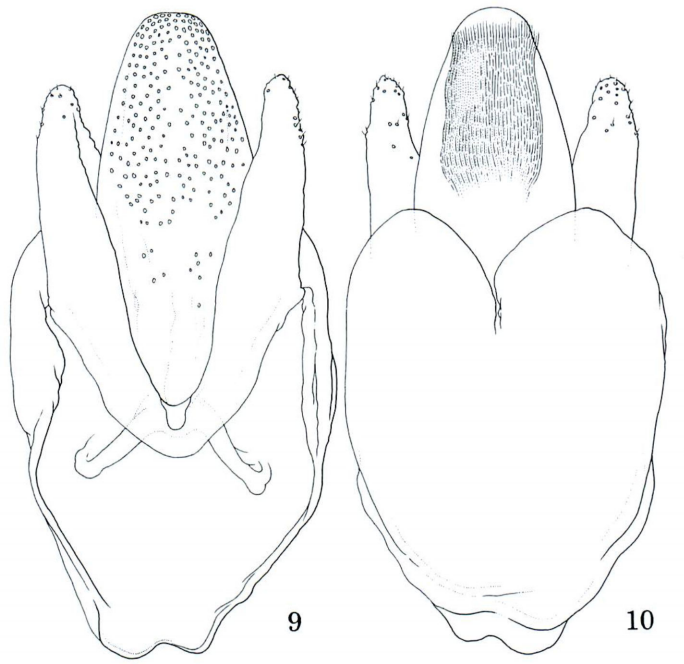
Type depository. The holotype (Fig. 2) is deposited in the insect collection of HUM. The paratypes are distributed to the insect collections of HUM, KNCC and IK.

Etymology. The subspecific name is derived from the Kerama Group, including the type locality, Tokashiki-jima Is.

Additional specimens examined (*larvae*). 8 larvae, same locality as for the holotype, 8–XII–2003, FS leg.

Male. *Coloration.* Body color more or less dull, frequently paler than those of nominotypical *S. a. azumai* and *S. a. iheyanus* subsp. nov.

Distinguished from the nominotypical subspecies, *S. a. azumai* by the following points: 1) antennal scape darker, tinged with blackish; 2) maxillary and labial palpus weakly darker, blackish brown; 3) pronotum almost unicolorous, but the ground color is basically dull yellowish; 4) elytra often paler than those of nominotypical *azumai* and *azumai iheyanus* subsp. nov., pale to yellowish brown, constantly becoming paler towards the bases; paler areas extending along elytral margins including suture and fairly enlarged; paler area of inner side along sutural margin of each elytron dilated towards the bases; areas around scutellum spaciously unicolorous yellowish brown, making remarkable contrast to the color of scutellum; 4) tibiae darker, blackish brown to black.



Figs. 9–10. Male genitalia of *S. azumai keramenisis* KAWASHIMA et F. SATOU, subsp. nov.; dorsal view (9), ventral view (10). Scale: 0.25 mm.

External morphology. Differences from the nominotypical subspecies, *S. a. azumai* are mainly described below. Relative length of each antennal segment in a male specimen (Fig. 6) as follows:— 8.5 : 4.5 : 10 : 14 : 15 : 14 : 14 : 14 : 14.5 : 12 : 41; pectina longer than in *S. a. azumai*, but shorter than in *S. a. iheyanus* subsp. nov, about 3.5 to 4.3 times as long as the stem, 3.5 times in 3rd, 3.57 times in 4th, 3.8 times in 5th and 9th, 4.0 times in 6th, 4.3 times in 7th, 4.1 times in 8th and 3.9 times in 10th. PW/PL 1.42–1.50 (mean: 1.46); PW/HW 1.28–1.37 (mean: 1.32); PL/PW 0.67–0.70 (mean: 0.69); PW/EHW 0.76–0.82 (mean: 0.80): EL/PL 4.62–5.36 (mean: 5.02); EL/EW 2.59–2.89 (mean: 2.74); EW/PW 1.19–1.32 (mean: 1.26). Male genitalia as shown in Figs. 9–10; sides of aedeagus gradually but clearly convergent towards the rounded apex; parameres slender and nearly straight, hardly or feebly dilated towards the apices, which are hardly bent inwards (well bent inwards in *S. a. azumai*).

Measurement in mm. BL 7.60 (in the holotype) (range 7.60–9.50); HW 1.30 (1.30–1.75); PL 1.30 (1.30–1.60); PW 1.85 (1.85–2.30); EW 2.30 (2.30–2.95); EHW 2.20 (2.20–2.90); EL 6.00 (6.00–8.00); HTL 1.80 (1.80–2.30).

Female. Unknown (probably wingless larviform).

Color and marking pattern mainly in fully grown larva. Color and marking patterns in tergites of thorax and abdomen were described in OHBA *et al.* (1996). Since the description was not perfect due to discolored condition of specimens, a redescription

Figs. 11–14. Diagrams of color-marking patterns in larval tergites of the genus *Stenocladius* from the Okinawa Isls.; *S. flavipennis* KAWASHIMA, from Kume-jima Is. (11); *S. azumai keramensis* KAWASHIMA et F. SATOU, subsp. nov., from Tokashiki-jima Is., Kerama Group (12); *S. azumai azumai* NAKANE, from Okinawa-jima Is. (13); *S. azumai iheyanus* KAWASHIMA et F. SATOU, subsp. nov., from Iheya-jima Is. (14), dorsal view, left halves.

based on fresh specimens is given below (Fig. 12):— Ground color fresh red; mesonotum to 9th abdominal tergite each with a pair of blackish and transverse triangular markings on anterior corners, which are nearly separated from each other, sometimes barely attached at the center.

Distribution. Tokashiki-jima Is., Kerama Group, Okinawa Isls.

Notes. This new subspecies is similar to the nominotypical subspecies, *S. a. azumai* from Okinawa-jima Island, but it can be distinguished from the other taxa including *S. a. azumai* by a combination of the following points: 1) body coloration of adult male paler but generally dull; darker areas of elytra remarkably decreasing; 2) relative lengths of pectinae of 3rd to 10th antennal (1st to 8th flagellar) segments relatively long; 3) aedeagus of male genitalia more slender; the apices of parameres hardly bent inwards; 4) the difference in color and marking patterns of tergites continuous from thoraces to abdomen in larval stage. Also similar to the preceding new subspecies, *S. azumai iheyanus* from Iheya-jima Is., but discriminated from it by the following points: 1) body color clearly paler; darker areas of elytra more decreasing; 2) antennal pectinae moderately shorter; 3) aedeagus of male genitalia longer; parameres more slender; 4) the difference in color and marking patterns of tergites continuous from thoraces to abdomen in larval stage.

This new subspecies seems relatively rare even in larger island of the Kerama Group, Tokashiki-jima Is. In 1995, the senior author never came across it on Zamami-jima Is., belonging to the same group. The adult male has a pair of luminescent organs at the sides of the 7th abdominal segment (Fig. 4); other biological information is almost completely unknown.

Stenocladius flavipennis KAWASHIMA, 1999

[Japanese name: Shibuiro-hige-botaru]

(Figs. 11, 15–24)

Additional specimens examined. [Kume-jima Is., Okinawa Isls.] 27♂♂, Mt. Uégusuku-dake, 2–XII–2001, IK leg.; 4♂♂, Kumejima-chô, 27–XI–2003, FS leg.; 1♀, same locality as above, 24–XI–2003 (emergence), FS leg. (larva) and bred; 2♀♀, ditto, 6~8–XII–2003, FS leg.; 6 larvae, Mt. Uégusuku-dake, 11–V–2004, IK leg.

Female. Body almost completely larviform and wingless as in the females of the other species from Japan (OHBA *et al.*, 1997; KAWASHIMA, 1999).

Coloration. Head capsule weakly shiny, dark reddish brown. Lateral ocelli (stemmata) blackish. Mouth parts yellowish brown, with the exception of mandibles which are dark to blackish brown, becoming paler towards the bases. Antennae yellowish brown, with basal articulating membrane milky white to pale yellow. Thorax and abdomen constantly pale yellow to milky white with intersegmental membraneous areas translucently whitish, without any distinct markings, or very feebly pigmented to pale brown, ventral surface paler than the dorsal, almost completely milky whitish. Legs including claws yellowish brown.

External morphology. Body middle-sized among adult females of the Japanese species. Much swollen in anterior to middle segments of abdomen, showing a spindle-shape as a whole (Fig. 15). Head capsule (Figs. 17–18) moderately swollen, but clearly depressed dorso-ventrally, constantly covered with short setae and/or spines except for anterior marginal area (nasal area), and with moderately long spines on anterior margin transversely. Maxillae (Figs. 18–19) with one-segmented galea and four-segmented maxillary palpus; galea moderately short and with pointed apices; palpi gradually narrowed towards the apical segment, which is minutely rounded at the apex. Labium (Figs. 18, 20) relatively small; sides of prementum almost parallel or feebly divergent towards the apex; labial palpus two-segmented, clearly narrowed towards the apices, 2nd segment with sharply pointed apex. Basal parts of maxillae and labium fused with each other, shape of cardo and basal part of mentum not clearly recognized (Fig. 18). Mandibles (Fig. 17) moderately small and constantly incurved with rounded apices. Lateral ocelli (stemmata, Fig. 18) minute, recognized at the lateral sides of head capsule just before the basal portions of antennae. Antennae (Figs. 17–18, 21) short and moderately slender; scape the longest, gradually tapered towards the apices; pedicel almost cylindrical with rounded apex, with a transparent sense organ; flagellum minute, with four to five longer setae; relative length of each segment from scape in a speci-

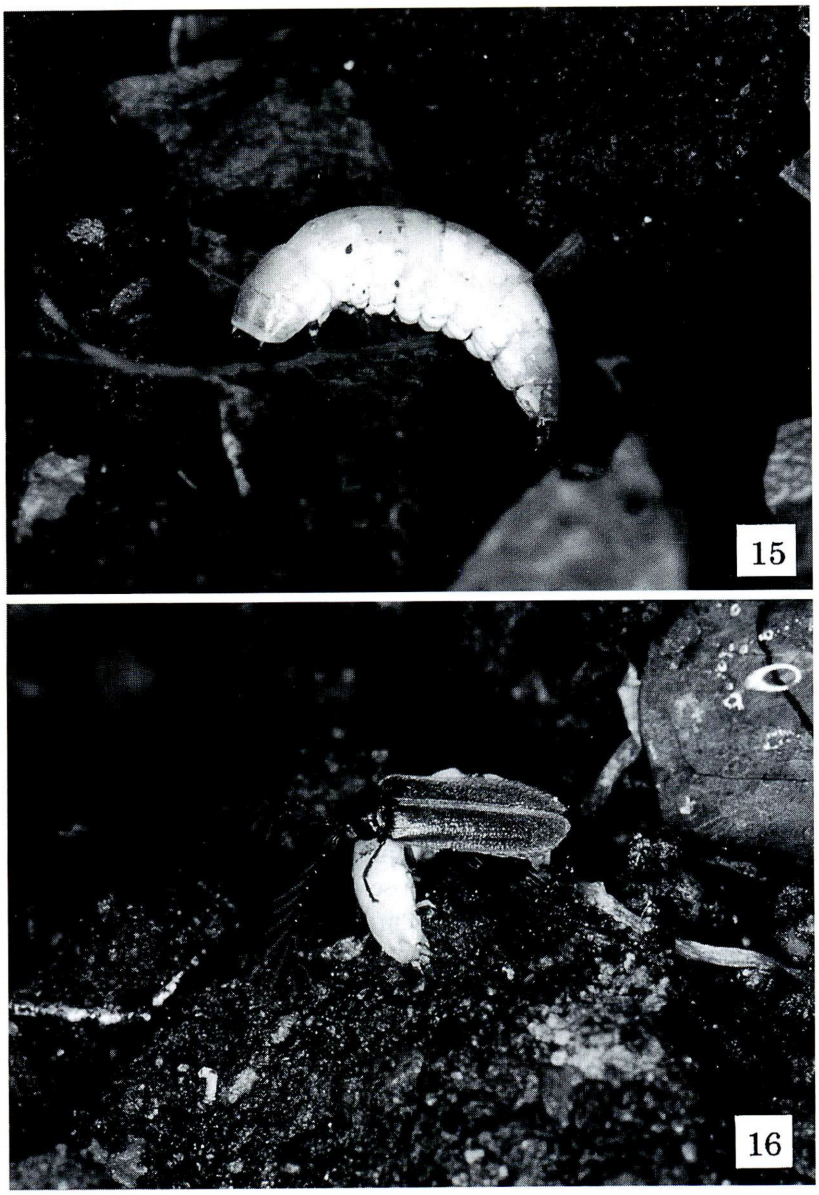
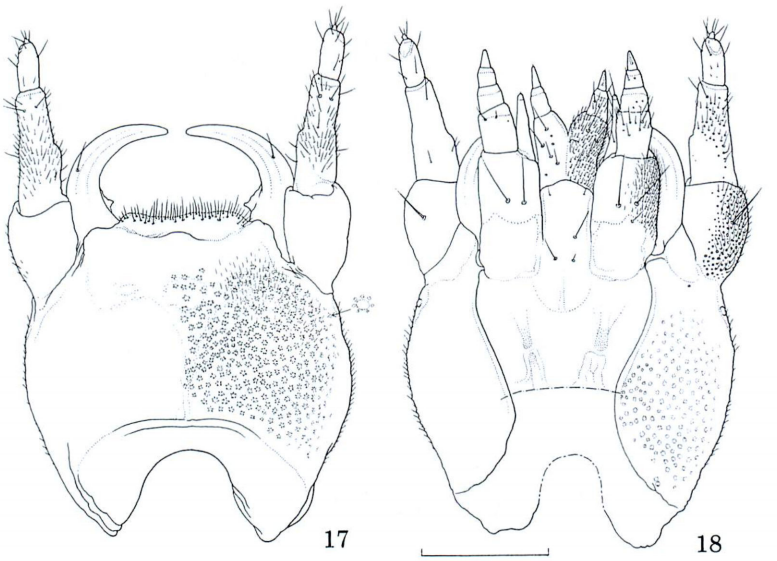


Fig. 15–16. —— 15. Adult female of *Stenocladius flavipennis* KAWASHIMA, from Kume-jima Is. —— 16. A male of *Stenocladius flavipennis* KAWASHIMA, mounting a smaller female.



Figs. 17–18. Head structure of adult female of *Stenocladius flavipennis* KAWASHIMA, from Kume-jima Is.; dorsal view (17), ventral view (18). Scale: 0.5 mm.

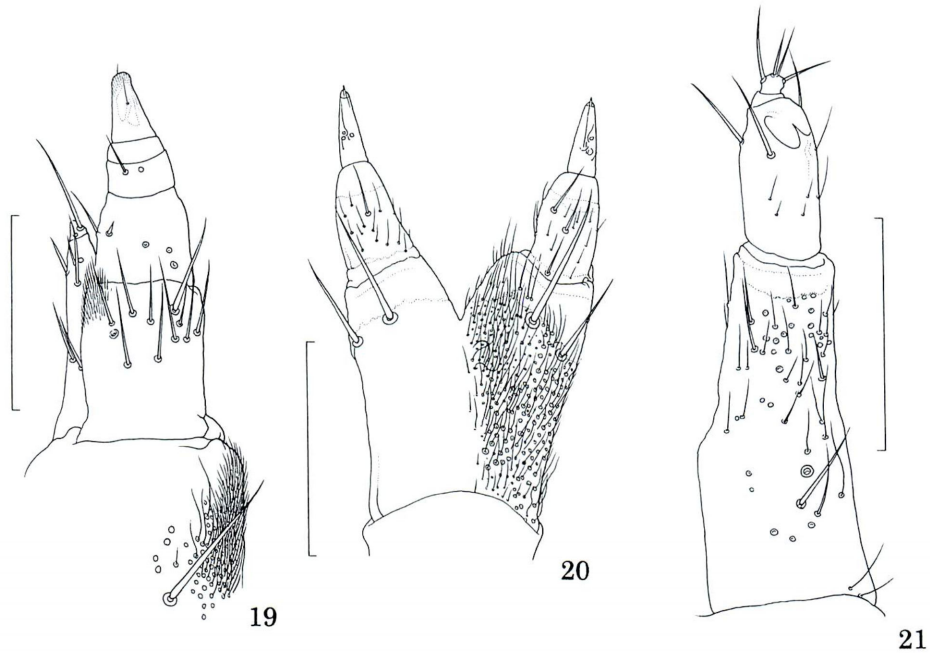
men as follows:— 86 : 41 : 5. Legs as shown in Fig. 24; trochanters large, obliquely attached to femora; femora clearly longer than trochanters; upper and lower margins almost parallel in all legs; tibiae clearly shorter than femora, as long as trochanters, almost cylindrical; 1st segment of tarsi very short, about one-fourth the tibiae; 2nd one long and clavate, about three times as long as 1st; claws simple but complete, dilated at the bases. A pair of shallow and very feeble projections (Fig. 23) on the posterior margin of 8th ventrite; hind marginal area with setae transversely. Cerci (Figs. 22–23) arcuate outwards in basal third, apical two-thirds straightly elongated posteriad; stylus (Figs. 22–23) small and straight with moderately pointed apices; each cercus weakly divergent apicad from each other.

Measurement in mm. BL ca. 11.00–15.00 (in living state).

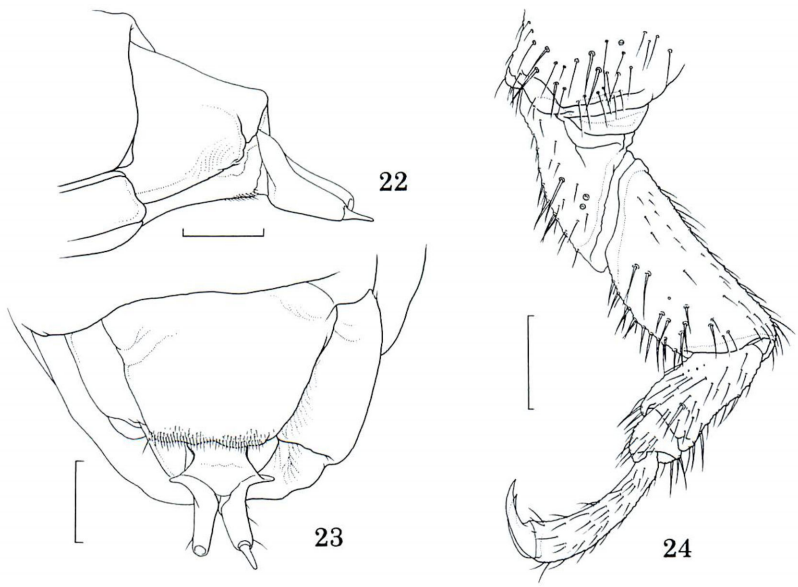
Distribution. Kume-jima Is., west of Okinawa Is.

Notes. External morphology of the adult male was originally described in detail by KAWASHIMA (1999). It is generally larger than the other congeners in Japan, almost constant in both coloration and body size. Larval characters including color and marking patterns (Fig. 11) were described in detail by OHBA *et al.* (1996). However, the adult female has never been described up to the present, since good specimens were not available for study (KAWASHIMA, 1999).

This species is apparently endemic to Kume-jima Island, which is located about 100 km west of Okinawa-jima Island. It is commonly seen from autumn to winter on the island. The adult male has a pair of luminescent organs at the side of the 7th abdominal segment, while the adult female has weak but continuous luminescence on al-



Figs. 19–21. *Stenocladius flavipennis* KAWASHIMA, from Kume-jima Is.; adult female; ventral view; 19, apical part of left maxilla; 20, labium; 21, right antenna. Scale: 0.25 mm.



Figs. 22–24. *Stenocladius flavipennis* KAWASHIMA, from Kume-jima Is., adult female; left lateral view (22), ventral view (23, 24). —— 22–23, Apical segments of abdomen, 24, hindleg. Scale: 0.5 mm (22, 23), 0.25 mm (24).

most whole body.

Acknowledgements

We wish to express our cordial thanks to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his critically reading the original draft and giving constant guidance to the senior author, and to Dr. Masataka SATÔ of Nagoya, Dr. Masahiro ÔHARA of HUM, Dr. Shûji OKAJIMA of Tokyo University of Agriculture, Kanagawa, Dr. Hirobumi SUZUKI of the Olympus Co., Tokyo, Mr. Yoshimasa GOTO of Yokohama, Mr. Hayato YAMASHIRO of KNCC, and Mr. Hiroshi SUGAYA of the Systematic Entomology, Hokkaido University, Sapporo, for their constant help in various ways.

要　　約

川島逸郎・佐藤文保：沖縄諸島に産するヒゲボタル属およびその周辺の小島嶼に産する2個体群の記載．—— 日本産ヒゲボタル属 *Stenocladius* の種は，現在までに，琉球列島から少なくとも4種が知られている(KAWASHIMA *et al.*, 2003)．最近，沖縄島を中心とした周辺のいくつかの小島嶼にも，この属の個体群が分布することが確認され，筆者らにより調査が進められてきた(佐藤・川島，2003)．その結果，伊平屋島および慶良間諸島の渡嘉敷島については，幼虫・成虫ともに研究材料を集積することができ，ある程度固有の形質を持つ集団であることを確認した．そのため，この論文では上記2個体群の検討を行い，ともに沖縄島産のタテオビヒゲボタル *S. azumai* NAKANE, 1981 の亜種として，伊平屋島の個体群に *S. a. iheyanus* subsp. nov.，慶良間列島渡嘉敷島の個体群に *S. a. keramensis* subsp. nov. という名称を与えて記載した．加えてタテオビヒゲボタル・久米島産シブイロヒゲボタル *S. flavipennis* KAWASHIMA, 1999 に関しては，最近までに追加された新しい研究材料と知見を含めて，諸情報を一括して記録・報告した．後者の種については，これまで正式に報告されてこなかった雌成虫の外部形態を初めて報告・記載した．

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Elytra, Tokyo, **32** (2): 403–404, November 20, 2004

Epuraea kaszabi KIREJTSHUK, a Little-known Nitidulid Beetle Newly Recorded in Japan

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According to the 'MOKUROKU' database of Japanese insects by Kyushu University (TADAUCHI & INOUE, 2000), 161 species of the family Nitidulidae (Coleoptera) have been recorded in the Japanese Archipelago. They include 31 species of the genus *Epuraea*.

Here we record one additional species of this genus, *Epuraea* (*Epuraea*) *kaszabi* KIREJTSHUK, 1992, from Japan. In a series of surveys on flower visitors to a subtropical orchard tree, cherimoya (*Annona cherimola* MILL.: Annonaceae) in Wakayama Prefecture, Central Japan, we found this species alongside other beetles such as *Mimemodes monstrosus* (REITTER) (Rhizophagidae) and *Haptoncus ocularis* (FAIRMAIRE) (Nitidulidae). A list of flower visitors to the cherimoya in Japan is provided elsewhere. The collecting records of the species were as follows.

Specimens examined. 1♂, 1♀, Kokawa Town, Wakayama Pref., Central Japan, 29–V–2001, M. TSUKADA leg.; 1♂, same locality, 13–VI–2001, M. TSUKADA leg.

Voucher specimens are deposited at the Entomology Laboratory, Mie University, though the males are not in a complete condition since their genitalia have been extracted for examination. Alternatively, additional 26 specimens from the Primorsky and Khabarovsky Regions in Russia, including the holotype & 11 paratypes, are available at the Zoological Institute, St. Petersburg. Till now, *E. kaszabi* has been recorded in Russia (KIREJTSHUK, 1992; NIKITSKY *et al.*, 1996). This species is similar to the Japanese nitidulid species *Epuraea argus* REITTER and *Epuraea decolor* REITTER. A key to these species has been provided in KIREJTSHUK (1992) with some illustrations (pp. 153–158).

The collecting site is located at 135°24′E, 34°17′N and the altitude is ca. 100 m above sea-level. It was a plastic greenhouse in which cherimoya trees were in commercial cultivation.

The cherimoya is a rather rare and new crop in Japan, which was introduced into this area in the late 1980's. Before that, there were no annonaceous plants in the Japanese main islands. Therefore, it is not likely that this species relies mainly on the cherimoya flower and/or fruit in Japan. Species of the genus *Epuraea* are found from the flowers of a variety of species, rotting fruit, tree sap and fungus-infected pine (HISAMATSU, 1985). The greenhouse used in this study was surrounded by orchards of peach and plum (*Prunus* spp.), persimmon (*Diospyros kaki* THUNB.) and oranges (*Citrus* spp.). This surrounding environment suggests that this species has a more or less frugivorous nature. In Russia, however, this species usually occurs under the bark of deciduous trees and rarely visits other decaying products of plant origin. Whether this species has a similar life history in Japan and Russia or not remains unknown.

We thank Mr. K. KAMEOKA for permission to carry out our survey in his greenhouse, and Dr. M. SAKAI at Ehime University for helpful advice. This study was in part supported by The INAMORI Grant Program to HH & MT, and by a Grand-in-Aid from the Ministry of Education, Culture, Sports, Science and Technology to MT (15780039).

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Elytra, *Tokyo*, **32** (2): 405–413, November 20, 2004

A Taxonomic Study of the Genus *Mordellistenoda* (Coleoptera, Mordellidae) from the Ryukyu Islands, Southwest Japan, with Description of a New Species

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Abstract A new mordellid beetle, *Mordellistenoda donan* is described from the Ryukyu Islands, Southwest Japan. It is somewhat similar in general appearance to *M. aka* (KÔNO, 1928) and *M. ohsumiana* (NAKANE, 1957), but can be clearly discriminated from the former by having the blackish brown body and the shorter 4th segment of antenna, and from the latter by having the hind tibial spurs almost the same in length and the flat elliptical terminal segment of the maxillary palpus in male.

Introduction

The genus *Mordellistenoda* ERMISCH comprises about ten known species at the present moment, and is known from Japan, Taiwan, southern China, the Malay Peninsula, Borneo Island, New Guinea and northern Australia. This genus was erected by ERMISCH (1941) for a single species, *M. fukiensis* ERMISCH, 1941, from southern China. It possesses a flat elliptical terminal segment of the maxillary palpus in male and the hind tibial spurs almost the same in length. After that, ERMISCH (1963) described another species of the genus from northern Australia by expanding the generic concept. BATTEN (1990) also described two new species from New Guinea following ERMISCH's (1963) concept of the genus. As the result of these studies, it became apparent that certain species placed in the genus did not possess two main characters noted above. SHIYAKE (1997) described four new species of the genus from Southeast Asia, and rearranged the generic concept, though there still remained many problems to be solved.

In Japan, KÔNO (1928) described a new species, *Mordellistena aka*, and NAKANE (1957 a) described a new species, *Glipostenoda ohsumiana*. Later, these two species were transferred to the genus *Mordellistenoda*, the former by NAKANE (1957 b), and the latter by NOMURA (1963). Thus, two species have hitherto been known as members of the genus *Mordellistenoda*.

In this paper, I am going to describe a new species of the genus *Mordellistenoda* from the Ryukyu Islands, and use the 8th abdominal sternite of female as an important morphological feature to recognize the species.

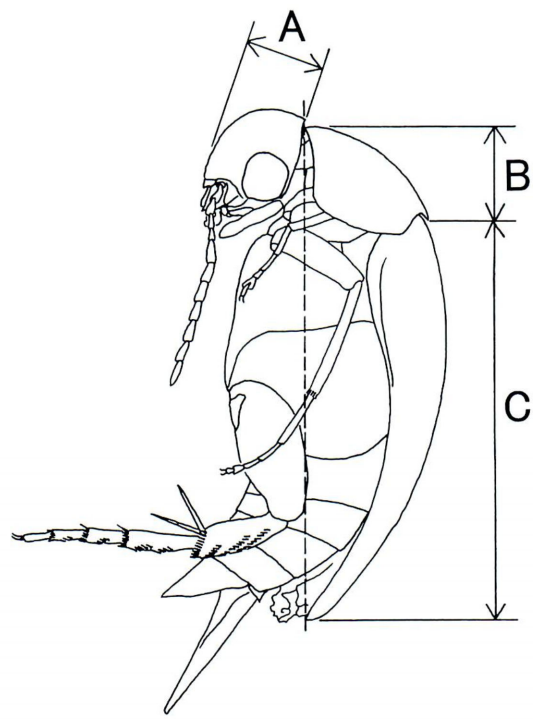


Fig. 1. Measuring method of head, pronotum and elytra, lateral view. —— A, Cephalic length; B, pronotal length; C, elytral length.

Materials and Methods

The materials used in this study were collected by myself and some other entomologists from 2003 to 2004. Almost all the external body parts of taxonomical importance (antennae, maxillary palpi, fore and hind legs, 8th abdominal sternite, and parameres) were mounted on a small piece of glass (10×5 mm) with drops of Canada balsam dissolved by 2-Ethoxyethanol, and were observed with binocular light microscope (Olympus CH2; up to 400×). After observation, this piece of glass was glued on a small piece of paperboard, and pinned under the specimens from which the necessary parts were removed. Measurements of lengths of head, pronotum and elytra were taken by the following methods (Fig. 1): head length was measured from the level of basal margin to the top of frons in profile; pronotal and elytral lengths were measured from tops of pronotum to the apices of elytra in profile. Additionally, body length was measured as a total of pronotal and elytral lengths.

Taxonomy

Genus *Mordellistenoda* ERMISCH

Mordellistenoda ERMISCH, 1941, 722 (type species: *Mordellistenoda fukiensis* ERMISCH, 1941); 1963, 298 (description and expansion of generic concept). —— SHIYAKE, 1997, 26 (taxonomical notes and review of generic concept).

Key to the Japanese Species of *Mordellistenoda*

1. Body almost brown; 4th segment of antenna much longer than 3rd but shorter than 5th; terminal segment of maxillary palpus quadrate; outer spur of hind tibia 0.4 times as long as the inner one; left paramere of male genitalia with a ventral branch ..... *M. ohsumiana.*
— Body almost reddish brown or blackish brown; 4th segment of antenna almost of the same length as 3rd or 5th; terminal segment of maxillary palpus flat and elliptical; outer spur of hind tibia almost of the same length as the inner one ..... 2.
2. Body almost reddish brown; 4th segment of antenna longer than 3rd but almost equal in length to 5th; left paramere of male genitalia without ventral branch .... *M. aka.*
— Body almost blackish brown; 4th segment of antenna almost equal in length to 3rd but shorter than 5th; left paramere of male genitalia with a ventral branch..... ..... *M. donan* sp. nov.

Mordellistenoda ohsumiana (NAKANE, 1957)

[Japanese name: Ohsumi-hime-hananomi]

(Fig. 3 A)

Glipostenoda ohsumiana NAKANE, 1957 a, 51.
Glipostenoda (s. str.) *ohsumiana*: CHÛJÔ, 1959, 11.
Mordellistenoda ohsumiana: NOMURA, 1963, 254. —— HATAYAMA, 1985, 396.
Falsomordellina ohsumiana: NOMURA, 1966, 51.

Eighth abdominal sternite of female with very long and simple basal lobe (Fig. 3 A), which is about 4.8 times as long as wide, aciculate at apex, and densely short-haired inside medio-apical margin, the hairs of apical margin relatively long.

Body length: 3.4–4.5 mm (excl. head and pygidium).

Materials examined. [Yonaguni Is., S. Ryukyus], Mandabaru: 1♀, 2–V–2004, T. TSURU; 2♂♂, 2♀♀, 1–V–2004, T. MITA; 1♂, 30–IV–2004, T. TSURU; 3♂♂, 4♀♀, 29–IV–2004, T. TSURU; 2♂♂, 1♀, Mt. Kubura-dake, Yonaguni Is., the Ryukyus, 30–IV–2004, T. MITA; [Iriomote Is., S. Ryukyus], 1♂, Mt. Sonai-dake, 30–IV–2003, T. KURIHARA.

Distribution. Japan (Honshu, Kyushu, Gotô Isls., Yaku Is., and Ryukyus).

Remarks. This species was regarded by HATAYAMA (1985) as a member of *Mordellistenoda*. However, it clearly differs from its generic concept in the characters

of the 4th antennal segment, the terminal segment of maxillary palpus, the hind tibial spurs and the left paramere. Therefore, its true systematic position should be revised in future when a full investigation of the group is made.

Mordellistenoda aka (KÔNO, 1928)

[Japanese name: Aka-hime-hananomi]

(Fig. 3 B)

Mordellistena aka KÔNO, 1928, 43.
Glipostenoda aka: NOMURA, 1951, 69.
Mordellistenoda aka: NAKANE, 1957 b, 50; 1960, 17. —— SHIYAKE, 1997, 26.

Eighth abdominal sternite of female with short and sectorial basal lobe (Fig. 3 B), about 1.6 times as long as wide, aciculate at apex, densely short-haired in marginal areas of apical half, four hairs of apical margin long.

Materials examined. [Mandabaru, Yonaguni Is., S. Ryukyus], 1♂, 2–V–2004, T. TSURU; 2♂♂, 1♀, 1–V–2004, T. TSURU & T. MITA; 1♂, 2♀♀, 30–IV–2004, T. TSURU & T. MITA; 2♂♂, 2♀♀, 29–IV–2004, T. TSURU & T. MITA.

Body length: 3.0–4.2 mm. (excl. head and pygidium).

Distribution. Japan (Honshu, Shikoku, Kyushu, Tsushima Is. and the Ryukyus), Taiwan.

Remarks. It is most probable that this species is a senior synonym of *Mordellistenoda fukiensis* ERMISCH. For the time being, however, I prefer to regard the latter as an independent species, since I have been unable to investigate the type series of *M. fukiensis* for the present study.

Mordellistenoda donan sp. nov.

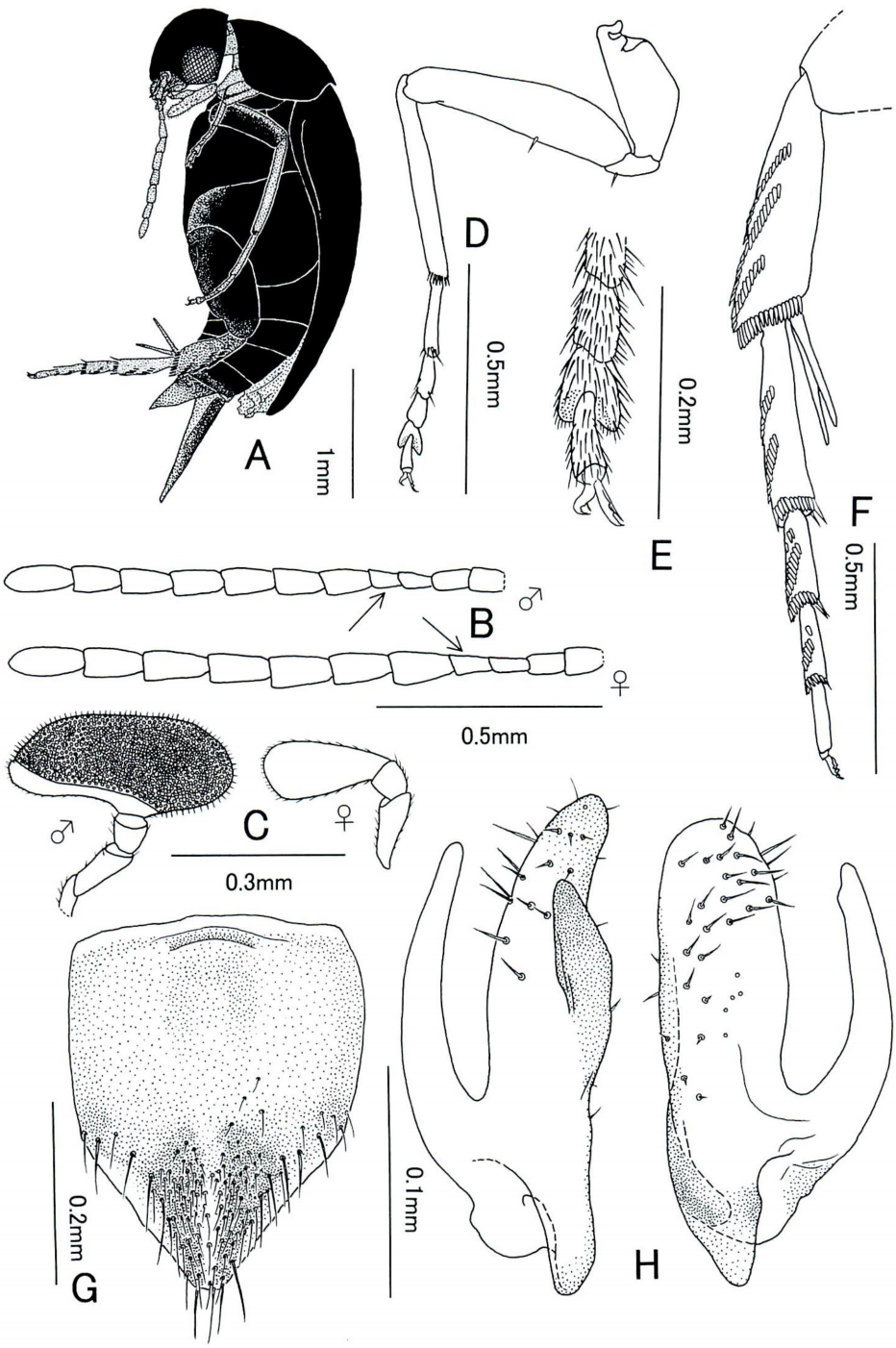
[Japanese name: Donan-hime-hananomi]

(Figs. 2 A–H, 3 C)

Male. Body almost blackish brown; mouth parts, fore coxae and tibiae, middle tibiae, fore and middle tarsi, and hind tibial spurs yellowish brown; antennae, middle fomora, hind tibiae and tarsi, and apical parts of pygidium and hypopygium brown; elytra and scutellum usually blackish blown, but the sometimes brown. Hairs on almost whole body shiny yellow.

Head strongly convex, about twice as wide as long; eyes somewhat large, nearly circular, not emarginate in front, sparsely haired; tempora very narrow, a little wider than the diameter of a facet. Antenna moderately long, about 2.4 times as long as

Fig. 2. *Mordellistenoda donan* sp. nov., holotype, ♂ and allotype, ♀, Yonaguni Is., S. Ryukyus, Southwest Japan. —— A, Habitus of male in lateral view; B, right antenna (4th segment arrowed); C, right maxillary palpus; D, right fore leg of male; E, distal segments of right fore tarsus of male; F, right hind leg of male; G, 8th abdominal sternite of male; H, parameres of male genitalia.


A
1mm
D
0.5mm
E
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F
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B
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♀
0.5mm
C
♂
♀
0.3mm
G
0.2mm
0.1mm
H

length of head (Fig. 2 B); 1st and 2nd segments cylindrical; 3rd and 4th a little shorter than 2nd, thin as compared with the others, broadened to the apices; 5th to 10th serrate, each about 1.6 times as long as 4th and about twice as long as wide; terminal segment oblong, about 1.4 times as long as the penultimate. Terminal segment of maxillary palpus flat and elliptical (Fig. 2 C), articulated to penultimate segment at middle of hind margin, densely covered with minute granulations and short erect hairs on dorsal and ventral surfaces except for inner margin. Pronotum about twice as long as wide, about 1.2 times as long as head; lateral margins gently crescent-shaped in profile, converging anteriorly in dorsal view; anterior angles broadly rounded at each tip, posterior ones somewhat rounded at each tip. Scutellum triangular, wider than long, with apex rounded. Elytra about 2.1 times as long as humeral width, about 4 times as long as pronotum, tapered posteriorly and broadly rounded at each apex. Apical margin of hypopygium acute without emargination. Pygidium straight and relatively short, about 0.4 times as long as elytron. Legs slender (Fig. 2 D–F); fore trochanter with a blackish seta in apical area of inner margin, fore femur with a blackish seta at middle of inner margin; each penultimate segment of fore and middle tarsi dilated to the apex, emarginate at apical margin, and surmounting terminal segment. Hind leg with long and oblique combs formulated as 3, 2, 1-2, 1-2; tibia with two basal combs nearly reaching medial axis, with apical one the shortest; 1st segment of tarsus with two oblique combs, 2nd segment with two oblique combs though the basal one is sometimes absent, 3rd with two oblique combs but basal one is vestigial or often absent, 4th segment without comb. Inner spur of hind tibia about 0.7 times as long as 1st segment of hind tarsus, outer one very long, slightly shorter than inner one.

Eighth abdominal sternite about 1.2 times as long as wide (Fig. 2 G); apical lobe protrudent and rounded at apex, densely short-haired in central area, sparsely long-haired on its margins.

Parameres as illustrated (Fig. 2 H); left paremere with normally thick main lobe, basal process heavily sclerotized, branching at the middle part of main lobe, ventral branch slightly incurved, apparently not reaching the top of main lobe; right paramere with normally thick main lobe, rounded at apex, ventral branch long and narrow, clearly not reaching the top of main lobe.

Female. Similar to male in general appearance, but different from it mainly in the following respects: 1) antenna about 2.7 times as long as length of head (Fig. 2 B), 2) eyes somewhat smaller than in male, 3) terminal segment of maxillary palpus elongated securiform (Fig. 2 C), 4) fore trochanter and femur without blackish hairs, 5) eighth abdominal sternite is provided with very long basal lobe which is divaricate at the apex (Fig. 3 C), about 5.1 times as long as wide, aciculate at apex, densely short-haired in apical half, and with very long hairs on apical margin.

Body length: 3.3–4.2 mm (excl. head and pygidium).

Type series. Holotype: ♂, Mandabaru, Yonaguni Is., S. Ryukyus, 2–V–2004, T. TSURU. Allotype: ♀, same locality as for the holotype, 30–IV–2004, T. TSURU. Paratypes: [same locality as for the holotype], 24♂♂, 4♀♀, 2–V–2004, T. TSURU & T.

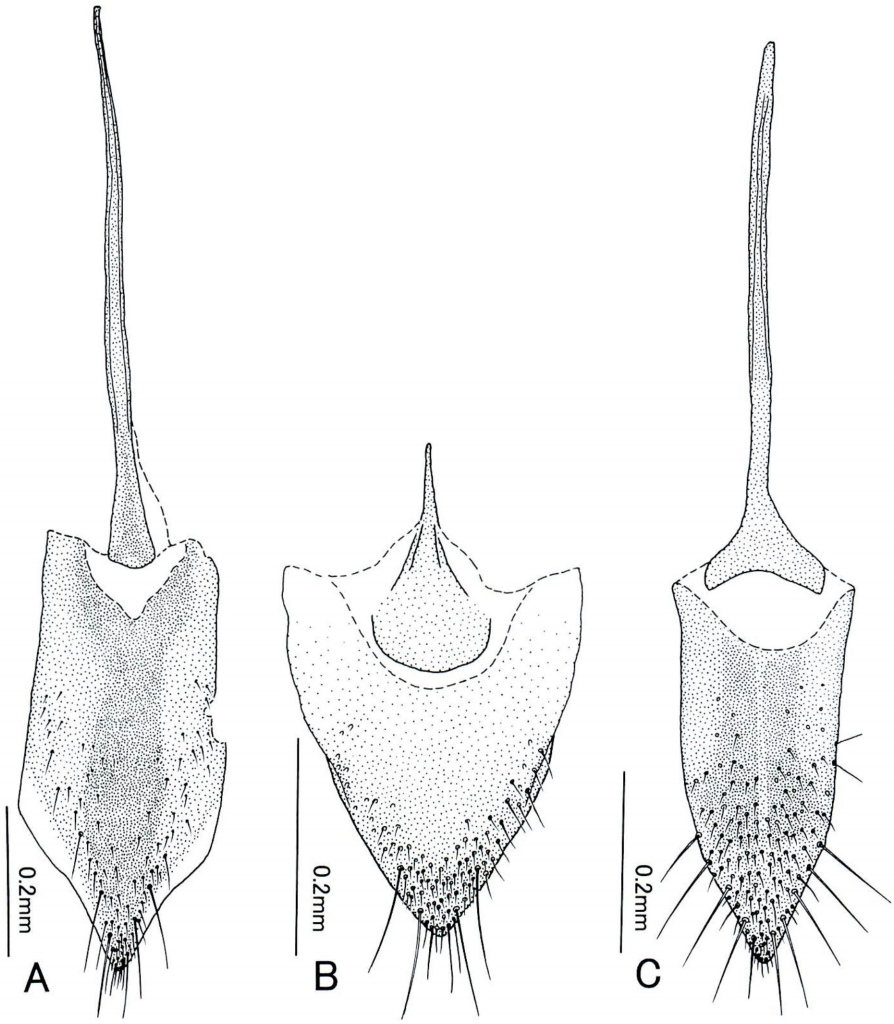

Fig. 3. Eighth abdominal sternite of female. —— A, *Mordellistenoda ohsumiana* (NAKANE); B, *M. aka* (KÔNO); C, *M. donan* sp. nov.

MITA; 2♂♂, 1–V–2004, T. MITA; 6♂♂, 30–IV–2004, T. TSURU; 12♂♂, 2♀♀, 29–IV–2004, T. TSURU & T. MITA; [Mt. Kubura-dake, Yonaguni Is.], 1♂, 2♀♀, 28–IV～2–V–2004, T. TSURU and others (by flight intercept trap); [Mt. Yarabu-dake, Ishigaki Is., S. Ryukyus], 1♀, 7–V–2003, T. KURIHARA. Specimens of the type series are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture, except for a male and a female paratypes in my private collections.

Distribution. Yonaguni and Ishigaki Is. (S. Ryukyus, SW. Japan).

Remarks. This new species is somewhat similar in general appearance to

Mordellistenoda aka (KÔNO, 1928) and *M. ohsumiana* (NAKANE, 1957), but obviously differs from them mainly in the character states given in the key, and also in the following point: eighth abdominal sternite of female with a very long and divaricate basal lobe, whereas it is very short and sectorial in *M. aka* and simple in *M. ohsumiana*. I have tentatively regarded this new species as a member of *Mordellistenoda* ERMISCH in view of peculiarities of the maxillary palpus and the hind tibial spurs. However, it obviously differs from that genus in the 4th antennal segment and the left paramere. It is therefore necessary to revise its systematic position by future investigations.

Etymology. The specific name of this new species, "donan", is an alias name of Yonaguni Island, the type locality. In former times, Yonaguni was called "donan", because it was not easy to reach that island. "Do (to)"means voyage, and "nan" means difficulty.

Note on habitat. Almost all the specimens examined in this study were collected by sweeping the floor of evergreen forests. It is inferred that this new species inhabits such forest floors.

Acknowledgements

I would like to express my hearty thanks to Prof. Shûji OKAJIMA, Tokyo University of Agriculture, and Dr. Shun-Ichi UÉNO, visiting professor at Tokyo University of Agriculture for their continuous guidance and encouragement. I am also much indebted to Dr. Masatoshi TAKAKUWA of the Kanagawa Prefectural Museum of Natural History, Odawara, for his kind advice. Deep thanks are also due to Messrs. Tadashi ISHIKAWA, Takashi KURIHARA and Toshiharu MITA for their kindness in offering valuable materials used in this paper.

要　　約

鶴　智之：琉球列島から得られたアカヒメハナノミ属の分類学的研究，および1新種の記載．—— 琉球列島の与那国島と石垣島から得られたアカヒメハナノミ属 *Mordellistenoda* の1新種を，*M. donan* と命名して記載した．本種は体色が黒褐色であることや，触角第4節が5節より短くなるなどの点で *M. aka* (KÔNO, 1928) から明瞭に区別される．また *M. ohsumiana* (NAKANE, 1957) とは，2本の後脛節端棘がほぼ同長となる点や小顎肢の末端節が長楕円形となる点などで明瞭に区別できる．しかしながら，本種は触角第4節が3節と同長となることや，雄交尾器の側片の形状がこの属の形質と異なっているため，本種の所属に関して今後の再検討が必要であろうと考えられる．なお，以上の3種を区別する形質として，ハナノミ科において初めて検討された雌の第8腹板を用いた．

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Elytra, Tokyo, **32** (2): 413–414, November 20, 2004

New Localities of *Cyphonocerus okinawanus okinawanus* (Coleoptera, Lampyridae, Psilocladinae) from the Okinawa Islands, the Middle Ryukyus

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As the psilocladine beetle of the genus *Cyphonocerus* from the middle Ryukyu Islands, only one species, *C. okinawanus okinawanus* NAKANE, 1983, was known from Okinawa-jima Is. (NAKANE, 1983; JENG *et al.*, 1998; KAWASHIMA *et al.*, 2003). In 2004, we were able to collect this insects from several small islands of the Okinawa Group, the middle Ryukyus.

Materials examined. [Iheya-jima Is.] 4♂♂, Mt. Koshi-dake, 29–II–2004; [Kume-jima Is.] 1♂, the middle of Shirase-gawa Riv., 15–II–2004; 3♂♂, ditto 17–II–2004; 1♂, ditto,

21–II–2004; [Tokashiki-jima Is. of the Kerama Group] 1♂, the upper of Tokashiki-gawa Riv., 26~27–II–2004.

All the specimens recorded above were collected by the first author.

Distribution. Okinawa Isls., Ryukyus: Iheya-jima Is. (new record), Okinawa-jima Is., Kume-jima Is. (new record) and Tokashiki-jima Is. of the Kerama Group (new record).

Remarks. In the external and genitalic morphology, the coloration of body and appendages, and the body size, newly collected individuals from all the new localities are included in the range of individual variation of the Okinawa-jima population, the type population of the nominotypical subspecies, *Cyphonocerus okinawensis okinawensis*, and cannot be discriminated from one another. In this short report, therefore, we provisionally considered that all the individuals examined belong to the same subspecies.

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Elytra, *Tokyo*, **32** (2): 415–419, November 20, 2004

Description of *Donacia* (*Cyphogaster*) *miyatakei* sp. nov. from Malaysia, a Cryptic Species of *Donacia provostii* FAIRMAIRE (Coleoptera, Chrysomelidae, Donaciinae)

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Abstract A new donaciine species from Malaysia, *Donacia* (*Cyphogaster*) *miyatakei*, is described. It resembles *Donacia provostii* FAIRMAIRE but apical shape of the endophallus is the most important feature of their discrimination.

Donacia provostii FAIRMAIRE, the type species of the subgenus *Cyphogaster* GOECKE, is widely distributed in East and Southeast Asia (GOECKE, 1934). I recognized a new species of the subgenus from Malaysia which is a cryptic species of *D. provostii*. The new species is characterized by slender median process of the endophallus. All the specimens of the type series are housed in the Osaka Museum of Natural History (OMNH).

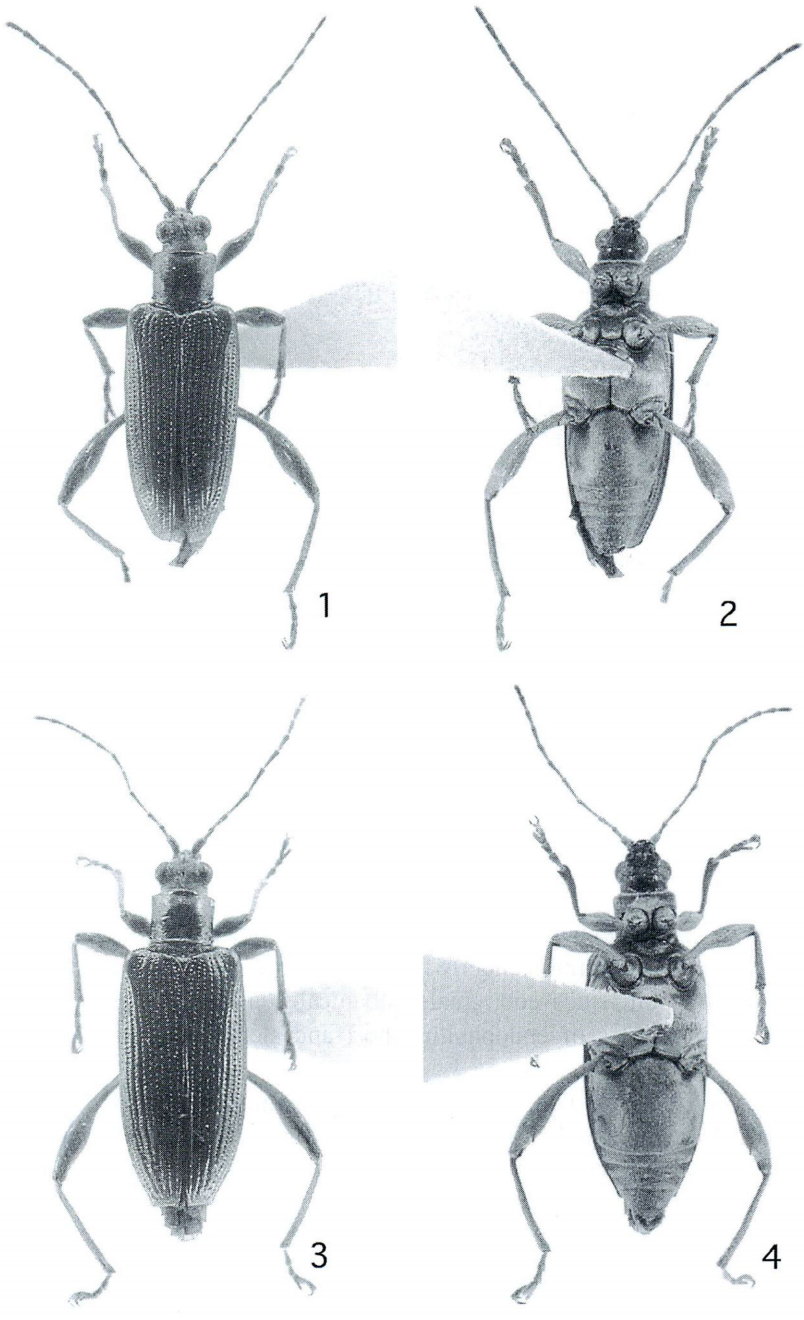
I gratefully acknowledge my indebtedness to Mr. Shigehiko SHIYAKE (OMNH) for allowing access to the referred materials.

Donacia* (*Cyphogaster*) *miyatakei sp. nov.

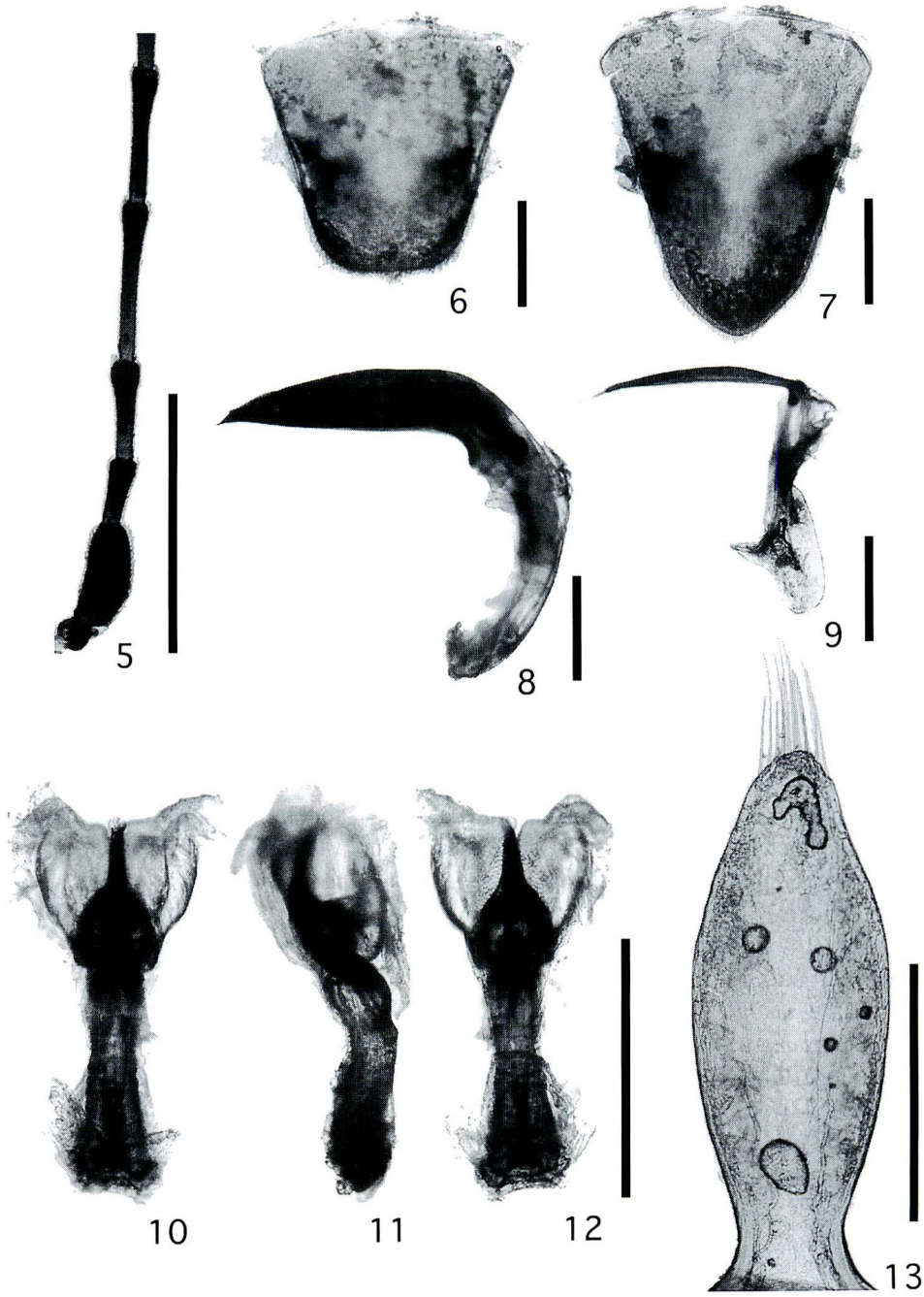
(Figs. 1–14)

Diagnosis. Antennomere 3 longer than 2, antennomere 4 the longest; legs elongate and bicolored, metafemur slender with a tooth; apex of median lobe rounded with a median lip and both sides emarginate subapically, a cap of tegmen broad, apex rounded; median process of endophallus short and slender, basal supporting block elongate.

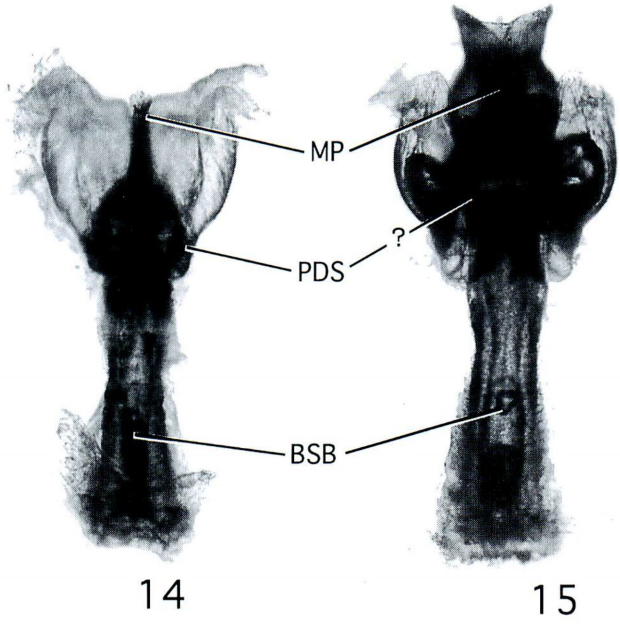
Description. Male. Eyes strongly convex, supraocular furrow deep, vertex pubescent with deep median line; antennomere 3 longer than 2, antennomere 4 the longest, antennomere 5 twice as long as 2. Pronotum widely quadrate, anterolateral calli indistinct, median line present, disc with transverse fine rugae, finely punctate over much of disc, basal sulcus narrow with rugae. Elytra rufous tinged with red, green, blue, or purple luster; sutural interval entirely smooth, gradually narrowing towards apex, other intervals also shiny but rugose on lateral and apical areas; apex widely truncate, outer apical angle obtuse more or less rounded, inner apical angle obtuse. Legs bicolored, metafemur elongate with a sharply pointed tooth; metatibia slen-



Figs. 1–4. *Donacia miyatakei* sp. nov.——1–2, Male (holotype); 3–4, female. 1, 3, dorsal view; 2, 4, ventral view.



Figs. 5–13. *Donacia miyatakei* sp. nov.——5, Antenna; 6–7, pygidium (6, male; 7, female); 8–13, male genitalia: 8, median lobe; 9, tegmen; 10–12, endophallus (10, dorsal view; 11, lateral view; 12, ventral view); 13, a cap of tegmen. Scale bars=0.5 mm.



Figs. 14–15. Endophallus of *Donacia* spp.——14, *D. miyatakei*; 15, *D. provostii*. MP, median process; PDS, paired dorsal sclerites; BSB, basal supporting block.

der. Pygidium trapezoidal in general shape; apex pubescent and widely truncate. Apex of median lobe rounded with a median lip and both sides emarginate subapically; a cap of tegmen entirely oval, apex rounded with setae; median process of endophallus short and slender, basal supporting block elongate. First abdominal sternite (sternum III) with two tubercles on middle; last sternite (sternum VII) punctate, apical shape truncate, apical depression shallow but evident.

Female. Pygidium elongate, apex gently rounded. First abdominal sternite (sternum III) without tubercles at middle; last sternite (sternum VII) punctate, apex narrowly rounded.

Measurements. Body length: male 8.6–9.1 mm; female 8.9–9.6 mm.

Type series. Holotype: 1♂, Taiping Lake, Perak, Malaysia, 10–X–1986, Y. MIYATAKE leg. (OMNH–TI–195). Paratypes: 3♂♂, 7♀♀, same data as holotype.

Distribution. Malaysia. It is possible that the new species is widely distributed in Southeast Asia.

Etymology. This new species is dedicated to Mr. Yorio MIYATAKE who collected the type series of the new species.

Donacia (*Cyphogaster*) *provostii* FAIRMAIRE

(Fig. 15)

Donacia provostii FAIRMAIRE, 1885, Bull. Soc. ent. France, (6), **5**: 64 (Beijing).
Donacia nitidicollis WEISE, 1898, Arch. Naturg., **64A** (1): 177 (Changyang).
Donacia brevicollis WEISE, 1898, Arch. Naturg., **64A** (1): 177 (Amur).
Donacia sikanga GRESSITT, 1942, J. Lingnan Sci., **20**: 277 (Yachow, Siking).
Donacia yuasai NAKANE, 1963, Fragm. coleopterol., Kyoto, (4): 18 (Oze, Japan).

Diagnosis. Antennomere 3 longer than 2, antennomere 4 the longest; legs elongate and bicolored, metafemoral shape slender with a tooth; apex of median lobe rounded with a median lip and both sides emarginate subapically, a cap of tegmen broad, apex rounded; medeian process of endophallus robust, apex truncate, basal supporting block elongate.

Distribution. Far East Russia, Korea, Japan, Ryukyus, Taiwan, China, SE. Asia.

要　　約

林　成多：マレーシア産イネネクイハムシ亜属の１新種，*Donacia* (*Cyphogaster*) *miyatakei* の記載．―― 大阪市立自然史博物館所蔵のマレーシア産ネクイハムシ亜科の標本から未記載種のイネネクイハムシ亜属を見出し，新種*Donacia* (*Cyphogaster*) *miyatakei* sp. nov.として記載した．本種は外見上，イネネクイハムシ *Donacia* (*Cyphogaster*) *provostii* FAIRMAIRE とは見分けがつかない隠蔽種であるが，雄交尾器の骨片（内袋）の中央突起が細く，イネネクイハムシのものとはまったく異なる。なお，イネネクイハムシにはいくつかのシノニムが知られるが，いずれもシベリアや中国，日本産の標本に基づいて記載されており，これらは真の*D. provostii* のシノニムであるとみなした．本新種の種小名は，タイプシリーズの採集者であり，大阪市立自然史博物館の前館長，宮武頼夫氏に献名した．

Reference

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Elytra, *Tokyo*, **32** (2): 420, November 20, 2004

A New Record of *Pseudeucinetus zygops* (Coleoptera, Limnichidae) from Indonesia

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Pseudeucinetus zygops HELLER, 1921 (p. 156, figs. 1–3) has been recorded from India, Malaysia, New Ireland, the Philippines and the Solomon Islands (SATÔ, 1994; SPANGLER, 1995; SPANGLER *et al.*, 2001). Recently, I examined one male specimen of this species collected from Sulawesi. I am going to record it for the first time from Indonesia as below.

Specimen examined. 1♂ (genitalia examined; preserved in my private collection), Aele, Southwest Sulawesi, Indonesia, 6~8–II–2003 (LT), S. HORI leg.

From Indonesia, one more species, *Pseudeucinetus spilmani* SPANGLER, 1995 was described (Bacan Is.), but this species is easily distinguishable from *P. zygops* by the shape of aedeagus.

I thank Mr. Shigehisa HORI of the Historical Museum of Hokkaido, Sapporo for his kind help in offering a precious material.

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Elytra, *Tokyo*, **32** (2): 421–424, November 20, 2004

A New Prionine Genus Erected for *Aegosoma metallicum* AURIVILLIUS (Coleoptera, Cerambycidae, Prioninae)

(Revisional Studies of the Genus *Megopis* sensu LAMEERE, 1909–6)

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Abstract The male of *Aegosoma metallicum* AURIVILLIUS (*Megopis metallica* sensu LAMEERE) is described. A new genus, *Cyanolipton* nov., is established based on this species.

Aegosoma metallicum AURIVILLIUS (1910) was described on a female from Matang (Kuching) of Borneo and no additional specimen has been found from the same locality. This species was found again about ten years ago from Sabah about 100 km northeast of the original locality, and after that time, a long series of specimens, including males, have been brought about from there. This species was originally described under the genus *Aegosoma* and LAMEERE (1913) transferred it to the genus *Megopis* subgenus *Baralipton*. The male was not known at that time, and this fact means that LAMEERE had to presume that the male would have the hair fringes under the antennae when it would be found. It is confirmed now that he was correct in this respect but it is also found that the male is quite different from the female and has many peculiarities of its own. After precise investigation, I have concluded that a new genus is required for this species.

In this paper, I am going to describe a new genus, *Cyanolipton* nov., to receive *Aegosoma metallicum* AURIVILLIUS and give the description of the male.

The abbreviations used in measurements of body parts are the same as those used in the other papers of this series.

Before going further, I would like to express my cordial gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist), Tokyo, for his kind help through the way of completing this text. I express my thanks to Mr. Alain DRUMONT of the Institut Royal des Sciences Naturelles de Belgique for his help in preparing references and giving me valuable advice.

Genus ***Cyanolipton*** nov.

Type species: *Aegosoma metallicum* AURIVILLIUS, 1910, Ark. Zool., **7**(3): 2.

Generic features. Integument black and accompanied with blue or bronze

metallic tint. Head, pronotum and elytra distinct metallic blue or green in female while red or bronze in male.

Body cylindrical, rather short, length 18–31 mm.

Antennae 9-segmented in male and 10-segmented in female, shorter than body in both sexes, Al3 = Al4–8, segments 3–8 in male hair-fringed underside.

Pronotum without edges or spines on lateral margin.

Elytra glabrous, red in male and blue or green in female; each elytron furnished with five costae.

Notes. The genus *Cyanolipton* nov. is close to *Aegolipton* GRESSITT in the structure of pronotum and to *Baralipton* in relatively long third antennal segment and strongly flattened tibiae. However, any of the above mentioned characteristics, especially distinct metallic color with conspicuous color difference between the two sexes, short antennae which are nine-segmented in male and ten in female, five costae on each elytron, etc., are quite identical throughout hitherto known related genera.

Cyanolipton metallicum (AURIVILLIUS, 1910), comb. nov.

(Figs. 1, 2)

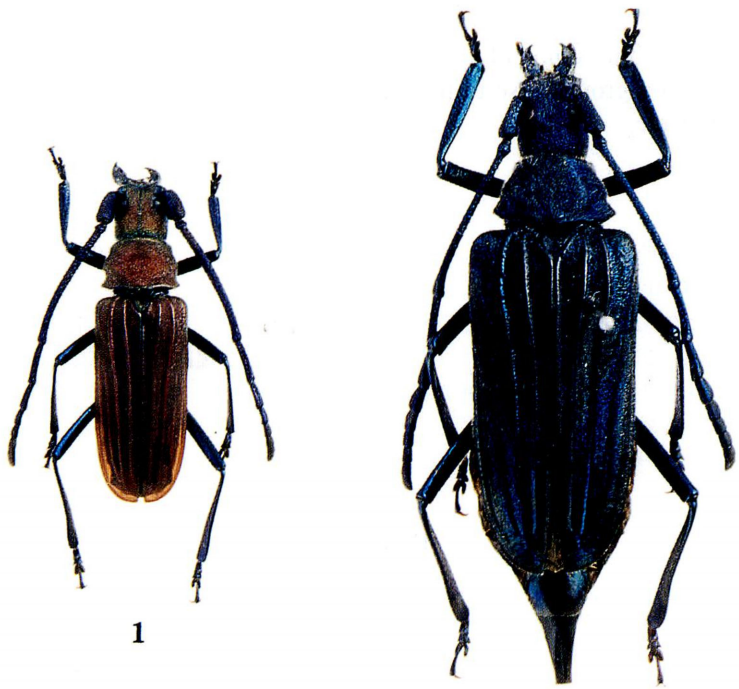
Aegosoma metallicum AURIVILLIUS, 1910, Ark. Zool., **7**(3): 2.
Megopis (*Baralipton*) *metallica* LAMEERE, 1913, Mém. Soc. ent. Belg., **21**: 169.

Male. Body cylindrical, rather short, length about 16.5–21.0 mm. Integument black and accompanied with weak blue or green metallic tint, dorsal side of head, pronotum and elytra red or copper-colored, mat and sometimes partly having metallic green tint, dorsal side almost glabrous, thinly pubescent on head and lateral portions of pronotum, finely granulate for the most part except on the costae of elytra.

Head small, mandibles short, smoothly arched both externally and internally and furnished with a small dent close to the inner base. Antennae 0.93–0.96 times as long as body, 9-segmented, cylindrical, finely granulate on segments 1 and 2, roughly so on segments 3–5, smooth on segments 6–9, lateral sides of segments 5 or 6 to 9 each bearing a longitudinal carina, segments 3–8 furnished with hair fringes on the underside, segment 3 long, about as long as combined length of segments 4–8.

Pronotum convex, lateral lines widest at basal angle which is rather strongly projected and then smoothly narrowed to obtuse apical angle, lateral margins not carinate, devoid of any lateral spines though the basal angle is sometimes acutely projected in dorsal view.

Elytra convex, costae red and smooth, intervals red and covered with minute granules and mat, each elytron furnished with five distinct costae, inner two costae starting from humerus, meeting with each other and disappearing just before apex, third costa starting from humerus and disappearing at about the first fifth of elytron, fourth starting just after humerus, branching out fifth costae at the external point just before the third costa disappears, then the fourth and fifth costae separately running and meeting with each other again just before apex, costae around the apex considerably variable in



Figs. 1–2. *Cyanolipton metallicum* (AURIVILLIUS, 1910), comb. nov.; 1, ♂, Mt. Trus Madi, Sabah, East Malaysia; 2, ♀, Tawau, Sabah, East Malaysia.

conformation. Scutellum linguiform, almost black.

Underside black with weak metallic tint and covered with thin gray hairs. Legs slender but rather short as compared with those in allied genera, fore femora without inner groove, each tibia strongly depressed laterally and widened in about apical half.

Female. Body larger, longer and flatter than in male, body length 24–31 mm; integument black and accompanied with feeble metallic tint, head, pronotum and elytra shiny metallic green or blue for the most parts, scutellum and basal parts of carina on elytra almost black, intervals covered with granules and shiny metallic green except for basal half of the middle parts which is less shiny or mat. Antennae 0.77–0.84 times as long as body, 10-segmented, segment 3 slender and segments 5–10 thick. Elytra wider than in male, EL/EW 2.1–2.3.

Distribution. Kuching, Sabah, East Malaysia.

Specimens examined. Sabah, East Malaysia: 1♀, Tawau, 4–VII–1991, 1♀,

Keningau, V–1992, 1♂, same locality, 20–III–1993, M. ITOH leg. 1♂, Mt. Trus Madi, IV–1993, 2♂♂, same locality, III–1994, 1♀, Tawau, IV–1995, 1♂, Lanau, V–1995.

Etymology. The name *Cyanolipton* is composed of cyano+lipton; "cyano" comes from dark blue color of integument and "lipton" indicates the fact that this genus belongs to a group close to the genera *Baralipton* THOMSON, 1857, *Aegolipton* GRESSITT, 1940, etc.

要　　約

小宮次郎：新属*Cyanolipton*の記載．—— *Aegosoma metallicum*は，1910年に1雌により記載されて以来，2001年に図示されるまで，雄は報告されていなかった．近年，雄を含む資料が相当数得られたため，詳細に検討した．LAMEERE (1913) が推測したとおり，本種の雄の触角下側には長毛があり，この点で*Baralipton*に含められていたのは合理的であった．しかしこの種は，特徴的な美しい色彩を持つほか，触角が雄9節，雌10節であり，鞘翅の隆条が各5本ずつあるなど，多くの点できわめて特異であることが判明した．このため既知のいかなる属にも含めるべきでないと考え，独立した属を本種のために記載する．

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Elytra, Tokyo, **32** (2): 425–435, November 20, 2004

Two New *Necydalis* (Coleoptera, Cerambycidae) from Sichuan and Guangxi, Southwest China

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Abstract Two new species of the genus *Necydalis* are described from Sichuan Province and Guangxi Zhuangzu Ziziqu, Southwest China. Of these, *N.* (*Necydalis*) *uenoi* sp. nov. from Shangliang of Sichuan is related to *N. shinborii* from northern Vietnam, and the other one, *N.* (*N.*) *choui* sp. nov. from Mt. Dayu Shan of Guangxi is most closely allied to *N. esakii* from Taiwan.

Through the courtesy of my collaborators, I had an opportunity to examine a series of necydaline specimens collected from Sichuan Province and Guangxi Zhuangzu Ziziqu, Southwest China. They included two unknown species belonging to the subgenus *Necydalis* s. str., of which the Sichuan one is a relative of *Necydalis shinborii* TAKAKUWA et NIISATO from northern Vietnam, and the other one is most closely allied to *N. esakii* MIWA et MITONO from Taiwan. In this paper, I will describe and illustrate them under the names *N. uenoi* from Sichan and *N. choui* from Guangxi.

Before going further into details, I wish to express my deep indebtedness to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his constant guidance, and to Mr. Wen-I CHOU of the National University of Taiwan, Taipei, for his offering the valuable material and giving useful information. The abbreviations used in the descriptions are already mentioned in the recent paper by NIISATO and OHBAYASHI (2004, p. 202).

Necydalis* (*Necydalis*) *uenoi sp. nov.

(Figs. 1, 2, 5–11, 12, 13 & 16)

Large species having relatively robust body, long elytra with distinct sutural angles, and stout appendages. Closely allied to *N. shinborii* from northern Vietnam and *N. montipanus* from northeastern Laos, but not showing distinct heterothallism as in other members of the *N. nanshanensis* group.

Male. Colour black in head and thoraces, shiny, brown and more or less matted in the rests; mouthparts reddish brown, with black margins of mandibles, slightly yellowish in labrum and apical 2/5 of clypeus; antennae brown, shiny in basal four segments, infuscate at basal 2/3 of scape; elytra brown, infuscate in apical fifth, narrowly so along suture and broadly so in apical 5/8 of external margins; hind wings translu-

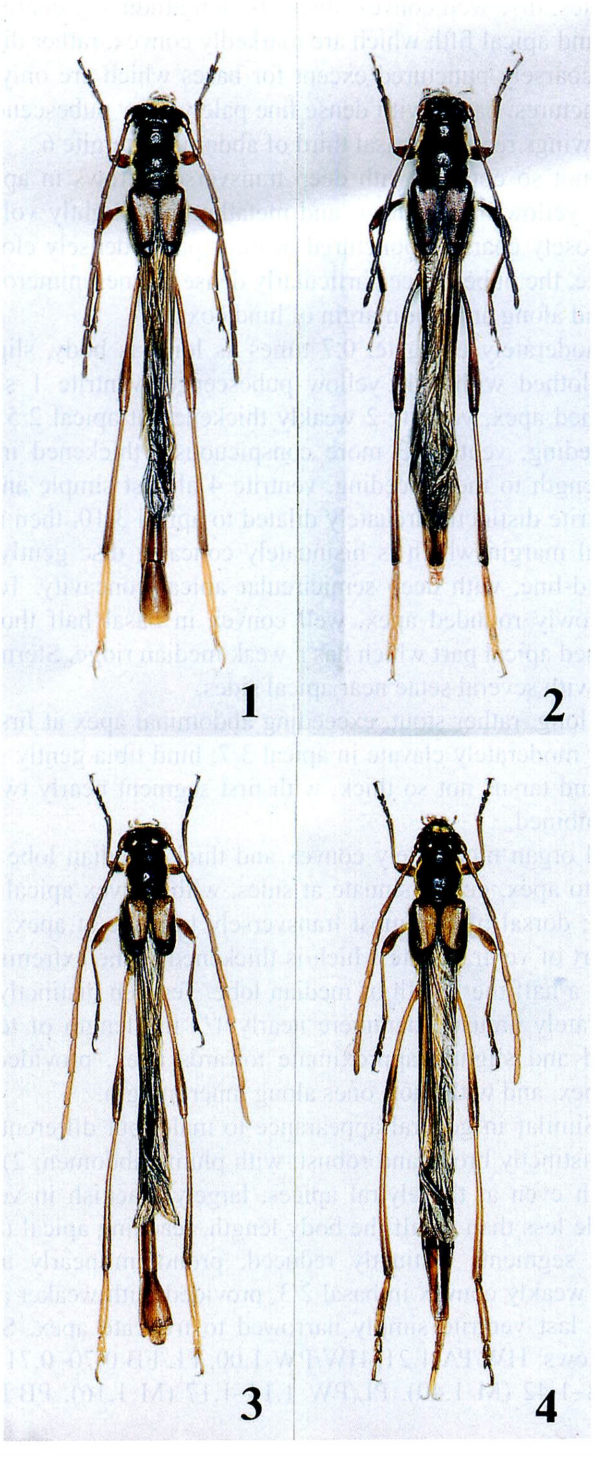
cent dark brown; abdomen dark reddish brown, longitudinally infuscate along median line of ventrite 1; legs brown, infuscate in coxae, trochanters, basal parts of fore and mid femora, and fore and mid tarsi except for basal segments, hind tarsus yellow.

Head slightly voluminous, a little broader than the maximum width of pronotum, closely and coarsely punctured, clothed with golden yellow pubescence, especially dense on frons and tempora, HW/PA 1.26–1.27 (M 1.26), HW/PW 1.04–1.06 (M. 1.05); frons quadrate, almost flattened, with a deep median longitudinal furrow, running from apex to posterior margin of gently raised occiput, FL/FB 0.76–0.79 (M 0.77), FB/FA 1.00; clypeus with apical lobe transverse trapezoidal, truncate at margin, weakly raised, moderately punctured in basal 3/5, basal lobe somewhat transverse, punctured as on apical lobe, fronto-clypeal suture very wide and deep; genae moderate in depth, nearly a half the depth of lower eye-lobes; tempora moderately projected laterad, slightly exceeding the level of eyes; eyes weakly prominent. Antennae stout and relatively long, 0.52–0.53 times as long as body, almost reaching apical third of ventrite 4, more or less flattened in segments 5–10, bluntly serrate at apices of segments 7–9, densely clothed with minute pale pubescence and brown one; scape short and broad, gently arcuate, slightly depressed on dorsum, 5/6 the length of segment 3, provided with shallow punctures, segments 3 and 4 slightly thickened apicad, the latter segment 2/3 the length of the former, segments 5–7 nearly equal in length, segment 5 the longest, terminal segment simply blunt at the extremity.

Pronotum rather long, slightly longer than the maximum width, hardly contracted to both apex and base, with simply arcuate lateral swellings near the middle, constricted in front, weakly narrowed to apical third before the lateral swellings, weakly dilated in basal third; PL/PA 1.38–1.39 (M 1.38), PL/PW 1.14–1.16 (M 1.15), PB/PA 1.14–1.15 (M 1.14), PW/EW 0.87–0.88 (M 0.87), PL/EL 0.85; disc rather markedly convex in basal 2/3, forming a large callosity which is divided by a shallow median furrow and obliquely depressed at sides, distinctly depressed at apical third and basal fourth; surface entirely provided with relatively large coarse punctures, and also with a few oblong ones near base and apex, transversely furrowed near base, moderately clothed with long yellow hairs throughout, and partly with dense golden yellow pubescence at sides except for the lateral swellings. Scutellum triangular though obtuse at apex, distinctly convex, longitudinally concave at middle, golden yellow pubescent.

Elytra long, distinctly longer than wide, distinctly longer than pronotum, reaching basal margin of hind coxae, widest at humeri, moderately exposing the sides of meso- and metathoraces, distinctly marginate throughout, EL/EW 1.14–1.16 (M 1.15); sides with humeri distinctly projected forwards, weakly arcuate in basal third, straightly convergent to apical fourth, then rounded to distinct sutural angles; suture completely conjoined in basal 3/8, straightly narrowly dehiscent to apical fourth, then more widely so

Figs. 1–4. Two new *Necydalis* species from Southwest China. —— 1, *N.* (*Necydalis*) *uenoi* NIISATO, sp. nov., from northern Sichuan, holotype ♂; 2, ditto, allotype ♀; 3, *N.* (*N.*) *choui* NIISATO, sp. nov., from Mt. Dayao Shan, Guangxi, holotype ♂; 4, ditto, allotype ♀.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to the sutural angles; disc well convex, distinctly longitudinally depressed along suture except for bases and apical fifth which are markedly convex, rather distinctly declivous at sides, closely coarsely punctured except for bases which are only provided with a few moderate punctures, partly with dense fine pale yellow pubescence near scutellum and apices. Hind wings reaching basal third of abdominal tergite 6.

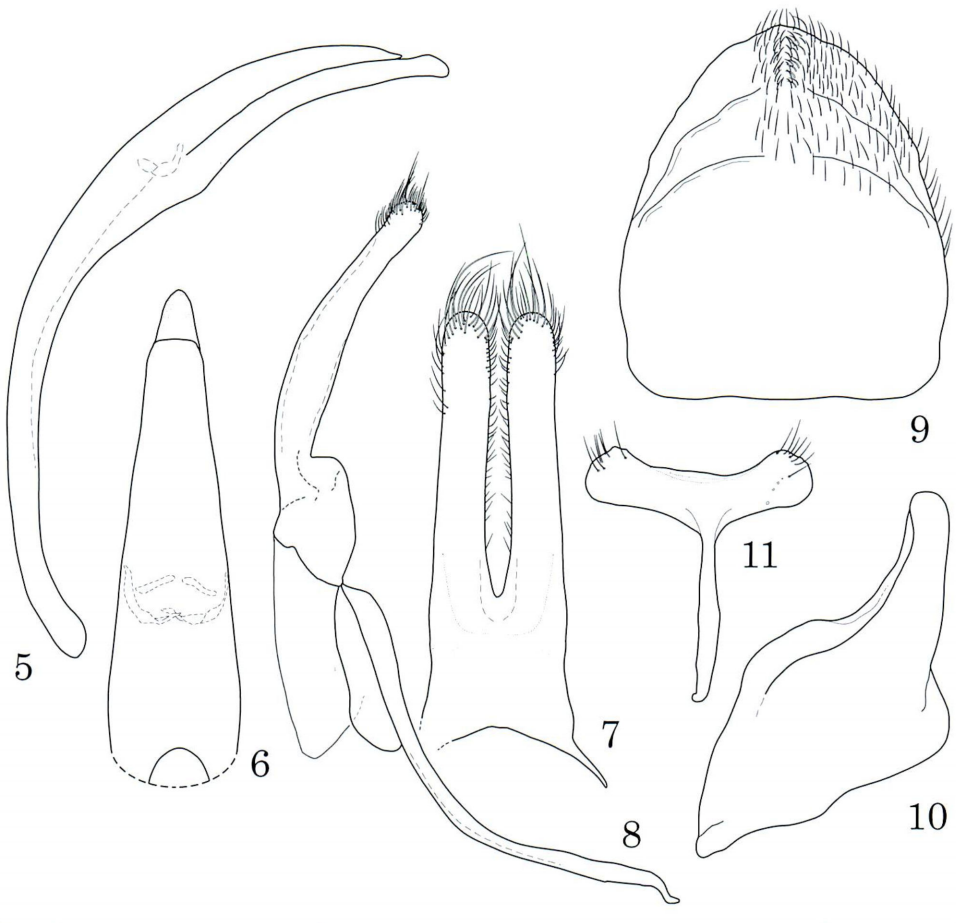
Prosternum not so convex, with deep transverse furrows in apical half, clothed with long golden yellow hairs. Meso- and metathoraces slightly voluminous but distinctly convex, closely coarsely punctured in most parts, densely clothed with golden yellow pubescence, the pubescence particularly dense on mesepimeron, at basal part of metepisternum and along anterior margin of hind coxae.

Abdomen moderately elongate, 0.7 times as long as body, slightly shagreened, rather sparsely clothed with pale yellow pubescence; ventrite 1 slightly dilated to somewhat thickened apex, ventrite 2 weakly thickened at apical 2/5 and 0.7 times as long as the preceding, ventrite 3 more conspicuously thickened in apical half and nearly equal in length to the preceding, ventrite 4 almost simple and slightly dilated apicad. Anal ventrite distinctly arcuately dilated to apical 3/10, then narrowed in sinuate lines to apical margin which is bisinuately concave; disc gently triangularly impressed along mid-line, with deep semicircular apical concavity. Tergite 8 arcuately narrowed to narrowly rounded apex, well convex in basal half though strongly declivous to depressed apical part which has a weak median ridge. Sternite 8 with moderately long lobes, with several setae near apical sides.

Legs not so long, rather stout, exceeding abdominal apex at first hind tarsal segment; hind femur moderately clavate in apical 3/7; hind tibia gently sinuate, gradually dilated apicad; hind tarsus not so thick, with first segment nearly twice the following two segments combined.

Male genital organ moderately convex and thick. Median lobe rather thick, distinctly narrowed to apex, gently sinuate at sides, with convex apical lobe, moderately arcuate in profile; dorsal plate almost transversely truncate at apex, exposing bluntly pointed apical part of ventral plate which is thickened at the extremity in profile; median struts nearly a half the length of median lobe. Tegmen distinctly longer than median lobe, moderately arcuate; paramere nearly 1/3 the length of tegmen, each lobe moderately broad and slightly approximate towards apex, provided with numerous long setae near apex, and with short ones along inner margin.

Female. Similar in general appearance to male, but different in the following points: 1) body distinctly broad and robust, with plump abdomen; 2) colour almost as in male, brownish even at the elytral apices, largely blackish in ventrites; antennae fairly short, a little less than a half the body length, reaching apical third of ventrite 1, with apical four segments distinctly reduced; pronotum nearly as wide as head, rounded at sides, weakly convex in basal 2/3, provided with weaker and smaller punctures on surface; last ventrite simply narrowed to truncate apex. Standard ratios of body parts as follows: HW/PA 1.21, HW/PW 1.00, FL/FB 0.70–0.71 (M 0.71), FB/FA 1.00, PL/PA 1.38–1.42 (M 1.40), PL/PW 1.14–1.17 (M 1.16), PB/PA 1.17, PW/EW



Figs. 5–11. Male genital organ of *Necydalis* (*Necydalis*) *uenoi* sp. nov., from northern Sichuan. —— 5, Median lobe in lateral view; 6, ditto, apical part in dorsal view; 7, tegmen in lateral view; 8, paramere in dorsal view; 9, tergite 8 in dorsal view; 10, ditto, lateral view; 11, sternite 8 in ventral view.

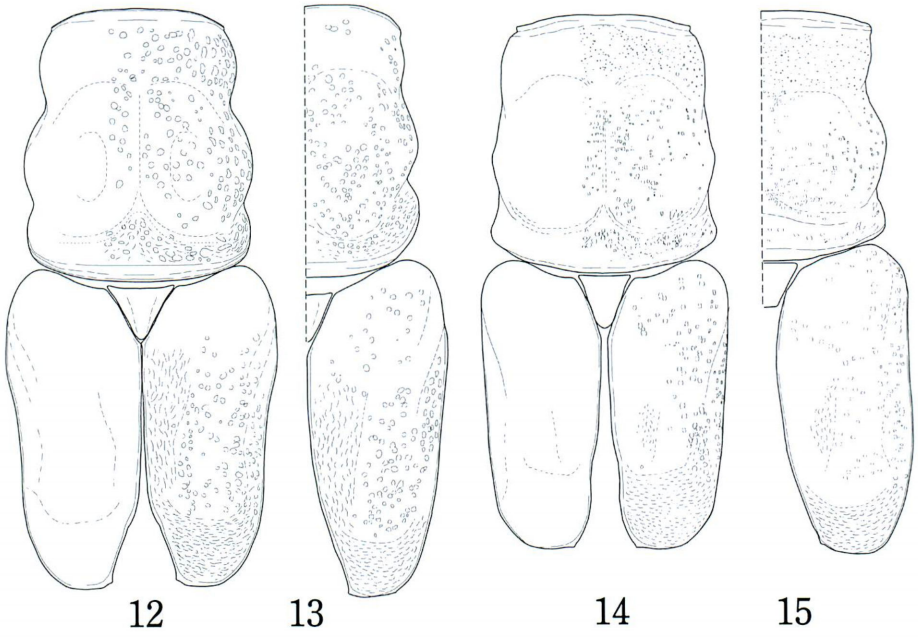
0.85, PL/EL 0.80–0.82 (M 0.81), EL/EW 1.19–1.20 (M 1.20).

Body length 25.0–25.5 mm in male, 26.0–26.5 mm in female.

Type series. Holotype ♂, "Shangliang", northern Sichuan, SW. China, 24~29–V–2002, E. KUČERA leg. Allotype ♀ and 1♂, 1♀ paratypes: same data as for the holotype. The holotype is preserved in the National Science Museum (Nat. Hist.), Tokyo, and the other type specimens are in the private collection of T. NIISATO.

Distribution. Sichuan, SW. China.

Notes. *Necydalis uenoi* sp. nov. belongs to the *N. nanshanensis* group and has closer relationship to *N. shinborii* TAKAKUWA et NIISATO from northern Vietnam and *N. montipanus* NIISATO et N. OHBAYASHI from northeastern Laos. Three allopatric species share the long attenuate elytra with distinct sutural angles, the semicircular apical con-



Figs. 12–15. Pronota and elytra of two *Necydalis* species from Southwest China. —— 12, *N.* (*Necydalis*) *uenoi* NIISATO, sp. nov., from northern Sichuan, ♂; 13, ditto, ♀; 14, *N.* (*N.*) *choui* NIISATO, sp. nov., from Mt. Dayao Shan, Guangxi, ♂; 15, ditto, ♀.

cavity of the last ventrite, and thickened median lobe and tegmen of the male genital organ. In spite of their similarities, the female of *N. uenoi* sp. nov. does not show distinct heterothallism in the coloration as in the other members of the *N. nanshanensis* group. In most known members of the species-group, the females have wholly brownish body, while in *N. uenoi* sp. nov., the female has quite black prothorax as in the male. The only other exception has been known in *N. katsuraorum* NIISATO from northern Vietnam. The female of this species has black pronotum as in that of. *N. uenoi* sp. nov.

The specific name is dedicated to Dr. Shun-Ichi UÉNO, who has guided and encouraged me in taxonomic study for the past quarter century.

Necydalis* (*Necydalis*) *choui sp. nov.

(Figs. 3, 4, 14, 15, 18, 20–26)

Relatively large species having slender body and appendages, and closest to *N. esakii* from Taiwan.

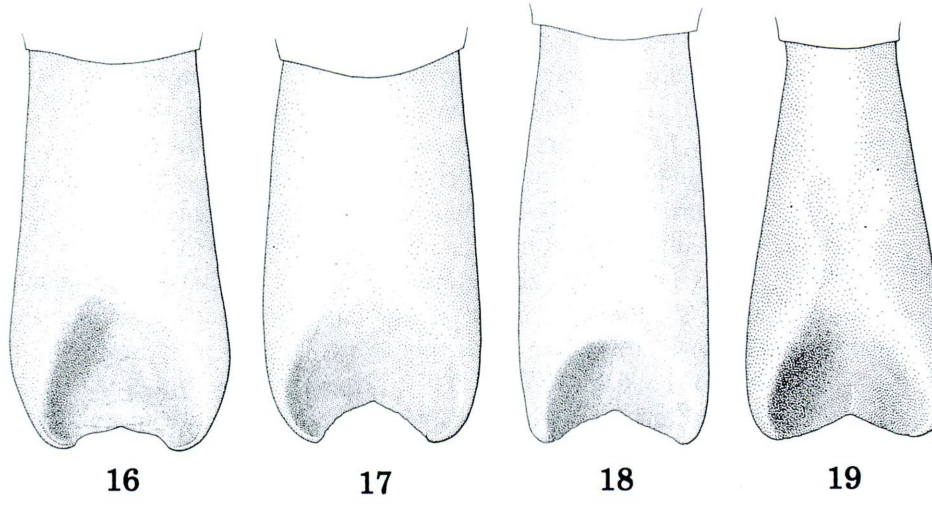
Male. Colour black in head and thoraces, shiny, brown and somewhat matted in the rest; mouthparts reddish brown, black at apices of mandibles, and in clypeus except for apical margin; antennae brown, somewhat shiny in basal four segments, gradually

yellowish distally; elytra brown, largely black in apical 2/9 which colour is obliquely extended along sides to just behind humeri, narrowly infuscate along suture; hind wings translucent dark brown, gradually darkish distally; abdomen entirely brown, weakly shiny; legs brown, more darkish in clavate part of hind femur and apical 2/5 of hind tibia, dark brown in fore and mid femora, coxae black, hind tarsus yellow.

Head globose, voluminous, fairly broader than the maximum width of pronotum, closely, coarsely and more or less rugosely punctured, densely clothed with golden yellow pubescence, especially dense on frons and tempora, HW/PA 1.22–1.31 (M 1.26), HW/PW 1.04–1.11 (M. 1.08); frons almost quadrate though slightly arcuate at sides, almost flattened, with a shallow but distinct median longitudinal furrow, running from the apical margin to posterior margin of occiput which is moderately raised, FL/FB 0.87–0.95 (M 0.91), FB/FA 0.95–1.00 (M 0.97); clypeus weakly raised, with apical lobe slightly transverse, truncate in margin, rather sparsely provided with small punctures except for apical margin, basal lobe triangular, not so transverse, almost smooth, with a few small punctures, fronto-clypeal suture not so wide and deep; genae moderate in depth, nearly a half the depth of lower eye-lobes; tempora rather weakly produced laterad, almost reaching the level of eyes; eyes large, distinctly prominent. Antennae slender though gradually thickened distally, long, 0.58–0.62 times as long as body, reaching base of ventrite 5, slightly flattened in segments 5–10, obtusely serrate at apices of segments 5–9, densely clothed with minute pale pubescence, and also dark brown one on dorsum of segments 1–5; scape broad, depressed on dorsum, 5/6 the length of segment 3, shallowly punctured, segments 3 and 4 hardly thickened apicad, the latter segment a little more than a half the length of the former, the remaining segments gradually decreasing in length, terminal segment weakly arcuate, bluntly pointed apicad.

Pronotum moderately long and rather narrow, fairly longer than the maximum width, slightly contracted to apex, PL/PA 1.27–1.29 (M 1.28), PL/PW 1.08–1.13 (M 1.10), PB/PA 1.09–1.12 (M 1.10), PW/EW 0.83–0.86 (M 0.85), PL/EL 0.83–0.87 (M 0.86); sides simply arcuate in apical fifth, with slightly arcuate lateral swellings at a level between apical 3/10 and basal 2/5, then weakly convergent to base; disc well convex, provided with a large callosity in basal 7/10 which is divided by a faint median ridge, and also with triangular raised area before base, moderately convex in apical fifth; surface somewhat shagreened, scattered with coarse punctures, with deep transverse furrows along apical and basal margins, the callosity partly smooth and irregularly with various sized punctures near base and apex, moderately clothed with long yellow hairs throughout, and largely with dense golden yellow pubescence at sides. Scutellum trapezoidal, reflexed at sides, strongly punctured, clothed with golden yellow pubescence.

Elytra rather short, slightly longer than the humeral width and the length of pronotum, almost reaching apical margin of metasternum, weakly narrowed to apices, slightly exposing the sides of meso- and metathoraces, weakly marginate throughout, EL/EW 1.07–1.13 (M 1.09); sides with humeri weakly produced forwards, straightly



Figs. 16–19. Last ventrites of *Necydalis* species. —— 16, *N.* (*Necydalis*) *uenoi* NIISATO, sp. nov., from northern Sichuan; 17, *N.* (*N.*) *shinborii* TAKAKUWA et NIISATO, from northern Vietnam; 18, *N.* (*N.*) *choui* NIISATO, sp. nov., from Mt. Dayao Shan, Guangxi; 19, *N. esakii* MIWA et MITONO, from Taiwan.

convergent to the middle, then arcuately so to rounded apices, which have minute dents at sutural corners; suture not conjoined even near base, almost straightly dehiscent to apical fifth, then a little more widely so to apices; disc hardly convex, slightly depressed along middle of suture, moderately raised in apical fifth, irregularly provided with coarse large punctures, except for apical fifth and sides which are closely rugged, partly with dense fine golden yellow pubescence near scutellum and apices. Hind wings reaching base of abdominal tergite 6.

Prosternum short, clothed with pale pubescence. Meso- and metathoraces hardly expanded laterad, strongly convex, coarsely and closely provided with fine punctures, very densely clothed with golden yellow pubescence in most parts, except for middle of mesosternum and along basal margins of hind coxae.

Abdomen markedly long and elongate, 0.8 times as long as body, sparsely clothed with pale yellow pubescence; ventrites 1 and 2 gently emarginate at sides, slightly thickened at apex, the latter segment 7/10 the length to the former and equal in length to ventrites 3 and 4, ventrite 3 parallel-sided in basal half then weakly dilated apicad, ventrite 4 simply dilated apicad. Anal ventrite elongate though a little shorter than ventrite 4, with sides obliquely straightly divergent in basal fifth, then gently arcuate to apical fifth, and arcuately convergent to apical margin, which has shallow subtriangular concavity; disc gently impressed along mid-line, with apical part suddenly declivous in a semicircular shape. Tergite 8 elongate semicircular, weakly convex though almost flattened in basal 3/5, slightly emarginate at apex, entirely densely clothed with pubescence. Sternite 8 with short broad lobes, sparsely setose at sides,

Legs very long and slender, exceeding abdominal apex at middle of first hind tarsal segment; hind femur rather weakly clavate in apical third; hind tibia weakly sinuate, gradually dilated apicad; hind tarsus not thin, with first segment moderately arcuate, nearly twice the following two segments combined.

Male genital organ slender and slightly convex. Median lobe 5/6 the length of last ventrite, slender, strongly attenuate apicad, gently arcuate at sides, with hardly convex apical lobe, slightly arcuate in profile; dorsal plate narrowly truncate at apex, exposing bluntly pointed apical part of ventral plate which is weakly thickened at the extremity in profile; median struts nearly a half the length of median lobe. Tegmen slightly longer than median lobe, moderately arcuate; paramere nearly 2/5 the length of tegmen, slender, moderately thickened apicad, subparallel-sided in apical third which is provided with numerous rather short setae,

Female. Not unlike male and different in the following points: 1) body broad, with shorter appendages; 2) colour slightly more yellowish in general, yellowish brown on elytra with dark brown maculation in apices and sides; head a little narrower than pronotum; eyes weakly prominent; antennae fairly short, a little less than a half the body length, reaching basal third of tergite 4, with apical six segments reduced, hardly flattened and serrate; pronotum more distinctly contracted to apex, with base as wide as middle across lateral swellings, rather weakly convex on disc; last ventrite simply pointed to apex which is weakly concave. Standard ratios of body parts as follows: HW/PA 1.14, HW/PW 0.96, FL/FB 0.88, FB/FA 0.96, PL/PA 1.26, PL/PW 1.19, PB/PA 1.06, PW/EW 0.83, PL/EL 0.82, EL/EW 1.08.

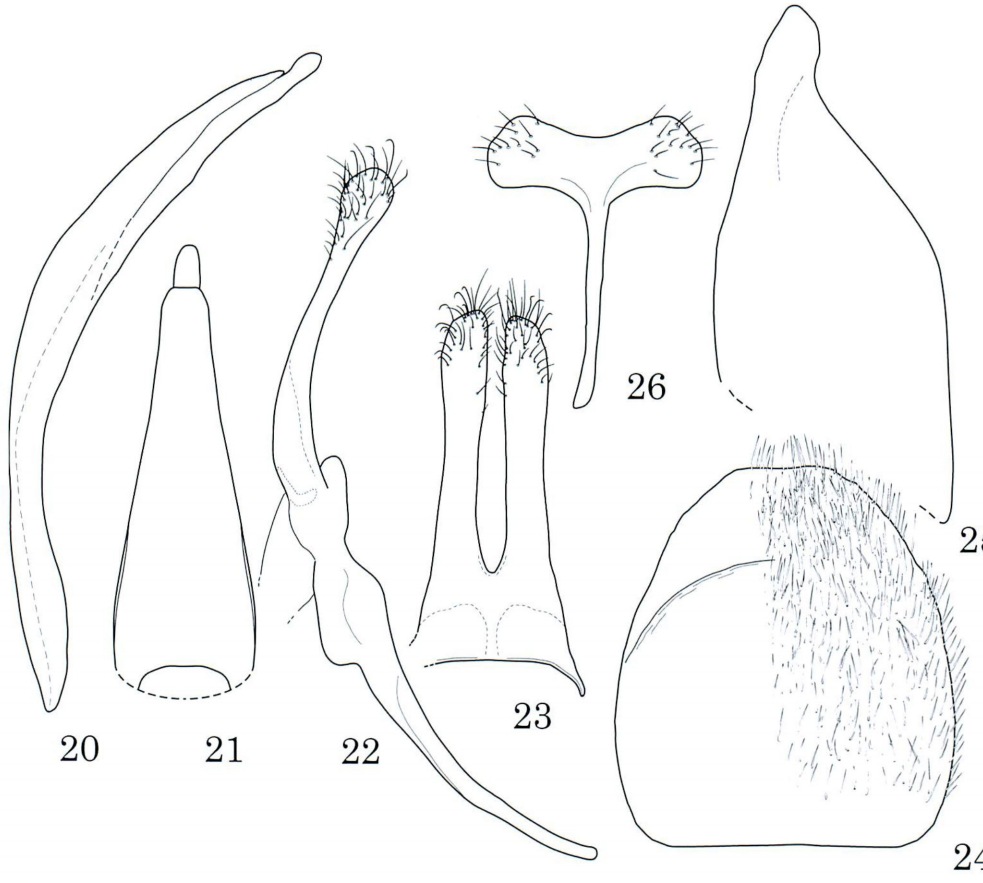
Body length 22.5–27.0 mm in male, 25.0 mm in female.

Type series. Holotype ♂, Mt. Dayao Shan, 1,200 m in alt., Jiaxin Yaozu Zizixian, Guangxi Zhuangzu Ziziqu, 21–IV–2000, W.-I CHOU leg. Allotype ♀, same locality and collector as for the holotype, 22–IV–2000. Paratypes: 2♂♂, same data as for the allotype. The holotype is preserved in the National Museum of Natural Science, Taichung, and the allotype and two paratypes are in the private collection of W.-I CHOU (Taipei) and T. NIISATO (Tokyo).

Distribution. Guangxi Zhuangzu Ziziqu, SW. China.

Notes. This new species is very similar in facies to *N. esakii* MIWA et MITONO from Taiwan, and may be a sibling species occurring in the continental side of China. It differs from the Taiwanese species in the following characteristics: 1) head fairly voluminous, with laterally produced tempora instead of rounded one; 2) antenna more slender and long, distinctly flattened and serrate in the apical segments; 3) pronotum not so distinctly contracted to apex, more weakly convex, with small and sparser punctulation, densely yellow pubescent at sides at least in male; elytra hardly even on surface, with shallow punctulation; last ventrite moderately dilated apicad, not so constricted at base as in that of *N. esakii*.

According to a personal communication from Mr. Wen-I CHOU, all the specimens of the type series of this new species were collected from the blossoms of *Castanopsis* trees on clear days. It is well known that a sibling species, *N. esakii*, is usually found



Figs. 20–26. Male genital organ of *Necydalis* (*Necydalis*) *choui* sp. nov., from Mt. Dayao Shan, Guangxi. —— 20, Median lobe in lateral view; 21, ditto, apical part in dorsal view; 22, tegmen in lateral view; 23, paramere in dorsal view; 24, tergite 8 in dorsal view; 25, ditto, lateral view; 26, sternite 8 in ventral view.

on such blossoms in the central mountains of Taiwan. *Necydalis choui* is named after Mr. Wen-I CHOU who collected all the specimens of the type series of this interesting new species.

要　　約

新里達也：四川省と広西壮族自治区から見つかったホソコバネカミキリ属の2新種．—— 四川省および広西壮族自治区より採集された標本に基づいて，ホソコバネカミキリ属の基亜属に所属する2新種を記載した．

1) *Necydalis* (*Necydalis*) *uenoi* NIISATO, sp. nov. (中名新称：上野細短翅天牛)

本新種は，内角が角張る比較的長い鞘翅の特徴から，ナンシャンホソコバネカミキリ種群の

なかでも，北ベトナムの*N. shinborii* TAKAKUWA et NIISATOおよび北東ラオスの*N. montipanus* NIISATO et N. OHBAYASHIに近縁である．本種はまた，同種群に広く知られる著しい雌雄異形が認められず，雌の外観は雄とほとんど変わりがない．四川省北部の "Shangliang" から採集された標本に基づいて記載した．

2) *Necydalis* (*Necydalis*) *choui* NIISATO, sp. nov. (中名新称：周細短翅天牛)

エサキホソコバネカミキリ種群に属する新種である．とくに同種群のなかでも，台湾のエサキホソコバネカミキリ*N. esakii* MIWA et MITONOにもっとも近縁で，その大陸における姉妹種とみなされる存在である．広西壮族自治区の大揺山から採集された標本に基づいて記載した．

Correction

In a recent collaborative paper with N. OHBAYASHI, we made an error in writing the sex of the type series of *Necydalis atricornis*. In the Elytra, **32** (1), p. 217, line 4: for "Paratypes 2♀♀" read "Paratypes 2♂♂".

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Elytra, *Tokyo*, **32** (2): 436, November 20, 2004

A New Record of *Trissemus clavatus* (MOTSCHULSKY) from Yonaguni-jima, the Ryukyus, Japan (Coleoptera, Staphylinidae, Pselaphinae)

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Trissemus clavatus (MOTSCHULSKY) was described from Calcutta, India. BESUCHET (1999) recorded this species from Okinawa-jima of the Ryukyus, Japan, with some reservation. Since no additional specimens from India are available at the present moment, the authors tentatively follow BESUCHET's opinion in regarding *T. curtus* (SHARP) (=*T. antilope* (RAFFRAY)) as a variant of *T. clavatus* (MOTSCHULSKY), and are going to record it from Yonaguni-jima, the southwesternmost island of the Ryukyu Archipelago and lying near Taiwan. We wish to express our thanks to Dr. Takeyuki NAKAMURA (Tochigi Prefectural Museum), Dr. Tadashi ISHIKAWA and Dr. Hiroki MIZUSHIMA (Tokyo University of Agriculture) for their kind offer of the invaluable specimens.

Trissemus clavatus (MOTSCHULSKY)

[Japanese name: Ryukyu-higebuto-enma-arizukamushi]

Bryaxis clavata MOTSCHULSKY, 1851, Bull. Soc. imp. Natural. Mosc., **24** (1): 491.
Trissemus clavatus: BESUCHET, 1999, Revue suisse Zool., **106**: 51.

Specimens examined. 1♂, Hikawa, Yonaguni, Okinawa Pref., 4–IV–1991, T. NAKAMURA leg.; 12♂, Tarumai, Yonaguni-jima, Okinawa Pref., 20–V–2000, T. ISHIKAWA & H. MIZUSHIMA leg. (NSMT).

Distribution. India, Japan (Ryukyu Archipelago).

Remarks. All the specimens examined were collected by light traps.

Elytra, *Tokyo*, **32** (2): 437–441, November 20, 2004

Semanotus sinoauster (Coleoptera, Cerambycidae) Firstly Recorded from Laos

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Abstract *Semanotus sinoauster* GRESSITT is newly recorded and redescribed based on the specimens from northeastern Laos. This is the first representative of the genus *Semanotus* from Indochina.

During the recent field survey on the Phu Pan Mountains of northeastern Laos, I found the unique trails made by a callidine cerambycid beetle under the bark of *Fokiena hodginsii*. It was surprising since no callidine species associated with conifer have hitherto been recorded from Indochina. According to the size and form of emergence hole, the callidine species in question may have a thick and relatively large body. It was therefore expected that an unknown callidine like a *Semanotus* would be found from the mountains.

This expectation was easily solved. A native collaborator on Ban Saleui at the foot of Phu Pan already collected several living specimens of the callidine species in question early in the spring of this year. They were brought forth to my hands. A comparative examination revealed that the callidine species in question could be determined as *Semanotus sinoauster* that was widely known from the western area of China. In the following lines, I will firstly record it from Indochina with a description including illustration of male genital organ based on the Laotian specimens.

I thank Dr. Shun-Ichi UÉNO for his continuous guidance, and also to Mr. Hiroyuki WAKAHARA and his staff in Vientiane and Ban Saleui for their help in the field work.

Semanotus sinoauster GRESSITT, 1951

(Figs. 1 & 2)

Semanotus bifasciatus: CHEN *et al.*, 1958, Econom. Ins. Fauna China, **1**, p. 54, pl. 9, fig. 58.

Semanotus bifasciatus bifasciatus: CHANG, 1969, Quart. J. Chin. For., **2**(4), p. 29, fig. 12; locality record: Taiwan.

Semanotus bifasciatus sinoauster GRESSITT, 1951, Longicornia, **2**, p. 222, pl. 7, fig. 6; type locality: Ta-chulan, NW. Fukien. —— HUA, 1982, Check list Longic. Beetl. China, p. 52. —— NAKAMURA, MAKIHARA & SAITO, 1992, Check-list Longic.-Beetles Taiwan, p. 46; locality record: Taiwan. —— YU, NARA & CHU, 2002, Longicorn Beetles of Taiwan, pp. 44, 95, pl. 13, fig. 9.

Semanotus sinoauster: XIAO, 1983, For. Ins. China, p. 501, fig. 270. —— HUA, LI & ZHANG, 1992, Icon. For. Ins. Hunan China, p. 487, fig. 1502. —— HUA, 2002, Check List Chinese Insects, **2**, p. 232.

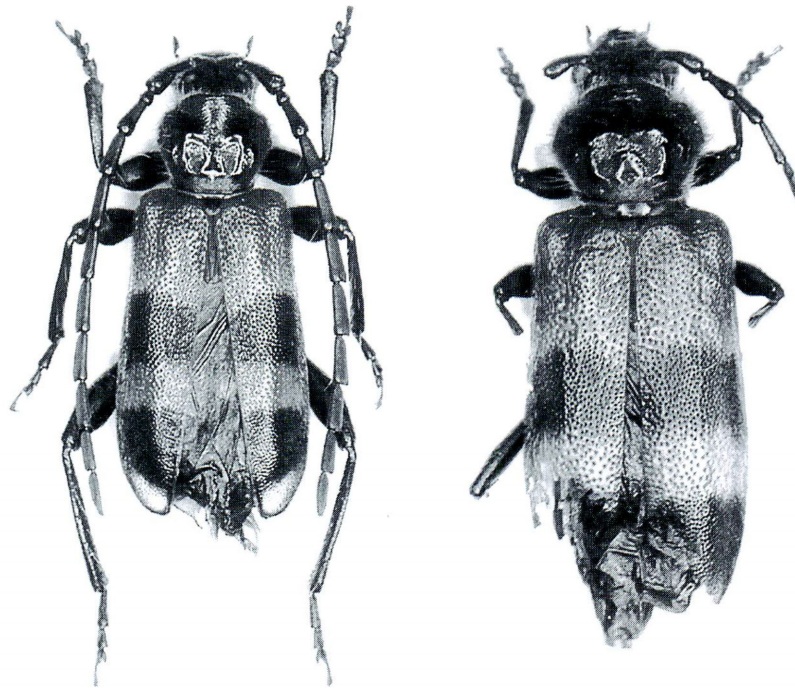

Fig. 1. *Semanotus sinoauster* GRESSITT from Phu Pan (Mts.) of NE Laos; male (left) and female (right).

Body length: 12.5–20 mm in male, 15.5 mm in female.

Body broad and relatively convex among the members of the genus, with stout and thick appendages. Colour black, dark reddish brown in antennae and legs, though the scape and femora are infuscate; mouthparts dark reddish brown, infuscate in palpi and at margins of mandibles; elytra largely yellowish brown in basal 2/5, with two black broad bands near middle and in apical third, the middle black band nearly of the same width as the following yellowish brown band, though the black bands are sometimes more reduced in width, supplemented with an external yellowish spots near apices.

Head a little narrower than the maximum width of pronotum, densely and finely punctured, densely clothed with long dull yellow hairs, with frons nearly twice as wide as length, provided with a fine but distinct median furrow. Antennae stout, slightly exceeding elytral apices in male, flattened and distinctly serrate in segments 5–10, scape 1.2 times as long as segment 3, densely clothed with short yellow hairs.

Pronotum arcuately dilated from just behind apex to apical third which is the

widest and slightly narrower than the humeral width of elytra, then straightly narrowed to basal collar, apex slightly wider than base and clearly emarginate at middle of margin; disc densely clothed with long dull yellow hairs, closely densely punctured, the punctation being extremely fine near base, provided with weakly raised smooth areas arranged as follows: a pair of arcuate stripes behind apical third, with anterior part strongly bent inwards, a pair of small arcuate ones at sides, and a triangular median spot on basal third. Scutellum elongate semicircular, pale pubescent.

Elytra a little more than twice as long as wide, with obtuse humeri, weakly arcuately narrowed to apices which are rounded to suture, densely punctured, the punctation closer on the second black bands, and finer in apical third, clothed with dull yellow pubescence in yellowish areas, and blackish one in black areas, supplementary dull yellow long hairs near scutellum and bases.

Venter of thoraces densely and finely punctured, entirely clothed with long waved dull yellow hairs. Abdomen moderately finely punctured, haired as in thoraces though not so long; anal ventrite strongly transverse and truncate at margin (male), or semicircular and gently emarginate at middle of margin (female).

Legs thick, rather short in length, with hind tibia weakly sinuate and compressed at base.

Tergite 8 wholly rounded and provided with long setae at margin, though broadly truncate on apical margin. Sternite 8 bluntly pointed at sides, truncate on apical margin. Median lobe slightly elongate with truncate apical margin of dorsal plate. Paramere not so thin, hardly approximate near apex, with numerous very long setae at apices.

Specimens examined. 3♂♂, 1♀, Phu Pan (Mts.), 1,700–1,800 m in alt., Ban Saleui, Houaphan Province, NE. Laos, 4–IV–2004; 1♂, same locality, V–2001.

Distribution. China: Shaanxi, Henan, Hubei, Anhui, Jiangsu, Jiangxi, Zhejiang, Fujian, Guangdong, Guangxi, Hunan, Guizhou, Sichuan and Yunnan; Taiwan; Laos (new record).

Host plants. *Cunninghamia lanceolata*, *Cryptomeria fortunei*, *Pinus* sp. Most probably *Fokienia hodginsii* on the Phu Pan Mountains, northeastern Laos.

Notes. Though considered as an independent species by recent authors (Xiao, 1983; Hua, Li & Zhang, 1992; Hua, 2002), *S. sinoauster* was originally described from Fujian of South East China as a local race of *S. bifasciatus*. Each species has different ranges in east and west of East Asia; namely *S. bifasciatus* is an eastern species and occurs in Northeast China, the Korean Peninsula and the Japanese Islands, and *S. sinoauster* may be allopatric from that eastern species, occurring in the range including such westernmost territory as Yunnan. Even though considered independent, it is most probable that the two species have had a common direct ancestor judging from their similarities in external morphology and life history.

Semanotus sinoauster is easily distinguished from *S. bifasciatus* by the broad yellowish basal bands on the elytra, which are almost always enlarged in basal two-thirds, the thick, robust and more or less convex body, especially in the appendages, markedly

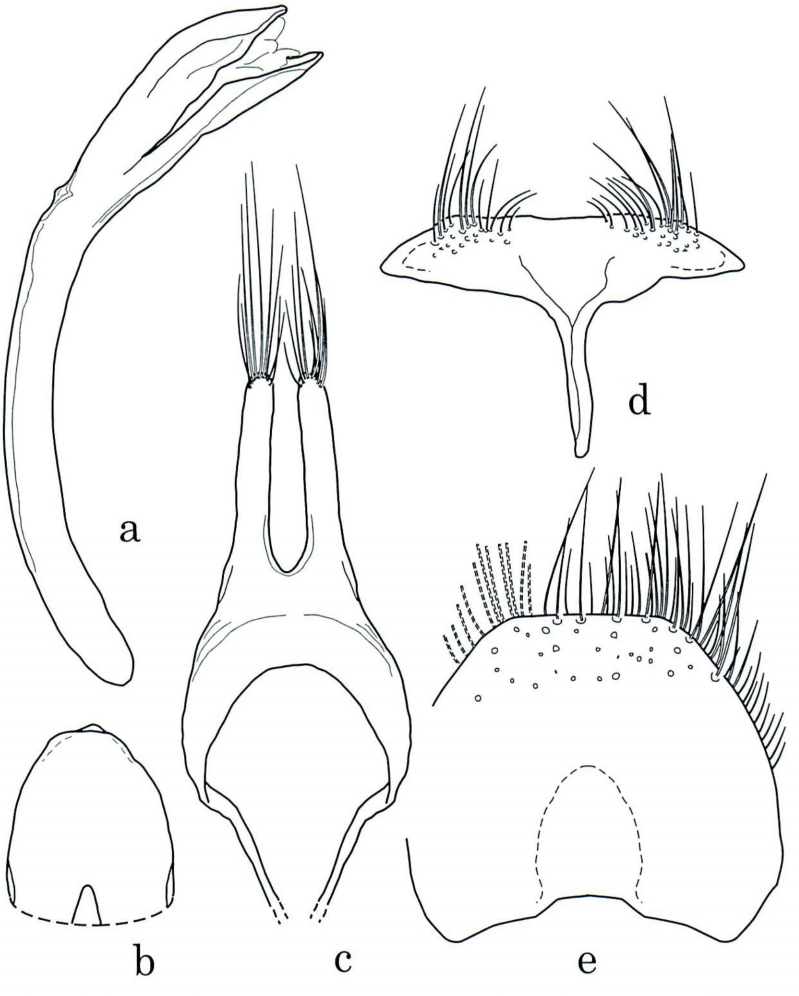

Fig. 2. Male genital organ of *Semanotus sinoauster* GRESSITT from Phu Pan (Mts.) of NE. Laos. —— a, Median lobe in lateral view; b, ditto, apical part in dorsal view; c, tegmen; d, sternite 8; e, tergite 8.

long and waved hairs on the ventral surface. Slight differences of male genital organ were observed by the present examination. In *S. sinoauster*, the median lobe is more elongate and the paramere is thicker than those of *S. bifasciatus*.

It was surprising that such a callidine species as *S. sinoauster* was found on an isolated mountain in northeastern Indochina. As was noted in the introduction, the tribe Callidini of the Cerambycinae has so far been unknown from Indochina, and considered as a member of the Northern Hemisphere. The peculiar coleopteran fauna of the Phu Pan Mountains has been revealed by our recent field survey. I recently described a new *Necydalis* species belonging to the subgenus *Necydalisca* which was

previously known from the warm to subfrigid zone in the Northern Hemisphere (NIISATO & OHBAYASHI, 2004, p. 215). The occurrence of *S. sinoauster* on the Phu Pan Mountains is very interesting from the biogeographical point of view just like the existence of the relic conifer, *Fokiena hodginsii*.

要　　約

新里達也：*Semanotus sinoauster*のラオスからの記録．—— *Semanotus sinoauster*は，中国南部～南西部および台湾に広く分布するが，これまでにインドシナからは未発見であった．最近のラオス北東部パン山の調査で，ラオスヒノキの新鮮な辺材部にスギカミキリ類の食害痕を確認していたが，時期を前後してその加害主と思われる成虫が現地の協力者によって採集され，本種であることが確かめられた．針葉樹食いのヒラタカミキリ族は，インドシナからこれまで知られておらず，ラオスヒノキの分布とともに，パン山の生物相の遺存的特異性を物語る貴重な資料だといえよう．

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Elytra, *Tokyo*, **32** (2): 442, November 20, 2004

Occurrence of *Bunothorax takasagoensis* (Coleoptera, Cerambycidae) in Eastern Indochina

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Bunothorax takasagoensis (KANO, 1933) has so far been known as a unique purpuricenine species endemic to the mountainous areas of Taiwan. The genus is monotypic and has very peculiar habitus characterized by nine tubercles on pronotal disc and tufts of anntenal segments 2 to 6 (GRESSITT, 1936, p. 101). In the course of our recent surveys in Laos and Vietnam, *B. takasagoensis* was found on the mountainous areas near the borders of the two countries. I will record it in the following lines as an element showing the faunal similarity between Taiwan and eastern Indochina.

Bunothorax takasagoensis (KANO, 1933)

Sternoplistes takasagoensis KANO, 1933, Kontyû, Tokyo, **6**, p. 278.
Bunothorax takasagoensis: GRESSITT, 1936, Philip. J. Sci., **61**, p. 101.

Specimens examined. 3♂♂, Tam Dao, Vinh Phu Province, N. Vietnam, 20–V–1995, M. SATÔ leg.; 1♂, near Ban Saleui, Houaphan Prov., NE. Laos, 9～10–IV–2004, N. OHBAYASHI leg.; 2 exs., same locality, V–2002, H. WAKAHARA leg.

Distribution. Taiwan; Vietnam (new record); Laos (new record).

Notes. It is very interesting that the specimens examined from northern Vietnam and northeastern Laos are quite identical with the type population of Taiwan. The coloration and the tubercles on the pronotum and punctation on the elytra are identical between the two populations.

In closing this short report, I wish to thank Dr. Masataka SATÔ of Nagoya, Prof. Dr. Nobuo OHBAYASHI of Ehime University and Mr. Hiroyuki WAKAHARA of Vientiane for their offer of invaluable material used in the present study.

Elytra, *Tokyo*, **32** (2): 443–450, November 20, 2004

Description of a New *Schmidtiana* Species (Coleoptera, Cerambycidae) from the Philippines, with Biogeographical Notes on the Genus in the Philippine Archipelago

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Abstract A new callichromatine species belonging to the genus *Schmidtiana* is described and illustrated from Negros and Panay Islands of the Philippines under the name *S. boudanti* nov.

Key words: Coleoptera, Cerambycidae, Callichromatini, *Schmidtiana*, new species.

Introduction

MORATI and HUET (2004) have recently catalogued all the species in the genus *Schmidtiana* PODANÝ, 1971, and transferred some of them from the genus to *Pachyteria* AUDINET-SERVILLE, 1839, as did several other authors before (HÜDEPOHL, 1983; HAYASHI, 1992; NIISATO, 1998). The genus *Schmidtiana* currently includes twenty-four species relatively well differentiated, all distributed in Southeast Asia (Vietnam, Laos, Thailand, Malaysia, Indonesia and the Philippines).

Four species of *Schmidtiana* have so far been known from the Philippines; they are *S. iliocana* (SCHULZE, 1920) from Luzon Island, *S. legrandi* MORATI et HUET, 2003 from Eastern Visayas, *S. palawana* (SCHULZE, 1922) from Palawan Island, and *S. gertrudis* HÜDEPOHL, 1983 from Mindanao Island.

We recently obtained an undescribed species of *Schmidtiana* from Panay and Negros Islands of the Western Visayas, the Philippine Archipelago. The species in question is somewhat allied to *S. legrandi* MORATI et HUET, but provided with marked morphological differences. HÜDEPOHL (1992) already noted the *Schmidtiana* species from Panay Island in his key to the Philippine species of the genus, and considered it to be a

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geographical variety of *S. iliocana*. Our detailed study of the western Visaya species has revealed that it has enough differences to be regarded as an independent species. In the following lines, we are going to describe and illustrate it under the name *S. boudanti* nov.

Schmidtiana boudanti VIVES et NIISATO, sp. nov.

(Figs. 1, 2 a–b & 3)

Body length: 43–44 mm in male (44 mm in holotype), 48–52 mm in female; body width: 12–13 mm in male (13 mm in holotype), 12–15 mm in female.

Coloration. Head orange except for base and internal margin of mandible, gula and basis of mentum brownish. Antennae yellowish orange. Pronotum orange, purple-brownish in apex and base, longitudinal stripe at sides, though dark parts are sometimes enlarged except for a median rounded spot and lateral narrow stripes. Prosternum including lateral callosities orange (male) or almost purplish black (female). Mesothorax yellow on mesonotal plate, intercoxal process shiny black; metepisterna infuscate (male) or brownish-red at middle (female). Scutellum bluish-black. Elytra dark blue, with metallic sheen. Hind wings dark bluish. Abdomen bright purple blue. Legs entirely yellowish orange except for infuscate apical parts of tarsal claws.

External structure. Head nearly as wide as pronotal apex; mandibles stout and elongate, bent apically; labrum long, membranous at the bilobated anterior margin; epistome trapezoidal; maxillary palpi long and robust, with terminal segment longer than the basal two segments combined; frons wide and depressed, with a fine median longitudinal furrow; temple short. Antennae long and stout, reaching the apical quarter (male) or third (female) of elytra, covered with short yellow pubescence and long golden hairs along internal margins of basal six segments, which are canaliculated, and also with an external tooth at each of segments 3 to 10; segment 2 very short and transverse; segment 11 appendiculate at the extremity.

Pronotum slightly transverse, strongly punctured except for the posterior area which is smooth and shining; disc with anterior and posterior depressions strongly marked and well defined, and also with a deep impression at sides; marginal callosities very prominent, but not concealing the lateral spines of pronotum which are smooth (male), or less prominent and the lateral spines almost indistinct (female); surface covered with long and sharp brownish scales, except for a naked smooth longitudinal area on female disc. Scutellum elongate triangular, though wider in male, with fine punctation and pubescence similar to those on elytra.

Elytra elongate, flattened on dorsum, with marked humeri which are the widest, provided with two indistinct longitudinal ribs; sides straightly and slightly acuminate apicad in males, almost parallel in females; apex rounded, with marked apical angles; disc finely reticulated near bases, entirely and densely covered with purplish velvety scale-like pubescence.

Prosternum coarsely punctured (male) or smooth (female), with a small round

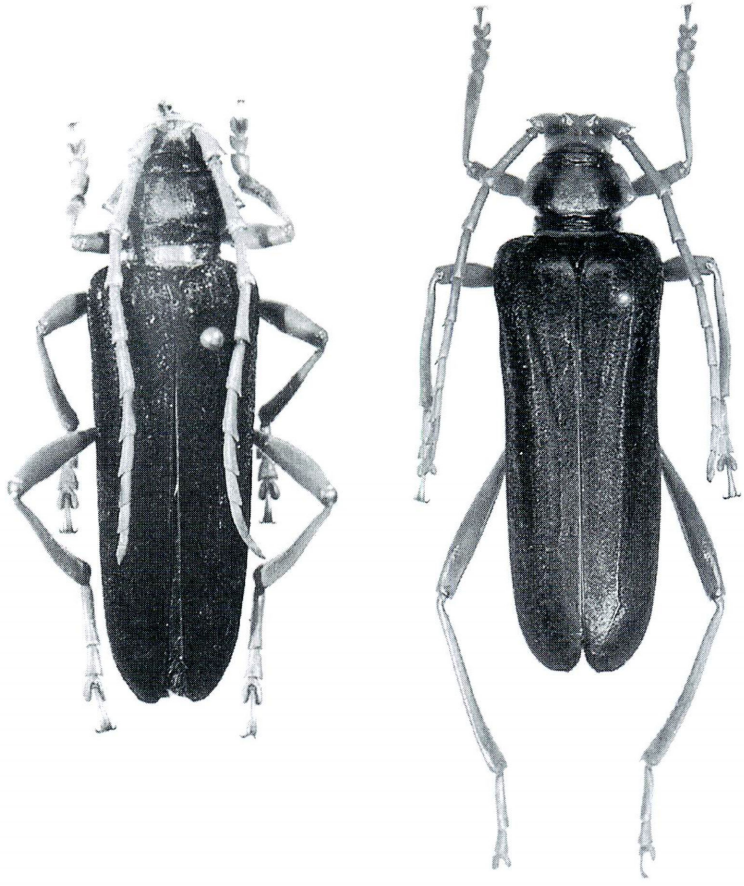

Fig. 1. *Schmidtiana boudanti* sp. nov. from Negros Island, the Philippines; left, holotype male; right, paratype female.

callosity on middle of intercoxal process and also with an oblong impression on declined part. Mesosternum short, longitudinally grooved along median line; intercoxal process wide and depressed in male, or wider and shiny in female. Mesepimera and mesepisterna strongly punctured, densely covered with grey pubescence. Metasternum broad, shining and grooved longitudinally, scattered with fine punctures and short golden pubescence. Metepisterna finely punctured and covered with grey pubescence.

Abdomen finely punctured; ventrite 1 long, with dense silvery pubescence at sides and along posterior margin, similar pubescence almost indistinct on other ven-

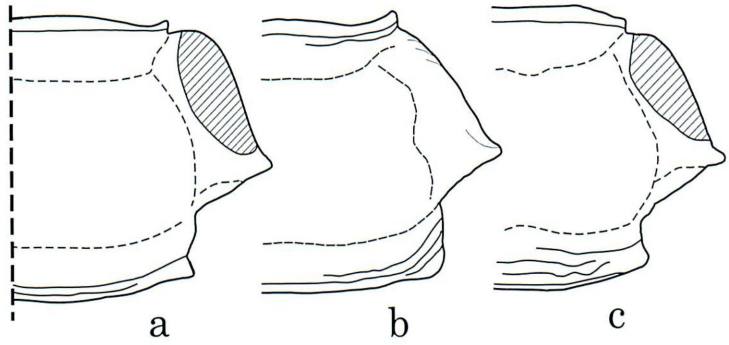

Fig. 2. Pronota of *Schmidtiana* species from the Philippines. —— a, *S. boudanti* sp. nov. from Negros Island, male; b, ditto female; c, *S. legrandi* MORATI et HUET from Leyte Island, male.

trites; ventrites 1–3 smooth and shiny along posterior margin; ventrite 6 strongly emarginate in male, or with a short indentation in female. Sternite 8 semicircular, truncate on apical margin though a weak concavity presents at middle in male. Tergite 8 long, arcuately narrowed to rounded apex (male), or short, straightly narrowed apicad (female).

Legs long and slender, with metafemora reaching abdominal apex; metatibiae narrow, slightly sinuate and flattened in males; metatarsi long, with first segment longer than 2nd and 3rd ones combined; claws long and curved.

Male genitalia. Median lobe long and rather thick, slightly arcuate in middle, with dorsal plate straightly narrowed in apical 3/5, with strongly pointed apical part; endophallus provided with a pair of two longitudinal sclerotized series consisting of five thorn-shaped short teeth, with basal complex forming bifid plate, heavily sclerotized, provided with a median bispinose protuberance. Tegmen short and moderately broad, with paramere rounded at apices which are provided with rather long setae.

Type series. Holotype ♂, Philippines, Negros Is., 28–IV–2003, local collectors (in coll. Museu Zoologia Barcelona). Paratypes: 1 female, Panay Is., 28–IV–2003, local collectors (in coll. E. VIVES, Terrassa); 2♂♂, 2♀♀, Negros Is., IV–1989, local collectors (in coll. T. NIISATO, Tokyo); 3♀♀, Mt. Canlaon, Negros Is., 18–V–1985, local collectors (in coll. T. NIISATO, Tokyo).

Etymology. This species is dedicated to our friend and colleague Jean-Louis BOUDANT (Saint-Lo, France).

Notes. This new species is similar to *Schmidtiana legrandi* MORATI et HUET, 2003 in the coloration and the elytral structure, but it can be easily distinguished from the latter, because of the different pronotal shape, and the presence of large orange areas on the prothorax and mesothorax which are always black or purplish blue in *S. legrandi*. In *S. boudati* nov., the legs and the antennae are orange, and also the sternal configuration is different. The shapes of prosternum and mesosternum are also very different, as well as the armour of endophallus. In some characters, *S. boudati* sp. nov.

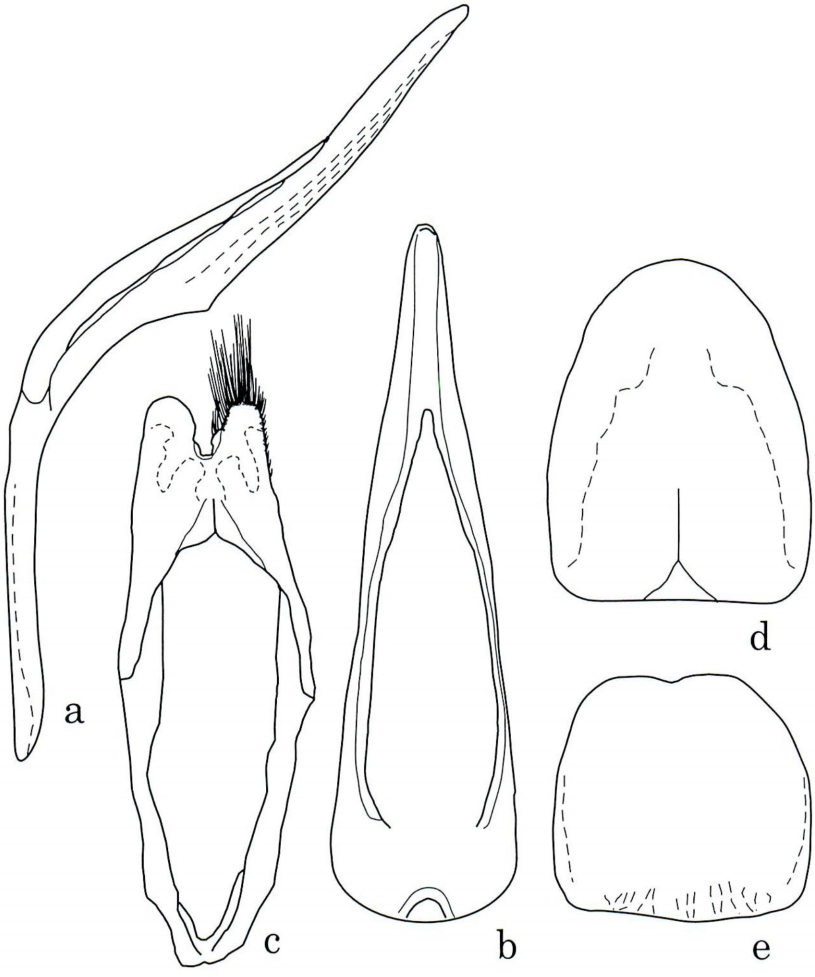

Fig. 3. Male genital organ of *Schmidtiana boudanti* sp. nov. from Negros Island, the Philippines. —— a, Median lobe in lateral view; b, median lobe, apical part in dorsal view; c, tegmen; d, tergite 8; e, sternite 8.

approaches to *S. iliocana* (SCHULTZE, 1920) and to *S. gertrudis* HÜDEPOHL, 1992, but is separated from them by the different structure of pronotum and abdominal sternites.

Biogeographical Notes on *Schmidtiana* in the Philippines Archipelago

We currently know five species of the genus *Schmidtiana* PODANÝ, 1971 from the Philippine Archipelago. Surprisingly we do not know any species of the genus *Pachyteria* AUDINET-SERVILLE, 1833 from these islands, which is very close both morphologically and biogeographically to *Schmidtiana* everywhere in Southeast Asia, particularly

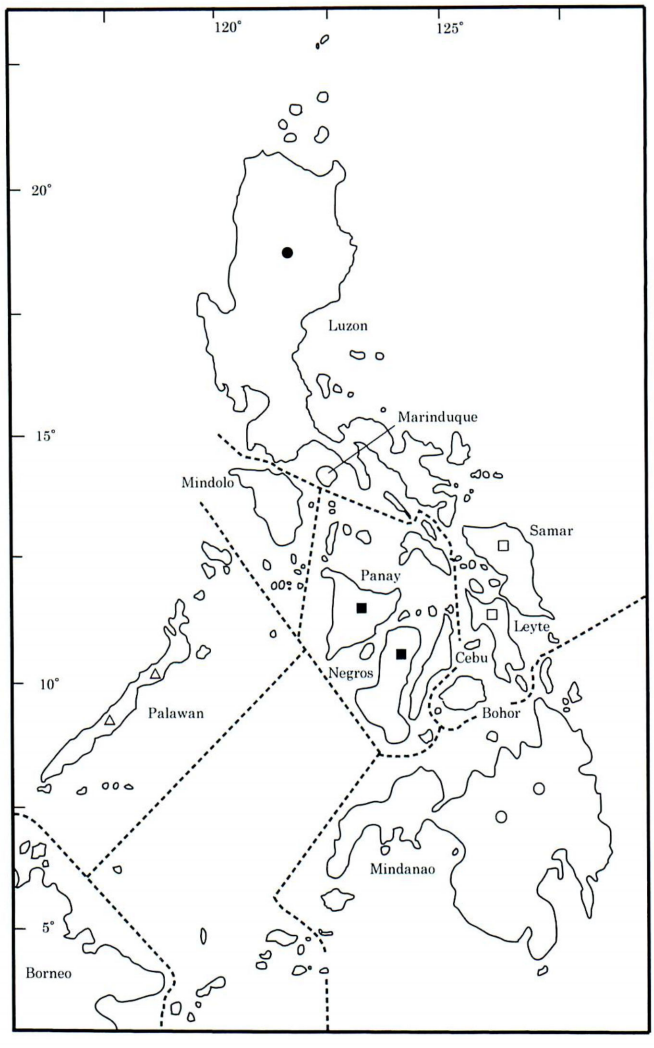

Fig. 4. Biogeographical areas of the Philippines by VANE-WRIGTH (1994), with distribution of *Schmidtiana* species. —— Black circle, *S. iliocana* (SCHULTZ); White circle, *S. gertrudis* HÜDEPOHL; White square, *S. legrandi* MORATI et HUET; Black square, *S. boudanti* sp. nov.; White triangle, *S. palawana* (SCHULZE).

in Borneo.

The five species of *Schmidtiana* from the Philippines are distributed according to biogeographical areas as proposed by VANE-WRIGHT (1994), which were based on HEANEY's (1986) work on the distribution of endemic mammals, and also on a re-evaluation of SEMPER's (1892) ideas on the distributional patterns of the Lepidoptera in the Philippines. VANE-WRIGHT (1994) subsequently divided the archipelago into seven

biogeographical areas coincident with postulated land bridges among groups of islands during the Pleistocene regression of sea level (MATSUDA, 1997). Each species of *Schmidtiana* dwells in a different area, except for the regions of Mindoro and the Sulu Islands, where we have so far no evidence of the presence of this genus.

Accordingly, we have observed that *Schmidtiana iliocana* is distributed in the region of Luzon; *S. palawana* in the group of islands of Palawan; *S. legrandi* in the region of Eastern Visayas; *S. gertrudis* in the region of Mindanao; and *S. boudanti* in the region of Western Visayas. The high degree of speciation of the Cerambycidae in the Philippines parallels with that of many other genera broadly distributed in Southeast Asia, and highly diversified in the Philippine Archipelago, with many species characteristic of each island, just as it happens with the genera *Aphrodisium*, *Callimetopus*, *Cereopsius*, *Blepephaeus*, etc. Sometimes they even irradiate towards areas of the Wallacea like Sulawesi, as it is the case of the genera *Abatocera*, *Nemophas* and *Ephies*.

Acknowledgement

We would like to thanks to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his guidance and critical reading of the manuscript of this paper.

要　　約

E. VIVES・新里達也：フィリピン諸島から発見された*Schmidtiana*属アオカミキリの1新種および同属のフィリピン諸島における生物地理学的考察．—— フィリピン諸島の*Schmidtiana*属のアオカミキリ類は，これまでに4種が知られていたが，西ビサヤ地域から新たに1新種が発見され，本論文で*S. boudanti* sp. nov. と命名し，記載した．本種は，HÜDEPOHL (1992) によって，ルソン島に分布する*S. iliocana* (SCHULTZ) の地域変異としてすでに紹介されているが，前胸背板や腹部腹板，雄交尾器の特徴から，独立種として明瞭に区別できる．また，レイテ島およびサマール島から記載された*S. legrandi* MORATI et HUET にもやや似ているが，前胸背板はつねに橙色部を持つこと，はるかに大きく幅広い体形，雄交尾器の特徴などから容易に識別することが可能である．

VANE-WRIGHT (1994) は，哺乳類と鱗翅類の分布をもとにして，フィリピン諸島を生物地理学的に7つの地域に区分している．この7つの地域のうち，*Schmidtiana*属アオカミキリ5種は，ルソン地区 (*S. iliocana*)，東ビサヤ地区 (*S. legrandi*)，西ビサヤ地区 (*S. boudanti* nov.)，ミンダナオ地区 (*S. gertrudis*) およびパラワン島嶼区 (*S. palawana*) に，それぞれ異所的に分布している．フィリピン諸島の*Schmidtiana*属アオカミキリ5種はたがいに近縁で，おそらく属内では単系統群を形成していると推定されるが，このように狭い地域で比較的多くの種に分化できたのも，各島嶼群で隔離されて独自に進化を遂げた結果であるものと考えられる．

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Studies on the Cerambycidae (Coleoptera) of Hubei Province, China, Part I

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Abstract The result of our recent survey of the cerambycid fauna of Hubei Province, Central China, is presented. Five new species, *Notorhabdium bangzhui*, *Encyclops hubeiensis*, *Parastrangalis houhensis*, *Callimoxys orientalis* and *Glaphyra planicollis* spp. nov. are described and illustrated. *Notorhabdium bangzhui* is not only a second member of the genus but also new to the fauna of China. The discovery of *Callimoxys* in China is very important from the zoogeographical viewpoint since the genus has so far been known from the two isolated ranges, Europe and North America. Besides, *Parastrangalis mitonoi* and *P. shaowuensis* comb. nov. are transferred from the genus *Strangalomorpha*. *Nanostrangalia torui* HOLZSCHUH, *Kunbir nomurai* HAYASHI and *K. pilosipes* HOLZSCHUH are newly recorded from Hubei Province.

Introduction

The insect fauna of China is categorized in the Palearctic and Oriental biogeographical regions and is one of the richest in species diversity in Asia. The cerambycid fauna of China was once revised by GRESSITT (1951). He listed 1,895 taxa including species and subspecies. Recently in 2002, HUA published a "List of Chinese Insects, Vol. II" in which he recorded the taxa known up to 1990. According to this list, the number of species and subspecies of the Cerambycidae (including Disteniidae) increased to 2,643 in these 40 years. On the other hand, JIANG and CHEN (2001) mentioned in their revisional study of the Chinese Lepturinae as follows: "— due to the

great change of environmental conditions, such as the rapid development of urbanization caused the disappearance of forests and loss of habitat and ability of existence of these beetles – these factors resulted that the actual number of the species should be greatly reduced —". However, the environmental policy of China now becomes better and there are many nature reserves in spite of remarkable economic development. These protected areas in China still retain unspoiled natural environment and are expected new scientific discoveries.

In the autumn of 2003, one of the authors, WANG invited OHBAYASHI for guest professor of Yangtze University, and a cooperative study of insect diversity in the western districts of Hubei Province was started. In the spring of 2004, we visited the Houhe National Nature Reserve of Wufeng Tujiazu Zizhixian and were able to collect many interesting insects despite of quite bad weather condition. Above all, the cerambycid species belonging to the genus *Notorhabdium* and *Calymoxis* were unexpected exciting discoveries. This is the first part of our study of cerambycid beetles collected by this investigation.

The abbreviations used for the depositories of type specimens are as follows: EUEL – Entomological Laboratory, Ehime University, YUAC – Agriculture College, Yangtze University, TN – T. NIISATO private collection.

Lepturinae

Xylosteini

Notorhabdium bangzhui N. OHBAYASHI et WANG, sp. nov.

(Figs. 1, 7)

Female. Length 9.5 mm from the tips of mandibles to elytral apices, width 1.5 mm across humeral angles.

Body extremely slender with spindly appendages, almost parallel-sided. Head and pronotum dark reddish brown; elytra reddish brown; antennae, maxillary palpi and legs black except for tibiae and tarsi which are more or less reddish; ventral surface black but the apical half of prosternum is reddish brown. Head and pronotum sparsely provided with thin recumbent brown pubescence; same pubescence on scutellum more or less denser than that of pronotum; the hairs arising from elytral punctures light brown, thin, short and subrecumbent; elytral apices densely fringed with golden hairs; ventral surface rather closely covered with thin subrecumbent brown pubescence except for head and apical half of prosternum which are naked.

Head (Fig. 1–a) moderate in length, obliquely produced anteriad, almost of the same width as pronotum across lateral tubercles, closely punctured throughout; gena almost as long as long axis of eye; interocular distance 2.2 times as large as the distance between antennal cavities; tempora distinct, subparallel behind eyes and then

strongly constricted; vertex transversely convex above and declined towards neck; eyes rather small, moderately coarsely faceted, almost entire oval with slight emargination at upper anterior margins; distal segment of maxillary palpus slightly dilated apicad and obliquely truncate at the apex (Fig. 1–d). Antenna filiform, slightly longer than body length; scape shorter than 3rd and longer than 4th; 4th half as long as 5th; from 5th to the last segment gradually decreasing in length; relative length of each antennal segment as follows:– 4.0 : 1.0 : 4.7 : 3.6 : 7.2 : 7.7 : 7.4 : 6.6 : 5.7 : 5.3 : 5.1.

Pronotum (Fig. 1–a) elongate, 1.52 times as long as basal width; disc closely punctured, provided with a smooth median line from the apex to basal third and a pair of round swellings at apical third; anterior margin slightly rounded anteriad; lateral sides once expanded laterad just behind apical margin, then widely constricted and following to distinct conical tubercles at basal third; hind angles hardly produced laterad; base almost straight; apical and basal margins narrowly bordered.

Scutellum triangular with gently rounded apex; stridulatory files entire and not di-

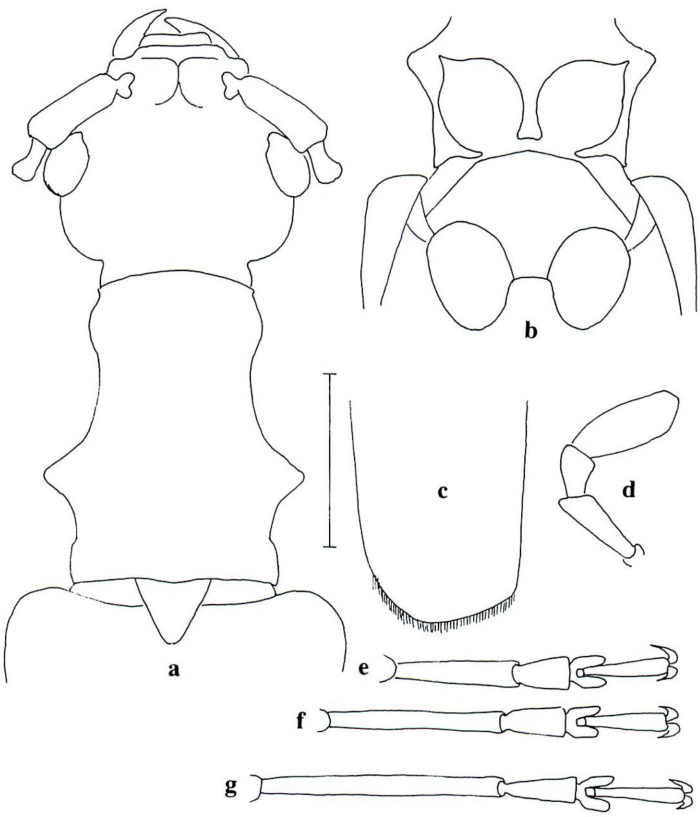


Fig. 1. *Notorhabdium bangzhui* N. OHBAYASHI et WANG, sp. nov. —— a, Head and pronotum in dorsal view; b, pro- and mesosterna in ventral view; c, apex of left elytron; d, left maxillary palpus; e, tarsus of fore leg; f, ditto, mid leg; g, ditto, hind leg. Scale 1 mm except for "d".

vided.

Elytra elongate and parallel-sided, 3.3 times as long as width across humeri; both angles of each apex widely rounded (Fig. 1–c); disc moderately provided with large punctures throughout.

Prosternal process narrow and divergent distally with emarginated apex; mesosternal process as wide as metasternal process and receiving the round apex of metasternal process. Legs long and slender, last tarsal segments simple and not swollen; relative length of hind femur, tibia and tarsus 11 : 10 : 6.3; first segment of hind tarsus 3.6 times as long as second and 1.4 times as long as the remaining segments combined (Fig. 1–g).

Abdomen cylindrical, minutely rugosely sculptured; seventh tergite visible from above.

Holotype. ♀, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, alt. 1,100 m, 30–IV–2004, N. OHBAYASHI leg. (YUAC).

Diagnostic notes. This is a second species of the genus *Notorhabdium* N. OHBAYASHI et SHIMOMURA, 1986. General characteristics of this new species are very close to those of *Notorhabdium immaculatum* recorded from the Malay Peninsula, but it can be easily distinguished from the latter by small body length, different coloration, small eyes, and so on. The differences of relative length of the forth antennal segment which is shorter than scape, simple structure of apical segment of tarsus (Figs. 1–e, f, g), cylindrical and exposed abdomen, width of mesosternal process which is as wide as metasternal process (Fig. 1–b) seem to suggest differentiation from the genus *Notorhabdium*, but this must be re-examined when the male specimen becomes available.

Etymology. This new species is dedicated to Mr. WANG Bang-zhu, vice-governor of Wufeng Tujiazu Zizhixian, who kindly supported our survay.

Rhagiini

Encyclops hubeiensis N. OHBAYASHI et WANG, sp. nov.

(Figs. 3, 8)

Male. Length 6.7–8.9 mm from the tips of mandibles to elytral apices, width 1.3–1.7 mm across humeral angles.

Body slender, almost parallel-sided. Head and pronotum black; elytra metallic green. Antenna reddish brown and apical part of each segment becoming darker; apical margin of clypeus reddish brown; maxillary palpi and legs yellowish brown except for apical half of distal segment of maxillary palpus, apico-dorsal area of fore femur, apical fourth of mid and hind femur, basal half of fore tibia, basal two-thirds of mid and hind tibiae which are black; each tarsal segment of fore legs infuscated apicad, middle and hind tarsi brown except for the base of second segment of middle tarsus

which is yellowish; ventral surface black but the color of abdominal sternites varies according to individuals as follows:– usually black except for the fifth sternite which is at least partly yellowish brown, and fourth and fifth sternites of a specimen are yellowish brown, but the sternites are entirely black in one male.

Head provided with recumbent pale yellowish hairs intermixed with long erect hairs on frons and genae. Head with vertex and pronotum rather densely covered with recumbent long golden hairs and sparsely intermixed with long erect golden hairs. Elytra moderately intermixed with long erect and short suberect pale yellow hairs. Ventral surface and legs moderately provided with long suberect and recumbent pale yellow hairs.

Head shorter and wider than pronotum across lateral tubercles, narrower than elytral base, closely punctured throughout; frons almost vertical with obliquely directed clypeus, gena short, about half as long as eye diameter; tempora distinct, slightly convergent posteriad, then strongly constricted; vertex flattened; eyes large, almost circular with slight emargination at upper margins, and distinctly prominent laterad; distal segment of maxillary palpus widely dilated apicad and obliquely truncate at the apex. Antenna filiform, slightly longer than body length; relative length of each antennal segment as follows:– 4.2 : 1.0 : 6.8 : 5.5 : 8.5 : 7.8 : 7.3 : 6.0 : 5.2 : 4.5 : 5.3.

Pronotum longer than basal width, 1.2–1.3 times as long as basal width, and slightly longer than width across lateral tubercles in both sexes; disc minutely and closely punctured; anterior margin slightly rounded anteriad; lateral sides provided with conical tubercles and constricted before and after the tubercles; hind angles rounded and not produced laterad; base bisinuate; apical and basal margin narrowly bordered.

Scutellum elongate tongue-shaped with round apex; disc rugulose; stridulatory files narrow, entire and not divided.

Elytra elongate, almost parallel-sided but slightly narrowed medially and widened again to just before the apex, 3.7–3.8 times as long as width across humeri, outer angle of apices gently rounded, inner angles angulated; disc densely provided with large punctures throughout.

Legs long and slender; each femur slightly clavate; first segment of hind tarsus 2.3 times as long as second and slightly shorter than the remaining segments combined.

Male genitalia as shown in Fig. 3. Tegmen shorter than median lobe, with paramere wide and flattened with many long setae mainly along inner side to apex; ring part straightly narrowed basad. Median lobe gently curved in lateral view, the apex strongly constricted with small projection in dorsal view.

Female. Length 8.0–9.6 mm from the tips of mandibles to elytral apices, width 1.5–1.8 mm across humeral angles.

Abdominal sternites yellowish brown except for the basal black area of first visible sternite, but two specimens have entirely black sternites. Antenna not reaching elytral apices; relative length of each antennal segment as follows:– 4.2 : 1.0 : 6.2 : 5.5 : 7.8

: 6.7 : 6.0 : 5.0 : 4.5 : 4.0 : 4.5. Pronotum slightly shorter than male, 1.1–1.2 times as long as basal width. Elytra entirely parallel-sided, 3.7–3.8 times as long as width across humeri.

Type series. Holotype: ♂, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, alt. 1,100 m, 30–IV–2004, N. OHBAYASHI leg. (YUAC). Paratypes: 6♂♂, 2♀♀, same data as for the holotype (EUEL & YUAC); 4♀♀, same locality, 28–IV–2004, N. OHBAYASHI leg. (EUEL).

Diagnostic notes. This new species is very similar to *Encyclops concinna* HOLZSCHUH recorded from Sichuan, China, but differs from it by bicolored legs, and much elongated elytra (3.7–3.8 times as long as width across humeri instead of 3.6 times). It can be distinguished from *Encyclops olivacea* BATES distributed in Japan by the following features: body larger, pronotum distinctly longer than width, lateral tubercles obtuse, elytra metallic green and hairs on the vertex and pronotum of golden color. It is also related to *E. viridipennis* MAKIHARA from Taiwan, but the golden hairs on the pronotum are sparser and elytral color darker than those of Taiwanese species.

Lepturini

Parastrangalis houhensis N. OHBAYASHI et WANG, sp. nov.

(Figs. 2, 5 & 9)

Male. Length 12.0 mm from the tips of mandibles to elytral apices, 15.1 mm to the apex of abdominal segment, width 2.6 mm (across humeral angles).

Body relatively large and elongate. Head, pronotum and ventral surface black. Antenna black and more or less becoming paler towards apical segments, each base of fourth to the last segment yellowish. Maxillary palpi and labrum yellowish brown except for the apical segment of the palpus which is darkened. Elytra yellowish brown with longitudinal black stripes in the following manner:– sutural margin narrowly black; a narrow middle vitta starting from a short distance from base and obliquely running towards apex, and another vitta starting some distance from humeri and running backwards along lateral margin; an outer vitta broad at the beginning, then once narrowed and again broadened from basal third and connected with the middle vitta at basal two-fifths, then narrowly extending apicad; these three vittae connected together near the apex. Legs with femora yellowish brown except for dorsum of mid ones and apical halves of hind ones which are blackish; tibiae and tarsi blackish brown except for yellowish underside of fore tibiae.

Head and pronotum covered with short suberect dark hairs intermixed with sparse thin long ones, and the pronotum with basal corner and apical small area of mesal longitudinal smooth line provided with silvery hairs. Elytra moderately provided with suberect yellowish hairs throughout. Ventral surface rather closely covered with re-

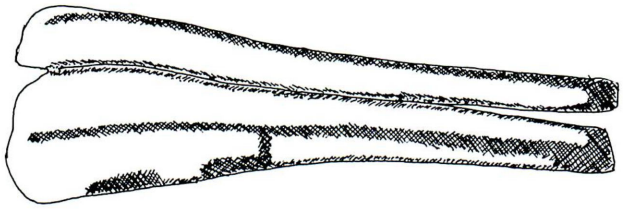


Fig. 2. *Parastrangalis houhensis* N. OHBAYASHI et WANG, sp. nov., dorso-lateral view of elytra.

cumbent pale yellowish pubescence.

Head moderate in length, as wide as pronotal base, closely provided with minute punctures throughout; frons quadrate, gena about half as long as long axis of eye; tempora almost invisible from above, strongly constricted just behind eyes; eyes large, prominent and almost entire; distal segment of maxillary palpus elongate with dorsal longitudinal groove, broadest at basal third and obliquely truncate at the apex. Antenna long, apical two segments exceeding the elytral apex; third the longest; fourth longer than scape: relative length of each antennal segment as follows:– 5.6 : 1.0 : 7.9 : 6.3 : 7.6 : 6.3 : 6.1 : 5.8 : 5.7 : 5.2 : 7.6.

Pronotum campanuliform, distinctly constricted just behind apex, longer than basal width, 1.05 times as long as basal width; disc rather meagerly swollen, minutely and closely punctured with mesal impunctate longitudinal area extending from middle to basal fourth; anterior and basal margin distinctly marginate; base bisinuate; hind angles well developed but not embracing elytral humeri.

Scutellum nearly triangular with rounded apex.

Elytra elongate, with outer margins rather strongly convergent from bases to the middle, then straightly extending apicad, 2.9 times as long as width across humeri; apex obliquely truncate; disc moderately provided with shallow punctures throughout.

Legs long and slender; each femur moderately clavate; hind tibia thickened from apical third and curved inwards; first segment of hind tarsus 2.3 times as long as second and as long as the remaining segments combined.

Abdomen not cylindrical; a half of sixth and whole of seventh tergite exposed from the elytral apices; seventh sternite without mesal depression; apical margin of eighth tergite gently rounded.

Male genitalia as shown in Fig. 5. Tegmen with paramere narrow, straight and bluntly pointed at the apices which are provided with many long setae on each anterolateral side; basal ringed part separated and roundly connected at base. Median lobe slightly narrowed from middle to moderately constricted apex in dorsal view, rather strongly bent at basal third in lateral view; median struts connected with each other at base.

Type series. Holotype: ♂, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, alt. ca. 1,200 m, 30–IV–2004, N. OHBAYASHI leg. (YUAC).

Diagnostic notes. This new species can be easily distinguished from the other

congeners by its largely exposed abdominal tergites and distinctive features of elytral vittae (Fig. 2).

Parastrangalis mitonoi (HAYASHI et IGA, 1951), comb. nov.

(Figs. 4, 10)

Strangalomorpha mitonoi HAYASHI et IGA, 1951, 75; NAKAMURA *et al.*, 1992, 19.
Strangalia chujoi: TAMANUKI, 1942, 207, fig. 219 (*partim*, nec MITONO).

Notes. This Taiwanese species is most closely related with the species in the next lines. This species was first described as a member of the genus *Strangalomorpha*. The type species of this genus, *Strangalomorpha tenuis* SOLSKY, has distinct tempora, apical spine of hind tibia situated in a distinct recess before apex, and hind tarsus sulcated below. These characteristics are considered to be the characteristics of this genus, but *Strangalomorpha mitonoi* does not possess these features and the morphological characteristics coincide with those of the genus *Parastrangalis*, *e.g.*, the shape of pronotum, not sulcate tarsal segments, the head being abruptly narrowed just behind the eyes and without distinct tempora, metasternum of male with a pair of small projections and general appearance of male genitalia shows the typical structure of this genus as shown in Fig. 4. For this reason, *Parastrangalis mitonoi* had better be transferred to the genus *Parastrangalis*.

Specimens examined. 2♂♂, 3♀♀, vic. Riyuetang, nr. Puli, Nantou Country, Formosa, 18–IV–1976, K. USHIJIMA leg.; 1♂, Fushan, Wulai Township, Taipei, Taiwan, 29–III–2004, T. KURIHARA leg.

Distribution. Taiwan.

Parastrangalis shaowuensis (GRESSITT, 1951), comb. nov.

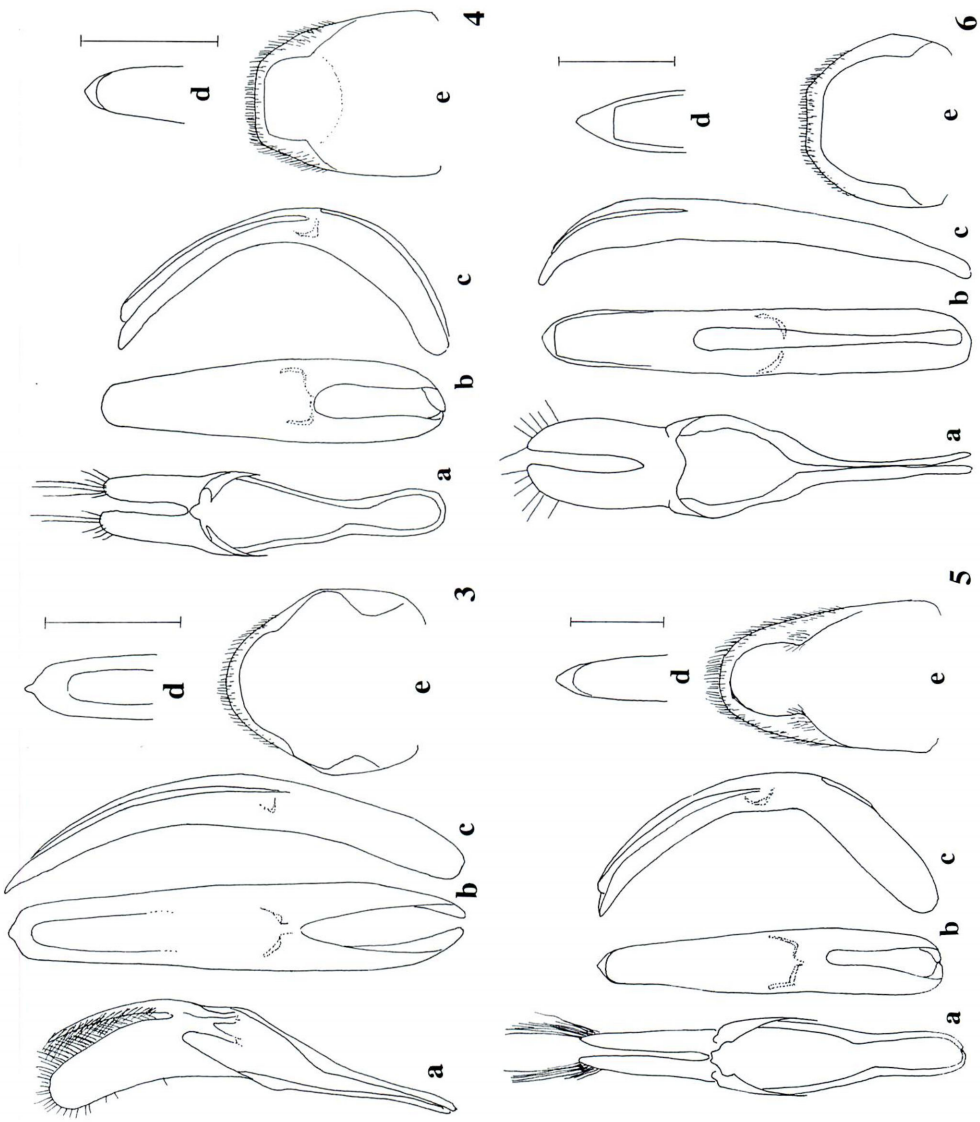
(Fig. 11)

Strangalia (*Strangalomorpha*) *shaowuensis* GRESSITT, 1951, 112, pl. 4, fig. 3.
Strangalomorpha mitonoi ?: HAYASHI, 1959, 62 (nec HAYASHI et IGA).
Strangalomorpha shaowuensis: HAYASHI & VILLIERS, 1985, 15; JIANG & CHEN, 2001, 165.

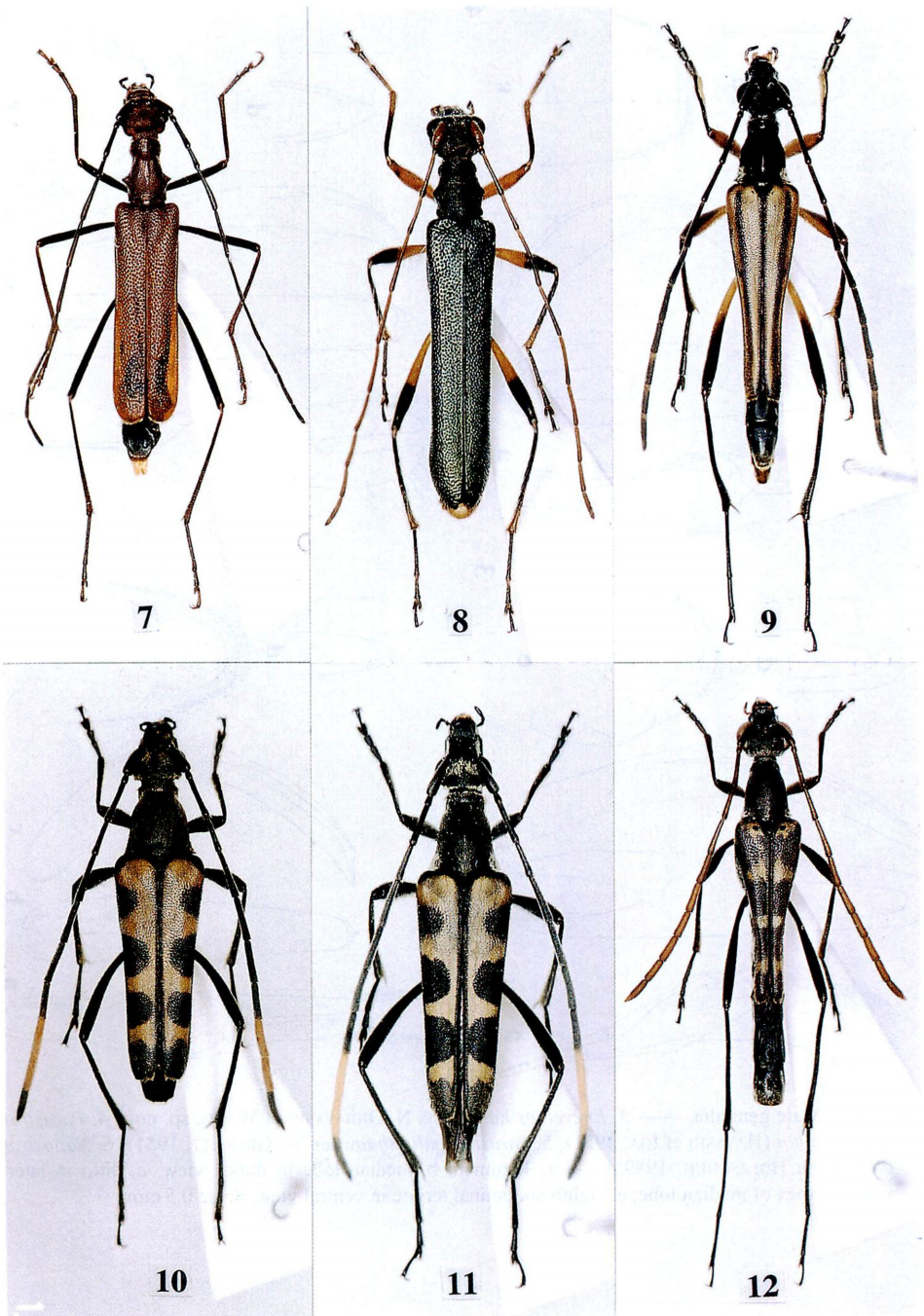
Notes. This species was first described as a species of the subgenus *Strangalomorpha* of the genus *Strangalia*. It is most closely related to *Parastrangalis mitonoi* and for the same reason as mentioned in the previous lines, this species is transferred from *Strangalomorpha* to *Parastrangalis*.

HAYASHI (1959) once suggested that the species *Strangalia* (*Strangalomorpha*) *shaowuensis* GRESSITT could be conspecific with Taiwanese species, *Strangalomorpha mitonoi* HAYASHI et IGA, judging from the original description and a figure. In 1985, however, HAYASHI and VILLIERS treated this beetle as an independent species of the genus *Strangalomorpha* without any comment.

A female specimen collected by our expedition is close in appearance to *S. mitonoi* HAYASHI et IGA, 1951, but these two species can be distinguished from each



Figs. 3–6. Male genitalia. —— 3, *Encyclops hubeiensis* N. OHBAYASHI et WANG, sp. nov.; 4, *Parastrangalis mitonoi* (HAYASHI et IGA, 1951); 5, *Parastrangalis shaowuensis* (GRESSITT, 1951); 6, *Nanostrangalia torui* HOLZSCHUH, 1989. —— a, Tegumen; b, median lobe in dorsal view; c, ditto in lateral view; d, apex of median lobe; e, eighth abdominal tergite in ventral view. Scale 0.5 mm.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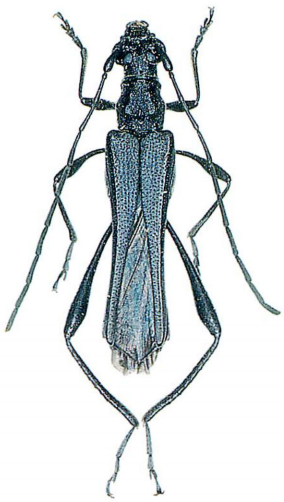

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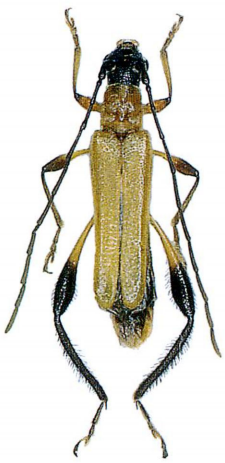

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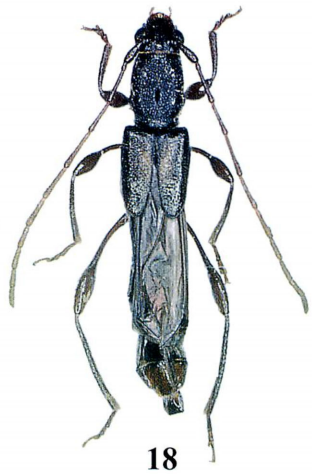

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Figs. 7–12 (on p. 460). Habitus of species. —— 7, *Notorhabdium bangzhui* N. OHBAYASHI et WANG, sp. nov., holotype female; 8, *Encyclops hubeiensis* N. OHBAYASHI et WANG, sp. nov., holotype male; 9, *Parastrangalis houhensis* N. OHBAYASHI et WANG, sp. nov., holotype male; 10, *Parastrangalis mitonoi* (HAYASHI et IGA, 1951); 11, *Parastrangalis shaowuensis* (GRESSITT, 1951); 12, *Nanostrangalia torui* HOLZSCHUH, 1989.

Figs. 13–18 (on p. 461). Habitus of species. —— 13, *Callimoxys orientalis* NIISATO et N. OHBAYASHI, sp. nov., holotype male; 14, ditto, female paratype; 15, *Kunbir pilosipes* HOLZSCHUH, female; 16, *Kunbir nomurai* HAYASHI, male; 17, ditto, female; 18, *Glaphyra* (*Glaphyra*) *planicollis* NIISATO et N. OHBAYASHI, sp. nov., holotype female.

other by the following points:

P. shaowuensis: Pronotum elongate, 1.15 times as long as basal width, rather straightly narrowed apicad, with silvery pubescence at latero-basal areas; elytra with four black bands, of which the basal two do not reach suture, 2.57 times as long as width across humeri and the apex of elytra more or less rounded.

P. mitonoi: Pronotum voluminous, 1.06 times as long as basal width, roundly expanded laterad at apical third; elytra with four black bands, of which basal three do not reach suture, 2.40 times as long as width across humeri and the apices of elytra almost truncated.

Specimen examined. 1♀, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, alt. ca 1,100 m, 28–IV–2004, N. OHBAYASHI leg.

Distribution. China.

Nanostrangalia torui HOLZSCHUH, 1989

(Figs. 6, 12)

Nanostrangalia torui HOLZSCHUH, 1989, 155, figs. 1, 2, 4, 12 & 65.

Notes. *Nanostrangalia torui* was first described from Nepal. The specimens collected at Wufeng Tujiazu Zizhixian are almost identical with this species though the antennal color is not darkened at apical segments in male. Male genitalia are shown in Fig. 6 for the first time.

Specimens examined. 11♂♂, 3♀♀, Nanmuhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, alt. 440 m, 27–IV–2004, N. OHBAYASHI leg.

Distribution. Nepal, China: Hubei (new record).

Cerambycinae

Obriini

Stenhomalus taiwanus taiwanus MATSUSHITA, 1933

Stenhomalus taiwanus MATSUSHITA, 1933, 307, pl. 1, fig. 13.
Stenhomalus taiwanus taiwanus: GRESSITT, 1951, 165; KUSAMA & TAKAKUWA, 1984, 270, pl. 31, figs. 210, 210 a–b.
Stenhomalus cleroides: GRESSITT, 1935, 148.

Specimen examined. 1♂, Yudu, 600 m alt., Wufeng Tujiazu Zizhixian, Hubei Prov., China, 4–V–2004, N. OHBAYASHI leg.

Distribution. China; Taiwan; Korean Pen.; Japan.

Stenopterini

Genus *Callimoxys* KRAATZ, 1863

Callimoxys KRAATZ, 1863, 105; MULSANT, 1862–1863, 215, MULSANT, 1863, 151; THOMSON, 1864, 412; FAIRMAIRE, 1864, 152; LACORDAIRE, 1869, 489; LECONTE, 1873, 307; GANGLBAUER, 1881, 687; LECONTE & HORN, 1883, 292; LENG, 1886, 29; REITTER, 1912, 28; PLAVILSTSHIKOV, 1932, 82, 106; LINSLEY, 1940, 37; KNUUL, 1946, 203; HEYROVSKY, 1955, 17; LINSLEY, 1963, 162; HARDE, 1966, 51; BENSE, 1995, 63.

Similar in general appearance to *Stenopterus* ILLIGER, but characterized by a combination of the following features:

Body medium-sized, more or less flattened, and with strongly attenuate elytra. Color black, with reddish female pronotum.

Head elongate, weakly declivous in front, with frons shortened and concave at anterior side to middle, clypeus large, eyes deeply emarginate. Antennae 11-segmented, not reaching abdominal apex, with segment 3 a little shorter than scape. Pronotum contracted to apex, widest behind middle, arcuate near middle of sides, provided with 3 or 5 smooth callosities on disc. Scutellum distinctly emarginate at apex. Elytra strongly attenuate, with knife-shaped apical parts, markedly dehiscent, not reaching abdominal apex. Hind wing slender, almost identical with that of *Stenopterus*; Pcu, $1A_3+2A$ and 3A well developed (Fig. 19–c). Fore coxal cavities distinctly angulate externally, closed behind by the extensions of pleural processes (Fig. 19–a). Mesosternal process very wide. Mid coxal cavities moderately opened to metepisterna (Fig. 19–a). Legs rather long; hind femur strongly clavate in anterior part to middle; hind tibia arcuate, with rows of small denticles (Fig. 19–d). Abdomen smooth and not reduced in both sexes, with 8th segment simple.

Median lobe (Fig. 19–e, f) spindle-shaped, suddenly declivous near apex; ventral plate turned up at sides and almost wholly covered with dorsal surface, with apical part pointed and bent ventrad at extremity; dorsal plate only narrowly exposing; median struts thin. Tegumen (Fig. 19–g, h) with paramere forming a pair of perpendicular walls, each lobe narrowed to rounded apex which is provided with several stout setae, ring part shortened and transverse.

Range. SE. Europe to SW. Russia, C. China and N. America.

Notes. *Callimoxys* KRAATZ has so far been known as a peculiar cerambycid genus containing two isolated species from Europe and North America in the Northern Hemisphere until the present discovery of *C. orientalis* sp. nov. from Central China. The discovery of *Callimoxys* from China is very important from the zoogeographical viewpoint since a very wide gap of the ranges in Eurasia could be filled up.

It seems difficult to follow up the dispersal and distribution of *Callimoxys* in the Northern Hemisphere. However, it is very interesting that the three known species occur in such widely isolated areas in the temperate zone, Europe, China and North America. Besides, the New World species, *C. sanguinicollis* (OLIVER) is morphologi-

cally rather isolated as compared with the other two known species from the Old World. The closely related genus, *Stenopterus* ILLIGER, is endemic to the Palearctic, and most members occur in southern Europe to Asia Minor. Though only two peculiar species are recorded from China, *Stenopterus* does not disperse to North America. *Callimoxys* and *Stenopterus* may have a common ancestor in old Chinese continent, and the *Callimoxys* lineage became differentiated and dispersed to the temperate zone of the Northern Hemisphere. After the dispersal, their distributions may be divided into the three isolated areas influenced by climatic change.

Callimoxys orientalis NIISATO et N. OHBAYASHI, sp. nov.

(Figs. 13, 14 & 19)

Male. Length 9.4–10.2 mm from apical margin of clypeus to abdominal apex, width 1.9–2.1 mm across humeral angles.

Female. Length 12–12.5 mm from apical margin of clypeus to abdominal apex, width 2.5–2.6 mm across humeral angles.

Elongate species for the genus, basically similar in facies to *C. gracilis*. Color entirely black in male, black with red pronotum and dull orange abdomen in female, with dull orange tip of terminal segment in both sexes, moderately shiny in general though matted on elytra, ventral surface, and apical six antennal segments.

Body sparsely clothed with long flying pale yellow hairs; antenna with sparse rows of black hairs on undersides of segments 3–6, and also 1 or 2 similar one on segments 2, 7 and 8; elytra with minute silvery white pubescence throughout, and a few black hairs near humeri; ventral surface of hind body densely with minute silvery white pubescence; legs sparsely with black hairs, with hind tibia conspicuously black haired.

Head distinctly wider than the maximum width of pronotum (1.2: 1), coarsely rugosely punctured; neck very long and narrow, nearly 2/5 the length of head and 9/13 the width across eyes, almost parallel-sided even at the part just behind eyes; frons strongly concave near middle; clypeus depressed and coarsely punctured on basal 2/5; eyes large, strongly prominent laterad. Antennae long and slender, almost reaching abdominal apex in male or apex of 2nd ventrite in female; relative length of each antennal segment as follows:–3.7: 0.7: 3.0: 3.5: 4.2: 3.9: 3.9: 3.6: 3.6: 3.2: 3.6 in male, 4.0: 0.8: 3.0: 3.8: 4.5: 3.6: 3.6: 3.5: 3.5: 3.2: 3.5 in female.

Pronotum a little less than 1.2 times as long as the maximum width just behind middle, strongly contracted to apex, hardly so to base; sides arcuately constricted at apical 2/5, weakly arcuate at a level between apical 2/5 and basal 1/3, then nearly parallel; disc coarsely rugosely punctured in most part except for rounded five callosities and lateral swellings, the former callosities arranged as follows: a pair of them at the sides of apical 1/3, a pair of larger ones just behind middle, and a rounded one at middle of basal 1/3.

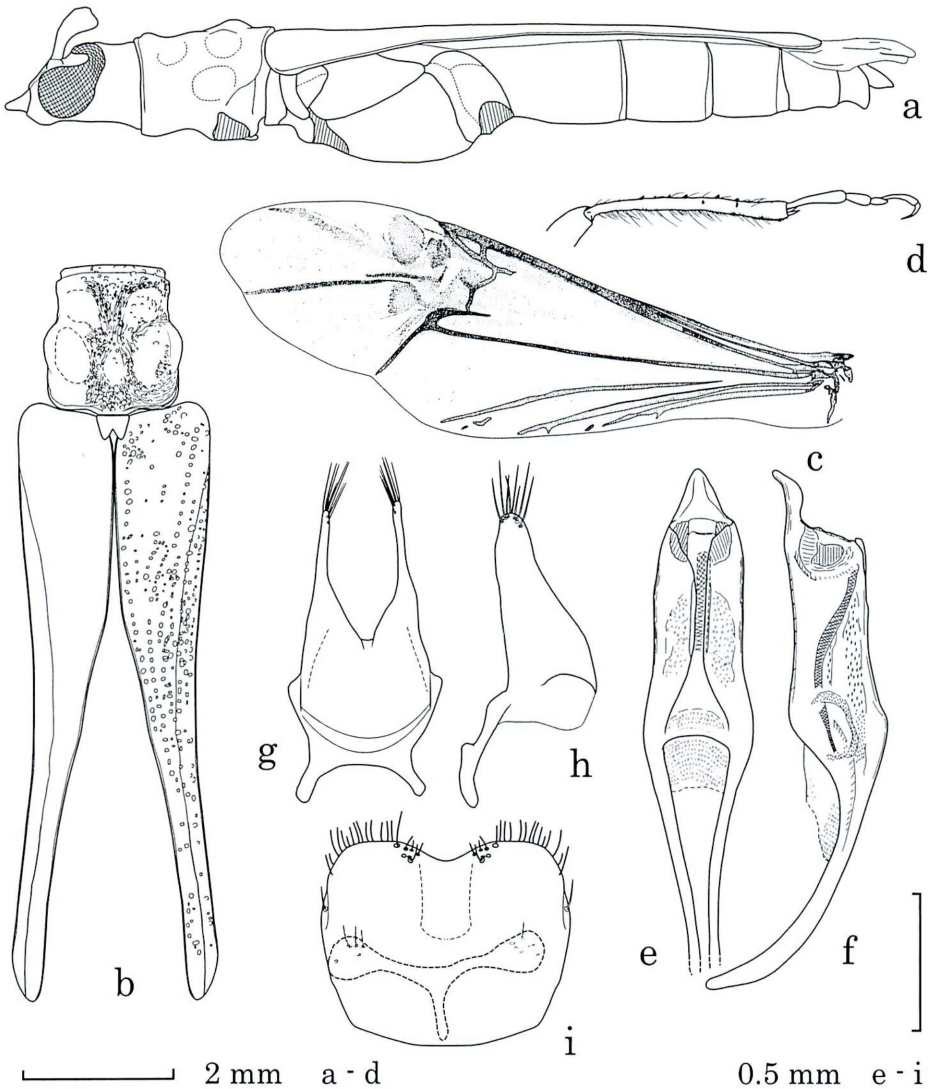

Fig. 19. *Callimoxys orientalis* NIISATO et N. OHBAYASHI, sp. nov. —— a, Body profile; b, pronotum and elytra; c, right hind wing; d, right hind tibia and tarsus; e, median lobe in dorsal view; f, ditto in lateral view; g, tegumen in dorsal view; h, ditto in lateral view; i, 8th tergite in dorsal view, showing 8th sternite.

Scutellum large, deeply triangularly concave at apex.

Elytra extremely long, nearly four times as long as pronotum, strongly wider than pronotum (1.4 : 1), nearly reaching the apical margin (male) or middle (female) of 6th tergite, slightly exposing the sides of metathorax, with suture narrowly dehiscent from basal 1/5, and strongly so in apical 5/8; disc moderately punctured in irregular rows,

provided with a narrow costa extending from behind humeri to apices, the costa being conspicuous in apical 2/5.

Legs very long and rather slender; hind tibia weakly arcuate, provided with eight minute dents along external margin; hind tarsus long and thin, with 1st segment twice the length of the following one.

Ventral surface somewhat coarsely shagreened; prosternum distinctly transversely furrowed before coxal cavities. Abdomen elongate, gently arcuate at sides, with anal sternite wide-triangularly concave at apex in male, weakly arcuate in female; 8th tergite slightly divergent to apex, which is emarginate at middle, provided with a few setae along margin; 8th sternite forming long slender lobes, roundly thickened at each apex.

Median lobe with spindle-shaped apical lobe and long median struts; viewed dorsally, the extended walls of ventral plate almost approximate in long line near middle, arcuately dehiscent towards apex and base, with quadrate apical part of dorsal plate; ventral plate with apical part triangularly pointed in dorsal view, produced and then arcuately and rather suddenly bent ventrad in profile. Tegumen strongly wide, with paramere parallel in apical half in dorsal view, and each provided with eight stout sete at the extremity.

Type series. Holotype: ♂, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, ca 1,100 m alt., 30–IV–2004, N. OHBAYASHI leg. (YUAC). Paratypes: 2♂♂, 1♀, same data as for the holotype; 1♀, almost the same as the preceding but the date is 28–IV–2004 (EUEL & TN); 1♂, same locality as the preceding but the date and collector are 28–IV–2004, WANG W. leg. (YUAC).

Diagnostic notes. This new species no doubt has a close relationship with the old known European species, *C. gracilis* (BRULLÉ), but is clearly distinguished from the latter by several important characters as shown in the following key. The Nearctic species, *C. sanguinicollis* (OLIVER) is rather isolated in the genus, because of the rounded form of pronotum, shorter appendages and brownish elytra. *Callimoxys sanguinicollis* shows some relationship with *Stenopterus* ILLIGER in view of its heterogeneity in the genus.

Key to the Species of the Genus *Callimoxys* KRAATZ

1(2) Pronotum almost as long as the basal width, strongly constricted near base; elytra largely brown, not reaching 6th abdominal tergite; N America.....
.....*C. sanguinicollis* (OLIVER).

2(1) Pronotum distinctly longer than the basal width, subparallel-sided or gently constricted near base; elytra entirely black, usually exceeding 6th abdominal tergite.

3(4) Pronotum provided with a pair of oblong callosities at sides and a long ridge at middle; elytra about three times as long as pronotum; female abdomen black; SE. Europe to SW. Russia.....*C. gracilis* (BRULLÉ).

4(3) Pronotum provided with five rounded callosities, with median anterior part only rugosely punctured, without callosity; elytra about four times as long as pronotum; female abdomen dull orange; China ..... *C. orientalis* sp. nov.

Kunbir pilosipes HOLZSCHUH, 2003

(Fig. 15)

Kunbir pilosipes HOLZSCHUH, 2003, 187, fig. 31.

Specimen examined. 1♀, Wudao Xia, Baokang Xian, Hubei Prov., China, 11–VI–2004, M. SATÔ leg.

Distribution. China: Shaanxi and Hubei (new record).

Note. This species was recently described from Shaanxi based on four male specimens. This is the first record from Hubei Province.

Kunbir nomurai HAYASHI, 1974

(Figs. 16, 17)

Kunbir nomurai HAYASHI, 1974, 25; YU & NARA, 1988, 65, pl. 9, fig. 3; NAKAMURA *et al.*, 1992, 33; YU, NARA & CHU, 2002, 91, pl.10, fig. 14; CHOU, 2004, 160.

Specimen examined. 1♀, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, ca 1,100 m alt., 27–IV–2004, N. OHBAYASHI leg.; 1♂, 2♀♀, almost of the same data as the preceding , but the date is 30–IV–2004.

Distribution. China: Hubei (new record); Taiwan.

Note. The specimens examined agree well with the original population of Taiwan. This is the first record of the species from the continental side of China.

Molorchini

Glaphyra (Glaphyra) planicollis NIISATO et N. OHBAYASHI, sp. nov.

(Fig. 18)

Female. Length 9.5 mm from apical margin of clypeus to abdominal apex, width 1.2 mm across humeral angles.

Medium-sized species of somewhat depressed body, indistinctly maculate long elytra and thin appendages. Color black in head and thoraces, with blackish brown elytra bearing V-shaped obsolete yellowish maculation near suture of basal 2/3, dark reddish brown in mouthparts except for black tips of mandibles, antennae except for blackish scape, all legs chestnut brown, blackish brown on abdomen, tarsi slightly reddish, moderately shiny.

Body moderately clothed with long flying brownish and pale hairs, mostly on pronotum, base of elytra, and all tibiae; antenna with sparse rows of long brownish hairs on undersides of segments 2–7, and with dense minute pubescence in apical 2/5 of 5th segment to terminal segment; pronotum without pubescent maculation; ventral surface of hind body with dense white pubescence on mesosternum and metepisterna, along posterior margin of hind coxa, and at sides of sternites 3–7.

Head a little wider than the apical width (5.3: 5) or slightly narrower than the maximum width (5.3: 6) of pronotum, sparsely with large punctures; frons flattened, with an obsolete median longitudinal furrow, clypeus large, trapezoidal, smooth except for large punctures near base; eyes not so large, weakly prominent laterad, with lower lobes nearly three times as deep as genae. Antennae long and very thin, reaching base of 6th tergite, with 3rd segment almost equal in length to scape and 4th segment, basal four segments with a few coarse punctures, terminal segment obtusely pointed; relative length of each antennal segment as follows:– 2.3: 0.6: 2.2: 2.2: 4.6: 3.8: 3.4: 2.5: 2.3: 2.1: 2.5.

Pronotum 1.16 times as long as the maximum width at basal 2/7, slightly wider than head (6: 5.3); sides gently arcuately divergent to basal 3/7, with very weak triangular lateral swellings near basal 2/5, then gently arcuately convergent to just before base; apex almost as wide as base, weakly emarginate at margin; disc almost flattened, hardly uneven, coarsely reticulate throughout except for narrow basal and apical parts, and provided with five small smooth callosities arranged as follows: a pair of them at external sides of apical 3/20, a narrow longitudinal median one just behind middle, a pair at basal 1/3 which are almost punctured on surface and invisible.

Scutellum subquadrate, small, deeply concave along midline.

Elytra moderately long, 1.28 times as long as humeral width, reaching basal 1/4 of 3rd tergite, 1.12 times as long as pronotum, slightly wider than pronotum (17 : 15), hardly exposing the sides of metathorax, almost straightly narrowed to narrowly rounded apex, with suture narrowly arcuately dehiscent from basal 1/5; disc almost flattened, obliquely widely depressed just behind middle near suture, with apical third gently raised, densely with medium-sized punctures, though punctation becomes shallower near scutellum and apical raised part.

Legs slender and rather long, distinctly compressed; hind femur rather strongly clavate from just behind middle; hind tarsi thin and rather short, with first segment a little longer than the following two combined.

Prosternum coarsely punctured, with apical half closely transversely furrowed; prosternal process narrowed apicad, and reaching a level of basal half of coxal cavities. Meso- and metathoraces shagreened, provided with weak punctures; mesosternal process wide, gently narrowed to apex which is almost truncate. Abdomen rather elongate, provided with a few punctures, with anal sternite broadly transversely truncate, anal tergite weakly emarginate on apical margin.

Holotype. ♀, Houhe, Wufeng Tujiazu Zizhixian, Hubei Prov., China, ca 1,100 m alt., 30–IV–2004, N. OHBAYASHI leg. (YUAC).

Diagnostic notes. Though ordinary in general appearance, *G. planicollis* sp. nov. is unique in the following characteristics: 1) antennae long and thin, with elongate 3rd segment which is almost as long as scape or 4th segment, 2) pronotum coarsely reticulate and provided with five small callosities on disc, with lateral tubercles at basal 2/7, 3) elytra relatively long, extending to 3rd tergite, decorated with a vague pale V-shaped maculation, 4) all legs chestnut brown in color, without pale part, strongly compressed in femora. This new species is somewhat similar to the Far Eastern speciers, *G. starki* (SHABLIOVSKY), but distinguished from the latter by the larger and flattened body, the reticulate pronotal disc and different arrangement of dense pubescence of abdominal sternite.

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要　　約

大林延夫・新里達也・王　文凱：中国湖北省のカミキリムシの研究，I. ——本論文は，2004年春に大林と王によって実施された，湖北省五峰土家族民族自治県后河におけるカミキリムシ相の調査結果の第１報である．今回，ハナカミキリ亜科の *Notorhabdium bangzhui* OHBAYASHI et WANG, *Encyclops hubeiensis* OHBAYASHI et WANGおよび *Parastrangalis houhensis* OHBAYASHI et WANGの３新種，カミキリ亜科の *Callimoxys orientalis* NIISATO et OHBAYASHIと *Glaphyra planicollis* NIISATO et OHBAYASHIの２新種を記載した．このうち，*Notorhabdium bangzhui* は本属第２番目の種であるとともに，属としては中国から初めて記録される．また，*Callimoxys* 属はこれまでに，欧州と北米に孤立する２種が知られていただけで，ユーラシア中央部からの新種の発見は動物地理学上重要である．さらに，*Parastrangalis mitonoi* (HAYASHI et IGA) および *P. shaowuensis* (GRESSITT) をアオバホソハナカミキリ属 *Strangalomorpha* からニンフハナカミキリ属に所属の変更を行った．また，*Nanostrangalia torui* HOLZSCHUH, *Kunbir pilosipes* HOLZSCHUHおよび *K. nomurai* HAYASHIを湖北省から新たに記録した．

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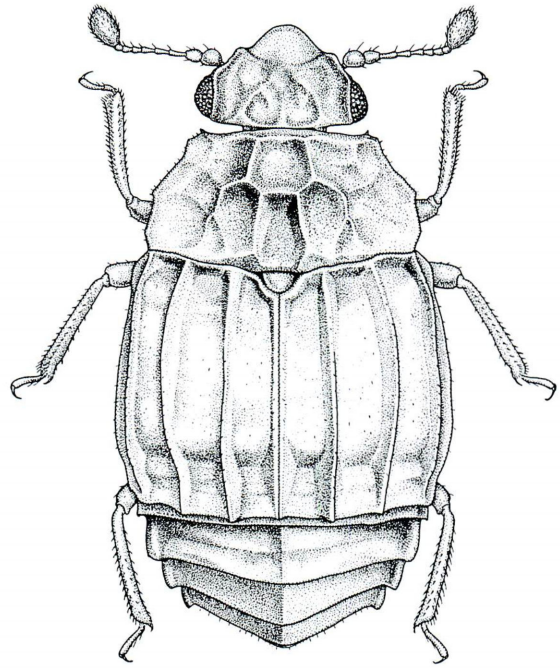

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野村周平：Catalogue of Palaearctic Coleoptera. Volume 1. Acrostemata – Myxophaga – Adephaga. Ivan LÖBL & Aleš SMETANA (eds.), 819 pp., Apolo Books, Stenstrup 104

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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.

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（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．

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