Elytra, Tokyo, **32** (1): 1–3, May 31, 2004

Lectotype Designation of *Carabus vanvolxemi* (Coleoptera, Carabidae)

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Abstract Lectotype of *Carabus vanvolxemi* PUTZEYS is designated in the collection of the Institut Royal des Sciences Naturelles de Belgique, Brussels.

Carabus vanvolxemi is a well-known carabid beetle endemic to north-central Honshu and the Island of Sado-ga-shima in Central Japan. This species was originally described by PUTZEYS (1875, p. 46) based on the males and females (number of examined specimens was not shown in the original description) without designation of the holotype specimen. Through the courtesy of Mr. Alain DRUMONT, I recently had an opportunity to examine all the syntype specimens of the same taxon now preserved in the entomological collection of the Institut Royal des Sciences Naturelles de Belgique. In this short article, I am going to designate the lectotype of *C. vanvolxemi* from PUTZEYS' syntypes.

I am grateful to Mr. Alain DRUMONT, a specialized research technician and collection manager of the Institut Royal des Sciences Naturelles de Belgique, Brussels, for kindly allowing me to examine PUTZEYS' syntypes. Hearty thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for reading the manuscript of this paper.

Carabus vanvolxemi PUTZEYS, 1875

[Japanese name: Hoso-akagané-osamushi]

(Figs. 1–2)

Carabus Van Volxemi PUTZEYS, 1875, Annls. Soc. ent. Belg., Bruxelles, **18**, p. 46; type locality: N. Nipon (=Nippon=Japan) dans la forêt entre Niko (=Nikkô [日光]) et le temple de Fiu-Sendji (=Chûzen-ji [中禅寺]), au bord du lac Takaï (=Lake Chûzenji-ko [中禅寺湖], probably).

Totally seven (2♂♂, 5♀♀) syntype specimens are now preserved in the Institut Royal des Sciences Naturelles de Belgique. Of these, I propose to designate a male as the lectotype of *Carabus vanvolxemi* as follows.

Lectotype (present designation): ♂, 22.0 mm in length (including mandibles) // Type // Syntype // *Carabus* / *Van Volxemi* PUTZ / Type / dét. J. PUTZEYS // cf. PUTZEYS, 1845 / Ann. Soc. Ent. Belg. / p. XLVI // Det. J. v. VOLXEM / Ex-Typis // Coll. R. I. Sc. N. B. / Japon: N. Nip.

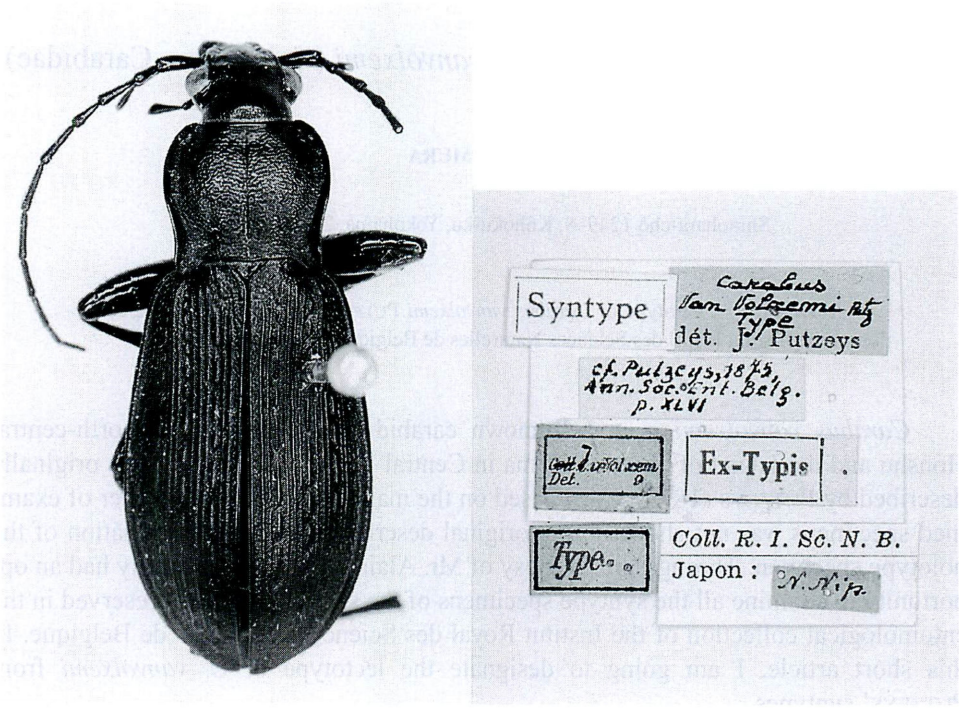

Fig. 1. Lectotype of *Carabus vanvolxemi* PUTZEYS and the attached labels, in coll. Institut Royal des Sciences Naturelles de Belgique.

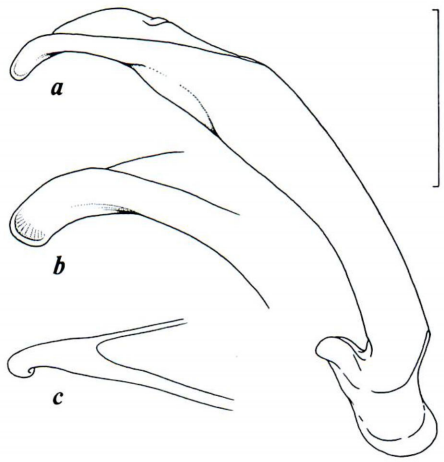

Fig. 2. Male genital organ of *Carabus vanvolxemi* (lectotype). —— a, Aedeagus in right lateral view; b, apical part of aedeagus in the same view; c, ditto in dorsal view. Scale: 2 mm for a; 1 mm for b & c.

Paralectotypes (1♂, 5♀♀; 19.1–23.4 mm in length): 1♂, 3♀♀, same data as for the lectotype; 2♀♀, // Syntype // *Carabus Van Volxemi* PUTZ / Type / dét. J. PUTZEYS // cf. PUTZEYS, 1845 / Ann. Soc. Ent. Belg. / p. XLVI // Det. J. v. VOLXEM // Coll. R. I. Sc. N. B. / Japon: N. Nip.

要　約

井村有希：ホソアカガネオサムシの後基準標本指定．—— ホソアカガネオサムシは，本州北東部と佐渡に分布する，よく知られた本邦特産種であるが，これまでその基準標本が調査されたことはなかった．筆者はさいきん，ベルギーの王立自然科学博物館に残されている本種の総基準標本を調べることができたので，そのうちの1♂を後基準標本に指定して，添付ラベルとともに写真で示し，あわせて同標本の♂交尾器所見も図示した．

Reference

PUTZEYS, J., 1875. Notice sur les Carabiques recueillis par M. Jean VAN VOLXEM à Ceylan, à Manille, en Chine et au Japon (1873–1874). *Annls. Soc. ent. Belg., Bruxelles*, **18**: 45–55.

Elytra, Tokyo, **32** (1): 3–4, May 31, 2004

An Isolated New Subspecies of *Ohomopterus yamato* (Coleoptera, Carabidae) Discovered from the Southeastern Part of the Kii Peninsula

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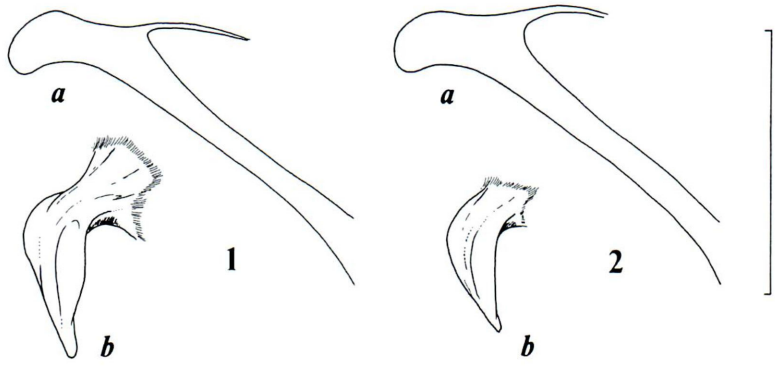
Ohomopterus yamato is distributed from central Kinki to western Chûbu of west-central Honshu in Central Japan. The southern border of its distribution is roughly defined by the depression formed by the Ki-no-kawa and Miya-gawa Rivers, and a greater part of the Kii Peninsula has been left as a wide distributional blank. It is at the southeastern part of the peninsula that a new discovery of the species was unexpectedly made by Mr. Takaharu KITA in the autumn of 2003.

The population of *O. yamato* from this new locality seems to be most closely allied to subsp. *kinkimontanus* IMURA et MIZUSAWA, but is evidently different from that race in both external and male genitalic features. In this short article, I am going to describe it as a new and the



Figs. 1–2. Male genital organ of *Ohomopterus yamato* subspp. —— 1, *O. y. kinkimontanus* from Mt. Yamato-katsuragi-san; 2, *O. y. kitai* from Mt. Nagao-yama. —— a, Apical part of aedeagus in right lateral view; b, digitulus in left subventral view. Scale: 1 mm.

sixth geographical race of the species.

I am much indebted to Mr. Takaharu KITA [喜多孝治] (Nara City) for kindly submitting his collection to me for taxonomic study.

Ohomopterus yamato kitai IMURA, subsp. nov.

[Japanese name: Kumano-yamato-osamushi]

(Fig. 2)

Length (including mandibles): ♂, 18.5–20.4 (arithmetic mean 19.4) mm; ♀, 19.6–21.5 (arithmetic mean 20.4) mm. Distinguished from subsp. *kinkimontanus* as follows: 1) size apparently smaller on an average, with relatively short elytra and longer antennae; 2) tibiae more strongly reddish; 3) pronotal disc more remarkably scabrous around basal foveae; 4) apical part of aedeagus shorter and robuster, and less strongly bent ventrad at the tip; 5) basal part of digitulus obviously shorter.

Type series. Holotype: ♂, southwestern slope of Mt. Nagao-yama [長尾山], 400–780 m in altitude, in Kumano City, southern part of Mié Prefecture, Central Japan, 19~25–X–2003, T. KITA leg., in coll. National Science Museum (Nat. Hist.), Tokyo. Paratypes: 12♂♂, 13♀♀, same collecting data as for the holotype, in colls. Y. IMURA and T. KITA.

Reference

IMURA, Y., & K. MIZUSAWA, 2002. Lectotype designation of *Ohomopterus yamato* (Coleoptera, Carabidae) with descriptions of four new subspecies. *Elytra, Tokyo*, **30**: 363–383.

Elytra, *Tokyo*, **32** (1): 5–13, May 31, 2004

Six New Taxa of the Subtribe Carabina (Coleoptera, Carabidae) from Sichuan, Southwest China

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Abstract Two new species and four new subspecies of the subtribe Carabina are described from Sichuan Province of Southwest China: *Archaeocarabus yunnanus enneadraconis* subsp. nov., *Neoplesius kangdingi geshizhanus* subsp. nov., *N. xiaodongi* sp. nov., *N. feicuipennis* sp. nov., *Megodontoides promachus wujiapeng* subsp. nov. and *Aristocarabus viridifossulatus sandaguensis* subsp. nov.

In the summer of 2001, a scientific investigation was made by the members of the Chinese Academy of Sciences, Beijing, and a series of carabid specimens were collected from the mountain regions of Sichuan Province in Southwest China. This is the first part of our study on these materials, and we are going to describe six new taxa of the subtribe Carabina on the basis of the morphological analysis. For the higher classification of the subtribe Carabina, we follow IMURA's system (2002 a) constructed mainly upon the molecular phylogeny. The abbreviations employed herein are the same as those explained in previous papers of the first author.

Before entering into the description, we wish to express our gratitude to Mr. Xiao-Dong YU for his collaboration in field works. Our deep appreciation is also due to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the manuscript of this paper.

This study is supported in part by State Key Basic Research and Development Plan (G2000046800), National Science Fund for Fostering Talents in Basic Research (NSFC–J0030092) and CAS Innovation Program (KSCX3–IOZ-01).

1. *Archaeocarabus yunnanus enneadraconis* subsp. nov.

(Fig. 1)

Description. Length: 22.3 mm (including mandibles). Most closely allied to subsp. *yanyuanicus* CAVAZZUTI described from Yanyuan of southwestern Sichuan, but differs from that race in the following points: 1) smaller in size; 2) vertex hardly punctate; 3) pronotum a little more transverse (PW/PL 1.35, while it is 1.25–1.26 in *yanyuanicus*), with the hind angles a little more sharply and triangularly protruded posteriad; 4) primary foveoles of elytra shallower; 5) striae between elytral intervals more vaguely impressed and hardly scattrered with punctures.

Holotype: ♀, mixed forest, 2,445 m in altitude, in southern Jiulong Xian [九龙县] of western Sichuan, Southwest China, 9～12–VII–2001, Xiao-Dong YU & Hong-Zhang ZHOU leg., in coll. Institute of Zoology, Chinese Academy of Sciences, Beijing.

Derivatio nominis. The name of this new subspecies comes from its locality, Jiulong, which means "nine dragons" in Chinese.

2. *Neoplesius kangdingi geshizhanus* subsp. nov.

(Figs. 2 & 9)

Description. Length: 22.2–26.3 mm (including mandibles). Differs from the nominotypical *kangdingi* (KORELL, KLEINFELD et GÖRGNER) from Kangding in the following points: 1) size a little smaller; 2) coloration of dorsal surface brighter, that of antennae, tibiae and tarsi more strongly reddish; 3) vertex more remarkably punctate; 4) pronotum quadrate and less strongly convergent towards the base; 5) secondary intervals of elytra apparently more reduced; 6) aedeagus a little slenderer, with the apical lobe longer and less strongly bent ventrad in lateral view.

Type series. Holotype: ♂, mixed forest, 2,610 m in altitude, Geshizha [革什扎] in central Danba Xian [丹巴县] of west-central Sichuan, Southwest China, 20～22–VII–2001, Xiao-Dong YU & Hong-Zhang ZHOU leg. Paratype: ♀, same data as for the holotype. All preserved in coll. Institute of Zoology, Chinese Academy of Sciences, Beijing.

Notes. A lower taxon *kangdingi* (KORELL, KLEINFELD & GÖRGNER, 1992, p. 372) was originally described as a subspecies of *Carabus* (*Eucarabus*) *lixianensis* DEUVE (1990, p. 160) (=*Neoplesius lixianensis* in the present sense). However, these two taxa should be regarded as two separate species in view of radically different configuration of the aedeagal apex. The present new race should also be compared with *N. morettoi* DEUVE described from Lianghekou between Barkam and Xiaojin, but the former is readily discriminated from the latter by differently shaped pronotum and aedeagus.

3. *Neoplesius xiaodongi* sp. nov.

(Figs. 3 & 7)

Description. Length: 21.3–24.7 mm (including mandibles). Medium-sized species for the genus with external and male genitalic features similar to those of *N. sinotibeticola* MANDL, but definitely differs from MANDL's species at least in configuration of mentum and aedeagus. Upper surface dark brownish to dark reddish coppery, bearing a greenish tinge on head, elytral margins and primary foveoles of elytra; venter and appendages blackish brown.

Head as in *N. sinotibeticola*, but macrocephaly is not remarkable; frontal furrows widely and rather deeply concave; frons strongly convex above and sparsely scattered with minute punctures; vertex and posterior parts of frontal furrows remarkably rugoso-punctate; retinaculum of mandible bidentate, with the anterior tooth shorter than the posterior on both sides; terminal segments of palpi not strongly dilated in male; penultimate segment of labial palpus bisetose; median tooth of mentum apparently longer than lateral lobes, with the apex sharply pointed in ventral view and gently bent ventrad in lateral view (Fig. 7 a–b), while it is much shorter than lateral lobes and not sharply pointed at the tip in *N. sinotibeticola*; submentum asetose; antennae reaching the basal sixth (female) to quarter (male) of elytra.

Pronotum also as in *N. sinotibeticola*, but front angles are more roundly arcuate, lateral sides are more remarkably convergent before hind angles which are a little more sharply protruded postero-laterally; disc more strongly convex above, with the surface not punctured and basal foveae a little more deeply impressed; two pairs of lateral setae inserted on both sides, one near the middle of pronotum and the other before hind angles; PW/HW 1.31, PW/PL 1.35, PW/PAW 1.62, PW/PBW 1.26, PBW/PAW 1.28 in the holotype specimen.

Elytra longer and slenderer than in *N. sinotibeticola*; EW/PW 1.50, EL/EW 1.83 in the holotype specimen; sculpture triploid heterodyname — primaries the widest, rather regularly segmented by small primary foveoles to form rows of weakly raised costae; secondaries much narrower than the primaries, forming longitudinally contiguous costae or rows of granules; tertiaries the weakest, indicated by irregularly set rows of granules of various sizes; elevated parts of each interval irregularly connected to one another to form reticular pattern at least partly.

Episterna and sides of sternites almost smooth, sternal sulci unrecognizable; metacoxa trisetose; basal four segments of male foretarsus dilated and haired on the ventral surface.

Male genitalia as shown in Fig. 7 c–e; aedeagus short and robust, similar in shape to that of *N. sinotibeticola*, but the median portion is much wider and the apical portion is a little less strongly bent ventrad in lateral view, and the apex is much wider and less sharply pointed at the tip in dorsal view. It was impossible to take a findings of endophallus, since a single male specimen available for study had been immersed into ethanol and lost a flexibility of the membraneous part.

Type series. Holotype: ♂, shrubs of *Salix* spp. near the river, 3,825 m in altitude, in northern Jiulong Xian of western Sichuan, Southwest China, 11～14–VII–2001, Xiao-Dong YU & Hong-Zhang ZHOU leg. Paratypes: 1 ♀, same data as for the holotype; 1 ♀, forest of *Abies* sp., 3,865 m in altitude, in northern Jiulong Xian, same collecting date and collectors as for the holotype. All preserved in coll. Institute of Zoology, Chinese Academy of Sciences, Beijing.

Notes. The new species should also be compared with *N. chomae* IMURA of southeastern Jiulong Xian, but the former is readily discriminated from the latter by much shorter median tooth of the mentum, much smaller and less remarkably rugulose pronotum, differently shaped elytra and aedeagus, etc.

Derivatio nominis. The present new species is named after Mr. Xiao-Dong YU [于晓东] who assisted the second author in the field.

4. *Neoplesius feicuipennis* sp. nov.

(Figs. 4 & 8)

Description. Length: 20.0 mm (including mandibles). Upper surface jade green, bearing a reddish coppery tinge on head, pronotum and a part of elytra; venter and appendages blackish brown.

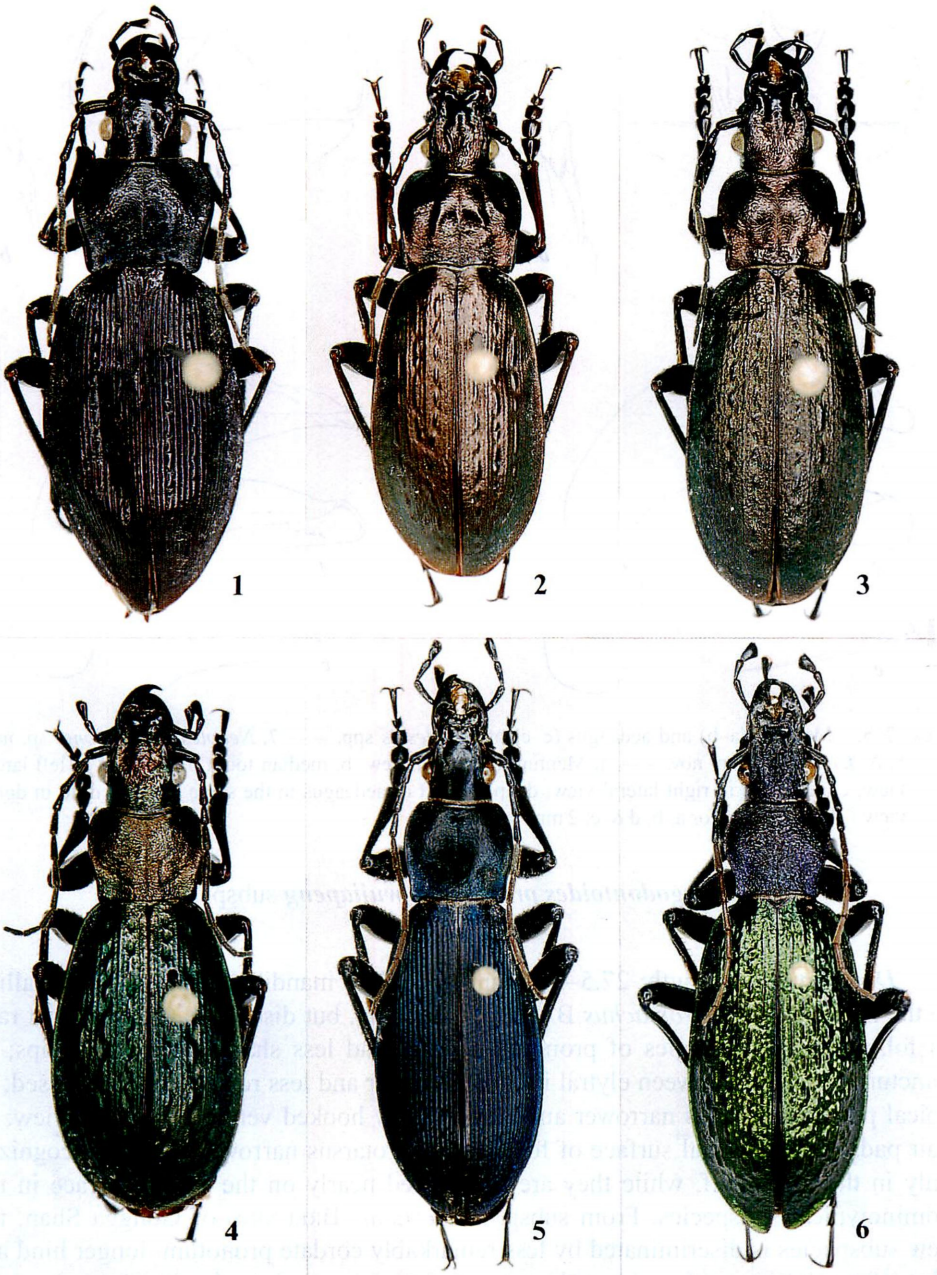
Closely allied to *N. xiaodongi*, but readily discriminated from that species in the following respects: 1) median tooth of mentum apparently shorter than lateral lobes, with the apex triangularly shaped but not sharply pointed at tip in ventral view and not bent ventrad in lateral view (Fig. 8 a–b); 2) pronotum with the lateral sides less strongly sinuate and the hind angles a little more obtusely rounded at tips; 3) pronotal disc less strongly convex above, with the surface more remarkably rugulose; 4) elytra much shorter and robuster and widest apparently behind the middle; 5) primary foveoles of elytra larger and deeper; 6) elevated parts of secondary and tertiary intervals less frequently contiguous to one another; 7) aedeagus a little shorter and slenderer, less strongly bent ventrad near the apex, with the apical lobe remarkably compressed right laterad and more narrowly elongate in dorsal view.

From *N. sinotibeticola*, the new species is distinguished by less hypertrophic head, more strongly protruded median tooth of mentum, robuster median portion of aedeagus and less strongly bent aedeagal apex.

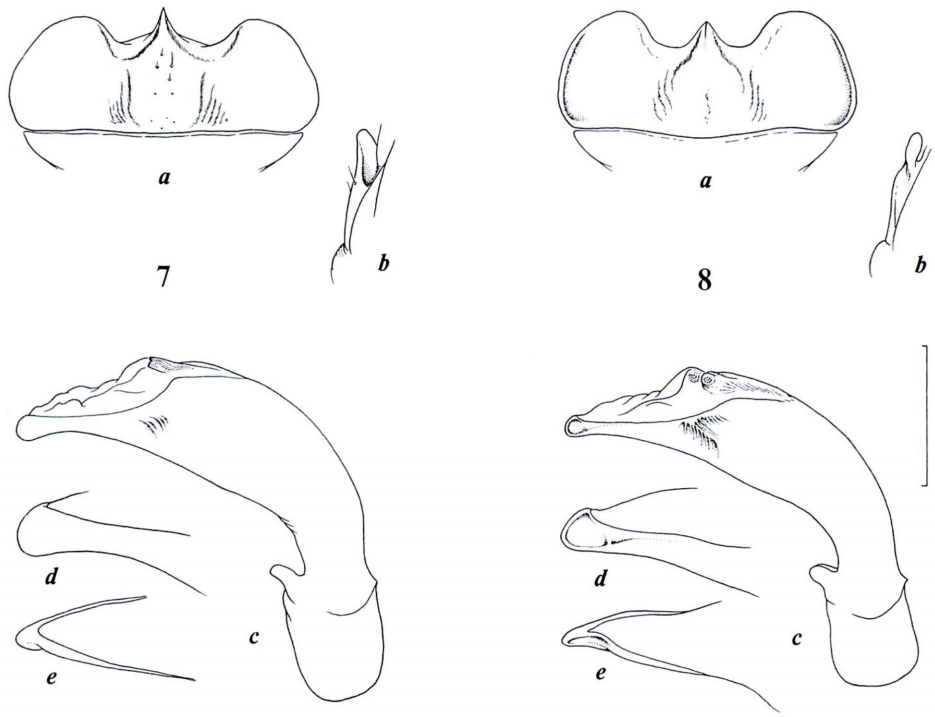
Readily discriminated from *N. chomae* by smaller pronotum, differently shaped elytra and aedeagus, etc.

Holotype: ♂, shrubs of *Rhododendron* spp., 4,135 m in altitude, in southwestern Jiulong Xian of western Sichuan, Southwest China, 10～13–VII–2001, Xiao-Dong YU & Hong-Zhang ZHOU leg., in coll. Institute of Zoology, Chinese Academy of Sciences, Beijing.

Derivatio nominis. This new species is named after its elytral coloration, "Feicui [翡翠]" or "Feicuilü [翡翠绿]", which means jade green in Chinese.



Figs. 1–6. Holotypes of newly described taxa from Sichuan, Southwest China. —— 1, *Archaeocarabus yunnanus enneadraconis* subsp. nov.; 2, *Neoplesius kangdingi geshizhanus* subsp. nov.; 3, *N. xiaodongi* sp. nov.; 4, *N. feicuipennis* sp. nov.; 5, *Megodontoides promachus wujiapeng* subsp. nov.; 6, *Aristocarabus viridifossulatus sandaguensis* subsp. nov.



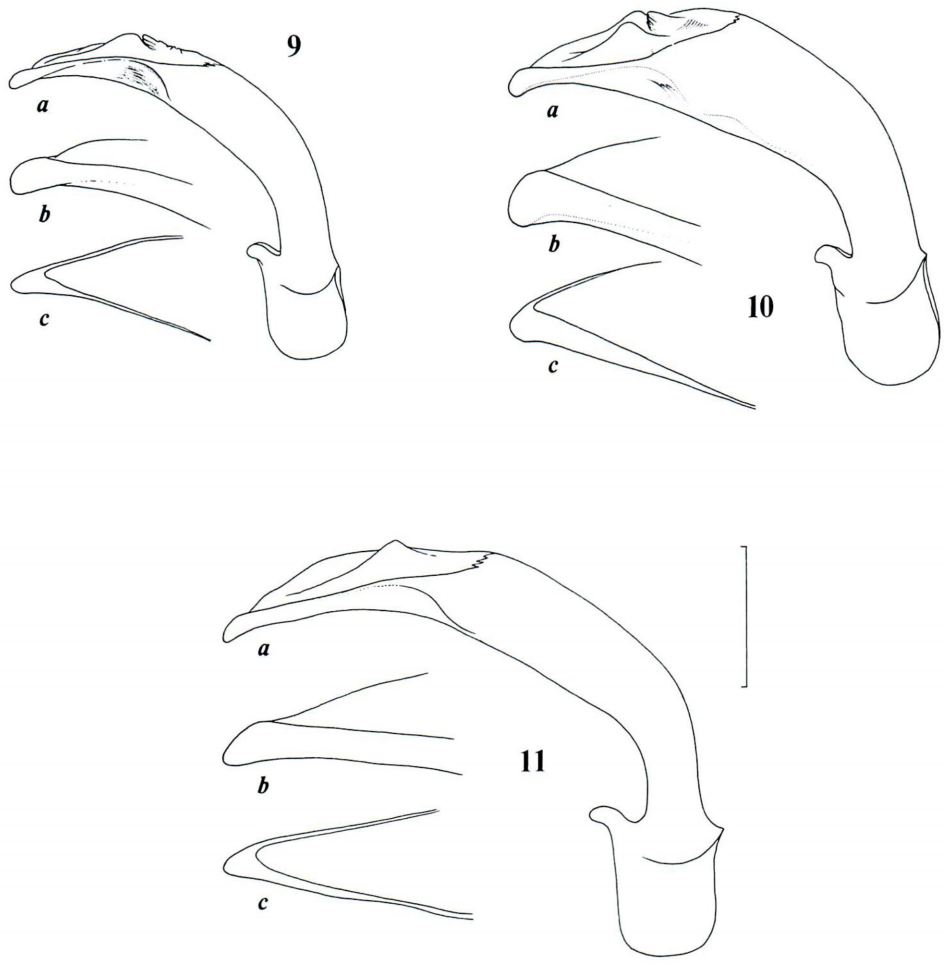
Figs. 7–8. Mentum (a–b) and aedeagus (c–e) of *Neoplesius* spp. —— 7, *Neoplesius xiaodongi* sp. nov.; 8, *N. feicuipennis* sp. nov. —— a, Mentum in ventral view; b, median tooth of mentum in left lateral view; c, aedeagus in right lateral view; d, apical part of aedeagus in the same view; e, ditto in dorsal view. Scale: 1 mm for a, b, d & e; 2 mm for c.

5. *Megodontoides promachus wujiapeng* subsp. nov.

(Figs. 5 & 10)

Description. Length: 27.5–32.4 mm (including mandibles). Most closely allied to the nominotypical *promachus* BATES of Kangding, but discriminated from that race as follows: 1) hind angles of pronotum shorter and less sharply pointed at tips; 2) punctures on striae between elytral intervals smaller and less remarkably impressed; 3) apical part of aedeagus narrower and less strongly hooked ventrad in lateral view; 4) hair pads on the ventral surface of fourth male protarsus narrower in area, recognized only in the inner half, while they are recognized nearly on the whole surface in the nominotypical subspecies. From subsp. *konkerianus* BREUNING of Gongga Shan, the new subspecies is discriminated by less remarkably cordate pronotum, longer hind angles of pronotum, wider elevated parts of elytral intervals, robuster aedeagus with wider apical lobe and narrower ventral hair pads of fourth male protarsus.

Type series. Holotype: ♂, mixed forest, 2,320 m in altitude, Wujiapeng [五家棚] in southwestrn Danba Xian of west-central Sichuan, Southwest China, 19～21–VII–



Figs. 9–11. Aedeagus of newly described taxa from Sichuan, Southwest China. —— 9, *Neoplesius kangdingi geshizhanus* subsp. nov.; 10, *Megodontoides promachus wujiapeng* subsp. nov.; 11, *Aristocarabus viridifossulatus sandaguensis* subsp. nov. —— a, Aedeagus in right lateral view; b, apical part of aedeagus in the same view; c, ditto in dorsal view. Scale: 1 mm for b & c; 2 mm for a.

2001, Xiao-Dong Yu & Hong-Zhang Zhou leg. Paratypes: 1♀, same data as for the holotype; 1♂, mixed forest, 2,620 m in altitude, Wujiapeng, same date and collectors. All preserved in coll. Institute of Zoology, Chinese Academy of Sciences, Beijing.

6. ***Aristocarabus viridifossulatus sandaguensis*** subsp. nov.

(Figs. 6 & 11)

Description. Length: 34.0 mm (including mandibles). Allied to such subspecies

as *romanowi* SEMENOW, *rizeanus* IMURA et SU and *lamaorum* DEUVE of northern Sichuan, but differs from them as follows: 1) obviously larger in size; 2) elytral colour a little brighter; 3) pronotum larger, with the hind angles less sharply pointed at tips; 4) two pairs of elytral setae inserted on both sides, one near the widest part and the other before hind angles; 5) elytral shoulders a little more prominent; 6) elevated parts of elytral intervals much more reduced; 7) apical lobe of aedeagus much wider in both lateral and dorsal views. From subsp. *seticollis* DEUVE et MOURZINE[1] of Lixian and Wenchuan, the new race is distinguished by larger size, wider pronotum, different number of pronotal marginal setae and longer elytra with more prominent shoulders.

Holotype: ♂, mixed forest, 2,875 m in altitude, Sandagu [上打古] in northwestern Heishui Xian [黑水县] of northern Sichuan, Southwest China, 24～26–VII–2001, Xiao-Dong YU & Hong-Zhang ZHOU leg., in coll. Institute of Zoology, Chinese Academy of Sciences, Beijing.

Notes. *Aristocarabus viridifossulatus* FAIRMAIRE is divided into two major subspecies groups, that is, the group of the nominotypical *viridifossulatus* and that of subsp. *romanowi*. The present new race apparently belongs to the latter in view of the external morphology. From the genitalic morphology, however, it seems to show a closer affinity to the former group.

要　　約

井村有希・周　红章・蘇　智慧：中国四川省におけるオサムシ亜族の6新分類単位．——2001年の夏に行われた中国科学院の学術調査で得られたオサムシ類を検した結果，四川省の九龙县，丹巴县および黒水县から2新種と4新亜種を見いだすことができたので，それぞれに新名を与え，記載した．

References

BATES, H. W., 1891. Coleoptera collected by Mr. PRATT on the upper Yang-tsze, and on the borders of Tibet. Second notice. Journey of 1890. *The Entomologist, Suppl.*, **1891**: 69–85.

BREUNING, S., 1969. Description d'une nouvelle race du genre *Carabus* d'Espagne et d'une nouvelle espece de Chine (Col. Carabidae). *Bull. Soc. ent. Mulhouse*, **1969**: 60.

CAZAZZUTI, P., 1996. Quarto contributo alla conoscenza dei *Carabus* L. della Cina. Nuove specie e sottospecie appartenenti ai sottogeneri *Archaeocarabus* SEMENOV, *Rhigocarabus* REITTER e *Pseudocoptolabrus* REITTER, del Sichuan meridionale (Coleoptera, Carabidae). *Lambillionea*, *Tervuren*, (96): 226–234.

DEUVE, Th., 1990. Description d'un nouveau *Carabus* du Sichuan (Col., Carabidae). *Bull. Soc. ent. Fr.*, **95**: 160.

——— 1997. Nouveaux *Carabus* et *Cychrus* du Sichuan et du Yunnan, Chine (Coleoptera, Carabidae). *Coléoptères, Guyancourt*, **3**: 1–11.

1) This taxon was described in the paper written under a joint authorship of DEUVE and TIAN, not that of DEUVE and MOURZINE. In the same paper were described six new taxa; four by DEUVE and TIAN but the remaining two including *seticollis* by DEUVE and MOURZINE.

DEUVE, Th., & M. TIAN, 2000. Nouveaux *Carabus* L. et *Cychrus* F. de Chine (Coleoptera, Carabidae). *Ibid.*, **6**: 47–54.

FAIRMAIRE, L., 1887. Coléoptères de l'intérieur de la Chine. *Annls. Soc. ent. Belg.*, **31**: 87–136.

IMURA, Y., 2002 a. Classification of the subtribe Carabina (Coleoptera, Carabidae) based on molecular phylogeny. *Elytra, Tokyo*, **30**: 1–28.

——— 2002 b. Contribution to the knowledge of the carabid fauna (Coleoptera, Carabidae) of Kangding Xian and Jiulong Xian in western Sichuan, China. *Ibid.*, **30**: 29–37.

——— & Z.-H. SU, 1998. Two new subspecies of the genus *Carabus* (s. lat.) (Coleoptera, Carabidae) from northern Sichuan, China. *Ibid.*, **26**: 249–255.

KORELL, A., F. KLEINFELD & E. GÖRGNER, 1992. Beschreibung des *Carabus* (*Eucarabus*) *lixianensis kangdingi* n. subsp. (Coleoptera: Carabidae). *Ent. Z., Essen*, **102**: 371–375.

MANDL, K., 1975. Neue *Carabus*-Arten aus China (Col. Carabidae). *Ent. Arb. Mus. Frey, Tutzing*, **26**: 278–291.

SEMENOW, A., 1896. Symbolae ad cognitionen generis *Carabus* (L.) A. MOR. I. Formarum novarum decas I et II. *Horae Soc. ent. ross.*, **30**: 193–229.

Elytra, Tokyo, **32** (1): 13–14, May 31, 2004

Records of Two Pselaphine Species (Coleoptera, Staphylinidae, Pselaphinae) from Vietnam and Myanmar

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Through the courtesy of Mr. Yoshiyasu KUSAKABE, I had an opportunity to examine more than 300 pselaphine specimens collected from Myanmar mainly by light traps. I was able to find the following two species and will record them from Myanmar for the first time. These two species are already recorded by JEANNEL (1952) from South Vietnam (Saïgon). Recent records of *Raphitreus dentimanus* from Vietnam are also added with a note on its type locality after examination of the syntypes preserved in MNHN, Paris.

Before going further, I wish to express my hearty thanks to Mr. Y. KUSAKABE for his kind offer of the invaluable materials. My cordial thanks are also due to Dr. Olivier MONTREUIL of the Muséum National d'Histoire Naturelle, Paris (MNHN), for giving me an opportunity to examine the type specimens in RAFFRAY's Collection. My field work in Vietnam is supported by the Grants-in-aid No. 13575015 for Field Research of the Monbukagakusho International Research Program, Japan.

Euplectodina hipposideros (SCHAUFUSS, 1877)

Specimens examined. [Myanmar] 1♀, Shwe Hninsi, by light trap, Mayangon T/S, Yangon, V–2001, Y. KUSAKABE leg.; 3♂, 2♀, same data as above, but VI~VII–2001; 1♂, same data as above, but IV~V–2002; 1♂, same data as above, but V–2003; 3♂, 2♀, same data as above, but XI–2003.

Distribution. Thailand, Vietnam, Myanmar, Java, Sumatra.

Raphitreus dentimanus RAFFRAY, 1890

Type material examined. Syntype ♂, preserved in MNHN, Paris. Label information: (red square label) / Lien-Son Tonkin 5. 87 / Muséum Paris 1917, Coll. A. Raffray / TYPE (red label) / R. dentimanus A. Raffray det. The type locality of the other syntypes (4 exs.) without red label was "Tonkin, Annam".

Specimens examined. [Myanmar] 1♂, 2♀, Shwe Hninsi, by light trap, Mayangon T/S, Yangon, IV~V–2002, Y. KUSAKABE leg.; 1♂, 1♀, same data as above, but XI–2003. [Vietnam] 3♀, Cuc Phuong, 150 m alt., by light trap, Ninh Binh Prov., 13–VI–2002, S. NOMURA leg.

Distribution. Vietnam, Myanmar, Singapore.

Remarks. In the original description by RAFFRAY (1890), the type locality is shown as "Annam, bords du Sôn", the latter part of which has not been clarified. After the examination of the red-labelled syntype, the locality, "Lien-Son, Tonkin" in the collection label is considered to be "Hoa Lien Son" meaning the area around Sa Pa, Lao Cai Province in North Vietnam.

References

JEANNEL, R., 1952. Psélaphides de Saïgon. *Revue fr. Ent.*, **19**: 69–112.

RAFFRAY, A., 1890. Étude sur les Psélaphides. *Revue Ent., Caen*, **9**: 1–219.

Elytra, *Tokyo*, **32** (1): 15–21, May 31, 2004

A New *Guizhaphaenops* (Coleoptera, Trechinae) from Western Guizhou, South China

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Abstract A new cave species of the trechine genus *Guizhaphaenops* is described from Zhijin Xian in western Guizhou, South China, under the name of *G.* (s. str.) *zhijinensis*. It is closely related to *G. striatus* S. UÉNO, but is readily recognized on its elongate elytra with less prominent humeral angles. It usually coexists with *Zhijinaphaenops*, though evidently less differentiated than the members of the latter genus.

Describing an aphaenopsoid trechine genus with three species from Zhijin Xian in western Guizhou, we have noticed that the members of this remarkable genus, named *Zhijinaphaenops*, usually occur in coexistence with a *Guizhaphaenops* in the same limited habitats, and that the former became more profoundly differentiated than the latter which could be regarded as a later immigrant (cf. UÉNO & RAN, 2002, pp. 47–48, etc.). We are going to describe the new *Guizhaphaenops* in the present paper under the name of *G.* (s. str.) *zhijinensis*.

This new species is closely related to *G. striatus* S. UÉNO (2000, pp. 251, 255, figs. 6–7, 10) from Duolin Dong Cave, which is about 63 km distant to the south-southwest in a beeline from Chengguan, the centre of the distributional area of *G. zhijinensis*, but is readily distinguished from it by the different configuration of the elytra. Like the other known species of the subgenus *Guizhaphaenops*, it is incredibly variable, not only in size but also in many other points including the elytral chaetotaxy. The smallest specimen of the type series is only three-fourths of the largest one in body length, and appears specifically different from the latter. The prothorax is variable to some extent in configuration, above all in the shape of hind angles. The anterior dorsal pore on the third elytral stria is either present or absent, or present only on one

side; even if present, it usually bears a degenerated seta much shorter than the posterior one though sometimes bearing a fully developed seta and often lacking in it. The male genitalia are also variable in length, thickness and other minor details. Besides, all these variations are not geographical but individual, so that they cannot be used for recognizing subspecies. In the present paper, therefore, we are going to regard all the specimens from five different caves as belonging to a single variable species not classified into two or more geographical races. The only exception is a single female from Zhijin Dong Cave, which may be discriminated as a subspecies or even as a separate species when adequate material is available by future investigations (cf. *Notes* following the description of the new species).

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

Before going further, we wish to express our heartfelt thanks to Mr. FAN Ting of the Academia Sinica and the authorities of Zhijin Xian for their kind support of our field investigations made in the Zhijin area.

Guizhaphaenops (s. str.) ***zhijinensis*** S. UÉNO et RAN, sp. nov.

(Figs. 1–3)

Length: 5.80–8.00 mm (from apical margin of clypeus to apices of elytra); 6.45–8.85 mm (including mandibles).

Closely similar to *G. striatus* S. UÉNO, with which it agrees in most important features, but the elytra are more elongate on an average, with more obtuse humeral angles and less ample basal parts. Colour and microsculpture as in *G. striatus*.

Head as in *G. striatus*, similarly devoid of the posterior pair of supraorbital setae; HL/HW 1.18–1.34 (M 1.26), HL/PL 0.86–0.97 (M 0.91); antennae variable in length, usually reaching apical third of elytra, sometimes reaching only apical two-fifths of elytra, especially in females. Prothorax as in *G. striatus* though usually a little more contracted at base, widest at about middle or a little before that level; PW/HW 1.30–1.38 (M 1.34), PW/PL 0.92–1.00 (M 0.97), PW/PA ca. 1.58–1.78 (M ca.1.70), PW/PB ca. 1.67–1.86 (M ca. 1.74), PB/PA ca. 0.92–1.04 (M ca. 0.98); front angles usually distinct though small; hind angles usually marked though very obtuse, sometimes completely rounded off; base briefly and very slightly emarginate on each side inside hind angle when the latter is distinctly marked; postangular pair of marginal setae missing.

Elytra relatively elongate, widest at about middle, and a little more gradually narrowed towards bases than towards apices; EW/PW 1.71–1.92 (M 1.81), EL/PL 2.84–3.13 (M 2.98), EL/EW 1.60–1.81 (M 1.70); humeral angles very obtuse, almost rounded; prehumeral borders nearly straight and moderately oblique; humeral margins almost invisibly serrulate and vestigially ciliated; sides nearly straight behind shoul-

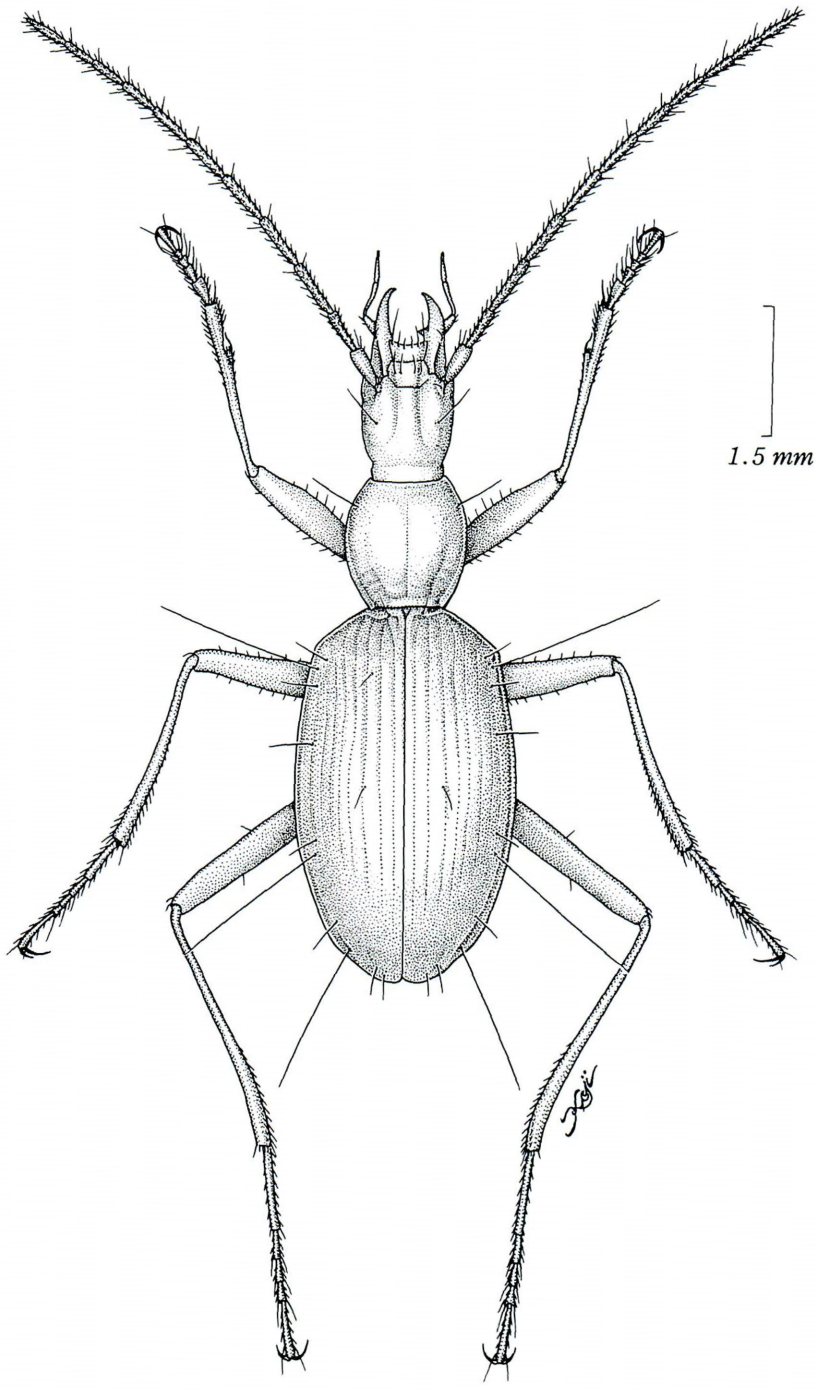
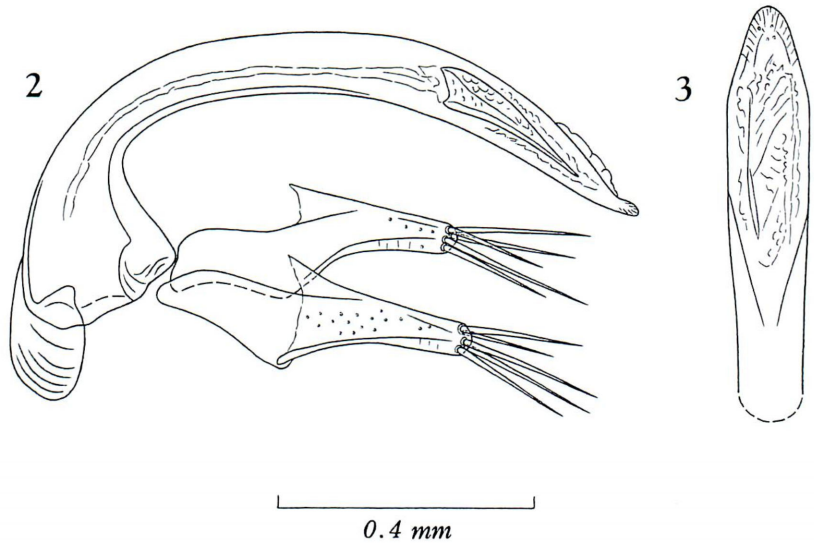


Fig. 1. *Guizhaphaenops* (s. str.) *zhijinensis* S. UÉNO et RAN, sp. nov., ♂, from Wanke Dong Cave at Houchang.



Figs. 2–3. Male genitalia of *Guizhaphaenops* (s. str.) *zhijinensis* S. UÉNO et RAN, sp. nov., from Wanke Dong Cave at Houchang; left lateral view (2), and apical part of aedeagus, dorso-apical view (3).

ders, then feebly arcuate, and rather abruptly rounded at apices, which are either conjointly curved or forming a small obtuse re-entrant angle at suture; striae superficial though nearly entire, shallower than in *G. striatus*, indistinctly crenulate, becoming nearly obsolete at the sides and in apical areas; scutellar striole evanescent; apical striole rudimentary; stria 3 originally with two setiferous dorsal pores at 1/7–1/6 and 2/5–1/2 from base, respectively; in a male paratype, an extra setiferous pore present on the left elytron between the normal anterior and posterior pores; posterior dorsal pore always setiferous and ordinarily developed; anterior dorsal pore variable, either present or absent, or present only on one side, usually setiferous if present, though quite variable in the development of setae and sometimes lacking in it; preapical pore always absent.

Ventral surface and legs as in *G. striatus*, though the pubescence on ventrites is rather sparse on apical and penultimate ones.

Male genital organ very small and lightly sclerotized, markedly different from that of *G. striatus* in the slenderer apical part, strongly bent basal part, and acicular apical part of copulatory piece. Aedeagus only one-fifth as long as elytra in medium-sized individuals, proportionally a little larger than that in small individuals, very slender, regularly arcuate, and nearly parallel-sided in profile, with large basal part and short apical lobe; basal part ventrally dilated in profile, with small basal orifice and large protrudent sagittal aileron; viewed laterally, apical part gradually tapered to apical lobe, which is short, gently reflexed, and blunt at the extremity; viewed dorsally, apical part

narrowly rounded at the extremity; ventral margin widely and evenly emarginate in profile. Copulatory piece about one-fourth as long as aedeagus, narrow, acuminate, and forming acicular apical part. Styles short, with relatively narrow apical parts, each bearing four or five apical setae.

Type series. Holotype: ♂, allotype: ♀, paratypes: 9♂♂, 4♀♀ (incl. 1 teneral ♀), 15–X–2002, S. UÉNO leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Limestone cave called Wanke Dong (formerly called Aoke Dong), 1,740 m in altitude, at Houchang Cun of Santang Zhen in Zhijin Xian, western Guizhou, South China.

Further specimens examined. 4♂♂, Ganlao Dong Cave, 1,610 m alt., Houchang Cun, Santang Zhen, Zhijin Xian, 15–X–2002, S. UÉNO & J. RAN leg.; 7♂♂, 1♀ (incl. 1 teneral ♂), Dahei Dong Cave, 1,530 m alt., Mawozhai Cun, Houzhai Xiang, Zhijin Xian, 15–X–2002, S. UÉNO & J. RAN leg.; 7♂♂, 2♀♀ (incl. 1 teneral ♂), Shepayan Dong Cave, 1,370 m alt., Hehua Cun, Chengguan Zhen, Zhijin Xian, 13–X–2002, S. UÉNO & J. RAN leg.; 1♂, Lianhua Dong Cave, 1,330 m alt., Xingxiu Cun, Chengguan Zhen, Zhijin Xian, 13–X–2002, S. UÉNO leg.; 1♀, Zhijin Dong Cave, 1,310 m alt., Guandu Cun, Babu Zhen (now called Guanzhai Cun of Guanzhai Xiang), Zhijin Xian, 19–VII–1996, LI Dao Hong leg. All in NSMT.

Notes. This new species has so far been known from six caves in Zhijin Xian, three of them (Wanke Dong, Ganlao Dong and Dahei Dong) lying in the Santang area at the southwestern part, two (Shepayan Dong and Lianhua Dong) in the Chengguan area at the central part, and one (Zhijin Dong) in the Babu area at the northern part. Specimens from the first five caves are generally similar in their morphology, and the ranges of their variations largely overlap one another. Ranges of their body lengths and standard ratios of their body parts are as follows:

〈Ganlao Dong Cave〉 Body length: 6.70–7.65 mm [7.40–8.50 mm incl. mandibles], HL/HW 1.24–1.29 (M 1.27), HL/PL 0.86–0.93 (M 0.89), PW/HW 1.32–1.39 (M 1.35), PW/PL 0.93–0.97 (M 0.94), PW/PA ca. 1.68–1.79 (M ca. 1.74), PW/PB ca. 1.69–1.77 (M ca. 1.74), PB/PA ca. 0.96–1.05 (M ca. 1.00), EW/PW 1.81–1.85 (M 1.84), EL/PL 2.83–2.96 (M 2.89), EL/EW 1.64–1.71 (M 1.67).

〈Dahei Dong Cave〉 Body length: 6.35–7.70 mm [7.05–8.50 mm incl. mandibles], HL/HW 1.24–1.36 (M 1.30), HL/PL 0.88–0.94 (M 0.91), PW/HW 1.32–1.44 (M 1.37), PW/PL 0.93–1.02 (M 0.96), PW/PA ca. 1.67–1.81 (M ca. 1.73), PW/PB ca. 1.78–2.00 (M ca. 1.85), PB/PA ca. 0.87–1.00 (M ca. 0.93), EW/PW 1.71–1.86 (M 1.80), EL/PL 2.87–3.01 (M 2.93), EL/EW 1.65–1.72 (M 1.69).

〈Shepayan Dong Cave〉 Body length: 6.40–7.60 mm [7.05–8.30 mm incl. mandibles], HL/HW 1.17–1.37 (M 1.27), HL/PL 0.82–0.98 (M 0.89), PW/HW 1.29–1.38 (M 1.35), PW/PL 0.91–1.02 (M 0.95), PW/PA ca. 1.57–1.73 (M ca. 1.67), PW/PB ca. 1.60–1.76 (M ca. 1.68), PB/PA ca. 0.96–1.05 (M ca. 1.00), EW/PW

1.74–1.85 (M 1.79), EL/PL 2.76–3.05 (M 2.87), EL/EW 1.68–1.74 (M 1.70).

〈Lianhua Dong Cave〉 Body length: 6.55 mm [7.20 mm incl. mandibles], HL/HW 1.20, HL/PL 0.85, PW/HW 1.40, PW/PL 0.99, PW/PA ca. 1.70, PW/PB ca. 1.71, PB/PA ca. 0.99, EW/PW 1.69, EL/PL 2.88, EL/EW 1.72.

As is readily understood from the above list, the Dahei Dong specimens are prominent in the exceptionally high PW/PB value. This is mainly due to reduction of the pronotal hind angles, which are usually rounded off. In a small male, the estimated width of the pronotal base attains merely to a half of that of the widest part. On the other hand, the aedeagus is a little shorter with smaller basal part in the specimens from the Chengguan area (Shepayan Dong and Lianhua Dong Caves) than in the type series. Incidentally, Shepayan Dong Cave, which was not described in our 2002 paper, lies between Ziyan Dong and Xiaoyao Dong Caves, both of which harbour *Zhijinaphaenops pubescens* but no *Guizhaphaenops*. It is a sink swallowing the water of a short surface stream. *Guizhaphaenops* was found at the bottom, from beneath a heap of muddy stones and vegetable debris washed in from the outside.

What is of special interest is a female specimen taken in Zhijin Dong Cave. Having been preserved long in spiritus, it is discoloured and wholly darkened, and besides, the elytra are partially crushed. However, it differs from all the other specimens of *G. zhijinensis* in the narrow prothorax which is widest at three-fifths from base and has the sides almost straight in basal fourth. Standard ratios of body parts are: HL/HW 1.18, HL/PL 0.84, PW/HW 1.21, PW/PL 0.86, PW/PA 1.48, PW/PB 1.63, PB/PA 0.91, EW/PW 1.99, EL/PL 2.84, EL/EW 1.66. The body measures 7.35 mm from the apical margin of clypeus to the apices of elytra, and 7.95 mm including mandibles, and the antennae are relatively short, only reaching apical two-fifths of elytra. It is therefore most probable that the Zhijin Dong population of *Guizhaphaenops* belongs to a subspecies of its own or a species independent of *G. zhijinensis*. Unfortunately, however, we failed in obtaining fresh material of this *Guizhaphaenops* in Zhijin Dong and nearby caves, and prefer to leave the final determination of its systematic status for future investigations.

要　　約

上野俊一・冉　景丞：中国貴州省の西部で発見された *Guizhaphaenops* 属チビゴミムシの1新種．—— 中国貴州省の西部，织金县の石灰洞6ヵ所から，*Guizhaphaenops* 属のチビゴミムシの1新種を記載し，これに *Guizhaphaenops zhijinensis* S. UÉNO et RAN という新名を与えた．この種は，同所的に分布する *Zhijinaphaenops* 属のメクラチビゴミムシ類に比べて種分化の程度が低く，しかも種内の変異はいちじるしい．おそらく *Zhijinaphaenops* よりあとから织金县付近に分布を拡げてきて比較的，新しい時代に定着したものだろう．

References

UÉNO, S.-I., 2000. Notes on *Guizhaphaenops* (Coleoptera, Trechinae), with descriptions of two new species. *Elytra, Tokyo,* **28**: 247–264.

——— & J. RAN, 2002. A new genus with three new species of aphaenopsoid trechine beetles (Coleoptera, Trechinae) from western Guizhou, South China. *J. speleol. Soc. Japan*, **27**: 42–59.

VIGNA TAGLIANTI, A., 1997. A new genus and species of troglobitic Trechinae (Coleoptera, Carabidae) from southern China. *Int. J. Speleol.*, **25** [for 1996]: 33–41.

Elytra, Tokyo, **32** (1): 21–22, May 31, 2004

A New Record of *Aesalus satoi* (Coleoptera, Lucanidae) from Vietnam

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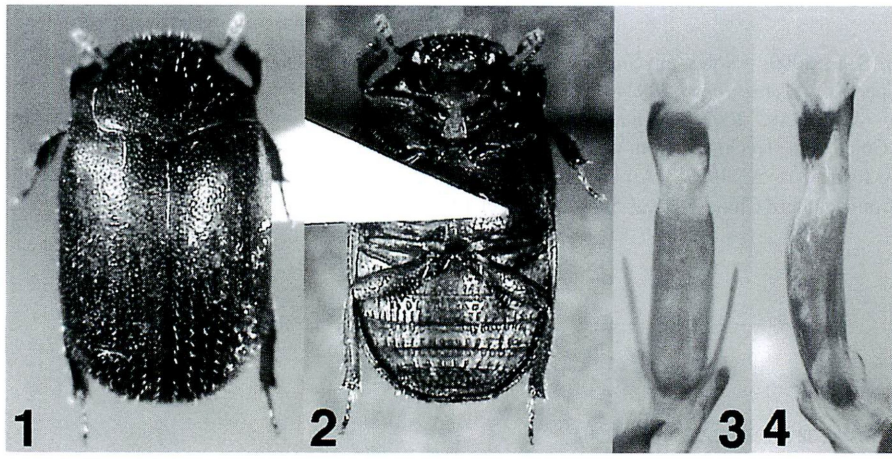
As the first record of the lucanid genus *Aesalus* from the Indochina Region, *Aesalus satoi* was originally described based on the specimens collected on Mt. Pan, northeastern Laos (ARAYA & YOSHITOMI, 2003), but no additional specimens have been recorded since then. Recently, during a second expedition of a joint party of Japanese and Vietnamese entomologists, made in 2002, the second author collected an additional male of this species in Lao Cai Province of North Vietnam. Here, we will report the new record of this interesting lucanid beetle from Vietnam. In the following description, PEL denotes pronotum–elytra length, and EW elytra width.

Specimen examined. 1♂, Deo Tram Ton, near Sa Pa, Lao Cai Prov., N.-Vietnam, 21–VI–2002, S. NOMURA leg.

Notes. The present Vietnamese material was captured by a light-trap set on the pass at about 1,850 m in altitude, whose surroundings were grassland with shrubbery, and steep slopes were covered with an evergreen broad-leaved forest. It was cloudy with occasional drizzle during the light-trapping, and the individual flew to light between 20 and 21 o'clock. These facts indicate that this species is an active nocturnal flier. The Vietnamese individual is almost identical with the type specimens from Laos in both the external and genitalic morphologies (Figs.



Figs. 1–2. *Aesalus satoi* from North Vietnam.
Figs. 3–4. Genital organs of Vietnamese *A. satoi* observed in 70% ethanol after treated with weak solution of potassium hydroxide.

1–4), though the body of the former is somewhat wider (PEL: 4.5 mm; EW/PEL: 0.62) than those of the latter (PEL♂: 4.2–4.6, $\bar{x}$=4.5; EW/PEL♂: 0.57–0.59, $\bar{x}$=0.58).

The second author thanks VU Quang Con and TA Huy Thinh, Institute of Ecology and Biological Resources, Hanoi, Vietnam, for their kind assistance in the field works. This study was supported by the Grants-in-aid for Field Research from the Monbukagakusho International Research Program, Japan (No.13575015 to SN, and No. 14405013 to KA).

Reference

ARAYA, K., & H. YOSHITOMI, 2003. Discovery of the lucanid genus *Aesalus* (Coleoptera) in the Indochina Region, with description of a new species. *Spec. Bull. Jpn. Soc. Coleopterol., Tokyo*, (6): 189–199.

Elytra, *Tokyo*, **32** (1): 23–27, May 31, 2004

A New *Stygiotrechus* (Coleoptera, Trechinae) from near the Northern End of the Daikô Mountains in the Kii Peninsula, Central Japan

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Abstract A new species of the trechine genus *Stygiotrechus* is described from Mt. Azami-dake at the northern end of the Daikô Mountains in the Kii Peninsula under the name *S. azami* ASHIDA et K. KITAYAMA, sp. nov. This is at present the easternmost known species of the genus and its type locality is about 40 km distant to the west from the distributional range of *Kurasawatrechus*.

The trechine genus *Stygiotrechus* is mainly distributed in the Inner Belt of the western Japan. The Kii Peninsula, the easternmost distributional area of the genus, is divided into the Inner and Outer Belts by the Median Tectonic Zone located along the Ki-no-kawa/Kushida-gawa line. From the northern side of this zone, three species belonging to the *ohtanii* group, *S. ohtanii*, *S. kadanus* and *S. itoi*, were described, and they are restricted to the northwestern part of the peninsula, namely the Izumi and Ikoma Mountains (UÉNO, 1969, 2001; ASHIDA & KITAYAMA, 2003). On the other hand, in the south of that zone, *S. nishikawai* and *S. misatonis* were described from the middle western part of the peninsula (UÉNO, 1980; ASHIDA & KITAYAMA, 2003), and exceptionally *S. eos* was from the southeastern part (UÉNO & NAITÔ, 2003). These three species are considered to have invaded from the northern side of the zone into the south and dispersed. In this paper, we are going to describe a new species from near the northeastern part of the Kii Peninsula, where the genus has hitherto been unknown.

Before going further, we would like to thank Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his continuous guidance. We also thank Mr. Yoshihide OKUDA of the Kansai Trechine Research Group for help in field investigation.

Stygiotrechus azami ASHIDA et K. KITAYAMA, sp. nov.

(Figs. 1–3)

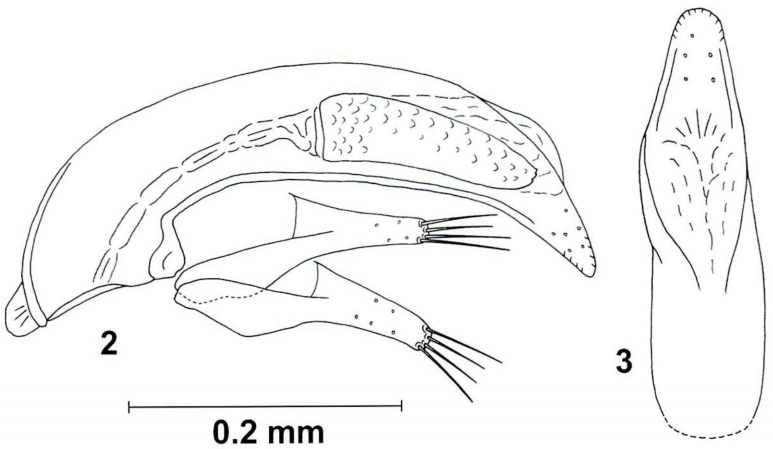
Length: 2.40–2.70 mm (from apical margin of clypeus to apices of elytra).

Belonging to the group of *Stygiotrechus ohtanii* and closely similar to *S. ohtanii* S. UÉNO (1969, pp. 490, 491, fig. 5; 2001, p. 241, figs. 4–5) from Kongô-zan in Chihaya-akasaka-mura, though different from the latter species by relatively large forebody, subcordate shape of pronotum with distinctly constricted base and less prominent front angles, and short elytra with small teeth on the shoulders. Also similar to *S. ohtanii* in the configuration of male genitalia, though can be distinguished by less strongly arcuate aedeagus with smaller basal part.

Color as in *S. ohtanii*. Head similar to that of *S. ohtanii* though somewhat larger with a little less swollen genae and somewhat wider neck; antennae as in *S. ohtanii*. Pronotum similar to that of *S. ohtanii* though shorter and more distinctly constricted at basal part, much wider than long, widest at three-fourths from base; PW/HW 1.19–1.30 (M 1.24), PW/PL 1.12–1.21 (M 1.18), PW/PA 1.17–1.27 (M 1.23), PW/PB



Fig. 1. *Stygiotrechus azami* sp. nov., from Mt. Azami-dake in Higashiyoshino-mura, ♂, dorsal view.



Figs. 2–3. Male genitalia of *Stygiotrechus azami* sp. nov., from Mt. Azami-dake; left lateral view (2), apical part of aedeagus, dorso-apical view (3).

1.21–1.30 (M 1.25), PB/PA 0.95–1.01 (M 0.98); front angles less prominent than those of *S. ohtanii* and *S. kadanus*; sides regularly arcuate in anterior two-thirds, sinuate at one-third from base, then feebly but distinctly emarginate, and nearly parallel in basal fourth; hind angles almost rectangular and minutely denticulate laterad at the corners; basal margin slightly lobed and emarginate at middle; disc as in *S. ohtanii* though somewhat depressed. Elytra similar to those of *S. ohtanii* though shorter and a little more depressed on the disc, widest at about middle; EW/PW 1.35–1.40 (M 1.37), EL/PL 2.35–2.53 (M 2.43), EL/EW 1.45–1.52 (M 1.50); shoulders subsquare; prehumeral borders short and nearly perpendicular to the mid-line; humeral borders serrate, each bearing four to five teeth, which are usually smaller than those of the other relatives; sides feebly arcuate to near apices; striation and chaetotaxy as in *S. ohtanii*. Legs as in *S. ohtanii*.

Male genital organ very similar to that of *S. ohtanii*, though the aedeagus is somewhat robust and rather weakly arcuate, with smaller and less strongly curved basal part. Aedeagus small, about three-tenths as long as elytra, lightly sclerotized, tubular, moderately arcuate at the middle part, rather strongly curved at the basal part, and sigmoidally twisted in dorsal view; basal orifice rather small, with the sides shallowly emarginate; sagittal aileron small though distinct; viewed dorsally, apical lobe gradually narrowed towards apex, whose tip is rounded; viewed laterally, apical lobe gradually narrowed towards apex and slightly curved ventrad. Inner sac armed with a large copulatory piece, which is two-fifths as long as aedeagus and is covered almost all over with minute scales. Styles as in *S. ohtanii*.

Type series. Holotype: ♂, 29–VI–2003, K. KITAYAMA leg. Paratypes: 1♀, 28–VI–2003, H. ASHIDA leg.; 3♂♂, 5♀♀, 29–VI–2003, K. KITAYAMA, Y. OKUDA & H. ASHIDA leg. The holotype is preserved in the collection of the National Science Mu-

seum (Nat. Hist.), Tokyo.

Type locality. Mt. Azami-dake: Mugitani-gawa Valley (1,100 m alt.), Higashi-yoshino-mura, Nara Prefecture, Central Japan.

Etymology. This new species is named after the type locality, Mt. Azami-dake.

Notes. Mt. Azami-dake (1,406 m in height), the type locality of the present species, is situated almost on the Median Tectonic Zone, and also near the northern end of the Daikô Mountains, which is the eastern mountain range lying north and south in the Kii Peninsula. It is far from the previously known localities of the genus: 35 km east by south of Mt. Kongô-zan, the type locality of *S. ohtanii*; 52 km southeast of Mt. Ikoma, that of *S. itoi*; and 62 km east-northeast of Mt. Onji-yama, that of *S. misatonis*. Since the type locality of *S. azami* is at the head of the Mugitani-gawa Valley, which is one of the headstreams of the Ki-no-kawa River, the species must have migrated from the downstream part of the river. In fact, the characteristics of the external morpology as well as the male genitalia of *S. azami* are closely similar to those of *S. ohtanii*. The type locality of *S. azami* is 45 km north by east of Mt. Chausu-yama, that of *S. eos*, thus *S. azami* is at present the easternmost species of the genus. The distributional range of *Stygiotrechus* approaches to that of *Kurasawatrechus*, namely Mt. Azami-dake is about 40 km distant to the west from Koya-no-kômori-ana Cave, the type locality of *K. hirakei hirakei* S. UÉNO, 1979.

The type specimens were dug out from the colluvium deposited in a dried gully at the head of the Mugitani-gawa Valley, and many of them were found on the undersurfaces of clayey stones buried at the depth of 80 cm or more

要　　約

芦田　久・北山健司：紀伊半島の台高山脈北端部から発見されたノコメメクラチビゴミムシ属の1新種．—— 台高山脈北端部の薊岳の，標高1,100 m地点で発見されたノコメメクラチビゴミムシ属の1新種を，アザミメクラチビゴミムシ*Stygiotrechus azami* ASHIDA et K. KITAYAMA, sp. nov. と命名し，記載した．本種は現在のところ本属の東限の種であり，その基準産地はクラサワメクラチビゴミムシ属の分布域まで約40 kmの距離である．

Erratum

In a previous paper of ours (*Elytra, Tokyo*, **31**: 221–229), there was an inadvertent error in the last paragraph of page 222. Line 2 should be read as follows:

EW/PW 2.32–2.42 (M 2.37), EL/EW 1.47–1.58 (M 1.52)

→EW/PW 1.30–1.42 (M 1.35), EL/PL 2.32–2.42 (M 2.37), EL/EW 1.47–1.58 (M 1.52).

References

ASHIDA, H., & K. KITAYAMA, 2003. The group of *Stygiotrechus ohtanii* (Coleoptera, Trechinae) from the Kii Peninsula, Central Japan. *Elytra, Tokyo*, **31**: 221–229.

UÉNO, S.-I., 1969. *Stygiotrechus* (Coleoptera, Trechinae), an assemblage of remarkably diversified blind

trechines. *Bull. natn. Sci. Mus., Tokyo*, **12**: 485–515.
UÉNO, S.-I., 1979. New cave-dwelling trechine beetles from the eastern part of the Kii Peninsula, Central Japan. *Ibid.*, (A), **5**: 115–126.
——— 1980. New *Stygiotrechus* (Coleoptera, Trechinae) from non-calcareous areas. *J. speleol. Soc. Japan*, **5**: 1–12.
——— 2001. Two new *Stygiotrechus* (Coleoptera, Trechinae) on the verge of extinction. *Elytra, Tokyo*, **29**: 233–247.
——— & T. NAITÔ, 2003. Discovery of *Stygiotrechus* (Coleoptera, Trechinae) at the southeastern part of the Kii Peninsula, Central Japan. *Ibid.*, **31**: 231–236.

Elytra, Tokyo, **32** (1): 27, May 31, 2004

A Record of *Kusumia septentrionalis* S. UÉNO et OKUDA (Coleoptera, Trechinae) from Nara Prefecture, Central Japan

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Kusumia septentrionalis S. UÉNO et OKUDA, 2002, was described based on three specimens collected from Mt. Kunimi-yama (900–910 m in altitude, type locality) and Mt. Kumogase-yama (800 m in altitude), both in Iitaka-chô of Mie Prefecture. Here we report the first record of this upper hypogean species from Nara Prefecture. The southwestern slope of Mt. Azami-dake from which the specimens were collected is about 6 km distant to the southwest from the type locality. *Kusumia septentrionalis* coexisted with *Stygiotrechus azami* ASHIDA et K. KITAYAMA, 2004, in the colluvium deposited at the head of the stream.

Specimens examined. 3♂♂, 5♀♀, Mt. Azami-dake: Mugitani-gawa Valley (1,100 m in altitude), Higashiyoshino-mura, Nara Prefecture, Central Japan, 28~29–VI–2003, K. KITAYAMA & H. ASHIDA leg.; 3♀♀, same locality, 23–VIII–2003, K. KITAYAMA & T. SAITÔ leg.

Before closing this brief report, we thank Dr. Shun-Ichi UÉNO for identification of the species and Mr. Takumi SAITÔ for help in the fieldwork.

References

ASHIDA, H., & K. KITAYAMA, 2004. A new *Stygiotrechus* (Coleoptera, Trechinae) from near the northern end of the Daikô Mountains in the Kii Peninsula, Central Japan. *Elytra, Tokyo*, **32**: 23–27.
UÉNO, S.-I., & Y. OKUDA, 2002. Two new upper hypogean species of the genus *Kusumia* (Coleoptera, Trechinae). *J. speleol. Soc. Japan*, **27**: 33–41.

Elytra, *Tokyo*, **32** (1): 28, May 31, 2004

A New Record of *Ishikawatrechus squamosus* S. UÉNO (Coleoptera, Trechinae)

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Ishikawatrechus squamosus S. UÉNO (1997, p. 6, figs. 4–5) is an isolated species, whose true derivation is not certain. It was originally discovered in an abandoned adit of a copper mine lying on the northeastern slope of Mt. Sasa-ga-miné in central Shikoku, and later collected from the upper hypogean zone at the other side of the same mountain. Only three specimens in total have previously been known, and the species has been regarded as one of the rarest members of the genus.

In the midsummer of 2003, the second author of this report had an opportunity to visit the Kômata-dani Valley at the northeastern side of Mt. Sasa-ga-miné, and succeeded in locating a habitat of an *Ishikawatrechus* seemingly referable to *I. squamosus*. It is the colluvia deposited at the sides of a steep gully on the right side of the Kômata-dani. Though lying on the other side of the valley, this gully is only 1.8 km distant to the east-southeast in a beeline from the type locality, so that the occurrence of the same species seemed reasonable.

However, it became apparent after a close examination that the specimens newly collected were somewhat different from the types. They are a little larger in size (4.80–5.10 mm from the apical margin of clypeus to the apices of elytra) than the latter, with the prothorax slightly narrower on an average and relatively wide at the apex (PW/PL 0.96–1.03 (M 0.99), PW/PA 1.38–1.44 (M 1.40), PW/PB 1.39–1.52 (M 1.47), PA/PB 1.00–1.11 (M 1.05)). The aedeagus is a little less slender, with shorter apical part and shorter ventral hook, and the lamellar hyaline copulatory piece inside the apical orifice is not satisfactorily formed. All these differences seem to suggest that the first step of raciation has already taken place between the two populations of *I. squamosus* separated by the Kômata-dani Valley.

The collecting data of the new specimens examined are as recorded below:

11♂♂, 10♀♀, Kômata-dani Valley, 1,100 m alt., Daiéiyama, Niihama-shi, Ehimé Pref., 6–VII–2003, M. MORI leg.; 3♂♂, 2♀♀ (incl. 2 teneral ♂♂), same locality, 8–IX–2003, M. MORI leg. (in coll. NSMT and M. MORI).

All the specimens were dug out from the colluvium in a deciduous broadleaved forest, mostly from a depth of about 50 cm.

Reference

UÉNO, S.-I., 1997. New anophthalmic trechines of the genus *Ishikawatrechus* (Coleoptera, Trechinae) discovered by the late Yoshiteru MURAKAMI. *J. speleol. Soc. Japan*, **22**: 1–13.

Elytra, *Tokyo*, **32** (1): 29–33, May 31, 2004

A New *Pterostichus* (Coleoptera, Carabidae) from the Suzuka Mountains, Central Japan

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Abstract A new pterostichine carabid beetle, *Pterostichus akitai* is described from the Suzuka Mountains, Central Japan. It is related to *P. uedaorum* MORITA et HIRASAWA, but differs from it mainly in the shape of the male genitalia.

Recently, a macrocephalic pterostichine carabid beetle was obtained by Mr. Katsumi AKITA on Mt. Oike-dake of the Suzuka Mountains, Central Japan, and was submitted to me for identification. This paper is intended to show the result of my study concerning this pterostichine species.

Abbreviations. The abbreviations used herein are as follows: HW – greatest width of head; NW – width of neck, measured just behind genae; PW – greatest width of pronotum; PL – length of pronotum, measured along the mid-line; PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra; EB – width of elytral base; FL – length of metafemur; ML – length of metatrochanter; TL – length of hind tarsus; M – arithmetic mean; NSMT – National Science Museum (Nat. Hist.), Tokyo; H – Holotype.

Acknowledgements. I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO for critically reading the manuscript of this paper. My thanks are also due to Mr. Katsumi AKITA for supplying me with important material.

Pterostichus akitai MORITA, sp. nov.

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

(Figs. 1–10)

Description. Length: 14.25–15.43 mm (from apical margin of clypeus to apices of elytra). Body elongate and flat. Colour dark brown.

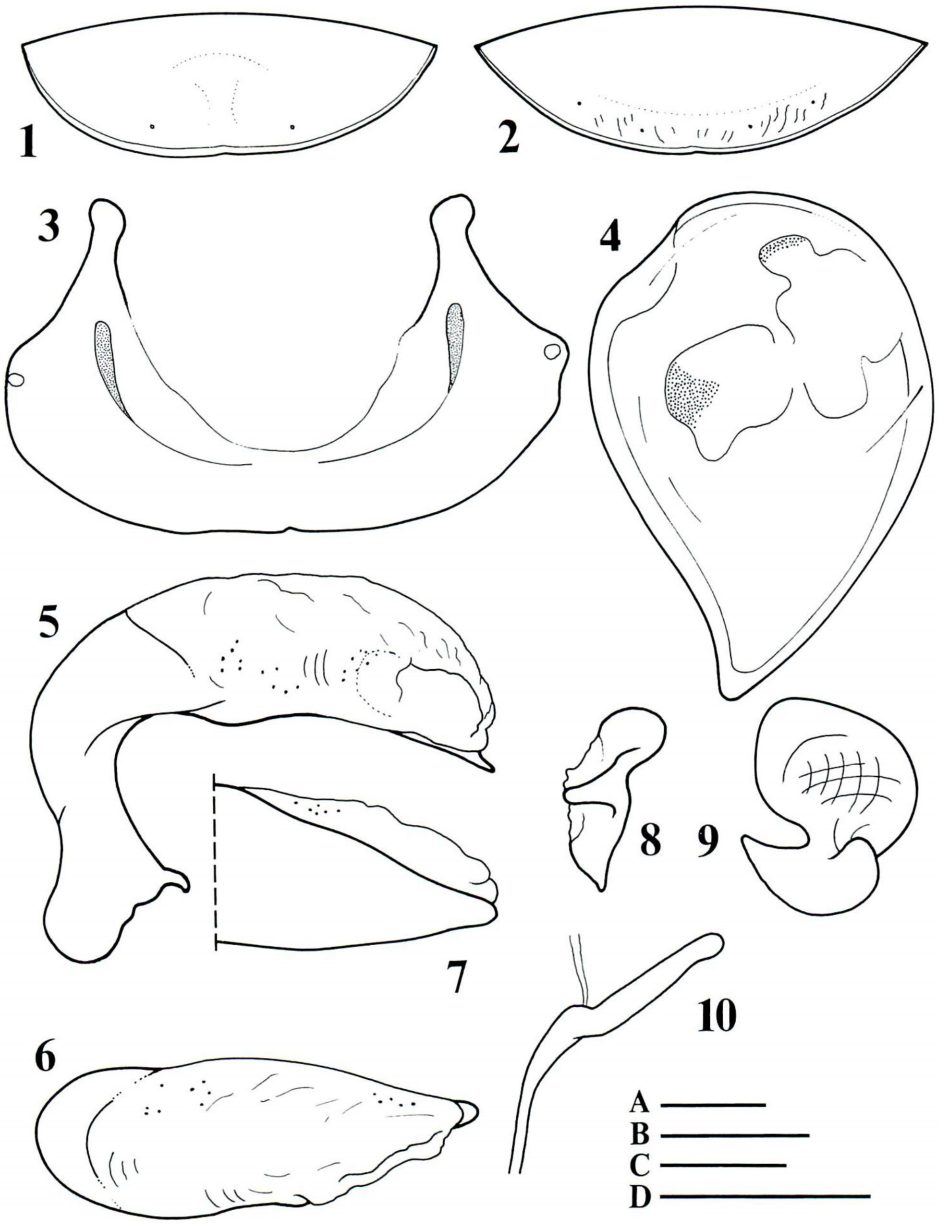
Head very large and a little narrower than pronotum; PW/HW 1.07 in H, 1.04 in 1♂, 1.04, 1.04 in 2♀♀; frontal furrows deep, short and almost parallel; eyes entirely flat and small; lateral grooves arcuate, a little wide, deeper than frontal furrows, reaching the posterior supraorbital pores on each side, and with an additional furrow which is situated on each side between post-eye level and the level of posterior supraorbital pore; anterior supraorbital pores situated at the post-eye level or a little behind that

level; genae very large and strongly convex; neck wide; HW/NW1.33 in H, 1.28 in 1♂, 1.29, 1.33 in 2♀♀; vertex slightly depressed; microsculpture composed of wide meshes on frons and vertex, and of transverse ones on genae; surface microscopically and sparsely punctate; mentum with an oblique groove and a small pit on each side; mentum tooth bifid, wide, a little produced, and with a transverse sulcus at the basal part; submentum strongly convex, and with two pair of setae; apical margin of clypeus moderately emarginate; labrum strongly emarginate and rounded at the corners; terminal segment of maxillary palpi widest at about middle and truncate at the apex; terminal segment of labial palpi widest at basal 2/5 and truncate at the apex; antennal segment I with a long seta, segment II with a short seta; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI ≒ 1 : 0.51 : 0.87 : 0.82 : 0.80 : 0.78 : 0.71 in H, ≒ 1 : 0.50 : 0.80 : 0.77 : 0.77 : 0.74 : 0.73 in 1♀.

Pronotum flat, nearly square, widest at about basal 5/6 (measured along the mid line) in H, 1/10 in 1♂, 3/4 in 1♀; PW/PL 1.51 in H, 1.52 in 1♂, 1.61, 1.54 in 2♀♀; apex widely and strongly emarginate, a little wider than base; PA/PB 1.13 in H, 1.18 in 1♂, 1.22, 1.21 in 2♀♀; PW/PA 1.16 in H, 1.11 in 1♂, 1.11, 1.09 in 2♀♀; PW/PB 1.31 in H, 1.32 in 1♂, 1.35, 1 32 in 2♀♀; apical angles strongly produced and obtusely pointed at the tips; sides weakly and widely arcuate in front, shallowly sinuate behind, and then weakly divergent just before sharp hind angles; base emarginate and oblique at the sides; median line finely impressed, reaching the level just before the basal margin and not reaching apex; anterior transverse impression evanescent, posterior one vague; basal foveae rather shallow, small, linear at the bottom, and with very sparse and rather coarse punctures at the outside and with short longitudinal wrinkles at the bottom and inside on each side; in H, small foveole present between median line and sides, and situated at basal 2/3 (measured along the mid line) on each side; microsculpture composed of wide to transverse meshes.

Elytra flat and elongate; shoulders widely rounded; EW/PW 1.22 in H, 1.21 in 1♂, 1.11, 1.16 in 2♀♀; EL/EW 1.62 in H, 1.70 in 1♂, 1.65, 1.65 in 2♀♀; sides a little divergent from behind shoulders to the widest part, widely arcuate in apical parts, and with shallow preapical emargination; epipleuron very narrow and gradually narrowed towards apex; inner plica distinct; apices separated from each other, and forming a reentrant angle at suture; EB/EW 0.66 in H, 0.68 in 1♂, 0.69, 0.66 in 2♀♀; basal border slightly arcuate and joining scutellar striole; basal part strongly depressed; intervals very weakly convex, and sparsely and microscopically punctate; interval III with two or three setiferous dorsal pores; striae finely impressed and sparsely crenulate; striae 6 and 7 not joining basal border; scutellar striole very short, and situated on interval I; basal pore situated at the meeting point of striae 1 and 2; marginal series composed of 13 or 14 pores; microsculpture composed of isodiametric meshes.

Gula with transverse wrinkles at the sides; metepisternum with several coarse punctures; in ♂, anal sternite (VII) smooth, weakly depressed, notched at apex and narrowly bordered throughout; in ♀, anal sternite (VII) weakly depressed between a pair of outer setae, narrowly bordered throughout, weakly emarginate at apex or notched,



Figs. 1–10. *Pterostichus akitai* MORITA, sp. nov. —— 1, Anal sternite in ♂; 2, anal sternite in ♀; 3, tergum VIII in ♀; 4, genital segment, ventral view; 5, aedeagus, left lateral view; 6, aedeagus, left dorsolateral view; 7, apical part of aedeagus, ventral view; 8, right paramere, left lateral view; 9, left paramere, left lateral view; 10, spermatheca. Scale 1 mm: A for 1, 2; B for 3, 5–9; C for 4; D for 10.

and with many short wrinkles along the margin between a pair of outer setae; in ♀, tergum VIII notched at middle of posterior margin.

Legs slender; tarsi smooth on dorsal side; TL/HW 0.97 in H, 0.99 in 1♂, 0.91, 0.90 in 2♀♀; metafemora with two setae on each side; metatrochanter short and with rounded apex; ML/FL 0.40 in H, 0.40, 0.35 in 2♀♀.

Genital segment oval with narrow handle. Aedeagus small and strongly bent at basal third; viewed dorsally, apical 2/3 of aedeagus curved towards the right; dorsal membraneous part wide; ventral side with a small tumor at about middle; apical lobe narrow, short, and with simply rounded apex in dorsal view; apical orifice situated at the left dorso-lateral side; a narrow and smooth membraneous part situated near the proximal part of apical orifice; left paramere wide; right paramere short, almost straight and with rounded apex. Spermatheca thick, elongate and with rounded apex; spermathecal duct thin though becoming thicker towards spermatheca.

Variation of posterior supraorbital seta. In 1♀, an additional seta exists just behind the ordinary one on the right side.

Variation of submentum. In 1♂, an additional seta is present outside of left outer seta. In 2♀♀, an additional seta is present between inner and outer ordinary setae on one side.

Variation of elytra chaetotaxy. In H, a pair of the first pores are lacking. A pair of the second pores join the stria 2 and are situated at basal 4/9. The third pore on the right elytron joins stria 2 and is situated at basal 9/10 of elytra. Apical part of the left elytron is damaged.

In 1♂, three pores are present on the right side: the first pore joins stria 3 and the remaining two join stria 2; they are situated at about 7/25, 1/2 and 4/5, respectively. The first pore on the left elytron is lacking. The second and the third ones are situated at the ordinary position.

In 1♀, three pores are present on each side: the first pore joins stria 3 and the remaining two join stria 2; they are situated at about 1/4, 4/9 and 9/10, respectively.

Similar position is found in the other female, but the first pore on the right elytron is lacking.

Type series. Holotype: ♂, 8~22–VI–2003, K. AKITA leg. (NSMT). Paratypes: 1♀, 15~23–IX–2002, K. AKITA leg.; 1♀, 9–XI–2002, K. AKITA leg.; 1♂, 18–X~8–XI–2003, K. AKITA leg.

Type locality. Mt. Oike-dake, 600–900 m alt., Fujiwara-chô, Mie Prefecture, Central Japan.

Notes. This new species is closely allied to *Pterostichus uedaorum* MORITA et HIRASAWA (1996, p.27). It is, however, distinguished from the latter by the following points: 1) pronotum more sparsely punctate; 2) elytral sides less arcuate from behind shoulders to the widest part; 3) aedeagus more robust; 4) ventral side of aedeagus with a tumor; 5) apical lobe of aedeagus shorter; and 6) apex of right paramere narrower.

This species is named in honor of Mr. Katsumi AKITA, who is the discoverer of the pterostichine.

要　約

森田誠司：鈴鹿山脈のオオズナガゴミムシの1新種．—— 鈴鹿山脈から発見されたオオズナガゴミムシの1新種 *Pterostichus akitai* MORITA を記載した．この新種は，石川県の医王山などから記載された *P. uedaorum* MORITA et HIRASAWA, 1996 に類縁が近い．

Reference

MORITA, S., & H. HIRASAWA, 1996. Macrocephalic pterostichines (Coleoptera, Carabidae) from central Honshu, Japan. *Elytra, Tokyo*, **24**: 21–30.

Elytra, Tokyo, **32** (1): 33–34, May 31, 2004

Tricholicinus setosus (Coleoptera, Carabidae) Found in Japan

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Recently, I had an opportunity to examine a pair of small licinine carabid beetles collected from Hokkaido, North Japan through the courtesy of Mr. KATO. I soon found that his specimens are the species known from the Russian Far East as *Tricholicinus setosus*, since I have specimens of the same species from the Primorye in my collection, which were determined by Dr. LAFER and Dr. SUNDUKOV.

In this paper, I will add this species to the carabid fauna of Japan.

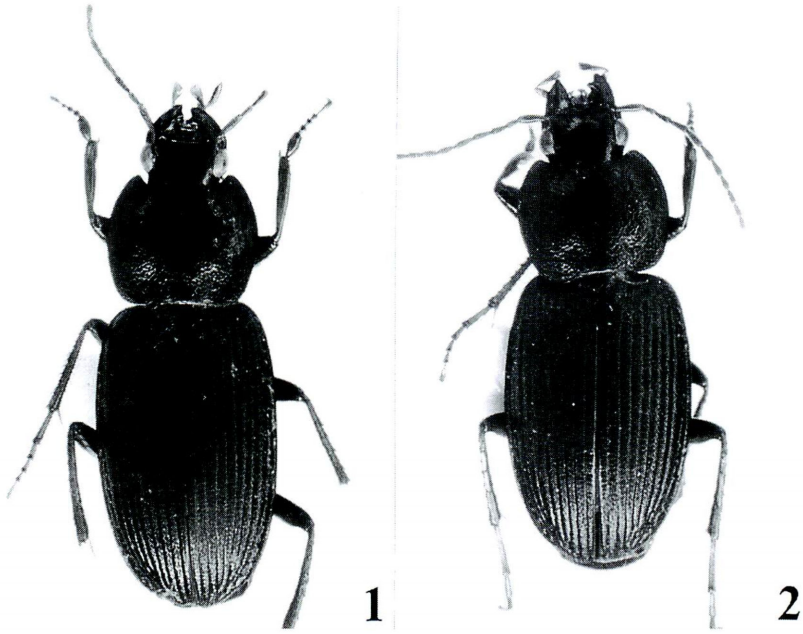
I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the original manuscript of this paper. My thanks are also due to Dr. German Sh. LAFER and Dr. Yurij N. SUNDUKOV for their kind help, and to Mr. Toshiyuki KATO for supplying me with important material.

Tricholicinus setosus (SAHLBERG)

[Ko-marukiba-gomimushi]

(Figs. 1–2)

Derostichus setosus SAHLBERG, 1880, K. Vet. Akad. Handl., Stockholm, **17**: 40.
Tricholicinus setosus: POPPIUS, 1912, Russk. ent. Obozr., Moskva, **12** (1): 109–110. —— BALL, 1959,



Figs. 1–2. *Tricholicinus setosus* (SAHLBERG), ♂; 1, specimen from Vladivostok; 2, specimen from Nikura, Hokkaido.

Mem. Am. ent. Soc., (16): 7. —— LAFER, 1989, Opredelitel' Nasekomykh Dal'nego Vostoka SSSR v Shesti Tomakh, **3** (1): 207.

Specimens examined. [Japan] 1♂, Nikura, Saroma-chô, Hokkaido, 29–VIII–2000, T. KATO leg.; 1♀, Kyôritsu, Tokoro-chô, Hokkaido, 25–VII–2002, T. KATO leg. [Russia] 1♂, Vladivostok, Ussury Dist., 20–VII–1993; 1♀, Lazoraicentr, Primorye, 31–VIII–2001, J. SUNDUKOV leg.

This species is characterized by the following points: body relatively small; body black; palpi and antennae reddish brown; labrum, clypeus, mandibles and legs brown, but the femora are dark brown; dorsal surface coarsely punctate and iridescent; pronotum and elytra sparsely haired; hind angles of pronotum rounded; male with segment 1 of fore tarsus dilated.

References

BALL, G. E., 1959. A taxonomic study of the North American Licinini with notes on the Old World species of the genus *Diploceila* BRULLÉ (Coleoptera). *Mem. Am. ent. Soc.*, (16): i+1–258, pls. 1–15, i–iv.

LAFER, G. Sh., 1989. Podotriad Adephaga. *In* LER, P. A. (ed.), *Opredelitel' Nasekomykh Dal'nego Vostoka SSSR v Shesti Tomakh*, **3** (1): 67–257. (In Russian.)

POPPIUS, B. R., 1912. Eine neue sibirische Carabiden-Gattung des Tribus Licinini (Coleoptera). *Russk. ent. Obozr., Moskva*, **12** (1): 109–110.

SAHLBERG, J., 1880. Bidrag till Nordvestra Sibiriens Insectfauna. Coleoptera. I. *K. Vet. Akad. Handl., Stockholm*, **17**: 3–115, 1 pl.

Elytra, *Tokyo*, **32** (1): 35–40, May 31, 2004

A New *Colpodes* (Coleoptera, Carabidae) from West Japan, with a Redescription of *Colpodes sataensis*

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Abstract A new platynine carabid beetle, *Colpodes* (*Achaetoprothorax*) *adachii* MORITA, sp. nov., is described from West Japan. The male genital organ of *C.* (*A.*) *sataensis* (HABU) is described and illustrated for the first time.

The main purpose of the present paper is to introduce a new species of the subgenus *Achaetoprothorax* (HABU, 1978, p. 255) into science. The specimens of the new species used for this study were found from the Danjo Islands lying on the East China Sea. At this opportunity, the male genital organ of *Colpodes* (*Achaetoprothorax*) *sataensis* (HABU) (1954, p. 17) from southern Kyushu is described and illustrated for the first time.

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

I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the original manuscript of this paper. My thanks are also due to Messrs. Kazuo ADACHI, Fuminori HIROKAWA, Nobuyuki NARUKAWA, Masaharu NODA, Masahiro SAITÔ and Shigeo TSUYUKI for supplying me with important material.

Colpodes* (*Achaetoprothorax*) *adachii MORITA, sp. nov.

[Japanese name: Adachi-hirata-gomimushi]

(Figs. 1–4)

Diagnosis. Elytra with weak bluish lustre; postangular seta of pronotum present, but the anterior one is lacking; elytra oval; elytral apices without emargination at the outside of triangular apical tooth on each side; elytral striae crenulate; apical part of aedeagus narrowly produced in dorsal view.

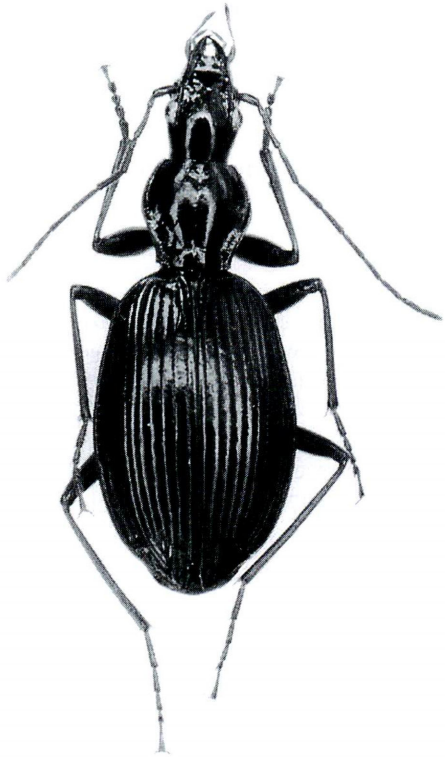
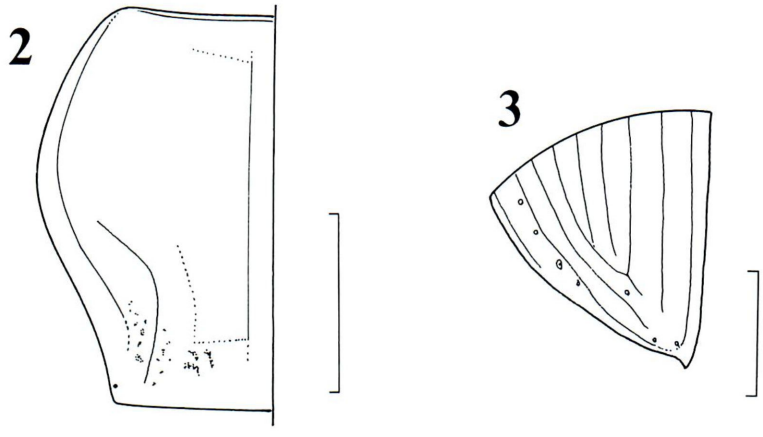


Fig. 1. *Colpodes* (*Achaetoprothorax*) *adachii* MORITA, sp. nov., from Oshima Is.

Description. L: 9.5–11.0 mm. Colour blackish brown; elytra with weak bluish lustre; ventral side blackish brown; mouth parts and appendages brown, but the femora are more or less darker than the tarsi and tibiae.

Head narrow and moderately convex; frontal furrows usually rather shallow, rarely deep, divergent posteriad and usually reaching anterior supraorbital pore, or rarely close to the pore on each side; lateral grooves deep, straight and becoming shallower posteriad, and arcuate outwards along the posterior margin of eyes on each side; anterior supraorbital pore situated a little before the mid-eye level on each side, posterior one situated at a level slightly before neck constriction; eyes moderately convex; PW/HW 1.35–1.42 (M 1.39) in 8♂♂, 1.40 in 1♀; genae a little convex; mentum tooth strongly produced and simply rounded at apex; apex of labrum almost straight or slightly emarginate; mandibles very long and strongly hooked at apices; microsculpture composed of wide or isodiametric meshes; relative lengths of antennal segments as follows:— I : II : III : IV : V : VI : XI≒1 : 0.53 : 1.47 : 1.62 : 1.44 : 1.33 : 1.16 in 8♂♂; antennal segment I with a long seta on dorsal side; segment II with a short seta on ven-



Figs. 2–3. *Colpodes* (*Achaetoprothorax*) *adachii* MORITA, sp. nov., from Oshima Is. —— 2, Left side of pronotum; 3, apical part of left elytron. (Scale: 1 mm.)

tral side; segment III with three to six setae at apical part.

Pronotum narrow, convex and widest at about middle or a little before the middle; PW/PL 1.06–1.13 (M 1.09) in 8♂♂, 1.15 in 1♀, PW/PA 1.61–1.68 (M 1.64) 8♂♂, 1.64 in 1♀, PW/PB 1.44–1.55 (M 1.50) in 8♂♂, 1.47 in 1♀, PA/PB 0.87–0.93 (M 0.91) in 8♂♂, 0.90 in 1♀; apex slightly emarginate or almost straight, and bordered throughout; sides usually moderately arcuate, or rarely very obtusely angulate at the widest part, and then very shallowly sinuate a little before hind angles; reflexed sides narrow near apical angles, becoming wider posteriad, and merging into basal fovea on each side; base weakly arcuate; apical angles slightly produced and rounded at the tips; anterior marginal setae lacking; postangular setae situated a little before hind angles on each side; median line strongly impressed, and reaching neither apex nor base; basal foveae rather deep, and with several coarse punctures; basal part convex, and usually smooth, or rarely coarsely and sparsely punctate; posterior transverse impression very shallow; hind angles either rectangular or obtuse; microsculpture composed of fine transverse meshes.

Elytra oval, strongly convex, and ample in apical parts; basal part narrow; shoulders indistinct and widely rounded; WL/EL 0.16, 0.24 in 2♂♂; EW/PW 1.78–1.85 in 8♂♂, 1.77 in 1♀, EL/EW 1.46–1.53 (M 1.50) in 8♂♂, 1.50 in 1♀; epipleuron gradually narrowed towards apex; inner plica indistinct; apices separated from each other, and without emargination at the outside of triangular apical tooth on each side; basal border moderately arcuate; basal pore situated at the proximal part of stria 1; intervals slightly convex; striae rather deep throughout, crenulate and becoming obsolete towards apices; scutellar striole situated on interval I and joining basal border; interval III with three pores, the first pore joining stria III, the second and third joining stria II; the first pore at 1/6–1/4, the second at 4/9–3/5, and the third at 2/3–3/4 from base, respectively; marginal series composed of 18 or 19 pores; microsculpture consisting of

fine transverse meshes; apical pore(s) very weak and usually two in number, inner pore situated at the apex of interval II, sometimes lacking, outer pore joining apical part of stria 7 or close to the stria; subapical pore single on each side.

Gula with fine transverse wrinkles; prepisternum rarely with several coarse punctures at basal part; apical part of mesosternum, mesepisternum, and side of sternite II coarsely punctate; anal sternite (VII) narrowly produced and finely bordered throughout in ♂, widely arcuate in ♀.

Legs slender; meso- and metatarsi I–IV each with inner and outer sulci on dorsal side; claw segment of meso- and metatarsi smooth on ventral side; outer lobe of segment IV of metatarsus slightly longer than the inner one; TL/HW 1.33–1.46 (M 1.40) in 8♂♂; metatrochanter short, and with widely rounded apex; ML/FL 0.29–0.31 (M 0.30) in 8♂♂, 0.29 in 1♀; metafemora with three setae on each side in ventral view.

Aedeagus elongate and moderately arcuate in lateral view; basal part rather large; apical lobe moderately produced and simply rounded in dorsal view; right paramere with elongate basal part. Apical styli wide as in *C.* (*A.*) *hirashimai*, and with two short spines.

Variation of apical and subapical pores on elytral apices. Of the 13 specimens of the type series, 5♂♂ from Oshima and 2♂♂ and 1♀ from Meshima have two apical pores on each side. In 3♂♂ and 1♀ from Oshima, inner apical pore is lacking.

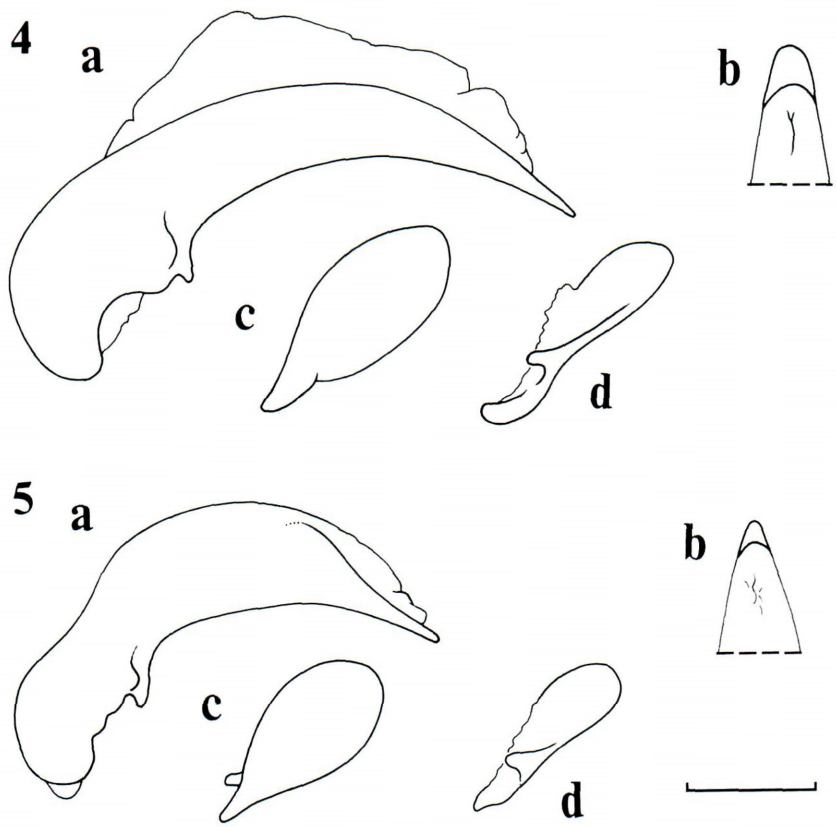
In 1♀ from Meshima, the right elytron is aberrant: an inner apical pore is lacking; an outer apical pore and a subapical one are present; an additional pore is present between the apical pore and the subapical one.

Type series. Holotype: ♂, Oshima, 5–V–2000, K. ADACHI leg. (NSMT). Paratypes: 1♀, Oshima, 7–V–1995, K. ADACHI leg.; 6♂♂, Oshima, 5–V–1997, K. ADACHI leg.; 2♂♂, Oshima, 26–V–1999, T. MATSUO leg.; 2♀♀, Meshima, 25–V–1999, T. MATSUO leg.; 1♂, Meshima, 27–V–1999, T. MATSUO leg.

Localities of the type series. The Islands of Oshima (type locality) and Meshima of the Danjo Islands lying on the East China Sea, West Japan.

Notes. This new species is closely allied to *Colpodes* (*Achaetoprothorax*) *hirashimai* (HABU) (1954, p. 19), but is distinguished from the latter by the following points:— 1) smaller body; 2) wider pronotum (cf. PW/PL, EW/PW); 3) presence of postangular setae of pronotum; 4) shorter elytra (cf. EL/EW); 5) elytral apices without emargination at the outside of tooth; and 6) apical part of aedeagus narrowly produced in dorsal view. [In *Colpodes* (*Achaetoprothorax*) *hirashimai* (HABU) from Yaku-shima Is., L: 10.4–11.5 mm; PW/HW 1.19 in 1♂, 1.17–1.24 (M 1.20) in 5♀♀; PW/PL 0.88 in 1♂, 0.88–0.91 (M 0.89) in 5♀♀; PW/PA 1.56 in 1♂, 1.51–1.62 (M 1.55) in 5♀♀; PW/PB 1.37 in 1♂, 1.31–1.36 (M 1.32) in 5♀♀; EW/PW 1.98 in 1♂, 1.91–2.00 (M 1.97) in 5♀♀; EL/EW 1.68 in 1♂, 1.64–1.74 (M 1.66) in 5♀♀.]

The standard ratios of body parts in the Meshima population are as follows: PW/HW 1.38 in 1♂, 1.41, 1.41 in 2♀♀; PW/PL 1.10 in 1♂, 1.07, 1.12 in 2♀♀; PW/PA 1.65 in 1♂, 1.63, 1.65 in 2♀♀; PW/PB 1.45 in 1♂, 1.43, 1.48 in 2♀♀; PA/PB 0.88 in 1♂, 0.88, 0.90 in 2♀♀; EW/PW 1.75 in 1♂, 1.93, 1.81 in 2♀♀; EL/EW1.55 in 1♂,



Figs. 4–5. Male genital organ of *Colpodes* spp. —— 4, *Colpodes* (*Achaetoprothorax*) *adachii* MORITA, sp. nov., from Oshima Is.; 5, *C.* (*A.*) *sataensis* (HABU) from Sanuta. —— a, Aedeagus, left lateral view; b, apical part of aedeagus, dorsal view; c, left paramere, left lateral view; d, right paramere, left lateral view. (Scale: 0.5 mm.)

1.47, 1.53 in 2♀♀; ML/FL 0.29 in 1♂, 0.29, 0.29 in 2♀♀; TL/HW 1.44 in 1♂, 1.46 in 1♀.

Colpodes (*Achaetoprothorax*) *sataensis* (HABU)

[Japanese name: Sata-hirata-gomimushi]

(Fig. 5)

Agonum (s. lat.) *sataense* HABU, 1954, Kontyû, Tokyo, **22**: 17, fig. 1; type locality: Magome, Sata.
Agonum (*Achaetoprothorax*) *sataense*: HABU, 1978, Fn. Japon., Carab. Platyn., pp. 35, 257, 259, pl. 23, fig. 4, figs. 480, 506–513.
Other references are omitted.

Redescription based on a male specimen. L: 9.5 mm; PW/HW 1.38; PW/PL 1.03; PW/PA 1.83; PW/PB 1.43; PA/PB 0.78; EW/PW 1.75; WL/EL 0.30; EL/EW

1.56; TL/HW 1.68; genital organ small in contrast to the body length; aedeagus moderately arcuate and high at about middle in lateral view; basal part with a short sagittal aileron; apical lobe short and simply rounded in dorsal view; right paramere with short basal part; left one rather wide.

Specimen examined. 1♂, Sanuta, Uchinoura-chô, Kagoshima Prefecture, West Japan, 2–V–1991, M. SAITÔ leg.

要　　約

森田誠司：西日本産ヒラタゴミムシの1新種とサタヒラタゴミムシの雄交尾器．—— 東シナ海の孤島，男女群島からヒラタゴミムシの1新種，アダチヒラタゴミムシ *Colpodes* (*Achaetoprothorax*) *adachii* MORITA, sp. nov. を記載した．この種は，屋久島の固有種，ヤクシマヒラタゴミムシ *C.* (*A.*) *hirashimai* (HABU) に近縁であるが，体形などでいちじるしく異なるほか，陰茎先端部の形なども明瞭に異なる．この機会に，同じ亜属に属するサタヒラタゴミムシ *C.* (*A.*) *sataensis* (HABU) の雄の交尾器を記載し図示した．

References

HABU, A., 1954. Two new and one rare *Agonum*-species preserved in the collection of the Entomological Laboratory of Kyushu University (Coleoptera, Carabidae). *Kontyû, Tokyo*, **22**: 17–22.

——— 1978. Carabidae: Platynini (Insecta: Coleoptera). *Fauna Japonica*. viii+447 pp., 36 pls. Keigaku Publ., Tokyo.

TANAKA, K., 1985. Carabidae (Pterostichinae, Zabrinae). *In* UÉNO, S.-I., Y. KUROSAWA & M. SATÔ (eds.), *The Coleoptera of Japan in Color*, **2**: 104–139 [incl. pls. 20–25]. Hoikusha, Osaka. (In Japanese, with English book title.)

Elytra, Tokyo, **32** (1): 41–49, May 31, 2004

Discovery of a Second Representative of the Genus *Horelophopsis* (Coleoptera, Hydrophilidae) from the Ryukyu Archipelago, Japan

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Abstract A new species, *Horelophopsis hanseni* sp. nov., is described from the Ryukyu Archipelago. This is the second species of the genus belonging to the subfamily Horelophopsinae. It is interesting from the zoogeographical viewpoint, since its relative, *H. avita* HANSEN was described from New Guinea.

Introduction

The Horelophopsinae is a very remarkable hydrophilid subfamily, and is characterized by its primitiveness (HANSEN, 1991, 1997). According to HANSEN (1997), its autapomorphies are as follows: 9th sternite of male is somewhat V-shaped, without lateral "struts"; antennae 8-segmented, which occurs among other Hydrophilidae. This subfamily comprises only one genus and a single species, *Horelophopsis avita* HANSEN, 1997. It was known from only one male specimen collected on the seashore in Japen Island, Irian Jaya, New Guinea, and its biology, female features and immature stages have not been known. Close examination of the external feature has not been made, either.

On the other hand, in the course of SATÔ's faunal researches of the Ryukyu Islands, a remarkable hydrophilid species was fortunately found on Amami-Ôshima in 1988, though its taxonomic position was not clear. In 1997, however, M. HANSEN sent SATÔ a copy of his paper on *Horelophopsis*, which seemed congeneric with the Ryukyuan species. Later, SATÔ went to the Ryukyus many times and made every effort to collect this species at the estuaries. It is apparent now that the same species also occurs on Okinawa-jima.

After careful studies of the species, it was concluded that the Ryukyuan species was a new species of the genus *Horelophopsis*. Therefore, we are going to describe it

in the following lines, with biological information. This is the second species belonging to the subfamily Horelophopsinae.

Materials and Methods

Total 124 dried specimens of this species were examined. Some specimens were dissected and mounted on slide grasses with Canada Balsam. The holotype and some paratypes to be described in this paper as a new species are preserved in the Entomological Laboratory, Ehime University (EUM), and other paratypes are deposited in the National Science Museum, Tokyo (NSMT), Natural History Museum, London (BMNH), Naturhistorisches Museum, Wien (NMW) and in our collections.

The abbreviations used in the present paper are as follows: PL – length of pronotum; PW – width of pronotum; EL – length of elytra; EW – width of elytra; TL – total length (from front margin of labrum to elytral apex).

The terminology refers to KUKALOVÁ-PECK and LAWRENCE (1993) for the venation of the hindwing, TANNER (1927) for the female genitalia and to WATANABE (2000) for the stridulatory apparatus.

Description

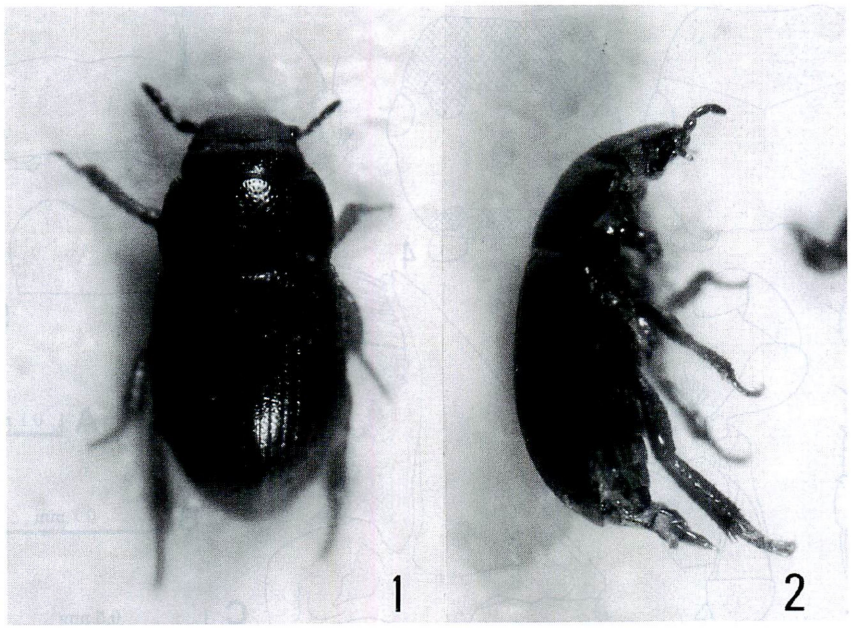
Horelophopsis hanseni M. SATÔ et YOSHITOMI, sp. nov.

[Japanese name: Kuroshio-gamushi]

(Figs. 1–26)

Male. Body elongate, wearkly convex above, shining, superficially glabrous on dorsal surface; integument microreticulate. Coloration of body almost dark brown, but somewhat reddish in elytra, and yellowish in legs and maxillary palpi.

Head large, a little transverse; vertex finely and sparsely punctate; epicranial suture distinct, attaching to lateral margin in front of eyes. Labrum distinctly transverse, sparsely punctate, shallowly concave at the middle of anterior margin; antero-lateral portions bearing some long hairy setae. Clypeus gently tapered anteriad, sparsely covered with fine punctures, with some short setae at antero-lateral portions; front margin shallowly concave; antero-lateral corners obtuse. Eyes moderate in size, somewhat prominent; the distance between eyes about 4.0 times as long as the diameter of an eye. Antennae relatively long, similar to those of *H. avita*; approximate ratio of each segment 7.0 : 5.5 : 3.0 : 1.0 : 1.0 : 4.0 : 3.5 : 7.5. Mandibles subtriangular, minutely bifurcate at the apex and bearing long hairs in apical part of inner margin; prostheca distinct and closely covered with short spines on interior part; molar area well developed, distinctly protrudent interiorly. Maxillae as illustrated. Maxillary palpus similar to that of *H. avita*. Mentum deeply concave in front margin. Labial palpus short; penultimate segment rather short, with a pair of single short apical setae on outer face, apical segment small, with two pairs of long apical setae.



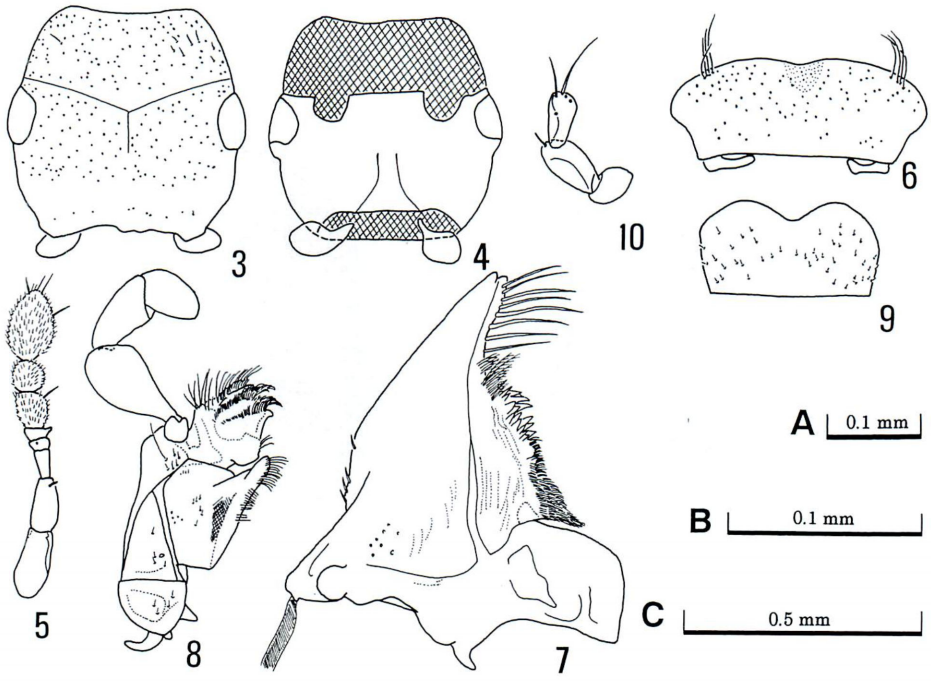
Figs. 1–2. *Horelophopsis hanseni* sp. nov.; 1, dorsal view; 2, lateral view.

Pronotum transverse, evenly convex above, widest near the middle, regularly covered with fine punctures throughout; anterior margin lightly bisinuate, with minute setae along mesal part; anterolateral corners obtuse, somewhat projecting anteriad; lateral margins gently arcuate, almost equally convergent anteriad and posteriad, with some short setae along anterior part; posterior margin almost straight; posterolateral corners almost rectangular, distinctly projecting posterolaterally. Scutellum visible from above, triangular. Venation of hind wing as in *H. avita*.

Elytra oblong, gently arcuate in lateral margins, widest at the middle, furnished with 10 rows of fine and shallow punctures; plectum situated in medio-lateral part of inner surface. Epipleura apically tapered and covered with minute setae at the base; EL/EW 1.3–1.4 (1.4); EL/PL 2.8–3.6 (3.1); EW/PW 1.1–1.2 (1.2); TL/EW 2.0–2.1 (2.0).

Legs relatively short; claw simple, with bisetose empodium; forelegs somewhat stout, with a large stout tibial spine on apico-lateral margin. Apical margin of 7th abdominal sternite gently arcuate. Ninth sternite lightly sclerotized, U-shaped. Aedeagus rather simple, symmetrical; basal piece broad, gently projecting anteromedially; lateral lobe slender, about 1.3 times as long as basal piece, subparallel-sided in proximal 4/5, provided with fine punctures in apical part and obtuse at its apex; median lobe slender, as long as lateral lobe, obtuse at the apex.

Female. Sexual dimorphism indistinct in external features. Genitalia of the typical form for a member of the family Hydrophilidae; 10th sternite oval, covered



Figs. 3–10. *Horelophopsis hanseni* sp. nov. —— 3, Head in dorsal view; 4, head in ventral view; 5, antenna; 6, labrum; 7, right mandible in ventral view; 8, maxilla; 9, mentum in ventral view; 10, left labial palpus in ventral view. Scale bar: A for 5, 6, 8, 9; B for 7, 10; C for 3, 4.

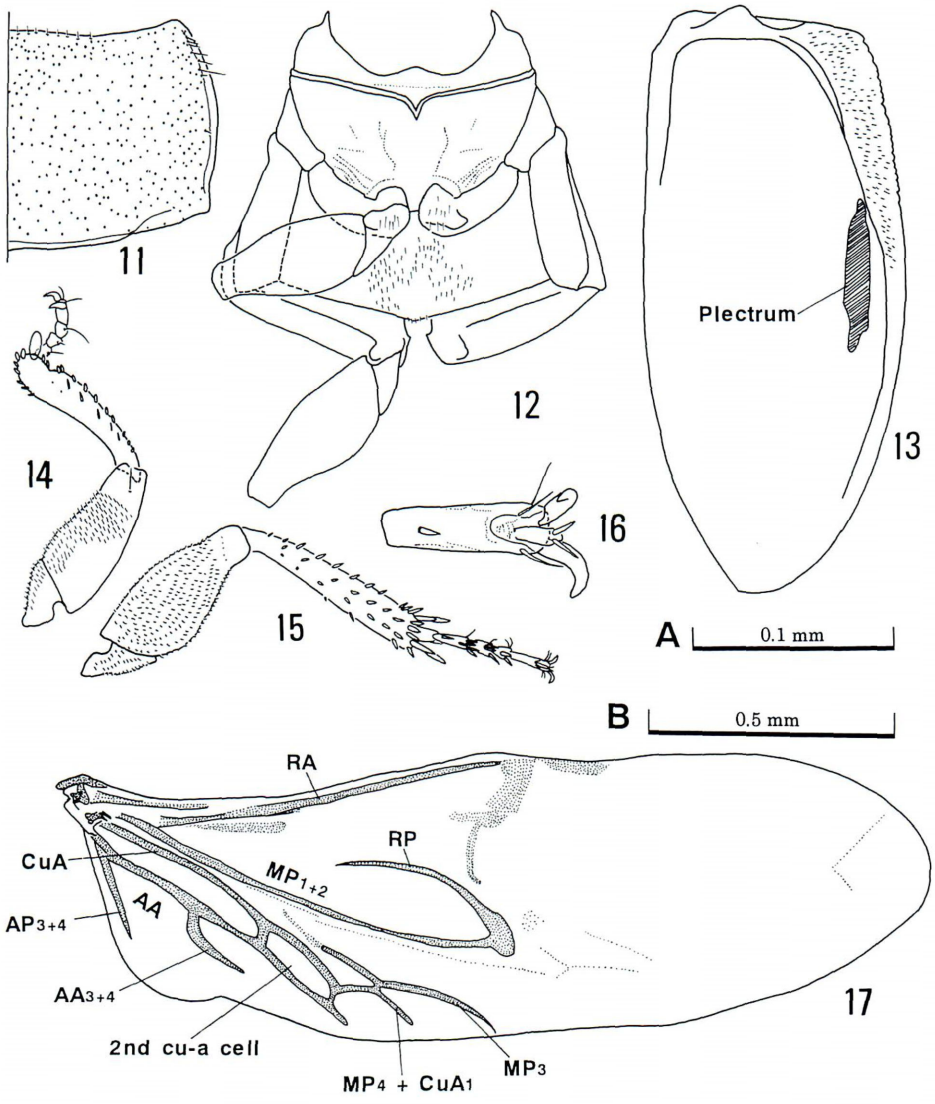
with long spines in apical part, bisinuate in apical margin; valvifer and paraproct short; coxite long, with a pair of long setae protruding from basal part; stylus distinctly shorter than coxite, with short apical spines.

Measurement (n=4). TL 1.6–18 (1.7) mm; PW 0.7–0.8 (0.7) mm; PL 0.3–0.4 (0.4) mm; EW 0.8–0.9 (0.8) mm; EL 1.1–1.2 (1.1) mm.

Type series. Holotype (EUM): ♂, Ôura-gawa Kakou, Okinawa-jima, Ryukyus, Japan, 6–V–1999, M. SATÔ leg. Paratypes (EUM, NSMT, BMNH, NMW): 5 ♂♂, 3 ♀♀ & 59 exs., same data as for the holotype, two male and one female specimens are dissected and preserved on slide glasses with slide nos. HY 750–752; 27 exs., same locality as for the holotype, 20–II–2001; 4 exs., ditto, 13–II–2003; 2 ♂♂ & 23 exs., Ishihara, Amami-Ôshima, 15–X–1988. All the specimens were collected by M. SATÔ.

Remarks. This species is closely related to *H. avita* HANSEN, but differs from the latter in having the following characteristics: apical seta on outer face of the penultimate segment of labial palpus is shorter than that of *H. avita*; lateral lobe of male genitalia is slender, with obtuse apices; median lobe of male genitalia as long as lateral lobe, though shorter than in *H. avita*.

Etymology. The specific name is dedicated to the late Dr. Michael HANSEN for

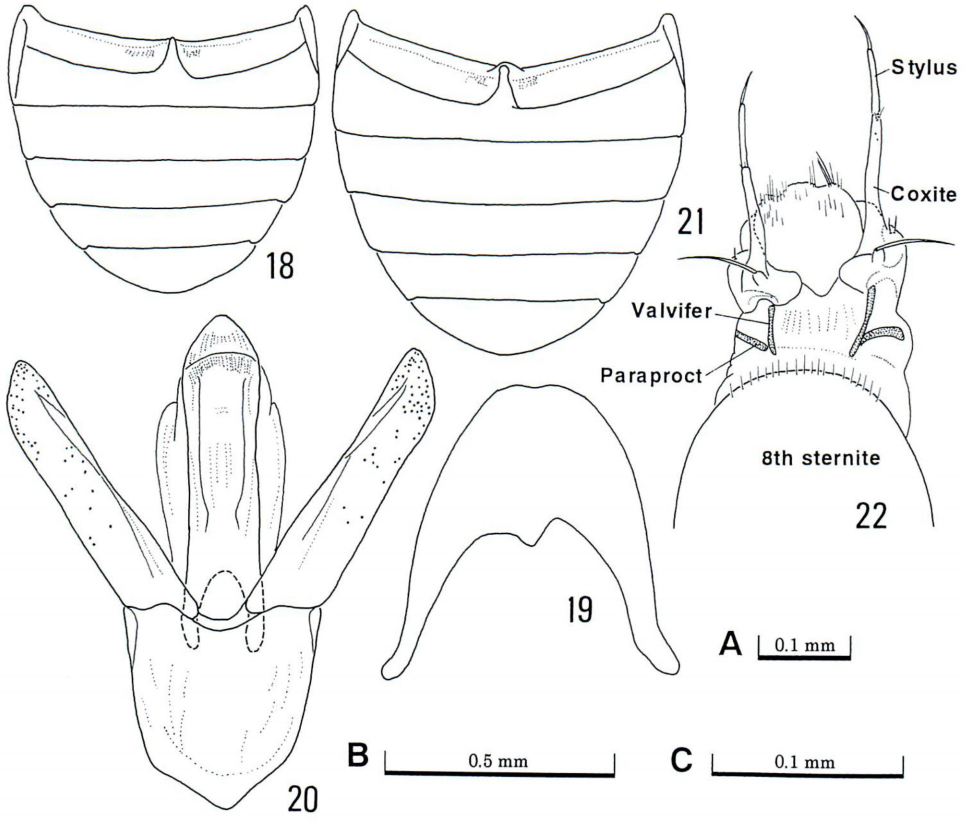


Figs. 11–17. *Horelophopsis hanseni* sp. nov. —— 11, Right half of pronotum in dorsal view; 12, meso- and meta-ventrites; 13, left elytron in ventral view; 14, fore leg in dorsal view; 15, hind leg in ventral view; 16, claw of hind leg in ventral view; 17, right hind wing. Scale bar: A for 16; B for 11–15, 17.

his significant contribution to the Coleopterology.

Biological Notes

At first, SATÔ happened to find this species at the estuary of the Yakkachi-gawa,

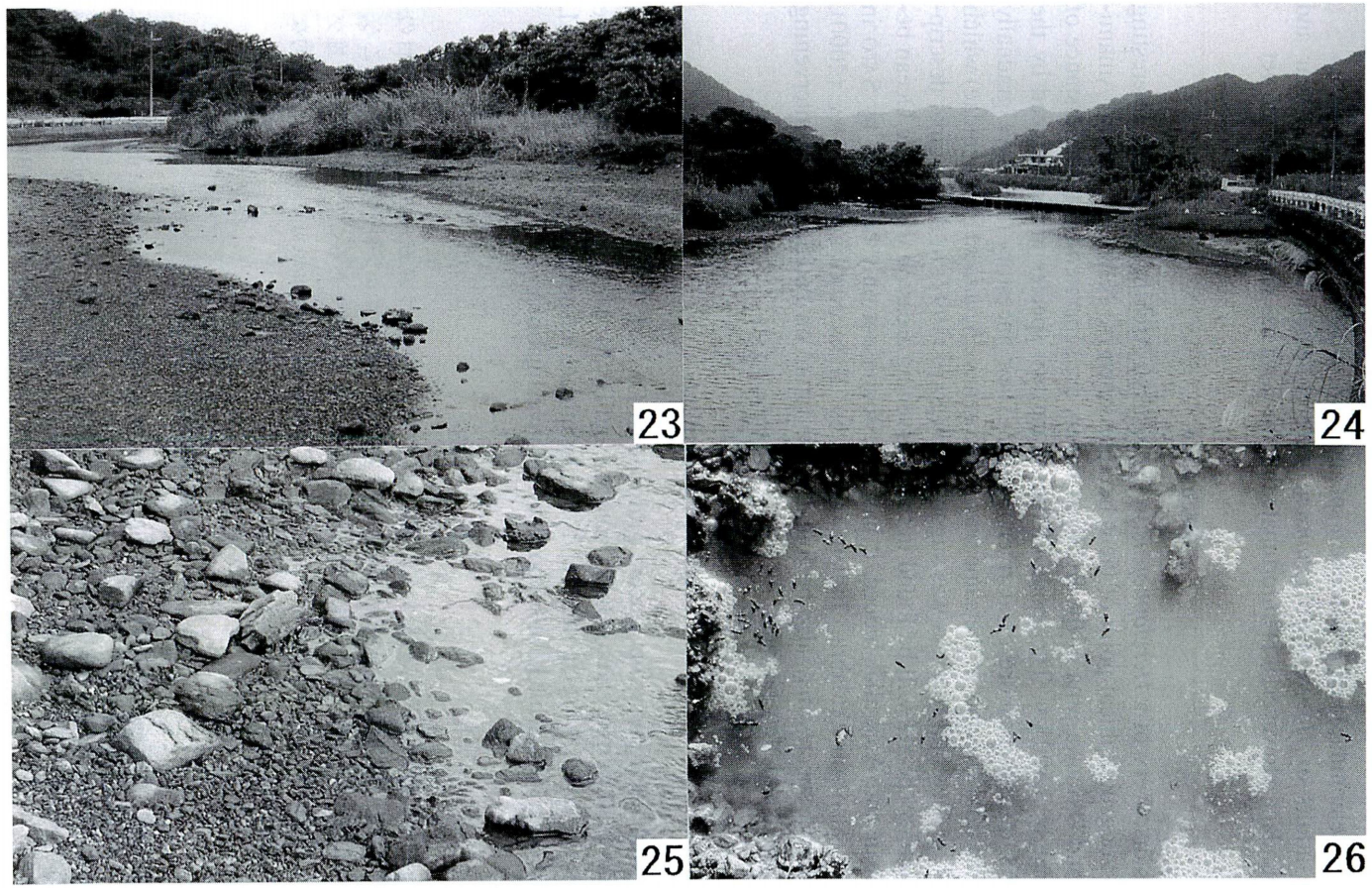


Figs. 18–22. *Horelophopsis hanseni* sp. nov.—— 18–20, Male: 18, sternites; 19, sternite IX; 20, aedeagus; 21–22, female: 21, sternites; 22, female genitalia in ventral view. Scale bar: A for 22; B for 18, 21; C for 19, 20.

flowing through Sumiyô-son on Sumiyô-wan Bay on the Pacific side of Amami-Ôshima. The river bed at the point consisted of gravels. Unfortunately, the site was destroyed by river improvement and the species has not been collected ever since. The specimens were collected with *Carpelimus* sp. (Staphylinidae).

Later SATÔ found a new locality of the species at about 1 km upperstream from the mouth of the Ôura-gawa River, which is situated near Nago City on the Pacific side of Okinawa-jima. The stream is about 10 m in breadth and the banks are well developed and surrounded by paddy fields and forests. The right side is occupied by a mangrove forest, while the left side is embanked with concrete blocks. The river bed consists of medium-sized and small gravels sometimes intermingled with large stones.

This species is collected at the low tide near the water edge. When a small pool is dug at the site, the hydrophilid species floats up together with *Perileptus morimotoi* S. UÉNO (Carabidae) [6 exs., 6–V–1999, 3 exs., 20–II–2001, new record to the fauna of Okinawa-jima], *Armatocillenus yokohamae* (BATES) (Carabidae) [60 exs., 6–V–1999,



Figs. 23–26. Collecting site of *Horelophopsis hanseni* sp. nov. —— 23, The river mouth of Ôura-gawa, an aspect from the upper side at the low tide; 24, ditto, an aspect from the lower side at the high tide; 25, ditto, close up of the water edge on the left bank; 26, a small pool formed after digging at the water edge; *Horelophopsis hanseni* sp. nov. and other Coleoptera are floating up. Photo by M. SATÔ.

2 exs., 13–II–2003, new record to the fauna of Okinawa-jima], *Prosthecarthron sauteri* RAFFRAY (Pselaphidae) and *Bryothinusa* sp. and *Thinodromus* sp. (Staphylinidae).

The adults of *Horelophopsis hanseni* were collected throughout the year and rather abundant. However, it is unfortunate that the larva has not been collected yet.

Discussion

This discovery of a *Herelophopsis* in the Ryukyu Archipelago is very interesting from the zoogeographical point of view, because Japen Is., New Guinea, and Amami-Ôshima and Okinawa-jima of the Ryukyus, Japan, are separated by a long distance of approximately 3,500 km. The mode of life of the two species are influenced by the tidal water on the seashore or at river mouths. Their ancestors may have gradually spread with tidal currents in the same way as the genus *Hyphalus* (Limnichidae) which are found on the coral reef. As was suggested by SATÔ (1997) in the original description, *Hyphalus* species will be found in the intervening areas on the Pacific Ocean between Japan and Australia. Indeed, it has been found not only on Palau by SATÔ in 2003, but also on Aldabra, Indian Ocean by HERNANDO and RIBERA (2000). *Horelophopsis* species may also be found in the future on Pacific islands intervening between Japan and New Guinea.

Acknowledgement

We wish to express our sincere gratitude to Dr. S.-I. UÉNO for his kindness in reading the manuscript, and to Dr. S. NOMURA and Dr. M. MARUYAMA (NSMT) for the identification of the Pselaphidae and Staphylinidae, respectively, and to Mr. M. KIMURA (Okinawa) for his kind support in field investigations.

要　約

佐藤正孝・吉富博之：琉球列島から発見されたクロシオガムシ属*Horelophopsis*の2番目の種．—— 沖縄島および奄美大島の河口域から採集された奇妙なガムシ科甲虫を調べたところ，単一の標本に基づいて創設されたHorelophopsinae亜科に属する種であることが判明した．雄交尾器などに相違が見られることからクロシオガムシ*Horelophopsis hanseni*と命名し，生態的な知見を含めて記載した．

References

HANSEN, M., 1991. The hydrophiloid beetles. Phylogeny, classification and a revision of the genera. *Biolog. Skrifter, Copenhagen*, **40**: 1–368.

——— 1997. A new subfamily for a remarkable new genus and species of Hydrophilidae from New Guinea (Coleoptera: Hydrophilidae). *Annls. zool., Warszawa*, **47**: 107–110.

HERNANDO, C., & I. RIBERA, 2000. The first species of the intertidal genus *Hyphalus* BRITTON from the Indian Ocean (Coleoptera: Limnichidae: Hyphalinae). *Annls. Soc. ent. Fr.*, (N. S.), **36**: 239–243.

KUKALOVÁ-PECK, J., & J. F. LAWRENCE, 1993. Evolution of the hind wing in Coleoptera. *Canad. Ent.*, **125**: 181–258.

SATÔ, M., 1997. Occurrence of a new *Hyphalus* (Coleoptera, Limnichidae) from the Ryukyu Archipelago, Japan. *Elytra, Tokyo*, **25**: 109–112.

TANNER, V. M., 1927. A preliminary study of the genitalia of female Coleoptera. *Trans. Amer. ent. Soc.*, **53**: 5–50.

WATANABE, N., 2000. The fine structure of the stridulatory apparatus of the water scavenger beetle *Regimbartia attenuata* (FABRICIUS) (Coleoptera, Hydrophilidae). *Elytra, Tokyo*, **28**: 275–284.

Elytra, Tokyo, **32** (1): 49, May 31, 2004

An Additional New Locality of *Pyrocoelia matsumurai matsumurai* (Coleoptera, Lampyridae, Lampyrinae) from the Kerama Group of the Okinawa Islands, the Ryukyus

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Many specimens of lampyrid species collected in the Kerama Group, which is located to the west of Okinawa-jima Island, were donated to the senior author from the junior one, who went there twice for faunal and ecological investigations of fireflies in the spring and winter seasons of 2003. The larval and adult specimens of the lampyrine species, *Pyrocoelia matsumurai matsumurai* NAKANE, 1963 (Fragm. coleopterol., Kyoto, (11): 45), were contained in it. This lampyrine species has not been recorded up to now from the Kerama Group. We are going to record it for the first time as follows:

Materials examined. [Tokashiki-jima Is., Kerama Group] 8♂♂, 26–III–2003, F. SATOU leg.; 15 larvae (incl. 2 larvae for molecular analysis by Dr. H. SUZUKI), 8–XII–2003, F. SATOU leg.

Distribution. Okinawa Isls., Ryukyus: Okinawa-jima Is., Sezoko-jima Is., Yagachi-jima Is. and Tokashiki-jima Is.

Notes. The color and marking patterns of thorax and abdomen of the larvae from Tokashiki-jima Is. are basically the same as those from Okinawa-jima Is., Sezoko-jima Is. and Yagachi-jima Is. All the external characters including those of the male genitalia of adult males from Tokashiki-jima Is. are also basically the same as those of individuals from Okinawa-jima Is.

Elytra, Tokyo, **32** (1): 50, May 31, 2004

A New Record of *Ectopria hsui* LEE et YANG (Coleoptera, Psephenidae) in China

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In the course of studying materials borrowed from the Bishop Museum, we found a number of interesting specimens of the Eubriinae collected from Fujian, China in the 1940's. They share the same color pattern of the blackish brown body except for the yellowish brown pronotum. Some of them were identified and classified into three taxa: *Macroeubria bicolor* LEE *et al.*, 1997, *Homoeogenus maai* LEE et YANG, 1999, and *Schinostethus* (s. str.) *brevis* (LEWIS) (LEE *et al.*, 1998). The rest were identified with *Ectopria hsui* LEE et YANG, 1994 (Coleopt. Bull., **48**: 387), which was found in Taiwan including Ludao Island (LEE *et al.*, 1998). In this short paper, we are going to give a new record of the species from China as follows:

Specimens examined. 2♀♀, Fukien, S. China, Chungan, Bohea Hills, 24–IV–1940, T. C. MAA; 1♂, same locality and collector, but 30–IV–1940; 2♀♀, Fukien, S. China, Shaowu, Shuipeichieh, V–1944 , T. C. MAA; 1♀, Fukien, S. China, Kienbu City, V–1940, T. C. MAA; 1♂, Fukien, S. China, Yugan, Siying-pan, 13–V–1941; 1♂, Fukien, S. China, Kienyang City, 194?, MAA.

References

LEE, C.-F., M. A. JÄCH & P.-S. YANG, 1998. Psephenidae: II. Synopsis of *Schinostethus* WATERHOUSE, with descriptions of 14 new species (Coleoptera). *In* JÄCH, M. A., & L. JI (eds.), *Water Beetles of China*, **2**: 303–326. Zoologisch-Botanische Gesellschaft in Österreich and Wiener Coleopterologenverein, Wien.

——— & P.-S. YANG, 1994. A review of the genus *Ectopria* LECONTE from East Asia, with the description of a new species from Taiwan (Coleoptera: Psephenidae). *Coleopt. Bull.*, **48**: 381–389.

——— & ——— 1999. Two new species of *Homoeogenus* WATERHOUSE (Coleoptera: Psephenidae), with additional distribution records of some Chinese species. *Zool. Stud., Taipei*, **38**: 7–9.

———, ——— & M. SATÔ, 1997. The East Asian species of the genus *Macroeubria* PIC (Coleoptera, Psephenidae, Eubriinae). *Jpn. J. syst. Ent.*, **3**: 129–160.

———, ——— & ——— 1998. Psephenidae: I. Notes on the East Asian species of *Ectopria* LECONTE (Coleoptera). *In* JÄCH, M. A., & L. JI (eds.), *Water Beetles of China*, **2**: 297–301. Zoologisch-Botanische Gesellschaft in Österreich and Wiener Coleopterologenverein, Wien.

Elytra, *Tokyo*, **32** (1): 51–56, May 31, 2004

Sphaeridium discolor D'ORCHYMONT (Coleoptera, Hydrophilidae) Newly Recorded from Japan and Indonesia

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Abstract *Sphaeridium discolor* D'ORCHYMONT is reported from Japan and Indonesia for the first time. A redescription of the species and a key to the Japanese species of the genus are given. *Sphaeridium dimidiatum* previously reported from the Nansei Islands has probably been misidentified; it should be identified with *S. discolor*.

Key words: *Sphaeridium discolor*, *Sphaeridium dimidiatum*, Nansei Islands, Japan

The genus *Sphaeridium* FABRICIUS, 1775 is widespread throughout the world, and 43 species have been described thus far. The area most abundant in the species of this genus is the Afrotropical Region, where 25 species are known to exist. The most sparsely populated area is the Neotropical Region, where only one species is known to exist. In Japan, three species were reported (SATÔ, 1960, 1985; NAKANE, 1970; HANSEN, 1999); these include *S. dimidiatum* GORY, 1834, and *S. quinquemaculatum* FABRICIUS, 1798, which are widespread in the Oriental Region and occur in the Nansei Islands, and *S. scarabaeoides* (LINNÉ, 1758), which is widespread in the Palearctic Region and occurs in Hokkaido and Honshu.

The distinct characteristics distinguishing *S. dimidiatum* and *S. discolor* D'ORCHYMONT, 1933 from other species occurring in Taiwan and Japan are the truncate posterior angle of pronotum and the subparallel scutellum. Two other species from Japan and Taiwan show round angles of the pronotum and a triangular scutellum. In the course of studying the specimens of *Sphaeridium* deposited in the Hokkaido University Museum, we found 37 specimens from Taiwan, 40 specimens from the Nansei Islands of Japan, and 12 specimens from Indonesia. These specimens have the following characteristics: posterior portion of pronotum widely cut; scutellum somewhat elliptic (figured by D'ORCHYMONT, 1913); suture of elytra deeply impressed and continuing to

Table 1. Comparison of characteristics between *Sphaeridium discolor* and *S. dimidiatum*. See also D'ORCHYMONT, 1933, 299.

S. discolor	*S. dimidiatum*
1. Posterior angle of pronotum long truncate.	1. Posterior angle of pronotum short truncate.
2. Anterior trochanter with setae as strong as those of pro- and mesosterna.	2. Anterior trochanter with hair-like setae, less strong than those of pro- and mesosterna.
3. Anterior claw of male not sharp anteriorly.	3. Anterior claw of male somewhat sharp anteriorly.
4. Median lobe without distinct protuberance apically.	4. Median lobe with distinct protuberance apically.

lateral stria; anterior coxae with spines that are almost as strong as those on prosternal and mesosternal elevations; thickened anterior claw of the male without an apical tooth; median lobe of male genitalia without distinct apical protuberance, and relatively large sized. These characteristics indicate that these specimens belong to *S. discolor* (Table 1).

Sphaeridium discolor D'ORCHYMONT, 1933

[Japanese name: Tumaki-hababiro-gamushi]

(Fig. 1)

Sphaeridium discolor D'ORCHYMONT, 1933, 298 [India, Tamil Nadu, Coonoor].

Sphaeridium discolor ab. *seminiger* MOUCHAMPS, 1958, 257.

Sphaeridium dimidiatum: NAKANE, 1954, in NAKANE *et al.*, 1954, 25, 26 [misidentification: Tokara-takara-jima]; 1963, 64; 1970, 26. —— SATÔ, 1960, 21; 1985, 211. —— HANSEN, 1999, 313.

Materials examined. JAPAN (Nansei Isls.). [Okinawa-ken]: 2 males, 6 females, Hirakubo-saki, Ishigaki-jima, 16–IX–1993, M. ÔHARA; 5 males, Shirahama-rindô, Iriomote-jima, 3–IX–1993, M. ÔHARA; 2 males, 4 females, Uehara, Iriomote-jima, 20–XI–1983, T. MORIYAMA; 1 male, Iriomote-jima, 6–IV–1968, I. IWATA; 1 male, 2 females, Iriomote-jima, 13 to 16–VII–1974, H. HAYAKAWA. [Kagoshima-ken]: 2 males, 4 females, Amami-Ôshima, 20–VII–1964, M. NAGAI *et al.*; 1 male, 1 female, Asani, Amami, 18–VI–1969, T. SHIRÔZU; 6 males, 4 females, Takara-jima, Tokara Isls., 30–V–1953, T. NAKANE. CHINA. [Taiwan]: 7 males, 7 females, Koupi, Hsinhua, Tainan County, 8–XI–1976, M. KIUCHI; 3 males, 2 females, Taipei City, 14–X–1976, M. KIUCHI; 1 female, Jui-sui, Hualien County, 15–XI–1976, M. KIUCHI; 2 females, Sizhongchi, Pingtung County, 11–V–1986, M. ÔHARA; 2 males, Songkang, Nantou County, 14–IV–1986, M. ÔHARA; 1 female, Puli, Nantou County, 8–X–1976, M. KIUCHI; 1 male, 1 female, Liugui, 30–IV–1982, M. ÔHARA; 1 female, Lan-yu Is. (Orchid Is.), 18 to 22–IV–1986, M. ÔHARA. INDONESIA. [Flores Island]: 6 males, 4 females, 08°39′64″–08°47′88″S 121°19′49″–121°23′90″E, Desa Labolewa, Kecamatan Assesa, Kabupaten Ngada, Flores, Propinsi Nusa Tenggara Timur (NTT), 25–I–2003, M.

ÔHARA. [Sumba Island]: 1 male, 09°56′16″S 120°38′50″E, Desa Watuhadang, Kecamatan Umalulu, Kabpaten Sumba timur, Propinsi Nusa Tenggara Timur (NTT), 29–I–2003, M. ÔHARA; 1 male, 09°40′55″S 120°12′19″E, Kecamatan Kambajawa, Kabpaten Kola Waingapn, Sumba timur, Propinsi Nusa Tenggara Timur (NTT), 30–I–2003, M. ÔHARA. [Timor Island]: 1 female, 09°58′62″S 124°01′04″E, Keluraha Takari, Kecamatan Takani, Kabpaten Kupan, Propinsi Nusa Tenggara Timur (NTT), West Timor, 1–II–2003, M. ÔHARA.

Redescription. Length 6.0–7.2 mm, width 3.0–3.1 mm. Moderately convex. Black, lateral margins of pronotum reddish yellow; elytra with a large yellowish apical spot which laterally continues to 3/5 of elytra anteriorly; epipleura and pseudepipleura reddish yellow; maxillary palpi with pseudobasal segment yellow or yellowish dark, 3rd segment and basal part of apical segment black or dark brown, apex of last segment light-colored; antenna piceous with black club; ventral surface black, ventrites with narrowly yellow margins posteriorly; legs reddish brown with large black spots on femora, sometimes wholly black. Labrum large and well sclerotized, anterior margin with a fringe of setae, broadly truncate. Head with very fine and dense punctures, without microsculpture among punctures and systematic punctures; not abruptly narrowed in front of eyes; clypeus forming a shelf above antennal bases, branches of frontoclypeal suture becoming trace of glabrous lines, no trace of stem. Eyes small, strongly emarginate anteriorly, interocular space about 6× as wide as an eye. Antennae 9-segmented, 1st segment almost as long as the club, club compact; maxillary palpi less than half of width of head, 2nd segment swollen apically, apical segment symmetrical, somewhat shorter than penultimate. Mentum 1.5× as wide as long, sparsely impressed with small punctures, interstice with microsculpture, emarginate anteriorly. Pronotum 2.1× as wide as long, with the same punctures as on head, interstice without microsculpture, with a longitudinal glabrous line on median portion posterolaterally; lateral margin moderately convex medially, truncate posteriorly; anterior angle round; lateral marginal stria continuing along anterior and posterior margins, posterior margin convex posteriorly. Scutellum elongate, length/width ratio 2.3; somewhat elliptic, rounded apically; closely punctate, interstices smooth. Elytra relatively short, length/width ratio 2.6; apex of elytron shortly rounded, with same punctures as on pronotum, interstice with indistinct microsculpture and finely scratched on disc, longitudinal rows of larger punctures unclear, sutural stria reaching half of elytra anteriorly, lateral marginal and sutural striae confluent, lateral bead not swollen before apex in female; epipleura oblique, not reaching end of posterior coxae; pseudepipleura oblique, somewhat narrower than epipleura anteriorly. Ventral surface with dense pubescence except middle of metasternum. Prosternum without distinct antennal grooves, gradually elevated and with dense golden long setae medially. Mesosternum elevated posteriorly to form a longitudinal, blunt bulge, which is densely covered with spines posteriorly; a blunt process projecting between mesocoxae. Metasternum with weakly impressed longitudinal groove in front of scanty transverse sulcus medially; elevated median portion glabrous, with very fine transverse microsculpture, some very sparse punctures present

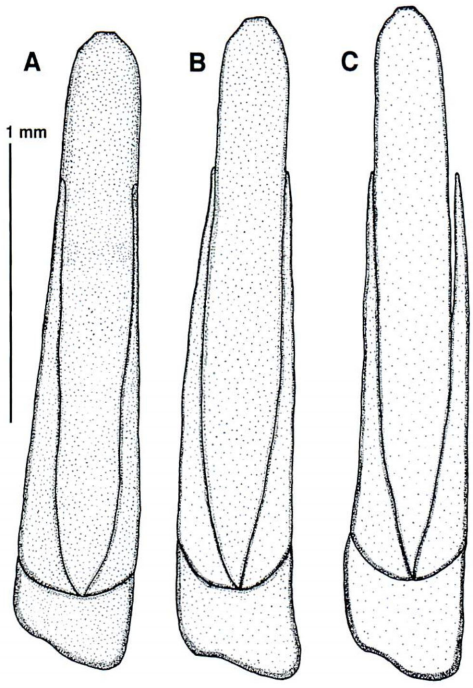

Fig. 1. Aedeagus of male genitalia of *Sphaeridium discolor*. —— A: From Flores Island, Indonesia. B: From Koupi, Xinhua (=Hsinhua), Taiwan. C: From Iriomote-jima, Nansei Islands, Japan.

in front of transverse sulcus and no puncture on posterior part; posterior margin slightly extending in posterior direction, fringed with short setae; two long dents projecting between hind coxae. Posterior margins of abdominal sternites with fringe of golden hairs. Apical margin of 5th sternite round, not extended posteriorly. Fore coxa with strong spines and sharply projected interiorly; trochanter with a fringe of setae underneath. Anterior femora with dense pubescence; mesofemora with sparsely large punctures; posterior femora with moderately sized punctures that are denser than those on mesofemora, interstice with distinct microsculpture. Middle tibiae each with one or two spines and hind tibiae each with two or three spines on their inferior side. First segment of hind tarsi somewhat longer than the following three segments together.

Male. Elytra with somewhat more distinct microsculpture than those of female; anterior claw strongly dilated and strongly curved, without dent apically. Genitalia: median lobe a little bisinuate in lateral view, without distinct protuberance; paramere reaching 2/3 of median lobe.

Distribution. India, Philippines, Indonesia, Southern China (including Taiwan), Japan (Nansei Islands), Australia (Northern Territory). New to Japan and Indonesia.

Discussion

D'ORCHYMONT (1913) reported *S. dimidiatum* after examining 5 males and 13 females collected from Tainan and Anping of Taiwan. In 1933, he described a new species, *S. discolor*, and designated two males and six females, which have been identified as *S. dimidiatum* by him in 1913, as the paratypes. Unfortunately, he did not explain to which species belong the other specimens. He (1933), however, treated *S. dimidiatum* in his 1913 paper under the name of *S. discolor* as a case of misidentification. HANSEN (1999) did not record *S. dimidiatum* from Taiwan; he recorded it from Japan (1999) after NAKANE (1970).

From the papers of D'ORCHYMONT (1933) we can infer that all the specimens of "*Sphaeridium dimidiatum*" reported by D'ORCHYMONT in 1913 belonged to *S. discolor*. We can also infer that this species is very common in Taiwan, based on the specimens we checked and D'ORCHYMONT's report. NAKANE (1954, 1963, 1970) and SATÔ (1960, 1985) reported *S. dimidiatum* from the Nansei Islands of Japan, and they reported that this species also occurred in Taiwan. *Sphaeridium dimidiatum* is known to occur in India, Indonesia (Java), Sri Lanka, and Thailand. Previous records that *S. dimidiatum* occurs in Taiwan are doubtful. After checking the specimens identified by NAKANE from the Nansei Islands of Japan and Taiwan, we are sure that these specimens belong to *S. discolor*.

Key to the Species of the Genus *Sphaeridium* in Japan

1. Size 4–4.7 mm. Pronotum moderately narrowed anteriorly; the lateral margin not truncate posteriorly; prosternum tectiform; metasternum with dense punctures and longitudinal impression behind sulcus; hind femora usually with one spine on ventral surface; apical spot of elytra extending to base laterally. . . . . *S. quinquemaculatum*

— Size 5.2–7.5 mm. Pronotum strongly narrowed anteriorly, if pronotum is moderately narrowed anteriorly, the lateral margin truncate posteriorly; prosternum gradually elevated medially, not tectiform; metasternum without punctures and impression behind sulcus; hind femora usually with two spines on ventral surface; apical spot of elytra at most reaching basal three-fifths. 2

2. Pronotum moderately narrowed anteriorly, lateral margin truncate posteriorly; scutellum elliptic; elytra without reddish subhumeral spot; yellowish apical spot of elytra continuous to each other, not divided by a narrow dark sutural stripe. Lateral sides of median lobe of male genitalia almost parallel from base to apex. . . . . *S. discolor*

— Pronotum strongly narrowed anteriorly, posterior angle of pronotum obtuse; scutellum triangular; elytra with a distinct, well defined reddish subhumeral spot; yellowish spot of elytra divided by a narrow dark sutural stripe. Median lobe of male genitalia distinctly narrowed apically. . . . . *S. scarabaeoides*

Acknowledgements

We thank Drs. Haruo KATAKURA, Junichi KOJIMA, Sri HARTINI, Sih KAHONO, Rosichon UBAIDILLAH and Woro A. NOERDJITO for their collaboration during investigation in Indonesia. This study was carried out with permission of the Lembaga Ilmu Pengetahun Indonesia (LIPI) and was supported in part by a Grant-in-Aid for Scientific Research (No. 13839003) from the Japan Society for the Promotion of Science (JSPS). We are also grateful to the Invitation Fellowship for Research in Japan (Long-term) by JSPS, that financed this project with a 10 month's grant, and to the 21st Century COE grant by the Japanese Ministry of Education, Culture, Sports, Science and Technology for the "Neo-Science of Natural History" Program (Leader: Hisatake OKADA).

要　約

賈　鳳龍・大原昌宏：日本およびインドネシアから初めて正式に記録されるツマキハバビロガムシ．—— 日本の南西諸島のトカラ宝島以南に分布するとされていた *Sphaeridium dimidiatum* は，前転節の刺などの形態から *S. discolor* と同定される．日本（南西諸島），台湾，インドネシアの標本を検討し，日本とインドネシアから *S. discolor* を初記録した．また従来 *S. dimidiatum* の和名であった「ツマキハバビロガムシ」を，*S. discolor* の和名に当てる．

References

HANSEN, M., 1999. World Catalogue of Insects. Vol. 2. Hydrophiloidea (s. str.) (Coleoptera). 415 pp. Apollo Books, Stenstrup.

MOUCHAMPS, R., 1958. Remarques concernant quelques Coléoptères Hydrophilides (15me étude). *Bull. Annls. Soc. r. Ent. Belg.*, **94**: 249–260.

NAKAKE, T., 1963. Hydrophilidae. *In* NAKANE T., K. OHBAYASHI, S. NOMURA & Y. KUROSAWA (eds.), *Iconogr. Ins. Japon. Col. nat. ed.*, **2** [Coleoptera]: 63–66. Hokuryukan, Tokyo. (In Japanese, with Latin book title.)

——— 1970. A checklist of Hydrophiloidea of Japan (Coleoptera). *Nat. & Ins., Tokyo*, **5**(5): 25–29. (In Japanese.)

——— S. MIYAMAOTO & S.-I. UÉNO, 1954. A collecting trip to the Tokara Group of the Ryukyu Islands. *Shin-Konchû, Tokyo*, **7**(1): 24–29, 4 pls. (In Japanese.)

D'ORCHYMONT, A., 1913. H. SAUTER's Formosa-Ausbeute. Hydrophilidae (Col.). *Supplta. ent., Berlin*, **2**: 1–18, pl. 1.

——— 1933. Contribution à l'étude des Palpicornia VIII. *Bull. Annls. Soc. ent. Belg.*, **73**: 271–314, pl. 5.

SATÔ, M., 1960. Notes on the tribe Sphaeridiini of Japan (Coleoptera: Hydrophilidae). *Ageha, Matsuyama*, (8): 20–21. (In Japanese.)

——— 1985. Hydrophilidae. *In* UÉNO S.-I., Y. KUROSAWA & M. SATÔ (eds.), *The Coleoptera of Japan in Color*, **2**: 208–217 [incl. pls. 38–39]. Hoikusha, Osaka. (In Japanese, with English book title.)

Elytra, *Tokyo*, **32** (1): 57–64, May 31, 2004

A New Species and Subspecies of *Neseuthia* SCOTT (Coleoptera, Scydmaenidae) from Okinawa Island, Japan

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Abstract New scydmaenid beetles, *Neseuthia okinawana* sp. nov. and *N. nomurai disjuncta* subsp. nov. are described from Okinawa Island, Japan. Important morphological details are illustrated, and a key to all Japanese species of *Neseuthia* is given.

Key words: Coleoptera, Scydmaenidae, Cephenniini, *Neseuthia* SCOTT, new species, Japan, taxonomy.

Introduction

Four species of *Neseuthia* are known to occur in Japan (JAŁOSZYŃSKI & HOSHINA, 2003). They inhabit the Yaeyama Isls. (Okinawa Pref.), Tokunoshima Is. (Kagoshima Pref.), and the Tsushima Isls. (Nagasaki Pref.). This distribution suggested that members of *Neseuthia* might also occur in other islands between the Sakishima Archipelago and Kyushu. Indeed, several individuals of *Neseuthia* have recently been collected in Okinawa Island. They belong to two easily distinguishable species. One species clearly differs from all other members of the genus by the unique shape of the aedeagus; it clearly represents a new taxon. The external morphology and the shape of the aedeagus of the other species show a high degree of similarity to *N. nomurai* JAŁOSZYŃSKI et HOSHINA, which is known to occur in Iriomote and Ishigaki islands (Yaeyama Isls., Sakishima Arch.). However, differences in structures of frons and vertex, as well as slightly different shape of sclerites of the endophallus were found. Moreover, no inter-individual variation was observed among specimens from Okinawa Island. Therefore, in this paper we regard this taxon as a subspecies of *N. nomurai*.

Holotypes of the described taxa are deposited in the National Science Museum, Tokyo (NSMT), paratypes in private collection of P. JAŁOSZYŃSKI (PCPJ) and private collection of Shiho and Koji ARAI (PCA).

Taxonomy

Genus *Neseuthia* SCOTT

Neseuthia SCOTT, 1922, p. 201. Type species: *Neseuthia typica* SCOTT, 1922, by original designation.

The genus *Neseuthia* belongs to the tribe Cephenniini within the subfamily Scydmaeninae. Detailed generic characteristics were given and discussed recently by JAŁOSZYŃSKI and HOSHINA (2003). Members of *Neseuthia* can be recognized on the basis of very small, relatively slender, elongate and usually very convex body with well marked division between pronotum and elytra, which is an unusual shape in the Cephenniini. Other key characters are: apex of pygidium usually visible in dorsal view; procoxae separated by narrow prosternal process; mandibles with subquadrate, broad base and subtriangular apical part; maxillary palpomere IV very short and broad; antennae slender, with variously separated club composed of two or three antennomeres; pronotum with basal pits and sometimes transverse and/or longitudinal groove; males often have peculiar grooves, tubercles or expansions on frons or vertex.

The identification key to Japanese species of *Neseuthia* given by JAŁOSZYŃSKI and HOSHINA (2003) must be modified to include the new taxa:

Key to Males of *Neseuthia* of Japan

1. Pronotum with median longitudinal groove. 2
— Pronotum without median longitudinal groove. 4
2. Central expansion on vertex and frons relatively flat, divided into posterior and anterior parts. . . . . *N. nomurai* JAŁOSZYŃSKI et HOSHINA. . . 3
— Central expansion on vertex and frons very convex, without transverse division. . . . . *N. hobbiti* JAŁOSZYŃSKI et HOSHINA
3. Posterior part of expansion on vertex longer than wide. . . . . *N. nomurai nomurai* JAŁOSZYŃSKI et HOSHINA
— Posterior part of expansion on vertex wider than long. . . . . *N. nomurai disjuncta* subsp. nov.
4. Pronotal disc with distinct punctation. . . . . *N. japonigena* JAŁOSZYŃSKI et HOSHINA
— Pronotal punctation hardly visible, very fine and sparse. 5
5. Lateral tubercles on vertex very small, hardly noticeable; apex of aedeagus symmetrical. . . . . *N. cactiformis* JAŁOSZYŃSKI et HOSHINA
— Lateral tubercles on vertex distinct; apex of aedeagus asymmetrical. . . . . *N. okinawana* sp. nov.

Neseuthia okinawana sp. nov.

[Japanese name: Okinawa-harabiro-kokemushi]

(Figs. 1, 2 A–C)

Male (Fig. 1). Body small, moderately slender and convex, 0.91 mm in length, reddish-brown, legs and palpi minimally lighter, setation yellowish.

Head distinctly broader than long, widest at large, convex and coarsely faceted eyes, length 0.12 mm, width 0.25 mm. Vertex trapezoidal, slightly narrowing anteriorly, regularly convex, with a pair of tubercles as small as single ommatidium, located near internal margin of each eye; frons trapezoidal, minimally concave, relatively steeply lowering anteriorly; in strictly dorsal view apical margin of clypeus slightly emarginate; supraantennal tubercles indistinct. Punctation of head very fine and sparse; setation sparse and very short, hardly noticeable, nearly recumbent. Antenna 0.42 mm

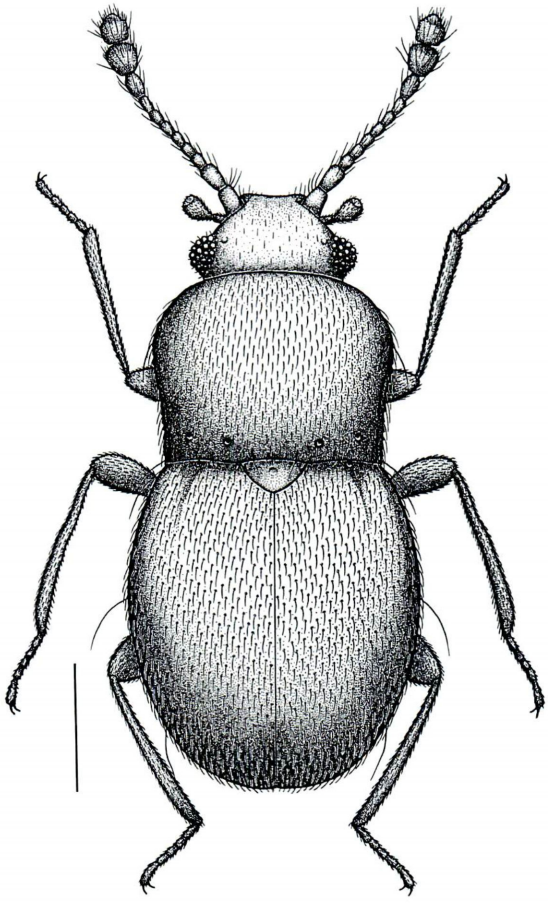

Fig. 1. *Neseuthia okinawana* sp. nov., male habitus. Scale: 0.2 mm.

in length, with enlarged scape and pedicel, flagellomeres III–VIII subequal in size, about 1.5× longer than wide; antennomere IX distinctly broader and slightly longer than VIII, antennal club composed of antennomeres X–XI, which are large and slightly flattened dorso-ventrally. Setation of antenna composed of several long, curved suberect setae on internal surface of antennomere I, sparse, straight suberect setae on remaining antennomeres (slightly longer on IX–XI), and dense transverse setal rings on last two segments.

Pronotum broader than wide, regularly convex, widest near anterior third, length 0.29 mm, maximum width 0.36 mm, width at base 0.32 mm. Anterior margin broadly, shallowly emarginate, anterior angles slightly protruding, blunt (in strictly dorsal view anterior emargination and angles not visible); lateral margins with sharp edge, distinctly serrated, narrowing posteriorly toward minimally obtuse hind angles; in posterior half narrow lateral margin is delimited from disc by narrow impression. Base minimally emarginate in lateral third, with additional, shallow median emargination as wide as scutellum, and with two pairs of latero-basal foveae separated in middle by nearly third of width of base. Pronotal punctation barely visible, very fine and sparse, additional sparse, larger punctures are distributed along lateral margins; setation moderately dense, relatively short, only slightly suberect, lateral margins bear slightly longer setae and additionally two pairs of long, erect setae at the widest place and at hind angles, one more pair of similarly long, posteriorly-directed setae is situated between internal basal foveae.

Elytra oval, very convex, widest near middle, length 0.5 mm, combined width 0.45 mm, elytral index (EI; length/combined width) 1.11. Humeral denticle very small; basal elytral fovea small, located in middle between humerus and scutellum, in broad, subtriangular impression, connected with shallow groove running posteriorly and slightly externally in anterior fourth of each elytron, lateral area adjacent to groove distinctly raised; apices of elytra separately rounded. Scutellum large, triangular with slightly convex sides and large, shallow circular impression in middle. Punctation of elytra moderately dense, composed of punctures larger than on pronotum; setation similar to that on pronotum, additionally each elytron with three long, curved lateral setae located near humerus, in middle and slightly anterior to posterior third. Hind wings well developed, about twice as long as elytra.

Legs relatively long and slender, all femora slightly, gradually clavate, pro- and metatibiae nearly straight, mesotibiae slightly recurved, tarsomere I longer than each of subequal II–IV, tarsomere V nearly as long as III–IV together, tarsus not narrowing distally.

Aedeagus (Fig. 2 A–C) relatively small, 0.21 mm in length, elongate, with distinct basal emargination, well delimited, asymmetrical apical lobe and slightly asymmetrical parameres not exceeding apex of aedeagus. Dorsal wall of median lobe with circular foramen; endophallus with symmetrical, relatively lightly sclerotized structures.

Female. Externally differs from male only in smooth vertex, without tubercles. Body length 0.93 mm, length of head 0.15 mm, width of head 0.25 mm, length of an-

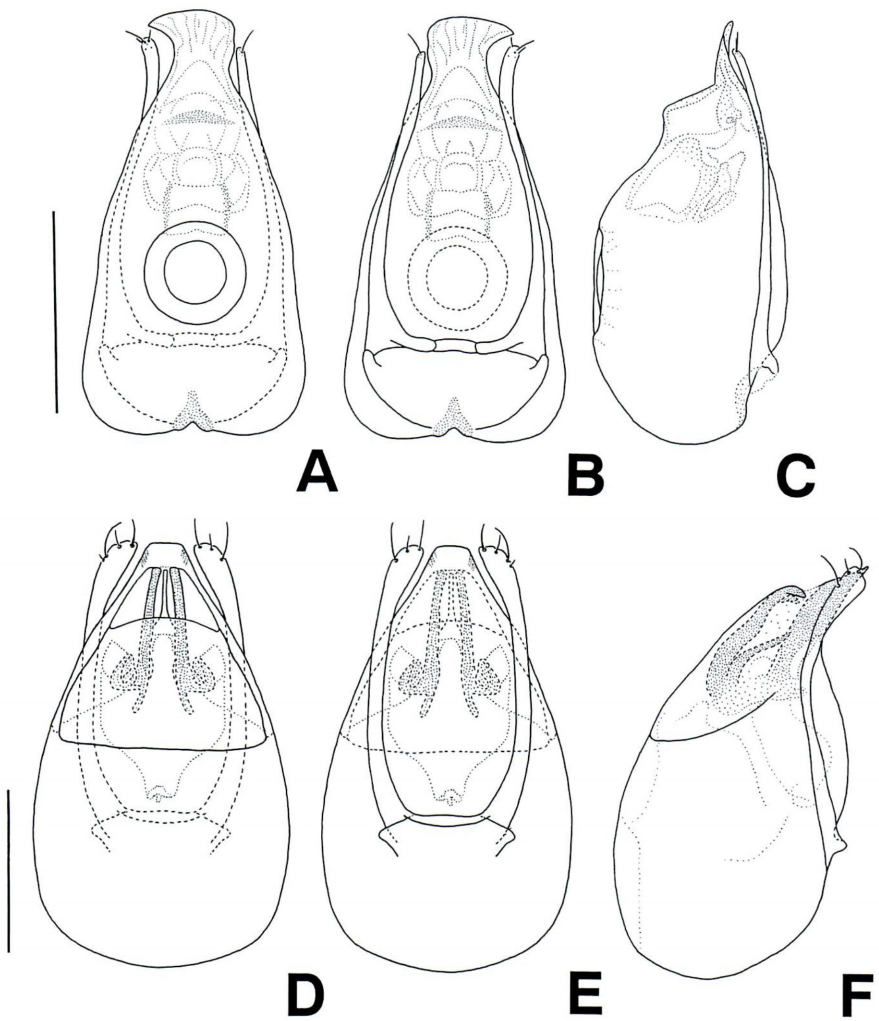

Fig. 2. *Neseuthia okinawana* sp. nov. (A–C) and *N. nomurai disjuncta* subsp. nov. (D–F); aedeagus in dorsal (A, D), ventral (B, E) and lateral (C, F) views. Scale: 0.1 mm.

tenna 0.42 mm, length of pronotum 0.29 mm, maximum width of pronotum 0.37 mm, width of pronotum at base 0.35 mm, length of elytra 0.49 mm, width of elytra 0.46 mm, EI 1.06.

Specimens examined. Holotype, ♂, Japan, Okinawa Pref., Okinawa Is., Okinawa-shi, Chibana-gusuku-ato, 6~9–IX–2003, flight intercept trap, Shiho & Koji ARAI leg. (NSMT); paratype: ♀, same data, except for 6–IX–2003, extracted from leaf litter by Tullgren funnel, K. ARAI leg. (NSMT).

Distribution. Okinawa Island, Okinawa Prefecture, Japan.

Etymology. Locotypical, after the type locality, Okinawa Island.

Remarks. This species closely resembles *N. japonigena* and *N. cactiformis*. It clearly differs from the former species by very fine and sparse pronotal punctation, and from the latter taxon by having larger tubercles on the vertex. Unambiguous identification can be made only by examination of the aedeagus.

Neseuthia nomurai disjuncta subsp. nov.

(Figs. 2 D–E, 3 A–B)

Male. Morphology of this taxon is similar to that of the nominotypical subspecies, the only difference being a slightly different sculpture of frons and vertex. Body length 1.09–1.15 mm (mean 1.11 mm), length of head 0.14–0.16 mm (mean 0.15 mm), width of head 0.26 mm, length of antenna 0.50–0.52 mm (mean 0.51 mm), length of pronotum 0.30–0.31 mm (mean 0.30 mm), maximum width of pronotum 0.36–0.41 mm (mean 0.39 mm), width of pronotum at base 0.35–0.39 mm (mean 0.37 mm), length of elytra 0.60–0.68 mm (mean 0.66 mm), width of elytra 0.52–0.55 mm (mean 0.51 mm), elytral index 0.26. Frons and vertex bear expansions and grooves very similar to structures described for *N. nomurai nomurai*, but entire median tubercle is shorter, especially its posterior part is shorter than wide, as in Fig. 3 A–B.

Aedeagus differs from that of the nominotypical subspecies by having clearly different shape of internal, darkly sclerotized sclerites visible in its apical part, as in Fig. 2 D–F.

Female. Unknown.

Specimens examined. Holotype, ♂, Japan, Okinawa Pref., Okinawa Is., Okinawa-shi, Chibana-gusuku-ato, 6~9–IX–2003, flight intercept trap, Shiho & Koji ARAI leg. (NSMT); paratypes: 5 ♂♂, same data as holotype (PCPJ, PCA).

Distribution. Okinawa Island, Okinawa Prefecture, Japan.

Etymology. The type series of this subspecies has been collected in a locality very distant from the *terra typica* of *N. nomurai nomurai*. This fact is underlined by deriving the new subspecific name from the Latin word "*disjunctus*", meaning "separate, distant, remote".

Remarks. Diagnostic characters of this subspecies are the shape of tubercles on vertex and frons and the design of the endophallus. These features can be used for distinguishing the newly described taxon from the nominotypical subspecies. Moreover, known populations of the two subspecies are confined to the Sakishima Archipelago (*N. n. nomurai*), and Okinawa Is. (*N. n. disjuncta*), which is situated over 400 km to the north-east from the former.

Acknowledgments

Many thanks are due to Dr. Shûhei NOMURA for taking SEM microphotographs and for his great help during stay of the first author in Japan.

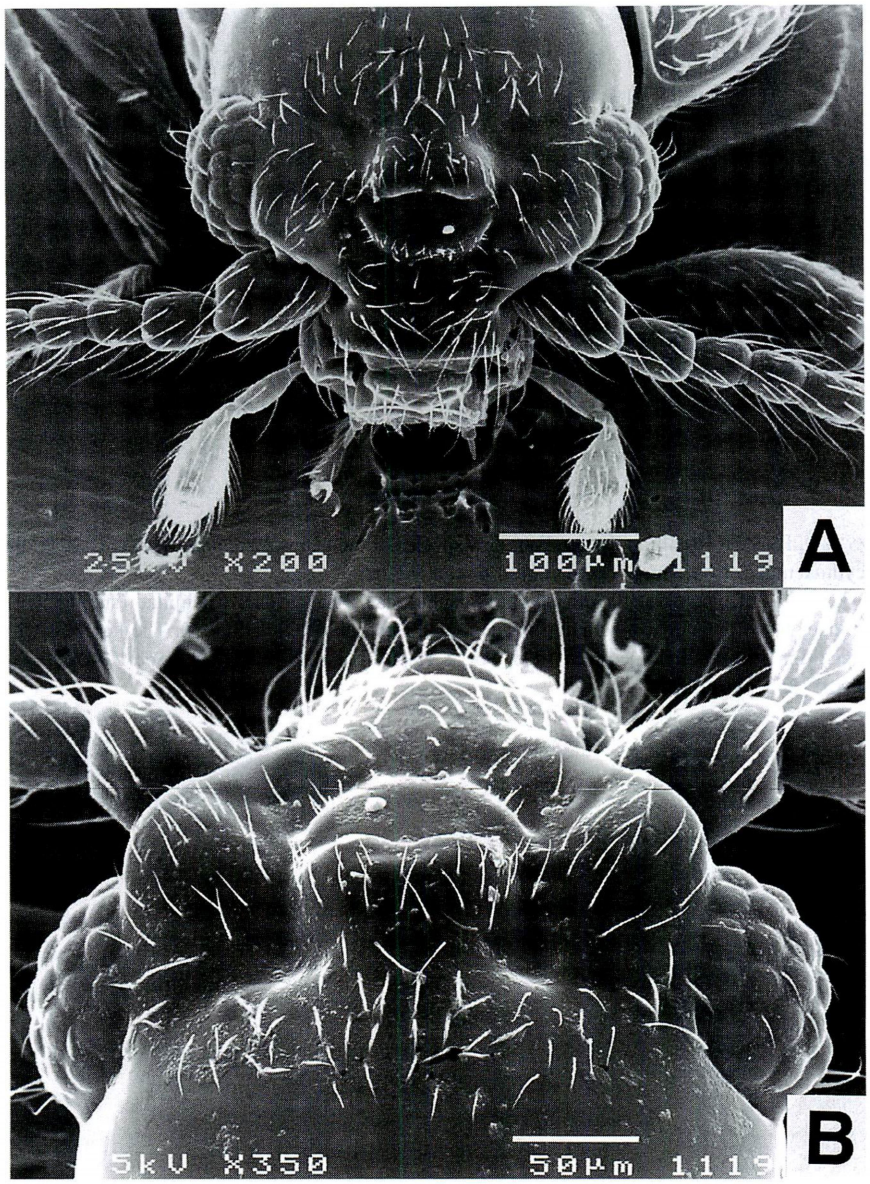

Fig. 3. Scanning electron microphotographs of *Neseuthia nomurai disjuncta* subsp. nov.; head in dorso-anterior (A) and dorsal (B) views.

要　約

P. JAŁOSZYŃSKI・新井志保・新井浩二：沖縄島から発見された*Neseuthia*属（コウチュウ目 コケムシ科）の1新種および1新亜種の記載．—— 日本産*Neseuthia*属はJAŁOSZYŃSKI & HOSHINA (2003)によって4新種が記載されている．その産地は八重山諸島，徳之島，対馬であり，それらの島の間にある地域から発見されることが予想されていた．昨年第2，第3著者らが沖縄島で行った調査により複数の個体が得られ，以下の1種1亜種を記載した．

N. okinawana JAŁOSZYŃSKI, S. ARAI et K. ARAI オキナワハラビロコケムシ

日本産の他の4種とはオス交尾器の形態から容易に区別できる．

N. nomurai disjuncta JAŁOSZYŃSKI, S. ARAI et K. ARAI

石垣島・西表島から記載された*N. nomurai* JAŁOSZYŃSKI et HOSHINAに非常によく似ているが，前頭や頭頂の構造，内袋の骨片にわずかながら違いが見られる．

さらにこれらの種を含めた日本産*Neseuthia*属の検索表を付した．

References

JAŁOSZYŃSKI, P., & H. HOSHINA, 2003　Four new species of the genus *Neseuthia* SCOTT, 1922 (Coleoptera, Scydmaenidae) from Japan.　*Jpn. J. syst. Ent.*, **9**: 47–62.

SCOTT H., 1922.　Coleoptera: Scydmaenidae, Scaphidiidae, Phalacridae, Cucujidae (supplement), Lathridiidae, Mycetophagidae (including *Propalticus*), Bostrichidae, Lyctidae. *In* The Percy SLADEN Trust Expedition to the Indian Ocean in 1905. Vol. 7, Report No. 4.　*Trans. Linn. Soc. London*, (Zoology), **18**: 195–260, pls. 19–22.

Elytra, Tokyo, **32** (1): 65–70, May 31, 2004

A New *Horaeomorphus* (Coleoptera, Scydmaenidae) from North Vietnam

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Abstract The first member of the scydmaenid genus *Horaeomorphus* Schaufuss found to occur in Vietnam is described, under the name *H. mesaios* sp. nov. Important diagnostic characters, including the aedeagus and spermatheca, are illustrated. The new species is compared to Asiatic congeners, based on the type material of all Oriental and Himalayan species of *Horaeomorphus*.

Key words: Coleoptera, Scydmaenidae, *Horaeomorphus*, new species, Vietnam, taxonomy.

Introduction

Members of *Horaeomorphus* (Scydmaeninae, Cyrtoscydmini) are known to occur in the Oriental Region, Australia, New Caledonia, Madagascar and Mauritius (Newton & Franz, 1998; Jałoszyński, 2002, 2003). In Asia, species of *Horaeomorphus* inhabit the Malay Peninsula and Archipelago (six species), Nepal (two species), Thailand (one species), mainland China, Taiwan and Japan (each country with a single species, Jałoszyński, 2002, 2003).

In this paper, the occurrence of *Horaeomorphus* in Vietnam is reported for the first time. Specimens collected in the northern part of the country, in Ninh Binh Province, turned out to belong to an undescribed species, as proved by a comparison to the type material of all Asiatic members of the genus. This new taxon is described below as *Horaeomorphus mesaios* sp. nov.; the type material is deposited in the Institute of Ecology and Biological Resources, Hanoi, Vietnam (IEBR), National Science Museum, Tokyo, Japan (NSMT), and the private collection of the first author, Włocławek, Poland (PCPJ). Comparative material from the following collections was used in the present study: Deutsche Entomologische Institut, Eberswalde, Naturhis-

torisches Museum Wien, Austria, and Muséum d'Histoire Naturelle, Geneva, Switzerland.

Taxonomy

Horaeomorphus mesaios sp. nov.

(Figs. 1, 2 A–E)

Diagnosis. This species can be distinguished from all Asiatic congeners by the following set of characters: body of moderate size; pronotum finely punctate; elytra widest anterior to middle, with distinct punctures, especially large and dense in slightly impressed adsutural area in anterior third; lack of external sexual dimorphism. Examination of aedeagus is necessary for identification.

Description. Body slender, flattened, moderately dark brown with slightly lighter legs and palpi, setation yellowish.

Male (Fig. 1). Body length 1.86 mm. Head slightly wider than long, widest at large eyes, length 0.3 mm, width 0.4 mm. Tempora moderately long, convergent posteriorly, in anterior 3/4 regularly rounded, then rapidly bent toward occipital constriction; vertex over twice as wide as long, convex, with a pair of shallow, relatively small foveae, each adjacent to postero-internal margin of prominent supraantennal tubercle; frons subtrapezoidal, convex. Punctation sparse and fine; setation relatively sparse, moderately long, suberect to erect. Antenna 0.79 mm in length, gradually thickened toward apex, as shown in Fig. 2 A.

Pronotum slightly longer than wide, widest near anterior fourth, length 0.56 mm, maximum width 0.52 mm, width at base 0.41 mm. Anterior and lateral margins rounded together; narrow basal collar delimited from disc by a transverse, slightly impressed row of five small pits; base nearly straight. Punctation sparse and fine; setation moderately dense and long, suberect to erect.

Elytra oval, slightly flattened, widest just before anterior third, length 1 mm, width 1.43 mm, elytral index (EI; length/width) 1.43. Humeri relatively well marked, each with shallow and broad internal humeral impression, very narrow adsutural area in anterior 1/6 raised and delimited by sharp edge, broad oval median area near anterior third distinctly flattened, apices of elytra rounded together; scutellum not visible. Punctation in basal 1/5 relatively fine and sparse, then punctures increasing in size, largest on flat area in anterior third, in posterior half punctures gradually reducing in size, in posterior third shallow and indistinct. Setation moderately dense and long, setae slightly longer but distinctly thicker than on pronotum. Hind wings well developed, about twice as long as elytra.

Legs moderately long, relatively robust. Trochanters not modified; all femora moderately strongly clavate; tibiae recurved, widest between middle and distal third, pro- and especially mesotibiae with dense setal row in distal half of internal margin; tarsi with tarsomeres I–IV slightly decreasing in size, V as long as III–IV together.

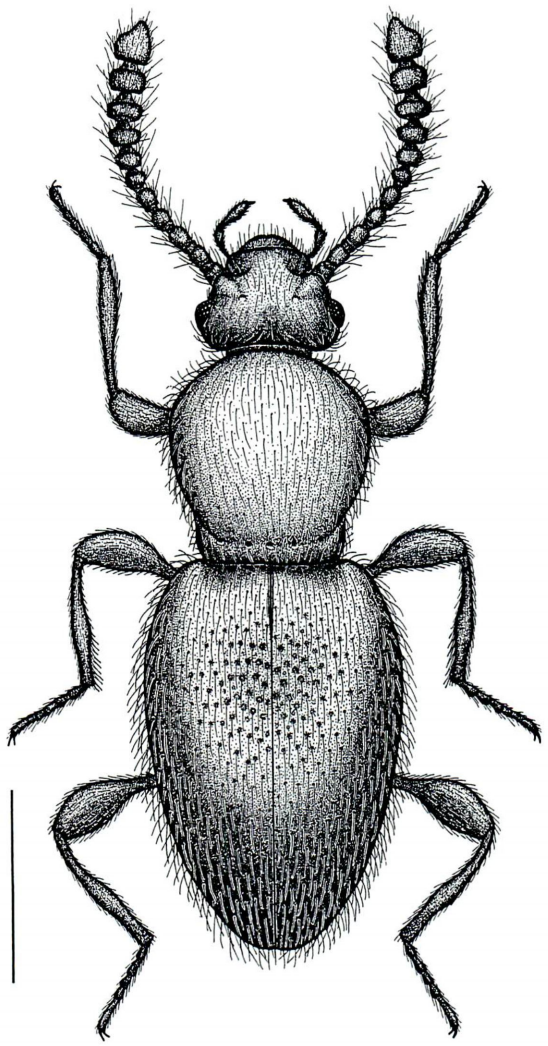


Fig. 1. *Horaeomorphus mesaios* sp. nov., habitus of holotype male. Scale: 0.5 mm.

Aedeagus (Fig. 2 B–D) 0.35 mm in length, relatively slender, with median lobe strongly narrowing toward rounded apex, in lateral view apex only slightly curved ventrally; subtrapezoidal ventral part of base separated from median lobe; parameres long, minimally exceeding apex of median lobe, slender, with very short apical setae; internal armature relatively complicated, symmetrical, composed of darkly sclerotized central complex surrounded by lighter, elongate lobes.

Female. Body length 1.81–1.84 mm, length of head 0.3 mm, width of head 0.4 mm, length of antenna 0.77 mm, length of pronotum 0.52–0.55 mm, maximum width

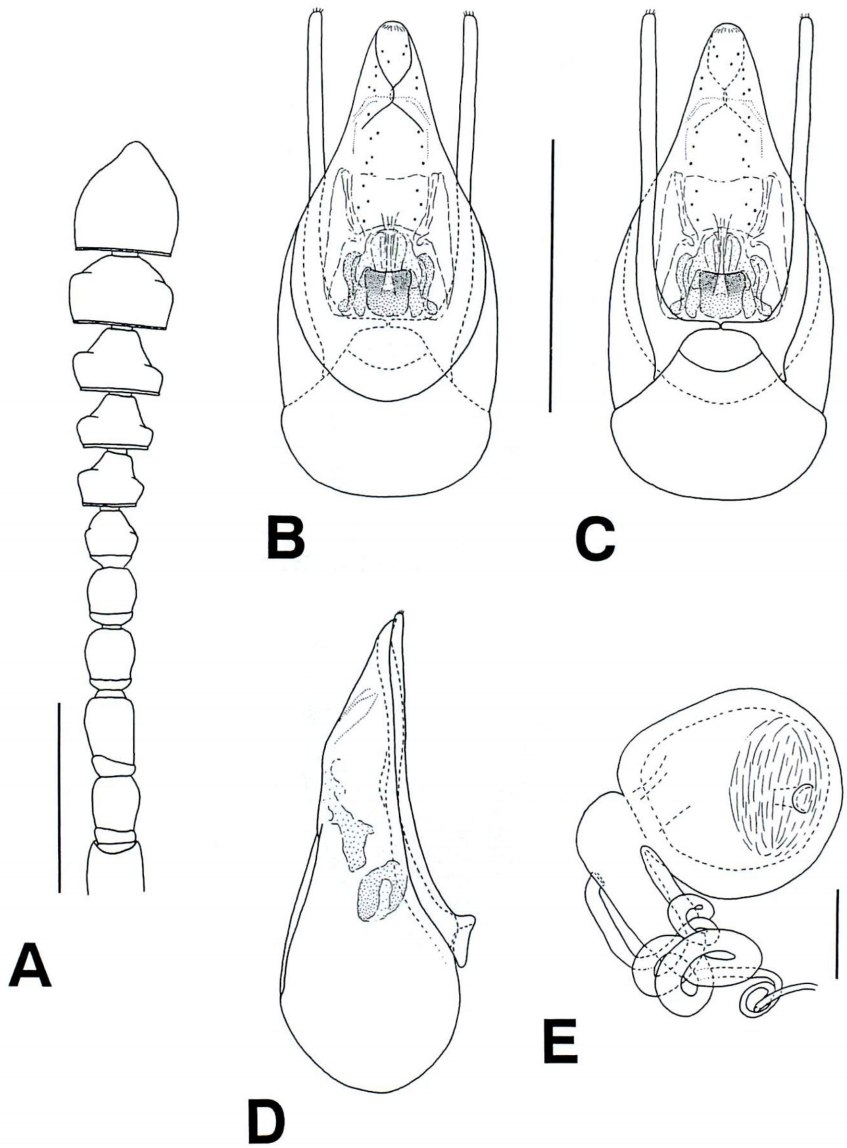


Fig. 2. *Horaeomorphus mesaios* sp. nov.; left antenna of male in dorsal view (A), aedeagus in dorsal (B), ventral (C) and lateral (D) views, and spermatheca (E). Scale 0.2 mm for A–D, 0.02 mm for E.

of pronotum 0.52 mm, width of pronotum at base 0.37 mm, length of elytra 0.99–1 mm, width of elytra 0.67–0.69 mm, EI 1.45–1.48. Externally females not distinguishable from the only known male, except for the difference in elytral index (distinctly lower in male).

Spermatheca (Fig. 2 E) with oval, capsular part (longest diameter 0.05 mm) with distinct circular opening, and with thick, subcylindrical duct with relatively complicated, entangled distal part. Bursa copulatrix not found.

Distribution. North Vietnam.

Holotype male, N. Vietnam, Ninh Binh Prov., Cuc Phuong, rotten wood, 300 m, 14–VI–2002, S. NOMURA leg. (NSMT). Paratypes: 2 females, data as for the holotype (IEBR, PCPJ).

Etymology. The new species is little characteristic and has body of medium size, with no particular characters. This feature is underlined by the specific epithet "μεσαίος" (*mesaios*), in Greek meaning "intermediate, medium, middle".

Remarks. *Horaeomorphus mesaios* is most similar to *H. sarawakensis* FRANZ; both species have similar body shape and size. Apart from distinct differences in the design of the aedeagus, the new species can be distinguished by having very fine punctation on the pronotum and larger and denser punctures on the central part of elytra; the pronotum in *H. sarawakensis* has distinct punctation. *Horaeomorphus eumicroides* SCHAUFUSS is larger and has more convex elytra with fine punctation; *H. himalayanus* FRANZ is about twice as large as the new species; *H. kachongensis* FRANZ is also much larger and has fine elytral punctation. *Horaeomorphus nepalensis* FRANZ is larger, with very characteristic, dense punctation on the pronotum composed of very large punctures; *H. babai* JAŁOSZYŃSKI is larger and has much more convex body; *H. chinensis* FRANZ is slightly larger and has distinctly punctate pronotum; males of *H. sakishimanus* JAŁOSZYŃSKI have strongly modified metatrochanters (simple in *H. mesaios*); *H. sabahensis* FRANZ is larger and has much broader elytra as compared to the width of pronotum; *H. heissi* FRANZ, in turn, is much smaller and has more flattened pronotum and elytra, and median ante-basal pit on pronotum distinctly more distant from the base than lateral foveae (all foveae in one line in *H. mesaios*). *Horaeomorphus punctatissimus* FRANZ is larger and has very distinct, large punctures on pronotum and much strongly curved metatibiae; *H. loeblianus* FRANZ also has larger body with more convex pronotum and elytra, and with very characteristic, dense setation of posterior part of pronotum (much sparser in *H. mesaios*); *H. valdepunctatus* FRANZ has distinctly broader pronotum, much stronger narrowing toward strikingly narrow base. *Horaeomorphus mesaios* is the first species of the genus known to occur in Vietnam; the type series was collected by sifting a rotten wood.

Acknowledgments

We wish to express our sincere thanks to Dr. Shun-Ichi UÉNO (NSMT) for his continuous guidance and critical reading of the manuscript. The first author is greatly indebted to museum curators, who loaned the comparative material used in this study: Dr. Lothar ZERCHE (Deutsche Entomologische Institut, Eberswalde, Germany), Dr. Harald SCHILLHAMMER (Naturhistorisches Museum Wien, Austria), and Dr. Giulio CUCCODORO (Muséum d'Histoire Naturelle, Geneva, Switzerland).

The second author extends his special thanks to Dr. Vu Quang CON and Dr. Ta Huy THINH of IEBR for their kind assistance in various ways in Vietnam. The field work in Vietnam is supported by the Grants-in-aid Nos. 09041167 for Field Research of the Monbusho International Scientific Research Program and 13575015 for Field Research of the Monbukagakusho International Research Program, Japan.

要　　約

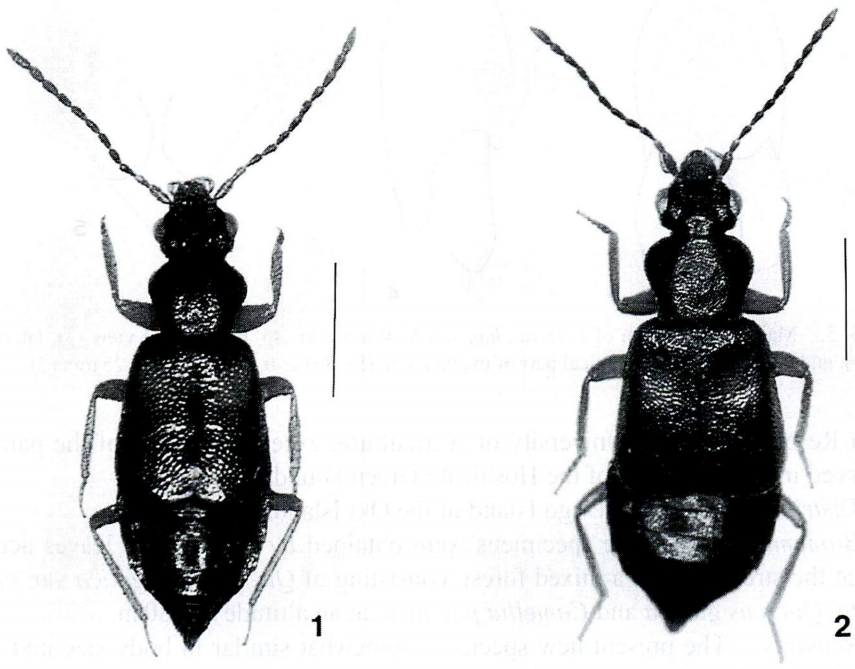
P. JAŁOSZYŃSKI・野村周平：北ベトナム産トゲアシオオコケムシ属の1新種（コウチュウ目コケムシ科）．—— 北ベトナム，ニンビン省クックフンの朽木中から発見されたトゲアシオオコケムシ属の一種を，東洋区およびヒマラヤ地域産の同属の種と比較検討した結果，新種であると認められため，*Horaeomorphus mesaios* sp. nov. と命名，記載した．

References

JAŁOSZYŃSKI, P., 2002. First record of the genus *Horaeomorphus* SCHAUFUSS (Coleoptera, Scydmaenidae) from Japan, with description of a new species. *Bull. natn. Sci. Mus., Tokyo*, (A), **28**: 223–232.

——— 2003. Taxonomical notes on Southeast Asiatic species of *Horaeomorphus* SCHAUFUSS (Coleoptera, Scydmaenidae), with description of a new species from Taiwan. *Ibid.*, **29**: 107–117.

NEWTON, A. F., & H. FRANZ, 1998. World catalog of the genera of Scydmaenidae (Coleoptera). *Koleopt. Rdsch.*, **68**: 137–165.



Figs. 1–2. Habitus of *Lesteva* spp.; *L. shimadai* Y. WATANABE, sp. nov., ♂ (1), and *L. okiana* Y. WATANABE, sp. nov., ♂ (2). Scale: 1.0 mm.

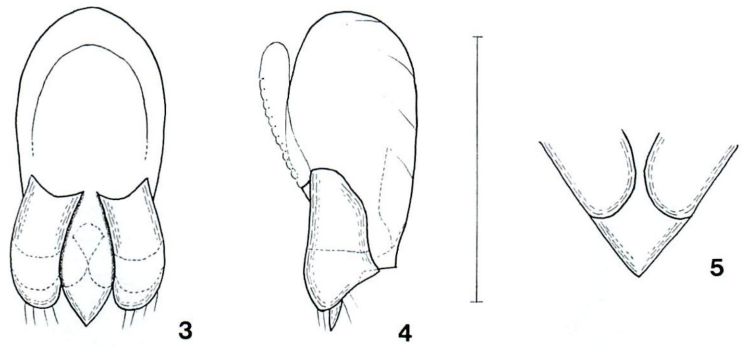
and covered with similar pubescence as on pronotum. Legs moderately long, protarsus not widened, last segment of metatarsus shorter than two preceding segments together.

Abdomen relatively broad and narrowed from 6th segment towards the anal end; surface of each tergite somewhat closely covered with microscopic punctures and fine pubescence, 8th sternite broadly, shallowly and semicircularly emarginate at the middle of posterior margin.

Genital organ elliptical and trilobed; basal piece large and semioval; median lobe relatively broad and apparently narrowed towards the apex which is bluntly pointed as seen from dorsal side; parameres symmetrical and distinctly shorter than median lobe, each paramere almost parallel-sided except near the broadly rounded apical part, which is fringed with four fine setae.

Female. Similar in general appearance to male, but differs from it in the 8th abdominal sternite narrowly rounded at the apex.

Type series. Holotype: ♂, allotype: ♀, Minamidani-rindô, Fuse-mura, Dôgo Is., Oki Isls., Japan, 12–V–2003, T. SHIMADA leg. Paratypes: 7♂♂, 6♀♀, same data as for the holotype. The type specimens are deposited in the collection of the Laboratory of



Figs. 3–5. Male genital organ of *Lesteva shimadai* Y. WATANABE, sp. nov.; dorsal view (3), lateral view (4), and ventral view of the apical part of median lobe (5). Scale: 0.5 mm (3, 4), 0.25 mm (5).

Insect Resources, Tokyo University of Agriculture, except for a pair of the paratypes preserved in the collection of the Hoshizaki Green Foundation.

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

Bionomics. The type specimens were obtained by sifting dead leaves accumulated at the streamside in a mixed forest, consisting of *Quercus mongolica* var. *grosseserrata*, *Quercus glauca* and *Camellia japonica*, at an altitude of 180 m.

Remarks. The present new species is somewhat similar in body size and facies to *L. plagiata* SHARP (1889, p. 472), but differs from it in the following points: head more closely and more coarsely punctured; pronotum more elevated medially and more transverse, surface more closely punctured and with more weakly U-shaped depression; elytra more closely and more coarsely punctured; male genital organ with much broader parameres.

Etymology. This new species is named after Mr. Takashi SHIMADA, who kindly supplied me with the specimens of the type series.

Lesteva okiana Y. WATANABE, sp. nov.

[Japanese name: Oki-futamon-yotsume-hanekakushi]

(Figs. 2, 6–8)

Body length: 3.7–4.7 mm (from front margin of head to anal end); 2.7–2.9 mm (from front margin of head to elytral apices).

Somewhat resembles the preceding species, but easily distinguishable from it by the larger body, broader pronotum and different configuration of male genital organ.

Body spindle-shaped and subdepressed above. Colour black to brownish black and moderately shining, with mouthparts and two basal segments of antennae yellowish brown, each elytron provided with an elliptical yellowish patch at the middle in anterior half.

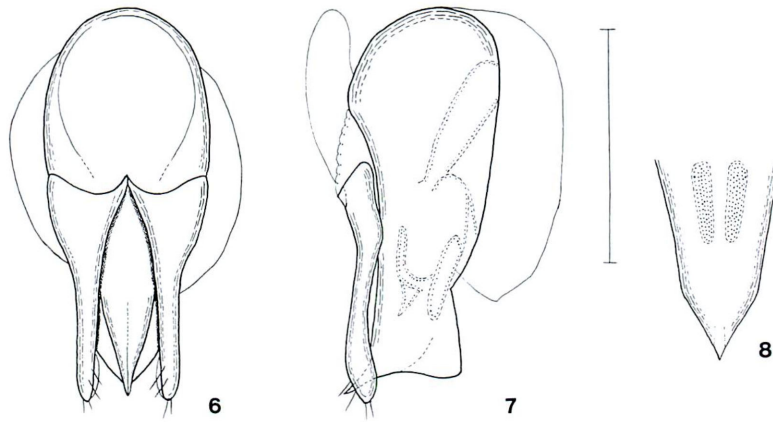
Male. Head somewhat depressed above, apparently broader across compound

eyes than long (width/length=1.45); postocular part arcuate and short, a half as long as the longitudinal diameter of each eye, which is somewhat prominent laterad; surface closely and somewhat coarsely punctured and covered with fine brownish pubescence, provided with a longitudinal depression on each side of the middle; frons between antennal tubercles relatively shalowly and semicircularly depressed, surface of the depression nearly flat and more sparsely punctured than on disc; ocelli distinct, lying just before posterior margin, the distance between them slightly larger than that from the outside of ocellus to the inner margin of each compound eye. Antennae elongate and extending to near the middle of elytra and not thickened apicad, with two proximal segments subopaque and the remainings opaque, 1st segment robust and more than twice as long as broad, 2nd to 10th equal in width to one another, 2nd apparently longer than broad (length/width=1.67), but considerably shorter (2nd/1st=0.56) and a little narrower (2nd/1st=0.75) than 1st, 3rd remarkably longer than broad (length/width=2.33), distinctly longer than 2nd (3rd/2nd=1.40), 4th more than twice as long as broad and equal in length to 3rd, 5th to 7th equal in length to one another, each more than 2.5 times as long as broad, 8th to 10th equal in length to one another, each somewhat shorter than 7th (each of 8th to 10th/7th=0.88), 11th elongate, about 2.5 times as long as broad, distinctly longer (11th/10th=1.43) and a little broader (11th/ 10th=1.33) than 10th, bluntly pointed at the apex.

Pronotum subcordate and moderately convex medially, somewhat broader than long (width/length=1.16), nearly 1.5 times as long as and somewhat broader (pronotum/head=1.16) than head, widest at anterior third and more strongly narrowed posteriad than anteriad; lateral margins finely though distinctly bordered throughout, the border continuing onto nearly straight posterior margin, anterior three-fourths arcuate and deflexed though posterior fourth is almost straight, anterior margin feebly emarginate at the middle, anterior angles rounded though hardly visible from dorsal side, posterior angles rectangular; surface much more densely and more strongly punctured than in head and covered with similar pubescence as on head, provided with an obsolete U-shaped depression on the disc. Scutellum relatively small and subtriangular, surface sparsely punctured and finely pubescent. Elytra subtrapezoidal and dilated posteriad, slightly longer than broad (length/width=1.03), twice as long as and remarkably broader (elytra/pronotum=1.68) than pronotum, lateral sides almost straight except near broadly rounded posterior angles, posterior margin nearly truncate; surface densely, coarsely punctured and covered with similar pubescnce to that on pronotum. Legs moderately long, protarsus not widened.

Abdomen relatively broad, almost as broad as elytra at 3rd segment and abruptly narrowed from 6th segment towards the apical end; each tergite closely, finely and superficially punctured, and covered with similar pubescence as on elytra, 8th sternite semicircularly emarginate at the middle of posterior margin.

Genital organ spindle-shaped and trilobed. Median lobe with large and somewhat globular basal piece, dorsal surface more strongly sclerotized along the middle than the lateral parts, which are somewhat membraneous, the sclerotized part provided with



Figs. 6–8. Male genital organ of *Lesteva okiana* Y. WATANABE, sp. nov.; dorsal view (6), lateral view (7), and ventral view of the apical part of median lobe (8). Scale: 0.5 mm (6, 7), 0.25 mm (8).

a fine median longitudinal carina in apical half, ventral side abruptly narrowed in the apical part and acutely pointed at the apex. Parameres symmetrical and slightly longer than median lobe, each paramere elongate, abruptly narrowed in apical half and fringed with four fine setae at the apical part.

Female. Similar in general appearance to male, but differs from it in the 8th abdominal sternite narrowed towards the bluntly pointed apex.

Type series. Holotype: ♂, allotype: ♀, Minamidani-rindô, Fuse-mura, Dôgo Is., Oki Isls., Japan, 12–V–2003, T. SHIMADA leg. Paratypes: 1♂, 1♀, same data as for the holotype. The type specimens are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture, except for a paratype (♀) preserved in the collection of the Hoshizaki Green Foundation.

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

Bionomics. All the type specimens are obtained from the same habitat as the preceding species.

Remarks. The present new species is closely similar to *L. tsushimae* in external features as well as male genital organ, but differs from it in the following points: head slightly less closely and less coarsely punctured on disc, two proximal segments of antennae yellowish brown, pronotum slightly more elevated medially, elytra longer than broad and less dilated posteriad, yellowish patch at the middle in anterior half larger and more distinct; male genital organ with median lobe slightly shorter than parameres, much broader in basal half and much more strongly narrowed apicad.

Etymology. This new species is named after the Oki Islands, in which lies the Island of Dôgo, the type locality.

要　　約

渡辺泰明：隠岐諸島の島後から採集された*Lesteva*属の2新種．—— *Lesteva*属に含まれる種は，通常，流れの際や湿地の落葉や石の下などから見出され，これまで日本からは17種が知られていた．最近，私は隠岐自然館の島田孝氏から，同氏が隠岐諸島の島後で採集された本属の2種をご恵与いただいた．これらの2種を検討した結果，いずれも未記載種であることが判明したので，下記のとおり命名・記載した．

1. *Lesteva shimadai* Y. WATANABE シマダネアカヨツメハネカクシ

この種は，標高180 mのミズナラなどの落葉樹とアラカシやヤブツバキなどの常緑樹による，混交林内の流れの際に堆積した落葉下から採集されたもので，ネアカヨツメハネカクシに体長および外観が類似している．しかし，頭部および翅鞘はより密に，より粗く点刻され，前胸背板のU字型凹陥はより弱く，また，雄交尾器の形状が著しく異なることで容易に区別される．

2. *Lesteva okiana* Y. WATANABE オキフタモンヨツメハネカクシ

前種と同様な環境から採集された本種は，外部形態および雄交尾器の形状がツシマフタモンヨツメハネカクシによく似ている．しかし，本種の翅鞘は幅よりわずかに長く，後方への狭まりも弱いこと，また，黄橙色の斑紋がより明瞭であること，雄交尾器の中葉もわずかに側葉より短く，基半はより幅広く，末端に向かって強く狭まることで区別される．

References

CAMERON, M., 1930. New species of Staphylinidae from Japan. *Entomologist's month. Mag.*, **66**: 181–185.

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

——— 1889. The Staphylinidae of Japan. *Ann. Mag. nat. Hist.*, (6), **3**: 463–476 [part 9].

WATANABE, Y., 1990. A taxonomic study on the subfamily Omaliinae from Japan. *Mem. Tokyo Univ. Agric.*, **31**: 55–391.

Elytra, Tokyo, **32** (1): 78, May 31, 2004

The Staphylinid Beetles Newly Recorded from the Island of Awaji-shima in Hyôgo Prefecture, West Japan

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Until now, eleven species of staphylinid beetles have been recorded from the Island of Awaji-shima in Hyôgo Prefecture by KINOSHITA (1973, 1974), TAKAHASHI (1984) and WATANABE (2001). Through the courtesy of Messrs. M. MORI and S. TANAKA, I had an opportunity to examine a short series of staphylinid beetles obtained from this island. Three species among them are new to the fauna of the island, as recorded below.

1. *Medon rubeculus* SHARP
   2♂♂, Ayuya-gawa (alt. 200 m), Sumoto-shi, Awaji-shima Is., 20–IX–1998, M. MORI leg.; 3♂♂, 1♀, Mt. Yuzuruha-san (alt. 450 m), Mihama-chô, Awaji-shima Is., 26–IX–1999, M. MORI leg.
2. *Scopaeus currax* SHARP
   1♂, Ayuya-gawa (alt. 200 m), Sumoto-shi, Awaji-shima Is., 20–IX–1998, M. MORI leg.
3. *Hesperus tiro* (SHARP)
   1♂, 1♀, Mt. Kashiwara-yama, Sumoto-shi, Awaji-shima Is., 11–XI–2001, S. TANAKA leg.

I thank Messrs. Masato MORI, Nishinomiya City, and Shôtarô TANAKA, Shirahama-chô, Wakayama Pref., for their kindness in giving me the specimens and Mr. Tetsuya MAENAMI, Iwaki City, for his help in literature.

References

KINOSHITA, S., 1973. Staphylinidae. *In* ISHIHARA, T., *et al.* (eds.), The insect fauna of the islands on the route of the prospecting bridge between Honshu and Shikoku. *Honshû-Shikoku Renrakukakyô ni tomonau Shûhen-chiiki-no-shizenkankyô-hozen-no-tameno Chôsa-hôkokusho*, Gakujutsu-chôsahen, Dôbutsu-bumon, 180–181. Kokuritsu-kôen-kyôkai. (In Japanese.)

——— 1974. Ditto, Dôbutsu–85.

TAKAHASHI, T., 1984. On a beetle newly recorded from the Island of Awaji-shima. *Parnassius*, (39): 1–7. (In Japanese.)

WATANABE, Y., 2001. Two new species of the group of *Lathrobium nomurai* (Coleoptera, Staphylinidae) from West Japan. *J. speleol. Soc. Japan*, **26**: 37–43.

Elytra, Tokyo, **32** (1): 79–84, May 31, 2004

A Remarkable New Species of the Genus *Micropeplus* (Coleoptera, Staphylinidae) from Hokkaido, Northeast Japan

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Abstract A remarkable new species of the staphylinid genus *Micropeplus* is described under the name of *Micropeplus horii*. It is obtained by using a truck trap on the Mikuni Pass of central Hokkaido, Northeast Japan.

The micropepline beetles form a characteristic group in the family Staphylinidae and are readily distinguished from the other members of the family by a combination of the following characters: antennae nine-segmented, pronotum excavated under the lateral sides for reception of the antennae, and elytra and abdomen provided with remarkable costae on the surface.

Seven species of *Micropeplus* have hitherto been reported from Japan excluding the Ryukyus by SHARP (1874), SAWADA (1964), WATANABE and SHIBATA (1965), and WATANABE (1975, 1990). Through the courtesy of Mr. Shigehisa HORI, I have recently had an opportunity to examine a series of specimens of an interesting species of the genus, which were obtained by using a track trap on the Mikuni Pass of central Hokkaido, Northeast Japan. It seems to belong to the group of *M. tesserula* from Europa, Canada and North America in having each elytron provided with four longitudinal costae and interspaces of the costae impunctate. However, this species does not agree with any of the other members of the group in the remarkably convex and strongly transverse body, and somewhat asymmetrical male genital organ. It must be a new species, whose description will be geven in the present paper.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO, Visiting Professor at Tokyo University of Agriculture, for his kind advice on the present study. My hearty thanks are also due to Mr. Shigehisa HORI, Historical Museum of Hokkaido, for his kindness in providing me with the invaluable specimens used in the present study, and to Mr. Koji ARAI, Ranzan-machi, Saitama, for his assistance in drawing the habitus illustration inserted in this paper.

Micropeplus horii Y. WATANABE, sp. nov.

[Japanese name: Hori-sesujichibi-hanekakushi]

(Figs. 1–5)

Body length: 1.3–1.4mm (from front margin of head to anal end); 1.0–1.1 mm from front margin of head to elytral apices).

Body oval and strongly convex. Colour reddish brown, moderately shining except for subopaque head and pronotum, with head blackish and 3rd to 8th antennal segments blackish brown.

Male. Head subtriangular and a little broader across compound eyes than long (width/length=1.15); clypeo-frontal part produced forwards and narrowed anteriad, gently rounded and finely bordered on latero-anterior margin; surface flattened and impunctate, though covered with distinct coriaceous ground sculpture; disc uneven, provided with a short oblique elevation on each side of the middle in posterior two-thirds; lateral sides arcuate and distinctly elevated, though the elevation is abbreviated at the anterior part which is slightly emarginate at the middle, surface impunctate and similarly coriaceous to clypeo-frontal part; compound eyes prominent and coarsely faceted. Antennae relatively short, not reaching the middle of pronotum, usually receding onto the underside of pronotum for their reception, all the segments polished except for setose apical part of apicalmost segment; 1st segment enlarged and dilated apicad, a little longer than broad (length/width=1.10), 2nd abruptly narrowed in apical half, somewhat longer than broad (length/width=1.07), slightly shorter (2nd/1st=0.91) and a little narrower (2nd/1st=0.93) than 1st, 3rd elongate, about 1.5 times as long as broad though somewhat shorter (3rd/2nd=0.83) and distinctly narrower (3rd/2nd=0.54) than 2nd, 4th a little longer than broad (length/width=1.33), slightly shorter (4th/3rd=0.80) than though as broad as 3rd, 5th a little longer than broad (length/width=1.38), but slightly shorter (5th/4th=0.90) and narrower (5th/4th=0.87) than 4th, 6th somewhat longer than broad (length/width=1.23), slightly shorter (6th/5th=0.89) than though as broad as 4th, 7th almost as long as broad but distinctly shorter (7th/6th=0.81) and slightly narrower (7th/6th=0.92) than 6th, 8th somewhat transverse (width/length=1.25), slightly shorter (8th/7th=0.92) though somewhat broader (8th/7th=1.25) than 7th, 9th the largest and globular, 1.5 times as long as broad, five times as long as and much broader (9th/8th=2.67) than 8th, broadly rounded at the apex.

Pronotum subtrapezoidal and strongly convex at the middle, distinctly transverse (width/length=1.86) and much broader than head (pronotum/head=2.27), widest at the base and strongly narrowed anteriad, lateral margins each almost straight though slightly emarginate in anterior half, anterior margin emarginate at the middle, posterior margin weakly bisinuate, somewhat broadly produced backwards and broadly rounded at the middle, anterior angles more or less angulate, posterior ones nearly rectangular though blunt at the corners; lateral areas each rather broadly explanate, provided with a shallow depression behind the middle; surface impunctate though covered with similar ground sculpture to that on head; median part provided with four cells enclosed by

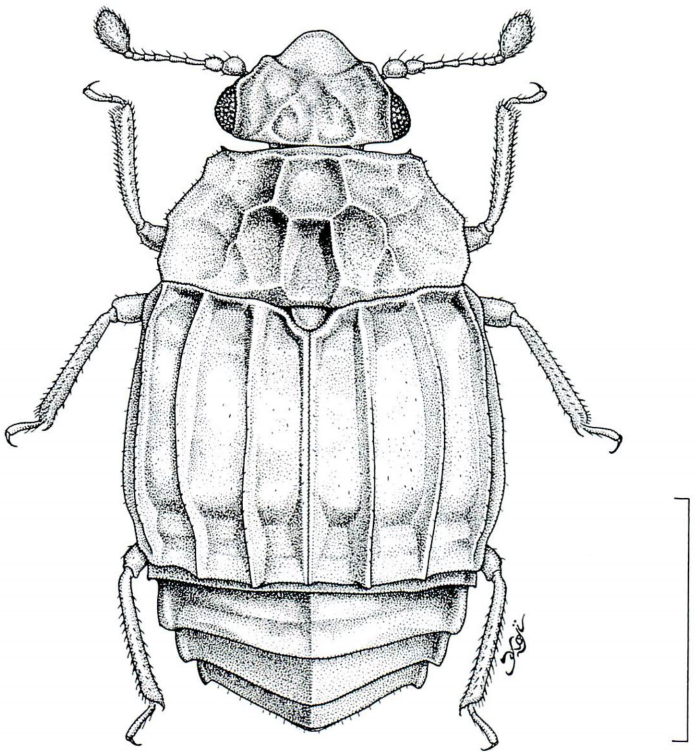


Fig. 1. *Micropeplus horii* Y. WATANABE, sp. nov., ♂, from the Mikuni Pass of central Hokkaido, Japan. Scale: 0.5 mm.

costae, one at the middle in anterior half and the remaining three in posterior half, surface of each cell distinctly depressed above and covered with ground sculpture as in lateral areas; lateral cells not enclosed by distinct costae. Scutellum subtriangular, finely coriaceous on the surface. Elytra subquadrate, strongly convex medially and apparently transverse (width/length=1.29), a little longer (elytra/pronotum=1.19) and distinctly broader (elytra/pronotum=1.71) than pronotum, widest behind the middle and somewhat narrowed both anteriad and posteriad, abruptly and transversely depressed in posterior fourth along posterior margin, each elytron provided with four longitudinal costae, one sutural, two discal and one humeral, sutural costa less strong than the other costae, first discal costa nearly straight, second one gently arcuate outwards, all the costae extending through the whole length, each interspace of the costae impunctate though covered with coriaceous ground sculpture as on pronotum; epipleural costa strongly and arcuately raised, pseudepipleural costa absent, interspace between epipleural costa and lateral margin much narrower than the interspace between epipleural costa and humeral costa, and covered with ground sculpture as on the other interspaces. Legs relatively short; tarsi three-segmented, 1st and 2nd segments each very

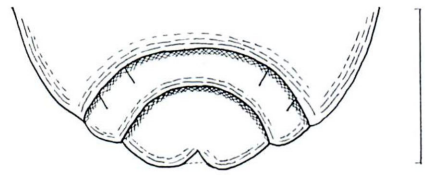


Fig. 2. Last two abdominal sternites in male of *Micropeplus horii* Y. WATANABE, sp. nov. Scale: 0.25 mm.

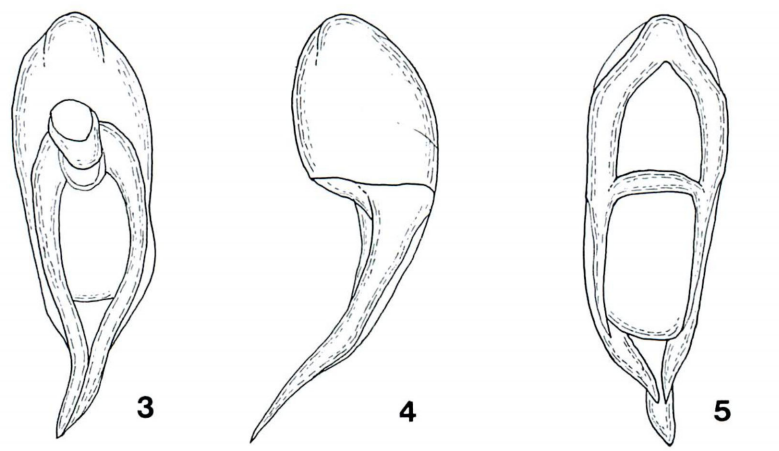
short, 3rd much longer than the two precedings together.

Abdomen short, gradually narrowed towards apical end; surface of each tergite impunctate though covered with similar coriaceous ground sculpture to that on elytra, basal four visible tergites each transversely depressed in basal half and provided with a median longitudinal costa which extends to the posterior margin, except for that of 4th visible tergite much finer than those of other tergites and abbreviated near the middle; mid-lateral longitudinal costae obscure; last sternite minutely and semicircularly excised at the middle of posterior margin.

Genital organ somewhat spindle-shaped, asymmetrical and moderately sclerotized. Median lobe relatively broad, widest at basal fourth and more gradually narrowed apicad than basad, broadly rounded at apical margin; parameres elongate and longer than median lobe, fused to each other and curved to the right side in apical fourth.

Female. Similar in general appearance to male, but different from it in the normal last abdominal sternite.

Type series. Holotype: ♂, allotype: ♀, Japan, Hokkaido, Kamikawa-Horokanai T., Mikuni Pass, 29–VI–2002, Shigehisa HORI leg. Paratypes: 5♂♂, 4♀♀, same data as



Figs. 3–5. Male genital organ of *Micropeplus horii* Y. WATANABE, sp. nov.; dorsal view (3), lateral view (4), and ventral view (5). Scale: 0.25 mm.

for the holotype. All the specimens of the type series are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture, except for a pair of the paratypes in the Historical Museum of Hokkaido, Sapporo.

Distribution. Japan (Hokkaido).

Remarks. The present new species is similar in body size and general appearance to *M. tesserula* CURTIS (1828, p. 204; cf. CAMPBELL, 1968, p. 232, figs. 1, 20) known from Europe, Canada and North America, but is distinguishable from it by the following points: head provided with a pair of oblique elevations at the middle in posterior two-thirds; pronotum widest at the base; elytra much more strongly depressed in posterior fourth along posterior margin, 2nd discal costa distinctly arcuate outwards in median part; abdominal tergites each provided with a longitudinal median costa though the mid-lateral costa is obscure; male genital organ asymmetrical and curved to the right side in apical fourth.

Bionomics. All the type specimens were obtained on the Mikuni Pass by using a truck trap from 9 a.m. to 3 p.m. The pass is located between Kamikawa and Horokanai Towns in central Hokkaido, Northeast Japan.

Etymology. The present new species is named after Mr. Shigehisa HORI, who kindly supplied me with the specimens of the type series of this interesting species.

要　約

渡辺泰明：北海道で発見されたセスジチビハネカクシ属（甲虫目ハネカクシ科）の1新種．—— セスジチビハネカクシ属は，触角が9節で，前胸背板には隆条で囲まれた小室が存在し，翅鞘と腹部がそれぞれ顕著な隆条を具えることなどによって，他のハネカクシ類から容易に区別される．現在まで，日本からは琉球を除いた地域から7種が報告されている．最近，私は，堀繁久氏により北海道上川町三国峠におけるトラックトラップで採集された，本属の1種を検討する機会を得た．この種は各翅鞘に4隆条を有することと，これらの隆条間が点刻されないことなどの点で，ヨーロッパ，カナダ，北米に分布している *M. tesserula* に近縁の種と思われた．しかし体が強く膨隆し，翅鞘は顕著に横位で，また雄交尾器の形態が明らかに *M. tesserula* のものとは異なるので新種と認め，ホリセスジチビハネカクシ *Micropeplus horii* と命名・記載した．

Errata and Corrigenda

In the Elytra, **31** (2): p. 399: in the figure caption, for *Eusphalerum bonjusanum* read *Eusphalerum bonjuense*. p. 402: line 8, for *Eusphalerum bonjusanum* read *Eusphalerum bonjuense*.

References

CAMPBELL, J. M., 1968. A revision of the New World Micropeplinae (Coleoptera: Staphylinidae) with a rearrangement of the world species. *Canad. Ent.*, **100**: 225–267.

SAWADA, K., 1964. On the new species of Staphylinidae of Japan (Coleoptera). *Ent. Rev., Japan*, **16**: 35–38, figs. 1–2.
SHARP, D., 1874. Staphylinidae of Japan. *Trans. ent. Soc. London*, **1874**: 1–103.
WATANABE, Y., 1975. A revision of the Japanese species of the genus *Micropeplus* LATREILLE (Coleoptera, Staphylinidae). *Kontyû, Tokyo*, **43**: 304–326.
——— 1990. A new *Micropeplus* (Coleoptera, Staphylinidae) from the Island of Oki, West Japan. *Proc. Jpn. Soc. syst. Zool.*, (42): 37–41.
——— & Y. SHIBATA, 1965. On the genus *Micropeplus* LATR. of Japan with descriptions of a new and an unrecorded species (Col.: Staphylinidae). *J. agric. Sci., Tokyo Nogyo Daigaku*, **10**: 67–70.

Elytra, Tokyo, **32** (1): 84, May 31, 2004

New Records of Staphylinid Beetles (Coleoptera, Staphylinidae) from the Island of Shôdo-shima in Kagawa Prefecture, West Japan

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Ten species of staphylinids, except for pselaphine beetles, have hitherto been recorded from the Island of Shôdo-shima in Kagawa Prefecture by SATÔ (1955) and HAYASHI (1956). The second author had an opportunity of making a faunal investigation of ground beetles on the Island of Shôdo-shima in the autumn of 1997. He was able to obtain three staphylinid species, two of which are new to the fauna of the island, as recorded below.

1. *Hesperus tiro* (SHARP)
   5♂♂, 8♀♀, Kanka-kei, Uchinomi-chô, Shôzu-gun, 28~29–X–1997.
2. *Lordithon* (*Bolitobus*) *irregularis* (WEISE)
   1♀, Same data as above.

We thank Mr. Takeshi MIKI, Takamatsu, for giving useful information.

References

HAYASHI, M., 1956. The insects of the Island of Shôdo-shima. *Zoku Shôdo-shima no Shizen*, 12–17. Kagawa-ken Shôzu-gun Uchinomi-chô. (In Japanese.)
SATO, O., 1955. On the beetles of the Island of Shôdo-shima (Supplement). *Shôdo-shima no Shizen*, **19**. Kansai-kisen-kabushikikaisha-senkyaku-ka. (In Japanese.)

Elytra, Tokyo, **32** (1): 85–103, May 31, 2004

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

Part 24. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 14

Aleš SMETANA

Agriculture and Agri-Food Canada, Research Branch, Central Experimental Farm, K. W. Neatby Bldg., Ottawa, Ontario K1A 0C6, Canada

Abstract Taxonomic and faunistic data on the species of the genus *Quedius* subgenus *Microsaurus*, from the People's Republic of China are provided. Seven species are described as new: *Q. cavazzutii* (Sichuan), *Q. shuang* (Sichuan), *Q. koen* (Yunnan), *Q. cingulatus* (Sichuan), *Q. janatai* (Sichuan), *Q. lih* (Sichuan), and *Q. euanderoides* (Yunnan). The entire, undamaged aedoeagi of *Q. guey* and *Q. songpan* are illustrated for the first time. *Quedius inquietus* and *Q. guey* are for the first time recorded from Hubei.

Quedius (*Microsaurus*) *inquietus* (CHAMPION)

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

New record. China: [Hubei]: Dashennongjia mts., 2100–2900 m, 31.5N 110.3E, 10.–14.6.2002, leg. J. Turna, (1), in the Naturhistorisches Museum, Wien, Austria.

Comments. This is the first record of this species from Hubei.

Quedius (*Microsaurus*) *beesoni* CAMERON

Quedius beesoni CAMERON, 1932, 285.

New record. China: [Fujian]: Wuyi Shan, ca 2 km NW Tongmu vill., 27.75N 117.66E, ca 800 m, 30.V.2001, inside rotting *Phyllostachys pubescens* (bamboo) shoot, J. Cooter and P. Hlaváč leg. (3), in DEROUGEMONT and SMETANA collections.

Comments. The species was previously known from Fujian; the habitat record is interesting and worth of publishing.

Quedius (*Microsaurus*) *farkaci* SMETANA

Quedius farkaci SMETANA, 1997, 464.

New record. China: [Sichuan]: Ganzi Tibetian Auton. Pref. Litang Co., Shaluli Shan, 25 km NW Litang 30.17.23N 90.30.97E, 4300 m, Abies-Forest-Rest, 3.VII.1999,

leg. A. Pütz (8), in PÜTZ and SMETANA collections.

Comments. This is the second record of this species from Shaluli Shan (see SMETANA, 2001 a, 183). *Quedius farkaci* is at present known from three main mountain ranges, i.e. from Chola Shan on the Tibet-Sichuan border in the north, through Shaluli Shan in Sichuan to Xue Shan in northern Yunnan in the south. This is an unusually large distributional range for a flightless species that occurs in habitats at very high elevations around 4,000 m (see above and SMETANA, 2001 a, 183). However, this may be due to the fact that the three mountain ranges are situated just to the east of the Jinsha Jiang river and apparently belong to the same mountain system.

Quedius (*Microsaurus*) *tronqueti* SMETANA

Quedius tronqueti SMETANA, 1999 a, 238.

New record. China: [Sichuan]: 53 km NW Lixian, 2750–3000 m, VII.2001, leg. S. Murzin (1), in the SMETANA collection.

Comments. The species was at present known only from the type locality in Jiuding Shan (see SMETANA, 1999 a, 239).

Quedius (*Microsaurus*) *guey* SMETANA

(Fig. 1)

Quedius guey SMETANA, 2001 a, 188.

New record. China: [Hubei]: Dashennongjia mts., 2100–2900 m, 31.5N 110.3E, 10.–14.6.2002, leg. J. Turna (1 ♂), in Naturhistorisches Museum, Wien, Austria.

Comments. The aedoeagus of the holotype (the only male known so far) was damaged (see SMETANA, 2001, 190). The undamaged aedoeagus of the above Hubei specimen is therefore illustrated here (Fig. 1). Note that there are four sensory peg setae along each margin of the medioapical emargination of the paramere of the aedoeagus of this specimen (three in the holotype).

This is the first record of this species from Hubei.

Quedius (*Microsaurus*) *songpan* SMETANA

(Fig. 2)

Quedius songpan SMETANA, 1999 b, 547.

New record. China: [Sichuan]: pass btw. Pingwu and Nanping, 3100 m, 22.8.1999, Cavazzuti leg. (19), in the SMETANA collection.

Comments. The above locality lies in the same general area in northern Sichuan as the type locality of *Q. songpan* (Songpan, Lacs Erdao — see SMETANA, 1999 c, 550).

The holotype of this species was the only male known until now. The aedoeagus

of the holotype was received damaged and was therefore not illustrated in the usual way; also, the relations between the apical portions of the median lobe and the paramere remained unknown (see SMETANA, *l.c.*, 550). The entire, undamaged aedoeagus is illustrated here (Fig. 2). Note the brief bilateral dilatation of the median lobe in front of the basal bulbus that does not appear in the original illustration, and some additional sensory peg setae on the apical portion of the underside of the paramere of this specimen (SMETANA, *l.c.*, 549, fig. 30).

Quedius (*Microsaurus*) *bohemorum* SMETANA

Quedius bohemorum SMETANA, 1997 b, 461.

New record. China: [Yunnan]: Zhongdian Co., Mts. 17 km NW of Zhongdian, 3500–4000 m, 27.53.56N 99.33.37E, 15.–23.5.1999, L. & R. Businský (1); Bai Ma Xue Shan, 35 km S Deqen, 4300–4800 m, 24.VI.1998, S. Murzin (1). Both in SMETANA collection.

Comments. It should be noted that some specimens of this species have three punctures at the posterior margin of the head, mostly unilaterally. The species was at present known only from the type locality in Xue Shan near Zhongdian. It is likely that the first record given above refers to Xue Shan.

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

(Figs. 3–9)

Description. In all characters very similar to *Q. bohemorum* SMETANA, 1997 b and different only by the male and female sexual characters.

Male. First four segments of front tarsus considerably dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.35); segment 4 narrower than preceding segments. Sternite 8 apparently with two long setae on each side (but only one is traceable by the presence of the insertion sockets, see Comments); with moderately wide and deep, almost arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 3). Genital segment with tergite 10 short and wide, markedly narrowed toward fairly wide, irregular apex, apex with several long setae and with a few much shorter setae in front of them (Fig. 4); sternite 9 with large basal portion, with apex

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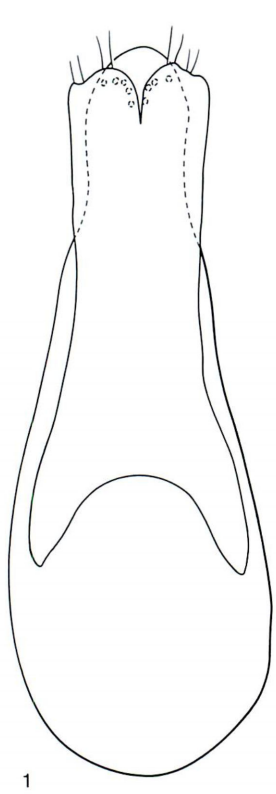
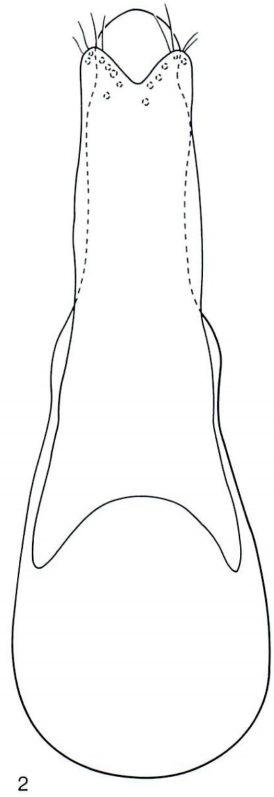
Figs. 1–5 (on p. 88). —— 1, *Quedius guey*: aedoeagus, ventral view. —— 2, *Quedius songpan*: aedoeagus, ventral view. —— 3–5. *Quedius cavazzutii*: 3, apical portion of male sternite 8; 4, tergite 10 of male genital segment; 5, sternite 9 of male genital segment.

Figs. 6–14 (on p. 89). —— 6–9. *Quedius cavazzutii*: 6, aedoeagus, ventral view; 7, apical portion of underside of paramere; 8, apical portion of medin lobe with internal sac, paramere removed; 9, tergite 10 of female genital segment. —— 10–14. *Quedius shuang*: 10, apical portion of male sternite 8; 11, tergite 10 of male genital segment; 12, sternite 9 of male genital segment; 13, aedoeagus, ventral view; 14, apical portion of underside of paramere.



1



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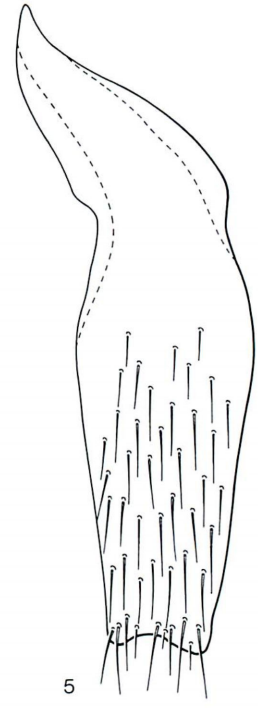
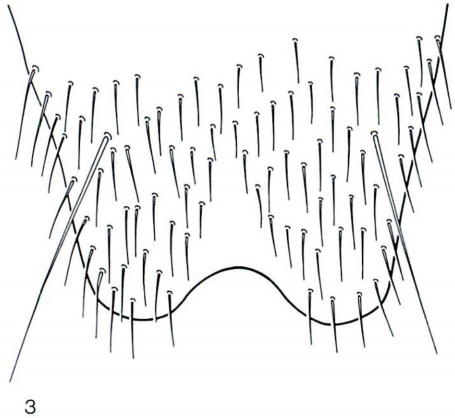
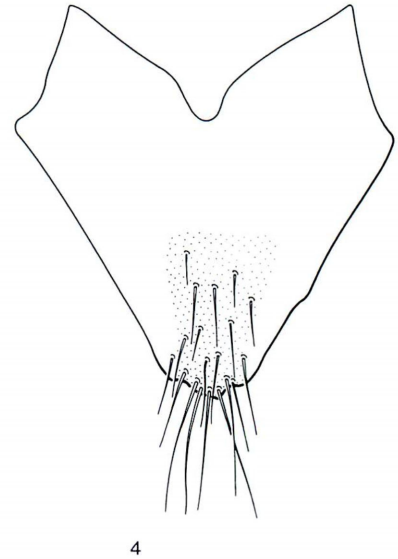


5

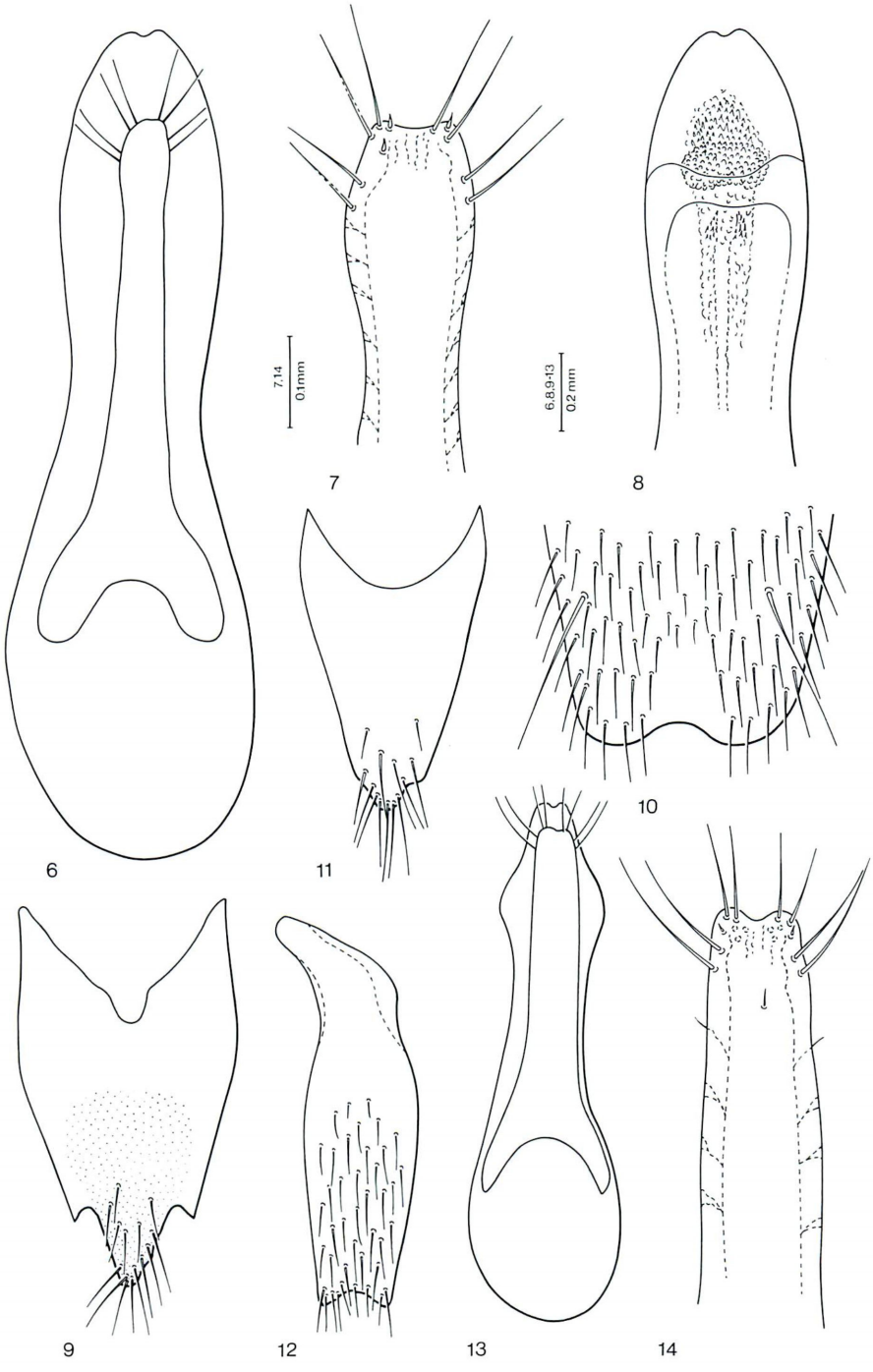
0.2 mm



3



4


7.14
0.1mm
6.8.9-13
0.2mm
6
7
8
9
10
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12
13
14

widely emarginate, without differentiated apical or subapical setae (Fig. 5). Aedoeagus (Figs. 6–8) markedly larger and more robust than that of *Q. bohemorum*; median lobe with apical portion wider and quite symmetrical, with base differently shaped. Paramere similar to that of *Q. bohemorum*, but longer, with apex farther below apex of median lobe than in *Q. bohemorum* (see Fig. 23 in SMETANA, 1997 b). Internal sac different from that of *Q. bohemorum* (see fig. 25 in SMETANA, 1997 b).

Female. First four segments of front tarsus similar to those of male, but less dilated; segment two only vaguely wider than apex of tibia (ratio 1.1). Genital segment without setose accessory sclerite; tergite 10 quite different from that of *Q. bohemorum* (fig. 29 in SMETANA, 1997 b), slightly pigmented medioapically, with deeply, angulately differentiated apical portion (Fig. 9).

Length 8.5–9.8 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA: N Sichuan pass btw. Pingwu and Nanping 3100 m 22.8.1999 Cavazzuti". In the SMETANA collection, Ottawa, Canada.

Paratypes: China: [Sichuan]: same data as holotype, 2♂♂, 3♀♀, in the SMETANA collection.

Recognition and comments. *Quedius cavazzutii* is a member of the *Apicicornis*-Group (SMETANA, 2001 b, 207). It belongs to the subgroup of the brachypterous species (the wings in *Q. cavazuttii* are considerably reduced and form short stumps, each only slightly exceeding the apical margin of the elytron when extended) lacking the whitish apical seam of palisade setae on abdominal tergite 7 (fifth visible). Until now only two species (*Q. kucerai* SMETANA, 1996 and *Q. vafer* SMETANA, 1997 a) belonged to this subgroup, but two additional species are described in this paper (see below). *Quedius cavazuttii* differs from all of them by the different male sexual characters, particularly by the different shape of the aedoeagus. The male of *Q. vafer* is not known at present, but tergite 10 of the female genital segment of *Q. vafer*, although similar to that of *Q. cavazuttii*, is distinctly different (see fig. 1 in SMETANA, 1997 a).

The aedoeagus of *Quedius cavazuttii* is surprisingly similar to that of *Q. bito* SMETANA, 1996 a, but it is larger and robuster and differs in some details of the configuration of the apical portion, as well as by the different internal sac (see figs. 13, 15 in SMETANA, 1996 a). In addition, *Q. bito* differs by several external characters, such as larger and more robust body, different coloration (apex of the abdomen), longer elytra, fully developed wings and the presence of the whitish apical seam of palisade setae on abdominal tergite 7.

Due to the apparently prolonged exposure to the pitfall trap fluids, some of the paratypes are missing some appendages (one female paratype is missing both antennae except for both first segments), and the pubescence on the elytra and/or on the abdomen, including the long setae, is affected/missing.

Etymology. Patronymic, the species was named in honor of the collector of the holotype, Dr. P. CAVAZZUTI, Milano, the renowned Italian specialist of Carabidae, who collected the specimens of the original series.

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

(Figs. 10–14)

Description. In all characters very similar to *Q. kucerai* SMETANA, 1996 and different only by the slightly smaller body size and narrower body form, and by the male sexual characters.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.18); segment 4 narrower than preceding segments. Sternite 7 not modified, with apical margin only vaguely concave. Sternite 8 apparently with two long setae on each side (but only one is traceable by the insertion sockets, see Comments); with moderately wide and deep, almost arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 10). Genital segment with tergite 10 similar to that of *Q. kucerai*, but with apical portion slightly differentiated, with setae as in Fig. 11; sternite 9 similar to that of *Q. kucerai* in shape and setation, but with apex more distinctly, arcuately emarginate (Fig. 12). Aedoeagus (Figs. 13, 14) markedly smaller than that of *Q. kucerai* (length ratio 0.80); median lobe with dilated preapical portion more rounded laterally and with apical portion narrower with more distinctly, narrowly emarginate apex. Paramere markedly narrower, almost exactly parallel-sided (it is gradually, slightly widened anteriad in *Q. kucerai*), slightly emarginate apex distinctly not reaching apex of median lobe; two setae at apex at each side of emargination and two similar setae at each lateral margin below apex; underside of paramere without sensory peg setae. Internal sac without larger sclerotized structures, not appreciably different from that of *Q. kucerai*.

Female. Not known.

Length 7.7 mm.

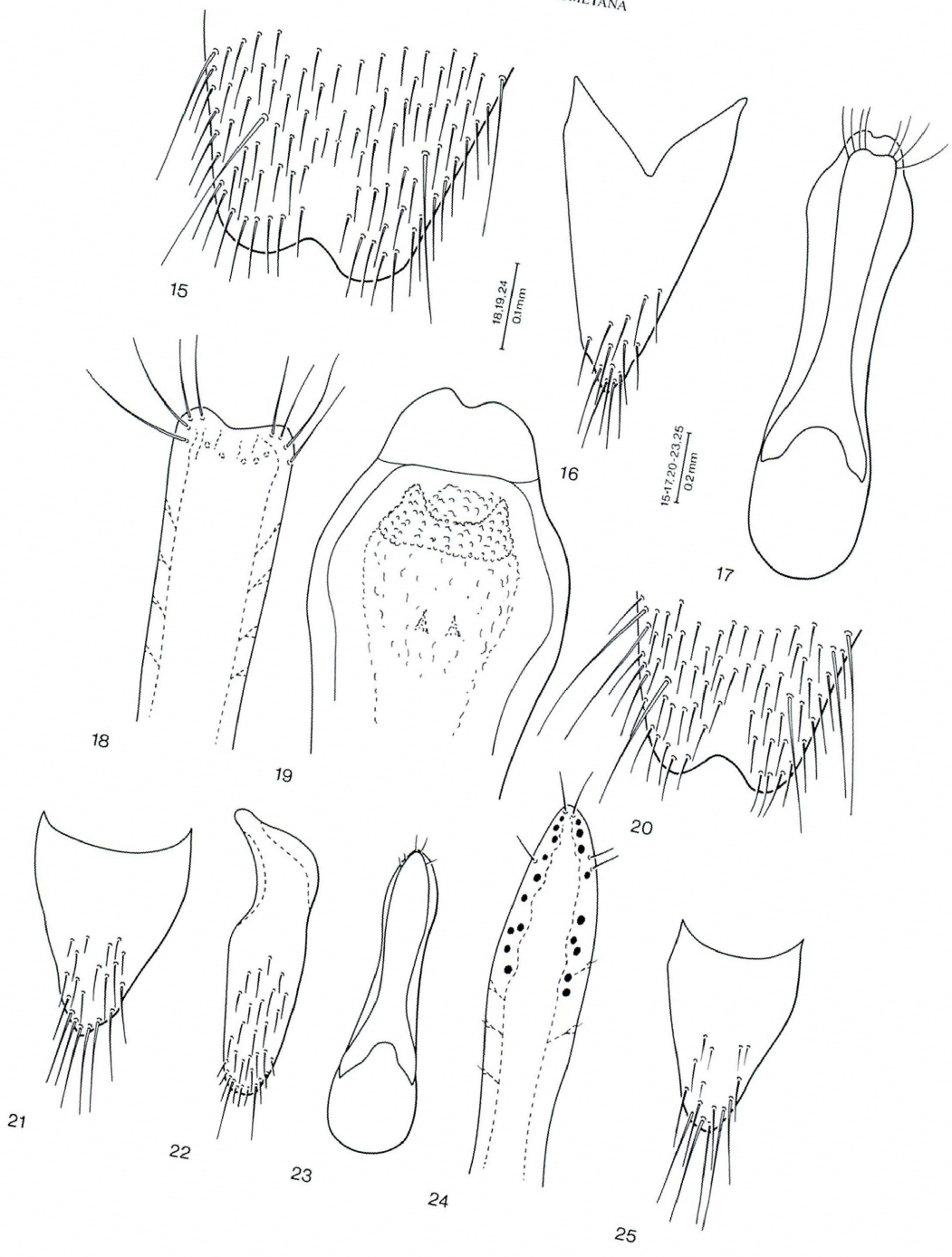
Type material. Holotype (male); China: "CHINA: N Sichuan pass btw. Pingwu and Nanping 3100 m 22.8.1999 Cavazzuti". In the SMETANA collection, Ottawa, Canada.

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

Geographical distribution. *Quedius shuang* is at present known only from the type locality in north-central Sichuan.

Figs. 15–25 (on p. 92). —— 15–19. *Quedius koen*: 15, apical portion of male sternite 8; 16, tergite 10 of male genital segment; 17, aedoeagus, ventral view; 18, apical portion of underside of paramere; 19, apical portion of median lobe with internal sac, paramere removed. —— 20–25. *Quedius cingulatus*: 20, apical portion of male sternite 8; 21, tergite 10 of female genital segment; 22, sternite 9 of male genital segment; 23, aedoeagus, ventral view; 24, apical portion of underside of paramere; 25, tergite 10 of male genital segment.

Figs. 26–32 (on p. 93). —— 26–30. *Quedius janatai*: 26, tergite 10 of male genital segment; 27, sternite 9 of male genital segment; 28, aedoeagus, ventral view; 29, apical portion of underside of paramere; 30, tergite 10 of female genital segment. —— 31–32. *Quedius lih*: 31, apical portion of male sternite 8; 32, tergite 10 of male genital segment.


15
18.19.24
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16
15-17.20-23.25
0.2mm
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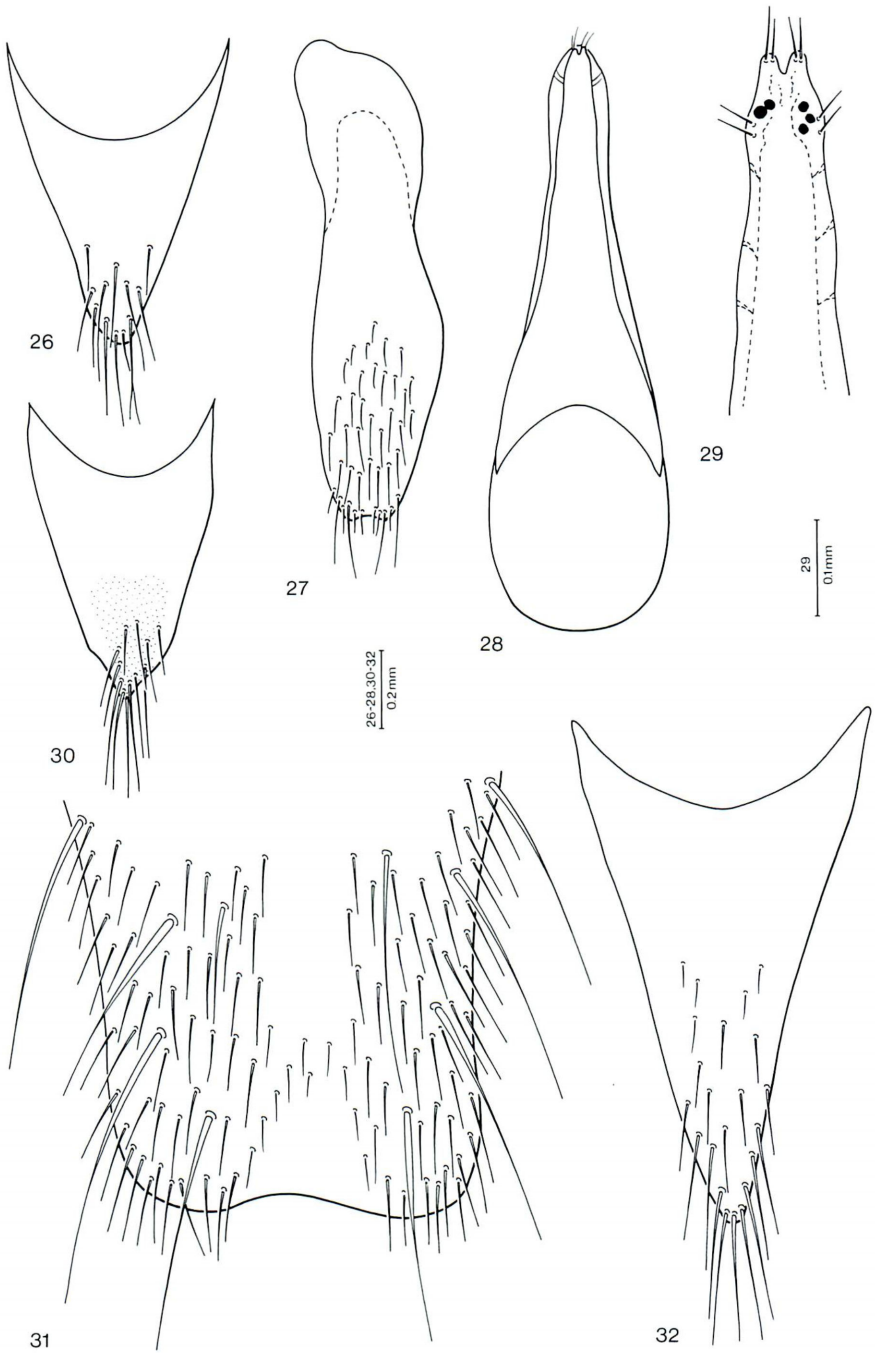
25


26
27
28
29
30
31
32
26-28.30-32
0.2mm
29
0.1mm

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

Recognition and comments. *Quedius shuang* is a member of the *Apicicornis*-Group (SMETANA, 2001 b, 207). It belongs to the subgroup of the brachypterous species lacking the whitish apical seam of palisade setae on abdominal tergite 7 (fifth visible). It is closely related and quite similar to *Q. kucerai*, but it can be distinguished from it by the male sexual characters, and also by the wide geographical isolation. Originally, I hesitated to assign the two specimens to a separate species. However, since the shape of the aedoeagus is constant in all males of both species I have seen, and since the two flightless populations are geographically separated from each other by the vast area of the entire territory of the province of Sichuan, I believe that they represent two separate species.

Due to the apparently prolonged exposure to the pitfall trap fluids, the setation of the terminal abdominal segments is largely missing in the two specimens of the original series. The presence of the long setae on sternite 8 was therefore traced by their insertion sockets.

The paratype is missing the entire right antenna, except for the first segment, and the entire middle left leg.

Etymology. The specific epithet is the Chinese word "shuang", which in one of its meanings means "a pair". It refers to the close relationship of the species with *Q. kucerai*.

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

(Figs. 15–19)

Description. In all characters very similar to *Q. kucerai* SMETANA, 1996 and different only by the male sexual characters.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.12); segment 4 narrower than preceding segments. Sternite 7 not modified, with apical margin only vaguely concave. Sternite 8 with two long setae on each side (but only one is traceable by the insertion sockets, see Comments); with moderately wide and deep, obtusely triangular medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 15). Genital segment with tergite 10 similar to that of *Q. kucerai*, with setae as in Fig. 16; sternite 9 not appreciably different from that of *Q. kucerai*. Aedoeagus (Figs. 17–19) markedly smaller than that of *Q. kucerai* (length ratio 0.78); median lobe with dilated preapical portion more rounded laterally and with apical portion considerably shorter with minute medioapical emargination. Paramere shorter, but otherwise of similar shape as that of *Q. kucerai* (i.e. gradually, slightly widened anteriad), with slightly emarginate apex distinctly not reaching apex of median lobe; two setae at apex at each side of emargination and two similar setae at each lateral margin close to apex; underside of paramere without sen-

sory peg setae. Internal sac without larger sclerotized structures, as in Fig. 19.

Female. Not known.

Length 7.8 mm.

Type material. Holotype (male); China: "CHINA: NW Yunnan Bai Ma Xue Shan, 35 km S Degen 4300–4800 m 24.VI.1998, S. Murzin". In the SMETANA collection, Ottawa, Canada.

Geographical distribution. *Quedius koen* is at present known only from the type locality in northernmost Yunnan, west of the Jinsha Jiang river (see Comments).

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

Recognition and comments. *Quedius koen* is a member of the *Apicicornis*-Group (SMETANA, 2001 b, 207). It belongs to the subgroup of the brachypterous species lacking the whitish apical seam of palisade setae on abdominal tergite 7 (fifth visible). It is closely related and quite similar to *Q. kucerai*, but it can be distinguished from it by the male sexual characters, particularly by the markedly different shape of the aedoeagus, and also by the geographical isolation. Originally, I hesitated to assign the specimen to a separate species. However, since the shape of the aedoeagus is constant in all males of *Q. kucerai* I have seen, and since the two flightless populations are geographically separated from each other by the Jinsha Jiang river, I believe that they represent two separate species.

The name of the type locality is correctly spelled "Dêqên

Etymology. The specific epithet is the Chinese word "koen", which means "to tie, to bind". It refers to the close relationship of the species with *Q. kucerai*.

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

(Figs. 20–25)

Description. Head black, pronotum piceous-black with lateral portions markedly paler, yellowish, elytra brunneous to dark brunneopiceous with variably paler apical margin, surface with slight metallic sheen, abdomen distinctly iridescent, piceous-black with narrowly paler apical margins of tergites; maxillary and labial palpi dark brunneous to piceous, antennae piceous with first three segments inconspicuously, partially paler, legs brunneopiceous to piceous with slightly paler tarsi. Head rounded, slightly wider than long (ratio 1.21), markedly narrowed posteriad behind eyes, posterior angles entirely obsolete; eyes large and convex, tempora much shorter than eyes seen from above (ratio 0.37); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated close to posteriomedial margin of eye, separated from it by distance about equal to diameter of puncture, two punctures between it and posterior margin of head, situated close to posterior margin, one additional puncture between posterior frontal puncture and temporal puncture, situated at posterior margin of eye; temporal puncture separated from posterior margin of eye by distance about equal to diameter of puncture; tempora with some fine punctures; sur-

face of head with dense, extremely fine and partially rudimentary, superficial microsculpture of transverse waves with fairly frequent longitudinal junctions. Antenna rather short, moderately widened toward apex, segment 3 slightly longer than segment 2 (ratio 1.17), segments 4 and 5 longer than wide, following segments gradually becoming shorter, outer segments slightly wider than long, last segment about as long as preceding two segments combined. Pronotum slightly wider than long (ratio 1.09), widest around, slightly more narrowed anteriad than posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each with two or three punctures, posterior puncture situated behind level of large lateral puncture; microsculpture similar to that on head mostly somewhat denser and more pronounced. Scutellum impunctate, with very fine and dense microsculpture of transverse waves. Elytra relatively long, at base slightly narrower than pronotum at widest point, scarcely widened posteriad, at suture slightly (ratio 1.13), at sides distinctly longer than pronotum at midline (ratio 1.25); punctation and pubescence moderately fine and moderately dense, transverse interspaces between punctures mostly larger than diameters of punctures; pubescence dark brownish; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation of abdominal tergites finer and markedly denser than that on elytra, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; pubescence brownish; surface between punctures with excessively fine and dense microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified, long pale setae ventrally; segment 2 slightly wider than apex of tibia (ratio 1.10); segment 4 narrower than preceding segments. Sternite 8 with three long setae on each side, with moderately wide, rather deep, obtusely triangular medioapical emargination, triangular area before emargination flattened and smooth (Fig. 20). Genital segment with tergite 10 triangular, narrowly arcuate apically, with several setae at and near apical margin, and with much smaller setae in front of them (Fig. 25); sternite 9 with moderately large basal portion, apical portion broadly arcuate apically, with fine apical setae and two distinctly differentiated apical setae, and with remaining setation fine and sparse (Fig. 22). Aedoeagus (Figs. 23, 24) small; median lobe rather narrow in middle portion, anteriorly dilated into apical portion with subacute apex. Paramere elongate, anteriorly fusiform, with subacute apex just about reaching apex of median lobe; two fine apical setae and two (left margin) and one (right margin) somewhat smaller setae below apex, with sensory peg setae forming two irregular lateral rows. Internal sac simple, without larger sclerotized structures.

Female. First four segments of front tarsus similar to those of male, but markedly less dilated; segment 2 slightly narrower than apex of tibia (ratio 0.88). Genital segment with tergite 10 triangular, with fairly acute apex, with six or seven long apical setae and with a few much shorter setae in front of them (Fig. 21).

Length 5.6–6.5 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA, Prov. Sichuan Ganzi Tibetian Auton. Pref. Yajiang Co., Shaluli Shan E Pass, 15 km W Yajiang" / "4300 m, Rhododendron sift 30.00,24N, 100.51,63E, 4.VII.1999, leg. A. Pütz" / "Sammlung Andreas Pütz Eisenhüttenstadt". Holotype temporarily in the SMETANA collection, Ottawa, Canada (to be eventually deposited in the Muséuum d'Histoire naturelle, Geneva, Switzerland); allotype in the PÜTZ collection, Eisenhüttenstadt, Germany.

Paratypes: same data as holotype, 14♀♀ in the PUTZ (9) and SMETANA (5) collections.

Geographical distribution. *Quedius cingulatus* is at present known only from the type locality in Shaluli Shan in western Sichuan.

Bionomics. The specimens of the original series were apparently taken by sifting debris under rhododendron bushes.

Recognition and comments. *Quedius cingulatus* is a member of the *Euryalus* Group (see SMETANA, 2001 b, 208). It is at present the smallest species of this group. It is distinctive due to its small size, the coloration of the pronotum and the densely punctate abdominal tergites, in combination with the shape of the aedoeagus.

It is rather curious that only one male is present in the original series.

Etymology. The specific epithet is the Latin adjective *cingulatus*, *-a*, *-um*. It refers to the coloration of the pronotum of the species.

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

(Figs. 26–30)

Description. In all characters similar to *Q. zheduo* SMETANA, 1999 a and different mainly by both male and female sexual characters.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.18); segment 4 narrower than preceding segments. Sternite 7 not modified, with apical margin only vaguely concave. Genital segment with tergite 10 triangular, narrowly arcuate apically, with a few setae apically and several shorter setae in front of them (Fig. 26); sternite 9 with basal portion very wide, apical portion slightly emarginate medioapically, with fine short setae medioapically and with four slightly differentiated apical/subapical setae (Fig. 27). Aedoeagus (Figs. 28, 29) rather large, elongate; median lobe narrowed anteriad in almost straight line to about apical third, from there parallel-sided to narrowly subarcuate apex; paramere large, with wide, robust basal portion and from there in general narrow and vagauely bisinuately narrowed anteriad, apical portion somewhat differentiated with slightly concave lateral margins and with apex minutely, narrowly emarginate in middle; apex of paramere about reaching apex of median lobe; two setae at each side of apical emargination and two similar setae at each lateral margin far from apex; five sensory peg setae on underside of paramere, three and two at each lateral margin below apex; internal sac without larger scle-

rotized structures.

Female. First four segments of front tarsus similar to those of male, but less dilated; segment 2 about as wide as apex of tibia. Genital segment with tergite 10 markedly pigmented, in general similar to that of *Q. zheduo*, but somewhat narrower and longer (Fig. 30).

Length 5.8–6.2 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA SW Sichuan Sabde 30°22′N 102°16′E 3400 m, 6.7.2001 M. Janata leg.". In the SMETANA collection, Ottawa, Canada.

Geographical distribution. *Quedius janatai* is at present known only from the type locality in west-central Sichuan, which is in straight line about 90 km SW from the pass Zheduo Shankou, the type locality of *Q. zheduo*.

Bionomics. Nothing is known about the collection circumstances of the specimens of the original series.

Recognition and comments. *Quedius janatai* may be distinguished from *Q. zheduo* by the sexual characters mentioned above, particularly by the absence of the secondary sexual characters on male abdominal sternite 7, and by the distinctly different aedoeagus (Figs. 28, 29 and figs. 47–50 in SMETANA, 1999 a, 233, 237). *Quedius janatai* shares the absence of the secondary sexual characters on male sternite 7 with *Q. tronqueti* SMETANA, 1999 a, but it differs from it by the quite different aedoeagus (Figs. and figs. 55–57 in SMETANA, 1999 a, 237).

The holotype was received with sternite 7 almost destroyed, therefore it could not be described and illustrated, and also the number of long setae on it remains unknown; however, it is very likely that they are equally numerous as those in *Q. zheduo*.

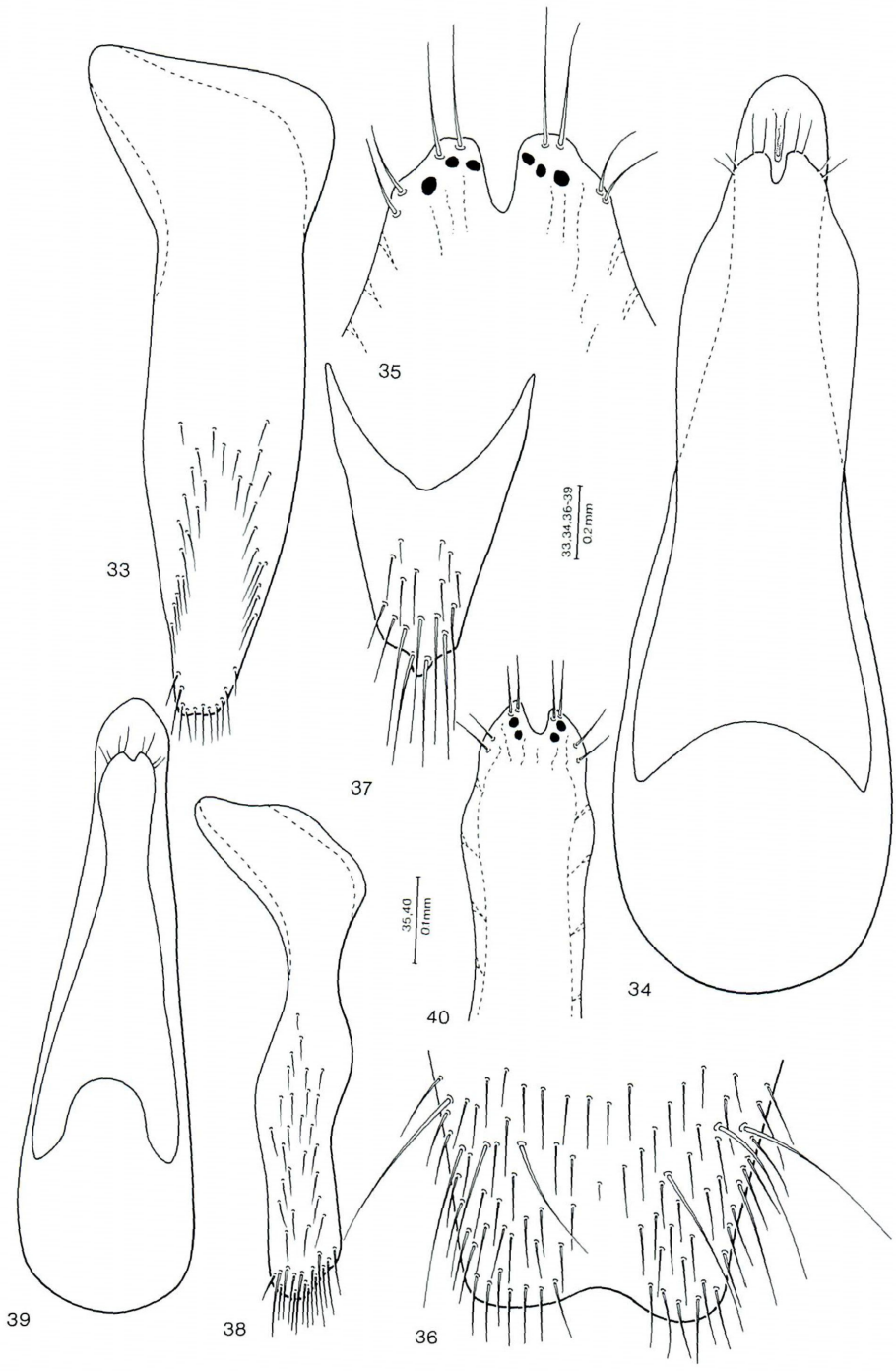
Etymology. Patronymic, the species is named in honour of Mr. J. JANATA, Praha, Czech Republic, who collected the original specimens.

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

(Figs. 31–35)

Description. Head black, pronotum piceous-black with lateral portions narrowly paler, elytra dark brunneous with narrowly paler suture and apical margin, abdomen distinctly iridescent, piceous-black with narrowly, inconspicuously paler apical margins of tergites; maxillary and labial palpi pale testaceous, antennae testaceobrunneous with first segment slightly darker, legs brunneous with slightly paler tarsi, middle tibiae and hind femora distinctly darkened. Head rounded, slightly wider than long (ratio 1.12), markedly narrowed posteriad behind eyes, posterior angles entirely obsolete;

Figs. 33–40 (on p. 99). —— 33–35. *Quedius lih*: 33, sternite 9 of male genital segment; 34, aedoeagus, ventral view; 35, apical portion of underside of paramere. —— 36–40. *Quedius euanderoides*: 36, apical portion of male sternite 8; 37, tergite 10 of male genital segment; 38, sterenite 9 of male genital segment; 39, aedoeagus, ventral view; 40, apical portion of underside of paramere.


33
35
33,34,36-39
0·2mm
37
34
35,40
0·1mm
40
39
38
36

eyes large and convex, tempora much shorter than eyes seen from above (ratio 0.34); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated close to posterio-medial margin of eye, separated from it by distance slightly smaller than diameter of puncture, two punctures between it and posterior margin of head, situated close to posterior margin, one additional puncture between posterior frontal puncture and temporal puncture, situated at posterior margin of eye; temporal puncture separated from posterior margin of eye by distance slightly larger than diameter of puncture; tempora with numerous fine punctures; surface of head with fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Antenna very long, slender, scarcely widened toward apex, with all segments markedly longer than wide; segment 3 distinctly longer than segment 2 (ratio 1.55), segment 4 2.25 as long as wide, following segments gradually becoming somewhat shorter, but segment 9 still 1.81 as long as wide, last segment slightly shorter than preceding two segments combined. Pronotum as long as wide, widest at about middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each with three punctures, posterior puncture situated about at 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 long, at base slightly narrower than pronotum at widest point, scarcely widened posteriad, at suture as long as, at sides somewhat longer than pronotum at midline (ratio 1.15); punctation and pubescence moderately fine and dense, transverse interspaces between punctures mostly somewhat larger than diameters of punctures; pubescence piceous; surface between punctures without microsculpture. Wings folded twice under elytra, probably functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites vaguely finer but somewhat denser than that on elytra, but becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine and dense microsculpture of transverse striae.

Male. First four segments of front tarsus considerably dilated, sub-bilobed, each densely covered with modified, long pale setae ventrally; segment 2 almost patellate, markedly wider than apex of tibia (ratio 1.40); segment 4 narrower than preceding segments. Sternite 8 rather elongate, with lateral margins slightly concave at about apical third, with five long setae on each side; with shallow, subarcuate medioapical emargination, triangular area before emargination flattened and smooth (Fig. 31). Genital segment with tergite 10 elongate, narrowly triangular, narrowly arcuate apically, with numerous setae at and near apical margin, and with much smaller setae in front of them (Fig. 32); sternite 9 with large basal portion, apical portion broadly subtruncate apically, with several fine apical setae and two weakly differentiated subapical setae, and with remaining fine setation characteristically arranged into two longitudinal groups joined basally (Fig. 33). Aedoeagus (Figs. 34, 35) large, quite characteristic;

Elytra, Tokyo, **32** (1): 71–77, May 31, 2004

Two New Species of the Genus *Lesteva* (Coleoptera, Staphylinidae) from the Island of Dôgo of the Oki Islands, West Japan

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Abstract Two new species of the staphylinid genus *Lesteva* are described under the names *L. shimadai* and *L. okiana*. They are obtained by sifting dead leaves accumulated at the streamside in mixed forests, consisting of deciduous and evergreen trees, on the Island of Dôgo of the Oki Islands, West Japan.

Seventeen species of the staphylinid genus *Lesteva* have hitherto been reported from Japan except for the Ryukyu Islands by SHARP (1874, 1889), CAMERON (1930) and WATANABE (1990). Through the courtesy of Mr. Takashi SHIMADA, I had an opportunity to examine two interesting species, which were obtained by sifting dead leaves accumulated at the streamside on the Island of Dôgo of the Oki Islands, West Japan. One of these species can be regarded as a member of the group of *Lesteva plagiata* for the reason of having similar body size and narrow pronotum. The other seems to be placed near *Lesteva tsushimae* in view of having similar male genital organ.

After a careful examination, it has become clear that these two species may be new to science on account of disagreement in the configuration of the male genital organ from those of the previously known species. They will be described in this paper.

Before going further, I would like to express my hearty thanks to Dr. Shun-Ichi UÉNO, Visiting Professor at Tokyo University of Agriculture, for his kind advice on the present study. Deep gratitude is also due to Mr. Takashi SHIMADA, Hoshizaki Green Foundation, Shimane, for his kindness in giving me the opportunity of studying the interesting species, and Messrs. Tomoyuki TSURU and Hiroki ONO, Laboratory of Insect Resources, Tokyo University of Agriculture, for taking the photographs inserted in this paper.

Lesteva shimadai Y. WATANABE, sp. nov.

[Japanese name: Shimada-neaka-yotsume-hanekakushi]

(Figs. 1, 3–5)

Body length: 3.4–4.1 mm (from front margin of head to anal end); 2.4–2.6 mm

(from front margin of head to elytral apices).

The present new species can readily be distinguished from the previously known species of the genus *Lesteva* on account of peculiar configuration of male genital organ.

Body spindle-shaped and somewhat depressed above. Colour black to reddish black and moderately shining, with mouthparts, two basal and two or three apical segments of antennae and legs yellow, and each elytron provided with a large subtriangular yellowish patch in anterior half.

Male. Head somewhat depressed above, apparently broader across compound eyes than long (width/length=1.23); postocular part arcuate and short, a half as long as the longitudinal diameter of each eye, which is prominent laterad; surface densely, somewhat coarsely punctured and finely pubescent, bearing a longitudinal depression on each side of the middle in front of each ocellus; ocelli relatively small, the distance between them somewhat larger than that from the outside of ocellus to the inner margin of each compound eye. Antennae elongate, though not extending beyond the middle of elytra and slightly thickened from 9th to the apicalmost segment, with two proximal segments subopaque and the remainings opaque, 1st segment robust, twice as long as broad, 2nd to 10th equal in width to one another, 2nd distinctly longer than broad (length/width=1.33) but a half as long as and a little narrower (2nd/1st=0.75) than 1st, 3rd somewhat dilated apicad, twice as long as broad and 1.5 times as long as 2nd, 4th and 5th equal in length to each other, each remarkably longer than broad (length/width=1.83) but slightly shorter than 3rd (each of 4th and 5th/3rd=0.92), 6th to 8th equal in length to one another, each distinctly longer than broad (length/width=1.67) but slightly shorter than 5th (each of 6th to 8th/5th=0.91), 9th and 10th equal in length to each other, each somewhat longer than broad (length/width=1.25) and a little broader than 8th (each of 9th and 10th/8th=1.33), 11th more than twice as long as broad, remarkably longer (11th/10th=1.80) than though as broad as 10th, subacuminate at the apex.

Pronotum subcordate and convex medially, somewhat transverse (width/length=1.11) and a little broader than head (pronotum/head =1.15), widest at anterior third and more strongly narrowed posteriad than anteriad; lateral sides arcuate in anterior two-thirds and almost straight in posterior third, finely bordered throughout, the border continuing onto posterior margin which is truncate, anterior margin gently arcuate, anterior angles narrowly rounded though not visible from dorsal side, posterior angles rectangular though blunt at the corners; surface densely, coarsely punctured, the punctures much coarser than those of head, and covered with more distinct pubescence than those of head, provided with a shallow U-shaped depression at the middle in posterior half. Scutellum relatively small and subtriangular, surface densely, coarsely punctured and covered with fine pubescence. Elytra subtrapezoidal and dilated posteriad, a little longer than broad (length/width=1.12), twice as long as pronotum and considerably broader than pronotum (elytra/pronotum=1.61), posterior margin slightly emarginate at the middle, posterior angles broadly rounded; surface densely, coarsely punctured

median lobe markedly narrowed anteriad, but becoming parallel-sided from about apical third, with apex arcuate, with distinct medial carina on face adjacent to paramere extended into apical emargination of paramere. Paramere quite large and wide, anteriorly much wider than median lobe, from narrowest point dilated anteriad in almost straight line and then abruptly narrowed into apical portion with narrow medioapical emargination at apex of paramere by far not reaching apex of median lobe ; two setae on each side of emargination, two shorter setae at each lateral margin below apex; underside of paramere with three sensory peg setae at each side of medioapical emargination. Internal sac without larger sclerotized structures.

Female unknown.

Length 9.5 mm.

Type material. Holotype (male): China: "CHINA W-Sichuan Ya'an Prefecture, Tianquan Co., W Erlang Shan pass, 2780 m, 21.VI.1999 29.51.27N, 102.15.47E, leg. A. Pütz, sifted". Temporarily in the SMETANA collection, Ottawa, Canada (to be eventually deposited in the Muséum d'Histoire naturelle, Geneva, Switzerland).

Geographical distribution. *Quedius lih* is at present known only from the type locality in Erlang Shan in western Sichuan.

Bionomics. No details are known about the habitat, from which the holotype was sifted.

Recognition and comments. *Quedius lih* is a member of the *Euryalus* Group (see SMETANA, 2001 b, 208). It is quite distinctive due to its rather large size and the very long antennae, the characteristically developed sclerites of the male genital segment (Figs. 32, 33), as well as the distinctive aedoeagus (Figs. 34, 35). It shares the characteristic setation of the male sternite 9 with three other species: *Q. euryalus* SMETANA, 1997 a, *Q. faang* SMETANA, 1999 c, and *Q. haw* SMETANA, 2001 a; these four species form a monophyletic subgroup within the *Euryalus* Group, based on this character state.

Etymology. The specific epithet is the Chinese word "lih", which means "handsome". It refers to the appearance of the species.

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

(Figs. 36–40)

Description. In all external characters similar to *Q. euander* SMETANA, 1997 a, but different as follows: size slightly larger, body form somewhat stouter. Coloration similar, but in general darker, particularly pronotum and elytra; legs dark brunneous with distinctly darkened middle and hind tibiae. Head larger and slightly wider (ratio 1.18). Pronotum more voluminous, wider, slightly wider than long (ratio 1.10). Elytra somewhat longer, at suture about as long as, at sides slightly longer (ratio 1.12) than pronotum at midline. Wings fully developed. Punctation of elytra and abdominal tergites in general denser.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each

densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.21); segment 4 narrower than preceding segments. Sternite 8 with four long setae on each side; with shallow, almost arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 36). Genital segment with tergite 10 triangular, anteriorly rather suddenly narrowed into minute subtriangular apex with setae as in Fig. 37; sternite 9 of quite characteristic shape, similar to that of *Q. euander*, but different both in shape and setation (Fig. 38, and fig. 30 in SMETANA, 1997 a, 61). Aedoeagus (Figs. 39, 40) slightly larger and more robust than that of *Q. euander*; median lobe gradually, slightly sinuately narrowed toward rather wide, narrowly arcuate apex, with minute tubercle on face adjacent to paramere fitting into medioapical emargination of paramere. Paramere as in Fig. 40, with apex rather narrowly emarginate apically, apex by far not 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 two (occasionally with only one unilaterally) sensory peg setae at each side of medioapical emargination. Internal sac without larger sclerotized structures.

Female. Unknown.

Length 6.8–7.3 mm.

Type material. Holotype (male): China: "CHINA, NW-Yunnan, DEQEN Co. Mekon side of HENGDUAN Shan S of MEILIXUE Shan, 3500–4300 m 28°15′–16′N 98°43′–44′E 3.–5. 6. 99 L. & R. BUSINSKÝ lgt."

Paratypes: 6♂♂, same data as holotype. Holotype and paratypes in the SMETANA collection, Ottawa, Canada (to be eventually deposited in the Muséum d'Histoire naturelle, Geneva, Switzerland).

Geographical distribution. *Quedius euanderoides* is at present known only from the type locality in Meilixue Shan in northern Yunnan.

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

Recognition and comments. *Quedius euanderoides* shares with *Q. euander* the characteristic shape of the male sternite 9 (see above). Both species are clearly related and form a monophyletic subgroup within the *Euryalus* Group, based on this character state. *Quedius euanderoides* differs from *Q. euander*, in addition to the external characters outlined above, by the markedly different shape of the aedoeagus.

Acknowledgments

My colleagues D. E. BRIGHT and A. DAVIES, Agriculture and Agri-Food Canada, Research Branch, Ottawa, commented on the original draft of the manuscript. Mr. Go SATO from the same establishment carefully finished the line drawings.

要　約

A. SMETANA：中国産ツヤムネハネカクシ亜族に関する知見．24．ツヤムネハネカクシ属*Microsaurus*亜属の14．—— *Microsaurus*亜属のツヤムネハネカクシ類の7新種を，中国南西部の四川省と云南省から記載するとともに，既知の2種の完全な雄交尾器を初めて記載・図示し，そのうちの1種と別の既知種を湖北省から初めて記録した．

References

CAMERON, M., 1932. Coleoptera. Staphylinidae. *In*: *The Fauna of British India, including Ceylon and Burma*. Vol. 3, XIII+443 pp., 4 pls. Taylor & Francis, London.

CHAMPION, G. C., 1925. Some Indian (and Tibetan) Coleoptera (16.). *Entomologist's mon. Mag.*, **61**: 101–112.

DEJEAN, P. F. M. A., 1833. Catalogue des Coléoptères de la collection de M. le Baron DEJEAN. Ed. 2, fasc. 1–2, pp. 1–176. Méquignon-Marvis, Paris.

SMETANA, A., 1996. Contributions to the knowledge of the Quediina (Coleoptera, Staphylinidae, Staphylinini) of China. Part 5. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 4. *Bull. natn. Sci. Mus., Tokyo*, (A), **22**: 113–132.

——— 1997 a. Ditto. Part 8. Quediini collected by S. UÉNO and Y. WATANABE in Yunnan. *Elytra, Tokyo*, **25**: 129–134.

——— 1997 b. Ditto. Part 9. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 7. *Ibid.*, **25**: 451–473.

——— 1999 a. Ditto. Part 13. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 8. *Ibid.*, **27**: 213–240.

——— 1999 b. Ditto. Part 16. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 10. *Ibid.*, **27**: 535–551.

——— 2001 a. Ditto. Part 19. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 11. *Ibid.*, **29**: 181–191.

——— 2001 b. Ditto. Part 20. Genus *Quedius* STEPHENS, 1829. Subgenus *Microsaurus* DEJEAN, 1833. Section 12. *Ibid.*, **29**: 193–216.

STEPHENS, J. F., 1829. The Nomenclature of British Insects; being a compendious list of such species as are contained in the Systematic Catalogue of British Insects, and forming a guide to their classification. 68 columns. Baldwin & Cradock, London.

Elytra, *Tokyo*, **32** (1): 104, May 31, 2004

刊 行 物 紹 介

Catalogue of Palaearctic Coleoptera. Volume 1. Arcostemata–Myxophaga–Adephaga. Ivan LÖBL & Aleš SMETANA (eds.), 819 pp., Apollo Books, Stenstrup.

1998年ごろから進められてきた一大プロジェクトの最初の結実がついに世に出た.「旧北区産コウチュウ目のカタログ」第1巻として,ナガヒラタムシ亜目,ツブミズムシ亜目,オサムシ亜目がまとめられた.

本書では,世界を7つの地理区に分け,そのうちでもっとも広い陸地面積をもつ旧北区(Palaearctic Region)を対象としている.この区域は,ヨーロッパ,シベリア,サハラ砂漠以北のアフリカ,アラビア半島,中央アジア,ヒマラヤ山脈以北のアジアが含まれる.東アジアでは,琉球列島を含む日本全土,台湾,中国南部の海南島までが含まれ,インドシナ半島,フィリピンは含まれない.

カタログ本文では,亜族までの上位分類群は系統的に配列され,亜科までの高次分類はLAWRENCE & NEWTON (1995) に従っている.族または亜族内の属,さらに属または亜属内の種はアルファベット順に配列されている.属ごとにまとめられたそれぞれの種について,種小名,命名者,命名年(文献),原記載のページ数が示され,そのあとに分布が略号で表示されている.例えば,"E: KZ A: ES WS JA ORR" は,「ヨーロッパ:カザフスタン.アジア:東シベリア,西シベリア,日本.東洋区.」を示す.このような工夫によって,大量の情報が効率的に表示されている.

本書で行われた分類学的変更は前の方のページ (pp. 18–24) にまとめられているが,国際動物命名規約第4版に配慮し,stat. nov. や comb. nov. などの用語を使わず,Changes in rank, あるいはNew assignments などのような,より明確な表現で命名法的な取り扱いを表示している点は注意しておくべきだろう.

編集は,上記2名の編者のほかに,3名ほどのコーディネーターが分担している.ナガヒラタムシ,ツブミズムシの2亜目はいずれもLÖBL博士が執筆しているが,オサムシ亜目の執筆担当者は40名ほどにおよび,上野俊一氏,伊藤昇氏の名前も挙げられている.

本書は,今後のアジアにおける甲虫研究のスタンダードとなることは疑いようがない.これまでそれぞれの国で別べつに進められてきたファウナ研究に対して,共通の研究基盤を与えた点でもきわめて大きい意義があるといえるだろう.カブトムシ亜目を扱った続編の刊行が待たれるが,第2巻 (Staphylinoidea) は2部に分かれて今年中に刊行される予定になっている.

(野村　周平)

Elytra, Tokyo, **32** (1): 105–113, May 31, 2004

Two New Species of *Lomechusoides* (Coleoptera, Staphylinidae, Aleocharinae, Lomechusini) from Sichuan, China

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Abstract Myrmecophilous staphylinid beetles, *Lomechusoides uenoi* sp. nov. and *L. schneideri* sp. nov., from Sichuan, China, are described. They were collected from nest of *Formica fusca* LINNAEUS, 1758 (*F. fusca* group) and *Myrmica* aff. *ruginodis* NYLANDER, 1846, respectively. This is the first record of *Myrmica* as a host of a member of the genus. *Lomechusoides uenoi* is closely similar to *L. throngensis* (SAWADA, 1994), but easily distinguished by the different states of labial palpus, pronotum and aedeagus. *Lomechusoides schneideri* is easily distinguished from the other known species by the long quadrate head. Twelve species formerly placed in *Lomechusa* are newly combined with *Lomechusoides* in Appendix.

Introduction

All the members of the subtribe Lomechusina, to which belongs *Lomechusoides* TOTTENHAM, 1939, are considered to be symphilic myrmecophile highly integrated to ant societies. *Lomechusoides* is represented by 13 species from the Palearctic Region and has been known to be associated with ants of the genus *Formica* LINNAEUS, 1758. Seven species of the genus have hitherto been known from East Asia, including the Russian Far East and Siberia. They are: *Lomechusoides amurensis* (WASMANN, 1896), *L. hosodai* (K. SAWADA, 1994), *L. minor* (REITTER, 1887), *L. mongolicus* (WASMANN, 1896), *L. sibiricus* (MOTSCHULSKY, 1844), *L. strumosus* (FABRICIUS, 1775), *L. teres* (EPPELSHEIM, 1886), and only *L. minor* has been known in China. (All the above species except *L. strumosus* were originally described under "*Lomechusa*". They are newly combined with *Lomechusoides* in Appendix. See, Remarks of *Lomechusoides*.)

Recently, we had an opportunity to study two species of the subtribe collected

[1)] JSPS Reasearch Fellow (PD).

from Sichuan, China, through the courtesy of. Mr. Miroslav DVOŘÁK (Prague), Dr. Toshio KISHIMOTO (Japan Wildlife Research Center) and Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo). They were found to be undescribed species, of which the one in DVOŘÁK's collection was collected from an ant nest of the genus *Myrmica* LATREILLE, 1804. This is the first record of *Lomechusoides* species from an ant of the genus *Myrmica* and seems to be remarkable in analysing phylogenetic relationship with *Lomechusa* GRAVENHORST, 1806, of the same subtribe, which is symbiotic with both the genera *Formica* and *Myrmica* and changes the host seasonally. In this paper we are going to describe the two species and to give host records of them.

Methodology and terminology in the present paper follow MARUYAMA *et al.* (2003), and the number of setae and pores not specified is confined to one side of the body.

Taxonomy

Lomechusoides TOTTENHAM, 1939

Lomechusoides TOTTENHAM, 1939, 226. Type species: *Staphylinus strumosus* FABRICIUS, by original designation.

"*Lomechusa*": GANGLBAUER, 1895, 114. —— REITTER, 1909, 41. —— FEYNES, 1920, 302. —— LOHSE, 1973, 227.

Remarks. Most species of *Lomechusoides* were incorrectly described under "*Lomechusa*" due to misidentification of genus. In the meanwhile, most species of *Lomechusa* GRAVENHORST, 1806, were described under the genus *Atemeles* DILLWYN, 1829. TOTTENHAM (1939) pointed it out and established *Lomechusoides* for the species that were formerly described under "*Lomechusa*". However, TOTTENHAM (1939) did not transfer the known species of "*Lomechusa*" to *Lomechusoides*. On the other hand, many articles, including LOHSE (1973), an influential guidebook, and SCHILOW (1981), a revision of the species distributed in the former USSR and the adjacent regions, disregarded his arrangement and continued to use "*Lomechusa*" for *Lomechusoides* species. Therefore, most species of *Lomechusoides* are still placed in "*Lomechusa*". In the check list of the species of the genus in Appendix, 12 species were newly combined with *Lomechusoides*.

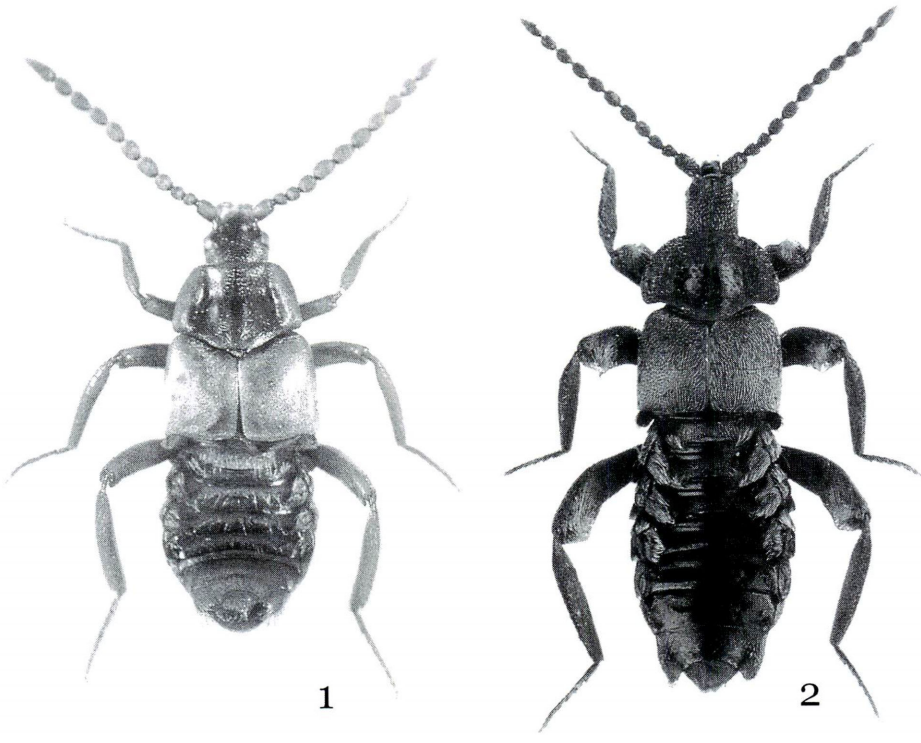
Lomechusoides uenoi MARUYAMA et HLAVÁČ, sp. nov.

(Figs. 1, 3–7)

Type material. Holotype: ♂, "[CHINA: SICHUAN], Kangding, Zheduoshankou, east side (alt. 3,850 m), 9–IX–1998, Shun-Ichi UÉNO leg." From ant nest. Deposited at present in the National Science Museum, Tokyo.

Etymology. Dedicated to Dr. Shun-Ichi UÉNO, who collected the type specimen.

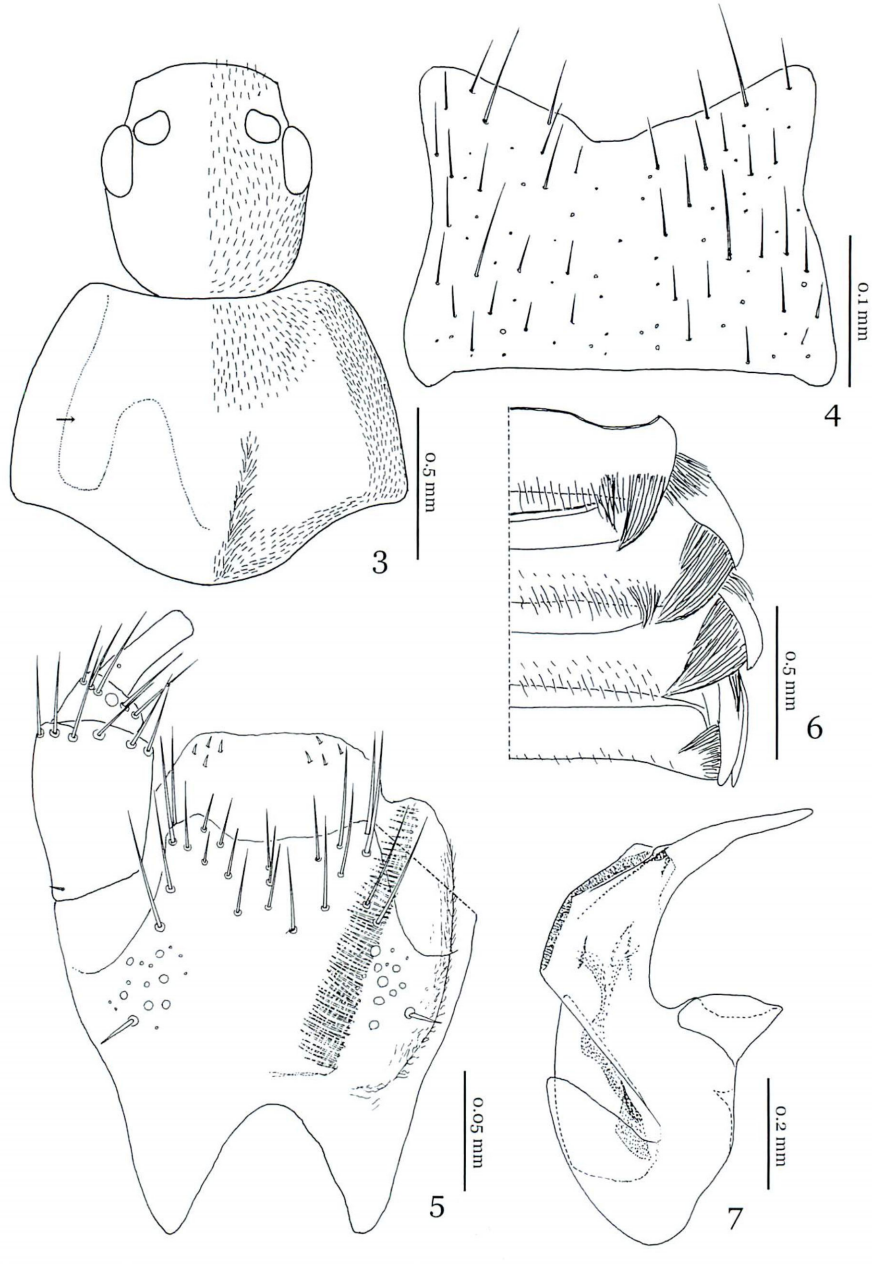
Diagnosis. This species is similar to *Lomechusoides throngensis* (SAWADA, 1994), described from Nepal, in body size, colour and shape of antennae, but is distin-



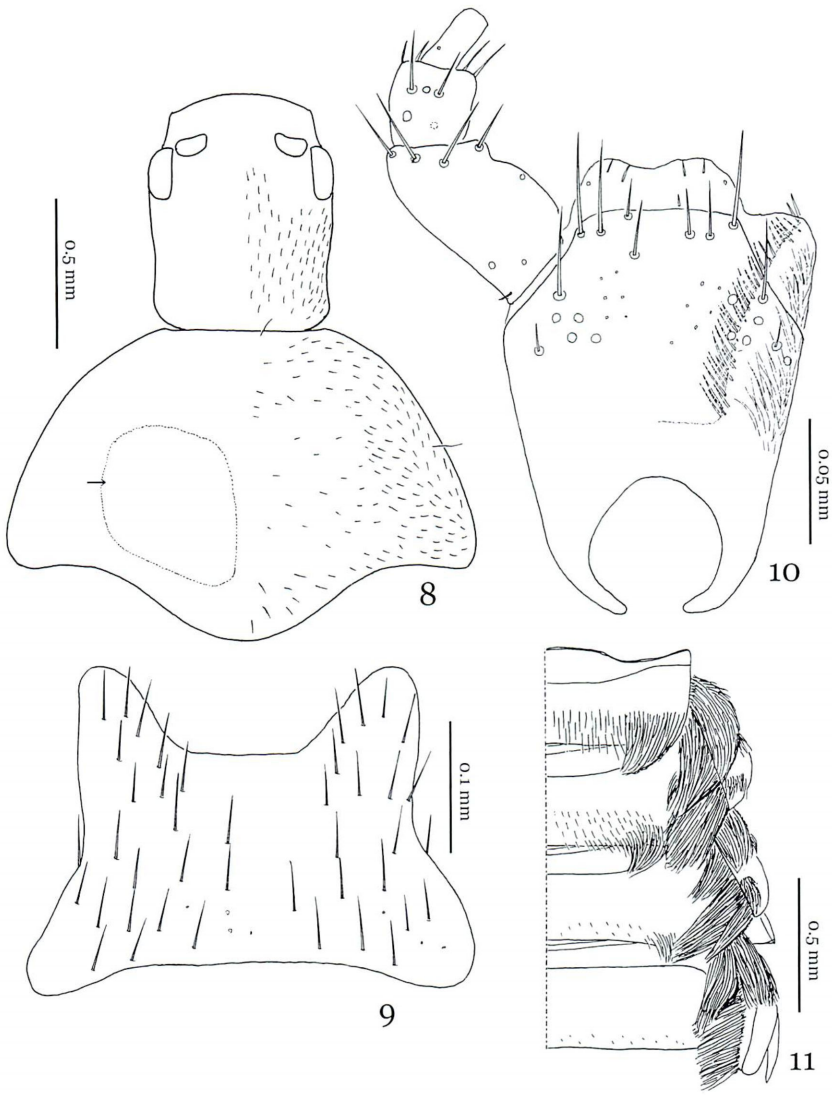
Figs. 1–2. *Lomechusoides* species from Sichuan, China. —— 1. *Lomechusoides uenoi* MARUYAMA et HLAVÁČ, sp. nov. —— 2. *L. schneideri* MARUYAMA et HLAVÁČ, sp. nov.

guished from the latter by the 1st segment of labial palpus longer, the pronotum evidently narrowed apicad, the apical lobe of aedeagus strongly curved ventrad, and the apical lobe of paramerite narrowed apicad.

Description. Body (Fig. 1) yellowish brown in ground colour; head, pronotum, and mesal areas of 3rd to 6th abdominal tergites darker. Head (Figs. 1, 3) somewhat circular, slightly longer than wide (HW/WL=0.9), widest at the middle of eyes; clypeus rounded at apical margin; surface moderately covered with minute setae; length of eyes 0.29 that of head. Mentum (Fig. 4) trapezoidal, 1.3 times as wide as long, deeply emarginate anteriorly, and almost uniformly covered with pseudopores. Prementum (Fig. 5) with one setal pore, real pores and pseudopores poorly differentiated (totally 13–15 in each mesolateral area), 10 setae in anteromesal area. Ligula (Fig. 5) unilobed, with four setulae in each mesolateral area. Labial palpus (Fig. 5) with 1st segment five times as long as 2nd segment. Premental apodeme (Fig. 5) deeply emarginate postero-medially. Antennae (Fig. 1) slightly longer than combined length of head, pronotum and elytra; 1st antennomere large, as long as combined length of 2nd and 3rd; 2nd antennomere half as long as 1st; 3rd antennomere shorter than half of 1st;



Figs. 3–7. *Lomechusoides uenoi* MARUYAMA et HLAVÁČ, sp. nov. —— 3, Fore body, dorsal view; 4, mentum, ventral view; 5, labium, ventral view (labial palpus is omitted and hypopharynx is indicated at the right side); 6, 2nd to 5th abdominal segments, dorsal view; 7, median lobe of male genitalia.



Figs. 8–11. *Lomechusoides schneideri* MARUYAMA et HLAVÁČ, sp. nov. —— 3, Fore body, dorsal view; 4, mentum, ventral view; 5, labium, ventral view (labial palpus is omitted and hypopharynx is indicated at the right side); 6, 2nd to 5th abdominal segments, dorsal view.

5th and 6th antennomeres each longer than one of the 7th to 10th; relative lengths of antennomeres from basal to apical:— 27: 15: 12: 16: 20: 20: 19: 18: 18: 16: 32. Pronotum (Figs. 1, 3) 1.41 times as wide as long; surface densely punctured, densely covered with small and stout setae along margin, with a pair of long-setal band posteromedially; smooth area (Fig. 3: arrow) trilobed. Scutellum pointed posteriorly; surface finely punctured and moderately covered with small setae. Elytra (Fig. 1) wider than long, subparallel-sided, rounded posterolaterally; surface finely punctured and densely covered with setae. Legs (Fig. 1) long, sparsely covered with setae; tibiae curved and constricted at each base; relative lengths of tarsomeres from basal to apical: fore tarsus:— 9: 8: 9: 22; mid tarsus:— 15: 10: 9: 8: 17; hind tarsus:— 19: 14: 13: 11: 22. Abdomen (Figs. 1, 6) foliaceous, widest around 5th segment; 3rd to 5th tergites moderately covered with setae, which become longer toward posterior margin; 6th and 7th tergites nearly devoid of setae; 8th tergite sparsely covered with setae around medial area; trichomes on 2nd to 5th segments as shown in Fig. 6.

Male. Aedeagus (Figs. 7) much narrowed apically and strongly curved ventrad in lateral view; distal crest well developed; apical lobe of paramerite gently narrowed apicad and curved ventrad near apex.

Female unknown.

Measurements. Body length: ca. 4.8 mm; forebody length (from apex of clypeus to apices of elytra): ca. 2.4 mm; head length: 0.76 mm; head width: 0.69 mm; antennal length: 2.69 mm; pronotal length: 0.94 mm; pronotal width: 1.33 mm; elytral length: 1.13 mm; elytral width: 1.70 mm; foretibial length: 0.95 mm; midtibial length: 1.10 mm; hindtibial length; 1.41 mm.

Symbiotic host. *Formica fusca* LINNAEUS, 1758 (*F. fusca* group), determined by M. M.

Bionomical notes. The type specimen was found in an ant nest under a large flat stone lying in a growth of dwarf rhododendron in the alpine zone of the Zheduo Shan Mountains. There were many similar ant nests on the steep slope above a moraine, but no additional specimens were found after hours of searches. (UÉNO, pers. comm.)

Lomechusoides schneideri MARUYAMA et HLAVÁČ, sp. nov.

(Figs. 2, 8–11)

Type material. Holotype: ♀, "China m., 19–VII–1992, Sichuan, 3,600 m, Kangding env., J. Schneider legit." From ant nest. Deposited at present in the private collection of Mr. Miroslav DVOŘÁK, and eventually in the National Museum, Prague. Spermatheca missing.

Etymology. Dedicated to Mr. Jan SCHNEIDER (Praha), collector of the holotype.

Diagnosis. This species is easily distinguished from the other species of the genus by the long and quadrate head.

Description. Body (Fig. 2) brown in ground colour; head and pronotum darker. Head (Figs. 2, 8) quadrate, long, longer than wide (HW/WL=0.77), widest just before

posterior margin; apical margin of clypeus rounded; surface moderately covered with minute setae; length of eyes 0.22 that of head. Mentum (Fig. 9) trapezoidal, 1.4 times as wide as long, deeply emarginate anteriorly, almost uniformly covered with setae except anteromedial area, very sparsely covered with pseudopores near base. Prementum (Fig. 10) with one setal pore, real pores and pseudopores poorly differentiated (totally 10–13 in each mesolateral area), five setae in anteromesal area. Ligula (Fig. 10) weakly bilobed, with two or three setulae and one pore on each lobe. Labial palpus (Fig. 10) with 1st segment 2.5 times as long as 2nd segment. Premental apodeme (Fig. 10) emarginate in a circle postero-medially. Antennae (Fig. 2) almost as long as combined length of head, pronotum and elytra; 1st antennomere large, twice as long as 2nd; 2nd antennomere as long as 3rd; 5th and 7th antennomeres each longer than one of the 8th to 10th; relative lengths of antennomeres from basal to apical:— 30: 15: 15: 17: 19: 19: 19: 17: 17: 16: 28. Pronotum (Figs. 2, 8) 1.46 times as wide as long; surface densely punctured, sparsely covered with long and stout setae, with a pair of round smooth areas (Fig. 8: arrow). Scutellum pointed posteriorly; surface finely punctured and moderately covered with small setae. Elytra (Fig. 2) wider than long, subparallel-sided, rounded posterolaterally; surface finely punctured and densely covered with setae. Legs (Fig. 2) long, densely covered with setae; apical half of femur with a patch of dense and long setae; tibiae flattened, curved and constricted at base, widest at basal 1/5 and gently narrowed apicad, with small interior notch at basal 1/4; relative lengths of tarsomeres from basal to apical: fore tarsus:— 11: 12: 10: 21; mid tarsus:— 16: 15: 13: 11: 20; hind tarsus:— 21: 17: 13: 13: 23. Abdomen (Figs. 2, 11) foliaceous, widest around 4th segment; 3rd tergite moderately covered with setae, which become longer toward posterior and lateral margins; 4th to 8th tergites sparsely covered with setae along posterior margins; trichomes on 2nd to 5th segments as shown in Fig. 11.

Male unknown.

Female. Spermatheca missing in the holotype.

Measurements. Body length: ca. 5.5 mm; forebody length (from front of clypeus to apices of elytra): ca. 2.65 mm; head length: 0.78 mm; head width: 0.60 mm; antennal length: 2.65 mm; pronotal length: 1.03 mm; pronotal width: 1.50 mm; elytral length: 1.15 mm; elytral width: 1.70 mm; foretibial length: 1.08 mm; midtibial length: 1.28 mm; hindtibial length; 1.60 mm.

Symbiotic host. The host ant is most probably *Myrmica ruginodis* NYLANDER, 1846, but somewhat paler in colour. Only one specimen was collected together with the beetle, and it is not sufficient for identifying the species of the difficult genus *Myrmica*. Determined by M. M.

Acknowledgment

We thank Mr. M. DVOŘÁK, Dr. T. KISHIMOTO and Dr. S.-I. UÉNO for material, especially Dr. S.-I. UÉNO for reading 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.

Appendix

A Checklist of the Known Species of *Lomechusoides*

Lomechusoides TOTTENHAM, 1939.
amurensis (WASMANN, 1896), comb. nov.
=*Lomechusa ganglbaueri* BERNHAUER, 1936 (part.)
=*Lomechusa suensoni* BERNHAUER, 1936
hosodai (K. SAWADA, 1994), comb. nov.
inflatus (ZETTERSTEDT, 1828), comb. nov.
=*Lomechusa ganglbaueri* BERNHAUER, 1936 (part.)
=*Lomechusa mariae* PALM, 1949
minor (REITTER, 1887), comb. nov.
mongolicus (WASMANN, 1896), comb. nov.
schneideri MARUYAMA et HLAVÁČ, sp. nov.
sibiricus (MOTSCHULSKY, 1844), comb. nov.
straneoi (KOCH, 1936), comb. nov.
strumosus (FABRICIUS, 1775)
ssp. *caucasica* (WASMANN, 1896)
ssp. *sicula* (FIORI, 1914)
teres (EPPELSHEIM, 1886), comb. nov.
=*Lomechusa wellenii* PALM, 1949
throngensis (SAWADA, 1994), comb. nov.
turkestanicus (ROUBAL, 1916), comb. nov.
uenoi MARUYAMA et HLAVÁČ, sp. nov.
wasmanni (REITTER, 1918), comb. nov.
zaitzevi (SCHILOW, 1977), comb. nov.

要　　約

丸山 宗利・P. HLAVÁČ：中国四川省産タカネアリノスハネカクシ属（ハネカクシ科ヒゲブトハネカクシ亜科アリノスハネカクシ族）の2新種．—— タカネアリノスハネカクシ属 *Lomechusoides* には，シベリアと極東ロシアを含む東アジアから9種が知られており，中国からは1種のみが記録されていた．筆者らは最近，四川省で採集された2未記載種の標本を検する機会を得たので，*Lomechusoides uenoi* sp. nov., *L. schneideri* sp. nov. として記載する．それぞれ，ヨーロッパクロヤマアリ *Formica fusca*，シワクシケアリの近似種 *Myrmica* aff. *ruginodis* の巣から採集された．本属の種は，ヤマアリ属 *Formica* のアリのみを寄主とすると従来考えられていたが，今回初めてクシケアリ属 *Myrmica* の巣より採集された．近縁属のハケゲアリノスハネカクシ属 *Lomechusa* の種は，ヤマアリ属とクシケアリ属双方のアリを寄主とし，それぞれを季節的に移動することが知られている．今回の発見は，タカネアリノスハネカクシ属とハケゲアリ

ノスハネカクシ属の関係を知るうえで興味深い．*L. uenoi* は *Lomechusoides throngensis* (SAWADA, 1994), comb. nov. に似ているが，口器，前胸背板および交尾器の形質状態によって区別できる．*L. schneideri* は方形で長い頭部の形質状態により，他の既知種すべてから容易に区別できる．

References

BERNHAUER, M., 1936. Neuheiten der palaearktischen Staphylinidenfauna. *Pubbl. Mus. ent. Pietro Rossi*, **1**: 303–325.

BONDROIT, J., 1917. Diagnoses de trois nouveaux *Formica* d'Europe. *Bull. Soc. ent. Fr.*, **1917**: 186–187.

DILLWYN, L.W., 1829. Memoranda relating to Coleopterous Insects, found in the Neighborhood of Swansea. 75 pp. Swansea.

FABRICIUS, J. C., 1775. Systema Entomologiae, sistens Insectorum Classes, Ordines, Genera, Species, Adiectis Synonymis, Locis, Descriptionibus, Observationibus. 832 pp. Flensburgi et Lipsiae.

FENYES, A. 1920. Coleoptera: Fam. Staphylinidae, subfam. Aleocharinae. *Genera Insectorum*, fasc. 173b: 111–414.

GANGLBAUER, L., 1895. Die Käfer von Mitteleuropa. Die Käfer der österreichisch-ungarischen Monarchie, Deuschlands, der Schweiz, sowie des französischen und italienischen Alpengebietes. Familienreihe Staphylinoidea. Theil I. Staphylinidae, Pselaphidae. 881 pp. Carl Gerold's Sohn, Wien.

GRAVENHORST, J. L. C., 1806. Monographia Coleoptera Micropterorum. 248 pp. Henricus Dieterich, Gottingae.

KOCH, C., 1936. Appunti sugli Stafilinidi italiani. *Boll. Soc. ent. it.*, **68**: 17–21.

LATREIILE, P. A., 1804. Tableau méthodique des insects. Classe huitième. Insects, Insecta. *Nouveau Dictionnaire d'Histoire Naturelle*, **24**: 129–200.

LINNAEUS, C., 1758. Systema Naturae per regna tria naturae. Secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio 10. **1**: 823 pp. Holmiae.

LOHSE, G. A., 1974. Tribus 15–19 (Schistogenini–Aleocharini). *In* FREUDE, H., K. W. HARDE & G. A. LOHSE (eds.), *Die Käfer Mitteleuropas*, **5**: 221–292. Goecke & Evers Verlag, Krefeld.

MARUYAMA, M., S. YEK, R. HASHIM & F. ITO, 2003. A new myrmecophilous species of *Drusilla* (Coleoptera, Staphylinidae, Aleocharinae) from Peninsular Malaysia, a possible Batesian mimic associated with *Crematogaster inflata* (Hymenoptera, Formicidae Myrmicinae). *Jpn. J. syst. Ent.*, **9**: 267–275.

NYLANDER, W., 1846. Adnotations in monographiam formicarum borealium Europe. *Acta Soc. scient. fenn.*, **2**: 875–944.

PALM, T., 1949. De nordiska *Lomechusa*-arterna (Col. Staphylinidae). *Ent. Tidskr.*, **70**: 97–102.

REITTER, E., 1887. Insecta in itinere Cl. N. PRZEWALSKII in Asia centrali novissime lecta, VI: Clavicornia, Lamellicornia et Serricornia. *Horae Soc. ent. ross.*, **21**: 201–234.

REITTER, E., 1909. Fauna Germanica. Die Kafer des Deutschen Reiche. Nach der analytischen Methode bearbeitet, **2**: 1–392. K. G. Lutz, Stuttgart.

——— 1918. *Lomechusa Wasmani* n. sp. *Wiener ent. Ztg.*, **37**: 148.

SAWADA, K., 1994. New myrmecophilous Coleoptera in Nepal and Japan (Histeridae & Staphylinidae). *Contr. biol. Lab. Kyoto Univ.*, **28**: 357–365.

SCHILOW, W. F., 1977. Eine neue Art myrmekophiler Käfer aus Tadshikishen SSR. *Dt. ent. Z.*, **24**: 371–372.

——— 1981. Die *Lomechusa*-Arten der Sowjetunion und angrenzender Gebiete (Coleoptera: Staphylinidae, Aleocharinae). *Reichenbachia*, **19**: 213–223.

TOTTENHAM, C. E., 1939. Some notes on the nomenclature of the Staphylinidae, part. 1. *Proc. r. Soc. London*, (B), **8**: 224–226.

WASMANN, E., 1896. Revision der *Lomechusa*-Gruppe. *Dt. ent. Z.*, (2): 244–256.

ZETTERSTEDT, J. W., 1828. Fauna Insectorum Laponica, Hammone, pars I. 563 pp.

Elytra, Tokyo, **32** (1): 114, May 31, 2004

Additional Records of *Philetaerius elegans* (Coleoptera, Staphylinidae, Staphylininae)

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MARUYAMA *et al.* (2000) reported the symbiotic hosts and additional records of the myrmecophilous staphylinid, *Philetaerius elegans* SHARP, 1889. After that, several additional specimens of this species from new host ants in new localities have been accumulated in the author's collection, which will be recorded herewith.

The following abbreviations were used: LDS (from trails of *Lasius* (*Dendrolasius*) *spathepus* WHEELER, 1910); LDN (from trails of *L.* (*D.*) *nipponensis* FOREL, 1912); LDM (from trails of *L.* (*D.*) *morisitai* YAMAUCHI, 1979).

Before going further, the author thanks the following entomologists for the material: Mr. Hirofumi FUJIMOTO, Dr. Fuminori ITO, Mr. Hiromu KAMEZAWA, Mr. Yuuki KAMITE and Dr. Takato KOBAYASHI.

Philetaerius elegans SHARP, 1889

Philetaerius elegans SHARP, 1889, 119. —— MARUYAMA *et al.*, 2000, 68.

Additional records. Japan: [HOKKAIDO] 1 ex., Ôsawaguchi, Nopporo-Shinrin-Kôen, Ebetsu-shi, 4–V–2000, M. MARUYAMA (LDN); [HONSHU] Yamanashi-ken: 1 ex., Kami-imai, Hosaka-chô, Nirasaki-shi, 15–VIII–2000, T. KOBAYASHI (LDS); 2 exs., Nakano, Shôwa-chô, Saitama-ken, 17–VI–2001, H. KAMEZAWA (LDN); 2 exs., same data but 26–VI–2001; 9 exs., same data but 4–V–2003; 1 ex., Takao-san, Hachiôji-shi, Tokyo, 4–VI–2001, M. MARUYAMA (LDS); 3 exs., Ôkubo, Komoro-shi, Nagano-ken, 29~30–IV–2001, H. KAMEZAWA (LDN); [SHIKOKU] Kagawa-ken: 1 ex., Usa-jinja, Nagaona, Sanuki-shi, 31–V–2001, F. ITO, M. MARUYAMA & Y. KAMITE (LDS); 2 exs., Fujio-jinja, Nishiueta-chô, Takamatsu-shi, 1–VI–2001, same collectors (LDN); 1 ex., Daisen-zan, Kotonami-chô, 1–VI–2001, same collectors (LDM); 1 ex., same locality, 24–IX–2001, K. SHIRAKAWA (LDN).

Distribution. Japan: Hokkaido, Honshu, Shikoku, Kyushu (new to Shikoku).

Symbiotic hosts. *Lasius* (*Dendrolasius*) *spathepus*, *L.* (*D.*) *nipponensis* and *L.* (*D.*) *morisitai* (new host record from *L.* (*D.*) *morisitai*).

References

MARUYAMA, M., K. MIZOTA & M. ÔHARA, 2000. Notes on the myrmecophilous beetle, *Philetaerius elegans* SHARP (Coleoptera, Staphylinidae, Staphylininae). *Elytra, Tokyo*, **28**: 67–70.

SHARP, D., 1889. The Staphylinidae of Japan. *Ann. Mag. nat. Hist.*, (6), **3**: 108–121.

Elytra, Tokyo, **32** (1): 115–118, May 31, 2004

New Records of *Eupines sphaerica* (MOTSCHULSKY) (Coleoptera, Staphylinidae, Pselaphinae) from the Ryukyus, Japan and Myanmar

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Abstract *Eupines sphaerica* (MOTSCHULSKY) is recorded from the Ryukyus, Japan and Myanmar for the first time. The male genital structure is redescribed in detail.

Key words: Coleoptera, Staphylinidae, Pselaphinae, Brachyglutini, *Eupines*, Japan, Myanmar.

Introduction

The pselaphine species, *Eupines sphaerica* (MOTSCHULSKY) belonging to the tribe Brachyglutini, subtribe Brachyglutina, has been known in a large area from the Oriental to Australian Regions. The genus *Eupines* including about 130 species was classified into the subtribe Pselaptina by NEWTON & CHANDLER (1989). Recently, CHANDLER (2001) synonymized this subtribe with Brachyglutina.

Eupines sphaerica was originally described by MOTSCHULSKY (1851) from Sri Lanka. After the Coleopterorum Catalogus (RAFFRAY, 1911), its distributional range also includes India, Thailand, Sumatra, Singapore, Java, Borneo, Celebes and New Guinea. JEANNEL (1952, 1957) recorded this species from North and South Vietnam. In the present report, I am going to record it from Ishigakijima and Iriomotejima Islands, the Ryukyus, Japan and Myanmar for the first time. This is also the first record of the genus *Eupines* from Japan.

As to the structure of the male genitalia, JEANNEL (1952) already described and illustrated it in dorsal view. Then, the male genital structure of this species is redescribed in detail on the ventral side in the present study. The material was mounted with Canada balsam after dehydration, and the detailed structure was observed and sketched with a light microscope (Nikon Eclipse E–200).

Before going further, I wish to express my hearty thanks to Dr. Hiroyuki YOSHITOMI, Dr. Keiichi TAKAHASHI, Mr. Kenshi OHTSUKA and Mr. Yoshiyasu KUSAKABE for their kind offer of valuable materials.

Eupines sphaerica (MOTSCHULSKY)

[Japanese name: Chibi-maru-arizukamushi]

(Figs. 1–2)

Bryaxis sphaerica MOTSCHULSKY, 1851, Bull. Soc. imp. Naturalist. Moscou, **24**: 492. —— REITTER, 1882, Verh. zool.-bot. Ges. Wien, **32**: 291. —— SCHAUFUSS, 1887, Berl. ent. Z., **31**: 293.

Brabaxis sphaerica: RAFFRAY, 1890, Revue Ent., Caen, **9**: 125.

Eupines sphaerica: RAFFRAY, 1904, Annls. Soc. ent. Fr., **73**: 202; 1908, Gen. Ins., (64): 207; 1911, Coleopt. Cat., (27): 80. —— JEANNEL, 1952, Revue fr. Ent., **19**: 84; 1957, ibid., **24**: 18.

Bryaxis siamensis SCHAUFUSS, 1877, Psel. Siams, p. 9; 1882, Tijdschr. Ent., **25**: 68; 1882, Notes Leyden Mus., **4**: 148; 1887, Berl. ent. Z., **31**: 293; 1882, Bull. Soc. ent. Fr., 1882: 117. —— REITTER, 1882, Verh. zool.-bot. Ges. Wien, **32**: 291. —— RAFFRAY, 1904, Annls. Soc. ent. Fr., **73**: 202 (synonymised).

Bryaxis fonensis SCHAUFUSS, 1877, Psel. Siams, p. 10; 1882, Tijdschr. Ent., **25**: 69; 1887, Berl. ent. Z., **31**: 293. —— REITTER, 1882, Verh. zool.-bot. Ges. Wien, **32**: 291. —— RAFFRAY, 1904, Annls. Soc. ent. Fr., **73**: 202 (synonymised).

Redescription. Body length 1.26–1.32 mm in male, 1.23–1.27 mm in female,

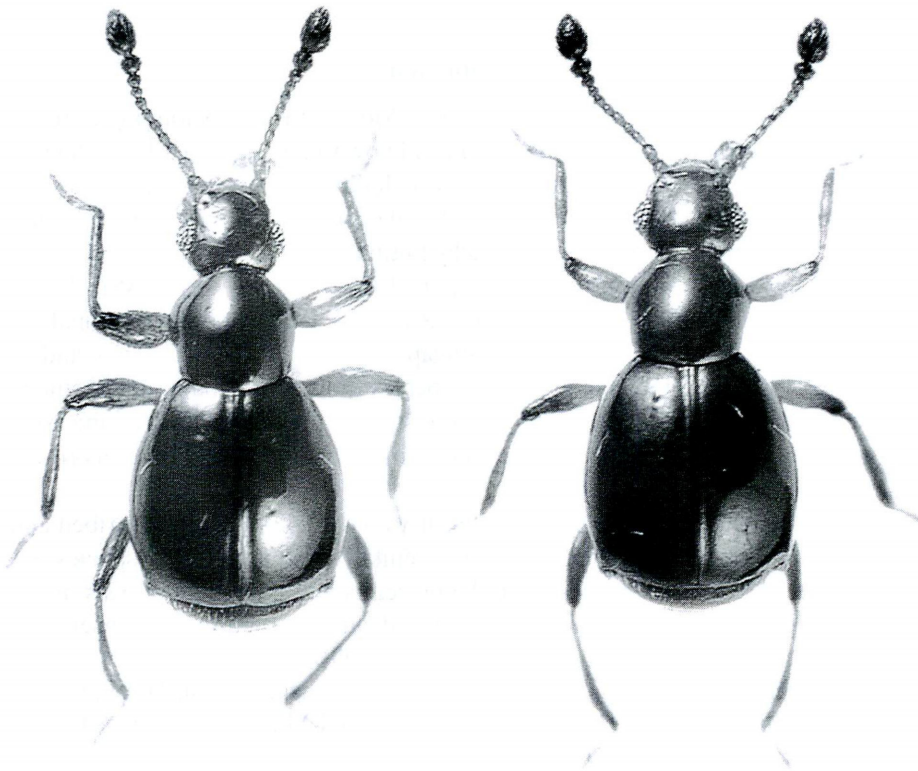

Fig. 1. *Eupines sphaerica* (MOTSCHULSKY); left: male; right female.

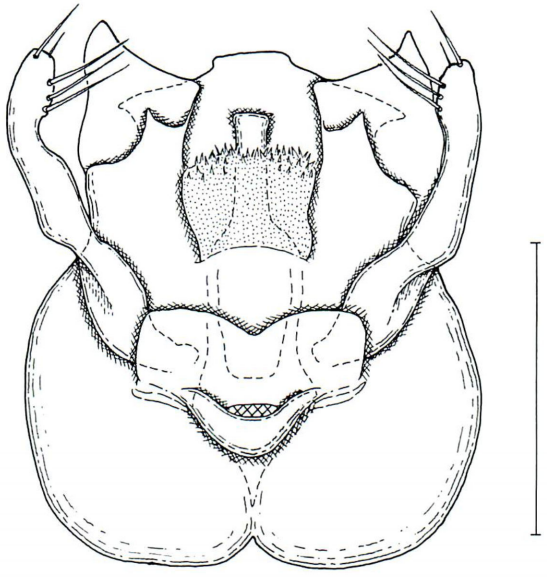

Fig. 2. *Eupines sphaerica* (MOTSCHULSKY) from Ishigakijima Is., Japan, male genitalia in ventral view. Scale: 0.1 mm.

width 0.58–0.62 mm in male, 0.56–0.60 mm in female, small and thick, narrowed anteriorly, almost smooth, shiny and very sparsely covered with short erect hairs on dorsal surfaces of head, pronotum and elytra. Head subglobose; eyes large and ovoid. Antennae 0.51–0.55 mm in length in male, 0.46–0.49 mm in female, short and moniliform, thickened at antennomeres X to XI. Maxillary palpi short and thick; palpomere IV the largest and fusiform. Pronotum subspherical, widest at anterior 1/3. Elytra very large and thick, narrowed anteriorly, each with an adsutural sulcus; basal fovea absent. Metasternum with large and shallow median depression in male. Fore tibiae slender, with a small denticle on inner side at apical 2/5 in male. Abdomen very short; sternite IV the largest, with a transverse median tubercle in male; sternite VIII strongly concave at the middle in male, flat in female.

Male genitalia about as long as wide, symmetrical and weakly sclerotized; parameres paired and divergent apically, each elongate, attached to inner side of apical projection of basal foramen at base, weakly incurved and slightly broadened near apex, with two setae at apex and three setae on inner side near apex; median lobe thick and broad, bilobed in basal part, weakly narrowed apicad; basal foramen small and transverse, with transverse apical and lip-like basal projections; apical part with a pair of broad processes, a membranous sac between lateral processes just below apical orifice and apically broadened dorsal wall; membranous sac covered with many microspines in apical part; endophallus consisting of bottleneck-like apical sclerite and Y-shaped basal sclerite.

Specimens examined. [Japan] 5♂, 3♀, Ohtake, by light trap, Ishigakijima Is.,

Okinawa Pref., 28–III–1998, H. YOSHITOMI leg.; 1♂, 1♀, Ishigakijima Is., Okinawa Pref., 5–I–1998, K. TAKAHASHI leg.; 3♂, 5♀, Hoshitate, by light trap, Iriomotejima Is., Okinawa Pref., 28–IV–1997, K. OHTSUKA leg.; 9♂, 22♀, same locality as above, 17–III–2004, S. NOMURA leg. [Myanmar] 13 exs., Shwe Hninsi, by light trap, Mayangon T/S, Yangon, V–2001, Y. KUSAKABE leg.; 122 exs., same data as above, but VI～VII–2001; 30 exs., same data as above, but VII～VIII–2001; 1♂, same data as above, but IV～V–2002; 1♀, same data as above, but VII–2002; 5♀, same data as above, but VI–2003; 2♀, same data as above, but XI–2003.

Distribution. Japan (the Ryukyus); India, Indochina, Sumatra, Singapore, Java, Borneo, Celebes and New Guinea.

Remarks. This species is recognized on having the small and rounded body, almost smooth surface of the head, pronotum and elytra, the denticulate fore tibia in the male and the bilobed median lobe of the male genitalia.

Biological notes. Most specimens examined in this report are collected by light traps, and the ordinary habitat of this species is still unknown.

要　　約

野村周平：琉球およびミャンマーからのチビマルアリヅカムシ（和名新称）の記録（コウチュウ目ハネカクシ科アリヅカムシ亜科）．—— アトキリアリヅカムシ族アトキリアリヅカムシ亜族に属する *Eupines sphaerica* (MOTSCHULSKY) を，石垣島，西表島ならびにミャンマー，ヤンゴン市内より記録した．これらはほとんどが灯火採集により採集されたもので，通常の生息環境については知られていない．なお，本種にチビマルアリヅカムシという和名を新たに与えた．

References

CHANDLER, D. S., 2001. Biology, morphology, and systematics of the ant-like litter beetles of Australia (Coleoptera: Staphylinidae: Pselaphinae). *Mem. Entomol., Int., Gainesville*, **15**: 1–560.

JEANNEL, R., 1952. Psélaphides de Saïgon. *Revue fr. Ent.*, **19**: 69–112.

—— 1957. Sur querques Psélaphides du Tonkin recueillis par le Père A. DE COOMAN. *Ibid.*, **24**: 5–32.

MOTSCHULSKY, V., 1851. Énumération des nouvelles espèces de Coléoptères. *Bull. Soc. imp. Naturalist. Moscou*, **24**: 479–511. (Not seen.)

NEWTON, A. F., JR., & D. S. CHANDLER, 1989. World catalog of the genera of Pselaphidae (Coleoptera). *Fieldiana, Zool.*, (N. S.), (53): 1–93.

RAFFRAY, A., 1911. Pselaphidae. *In* SCHENKLING, S., (ed.), *Coleopterorum Catalogus*, pars 27. 222 pp. W. Junk, Berlin.

Elytra, Tokyo, **32** (1): 119–123, May 31, 2004

Re-evaluation of the Status of *Pelopides mniszechi* (Coleoptera, Passalidae), with a Redescription Based on the Holotype

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Abstract Taxonomic status of the passalid beetle, *Pelopides mniszechi* (KAUP), which was regarded as a junior synonym of *P. tridens* (WIEDEMANN), is reassessed. It is concluded that *P. mniszechi* is a valid species because *P. mniszechi* is specifically distinct from *P. tridens* in the shape of tarsus. *Pelopides mniszechi* is redescribed based on the holotype.

KAUP (1868) described *Eriocnemis mniszechi* from Nias, Sumatra. Afterwards, HELLER (1900) gave the replacement name *Gnaphalocnemis* to the passalid genus *Eriocnemis* KAUP, 1868, because the generic name *Eriocnemis* had been preoccupied by the hummingbird genus *Eriocnemis* REICHENBACH, 1853. Subsequently, GRAVELY (1914) regarded the taxon *mniszechi* as a junior synonym of *Gnaphalocnemis tridens* (WIEDEMANN, 1823) from Java. Furthermore, in his revisional work on the Passalidae of the world, GRAVELY (1918) regarded the genus *Gnaphalocnemis* as a junior synonym of the genus *Pelopides* KUWERT, 1896.

When we had an opportunity to examine the holotype of *Eriocnemis mniszechi* preserved in the collection of the Hessischer Landesmuseum, Darmstadt, we found it specifically distinct from Javanese specimens of *Pelopides tridens* in some external characters. Thus, we regard the taxon *mniszechi* as a valid species of the genus *Pelopides*. We herewith redescribe *Pelopises mniszechi* based on the holotype for external morphology. In addition, we also describe the male genitalia of *P. mniszechi* based on a specimen from West Sumatra in the first author's collection.

In the following description, we adopt the terminology of GRAVELY (1914) for external morphology and of LINDROTH (1957) for male genitalia. Explanatory SEM photographs are also provided for *Pelopides mniszechi* and *P. tridens* based on specimens

in the first author's collection.

Pelopides mniszechi (KAUP)

(Figs. 1–4)

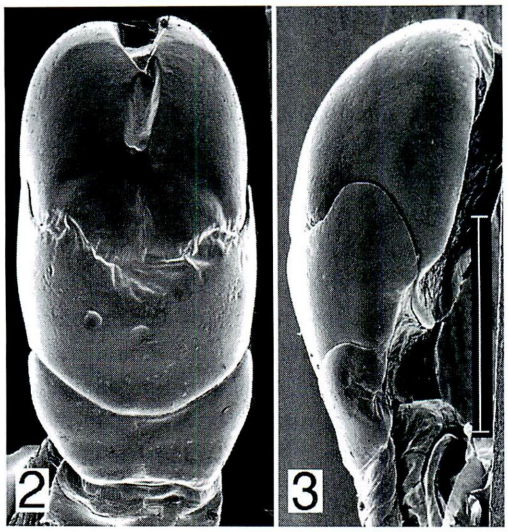
Eriocnemis mniszechi KAUP, 1868, Coleopt. Hefte, **3**, p. 22.
Gnaphalocnemis tridens (WIEDEMANN): GRAVELY, 1914, Mem. Ind. Mus., **3**, p. 250 (in part).
Pelopides tridens (WIEDEMANN): GRAVELY, 1918, Mem. Ind. Mus., **7**, p. 95 (in part).

Redescription of the holotype. Sex unknown. Body length from anterior margin of head to apices of elytra 41.0 mm.

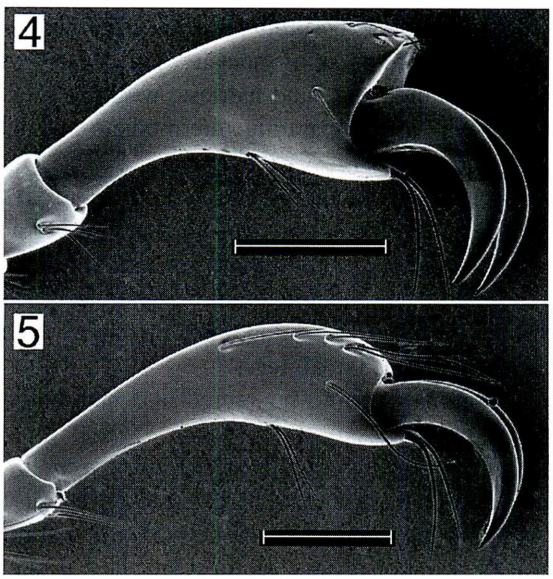
Outer tubercles transversely truncated and weakly bifid at distal end; left outer tubercle narrower and smaller than the right one; outer distal angle of left outer tubercle located at much lower level than the inner one; upper surface of left outer tubercle strongly hollowed in outer portion; right outer tubercle with a distinct secondary tubercle behind outer distal angle; outer angle of right outer tubercle more prominent forwards and located at a slightly lower level than the inner one; inner tubercles large, pointed upwards and forwards; frontal area depressed, rugose; ridge between inner tubercles distinct; central tubercle distinct though small, obtusely angled in lateral view;



Fig. 1. Habitus of *Pelopides mniszechi* (KAUP), holotype, scale 10 mm.



Figs. 2–3. Male genitalia of *Pelopides mniszechi* (KAUP), not type; 2, ventral view; 3, right lateral view, scale 2 mm.



Figs. 4–5. Fifth tarsomere of hind leg of *Pelopides* spp.; 4, *P. mniszechi* (KAUP), not type; 5, *P. tridens* (WIEDEMANN), not type, scale 1 mm.

parietal ridge rounded; supraoccipital ridge distinct and connected with supraorbital ridge in distal portion, vanished in central portion; depressed area wrinkled; canthus rounded at anterior angle; eye large, extending beyond distal end of canthus. Anterior lower tooth of left mandible located close to lowest terminal tooth, smaller than the latter; upper tooth of left mandible distinct, obtuse-angled; upper margin of left mandible weakly convex behind upper tooth; outer basal angle of left mandible located near base, strongly produced outwards and a little forwards; latero-ventral side of left mandible strongly hollowed near base; anterior lower tooth of right mandible absent; lowest terminal tooth of right mandible much larger than the left one; upper tooth of right mandible pointed forwards; upper margin of right mandible convex behind upper tooth; outer basal angle of right mandible distinct though small. Labrum with setiferous punctures; anterior margin concave, with a distinct denticle at the middle; anterior angles rounded, the left one more prominent forwards than the right one. Antenna with 6 short lamellae. Prementum depressed and rough in central portion, with median ridge in anterior portion, strongly swollen in postero-lateral portion. Mentum with setiferous punctures in lateral portion, impunctate and hairless in central portion; scar obliquely oval; anterior margin almost straight in central portion; posterior margin straight. Hypostomal process impunctate, hairless, smooth; inner margin slightly convex; outer margin with obtuse angle in anterior portion.

Pronotum with distinct median sulcus, rough in lateral scar and in marginal groove. Posterior plate of prosternum impunctate and hairless. Mesosternum impunctate and hairless, with shallow scar; mesothoracic episternum hairy in posterior corner. Lateral and anterior intermediate areas of metasternum densely punctured and hairy; posterior intermediate area impunctate and hairless, with irregular dents along posterior margin of central area; ridge separating intermediate and lateral areas distinct; central area impunctate and hairless.

First to third grooves of elytron simply and finely punctured; fourth simply punctured in anterior portion, ladder-like in posterior portion close to posterior end; fifth to eighth ladder-like along whole length; sixth and seventh wider than fifth and eighth; ninth finely punctured along whole length; sixth to eighth interstriae of elytron thinner than the adjacent grooves in posterior portion. Fifth tarsomere broadened distally, projecting like hood at dorso-distal end in all legs.

Second visible abdominal sternite punctured and hairy along transverse ridge; third to sixth impunctate and hairless.

Description of male genitalia based on a specimen from West Sumatra. Penis large, longer than the sum of parameres and basal piece in ventral view, with longitudinal membranous area along the middle line on ventral side; parameres united on ventral side, with anterior margin concave in ventral view, lateral margins almost parallel in ventral view; basal piece transverse, shorter than parameres in ventral view, with anterior margin concave in ventral view, with lateral margin weakly convex in ventral view.

Specimens examined. *Pelopides mniszechi* (KAUP): holotype, Nias, Sumatra (in

the collection of Hessischer Landesmuseum, Darmstadt); 1♂, 1♀, Mt. Singglang, West Sumatra, 3–VIII–1994, K. FUJITA leg.

Pelopides tridens (WIEDEMANN): 1♂, Banyuwangi, E. Java, 11–VIII–1986, T. ITO leg.; 1♀, Sukanegara, Java, 1,100–1,300 m, 10～12–VII–2002, K. FUJITA leg.

Distribution. Sumatra.

Notes. *Pelopides mniszechi* is distinct from *P. tridens* in the following characters: in *P. mniszechi*, the fifth tarsomeres are projecting like a hood at the dorso-distal end in all the legs, whereas in *P. tridens*, they are gently rounded (Figs. 4 & 5); in the former, the eighth groove of the elytron is ladder-like along whole length whereas, in the latter, it is simply punctured in anterior portion.

Acknowledgments

We wish to express our hearty thanks to Dr. W. SCHNEIDER, the Hessischer Landesmuseum, Darmstadt and Prof. M. MATSUI, Kyoto University, for giving us the opportunity to make the present study. We are also indebted to Messrs T. ITO and K. FUJITA for providing us invaluable specimens. 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・荒谷邦雄：クロツヤムシの一種*Pelopides mniszechi*の分類学的再評価と再記載．—— *Pelopides tridens* (WIEDEMANN) の新参異名とみなされていた*P. mniszechi* (KAUP) の再評価をおこなった．その結果，*P. mniszechi* (KAUP) は付節の形態が*P. tridens*とは明確に異なることから，これを有効な種であるとみなし，ホロタイプにもとづき再記載した．

References

GRAVELY, F. H., 1914. An account of the Oriental Passalidae based primarily on the collection in the Indian Museum. *Mem. Ind. Mus.*, **3**: 177–353.

——— 1918. A contribution towards the revision of the Passalidae of the world. *Ibid.*, **7**: 1–144.

HELLER, K. M., 1900. Neue Käfer von Celebes. *Abh. zool. anthr.-ethn. Mus., Dresden*, **9**: 1–46.

KAUP, J., 1868. Prodromus zu einer Monographie der Passaliden. *Coleopt. Hefte*, **3**: 4–32.

LINDROTH, C., 1957. The principal terms used for male and female genitalia in Coleoptera. *Opusc. ent., Lund*, **22**: 241–256.

Elytra, *Tokyo*, **32** (1): 124, May 31, 2004

New Records of Two Obriine Species (Coleoptera, Cerambycidae) from Laos

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In the course of a recent field survey in Laos, I was able to find two unrecorded cerambycid species belonging to the tribe Obriini. They are determined as *Stenhomalus fenestratus* and *Cinobrium opacum*, and both already recorded from the neighboring countries. The reference information for the species is almost fully given in the previous paper of mine (NIISATO, 1998).

I wish to thank Dr. Nobuo OHBAYASHI, Mr. Michiaki. HASEGAWA, Mr. Hiroyuki WAKAHARA and his staff for their kind help in the field work.

Stenhomalus fenestratus WHITE, 1855

Specimen examined. 1♂, Nhahin, N18°12′/E104°37′, 420 m in alt., Borikhamxai Prov., C. Laos, 7–IV–2004, T. NIISATO leg. A male specimen was caught from living leaves of a broadleaved tree in early morning.

Distribution. N. India, Myanmar, Thailand, Laos (new record), Vietnam, China and Taiwan.

Cinobrium opacum (HOLZSCHUH, 1984)

Specimen examined. 1♀, Nhahin, N18°12′/E104°37′, 420 m in alt., Borikhamxai Prov., C. Laos, 7–IV–2004, H. WAKAHARA leg. A female specimen was found on the cut trunk of a broadleaved tree at late night.

Distribution. Bhutan, Myanmar and Laos (new record).

Reference

NIISATO, T., 1998. New species and distribution records of the tribe Obriini (Coleoptera, Cerambycidae) from Myanmar. *Elytra*, *Tokyo*, **26**: 461–472.

Elytra, Tokyo, **32** (1): 125–131, May 31, 2004

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

Part 1. Two New *Onthophagus* Species from Taiwan

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Abstract As the first part of a revisional study on the Taiwanese Scarabaeinae, two new *Onthophagus* species are described, *Onthophagus* (*Indachorius*) *hsui* sp. nov. and *O.* (*Micronthophagus*) *wangi* sp. nov.

Taiwan (Formosa) is an island 36,000 km^2 in area, located 150 km east of the Asian Continent and lying on the Tropic of Cancer. Its topography and climate is rather complicated. The lowland of Taiwan belongs to the Torrid Zone in the southern half and to the Subtropical Zone in the northern half. It is crowned with many high mountains much more than 3,000 m in height, which are largely covered with temperate forests but sporadically attain to the true alpine zone with subarctic flora. Because of such intricate nature, the faunal diversity is very high and has attracted interest of many specialists for a long time.

In this series, the authors are going to revise all the species of the Taiwanese Scarabaeinae based on specimens with reliable data and to describe new species. They also re-examine past dubious records as possible as they can. In the present part they will describe two new species of the genus *Onthophagus*.

Before going into details, the authors wish to express their sincere gratitude to Dr. Man-Miao Yang and Mr. Jing-Fu Tsai, National Chung Hsing University, Mr. Tai-Chuan Wang, National Taiwan University, Mr. Huan-Chih Hsu and Yu-Yi Lien of

Taipei City, for their assistance in the field surveys. They thank Ms. Mei-Ling CHANG, National Museum of Natural Science, Taichung, and Ms. Ya-Ling LIN, National Taiwan Univeristy, for offering specimen materials. Thanks are also due to Dr. Makoto KIUCHI, Tsukuba City, for his kind suggestion about Taiwanese dung beetles and taking very clear photographs inserted in this paper. They thank Dr. Masahiro ÔHARA, Hokkaido University Museum, for permitting examination of the type specimens preserved in the Museum. Finally, they appreciate Dr. Shun-Ichi UÉNO, Emeritus curator of the National Science Museum (Nat. Hist.), Tokyo, for giving them invaluable advice in the course of the present study.

Depositories of the type specimens to be designated are given under each description. The abbreviations used herein are as follows: NSMT – National Science Museum (Nat. Hist.), Tokyo; NMNST – National Museum of Natural Science, Taichung; NCHU – National Chung Hsing University, Taichung; NTU – National Taiwan University, Taipei.

Onthophagus (*Indachorius*) *hsui* sp. nov.

(Figs. 1–5)

Brownish black, with dark coppery or dark greenish tinge in some individuals, outer margins of head and legs lighter in colour, hairs on surfaces brownish, elytra with obscure reddish patch in each humeral part; head and pronotum moderately, somewhat vitreously shining, elytra and ventral surface moderately, somewhat sericeously shining; each surface covered with rather long hairs. Body oblong-ovate, rather strongly convex above, weakly flattened in posterior part.

Male. Head inverted subcordate, very weakly covered with isodiametric microsculpture, irregularly punctate, the punctures being a melange of larger and smaller ones; clypeus rugoso-punctate in anterior part, with outer margin gently reflexed, truncate and weakly emarginate in front, clypeo-frontal border curved and gently ridged; ocular lobes weakly depressed in intero-posterior parts (before eyes), with outer margins weakly, roundly produced, clypeo-genal borders gently ridged, the ridges extending postero-interiad; frons inverted trapezoidal, diatone about 2.5 times the width of diameter of an eye in dorsal view; vertex with an oblong, flattened horn, whose upper edge is pointed at each lateral corners, and armed with an elongate, backwardly curved horn at the middle. Eyes medium-sized in dorsal view, crescent-shaped.

Pronotum wider than long (4 : 3), rather closely, strongly punctate, each puncture with a long hair; apex widely emarginate, base evenly rounded; front angles rather acutely projected anteriad; lateral margins roundly produced laterad, widest at anterior 1/3; disc strongly convex, noticeably declivous antero-medially behind cephalic horn, the declivity feebly microsculptured, scattered with punctures smaller than in other parts.

Elytra slightly longer than wide, finely punctato-striate, the punctures in striae somewhat ocellated and notching intervals; intervals almost flat, each with two rows of

punctures and hairs.

Pygidium weakly convex, very weakly covered with isodiametric microsculpture, rather closely punctate, each puncture somewhat ocellated and with a long hair.

Legs rather slender; male protibiae with three larger and a smaller outer teeth; ratios of the lengths of the metatibial spur of and metatarsomeres: 0.65; 1.0, 0.34, 0.16, 0.12, 0.31.

Female. Head less strongly produced apicad than in male, fronto-clypeal border with a strongly curved ridge; vertex with a pair of small tubercles. Pronotum more strongly punctate, without anterior declivity.

Body length: 4.4–5.3 mm.

Holotype: ♂, San Hsia, Taipei Hsien, N. Taiwan, 13–VII–2003, K. MASUMOTO leg. (NMNST). Paratypes: 1 ex., same data as for the holotype (NMNST); 2 exs., San Hsia, Taipei Hsien, 26–XI–2003, K. MASUMOTO leg. (NSMT); 2 exs., Fenchihu, Chiayi Hsien, C. Taiwan, 23–XI–2003, K. MASUMOTO leg. (OCHI collection); 1 ex., Fenchihu, Chiayi Hsien, 23–XI–2003, K. MASUMOTO leg. (NCHU); 1 ex., Fenchihu, Chiayi Hsien, 23–XI–2003, K. MASUMOTO leg. (NTU); 1 ex., San Hsia, Taipei Hsien, 26–XI–2003, K. MASUMOTO leg.; 1 ex., Fenchihu, Chiayi Hsien, 23–XI–2003, Y. UTSUNOMIYA leg.

Notes. This new species resembles *Onthophagus* (*Micronthophagus*) *gigantivigilans* MASUMOTO, HANBOONSONG et OCHI, 2002, from Thailand, but can be easily distinguished from the latter by the eyes normally sized. This new species also resembles *O.* (*Indachorius*) *suginoi* OCHI, 1984, from Okinawa Island, but can be distinguished from the latter by the body more closely and strongly punctate, the head less produced apicad, with the male cephalic horn narrower at the base, and the elytra darkened in colour except for the humeral parts.

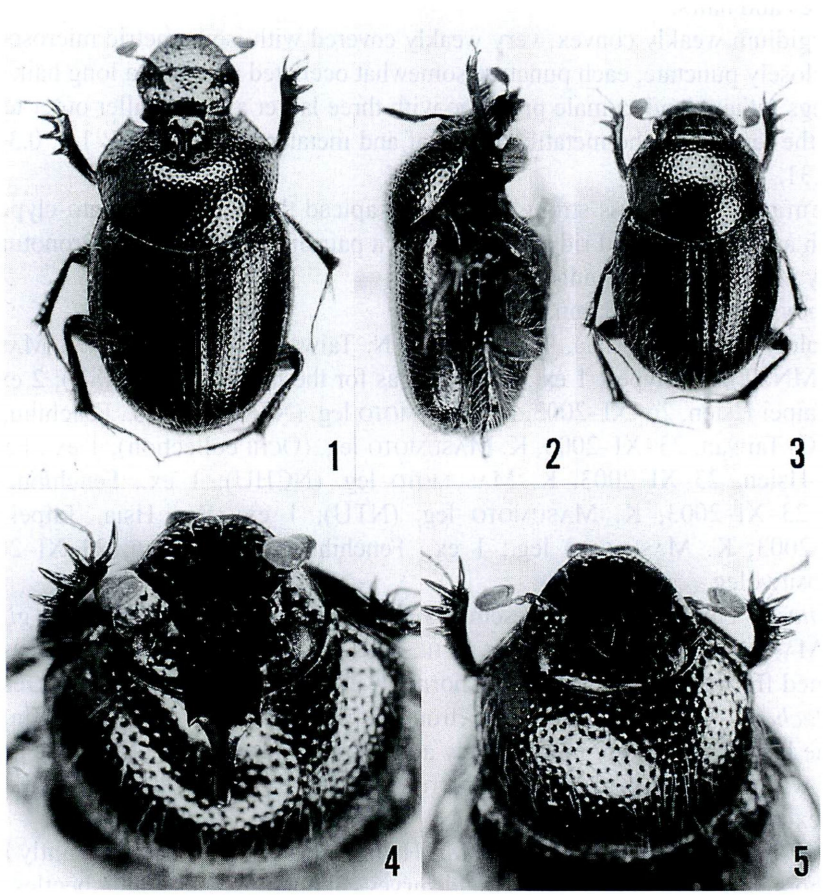
The specific name is given after Mr. Huan-Chih HSU who has constantly assisted the authors in undertaking effective field surveys about Taiwanese dung beetles.

Onthophagus* (*Micronthophagus*) *wangi sp. nov.

(Figs. 6–11)

Dark chestnut brown, outer margins of head and legs lighter in colour, antennal clubs, gula and hairs on surfaces yellow with feebly brownish tinge, elytra with obscure reddish patches in humeral parts; head, elytra and ventral surface weakly shining, pronotum moderately, somewhat vitreously shining; each surface clothed with long suberect hairs. Body subovate, rather strongly convex dorsad, weakly flattened in medio-posterior part.

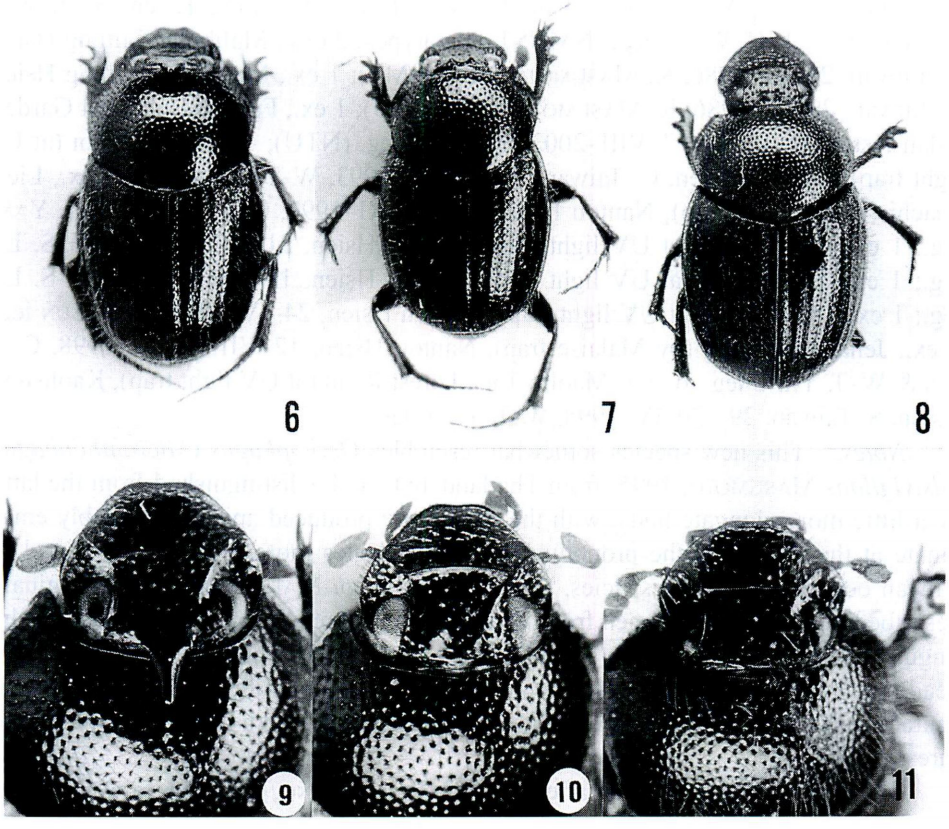
Male. Head semicircular in anterior part and subtrapezoidal in posterior part, gently raised posteriad, coarsely, irregularly punctate, each puncture with a rather long hair; clypeus feebly transversely rugulose, with outer margin gently reflexed, truncate and very slightly emarginate in front, clypeo-frontal border ridged, the ridge slightly bulged anteriad; ocular lobes weakly depressed in posterior parts before eyes, with



Figs. 1–5. *Onthophagus hsui* sp. nov.; 1, habitus of the holotype ♂; 2, ditto, lateral view; 3, habitus of the paratype ♀; 4, anterior part of the male (holotype), 5, anterior part of the female (paratype).

outer margins rounded, clypeo-genal borders ridged, the ridges extending postero-interiad and reaching posterior part of frons; frons somewhat fan-shaped, diatone about three times the width of diameter of an eye in dorsal view; vertex, in larger males, with a flattened and inclined horn, of which the basal part is wide, the middle part abruptly becomes narrower, and the apical part is acutely pointed; in smaller males, the horn is reduced in size, and in the smallest one a pair of small tubercles exist at the middle instead of a horn (similar to females). Eyes large and subreniform in dorsal view, roundly inlaid anteriad into head.

Pronotum wider than long (6 : 7), strongly, rather closely punctate, each puncture with a long hair; apex widely emarginate, feebly produced in medial part; base evenly rounded; front angles produced anteriad; lateral margins roundly produced laterad in dorsal view, widest at apical 1/3; disc moderately convex, weakly concave around the



Figs. 6–11. —— 6–8. Habitus of *Onthophagus* spp. from Taiwan; 6, *O. wangi* sp. nov., holotype ♂; 7, same species, paratype ♀. —— 8. *O. konoi* MATSUMURA, holotype ♀. —— 9–11. Anterior part; 9, *O. wangi* sp. nov., holotype ♂; 10, same species, paratype ♀; 11, anterior part of *O. konoi* MATSUMURA, holotype ♀.

area opposite to the cephalic horn, weakly depressed at medio-basal part, noticeably covered with hairs, which become shorter in the medial part and longer and distinct in the lateral parts.

Elytra finely punctato-striate, the punctures small but notching intervals; intervals very weakly raised, each with two rows of asperate punctures with long suberect hairs.

Pygidium weakly convex, rather closely punctate, each puncture with a long hair; abdominal segment VI with a row of rather strong, haired punctures along base.

Legs medium-sized; male protibia with three outer teeth and a small tooth behind the basal one; ratios of the lengths of the metatibial spur and metatarsomeres: 0.67; 1.0, 0.32, 0.17, 0.16, 0.31.

Female. Compared with male, head less noticeably produced apicad; vertex with a pair of tubercles instead of a cephalic horn.

Body length: 4.5–6.3 mm.

Holotype: ♂, Mt. Li-long Shan, Shihzih Hsiang, Pingtung Hsien, S. Taiwan, 15–XII–2002, T.-C. WANG leg. (NMNST). Paratypes: 2 exs., Malibulu, Taitung Hsien, E. Taiwan, 28–VI–1986, K. MASUMOTO leg. (NSMT); 1 ex., Malibulu, Taitung Hsien, E. Taiwan, 29–IV–1986, K. MASUMOTO leg. (NCHU); 1 ex., Fushan Botanical Garden, Yilan Hsien, N. Taiwan, 7–VIII–2002, Y.-L. LIN leg. (NTU); 4 exs., Chunyan (at UV light trap), Nantou Hsien, C. Taiwan, 27～28–IV–1993, W.-T. YANG leg.; 1 ex., Lienhuachi (at UV light trap), Nantou Hsien, 18～20–XI–1999, C.-S. LIN & W.-T. YANG leg.; 1 ex., Lienhuachi (at UV light trap), Nantou Hsien, 21～22–V–1991, C.-S. LIN leg.; 1 ex., Lienhuachi (at UV light trap), Nantou Hsien, 18～19–V–1991, C.-S. LIN leg.; 1 ex., Lienhuachi (at UV light trap), Nantou Hsien, 24–IV–1991, C.-S. SUN leg.; 1 ex., Jenai Chunyang (by Malaise trap), Nantou Hsien, 12–VIII～8–IX–1998, C.-S. LIN & W.-T. YANG leg.; 6 exs., Maolin Tona Forest Road (at UV light trap), Kaohsiung Hsien, S. Taiwan, 29～30–IV–1998, W.-T. YANG leg.

Notes. This new species somewhat resembles *Onthophagus* (*Micronthophagus*) *falsivigilans* MASUMOTO, 1995, from Thailand, but can be distinguished from the latter by a little more elongate body, with the head more produced apicad and feebly emarginate at the apex, and the pronotum with front angles more protrudent anteriad. In Taiwan occurs one named species, *Onthophagus konoi* MATSUMURA, 1938, originally described on a female specimen from "Naihonpo". The present new species can be distinguished from MATSUMURA's species, in the females by a pair of tubercles on the head more widely separated from each other, the pronotum with the front angles more acutely projected anteriad, and the abdominal segment VI with a row of strong punctures.

The specific name is given after Mr. Tai-Chuan WANG, National Taiwan University, who has been assisting the authors in the field researches.

要　約

益本仁雄・陳　克敏・越智輝雄：台湾産タマオシコガネ亜科の再検討．その1，台湾産エンマコガネ属の2新種について．—— 筆者らは台湾産のタマオシコガネ亜科について，台湾に分布するとされるすべての種の再検討をおこない，信頼できるデータに基づくファウナの解明に取り組んでいる．第1報として，エンマコガネ属の新種2種を記載し，*Onthophagus* (*Indachorius*) *hsui* sp. nov. および *O.* (*Micronthophagus*) *wangi* sp. nov. と命名した．両種とも，雄の頭部には顕著な角をそなえるが，前者は複眼がエンマコガネ属としては正常な大きさ（背面から見て）であるのに対し，後者では明らかに大きく，容易に区別がつく．両種は山地の森林中に生息するが，前者は人・獣糞に来集し，後者は光に集まる性質がある．今後は引き続き新種の記載を予定しているが，あわせて，誤同定や実際には他地域に分布する混入標本による過去の記録の追跡もおこなう．

References

MASUMOTO, K., 1995. Coprophagid-beetles from Northwest Thailand, IX (Coleoptera, Scarabaeidae). *Ent. Rev. Japan, Osaka*, **50**: 59–67.

——— Y. HANBOONSONG & T. OCHI, 2002. New species of the genus *Onthophagus* (Coleoptera, Scarabaeidae) from Thailand. *Elytra, Tokyo*, **30**: 159–172.

MATSUMURA, S., 1938. Onthophagid-insects from Formosa. *Ins. mats., Sapporo*, **12**: 53–63.

OCHI, T., 1984. Two new species of the genus *Onthophagus* LATREILLE from Taiwan and the Ryukyu Archipelago (Coleoptera, Scarabaeidae). *Ent. Rev. Japan, Osaka*, **39**: 63–67.

Elytra, Tokyo, **32** (1): 131, May 31, 2004

New Records of *Trachyscelis chinensis* CHAMPION (Coleoptera, Tenebrionidae)

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Among the tenebrionid specimens collected by the junior author in Taiwan, the senior author found a short series of *Trachyscelis chinensis* CHAMPION, 1894. It has previously been known from China (Namoa Island) and the Ryukyu Islands (from the Tokara Islands to the Yaeyama Islands). This is the first record of the species from Taiwan.

Trachyscelis chinensis CHAMPION, 1894

Trachyscelis chinensis CHAMPION, 1894, Ann. Mag. nat. Hist., (6), **14**: 448.

Materials examined. 6 exs., Kenting N.P., Pingtung Hsien, Taiwan, 9~10–VIII–2000, Chi-Feng LEE leg.; 4 exs., Sanhsientai, Taitung, Taiwan, 12–VIII–2000, Chi-Feng LEE leg.

Reference

CHAMPION, G. C., 1894. On two new species of tenebrionid Coleoptera from Namoa Island. *Ann. Mag. nat. Hist.*, (6), **14**: 448–449.

Elytra, Tokyo, **32** (1): 132, May 31, 2004

Designation of the Lectotype of *Copris punctatus* GILLET (Coleoptera, Scarabaeidae)

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In the course of a revisional study on the Taiwanese dung beetles, I had an opportunity of examining the type specimens of *Copris punctatus* GILLET, 1910, originally described from "Birmanie". I am going to designate the lectotype and paralectotype as follows:

Lectotype: ♂, first label: "[Carin Chebà / 900–1100 m / L. Fea. V XII.–88 (printed)] // Coll. R. I. Sc. N. B. / Birmanie (printed) // ex coll Gillet (handwriting)"; second label: "*Copris* / *punctatus* / Gillet (handwriting) / J. Gillet det. (printed)"; third label: Lectotype (printed) / *Copris punctatus* / GILLET / designated by MASUMOTO, 2004 (handwriting). Paralectotype: ♀, first label: "[Carin Chebà / 900–1100 m / L. Fea. V XII.–88 (printed)] // Coll. R. I. Sc. N. B. / Birmanie (printed) // ex coll Gillet (handwriting)"; second label: "J. J. Gillet det., vend.: (printed) / *Copris* / *punctatus* Gillet (handwriting) / R.M.H.N. Belg. 10.640 (printed)"; third label: Paralectotype (printed) / *Copris punctatus* / GILLET / designated by MASUMOTO, 2004 (handwriting).

Before closing this brief note, I wish to express my cordial thanks to Dr. Alain DRUMONT, Entomology Section, the Institut royal des Sciences naturelles de Belgique, 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** (1): 133–137, May 31, 2004

Two New Species of the Genus *Parastasia* (Coleoptera, Scarabaeidae, Rutelinae) from Sulawesi

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Abstract Two new species of the genus *Parastasia* are described from Sulawesi, and are named *Parastasia carsteni* sp. nov. and *P. sakaii* sp. nov.

The genus *Parastasia*, established by WESTWOOD in 1842, comprises a total of 96 species and subspecies hitherto described from the Oriental Region, of which five are distributed in Sulawesi. In 2000, Carsten ZORN, one of my best friends in entomology, sent me for study a remarkable *Parastasia* species that resembles *P. wallacea* KUIJTEN, 1992. On the other hand, I had opportunities of examining many specimens of the genus *Parastasia* preserved in the private collection of Kaoru SAKAI, and found out a remarkable species. After a careful examination, I have come to the conclusion that they are new to science. In this paper, I am going to describe two new species as the result of my study, under the names *Parastasia carsteni* sp. nov. and *P. sakaii* sp. nov.

Before going further, I wish to express my cordial appreciation to Dr. Kimio MASUMOTO of Otsuma Women's University, Tokyo, for his constant encouragement of my entomological studies. Deep indebtedness should be expressed to Dr. Hella WENDT and Mr. Joachim SCHULZE of the Museum für Naturkunde der Humboldt Universität zu Berlin, for the loan of materials under their care. My thanks are also due to Mr. Kaoru SAKAI, Tokyo, for providing invaluable materials, and Mr. Carsten ZORN, Dresden, for his helpful advice and loaning the materials. The holotypes of the new species will be preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo and the collection of the Museum für Naturkunde der Humboldt Universität zu Berlin (ZMHB).

Parastasia carsteni sp. nov.

(Figs. 1, 2)

Body length: 18.84 mm, width: 9.73 mm.

Head, elytra, legs except for tarsi, and ventral surface black, antennae and tarsi dark brown to black, pronotum, propygidium and pygidium reddish orange; pronotum with a black patch in the middle of posterior portion; head, pronotum, elytra, legs and ventral surface with vitreous lustre, propygidium and pygidium with rather weak vitre-

ous lustre.

Head micro-shagreened (visible under ×60); clypeus broadly emarginate, reticulately rugulose; apical margin reflexed, with a pair of sharp upright teeth; lateral margins before eye-canthi almost parallel, with a pair of transverse, subparallel low ridges at the base of eye-canthi in lateral 3/8 of clypeus; frons reticulately rugulose in middle and lateral portions; vertex irregularly punctate, the punctures round in posterior portion, reticulately rugulose in lateral portions; eyes moderately convex; interocular distance 1.9 times as wide as an eye diameter. Labrum transversely truncate, with anterior margin almost straight. Galea with four teeth, the apical two and the middle one almost equal in length, stout and acute, and the basal one porrect and trifid. Length of antennal club shorter than interocular distance (0.67 : 1 in female).

Pronotum 1.46 times as wide as long, strongly convergent apicad in apical 3/5, almost parallel in basal 2/5; front angles obtuse, hind angles almost rectangular; lateral margins rimmed, the rims extending to hind margin opposite to humeral swellings; disc with a pair of vague impressions at the middle of lateral portions, irregularly punctate, the punctures round in middle, horseshoe-shaped in lateral portions, becoming denser laterad and smaller posteriad.

Elytra with three rows of punctures in middle, disc irregularly scattered with small punctures; lateral margins sinuous in basal 2/5, widened at middle, then narrowed posteriad in apical halves, rimmed, the rims thick in basal 1/4, becoming finer in the remaining part, and disappearing at hind corners; distal margins slightly rounded; sutural apices weakly angulate.

Propygidium microsculptured, with a pair of transverse impressions at antero-lateral portions; disc irregularly punctate in anterior portion, reticulately rugulose in lateral and posterior portions, irregularly furnished with short, decumbent reddish brown setae (ca. 0.05 mm in length).

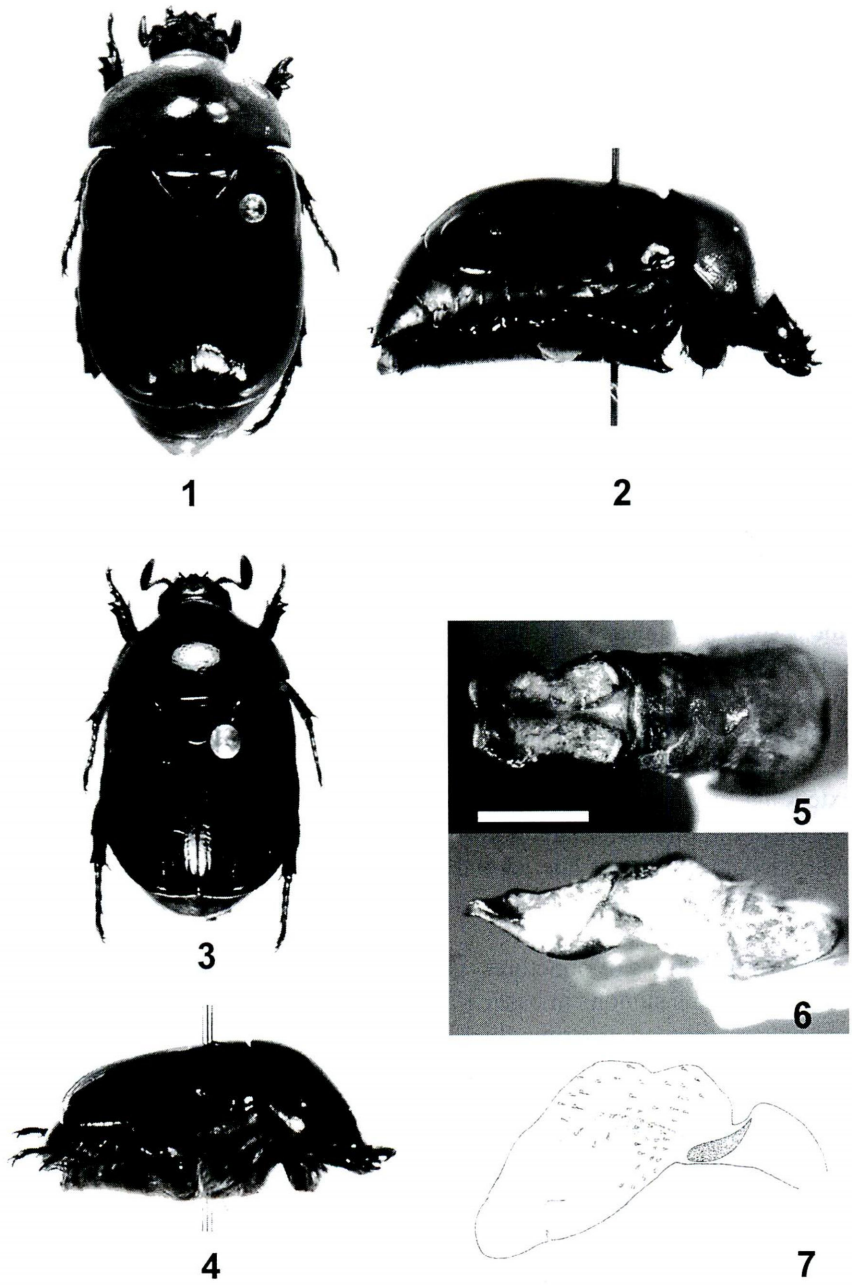
Pygidium reticulately rugulose; outer margins boldly rimmed, almost straight laterally, truncate at apex.

Metasternum sparsely punctate, the punctures small in middle, reticulately rugulose in lateral portions, furnished with suberect brown setae (0.12–0.63 mm in length) in lateral portions; mesosternal process rather long and stout, protruded downward and distinctly curved upwards in apical 1/3, with apex acute in lateral view. Abdominal sternites reticulately rugulose; 2nd to 5th sternites each with a row of short, decumbent brown setae (0.12–0.25 mm in length) in apical 2/3 to 1/4, 6th sternite glabrous, 7th reticulately rugulose, with a row of short, erect brown setae (0.07–0.2 mm in length) in apical portion.

Protibiae tridentate, denticles stout and acute; fore claws simple, acuminate, sickle-shaped and approximately equal in length; middle and hind claws simply acuminate and curved, and approximately equal in length.

Holotype: ♀, Palolo Palu, C. Sulawesi, II–1989, DETANI leg. (ZMHB).

Notes. This new species resembles *Parastasia wallacea* KUIJTEN, 1992, but can be easily distinguished from the latter by the different coloration of the pronotum and



Figs. 1–7. *Parastasia* spp. —— 1–2. *Parastasia carsteni* sp. nov., holotype, ♀; 1, habitus (dorsal view); 2, ditto (lateral view). —— 3–7. *Parastasia sakaii* sp. nov., holotype, ♂; 3, habitus (dorsal view); 4, ditto (lateral view); 5, male genitalia (dorsal view), (scale:1 mm); 6, ditto (lateral view); 7, inner sac.

pygidium, differently shaped female gonocoxites, and the mesosternal process rather short and acute at the apex in lateral view.

Parastasia sakaii sp. nov.

(Figs. 3–7)

Body length: 11.8 mm, width: 6.9 mm.

Antennae, pronotum, propygidium, pygidium and ventral surface dark orange; pronotum with a longitudinal black patch in the middle, the band of anterior half narrow and posterior half broadly rounded; head, elytra and scutellum brownish black, legs reddish brown to dark reddish brown; dorsal surface except for pygidium with vitreous luster, ventral surface with rather weak lustre.

Head with a depressed area in the middle of anterior portion, furnished with suberect brownish yellow setae (0.12–0.5 mm in length) in lateral and posterior portions; clypeus trapezoidal, reticulately rugulose; apical margin rimmed, narrowed at apex, with a sharp upright tooth bidentate at the tip; frons irregularly punctate in middle, the punctures large and partly coalescent, reticulately rugulose in lateral portions; vertex irregularly punctate, the punctures round; eyes moderately convex; interocular distance 1.67 times as wide as an eye diameter. Labrum trapezoidal, with anterior margin almost straight. Galea with four teeth, the apical two and the middle one almost equal in length, stout and acute, and the basal one short and stout. Length of antennal club shorter than interocular distance (0.65 : 1 in male).

Pronotum 1.54 times as wide as long, strongly convergent apicad in apical half, weakly widened posteriad; front and hind angles obtuse; lateral margins rimmed, the rims extending to hind margin opposite to humeral swellings; disc with a pair of small impressions at the middle of lateral portions, irregularly punctate, the punctures round in middle, becoming denser laterad and smaller posteriad, reticulately rugulose along lateral margins. Scutellum broadly triangular, irregularly scattered with small punctures.

Elytra with 10 rows of punctures, intervals irregularly scattered with round punctures; lateral margins sinuous in basal 1/3, widened at middle, then narrowed posteriad in apical halves, rimmed, the rims thick in basal 1/4, becoming finer in the remaining part, and extending to sutural apices; distal margins rounded; sutural apices weakly angulate.

Pygidium reticulately rugulose, with a pair of deep depressions in antero-lateral corners; outer margins rimmed, slightly rounded laterally, truncate at apex. Metasternum densely punctate, the punctures setigerous in middle, each with an erect yellow seta (0.25–0.75 mm in length), becoming denser laterad, partly coalescent and reticulately rugulose in lateral portions; mesosternal process short, with apex almost right angled in lateral view.

Abdominal sternites reticulately rugulose, 2nd to 5th sternites each with a row of suberect yellow setae (0.12–0.38 mm in length) in apical 1/3, 6th sternite narrow, 7th

sternite with a row of short, erect yellow setae (0.1–0.2 mm in length) in apical portion.

Protibiae tridentate, denticles stout and acute; claws simple, acuminate, sickle-shaped and approximately equal in length; outer claw of fore leg almost equal in width, inner claws of middle and hind legs broader than the outer ones.

Holotype: 1♂, Mt. Pedamaran, Tana Toraja, S. Sulawesi, 27–IV–1985, leg. K. SOMA (NSMT).

Notes. This new species belongs to the *Parastasia bimaculata* group, but can be easily distinguished from the other members of this group by the small body, the different coloration and differently shaped male genitalia.

要　　約

和田　薫：セレベスから発見された*Parastasia*属コガネムシの2新種．—— *Parastasia carsteni* sp. nov. は，同島に分布する*P. wallacea* KUIJTEN, 1992 に似た種であるが，特徴的な色彩，口器外葉の歯の形状や中胸突起が短いことから容易に区別できる．*Parastasia sakaii* sp. nov. は*Parastasia bimaculata*群に含まれるが，このグループの他の種に比べて体形が非常に小型であることと，特徴的な色彩および雄交尾器から区別は容易である．

References

KUIJTEN, P. J., 1992. A revision of the genus *Parastasia* in the Indo-Australian Region (Coleoptera: Scarabaeidae, Rutelinae). *Zool. Verh.*, (275): 3–176, 268 figs., 6 maps.

MACHATSCHKE, J. W., 1972–'74. Scarabaeoidea: Melolonthidae, Rutelinae. *In* WILCOX, J. A. (ed.), *Coleopterorum Catalogus Supplementa*, (ed. 2), (66): i–ii+1–361 [1972]+i+363–429 [1974]. Junk, 's-Gravenhage.

Elytra, *Tokyo*, **32** (1): 138, May 31, 2004

Araecerus tarsalis (SHARP) (Coleoptera, Anthribidae) as a Seed Predator

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Larvae of most fungus weevils (Anthribidae) bore into and feed on decaying wood and fungi, while some anthribid larvae have exceptional feeding habits (MORIMOTO, 1998). The larvae of several species of the genus *Araecerus* SCHOENHERR are known to infest seeds and fruits (MORIMOTO, 1984, 1998). However, host of many *Araecerus* species, including *A. tarsalis*, is still unknown. We found that *Araecerus tarsalis* (SHARP) larva fed on a leguminous seed, and report the feeding habit in this note.

We collected 872 seeds of the Japanese honey locust, *Gleditsia japonica* MIQUEL., contained in 221 pods, which were scattered on the ground, on 7 Jul. 2003 on the riverbank of the Hozu River, Kameoka City, Kyoto Prefecture, Central Japan (for the detailed site description, see TAKAKURA, 2002). At the site, there were two *G. japonica* trees. Each of the collected seeds was put in a plastic well (≈3 ml) of a tissue-culture plate in a growth chamber maintained at 25°C and a photoperiod 16 : 8 (L : D) h. All the insects that were emerged from seeds were checked every two days, and 1♂1♀ of *A. tarsalis* adults were found on 15–20 Aug. 2003.

We had observed insects emerging from *G. japonica* seeds of this site for this decade, but the occurrence of *A. tarsalis* has not been observed so far. On the other hand, *A. tarsalis* had fed on almost whole part of a seed without a part of seed coat before the pupation, but the wall of the seed pod was not fed. These facts showed that *A. tarsalis* occasionally utilized the *G. japonica* seed, though it is presumably a specialist predator of plant seeds. In this site, seeds of *G. japonica* mature in October and they are gradually shedded onto the ground from winter to early summer. Therefore, collected seed in this study had matured in the previous year, and the egg of *A. tarsalis* seemed to be laid in the late autumn or the spring of the current year.

We thank Dr. T. SENOH of Chuo University High School for the identification of specimen.

References

MORIMOTO, K., 1984. Anthribidae. *In*: HAYASHI, M., K. MORIMOTO & S. KIMOTO (eds.), *The Coleoptera of Japan in Color*, **4**: 224, 226–249, 253 [incl. pls. 44–49]. Hoikusha, Osaka. (In Japanese with English book title.)

——— 1998. Curculionoidea. *In*: ISHII, M., T. OHTANI & Y. JOHKI (eds.), *The Encyclopaedia of Animals in Japan*, **10** (Ins. III): 151–154. Heibonsha, Tokyo. (In Japanese.)

TAKAKURA, K., 2002. The specialist seed predator, *Bruchidius dorsalis* (Coleoptera: Bruchidae), plays a crucial role in the seed germination of its host plant, *Gleditsia japonica* (Leguminosae). *Func. Ecol.*, **16**: 252–257.

Elytra, Tokyo, **32** (1): 139–151, May 31, 2004

Studies on the Buprestidae (Coleoptera) of Asia

5) A New Genus of the Tribe Psilopterini from the Tokara Group of the Ryukyu Archipelago

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Abstract A new buprestid genus from the Tokara group of the Ryukyu Archipelago in Southwest Japan, *Tokaranodicerca* gen. nov. is established for *Dicerca nishidai* TÔYAMA, 1986. This species has many of the characters of the genus *Dicerca*, but also has the specific characters of other genera in the Psilopterini of Chalcophorinae, namely, scattered sensory pores on both sides of the antennae and a single groove along the margin of prosternal process.

I was fortunate to capture a pair of the specimens of *Dicerca nishidai* on Nakanoshima Is. of the Tokara group of the Ryukyu Archipelago in 1997. When I found the relatively large female on the cut surface of a stout branch, I was unable to place it in the genus *Dicerca* ESCHSCHOLTZ, 1829, but it looked like some species of the genus *Apateum* SPINOLA, 1837 in the *Polybothris* generic group sensu VOLKOVITSH, (2001) from Madagascar. The specimen was clumsy in the behavior and attracted my attention.

The specimens have projections on the inner sides of mesotibia in the male and prolonged elytral apices, which are common characters in the genus *Dicerca*. These also have the scattered sensory pores on both sides of the antennae and single groove along the margin of the prosternal process, which are not found in the genus *Dicerca*. For these reasons, it is considered that the specimens belong to a new genus closely related to *Dicerca* ESCHSCHOLTZ, 1829. In this paper, I will describe it and redescribe the species with added female description.

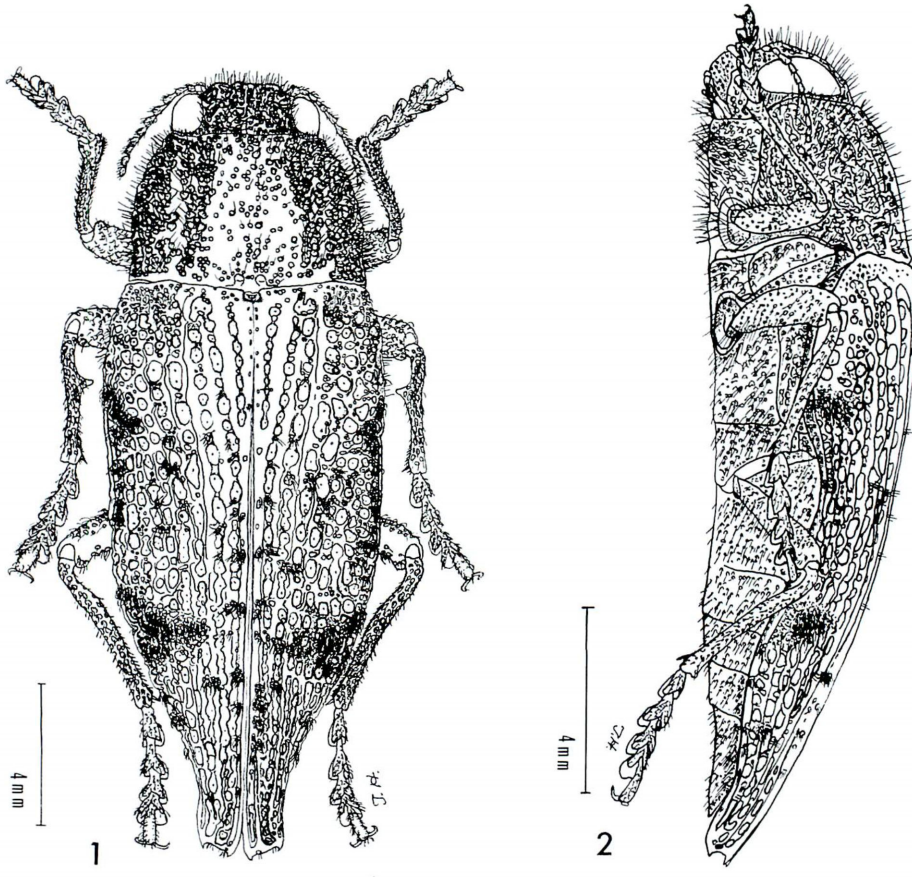
Before going further, I wish to express my sincere thanks to Dr. Svatopluk BÍLÝ of the Depertment of Entomology, National Museum, Praha, to Dr. Gayle H. NELSON of Blue Springs, Missouri, and also to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for their kindness in critically reading the original manuscript and offering invaluable suggestions. I am also grateful to Dr. Mark G. VOLKOVITSH of the Zoological Institute, Russian Academy of Science, St. Petersburg, for kind offer of his paper and valuable suggestions, and to Dr. Eduard JENDEK of the Institute of Zoology, Slovak Academy of Sciences, Bratislava, for his kind offer of a photograph of *Touzalinia psilopteroides* THÉRY, 1922 for comparison with the studied

specimens. Thanks are also due to Mr. Hans MÜHLE of München, Dr. Jiří SIMANDL in Czech Republic, and Mr. Masahiro TANAKA of Kobe City for their kind offer of various materials used in this study.

Genus ***Tokaranodicerca*** gen. nov.

Facies of *Dicerca*. Body vaulted, strongly attenuate posteriad, in lateral view convex above with the highest part at elytral base; pronotum spherically convex; head, pronotum and prosternum sparsely covered with erect setae.

Head distinctly narrower than base of pronotum, declivous anteriorly with narrow median groove; frons convex with median carina; clypeal suture absent; clypeus transverse; each antennal cavity large and triangular; small cavity with a tubercle present on upper lateral corner of antennal cavity; eyes medium-sized and convergent above; pos-

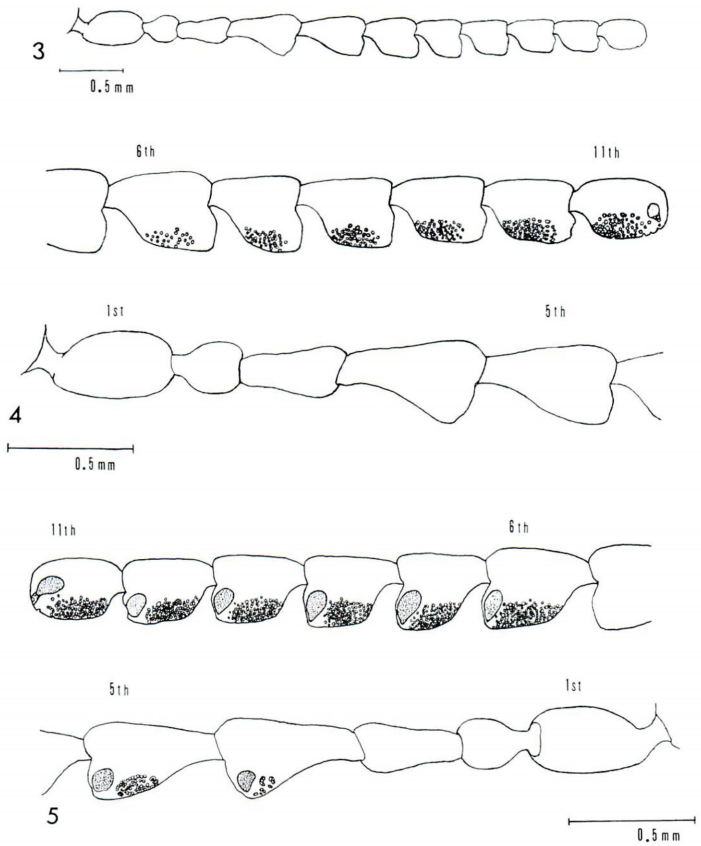


Figs. 1–2. *Tokaranodicerca nishidai* (TÔYAMA, 1986), ♂; 1, dorsal view; 2, lateral view.

terior margin of eyes hidden by anterior margin of pronotum; each maxillary palpus with depressed and triangular terminal segment; labrum rectangular, wider than long; labium with anterior margin obtusely produced at middle.

Antennae compact; 1st segment fusiform, 2nd globular, 3rd obconical, 4th and 5th triangular, 6th to 10th tetragonal and apical one parallelogrammatic; each of basal five segments moderately robust and apical six planate; sensory pores concentrated in each terminal socket on apico-internal surface of 4th to apical segments, and on apico-external surface of the apical one; different kind of pores scattered on inner surface of 4th to apical segments and on outer surface of 6th to apical; area with scattered pores on each segment feebly depressed on both surfaces.

Pronotum transverse and convex, widest at base; anterior margin 2/3 as wide as posterior one; sides sinuate; in lateral view marginal carina short from base; median longitudinal costa wide with longitudinal depression anteriorly and at ante-scutellar part on midline or entire.



Figs. 3–5. *Tokaranodicerca nishidai* (TÔYAMA, 1986), ♂; 3, left antenna; 4, outer side of left antenna; 5, inner side of left antenna.

Scutellum small, wider than long.

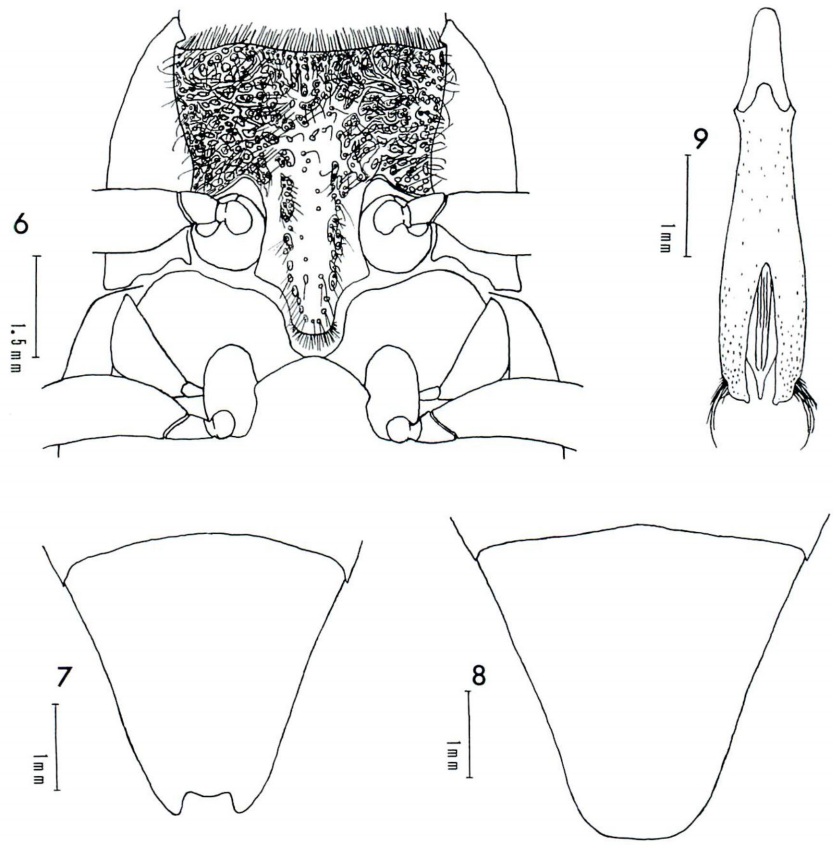
Elytra with the widest part across humeral prominences; sides sinuate from widest part to wider part at level of 1st abdominal sternite where they are arcuately rounded, then, sinuously convergent to apices where they are furcate and divergent; each elytron with carinate intervals and foveae in all striae; foveae deep and elliptical along intervals.

Prosternum convex, gradually planate from sides to the middle; prosternal process planate and smooth with single groove along the lateral and apical margins, and punctures on groove.

Mesosternum divided. Metasternum with entire longitudinal groove.

Abdomen shallowly and longitudinally depressed in the middle of 1st sternite; in lateral view 2nd and 3rd sternites produced from the level of the posterior end of metasternum;

Legs rather long, robust; each tarsal segment moderately short in length in each of



Figs. 6–9. *Tokaranodicerca nishidai* (TÔYAMA, 1986) (6, 7 & 9: ♂), (8: ♀); 6, prosternum; 7–8, last visible abdominal sternite; 9, male genital apparatus in dorsal view.

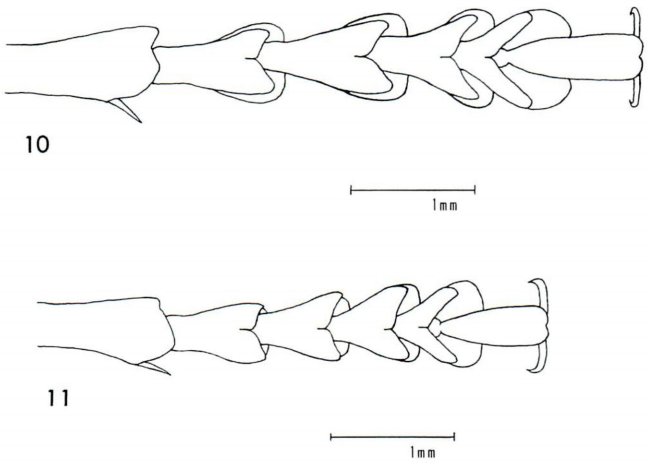
pro- and mesotarsi, though each segment in metatarsi is moderately long and the 1st one is as long as the 2nd; each tarsal pad wider than tarsus and exposed on both sides in basal three segments in all tarsi.

Hind wing with vein Rs not joining M; cross vein (R–M) visible; vein $1A_3$ nearly connected to vein $2A_1$ at the root of $1A_3$ with a short protuberance on each vein, though the separation can be seen under microscope; vein pseudoRs visible though narrow and pseudo1A inconspicuous; vein 1A 0.33 times as long as vein $1A_3$.

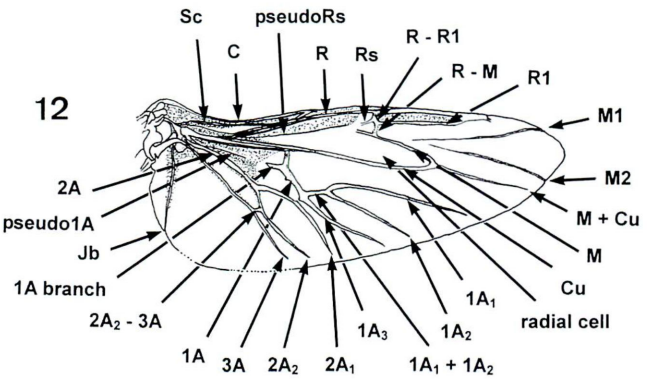
Type species: *Dicerca nishidai* TÔYAMA, 1986.

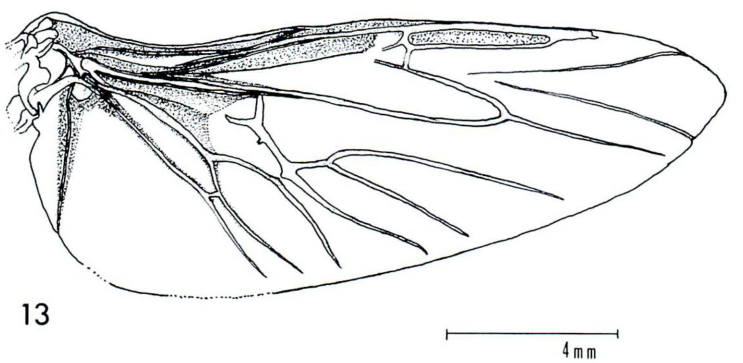
Etymology. The generic name is derived from the name of the Tokara group of the Ryukyu Archipelago where the species was first discovered.

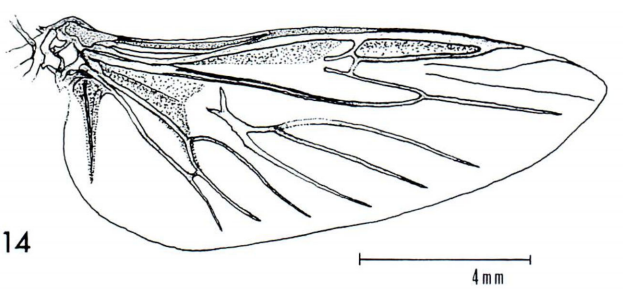
Remarks. This new genus is allied to the genus *Dicerca*, but can be distinguished from it by the following characters: 1) body vaulted, and convex with the highest part at elytral base in lateral view, while in *Dicerca*, it is robust, and convex with the highest part behind elytral base; 2) each of antennal segments 6th to 10th tetragonal and planate, while in *Dicerca*, each is triangular and robust; 3) sensory pores on antennae scattered on both surfaces of 6th to 11th segments other than the sockets on inner surface of the broader segments and on the outer surface of apical segment; in *Dicerca*, antennae with no scattered pores, though the following five species of *Dicerca* have additional sockets or additional scattered pores: *D.* (*H.*) *fritillum*, *D.* (*D.*) *unokichii*, *D.* (*D.*) *kurosawai*, *D.* (*D.*) *tibialis*, and *D.* (*D.*) *corrugata*; 4) pronotum with no depression on each side on disc, while in *Dicerca*, more or less with a depression on each side; 5) prosternal process planate and smooth with a single groove along the margin, while in *Dicerca*, it is sulcate in the middle or feebly depressed; 6) each tarsal pad wider than the tarsus and exposed on both sides in basal three segments, while in *Dicerca*, each tarsal pad is covered with tarsus; 7) vein $1A_3$ in hind wing nearly con-



Figs. 10–11. Right metatarsus. —— 10. *Tokaranodicerca nishidai* (TÔYAMA, 1986), ♂. —— 11. *Dicerca* (*Dicerca*) *aenea aenea* (LINNAEUS, 1761), ♂.







Figs. 12–14. Right hind wing. —— 12–13. *Tokaranodicerca nishidai* (TÔYAMA, 1986), ♂; 12, venation of hind wing. —— 14. *Dicerca* (*Dicerca*) *aenea aenea* (LINNAEUS, 1761), ♂.

nected to vein $2A_1$ with a short wedge from each vein, while in *Dicerca*, vein $1A_3$ distinctly separated from vein $2A_1$; 8) vein 1A 0.33 times as long as vein $1A_3$, while in *Dicerca*, vein 1A 0.16–0.29 times as long as vein $1A_3$.

Key to the Subgenera of *Dicerca* and *Tokaranodicerca*

1. Antennal segments each tetragonal from 6th to 11th .... *Tokaranodicerca* gen. nov.
— Antennal segments triangular from 6th to 10th; [genus *Dicerca*] ..... 2.
2. Prosternal process shallowly depressed and entirely punctate ..... subgenus *Argante* GISTEL, 1834.
— Prosternal process sulcate and punctate in the middle, though both lateral sides smooth and with no punctures ..... 3.
3. Tarsi slender, and claws long: each claw of metatarsus 1.6 times as long as the apical tarsal pad ..... subgenus *Hemidicerca* RICHTER, 1952.
— Tarsi rather robust, and claws short: each claw of metatarsus less than 1.4 times as long as apical tarsal pad ..... subgenus *Dicerca* ESCHSCHOLTZ, 1829.

Tokaranodicerca nishidai (TÔYAMA, 1986)

(Figs. 1–12)

Dicerca nishidai TÔYAMA, 1986, Gekkan-Mushi, Tokyo, (189), pp. 18–19, pl. 1, fig. 2.

Male. Body black with shimmer, and punctures aeneo-cupreous with aeneous shimmer; ventral surface with punctate parts aeneous without shimmer except on prosternum with aeneous shimmer; antennae and legs black without shimmer.

Head transverse; vertex broad with a median groove reaching the top of frons; frons feebly convex with the top at basal 1/3 of frons, and with longitudinal median carina; clypeus with anterior margin arcuately emarginate; each antennal cavity surrounded by elevated triangular margin; surface coarsely punctate, the punctures reticulate and longitudinally confluent.

Antennae reaching anterior 1/3 of pronotum; length (width) of each segment as follows (the length is of the stem part of each segment and the width is the maximum width): 5.0 (2.7), 2.7 (2.0), 4.3 (2.0), 5.7 (3.0), 5.0 (3.0), 4.0 (3.0), 4.0 (2.7), 3.7 (2.7), 3.7 (2.3), 3.3 (2.7), 3.7 (2.0) (in 0.1 mm); each scattered pore with fine and short recumbent whitish hair.

Pronotum about 1.5 times as wide as long; anterior margin feebly bisinuate with broadly produced median lobe; posterior margin bisinuate with arcuately produced median lobe, broadly and arcuately emarginate at lateral 2/3 from ante-scutellar part; posterior angle acute posteriorly; sides sinuate, convergent from base to basal 1/4, then arcuately divergent to basal 2/5 and arcuately convergent to anterior angles; anterior angles rounded in lateral view; shallow transverse groove just behind anterior margin interrupted by longitudinal broad costa in the middle which is entire and 1/3 as wide as the base; longitudinal costa at lateral 2/3 from ante-scutellar part entire on each side; surface irregularly punctate except on median longitudinal broad costa, the punctures reticulate and confluent, becoming coarser and more reticulate laterally; each puncture with one or a few long erect whitish setae; ante-scutellar part transversely with two

foveoles.

Scutellum depressed in the center.

Elytra 3.5 times as long as pronotum, 1.1 times as wide as pronotum, 2.0 times as long as the widest part at humeral prominences; each basal lobe obtusely angulate at basal emargination of pronotum; humeri obtusely angulate; each apex transversely truncated with a spine at each angle; sutural margin entirely costate and elevated from anterior 1/3 of elytral length[1)] to apices; lateral margins costate from the widest part to apices; each elytron with 10 carinate intervals as follows: 1st short and joining with sutural margin, 2nd to 9th nearly complete with the interruption of two markings, 10th shortened, starting in apical 1/4 and running along lateral margin; foveae in striae elliptical and more confluent along lateral intervals; surface scattered with punctures or aeneous spots with a few punctures in each spot which bears whitish erect setae; two markings arranged on each elytron as follows: small aeneo-cupreous marking across two intervals from lateral margin at basal 1/4 and punctate with whitish semi-recumbent setae, and large transverse aeneo-cupreous marking across six intervals from lateral margin at apical 2/5 with aureous shimmer and punctate with two or three clumps of semi-recumbent whitish setae.

Prosternum with anterior margin bisinuate with shallow emargination in the middle. Mesosternum coarsely punctate at sides. Metasternum with median groove with longitudinal carina behind transverse line.

Posterior coxae shallowly and arcuately emarginate at posterior margins.

Abdomen with the last visible abdominal sternite trapezoidally emarginate at apex; surface punctate, more coarsely and densely so at the sides, each puncture with a whitish semi-recumbent seta.

Legs clothed with whitish setae; all femora fusiform; protibia straight, dilated externally at apex with yellowish brushes inside; mesotibia arcuate interiorly with a projection at anterior 1/3 of inner side; metatibia arcuate interiorly with short brownish bristles at posterior 2/3 of outer side; each metatarsal segment rather long with the length order 1st=2nd>3rd>4th; in last metatarsal segment, the pad 1.5 times as long as the last segment; each claw of metatarsus 1.5 times as long as the pad of the last segment.

Male genital apparatus slender; parameres arcuately emarginate beside central prominence at base, then feebly and arcuately expanded on both sides; each apex with one long and several shorter setae; aedeagus triangularly produced towards apex.

Hind wing dark brown.

Female. Clypeus with anterior margin triangularly emarginate. Posterior coxae linear at posterior margins. Abdomen with 1st sternite more shallowly depressed in the middle than in the male; last visible abdominal sternite simply rounded at apex. Mesotibia without projection on inner side.

Length: 21.4–23.3 mm (mean 22.4 mm) (♂), 27.0 mm (♀). Width: 7.9–8.1 mm

1) The elytral length is measured from the base of the scutellum to apices.

(mean 8.0 mm) (♂), 9.9 mm (♀).

Specimens examined. Holotype; ♂, Kusuki, Nakanoshima Is., Toshima-mura, Kagoshima Pref. 24–VII–1986, N. NISHIDA leg.; same locality as the holotype: 1♂, 23–VII–1997, T. HATTORI leg.; 1♀, 21–VII–1997, T. HATTORI leg.

Host plant. All the specimens taken by the author were found on the cut surfaces of a stout branch or the decrepit trunk of a *Morus* tree, which is probably the host plant.

Subgenus ***Dicerca*** ESCHSCHOLTZ, 1829

(Figs. 13–14)

Dicerca ESCHSCHOLTZ, 1829, Zool. Atl., **1**, p. 9; type species: *Buprestis aenea* LINNAEUS, 1758. —— KERREMANS, 1903, Gen. Ins., (12c), pp. 124–125, 130–133.
Dicerca (*Dicerca*): BÍLÝ, 1982, Fn. ent. scand., **10**, pp. 34–36.

Antennae with each segment robust and with sensory pores concentrated in a socket on apico-internal surface of each segment from 4th to apical one.

Pronotum with disc convex, shallowly and obliquely depressed to ante-lateral direction on each side; shallow median longitudinal depression entire or inconspicuous.

Prosternum with prosternal process longitudinally sulcate in the middle and densely punctate, though smooth on the lateral sides.

Last abdominal sternite in female rounded at apex with a pair of circular notches and intermediate lobe between them.

Legs rather robust with each tarsal pad covered with tarsus laterally; in last metatarsal segment, the pad 1.2–1.4 times as long as the last segment; each claw of metatarsus 1.1–1.4 times as long as the pad of the last segment.

Hind wing with vein Rs not joining M; cross vein (R–M) visible; vein pseudoRs and pseudo1A invisible; vein $1A_3$ distinctly separated from $2A_1$; vein 1A 0.16–0.22 times as long as vein $1A_3$.

Remarks. The three species *Dicerca* (*Dicerca*) *corrugata* FAIRMAIRE, 1902 from Southwest China, *D.* (*D.*) *kurosawai* HATTORI et AKIYAMA, 1999 from Taiwan, and *D.* (*D.*) *tibialis* LEWIS, 1893 from Southwest Japan and China have the same characters as the other members of the subgenus *Dicerca*, though differing from the latter in the peculiarities pointed out below. They are segregated in a species-group to be called the *corrugata* group.

Antennae:— Additional scattered sensory pores or sockets present other than the ordinary sockets of the subgenus *Dicerca*, as follows: 1) one socket present on the apico-external surface of apical segment; 2) *D.* (*D.*) *corrugata*: sensory pores scattered on the inner surface of 6th to apical segments and on the outer surface of two apical segments; 3) *D.* (*D.*) *kurosawai*: one additional socket present on each of the 7th to apical segments; 4) *D.* (*D.*) *tibialis*: one additional socket present on each of the 6th or 7th to apical segments.

Legs:— In last metatarsal segment, the pad is 1.5–1.6 times as long as the last

segment and claw of metatarsus 1.2–1.4 times as long as the pad of the last segment.

Hind wing:— Vein 1A 0.20–0.26 times as long as vein $1A_3$.

Dicerca (*D.*) *unokichii* HATTORI, 1991 from Taiwan has also the same characters as the other members of the subgenus *Dicerca* except for the *corrugata* group, though in antennae, one socket present on the apico-external surface of the apical segment other than the ordinary sockets of the subgenus *Dicerca*, and the other minor characters as follows: in last metatarsal segment, the pad is 1.5 times as long as the last segment and claw of metatarsus is 1.2 times as long as the pad of the last segment, and vein 1A 0.19 times as long as vein $1A_3$.

All the species belonging to this subgenus in the Eurasian Continent were examined, though the hind wings were examined for *D.* (*D.*) *aenea aenea* (LINNAEUS, 1761), *D.* (*D.*) *berolinensis* HERBST, 1779, *D.* (*D.*) *furcata aino* LEWIS, 1893, *D.* (*D.*) *obtusa* KRAATZ, 1882, *D.* (*D.*) *unokichii*, *D.* (*D.*) *corrugata*, *D.* (*D.*) *kurosawai*, and *D.* (*D.*) *tibialis*.

Subgenus ***Argante*** GISTEL, 1834

Argante GISTEL, 1834, Ins.-Doubl. Graf Jenison-Walworth, p. 10; type species: *Buprestis moesta* FABRICIUS, 1792. —— RICHTER, 1952, Zlatki (Buprestidae), Fauna SSSR, **13**(4), pp. 62–65, 107–108.
Dicerca (*Argante*): BÍLÝ, 1982, Fn. ent. scand., **10**, p. 35.

Antennae with each segment robust and with sensory pores concentrated in each socket on apico-internal surface of 4th to apical segments.

Pronotum with disc convex, shallowly and obliquely depressed to ante-lateral direction on each side; median longitudinal depression entire.

Prosternum with prosternal process shallowly depressed and entirely densely punctate.

Last abdominal sternite in female rounded at apex with a pair of circular notches and intermediate lobe between them in *D.* (*A.*) *herbsti* KIESENWETTER, 1857 or simply rounded in *D.* (*A.*) *moesta*.

Legs rather robust with each tarsal pad covered with tarsus laterally; in last metatarsal segment, the pad 1.3–1.4 times as long as the last segment; each claw of metatarsus 1.2–1.3 times as long as the pad of the last segment.

Hind wing with vein Rs not joining M; cross vein (R–M) visible; vein pseudoRs and pseudo1A invisible; vein $1A_3$ distinctly separated from $2A_1$; vein 1A 0.22 times as long as vein $1A_3$.

Remarks. The hind wing was examined for *Dicerca* (*A.*) *herbsti*.

Subgenus ***Hemidicerca*** RICHTER, 1952

Hemidicerca RICHTER, 1952, Zlatki (Buprestidae), Fauna SSSR, **13**(4), pp. 62–64, 132–133; type species: *Dicerca fritillum* MÉNÉTRIÉS, 1832.

Body robust though somewhat deplanate.

Antennae with each segment robust and with sensory pores concentrated in each socket on apico-internal surface of 4th to apical segments and apico-external surface of the apical segment.

Pronotum with disc weakly convex, shallowly obliquely depressed to ante-lateral direction on each side; median longitudinal depression entire.

Prosternum with prosternal process longitudinally sulcate in the middle with punctures, and smooth on the lateral sides.

Last abdominal sternite in female rounded at apex with a shallow emargination on each side.

Legs relatively slender with rather slender tarsi; each tarsal pad covered with tarsus laterally; in last metatarsal segment, the pad 1.5 times as long as the last segment; each claw of the metatarsus 1.6 times as long as the pad of the last segment.

Hind wing with vein Rs not joining M; cross vein (R–M) visible; vein pseudoRs and pseudo1A invisible; vein $1A_3$ distinctly separated from $2A_1$; vein 1A 0.29 times as long as vein $1A_3$.

Remarks. This subgenus includes only *Dicerca* (*H.*) *fritillum* from the Caucasian region. This species has a socket on apico-external surface of the apical segment of antennae other than the sockets on internal surface, and the pad of the last metatarsal segment is relatively long, 1.5 times as long as the last segment. Also *D.* (*D.*) *unokichii* has the same characters, so that these species seem closely related.

Discussion

Tokaranodicerca gen. nov. has many characters in common with the genus *Dicerca*, *e.g.*, body strongly attenuate posteriad and mesotibia with a projection on the inner side in male for the type species. This new genus has unique antennal characters as follows: 1) each planate in apical six segments, 2) area with the scattered sensory pores on each segment feebly depressed on both surfaces, 3) each of apical six segments tetragonal, 4) sensory pores scattered on both surfaces of apical six segments. These characters are not found in the Psilopterini LACORDAIRE, 1857 sensu VOLKOVITSH, (2001), with the exception of the genera *Apateum* and *Hippomelas* LAPORTE et GORY, 1837.

The genus *Apateum*, according to *A. luczoti* GUÉRIN, 1833, has the following characters in common with *Tokaranodicerca* gen. nov.: 1) apical five antennal segments each planate; 2) area with the scattered sensory pores on both surfaces of each antennal segment feebly depressed; 3) each of apical five antennal segments tetragonal; 4) sensory pores scattered on both surfaces of apical five antennal segments other than the terminal sockets; 5) a terminal socket on each apico-internal surface of 5th to apical antennal segments and on apico-external surface of apical antennal segment; 6) antennal cavity with a tubercle; 7) maxillary palpus with 3rd segment subtriangular; 8) prosternal process with single groove along margin; 9) tarsal pads well developed laterally and apically; 10) vein $1A_3$ in hind wing running near vein $2A_1$, though not con-

nected. The genus *Apateum* differs from *Tokaranodicerca* gen. nov. in the following points: 1) antennal segments 1st to 3rd short and globular; 2) last visible abdominal sternite simply rounded at apex in male, obtusely angulate at apex with a shallow emargination on each side in female.

The genus *Hippomelas* according to *H. planicauda* CASEY, 1909 has the following characters in common with *Tokaranodicerca* gen. nov.: 1) apical eight antennal segments each planate; 2) area with the scattered sensory pores on outer surface of each antennal segment feebly depressed; 3) each of apical eight antennal segments tetragonal; 4) sensory pores scattered on both surfaces of apical eight antennal segments other than the terminal sockets; 5) a terminal socket on each apico-internal surface of 4th to apical antennal segments; 6) prosternal process with a groove along each lateral margin; 7) each tarsal pad well developed laterally and apically. The genus *Hippomelas* is different from *Tokaranodicerca* gen. nov. in the following characters: 1) body elongate and subcylindrical; 2) 1st antennal segment elongate; 3) maxillary palpus with 3rd segment elongate though triangular; 4) legs slender, 5) vein $2A_1$ with anal cell.

Judging from these characters, *Tokaranodicerca* gen. nov. seems related to the genus *Apateum* from Madagascar, and remotely related to the genus *Hippomelas* from North America. The hind wings of the genus *Hippomelas* have also vein Rs not joining M, and cross vein (R–M) visible, so that, if the antennal form is disregarded, the genus *Hippomelas* has the characters of the subtribe Buprestina LEACH, 1815. Besides, the well developed tarsal pad is a common character in the Buprestina, *e.g.*, *Buprestis* (*Buprestis*) *haemorrhoidalis japanensis* E. SAUNDERS, 1873 from Japan.

The single groove along the margin of the prosternal process is a common character in the Psilopterini except the genus *Dicerca* and is also seen in *Nipponobuprestis amabilis* (SNELLEN VAN VOLLENHOVEN, 1864) from Southwest Japan, and *Chalcophora yunnana nakanei* KUROSAWA, 1974 from the Tokara group of the Ryukyu Archipelago in Japan.

In short, *Tokaranodicerca* gen. nov. shares certain specific characters with the cited genera, whose distributional areas are widely separated from East Asia. It seems probable that *Tokaranodicerca* gen. nov. is one of the primitive genera in the Psilopterini.

要　　約

服部宇春：アジアのタマムシの研究．5. —— トカラ列島から記録されているキンモンフタオタマムシ (*Dicerca nishidai* TÔYAMA, 1986) について，触角の形状が第6節以降で四角形であること，および感覚孔がその節以降で両面散布されている，また前胸腹板突起では外縁に沿う点刻による溝が存在する，さらに付節板が付節から側方に膨出していることから，この種に対して新属 *Tokaranodicerca* を設立した．また，中国から記載された *D.* (*D.*) *corrugata*, 台湾から記載された *D.* (*D.*) *kurosawai* そして日本から記載され中国にも分布する *D.* (*D.*) *tibialis* は，触角に付加的な感覚孔があり，さらに付節板が後方に比較的突出していることから，これら3種をフタ

オタマムシの基亜属の中で*corrugata*種群として区別した.

References

AKIYAMA, K., & S. OHMOMO, 1997. A check list of the Japanese Buprestidae. *Gekkan-Mushi, Tokyo*, (Suppl. 1): 1–67.

BELLAMY, C. L., 2003. An illustrated summary of the higher classification of the superfamily Buprestoidea (Coleoptera). *Folia Heyrovskyana*, (suppl. 10): 1–197.

———— & G. H. NELSON, 2002. Chapter 41. Buprestidae LEACH 1815. *American Beetles*, **2**: 98–112.

BÍLÝ, S., 1982. The Buprestidae (Coleoptera) of Fennoscandia and Denmark. *Fn. ent. scand.*, **10**: 1–111, pl. 2.

CASEY, T. L., 1909. Studies in the American Buprestidae. *Proc. Wash. Acad. Sci.*, **11**(2): 47–178.

DESCARPENTRIES, A., & A. VILLIERS, 1963. Catalogue raisonné des Buprestidae d'Indochine. V. Dicercini. *Revue fr. Ent.*, **30**: 262–275.

ESCHSCHOLTZ, J. F., 1829. Zoologischer Atlas. Abbildungen und Beschreibungen neuer Theierarten, während des Flottcapitains v. Kotzebue zweiter Reise um die Welt, auf der Russisch-Kaiserlichen Kriegsschlupp Predpriaetië in den Jahren 1823–1826. Erstes Heft: 1–17, pl. 1. G. Reimer, Berlin.

GISTEL, J. N. F. X., 1834. Die Insecten-Doubletten aus der Sammlung des Herrn. Grafen RUDOLPH von Jenison Walworth zu Regensburg, welche sowohl im Kauf als im Tausche abgegeben werden I. Käfer: 36 pp. George Jaquet, München.

HATTORI, T., 1991. Studies on the Buprestidae (Coleoptera) of Taiwan, II. A new species of the genus *Dicerca*. *Elytra, Tokyo*, **19**: 57–61.

———— 1999. Studies on the Buprestidae (Coleoptera) of Asia, 3. Notes on *Dicerca corrugata* and description of its new relative. *Ibid.*, **27**: 417–428.

HOŁYŃSKI, R., 1993. A reassessment of the internal classification of the Buprestidae LEACH (Coleoptera). *Crystal*, (Zool.), (1): 1–42.

KERREMANS, C., 1902–'03. Coleoptera, Fam. Buprestidae. *In* WYTSMAN, P. (ed.), *Genera Insectorum*, (12a): 1–48 (1902), (12b): 49–112, (12c): 113–240, (12d): 241–338, pl. 4 (1903). Bruxelles.

KUROSAWA, Y., 1993. Reorganization of the genus *Psiloptera* (Coleoptera, Buprestidae). *Jpn. J. Ent., Tokyo*, **61**: 577–583.

LACORDAIRE, J. T., 1857. Histoire naturelle des Insectes. Genera des Coléoptères. Vol. 4. Fam. Buprestidae, etc. 579 pp. Roret, Paris.

RICHTER, A. A., 1952. Zlatki (Buprestidae). *Fauna SSSR, Nasekomye Zhestkokrylye*, **13**(4): 1–234. (In Russian.)

SCHAEFER, L., 1949. Les Buprestides de France. Tableaux analytiques des Coléoptères de la faune franco-rhénane. France, Rhénanie, Belgique, Hollande, Valais, Corse. *Misc. ent.*, Suppl., i+1–511, 25 pls.

THÉRY, A., 1942. Coléoptères Buprestides. *Faune de France*, **41**: 1–223.

TÔYAMA, M., 1986. A remarkable new buprestid beetle (Coleoptera, Buprestidae) from Japan. *Gekkan-Mushi, Tokyo*, (189): 18–21, pl. 1.

———— 1987. The systematic positions of some buprestid genera (Coleoptera, Buprestidae). *Elytra, Tokyo*, **15**: 1–11.

VOLKOVITSH, M. G., 2001. The comparative morphology of antennal structures in Buprestidae (Coleoptera): evolutionary trends, taxonomic and phylogenic implications. Part 1. *Acta Mus. Morav., Brno*, (Scient. biol.), **86**: 43–169.

Elytra, *Tokyo*, **32** (1): 152, May 31, 2004

A New Record of *Alaolacon cyanipennis* CANDÈZE (Coleoptera, Elateridae) from Eastern Sumatra

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Alaolacon cyanipennis CANDÈZE was originally described from "Presqu'île des Malais". After that it was carefully redescribed by CASARI-CHEN (1993) on the basis of a female homeotype from Malacca. However, no record has been known from other locality than the Malay Peninsula.

Through the courtesy of Dr. Akiko SAITO, I was able to examine a single female specimen of the species collected at Palembang, eastern Sumatra. In this short report, I am going to record it below.

I with to express my cordial thanks to Dr. Akiko SAITO of the Natural History Museum and Institute, Chiba, for her kindness in supplying me with valuable material.

Alaolacon cyanipennis CANDÈZE, 1865

Alaolacon cyanipennis CANDÈZE, 1865, Mem. cour. Acad. r. Sci. Belg., **17**(1): 13 (Presqu'île des Malais). —— GEMMINGER & HAROLD, 1869, Catalogus Coleopterorum, **5**: 1498 (Penins. Malay.). —— CANDÈZE, 1891, Catalogue méthodique des Élatérides connus en 1890, 29 (Malacca); 1874, Mém. Soc. r. Sci. Liège, (2), **4**(1): 114 (Presqu'île Malaise). —— SCHWARZ, 1906, Genera Ins., (46C): 316 (Malacca). —— SCHENKLING, 1925, Coleopt. Cat., pars 80 (Elateridae I): 40 (Malacca). —— FLEUTIAUX, 1926, Annls. Soc. ent. Fr., **95**: 102; 1928, Encycl. ent. B. I. col., **3**: 177–178. —— CASARI-CHEN, 1993, Revta. bras. Ent., **37**: 228–231, figs. 1–19, 140 (Malacca).

Specimen examined. 1 ♀, Palembang, Sumatra, Indonesia, X–2002, native collector.
Distribution. Malay Peninsula and Sumatra (new record).

Elytra, Tokyo, **32** (1): 153–170, May 31, 2004

Immature Stages and Adult Female of the Lampyrine Species, *Lucidina okadai* NAKANE et OHBAYASHI, 1949 (Coleoptera, Lampyridae, Lampyrinae) from Gifu, Central Honshu, Japan

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Abstract The first and last instar larvae, pupa and adult female of the lampyrine species, *Lucidina okadai* NAKANE et OHBAYASHI, 1949, from Gifu Prefecture, central Honshu, Japan, are described and illustrated for the first time. It is confirmed that both the elytra and hindwings of the adult female are shortened and reduced. It is also proved beyond doubt that the unidentified firefly of the genus *Lucidina* reported by YANAGIHARA (1923 a, b) belongs to this species.

Introduction

In the summer of 1923, two accounts of a firefly species were given by YANAGIHARA (1923 a, b). It was only named "Kobane-botaru" in Japanese, with no Latin specific name. This Japanese name means a "short-winged firefly" or a "small-winged firefly" in English, doubtless derived from the short wings in adult female. Unfortunately, however, the two simple reports are promptly considered by prominent firefly researchers of those days to be preliminary accounts of "merely deformed individuals of *Lucidina biplagiata* MOTSCHULSKY" (OKADA, 1931) or "only individuals which failed in emergence to the adult of *L. biplagiata*" (KANDA, 1934, 1935), and the truth has been veiled till now.

NAKANE (1983), the first author of the original description of the lampyrine firefly, *Lucidina okadai* NAKANE et OHBAYASHI, 1949, gave a brief comment that "YANAGIHARA's Kobane-botaru might be the same as *L. okadai*." After a detailed investigation of a habitat of "Kobane-botau" newly discovered in Gifu Prefecture, OHBA *et al.* (1996) surmised that "YANAGIHARA's Kobane-botaru" is truly the female individuals of *L. okadai*.

At last, breeding the larvae collected from the known habitat in Gifu Prefecture in

2003, we have succeeded in obtaining adult females of *L. okadai*, long unsolved problem since YANAGIHARA's time, and the truth of his reports was confirmed after about eighty years.

In this paper, the larval and pupal stages of *L. okadai* obtained in a breeding process will be reported for the first time.

Materials and Methods

The materials examined in the present study are described under the heading of "*Materials examined*" following the titles of respective stages. For dissection, head including antennae and mouth parts, legs, female genitalia, etc., were removed from the body, mounted on slide glasses with glycerol or Canada balsam, observed through optical microscope (OLYMPUS CH–2, max. magnification ×1,000) and sketched with the aid of an attached drawing tube. The other external characters 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 hind margin of 8th abdominal tergite; HW – maximum width of head, across eyes; PL – length of pronotum, along mid-line; PW – maximum width of pronotum; EL – length of elytra; EW – maximum width of left elytron, mainly basal part; EHW – humeral width of elytra; HTL – length of hind tibiae; IK – I. KAWASHIMA.

Descriptions

First Instar Larva

(Figs. 2–3, 6, 8, 10, 12)

Materials examined. 25 larvae, from Gifu-shi, Gifu Pref., central Honshu, V–2003 (eggs collected from emerged female *in vitro*), VI–2003 (hatched), bred by IK.

Coloration. Whole body including appendages less pigmented.

Head capsule dark brown in anterior half of dorsal side, grayish brown on ventral side, clearly paler than dorsum; posterior half milky white on both dorsum and venter; lateral ocelli black; antennae almost milky white except for distal flagellum; flagellum tinged with pale yellowish brown; mandibles yellowish brown; almost all the other mouth parts pale yellowish brown. Pro-, meso- and metanota moderately darker gray or grayish brown, longitudinal mid-lines and a pair of keels on both sides milky white throughout three thoracic tergites. First to 7th abdominal tergites also gray to grayish brown; 8th and 9th ones clearly paler than those of preceding thoraces and seven abdominal segments, yellowish brown to pale brown; ventral surface of body including legs clearly paler than dorsal side, almost constantly milky white, sometimes tinged with pale grayish; only sternite of prothorax tinged with moderately darker, grayish

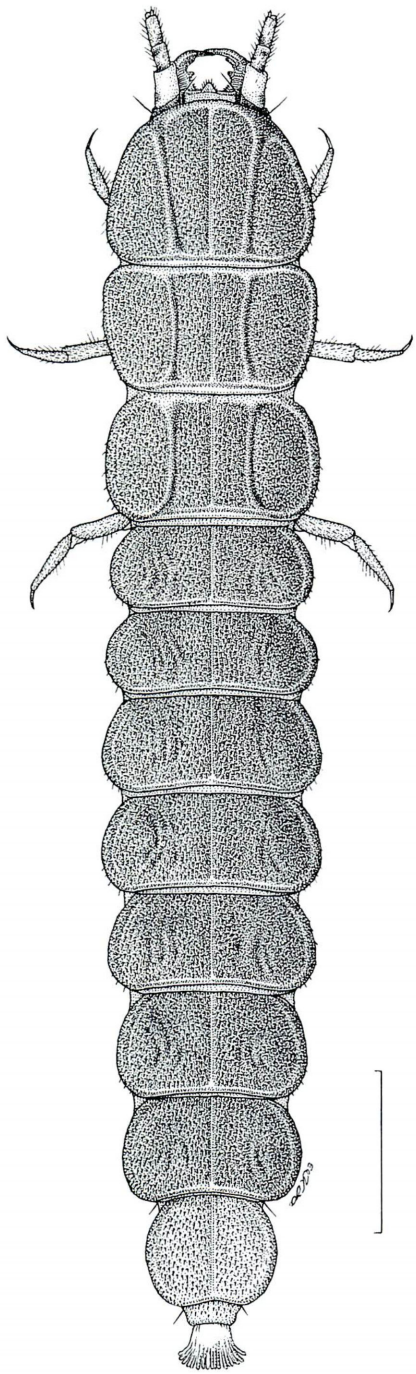
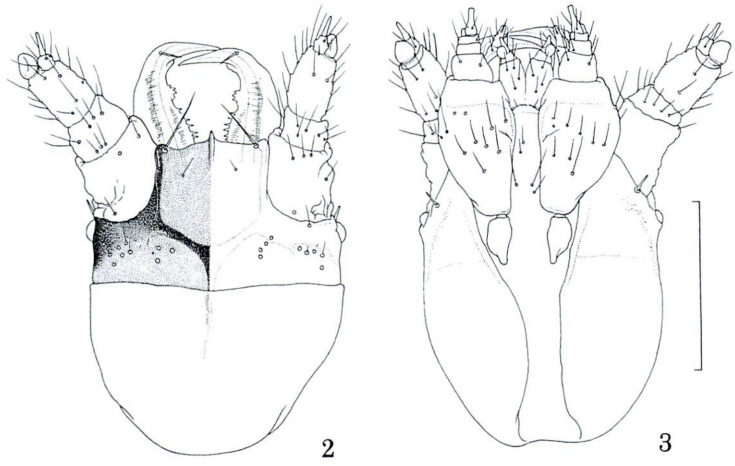


Fig. 1. Last instar larva of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; habitus, dorsal view. Scale: 1.0 mm.



Figs. 2–3. First instar larva of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; head, dorsal view (2), ventral view (3). Scale: 0.5 mm.

brown; membraneous area not showing fresh pink even in living state.

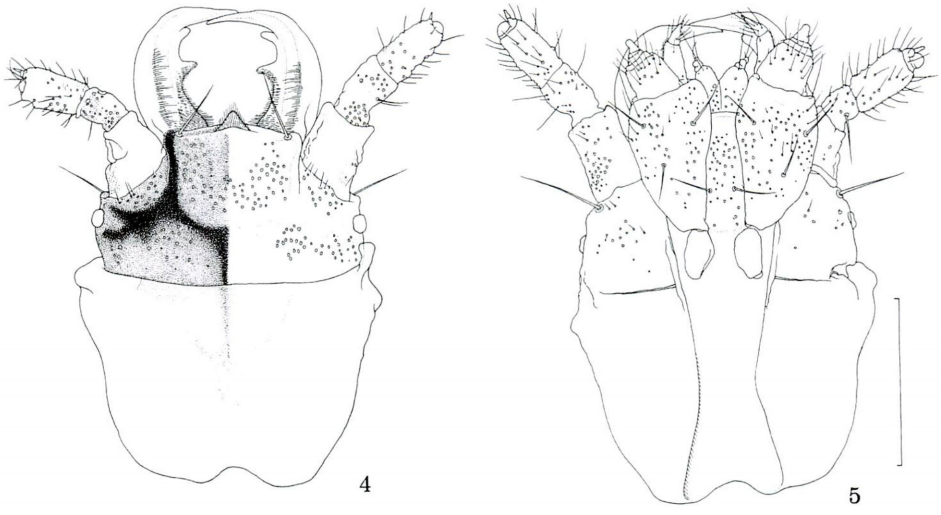
External morphology. Body campodeiform, elongate, almost parallel-sided, slightly flattened dorso-ventrally.

Head capsule (Figs. 2, 3) prognathous, subquadrate with widely arcuate and rounded posterior part, moderately flattened dorso-ventrally, widely and completely open on venter, only retractable within prothorax leaving posterior half when alive; anterior margin almost transversely straight, bearing a process at the middle, with a pair of long spines just inside both angles. Epicranial suture present as well as frontal sutures that extend to bases of antennae as brownish pigmented areas.

Labrum and clypeus not recognized. Lateral ocelli (stemmata) (Figs. 2, 3) very small and rounded lens-like, attached to the lateral sides of head capsule, just behind antennal bases.

Antennae (Fig. 12) three-segmented, partially retractable into articulating membraneous base, originating in apico-lateral areas of head capsule; scape robust and widest, clearly shorter than pedicel, scattered with setae on dorsal and ventral surfaces; pedicel cylindrical, the longest, scattered with setae and relatively long spines on dorsal and ventral surfaces, each carrying a semi-globular sensillum, which is slightly longer than the length of minute flagellum; flagellum very short and minute, moderately triangular, each with several spines and a pointed stick-like sensillum at the apices.

Mandibles (Fig. 6) symmetrical, strongly falcate, each with an inner channel opening subapically on exterior edge just before the apex; two pairs of retinacula present on about middle length of mandibles, and with six to seven minute teeth at the basal side of retinaculum in this instar; inner sides of basal portions densely covered



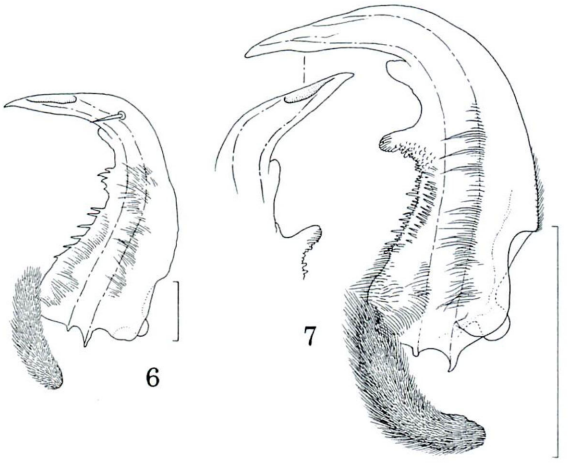
Figs. 4–5. Last instar larva of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; head, dorsal view (4), ventral view (5). Scale: 0.5 mm.

with brush-like setae; upper surface with a single row of moderately long setae in median areas, each with a very short but robust spine on upper surface at distal third.

Maxillae (Fig. 8) large and robust; cardo moderately elongate, fusiform; stipes largest and widest, ventral surface scattered with setae and several very long spines; galea two-segmented; apical segment elongate conical with pointed apex, which bears a minute pointed sensillum at the apex; lacinia completely absent; maxillary palpus four-segmented; basal segment widest and largest, gradually narrowed towards subconical distal segment, whose apex is distally rounded.

Labium (Fig. 10) narrow as a whole; basal margin of mentum not recognized, completely fused to membraneous area, with a pair of long spines at about basal third; prementum short and roundly bilobed, with the sides arcuate and expanded externally; anterior portion with a deep cleft in the center; distal area with a pair of long robust spines; labial palpus two-segmented, basal segment wide but clearly shorter than the distal; distal segment elongate conical with minutely rounded apex, bearing a globular and a short stick-like sensillum on venter.

Pronotum semicircular or moderately elongated semicircular, a little longer than the maximum width, with a pair of very low and vague keels on both sides of mid-line, sides subparallel and/or weakly divergent anteriad; mesonotum transversely trapezoidal; sides arcuate and weakly convergent posteriad, with a pair of keels as in pronotum, feebly incurved and/or almost parallel; metanotum transversely rectangular, with arcuate sides, and with a pair of keels continuous from pro- and mesonota, almost parallel and exteriorly curved in basal portions. Coxae (as sclerites of body trunk) very large and stout.

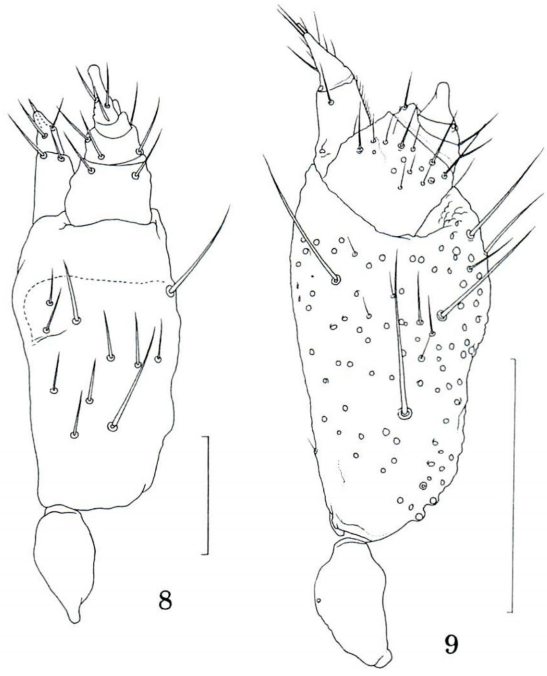


Figs. 6–7. Larval mandibles of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; dorsal view, first instar larva (6), last instar larva (7). Scale: 0.1 mm (6), 0.25 mm (7).

Legs (Fig. 15) four-segmented; all pairs similar in general shape and size to one another; trochanters relatively large, obliquely attached to femora; femora cylindrical, upper and lower margins parallel, each with a long spine on ventral side, obliquely cut off at distal margin; tibiae simple but longest, clearly tapered towards the apices; tarsunguli small with pointed apices, slightly incurved, each with a minute seta on venter nearly at bases.

Abdomen 10-segmented; 1st to 7th tergites transverse and subrectangular, subdivided by thin but clear sagittal lines, almost the same in general shape and size as one another, sides arcuate and well expanded laterally; 1st to 4th tergites parallel-sided, feebly narrowed towards the distal one from 5th; 8th feebly longitudinally, thick barrel-shaped or short oval; 9th fairly small; 10th very short and formed by a narrow ring, which bears fibrous pygopod (holdfast organ) at the apex, completely covered by the posterior portion of 9th; pleural areas of 1st to 8th subdivided into subrectangular upper sclerites with a spiracle and smaller and rather narrow lower ones; pleural folds in 8th to 10th almost completely fused to sternite, not recognized; 1st to 7th sternites transverse and subquadrate with rounded posterior corners, each with two pairs of robust spines; the exterior pairs moderately long, arising from rounded postero-lateral corners; the inner pairs short, arising from both sides of middle line; 8th sternite recognized only by the hind margin, but with two pairs of spines; venters of 9th and 10th bearing two or three spines, which never form a transverse row; postero-lateral portions of 8th pleural regions with a pair of spotted luminescence organs.

Measurement in mm. Body length (from anterior margin of pronotum to 9th abdominal end) ca. 1.50–1.75; HW (maximum width of head capsule) 0.15–0.16; PL 0.19–0.20; PW 0.24.



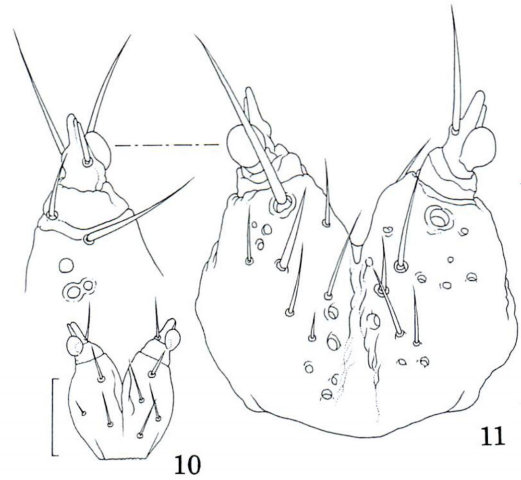
Figs. 8–9. Larval maxillae of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; ventral view, first instar larva (8), last instar larva (9). Scale: 0.2 mm (8), 0.25 mm (9).

Last Instar Larva

(Figs. 1, 4–5, 7, 9, 11, 13–14, 16, 19)

Materials examined. 17 larvae, collected from the same locality as for the 1st instar larval materials, IV–2003, staff of Chugai Technos Co. Ltd. leg. & bred by IK.

Coloration. Anterior half of head capsule blackish brown on dorsal side, brown on ventral side, clearly paler than dorsum; posterior half of head capsule milky white on both dorsum and venter; lateral ocelli black; antennae almost milky white except for distal flagellum; flagellum tinged with dark brown: scape and pedicel almost milky white but partly tinged with dark brown; mandibles reddish brown; cardo, galea and maxillary palpi pale brown; stipes brownish; mentum and prementum fairly tinged with dark brownish, especially in the central areas; labial palpi pale brown to milky white. Pro-, meso- and metanota moderately dark to blackish brown, longitudinal midlines and a pair of keels on both sides milky white throughout three tergites of thorax. First to 7th abdominal tergites also dark to blackish brown; 8th and 9th ones clearly paler than the ones of the preceding segments, pale yellow to yellowish brown; ventral surface of body clearly paler than the dorsal side, almost constantly pale brown to brown; spiracles milky white; legs pale brown to yellowish brown from trochanters to tarsunguli; claws moderately tinged with reddish brown; membraneous area remark-



Figs. 10–11. Larval labium of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; ventral view, first instar larva (10), last instar larva (11). Scale: 0.1 mm (10), 0.25 mm (11).

ably fresh pink when alive, changing to milky white after fixed in ethyl alcohol.

External morphology. Body (Fig. 1) campodeiform, elongate, almost parallel-sided, slightly flattened dorso-ventrally. Number and density of setae and spines clearly and fairly increasing on the whole body surface including mouth parts and appendages. Basic structure of body including all appendages essentially the same as that of 1st instar larvae, main differences from the latter as described below.

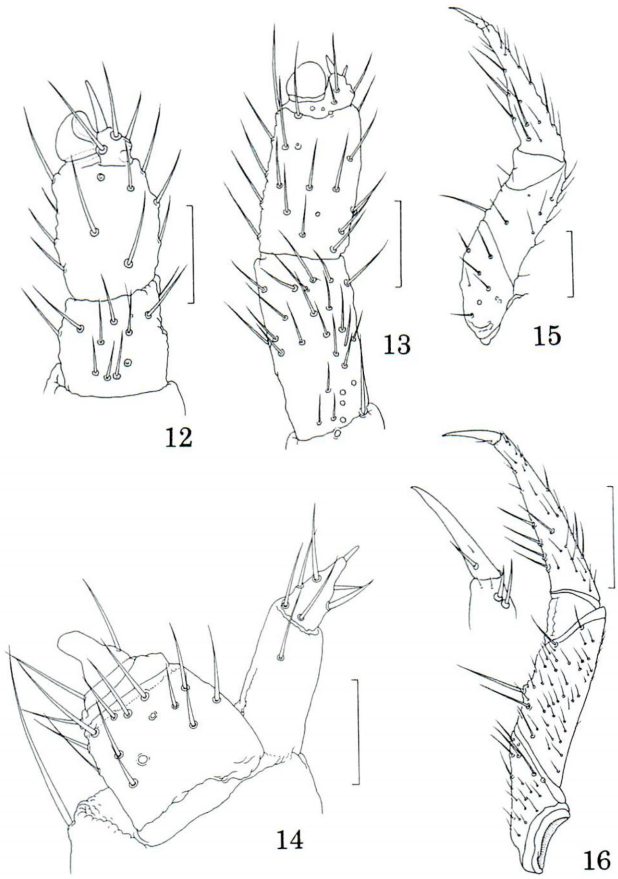
Central process on anterior margin (nasal area) of head capsule right triangle, clearly wider than that of 1st instar larva (Fig. 4); a long spine arising from ventral side of head capsule, between lateral ocelli and basal margin of antenna, much longer than in 1st instar larva; spine-like sensillum arising from distal tip of antennal flagellum relatively short (Fig. 13); globular sensillum arising from distal tip of flagellum relatively small (Fig. 13); two pairs of retinacula on the inner margin of mandible clearly more developed (Fig. 7); distal segment of maxillary palpus relatively short, with more rounded apices (Figs. 9, 14). A pair of longitudinal keels on dorsal surface of pro-, meso- and metanota fairly clearer than in 1st instar larva. Relative length of femora in all legs longer and slenderer (Fig. 16).

Measurement in mm. Body size of the last instar larva individually variable. Body length (from anterior margin of pronotum to 9th abdominal end) ca. 8.00–12.00; HW (same as in 1st instar larva) 0.80–0.85; PL 1.00–1.10; PW 1.20–1.25.

Pupa

(Figs. 17–18, 20)

Materials examined. 9 pupae, from the same locality as for larval materials,



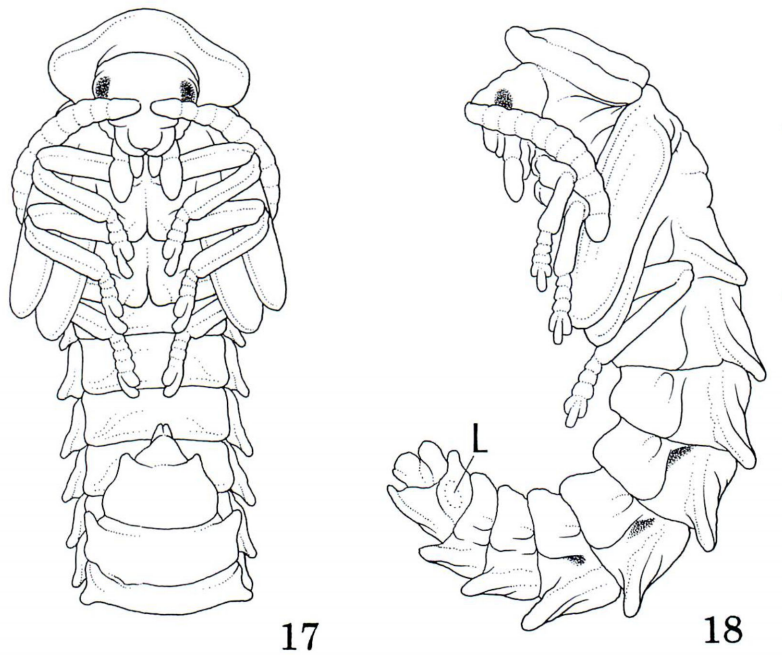
Figs. 12–16. Larval left antenna, apical portion of right maxilla and right hindleg of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; dorsal view (12, 13), ventral view (14, 15, 16). Scale: 0.1 mm (12, 13, 14), 0.2 mm (15), 0.25 mm (16).

VI–2003 (pupation *in vitro*), bred by IK.

Coloration (*mainly of fresh pupae*). Body creamy white in general; discal area of pronotum and abdominal area sometimes individually tinged pinkish (Fig. 20); spiracular areas pigmented with blackish.

Aged individuals generally stained blackish.

External morphology. Body strongly incurved ventrad. Head relatively small, not much covered by anterior margin of pronotum, easily seen from anterior and dorsal sides; eye areas fairly small, not so bulged laterad; antennae arising from front of eyes, feebly serrate with 11 obvious segments, largely incurved ventrad and folded on both sides of body, exterior side of pro- and midlegs and elytra, extending to the level of hindlegs or clearly beyond that level in male, and reaching the level of hindlegs in female; mandibles small and incurved; maxillary palpus larger, seemingly two-seg-

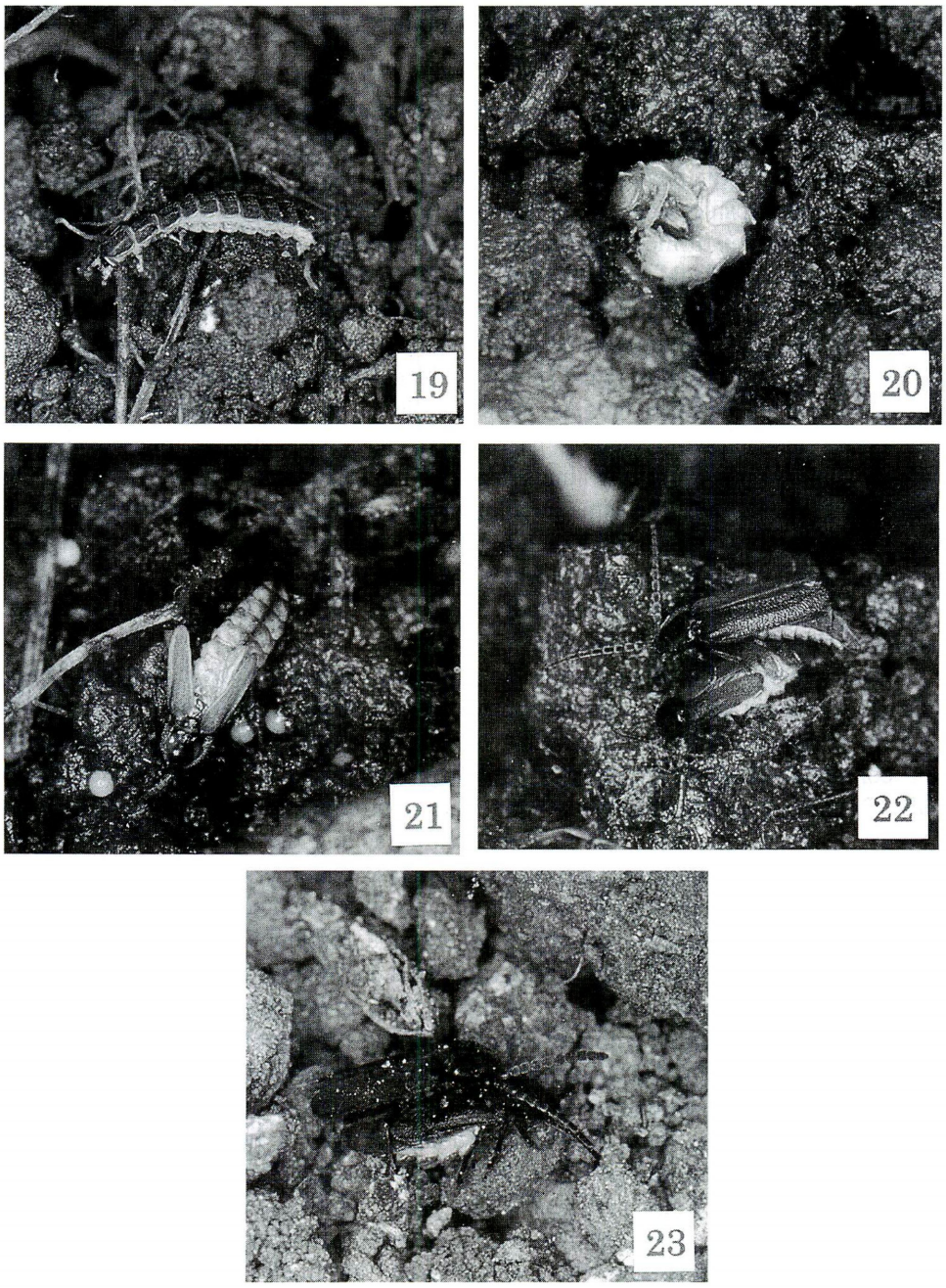


Figs. 17–18. Female pupa of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; ventral view (16), left lateral view (17). Scale: 1.0 mm.

mented, spindle-shaped; labial palpus clearly smaller than maxillary palpus, spindle-shaped in apical segment. Pronotum relatively small, semicircular, almost as long as wide, or a little longer than the maximum width; both meso- and metanota moderately shorter than pronotum, subrectangular, carrying wing sheaths (elytra and hindwings) at sides; apex of each wing sheath rounded; pro- and midlegs fully visible in ventral view; hindlegs largely covered by hindwing sheaths, only basal parts and tarsi being visible in ventral view, but only covered with distal halves of femora and basal halves of tibiae in female. Abdomen 10-segmented, each segment wider than long; sides almost parallel, convergent posteriad in distal two or three segments; 1st tergite without sharply pointed postero-lateral corners; postero-lateral portions of 2nd to 9th tergites bearing moderately pointed and posteriorly directed processes; pleurites probably fused with sternites, not clearly recognized; each sternite fully visible in ventral view, transverse rectangular; a pair of spots of luminescent organs present in lateral areas of 9th sternite (L in Fig. 18).

Measurement in mm. Very variable with individuals, about 4.50–5.50 in the diameter in naturally curled posture.

Notes. The pupa has a pair of luminescent organs in the 9th abdominal segment (L in Fig. 18), which are fairly strongly luminescent when alive (Fig. 20).



Figs. 19–23. *Lucidina okadai* NAKANE et OHBAYASHI, 1949; last instar larva (19), glowing female pupa (20), newly emerged female adult, showing relative lengths of elytra and hindwing (21), mating and mounting (most short-winged female) (22), copulation (23).

Adult Female

(Figs. 21–27, 29–30)

Materials examined. 8♀♀, the same locality as for larval and pupal materials, V~VI–2003 (emerged *in vitro*), bred by IK.

Coloration. Antennae dark brown, almost frosted in flagellar segments; eyes blackish; head capsule black, weakly shiny; mandibles blackish brown, moderately shiny; other portions of mouth parts almost blackish; pronotum black, and moderately shiny, with a pair of vague reddish markings on the disc just after the emergence (Fig. 21); scutellum black and moderately shiny: elytra frosted black; abdominal tergites almost blackish to blackish brown and weakly shiny; penultimate abdominal tergite more or less feebly paler, almost dark brown to blackish brown; last abdominal tergite clearly paler than the other tergites, yellowish brown to brown; all legs clearly paler than body, dark brown including tarsomeres; claws brownish, sometimes reddish stained; ventral surface of body almost blackish brown to black and weakly shiny; abdominal sternites almost the same in coloration as dorsum; all membraneous areas on venter and lateral portions of abdomen fresh pink when alive (Figs. 21–23). Ovipositor not much pigmented, paler brown to whitish with brownish stylus.

External morphology. Individually variable in the body size and general shape, especially the relative length and shape of pronotum.

Head capsule relatively small, wider than long, depressed above, rather minutely punctate on dorsal surface, antennal sockets located between eyes and approaching to each other, interocular space clearly narrower than the width of pronotum; head capsule completely covered by anterior part of pronotum, never seen from dorsal side (Figs. 21–24). Eyes small and globular, weakly prominent laterad. Antennae (Figs. 24–25) clearly shorter than those of male, not reaching the middle of elytra; scape clavate, weakly bent outwards, dilated towards apex, which is the widest; all flagellar segments short and depressed dorso-ventrally, not much dilated towards apices in 4th to 10th (2nd to 8th flagellar) segments, not serrated continuously; distal or 11th segment (9th flagellar) spindle-shaped with rounded apex; relative length of each segment from scape in a specimen as follows:— 8.5 : 4 : 5.5 : 8 : 7.5 : 9.5 : 10 : 10.5 : 9.5 : 10 : 15. Mandibles extremely small with narrowly rounded apices, generally incurved.

Pronotum (Fig. 24) fairly variable individually in general shape, normally short and semicircular, but sometimes longitudinally elongated semicircular, widest before the base, across basal third; maximum width normally a little narrower than the humeral width of elytra, sometimes feebly wider; anterior margin widely arcuate and produced anteriad; anterior to lateral areas widely explanate and reflexed along the margins continuously; elevated disc relatively smooth and/or feebly punctate; both sides to anterior border moderately closely punctate and rugulose; basal margin almost straight or feebly sinuate on each side, narrowly bordered in central part; PW/PL 1.13–1.50 (mean: 1.31); PW/HW 1.53–2.36 (mean: 1.85); PL/PW 0.67–0.88 (mean: 0.77); PW/EHW 0.85–1.10 (mean: 0.94).

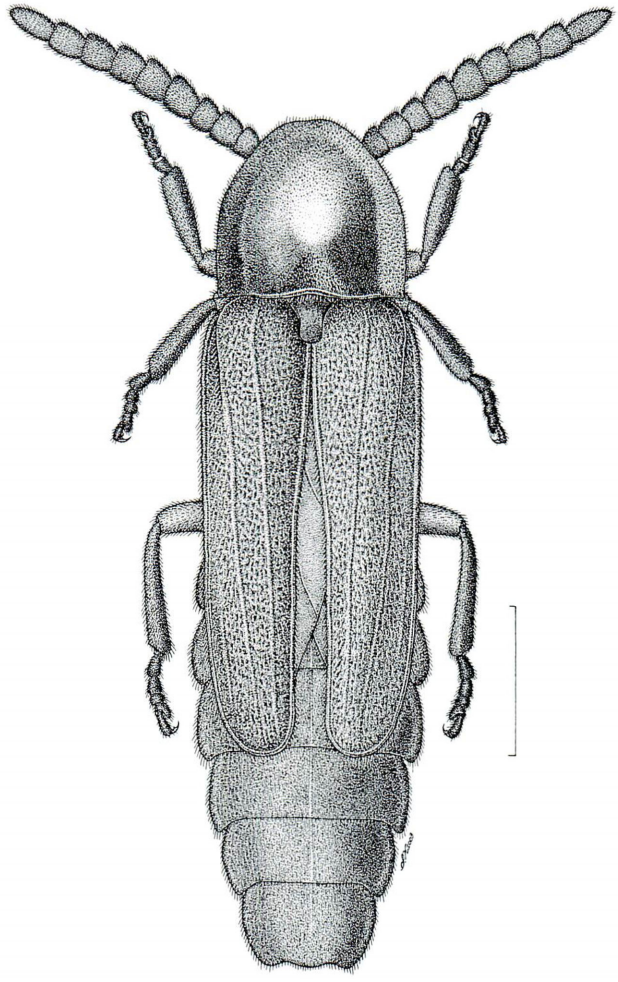
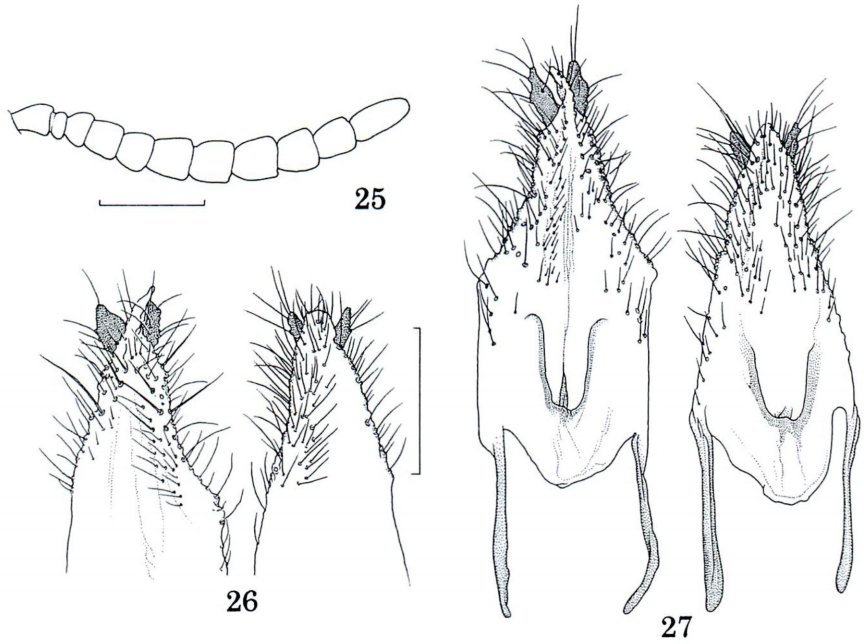


Fig. 24. Adult female (moderately long-winged individual) of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; dorsal view. Scale: 1.0 mm.

Scutellum (Fig. 24) elongated trapezoidal, sides convergent towards the apex in basal halves; apical half lingulate, forming rounded corners on each side.

Elytra (Figs. 21–24) fairly short and narrow, widest at humeral part or just after the humeri, narrowly marginated throughout including inner margins, becoming weakly separated towards rounded apices, clearly dehiscent in apical parts to almost whole lengths of inner margins; lateral sides almost parallel, the margin being concealed by humeri; dorsal surface distinctly rugulose, irregularly and closely punctate; each elytron with three vague costae, of which the middle one is the longest, running throughout the length of elytra, innermost one slightly shorter than the middle one, and



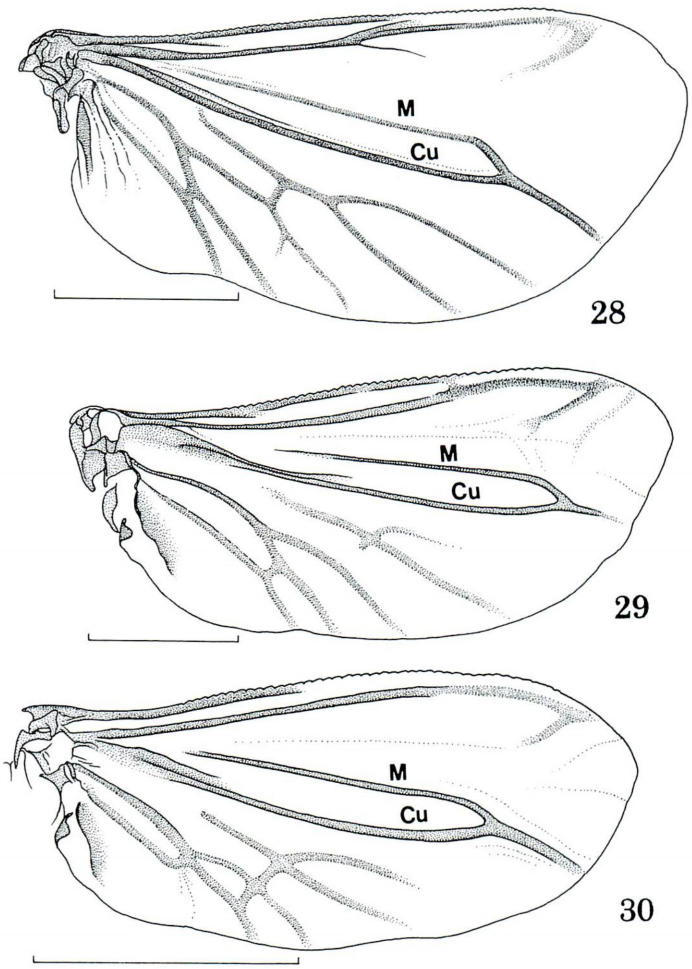
Figs. 25–27. Adult female of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; right antenna, dorsal view (24); ovipositors in two individuals, dorsal view (25), ventral view (26). Scale: 0.5 mm (25), 0.25 mm (26, 27).

exteriormost one short, restricted to the distal parts of elytra, very weak and more obsolete; EL/PL 2.25–3.25 (mean: 2.55); EL/EHW 1.47–2.29 (mean: 1.79).

Hind wings (Figs. 29–30) almost the same in basic structure as those of male (Fig. 28), though relatively short and narrow (Fig. 22), membraneous area more reduced; anal area hardly expanded towards inner sides; venations inner than Cu–vain largely variable individually; confluence of M– and Cu–vains removed towards distal part as compared with that of hindwing in male; whole length of female wings almost as long as the length of elytra (Fig. 21), and never folded even in living state.

All legs (Fig. 24) fairly short and thick; trochanters relatively short, obliquely attached to femora; femora fusiform and weakly flattened dorso-ventrally; tibiae almost straight but weakly incurved at the bases, the inner and outer margins divergent towards the apices; tarsi short, 1st tarsomere the longest and clavate; 4th bilobed. Claws small, each with a minute teeth or process at the inner base, especially rather remarkable in inner claws.

Abdomen (Figs. 21, 24) relatively wider and longer than that of male, flattened dorso-ventrally, with eight visible segments on ventral side; all segments transverse; both sides feebly divergent towards 3rd or 4th segments, and then gradually convergent posteriad from 4th or 5th segment to anal end; side margins of all segments arcuately dilated laterad; both hind corners of each abdominal tergite produced posteriad as a



Figs. 28–30. Hindwing of *Lucidina okadai* NAKANE et OHBAYASHI, 1949; male (28), two female individuals (29–30), all dorsal view. Scale: 1.0 mm.

rounded process; hind margin of caudal 8th segment bisinuate, shallowly produced posteriad at the middle; apical four to five segments constantly extended and exposed to behind the level of elytral apical margin.

Ovipositor (Figs. 26, 27) individually in variable general shape, sometimes the sides are almost straight and parallel in basal halves, and then, gradually and constantly convergent towards pointed apex, sometimes devoid of parallel part basally; both dorsal and ventral surfaces densely covered with spines and relatively long setae; a pair of styli arising from just before the apex of ovipositor.

Measurement in mm. BL 4.70–6.60; HW 0.70–1.00; PL 1.00–1.40; PW 1.25–1.85; EW 0.70–1.00; EHW 1.40–2.00; EL 2.25–3.40; HTL 0.70–0.85.

General Remarks

The larva of *Lucidina okadai* is considerably similar in external morphology to that of *L. biplagiata* (MOTSCHULSKY, 1866) (KANDA, 1935; HAYASHI, 1991), which is widely distributed in Japan (Hokkaido, Honshu, Shikoku and Kyushu). However, more detailed comparison of larval morphology is still required between the two species. The coloration of larval body of the two species clearly resembles each other.

Although the food habits of the larvae in natural condition has not been clarified, they may feed on small-sized earthworms *in vitro*. This habit is common in the larvae of other congeners of the genus, *L. biplagiata* and *L. accensa* GORHAM, 1883 in Japan. Unlike the larvae of other lampyrid species, the neck region of the larva of this species is hardly expanded and nearly completely contracted. The membraneous area of the region is directly connected with the transverse line at the mid-length of the head capsule, and the head cannot be extended forwards from the level of the transverse line. On the other hand, almost whole of head capsule can be contained in the prothorax. Low elasticity of neck structure may not be favorable for eating terrestrial snails but may be adapted for eating earthworms.

The larva of *L. okadai* is basically nocturnal and shows nagative phototaxis, usualy hiding in crevices between the soil and mud. It is surmised that under natural condition, the larvae usually live in shallow part of the soil and/or in the subterranean domain. However, the larvae are generally quite active, roaming about by supporting the body using pygopods (Fig. 19).

The pygopods as the holdfast organ are also used for cleaning the surface of whole body, sometimes even of the head including mouth parts as was reported and illustrated by YANAGIHARA (1923 a, b).

General appearance of the larvae (Fig. 1) is apparently similar to that of the New World genera, *Lucidota* (BRANHAM & ARCHANGELSKY, 2000) and *Pyropyga* (ARCHANGELSKY & BRANHAM, 2000), and especially the larva of the former genus shares several features with that of *L. okadai* in the cephalic structure including that of mouth parts.

The larvae and pupae glow and emit greenish light from a pair of spotted luminescence organs of the 9th abdominal segment (Fig. 20).

The mature larva never forms soil cocoon when matamorphosing to pupa (Fig. 20).

Although the adult just after emergence has a pair of vague reddish spots on the disc of the pronotum (Fig. 21), these spots gradually disappear and are mostly pigmented to blackish areas at the final stage. Adult males hardly induce females just after emergence, but they often induce females after two or three days, and try to mount and copulate actively (Figs. 22–23). Females start ovipositing to the surface of wet soil and/or mud within one or two days after copulation. The oviposition lasts for seven or eight hours for completion, but the eggs are not laid collectively.

The males appear in the grassy and boggy field, often actively flying at the height

of grass top and sometimes among leaves and stems (OHBA *et al.*, 1996). Flight of male individuals of this species is quick and more linear than that of *L. biplagiata* (OHBA *et al.*, 1996). On the other hand, the females walk about actively *in vitro*, though there is no sign of opening elytra for taking off. Judging from the shortened and reduced elytra in adult female, and hindwings being unbalanced in size to the body, it is presumed that the flying is probably impossible.

Acknowledgement

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, and to Dr. Nodoka HAYASHI of Yokohama, Kanagawa and Dr. Marc BRANHAM of the American Museum of Natural History, New York, USA, for their supplying with valuable papers. We also thank Dr. Shûji OKAJIMA of Tokyo University of Agriculture (TUA), Kanagawa, Dr. Hirobumi SUZUKI of the Institute of Luminous Organisms, Tokyo, Mr. Tomoyuki TSURU of TUA and Mr. Isao TSUJI of Koyo Elementary School, Miura, Kanagawa, the staff of the Chugai Technos Co. Ltd., Hiroshima and the Oya-Soichi Library, Tokyo, for their kind help and courtesy.

要　　約

川島逸郎・高井 泰：コクロオバボタルの未成熟期および雌成虫の記載．—— 岐阜県を中心に，中部地方のきわめて限られた生息地が確認されているにすぎないホタル科オバボタル属の1種，コクロオバボタル *Lucidina okadai* NAKANE et OHBAYASHI, 1949 における，幼虫期（1齢および終齢），蛹期および雌成虫の外部形態について，初めて詳細に記載・報告した．なお，かつて本種の記載より遡ること26年も前に，やはり岐阜県から，柳原 (1923 a, b) によって「コバネボタル」または「小翅蛍」と名付けられて報告されたホタルの種は，その記述と挿図から判断してコクロオバボタル *L. okadai* の可能性がきわめて高いと推定されていた（中根，1983；大場ほか，1996）．しかし，柳原による報告の直後から，複数の研究者によって，この正体不明のホタルは，本州では普遍的に分布するオバボタル *L. biplagiata* MOTSCHULSKY の羽化不全による奇形個体とみなされてきた（岡田，1931；神田，1934, 1935）．コクロオバボタルそのものがきわめてまれな種で，雌成虫の確認例も不確実であったという経緯もあり，その実態は不明瞭なままであった．しかし，約80年の年月を経て，この度の研究により，雌成虫の上翅および後翅がともに短縮しており，柳原の報告が事実であることを追認できた．本論文では，この種と正しく確認されたものとしては初めて，雌成虫とともに幼虫期・蛹期についても併せて記載した．雌成虫には上翅，後翅ともに存在するが，体躯に対しての相対的な長さおよび面積はきわめて小さく，飛翔できないことは確実である．そのために，移動能力がきわめて限定されているか，もしくはそうした能力のないことが示唆される．結果的に，生息地はきわめて狭く限定された状況になっていると推察される．

References

ARCHANGELSKY, M., & M. A. BRANHAM, 2001. Description of last instar and pupa of *Pyropyga nigricans* (Coleoptera: Lampyridae: Photinini) and comparison with larvae of other Photinini genera. *Can. Entomologist*, **133**: 155–164.

BRANHAM, M. A., & M. ARCHANGELSKY, 2000. Description of the last instar and pupa of *Lucidota atra* (G. A. OLIVIER 1790) (Coleoptera: Lampyridae), with a discussion of abdominal segment homology across life stages. *Proc. ent. Soc. Wash.*, **102**: 869–877.

HAYASHI, N., 1991. Lampyrid beetles in Kawasaki and their larvae. *Kawasaki Shizen-Kankyô Chôsa-Hôkoku*, **2**: 117–127. (In Japanese with English abstract.)

KANDA, S., 1934. The name of the fireflies. *Bot. & Zool., Tokyo*, **2**(12): 75–78. (In Japanese.)

——— 1935. The Fireflies. 496 pp.+20 pls. Association of Luminous Organisms of Japan, Tokyo. (In Japanese.)

KAWASHIMA, I., H. SUZUKI & M. SATÔ, 2003. A check-list of Japanese fireflies (Coleoptera, Lampyridae and Rhagophthalmidae). *Jpn. J. syst. Ent.*, **9**: 241–261.

NAKANE, T., 1983. The Japanese species of lampyrid beetles. *In* NAKANE, T., & N. OHBA (eds.), *Hotaru no Kansatsu to Shiiku*, 81–113. New Science Co. Ltd., Tokyo. (In Japanese.)

——— & K. OHBAYASHI, 1949. Description of a new species of the genus *Lucidina* from Japan. *Ent. Rev. Japan*, **1**: 34–35.

OHBA, N., Y. TAKAI, Y. GOTO & I. KAWASHIMA, 1996. External morphology and behavior of adult male of *Lucidina okadai* NAKANE et OHBAYASHI (Coleoptera: Lampyridae). *Sci. Rept. Yokosuka City Mus.*, (44): 33–45. (In Japanese with English abstract.)

OKADA, Y. K., 1931. Notes on the scientific names of Japanese fireflies. *Zool. Mag., Tokyo*, **43**: 130–149. (In Japanese.)

YANAGIHARA, M., 1923 a. A new species of interesting firefly. *Weekly Sunday-Mainichi, Tokyo*, p. 18. (In Japanese; date of publication 1923–VII–15.)

——— 1923 b. Observation of a lampyrid species. *Ins. Wld., Gifu*, **27**: 368–370, pl. 6. (In Japanese.)

Elytra, *Tokyo*, **32** (1): 171–186, May 31, 2004

Study of Asian Strongyliini (Coleoptera, Tenebrionidae)

XIV. New *Strongylium* Species from Laos (Part 1)

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Abstract This is the fourteenth part of the study concerning the Asian Strongyliini and deals with ten new species of the genus *Strongylium* from Laos, described under the following names: *Strongylium ohbayashii* sp. nov., *S. claudianum* sp. nov., *S. sayabouriense* sp. nov., *S. paksense* sp. nov., *S. rondonianum* sp. nov., *S. prateetlao* sp. nov., *S. champassakense* sp. nov., *S. yoshitomii* sp. nov., *S. houaphanense* sp. nov. and *S. masatakaiellum* sp. nov.

This paper is the fourteen part of my study of the Asian Strongyliini, and deals with Laotian species of the genus *Strongylium*. I am going to describe ten new species in the first part.

Besides the specimens of my collection, materials were supplied by Dr. Claude Girard, Muséum National d'Histoire Naturelle, Paris, Dr. Ottó Merkl, the Hungarian Natural History Museum, Budapest, Dr. Kiyoshi Ando, Hepei University, and Dr. Masataka Satô, Nagoya City.

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: FAEU – Faculty of Agriculture, Ehime University, Matsuyama; NSMT – National Science Museum (Nat. Hist.), Tokyo; MNHNP – Muséum National d'Histoire Naturelle, Paris; HNHMB – Hungarian Natural History Museum, Budapest.

Strongylium ohbayashii sp. nov.

(Figs. 1, 11–12)

Brownish black, dorsal surface with dark bronzy or dark coppery tinge and metallically shining, ventral surface somewhat alutaceous; dorsal surface and fore body beneath almost glabrous, metasternum and abdomen covered with fine bent hairs. Body

elongate, longitudinally convex, gently undulate in interior parts of elytra.

Head subdecagonal, covered with isodiametric microsculpture; clypeus widely semicircular, gently flattened in basal part, strongly bent ventrad in middle, truncate at apex, closely punctate, each puncture with a minute bent hair, fronto-clypeal border widely U-shaped and finely impressed; genae before eyes rather oblique, strongly raised laterally, closely punctate, with outer margins roundly ridged, genae behind eyes obliquely impressed along borders of vertex; frons somewhat T-shaped, steeply inclined anteriad, interocular space very narrow and weakly raised; vertex gently convex, closely, irregularly punctate, with a longitudinal impression medially. Eyes very large, subreniform in dorsal view, convex laterad, widely, obliquely inlaid into head. Antennae subfiliform, extending beyond basal 1/3 of elytra, ratio of the length of each segment from base to apex: 0.81, 0.25, 1.59, 1.57, 1.29, 1.13, 1.15, 1.12, 0.76, 0.71, 0.68.

Pronotum somewhat barrel-shaped in dorsal view, slightly wider than long (5 : 4), widest at the middle; apex sublinear, rimmed, the rim sparsely punctate, becoming finer laterad; base weakly bisinuous, more boldly bordered and rimmed than apex, feebly emarginate in the part opposite to scutellum; sides steeply inclined, weakly rounded laterad, finely bordered from prosternum, though the borders are not visible from above; front angles rectangular with rounded corners, hind angles subrectangular with protrudent corners in dorsal view; disc rather strongly convex, impressed close to base on each side and also vaguely impressed a little behind the middle, longitudinally depressed along the medial line, covered with isodiametric microsculpture, rather closely and coarsely punctate, the punctures often fused with one another, each with a minute bent hair. Scutellum sublinguiform, feebly convex, covered with isodiametric microsculpture, scattered with microscopic punctures which are often aciculate.

Elytra elongated subfusiform, 2.4 times as long as wide, 4.5 times the length and 1.5 times the width of pronotum; dorsum longitudinally convex, somewhat quadri-undulate (one depression in the central part behind scutellum, two deep depressions at basal 1/4 and the middle, each divided into two parts by the sutural ridge, and a shallow depression at apical 1/4); disc punctato-striate, the punctures in the striae somewhat transversely impressed, medium-sized in anterior part, small in posterior part; intervals rather strongly raised, covered with isodiametric microsculpture, scattered with microscopic punctures, weakly aciculate, deeply impressed along base between 1st to 5th striae; humeri gently swollen, scattered with microscopic punctures; apices slightly produced.

Fifth abdominal (anal) segment in male semicircularly depressed, sparsely pubescent. Legs slender; male protibia gently curved, with ventral face weakly gouged; male metatibia very weakly twisted, with interior face gouged and flattened; ratios of the lengths of pro-, meso- and metatarsomeres: 0.36, 0.26, 0.25, 0.23, 1.20; 2.55, 0.91, 0.78, 0.58, 1.54; 2.62, 0.96, 0.63, 1.53.

Male genitalia slender, 4.4 mm in length, 0.7 mm in width, tapering apicad, gently curved in lateral view, with basal piece 2.3 mm in length, longitudinally ridged near apical border; lateral lobes 2.3 mm in length, fused in basal 4/5, with acute apices.

Body length: 20.5–22.5 mm.

Holotype: ♂, Fall of Saleui, Xam Neua, ca. 1,400 m alt., Houa Phan Prov., Laos, 5–V–2002, N. OHBAYASHI leg., K. ANDO collection (FAEU). Paratypes: 1 ex., Ban Van Eua, Vientiane, Laos, 30–IV–1967, J. RONDON leg. (MNHNP).

Notes. The new species resembles *Strongylium coeruleipes* PIC, 1940, originally described from Tonkin, but can be distinguished from the latter by the smaller body with the pronotum impressed along the medial line.

Strongylium claudianum sp. nov.

(Fig. 2)

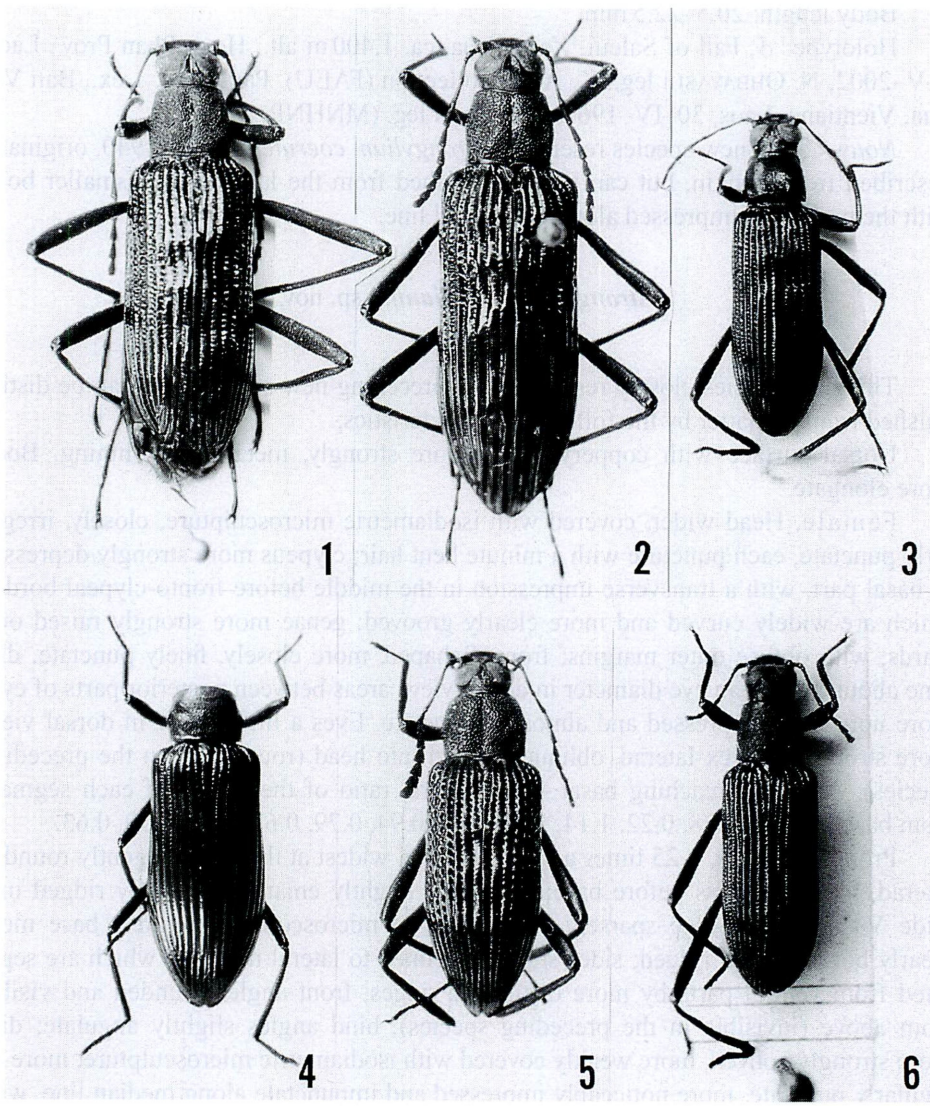
This new species closely resembles the preceding new species, but can be distinguished from the latter by the following characteristics.

Dorsal surface with coppery tinge, more strongly, metallically shining. Body more elongate.

Female. Head wider, covered with isodiametric microsculpture, closely, irregularly punctate, each puncture with a minute bent hair; clypeus more strongly depressed in basal part, with a transverse impression in the middle before fronto-clypeal border, which are widely curved and more clearly grooved; genae more strongly raised outwards, with obtuse outer margins; frons T-shaped, more closely, finely punctate, diatone about 1/13 of an eye diameter in dorsal view, areas between posterior parts of eyes more noticeably impressed and almost impunctate. Eyes a little larger in dorsal view, more strongly convex laterad, obliquely inlaid into head (roundly so in the preceding species). Antennae reaching basal 1/8 of elytra, ratio of the length of each segment from base to apex: 0.78, 0.22, 1.14, 1.12, 0.96, 0.94, 0.79, 0.67, 0.63, 0.59, 0.63.

Pronotum wider, 1.25 times as wide as long, widest at the middle, gently rounded laterad, feebly sinuous before base; apex very slightly emarginate, finely ridged in a wide V-shape, the ridge sparsely scattered with microscopic punctures; base more clearly bordered and ridged; sides steeply declined to lateral margins, which are separated from ventral parts by more distinctive ridges; front angles rounded and visible from above (invisible in the preceding species), hind angles slightly angulate; disc more strongly convex, more weakly covered with isodiametric microsculpture, more irregularly punctate, more noticeably impressed and impunctate along median line, with a pair of large impressions slightly behind the middle. Scutellum sublinguiform and more elongate, a little more elevated, finely punctate and aciculate in posterior part.

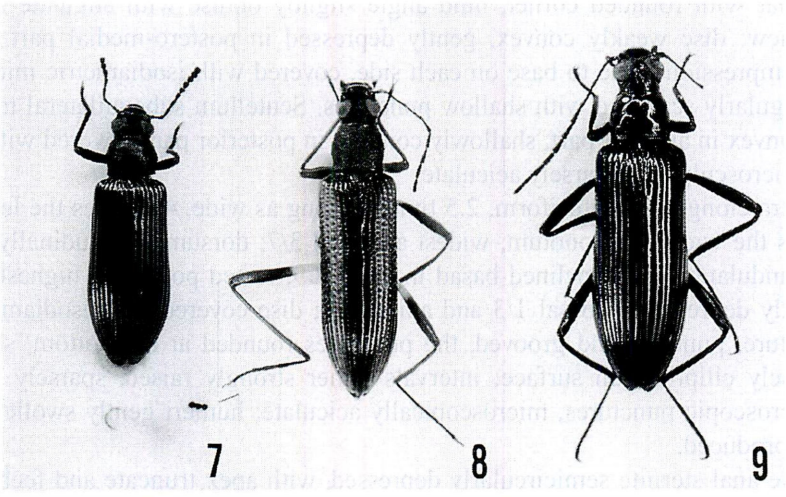
Elytra 2.28 times as long as wide, 4.48 times the length and 2.06 times the width of pronotum, widest at apical 2/5, feebly sinuous in basal 1/4; dorsum rather strongly convex, more strongly 5-undulate, highest at apical 2/5 (4-undulate and highest at the middle in the preceding species); disc more strongly punctate-grooved, 5th and 6th striae connected with each other and deepened close to base (not so in the preceding species); intervals more strongly convex, more weakly covered with isodiametric microsculpture, scattered with smaller punctures, less noticeably aciculate, areas between



Figs. 1–6. Habitus of *Strongylium* spp. from Laos. —— 1, *S. ohbayashii* sp. nov., holotype, ♂; 2, *S. claudianum* sp. nov., holotype, ♀; 3, *S. sayabouriense* sp. nov., holotype, ♂; 4, *S. paksense* sp. nov., holotype, ♂; 5, *S. rondonianum* sp. nov., holotype, ♂; 6, *S. prateetlao* sp. nov., holotype, ♀.

scutellar strioles noticeably flattened (not so in the preceding species); 1st and 3rd intervals ridged and connected with base; humeri more noticeably swollen; apices a little more noticeably, roundly produced.

Legs slender; ratios of the lengths of pro-, meso- and metatarsomeres: 0.29, 0.19, 0.22, 0.24, 1.24; 2.26, 1.06, 0.81, 0.68, 1.64; 2.42, 0.99, 0.66, 1.67.



Figs. 7–9. Habitus of *Strongylium* spp. from Laos. —— 7, *S. champassakense* sp. nov., holotype, ♂; 8, *S. yoshitomii* sp. nov., holotype, ♀; 9, *S. houaphanense* sp. nov., holotype, ♂.

Body length: ca. 23 mm.
Holotype: ♀, Paksé, Sud Laos, 15–V–1967, J. RONDON leg. (MNHNP).

Strongylium sayabouriense sp. nov.

(Figs. 3, 13–14)

Dark chestnut brown, head, scutellum, lateral parts of elytra and ventral side with dark greenish tinge, head and scutellum with feeble metallic reflection, pronotum weakly, sericeously shining, elytra dully shining, ventral surface somewhat alutaceous; each surface almost glabrous. Body elongated subfusiform, longitudinally convex, gently flattened in head and pronotum, weakly undulate in medial parts of elytra.

Head subdecagonal, rather steeply inclined forwards, covered with isodiametric microsculpture; clypeus transverse, semicircularly projected and inclined anteriad, truncate at the apex, finely punctate, fronto-clypeal border widely curved and finely sulcate; genae obliquely, strongly raised outwards, scattered with punctures, with outer margins roundly protrudent; frons somewhat boldly T-shaped, sparsely punctate, rather noticeably grooved along the median line, diatone 0.4 times the width of transverse diameter of an eye. Eyes subcordate, moderately convex laterad, obliquely inlaid into head. Antennae gently thickened apicad, ratio of the length of each segment from the basal to the 8th: 0.26, 0.10, 0.61, 0.56, 0.44, 0.41, 0.39, 0.36, —, —, —.

Pronotum trapezoidal in dorsal view, 1.25 times as wide as long; apex sublinear, finely bordered and rimmed, the rim sparsely scattered with minute punctures and tapering laterad; base bordered and rimmed, the rim bolder than the apical one; sides steeply inclined laterad, not bordered from ventral side by fine rims; front angle sub-

rectangular with rounded corner, hind angle slightly obtuse with angulate corner in dorsal view; disc weakly convex, gently depressed in postero-medial part, with an oblique impression close to base on each side, covered with isodiametric microsculpture, irregularly scattered with shallow punctures. Scutellum subequilateral triangular, feebly convex in anterior part, shallowly concave in posterior part, covered with isodiametric microsculpture, sparsely aciculate.

Elytra elongated subfusiform, 2.5 times as long as wide, 4.4 times the length and 1.4 times the width of pronotum, widest at apical 3/7; dorsum longitudinally convex, weakly undulate: feebly inclined basad in basal 2/9, raised posteriad, highest at basal 2/9, gently depressed in basal 1/3 and apical 4/9; disc covered with isodiametric microsculpture, punctate and grooved, the punctures rounded at the bottom, somewhat transversely elliptical on surface; intervals rather strongly raised, sparsely scattered with microscopic punctures, microscopically aciculate; humeri gently swollen; apices roundly produced.

Male anal sternite semicircularly depressed, with apex truncate and feebly emarginate. Legs slender; ratios of the lengths of pro-, meso- and metatarsomeres: 0.15, 0.12, 0.13, 0.10, 0.54; 0.92, 0.37, 0.32, 0.26, 0.67; 1.08, 0.37, 0.28, 0.62.

Male genitalia subfusiform, 2.6 mm in length, 0.29 mm in width, gently bent in lateral view; fused lateral lobes elongated triangular, 1.04 mm in length, with apices truncate and feebly dihiscent.

Body length: 8.5 mm.

Holotype: ♂, Sayabouri, Laos, 19–VI–1965, J. RONDON leg. (MNHNP).

Notes. This new species resembles *Strongylium pai* MASUMOTO, 1998, originally described from North Thailand, but can be distinguished from the latter by the smaller body with the diatone wider (1/5 the width of an eye diameter in the female of *S. pai*). It is worth noting that the male genitalia are feebly dehiscent at the apices.

Strongylium paksense sp. nov.

(Figs. 4, 15–16)

Dark castaneous, head, pronotum and legs darker in colour, head, pronotum and scutellum sericeously shining, elytra moderately, somewhat vitreously shining, ventral sides alutaceous; each surface almost glabrous. Body oblong-ovate, convex longitudinally.

As the head is lost in the holotype (male), the head was described on a female paratype:— Head subdecagonal, covered with isodiametric microsculpture, closely punctate, particularly so on neck; clypeus semicircular, depressed in basal part, gently bent ventrad anteriorly, more strongly bent in lateral parts, truncate in front, frontoclypeal border widely curved and finely sulcate; genae obliquely raised, depressed and almost impunctate in areas before eyes, with rounded lateral margins; frons widely T-shaped, gently inclined anteriad in the area between eyes, abruptly so close to frontoclypeal border, with a rather large shallow impression in interocular space, which is 0.8

times the width of transverse diameter of an eye in dorsal view; vertex weakly depressed in anterior part. Eyes medium-sized, subreniform in dorsal view, rather strongly convex laterad, gently convex above, roundly, somewhat obliquely inlaid into head. Antennae reaching base of elytra, feebly thickened apicad, five apical segments rather transverse, ratio of the length of each segment from base to apex: 0.28, 0.12, 0.53, 0.36, 0.34, 0.26, 0.20, 0.21, 0.19, 0.18, 0.23.

Pronotum (male) transversely subhexagonal, 1.43 times as wide as long, widest at the middle; apex sublinear, weakly rimmed, the rim being sparsely, minutely punctate and tapering laterad; base weakly bordered and ridged, the ridge feebly bisinuous, tapering laterad; sides rather steeply declined to lateral margins, which are finely ridged, dentate at the middle, and visible from above; front angle obtuse with rounded corner, hind angle obtusely angulate; disc gently convex, covered with isodiametric microsculpture, rather closely, irregularly punctate, impressed at the middle and close to base on each side. Scutellum subequilateral triangular with feebly rounded sides, gently elevated, covered with isodiametric microsculpture, sparsely scattered with minute, aciculate punctures.

Elytra (male) elongated subfusiform, about 2.1 times as long as wide, 4.4 times the length and 1.5 times the width of pronotum, widest at apical 3/7; dorsum rather strongly convex, very weakly depressed in basal 1/5, highest at the middle; disc punctato-striate, the punctures in striae small and closely set; intervals strongly convex, covered with isodiametric microsculpture, scattered with microscopic punctures, with 1st, 3rd, 5th and 7th intervals reaching base; humeri rather noticeably convex, covered with isodiametric microsculpture, scattered with minute punctures, sparsely aciculate; apices roundly produced.

Male anal sternite weakly, elliptically depressed, slightly truncate at apex. Legs medium-sized; male protibia with ventral face weakly gouged and haired in apical 2/5; male metatibia weakly curved interiad in middle, with apical 1/3 of ventral face slightly gouged and haired; male metatibia haired in apical half, with ventral face in basal 2/5 weakly gouged; ratios of the lengths of pro-, meso- and metatarsomeres: 0.20, 0.13, 0.14, 0.13, 0.44; 0.82, 0.46, 0.38, 0.24, 0.58; 1.23, 0.34, 0.21, 0.52.

Male genitalia elongated subfusiform, 1.7 mm in length and 0.3 mm in width, with basal piece gently curved near base in lateral view, weakly ridged in anterior part along medial line; fused lateral lobes elongated triangular, 0.7 mm in length, feebly concave in anterior part along medial line, with acute apices.

Body length: 10–11 mm.

Holotype: ♂, Paksé, Sud Laos, 15–V–1967, J. RONDON leg. (MNHNP). Paratypes: 1 ex., same data as for the holotype; 1 ex., Paksé, Sud Laos, 30–IV–1967, J. RONDON leg.

Notes. In general features, this new species rather resembles *Strongylium siidum* MASUMOTO, 1998, from North Thailand, but can easily be distinguished from the latter by the body larger (7.5 mm in *S. siidum*) and more elongate, with the pronotum narrower, the male protibia weakly gouged and haired in apical 2/5 of the ventral face, the

male metatibia weakly curved interiad in middle and slightly gouged and haired in apical 1/3 of the ventral face, the male metatibia haired in apical half and weakly gouged in basal 2/5 of the ventral face, and the male genitalia bolder.

Strongylium rondonianum sp. nov.

(Figs. 5, 17–18)

This new species closely resembles *Strongylium azuripes* ARDOIN, 1967, from Laos in general features, but can be distinguished from the latter by the following characteristics.

Body more robust, elytra without bluish metallic luster. Head less coarsely punctate; clypeus wider, fronto-clypeal border more clearly sulcate in a wide U-shape; genae more strongly raised, with outer margins obtusely angular; frons somewhat T-shaped, diatone about 1/6 times the width of transverse diameter of an eye (as in *S. azuripes*), less strongly impressed at the middle in posterior part. Eyes a little smaller, subreniform, more noticeably rounded laterad, more strongly inlaid into head posteriad. Antennae subclavate (subfiliform in *S. azuripes*), reaching basal 1/4 of elytra, seven apical segments obviously flattened and dilated towards each apex, ratio of the length of each segment from base to apex: 0.41, 0.17, 0.83, 0.56, 0.48, 0.45, 0.46, 0.44, 0.41, 0.40, 0.48.

Pronotum subquadrate, 1.3 times as wide as long, widest slightly before the middle; apex almost straight, rimmed, the rim tapering laterad and scattered with microscopic punctures; base more noticeably bisinuous, less boldly rimmed, the rim scattered with minute punctures; sides steeply declined to lateral margins, separated from ventral sides by fine ridges, which are not dentate as in *S. azuripes* and visible from above; front angles rounded, hind angles subrectangular (rather acute in *S. azuripes*) in dorsal view; disc similar in surface structure to that in *S. azuripes*. Scutellum nearly equilateral triangular with feebly rounded sides (elongated bilateral triangular in *S. azuripes*), weakly convex, scattered with microscopic punctures in lateral parts.

Elytra a little more elongate, about twice as long as wide, widest slightly behind the middle, 3.8 times the length and 1.3 times the width of pronotum; dorsum less strongly tri-undulate, more strongly depressed among the area between scutellar strioles, highest at basal 1/3; disc punctato-striate, the punctures in striae larger at each bottom, smaller and mostly oblong on upper surface (larger and somewhat rhombic in *S. azuripes*); humeri less strongly swollen laterad; apices more noticeably produced and slightly dehiscent.

Male anal sternite weakly depressed in medio-apical part (clearly, subelliptically depressed in *S. azuripes*), truncate at apex, with lateral corners feebly protrudent. Legs medium-sized; male protibia obliquely gouged in anterior half of ventral face (almost simple in *S. azuripes*); male mesotibia weakly curved interiad (almost the same as in *S. azuripes*); male metatibia gently thickened apicad (weakly twisted in middle, with interior face slightly gouged in *S. azuripes*); ratios of the lengths of pro- and mesotarsi

(metatarsi lost in the holotype): 0.20, 0.15, 0.13, 0.14, 0.67; 1.58, 0.63, 0.51, 0.34, 0.89; —, —, —, —.

Male genitalia about 2.10 mm in length and 0.34 mm in width, weakly curved in lateral view; basal piece elongated ovate, with anterior part raised and weakly prolonged; fused lateral lobes 0.95 mm in length, very slender, with acute apices.

Body length: 12.5–15.7 mm.

Holotype: ♂, Ban Van Eua, Vientiane, Laos, 29–IV–1966, J. RONDON leg. (MNHNP). Paratypes: 2 exs., Ban Van Eua, Vientiane, 15–VI–1967, J. RONDON leg.; 1 ex., Sayabouri, Laos, 5–V–1966, J. RONDON leg.; 2 exs., Vientiane, Laos, VII–1963, A. BAUDON leg.; 1 ex., Plaine des Jarres, Laos, VII–1964, A. BAUDON leg.

Strongylium prateetlao sp. nov.

(Fig. 6)

Brownish black, legs lighter in colour, head dark greenish blue, scutellum and elytra dark coppery or bronzy, hairs on ventral surface brownish yellow, head weakly metallically shining, pronotum almost dull, scutellum and elytra sericeously shining, ventral sides somewhat alutaceous and with weak dark greenish reflection. Body elongate, convex longitudinally.

Female. Head subdecagonal, weakly covered with isodiametric microsculpture, rather closely, finely punctate, the punctures becoming larger and coarser posteriad; clypeus semicircular, gradually inclined forwards, steeply so in apical part, truncate in front, with a transverse impression before fronto-clypeal border, which is evenly curved and finely grooved; genae oblique, gently raised outwards, with rounded outer margins; frons rather boldly T-shaped, steeply inclined behind fronto-clypeal border, vaguely impressed and almost impunctate in medio-posterior part, diatone 0.4 times the width of transverse diameter of an eye. Eyes medium-sized, somewhat transversely comma-shaped in dorsal view, weakly convex laterad, gently, roundly inlaid into head. Antennae rather slender, segments IV to VIII gently thickened towards each apex, ratio of the length of each segment from base to apex: 0.34, 0.13, 0.72, 0.58, 0.49, 0.47, 0.42, 0.37, —, —, —.

Pronotum trapezoidal in dorsal view, 1.2 times as wide as long, widest at the middle and base, feebly sinuous before base; apex sublinear, finely rimmed, the rim bordered in lateral parts; base ridged, very slightly bisinuous; sides steeply inclined, enveloping ventral parts, scarcely bordered; front angles rounded, hind angles subrectangular in dorsal view; disc gently convex, feebly covered with isodiametric microsculpture, closely punctate, the punctures often fused with one another, weakly impressed behind the middle on each side, rather strongly depressed close to base in lateral parts, with a shallow longitudinal impression. Scutellum triangular, gently convex, weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures in medial part.

Elytra elongated fusiform, 2.39 times as long as wide, 4.0 times the length and

1.4 times the width of pronotum, widest at apical 3/8; dorsum longitudinally convex, very weakly depressed in basal 1/3; disc punctato-striate, the punctures small, closely set, with upper surfaces rather transverse, 1st and 2nd grooves, and 3rd and 4th ones united in basal parts, 5th reaching base; intervals gently convex, very weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures, often transversely, finely aciculate; humeri gently swollen; apices rounded.

Legs slender; meso- and metatibiae feebly curved in middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.18, 0.10, 0.11, 0.13, 0.59; 1.31, 0.52, 0.44, 0.29, 1.01; 2.02, 0.80, 0.52, —.

Body length: 10.9 mm.

Holotype: ♀, Vientiane, Laos, VII–1963, A. BAUDON leg. (MNHNP).

Notes. This new species somewhat resembles *Strongylium tsurui* MASUMOTO, 2003, from North Thailand in general features, but can easily be distinguished from the latter by the pronotum feebly covered with isodiametric microsculpture, and closely punctate with a shallow longitudinal impression, the scutellum gently convex (transversely depressed in *S. tsurui*) and sparsely scattered with microscopic punctures, and the elytra with the 6th striae not united with the 5th near the base.

Strongylium champassakense sp. nov.

(Figs. 7, 19–20)

Black, head, pronotum, scutellum and basal and lateral parts of elytra dark greenish tinge, major parts of elytra dark coppery, head and pronotum weakly, sericeously shining, elytra moderately so, ventral surface mostly alutaceous; each surface almost glabrous. Body elongated fusiform, longitudinally convex.

Head subdecagonal, weakly covered with isodiametric microsculpture, rather closely, irregularly punctate; clypeus semicircular, gently bent in anterior part, frontoclypeal border rather strongly impressed; genae obliquely, moderately raised outwards, with outer margins rounded; frons noticeably widely T-shaped, gently inclined anteriad, very weakly impressed medially, diatone about 2/3 times the width of transverse diameter of an eye. Eyes medium-sized, subreniform, convex laterad, obliquely, roundly inlaid into head. Antennae subclavate, reaching basal 1/5 of elytra, six apical segments flattened, ratio of the length of each segment from base to apex: 0.28, 0.21, 0.36, 0.28, 0.24, 0.22, 0.16, 0.17, 0.15, 0.14, 0.21.

Pronotum 1.33 times as wide as long, widest at the middle; apex feebly produced anteriad, boldly rimmed, and tapering laterad; base bordered and ridged, slightly sinuous on each side; front angles obtuse with rounded corners, hind angles subrectangular; sides rather steeply declined to lateral margins, which are bordered from ventral side by fine ridges, bluntly toothed at the middle, and noticeably sinuous in areas between the teeth and bases; disc moderately convex, covered with isodiametric microsculpture, rather closely, irregularly punctate, very weakly impressed at the middle on each side. Scutellum triangular, gently ridged medially, very weakly covered with

isodiametric microsculpture, sparsely scattered with minute punctures in lateral parts.

Elytra about 2.15 times as long as wide, 5.00 times the length and 1.68 times the width of pronotum, widest at apical 3/8; dorsum moderately convex, highest at basal 3/8, weakly depressed at basal 1/6; disc punctato-striate, the punctures small and closely set, 1st and 2nd striae, and 3rd and 5th connected with each other near bases, 5th reaching base; intervals gently convex, covered with isodiametric microsculpture, sparsely scattered with microscopic punctures, finely, rather transversely aciculate; humeri moderately swollen; apices weakly roundly produced.

Ratio of the length of protarsomeres (meso- and metatarsi lost in the type): 0.12, 0.08, 0.09, 0.08, 0.34; —, —, —, —, —; —, —, —, —.

Male genitalia somewhat elongated ovate and prolonged apicad, 1.10 mm in length, 0.23 mm in width, moderately curved in middle in lateral view; fused lateral lobes 0.62 mm in length, with apices acutely pointed.

Body length: 6.5–6.8 mm.

Holotype: ♂, 2 km S. of Ban Nong Luang (bank of Touay-Guai stream, 15°4′N, 106°13′E, 800 m alt., No. 28), Dong Hua Xao NBCA, Champassak Prov., Laos, 1～5–IV–1988, O. MERKL & G. CSORBA leg. (HNHMB). Paratypes: 3 exs., same data as for the holotype.

Notes. This is an isolated species, with which no known *Strongylium* can be compared.

Strongylium yoshitomii sp. nov.

(Fig. 8)

Head and ventral side brownish black, pronotum, scutellum, profemora and protibiae, apical parts of mesofemora and mesotibiae, apical parts of metafemora and metatibiae, and claws yellowish brown, elytra yellow with interior parts (from base to apices) and lateral parts (from base to posterior parts) yellow, basal part of each femur pale yellow; head, pronotum and scutellum weakly, sericeously shining, elytra rather strongly, vitreously shining, ventral surface moderately, partly alutaceously shining; each surface almost glabrous. Body elongate, gently convex longitudinally.

Female. Head subdecagonal, feebly covered with isodiametric microsculpture; clypeus semicircular, flattened in basal part, weakly bent ventrad and truncate in front, fronto-clypeal border finely sulcate; genae obliquely raised outwards, scattered with microscopic punctures, with outer margins rounded; frons moderately inclined anteriad, widely grooved medially along medial line, irregularly punctate, the punctures often fused with one another and rugose, diatone about 2/3 times the width of transverse diameter of an eye. Eyes subreniform, strongly convex laterad, rather obliquely inlaid into head. Antennae subfiliform, ratio of the length of basal to 9th segments: 0.26, 0.11, 0.56, 0.48, 0.38, 0.34, 0.35, 0.36, 0.35, —, —.

Pronotum transversely subhexagonal, slightly wider than long (10 : 9); apex straight, rimmed, the rim sparsely scattered with microscopic punctures and tapering

laterad; base bordered and ridged, the ridge sparsely scattered with microscopic punctures, sinuous in lateral parts; sides steeply inclined laterad and enveloping ventral sides; lateral margins in dorsal view roundly produced, widest at the middle, sinuous before base; front angle rounded, hind angle subrectangular with rounded corner in dorsal view; disc moderately convex, weakly depressed along median line in anteromedial part and before base, weakly impressed at the middle and close to base on each side, weakly covered with isodiametric microsculpture, rather closely, irregularly punctate, the punctures often fused with one another, each with a minute hair at the centre. Scutellum sublinguiform, gently convex, covered with isodiametric microsculpture, weakly punctate and aciculate.

Elytra elongated fusiform, 2.78 times as long as wide, 4.54 times the length and 1.45 times the width of pronotum, widest at apical 1/3; dorsum moderately convex, weakly bi-undulate in basal part, highest at basal 3/8; disc punctato-striate, the punctures in striae strong and rather foveolate; intervals convex, weakly covered with isodiametric microsculpture, very sparsely scattered with minute punctures; humeri longitudinally swollen; apices dihiscent.

Legs slender; ratios of the lengths of pro- and metatarsomeres (mesotarsomeres lost in the type): 0.14, 0.11, 0.12, 0.10, 0.63; —, —, —, —, —; 0.42, 0.19, 0.13, 0.31.

Body length: 8.2 mm.

Holotype: ♂, "Phu Pan (Mt.), Houaphan Prov., Laos, 28–IV~6–V–2002, H. YOSHITOMI leg.", K. ANDO collection (FAEU).

Notes. This new species somewhat resembles *Strongylium kohanemum* MASUMOTO, 1998, originally described from West Thailand, but can be distinguished from the latter by the slenderer body with the scutellum noticeably convex, covered with isodiametric microsculpture, punctate, and aciculate, and the elytra noticeably undulate, and more strongly punctato-striate.

Strongylium houaphanense sp. nov.

(Figs. 9, 21–22)

Piceous, head, pronotum, scutellum and elytra with dark greenish tinge and strongly, metallically shining, ventral surface bluish green and moderately shining; each surface almost glabrous. Body elongated fusiform, strongly convex longitudinally.

Head subdecagonal, almost smooth, rather closely punctate; clypeus a little transverse, flattened in basal part, inclined apicad, and rather strongly bent ventrad in front, particularly noticeably so on each side, fronto-clypeal border widely U-shaped and clearly impressed; genae oblique, raised outwards, with rounded outer margins; frons somewhat T-shaped, steeply inclined anteriad, depressed in interocular space, rugosopunctate, diatone about 1/3 the width of transverse diameter of an eye. Eyes rather large, subreniform, strongly convex laterad, obliquely, roundly inlaid into head. Antennae subfiliform, reaching basal 1/3 of elytra, ratio of the length of each segment from

base to apex: 0.29, 0.12, 0.71, 0.69, 0.53, 0.46, 0.45, 0.39, 0.37, 0.31, 0.41.

Pronotum somewhat barrel-shaped, about 1.3 times as long as wide, widest at basal 1/3, weakly sinuous before base; apex straight, bordered and rimmed, the rim becoming finer laterad, sparsely scattered with fine punctures; base bordered, and ridged, the ridge gently sinuous in lateral parts, sparsely scattered with fine punctures; sides steeply declined to lateral margins, which are finely bordered from ventral sides; front angles rounded, hind angles rather acutely protrudent in dorsal view; disc moderately convex, very smooth, sparsely, irregularly punctate, longitudinally impressed along median line in anterior and medio-posterior parts, also impressed at the middle and basal 1/5 on each side. Scutellum equilateral triangular, convex in middle, almost smooth, sparsely, irregularly scattered with microscopic punctures.

Elytra elongate, 2.4 times as long as wide, almost 5 times the length and 1.6 times the width of pronotum, widest at apical 3/8, slightly narrowed around basal 1/3; dorsum strongly convex, highest at basal 3/8, weakly depressed between scutellar strioles; disc punctato-striate, the punctures in striae fine, 1st and 2nd striae connected near base, 3rd to 5th reaching close to base; intervals gently convex, smooth, very sparsely scattered with microscopic punctures, very weakly, transversely aciculate; humeri gently, longitudinally swollen; apices slightly dehiscent.

Male anal sternite weakly emarginate at apex, semicircularly depressed, the depression sparsely pubescent. Legs slender; protibiae rather simple in shape; mesotibiae slightly curved dorsad; metatibiae also slightly curved dorsad; ratios of the lengths of pro-, meso- and metatarsomeres: 0.21, 0.15, 0.15, 0.15, 0.59; 1.26, 0.47, 0.44, 0.23, 0.96; 1.21, 0.39, 0.27, 1.04.

Male genitalia about 2.04 mm in length, 0.37 mm in width, not so distinctly curved in lateral view; basal piece subfusiform; fused lateral lobes 0.94 mm in length, with weakly prolonged acute apices.

Body length: 10.7 mm.

Holotype: ♂, Fall of Saleui, Xam Neua, ca. 1,400 m alt., Houa Phan Prov., Laos, 5–V–2002, N. OHBAYASHI leg., K. ANDO collection (FAEU).

Notes. This new species resembles *Strongylium rufabdominale* MASUMOTO, 1998, from North Thailand, but can be distinguished from the latter by the body slenderer with the dorsal surface not covered with isodiametric microsculpture but more metallically shining, the pronotum less strongly impressed medially.

Strongylium masatakaiellum sp. nov.

(Figs. 10, 23–24)

Head, pronotum, scutellum, major parts of ventral side, profemora, basal and apical parts of meso- and metafemora, 1st antennal segments, apical half of each of 7th to apical segments, and mouth parts brownish black, major parts of elytra, the remaining parts of antennae, gula, lateral parts of abdomen, the remaining parts of femora, tibiae and tarsi, etc., dark reddish brown; each surface noticeably covered with pale decum-

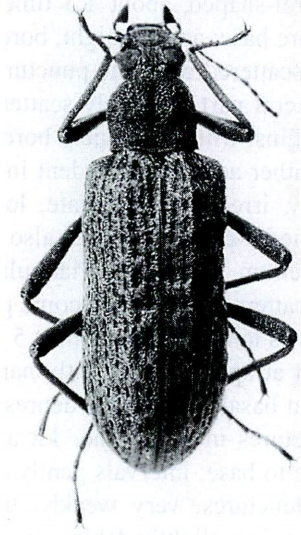


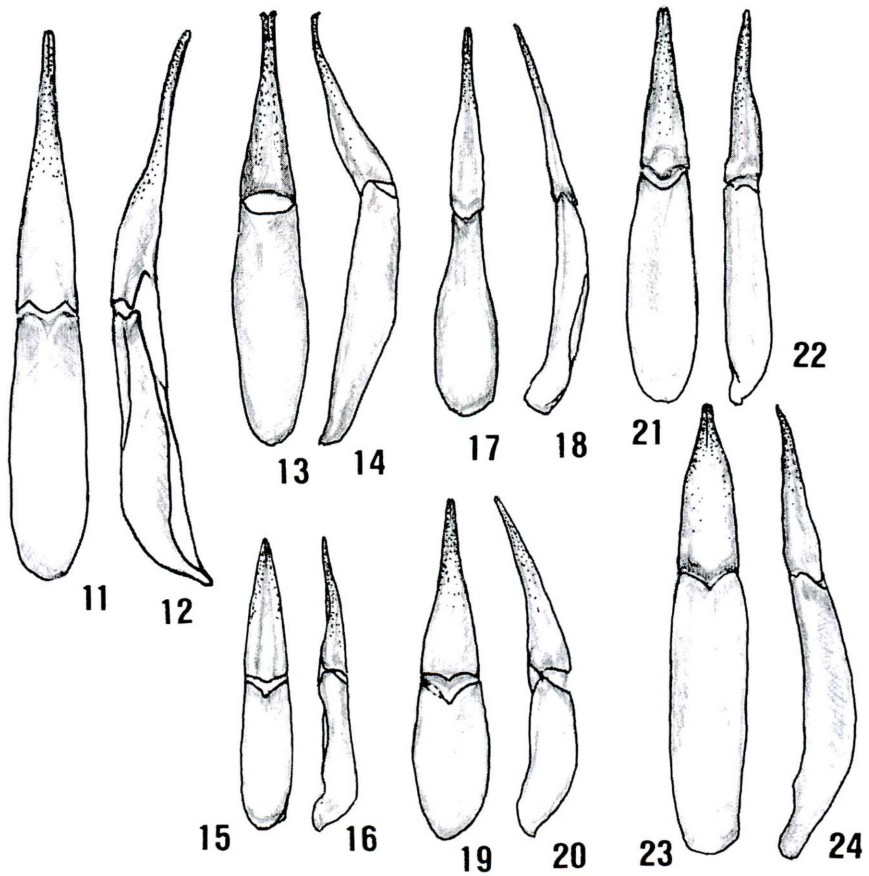
Fig. 10. Habitus of *Strongylium masatakaiellum* sp. nov., holotype, ♂.

bent hairs. Body oblong-ovate; strongly convex longitudinally.

Head nearly rounded, rugose; clypeus semicircular, weakly flattened in basal part, gently inclined anteriad, weakly bent ventrad in front, fronto-clypeal border moderately curved and impressed; genae obliquely raised, with obtuse outer margins; frons somewhat widely T-shaped, gently inclined anteriad, with a vague impression at the middle, diatone about 2/3 times the width of transverse diameter of an eye; areas behind eyes obliquely depressed. Eyes medium-sized, rather transverse, convex laterad, gently obliquely inlaid into head. Antennae not so slender, reaching humeri of elytra, ratio of the length of each segment from base to apex: 0.28, 0.14, 0.52, 0.40, 0.42, 0.41, 0.39, 0.35; 0.33, 0.32, 0.35.

Pronotum 1.15 times as wide as long, widest at apical 1/3; apex weakly produced, ridged; base bordered, ridged, bisinuous, weakly emarginate opposite to scutellum; front angles rounded, hind angles subrectangular in dorsal view; sides steeply inclined laterad, without defined borders from ventral sides; disc strongly convex, noticeably swollen at the middle on each side, coarsely rugose, depressed behind the swellings. Scutellum sublinguiform, finely aciculate in basal part, strongly aciculate in medial and apical parts.

Elytra subcylindrical, 2.14 times as long as wide, 3.91 times the length and 1.62 times the width of pronotum, slightly narrowed at basal 1/3; dorsum rather strongly convex, highest at the middle, depressed along scutellar strioles; disc grooved, the grooves interrupted; intervals covered with microscopic granules medially, and also with isodiametric microsculpture laterally, often transversely connected with one an-



Figs. 11–24. Male genitalia of *Strongylium* spp. —— 11–12, *S. ohbayashii* sp. nov., 11, dorsal view, 12, lateral view; 13–14, *S. sayabouriense* sp. nov., 13, dorsal view, 14, lateral view; 15–16, *S. paksense* sp. nov., 15, dorsal view, 16, lateral view; 17–18, *S. rondonianum* sp. nov., 17, dorsal view, 18, lateral view; 19–20, *S. champassakense* sp. nov., 19, dorsal view, 20, lateral view; 21–22, *S. houaphanense* sp. nov., 21, dorsal view, 22, lateral view; 23–24, *S. masatakaiellum* sp. nov., 23, dorsal view, 24, lateral view.

other, 3rd intervals distinctly, 5th and 7th indistinctly ridged; base gently produced on each side; humeri convex; apices weakly, roundly produced.

Male anal sternite without particular modification. Legs rather slender; ratios of the lengths of pro-, meso- and metatarsomeres: 0.24, 0.19, 0.18, 0.22, 0.82; 0.80, 0.43, 0.39, 0.33, 1.23; 0.98, 0.52, 0.37, 1.14.

Male genitalia subfusiform, 2.50 mm in length, 0.39 mm in width, weakly curved in lateral view; fused lateral lobes 0.89 mm in length, with apices slightly prolonged.

Body length: 8.5 mm.

Holotype: ♂, "Phu Pan (Mt.), Houaphan Prov., Laos, 28–IV~6–V–2002, H.

YOSHITOMI leg.", K. ANDO collection (FAEU). Paratypes: 1 ex., Phu Pan, 1,750 m alt., Xamneua, Laos, 16–21–VI–2003, M. SATÔ leg.; 1 ex., Mt. Phu Pan, Ban Saleui, Xam Neua, Houaphan Prov., 27–IV–2002, N. OHBAYASHI leg., K. ANDO collection.

Notes. This is an isolated species, whose body is distinctly covered with decumbent hairs.

要　　約

益本仁雄：アジア産ナガキマワリ族(Strongyliini)の研究．XIV. ラオス産ナガキマワリ属(*Strongylium*)について（その1）．—— アジア産ナガキマワリ族(Strongyliini)研究の第14回として，ラオス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 ohbayashii* sp. nov., *S. claudianum* sp. nov., *S. sayabouriense* sp. nov., *S. paksense* sp. nov., *S. rondonianum* sp. nov., *S. prateetlao* sp. nov., *S. champassakense* sp. nov., *S. yoshitomii* sp. nov., *S. houaphanense* sp. nov. および *S. masatakaiellum* sp. nov. と命名した．

References

ARDOIN, P., 1967. Nouvelles espèces de Ténébrionides du Laos. *Bull. Soc. ent. Fr.*, **72**: 252–255.

MÄKLIN, F. W., 1864. Monographie der Gattung *Strongylium* KIRBY, LACORDAIRE und der damit zunächist verwandten Formen. 518 pp., 4 pls. Finnländischen Wissenschaftlichen Gesellschaft, Helsingfors.

MASUMOTO, K., 1999. Study of Asian Strongyliini (Coleoptera, Tenebrionidae). VI. New *Strongylium* species from northern Thailand (Part 2). *Elytra, Tokyo*, **26**: 403–432.

——— 2003. Ditto, XII. New *Strongylium* species from Thailand. *Ibid.*, **31**: 65–86.

PIC, M., 1940. Diagnoses de Coléoptères exotiques. *Échange, Moulins*, (481): 10–12.

Elytra, Tokyo, **32** (1): 187–193, May 31, 2004

Notes on the Genus *Aerogrammus* GAHAN, with Description of a New Species (Coleoptera, Cerambycidae, Prioninae)

(Revisional Studies of the Genus *Megopis* sensu LAMEERE, 1909 – 4)

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Abstract The genus *Aerogrammus* is revived as a full genus and a small but important emendation is given to the original description. A new species is described under the name *A. hefferni* from West Sumatra.

The genus *Aerogrammus* was described by BATES (1975) for a single species, *rufus*. LAMEERE (1909) regarded this species as a junior synonym of *procera* PASCOE (1866) but he considered the genus *Aerogrammus* valid. Later, LAMEERE (1919) downgraded it to a subgenus of the genus *Megopis* though he noted its peculiarity. Therefore, *Aerogrammus* has been regarded as a peculiar but simple subgenus containing only one species. However, two important facts were revealed recently. One is that the male of this genus has a hair fringe on the underside of the antennae. In the key tables to *Megopis* given by LAMEERE (1909, 1919), *Aerogrammus* is not led down to the appropriate place, because this peculiarity leads the beetle, through the first key, to the subgenus *Baralipton*. The other is that two examples representing the second species of this subgenus were brought about from West Sumatra. In this paper, I am proposing to give *Aerogrammus* a generic status again after introducing a new member from West Sumatra under the name *Aerogrammus hefferni* sp. nov.

The abbreviations used in this paper and in this series are as follows: NSMT: National Science Museum (Nat. Hist.), Tokyo; IRSNB: Institut Royal des Sciences Naturelles de Belgique; NHML: The Natural History Museum, London. Measurement of body parts: BL – body length, HL – length of head, HW – width of head across eyes, PL – length of pronotum, PW – maximum width of pronotum, PA – apical width of pronotum, PB – basal width of pronotum, EL – length of elytra, EW – maximum width of elytra, AL – length of antennae, Aln – length of (n)th antennal segment.

Before going further, I would like to express my sincere gratitude to Dr. Shun-Ichi UÉNO of NSMT for kindly reading the original manuscript and giving appropriate suggestions. I am grateful to Mrs. Sharon SHUTE of NHML and Mr. Alain DRUMONT of IRSNB for their kind help in re-examining type specimens. In this study I also owe to Mr. Daniel J. HEFFERN of Texas, USA for proposing the most important example of this study.

Genus *Aerogrammus* BATES

(Figs. 1–3)

Megopis PASCOE, 1866, Proc. zool. Soc. London, **1866**: 536 [nec. SERVILLE, *pro part.*].
Aerogrammus BATES, 1875, Entomologist's mon. Mag., **12**: 50.
Megopis subg. *Aerogrammus*: LAMEERE, 1919, Annls. Soc. ent. Belg., **53**: 169.

Type species: *Aerogrammus rufus* BATES, 1875.

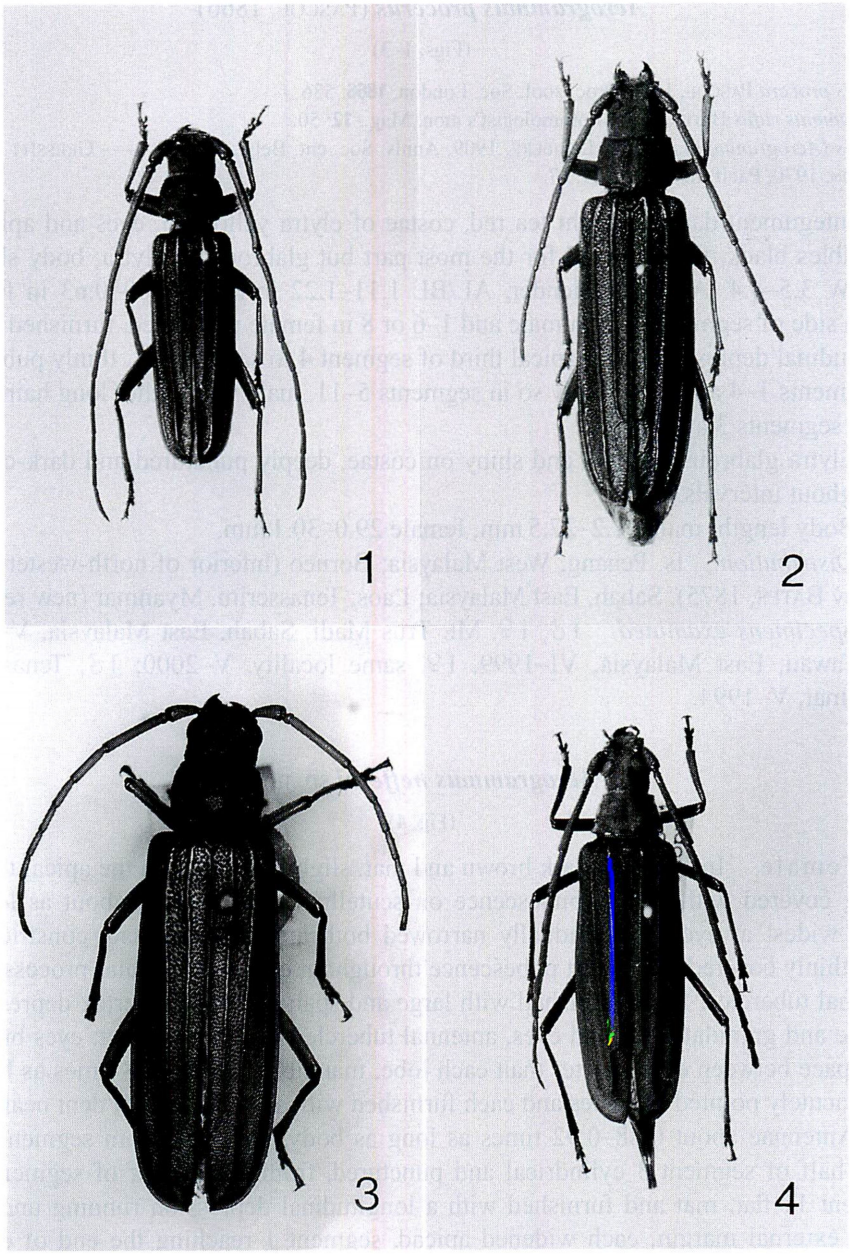
Generic features. Body elongated cylindrical, length 26–40 mm, integument tea-red and sometimes darker, costae often ochreous, elytra glabrous and deeply punctured, other parts more or less pubescent.

Head cylindrical, slightly shorter than wide, uniformly covered with short pubescence; antennal tubercle very weakly raised; mandibles short, each acutely pointed and furnished with an inner dent; eyes bulging but upper eyelobes rather small in dorsal view, interspace between eyes once to twice as long as each eyelobe. Antennae long and slender, cylindrical at segments 1–3 or 4, flat and furnished with shallow longitudinal depression running underside of external margin of segments 3 or 4 to 10 or 11, subglabrous for the most part and furnished with long hair fringe under segments 3–4 in male, AL/BL 1.17–1.21 in male, 0.52–0.93 in female, Al 3 about as long as or slightly shorter than Al 4+5, segments 3–10 gradually decreasing in length, segment 11 as long as segment 8.

Pronotum short, PL/HL 0.71–0.92, PL/PW 0.53–0.64, uniformly covered with thin pubescence, furnished with a longitudinal depression at about middle, lateral margins edged but not distinctly, each side moderately rounded, widest at the basal quarter; basal and apical angles usually without distinct angles but in *A. hefferni* sp. nov. furnished with small projections. Scutellum linguiform, concave at the middle part and glabrous or pubescent.

Elytra glabrous, uniformly covered with small but deep punctures except on the costae, slender, EL/EW 2.7–2.9 in male, 2.5–2.7 in female, almost parallel-sided at basal four-fifths and narrowly rounded at apex, furnished with small but distinct sutural teeth; each elytron provided with two distinct costae, the first one starting from humerus, running about three-fourths of elytron and disappearing or turning inwards and meeting sutural margin, sometimes having a branch which extends outward and meeting the second costa, the second one starting from humerus, running almost parallel to the first and disappearing just before the apex, each also with a feeble and short third costa close to external margin.

Ventral surface smooth, thinly and sparsely covered with rather long hairs for the most part; metepisterna widest at anterior fourth, gradually straightly narrowed posteriad and then more strongly narrowed from posterior fourth to acutely pointed apex. Legs smooth and slender, very thinly haired throughout except inside of male tibiae which are furnished with moderately long hairs; tibia slightly depressed laterally; tarsi short, segments 2 and 3 wider than long, segment 3 deeply bilobed, claws as long as or slightly shorter than combined length of segments 1–3.



Figs. 1–4. —— 1–3. *Aerogrammus procerus* (PASCOE, 1866); 1, male from Sabah, East Malaysia; 2, female from the same place; 3, female from Is. Penang, West Malaysia, the holotype of *Megopis procerus* PASCOE, 1866, preserved in NHML. —— 4. *A. hefferni* sp. nov., holotype female, from West Sumatra, Indonesia.

Aerogrammus procerus (PASCOE, 1866)

(Figs. 1–3)

Megopis procera PASCOE, 1866, Proc. zool. Soc. London, **1866**: 536.
Aerogrammus rufus BATES, 1875, Entomologist's mon. Mag., **12**: 50.
Megopis (*Aerogrammus*) *procera*: LAMEERE, 1909, Annls. Soc. ent. Belg., **53**: 169. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**: 17.

Integument dark or bright tea red, costae of elytra yellowish, eyes and apices of mandibles black, thinly haired for the most part but glabrous on elytra; body slender, BL/EW 3.5–4.4. Antennae slender, AL/BL 1.11–1.22 in male, 0.60–0.63 in female, dorsal side of segments 1–4 in male and 1–6 or 8 in female punctured, furnished with a longitudinal depression from apical third of segment 4 to segment 11, thinly pubescent in segments 1–4 and very thinly so in segments 5–11, male with rather long hair fringe under segments 3 and 4.

Elytra glabrous, smooth and shiny on costae, deeply punctured and dark-colored throughout intervals.

Body length: male 21.2–27.5 mm, female 29.0–30.1 mm.

Distribution. Is. Penang, West Malaysia; Borneo (interior of north-western Borneo, by BATES, 1875), Sabah, East Malaysia; Laos; Tenasserim, Myanmar (new record).

Specimens examined. 1♂, 1♀, Mt. Trus Madi, Sabah, East Malaysia, V–1997; 1♂, Tawau, East Malaysia, VI–1999, 1♀, same locality, V–2000; 1♂, Tenasserim, Myanmar, V–1994.

Aerogrammus hefferni sp. nov.

(Fig. 4)

Female. Integument dark brown and mat, slightly reddish on the apical third of elytra, covered with yellow pubescence on scutellum. Head small, about as long as wide, widest at eyes and gradually narrowed both apicad and basad, constricted at base, thinly covered with short pubescence throughout except on jugular processes and antennal tubercles; frons furnished with large and sparse granules; vertex depressed at middle and granulated around eyes, antennal tubercle small but distinct; eyes bulging, interspace between eyes shorter than each lobe; mandibles about 0.18 times as long as head, acutely pointed at apices and each furnished with a small internal dent near base.

Antennae about 0.88–0.92 times as long as body, glabrous, from segments 1 to basal half of segment 3 cylindrical and punctured, from apical half of segment 3 to segment 11 flat, mat and furnished with a longitudinal depression running underside along external margin, each widened apicad, segment 1 reaching the end of eyes at apex, segment 3 about 3.1 times as long as segment 1, segment 4 about 1.7 times of segment 1, remainders gradually decreasing in length to segment 10, segments 4–10 each widened apicad, segment 11 as long as segment 8.

Pronotum about 0.9 times as long as head, PL/PW 0.62–0.64, widest at basal

angle and almost straightly narrowed to apical angle which is not strongly but obviously projected at side and constricted just before apex, lateral margin distinctly edged in basal half and only traceable by line in apical half, disc thinly pubescent throughout and shallowly depressed at about middle. Scutellum linguiform, thickly covered with yellow pubescence.

Elytra slender, EL/EW 2.56–2.72, widest at about middle and slightly narrowed both anteriad and posteriad, smoothly rounded near apex and ending with small sutural dent, glabrous throughout, strongly deeply punctured for the most part except on a part of costae; each elytron furnished with four costae, first strongly raised, starting from humeri and meeting the second at about apical fifth of elytron; second weaker than the first, starting from humeri and after meeting the first, meeting the third close to the apex and then becoming vestigial and hardly traced to meet sutural margin.

Ventral surface generally covered with rather long and white pubescence; abdominal sternite 5 strongly emarginate so as to be divided into two lobes on each side and a robust ovipositor projected from that part.

Legs smooth, slender and long, metatibiae slightly arcuate and depressed laterally, tarsi short, claws shorter than united length of three tarsal segments.

Body length: 26.5–27.9 mm

Male unknown.

Type series. Holotype: ♀, Harau Valley, West Sumatra, IV–1996, deposited in coll. NSMT. Paratype: 1 ♀, same locality, V–1994, in my coll.

Notes. This species is supposed to be very close to *A. procerus* (PASCOE) but appears conspicuously different from the latter in having wider and darker body, longer and flatter antennae, very weak granules of head and pronotum, distinctly narrowed and angled apical end of pronotum, entirely pubescent scutellum and slender and longer legs.

Etymology. The new specific name is given after Mr. Daniel J. HEFFERN of Texas, USA, who has been investigating the Cerambycidae of the Sunda Islands for many years.

Discussion on the Relationships of *Aerogrammus* and Known Genera

A series of peculiar characteristics possessed by this genus were noticed by BATES (1875) and LAMEERE (1909), for example, thick posterior part of head, narrow upper eye-lobes and not angled basal margin of pronotum, etc. LAMEERE (1909) wrote "ne me paraît pouvoir être rattaché à aucune forme de *Megopis*" to explain them. *Aerogrammus hefferni* sp. nov. does not have most of these characters and consequently, they are proved not to be the generic characters but the specific characters of *A. procerus*. Then, there might arise two questions, one of which:— is this new species really a member of *Aerogrammus*? Both the two species have a shallow and longitudinal depression running underside along the external margin of antennae and the elytra deeply punctured and entirely glabrous, and these character states are almost limited to these

two species throughout the tribe they belong to. In addition to these characters, they are almost same-sized and possess very short mandibles, similar scutellum, elytral costa, etc., and I cannot help regarding them as belonging to the same genus. The other question is: — is it necessary to regard *Aerogrammus* as an independent genus after most of important characters have been proved not generic but only specific to *A. procerus*? As the matter of fact, this genus has elongated body and slender antennae which are similar to those of some species of *Aegolipton* GRESSITT. In order to answer the latter question, I have to emphasize the importance of the mentioned character states of the antennae and elytra, especially the latter. The deep punctures of the elytra have never been found throughout the subgenera *Nepiodes*, *Baralipton* and *Aegosoma* sensu LAMEERE (1909). It can be found only in *Palaeomegopis* BOPPE or *Rhineimegopis* KOMIYA et DRUMONT though not so distinctly as in this genus. Other than this, *Aerogrammus* has a series of analogy such as body shape, short mandibles, hairs on underside of male antennae, simple and rather short segment 3, etc. to *Rhineimegopis*, especially to *R. sabahensis* (HÜDEPOHL). This fact suggests that this genus is related to *Rhineimegopis* (and perhaps to *Palaeomegopis*) and is rather distant from *Aegolipton* notwithstanding its superficial resemblance to the latter.

要　　約

小宮次郎：*Aerogrammus* 属の再検討．—— *Aerogrammus* は従来，ただ1種 *procerus* を含む *Megopis* 属の亜属とされてきた．近年得られた材料を検討の結果，この種の雄触角3, 4節下縁は長毛の縁取りをもつ．この特徴は，LAMEERE (1909, 1919) の検索表によれば本属のものではないことになっていたため，これを使用するとこの属（種）は誤同定され，*Baralipton* 属とされる恐れがあった．さらに近年スマトラより本属の1新種が発見され，*A. hefferni* sp. nov. として記載した．ところがこの新種は，従来 *Aerogrammus* 亜属の顕著な特徴とされた前胸背板の前後角がともに円いなどの特徴をもたない．しかし，鞘翅が強い点刻で覆われ無毛である，触角下面外側に浅い縦の溝があるなどの特徴を *procerus* と共有し，かつこれらの特徴は近似種間ではきわめて特異である．このことは *Aerogrammus* が，一見 *Aegolipton* GRESSITT などに似ているにもかかわらず，それとは遠く，むしろこれらの点で類似している *Rhineimegopis* KOMIYA et DRUMONT などに近い特殊なグループであることを示唆しているので，BATES の当初の記載どおり，独立属とすることを提案する．また，以上にともない，属の特徴を修正する．

References

BATES, H. W., 1875. New genera and species of Prionidae (Longicorn Coleoptera). *Entomologist's mon. Mag.*, **12**: 47–54.

BOPPE, P.-L., 1911. Un genere nouveau de Prioniens du Yunnan (Col.). *Bull. Soc. ent. Fr.*, **1911**: 29–33.

GRESSITT, J. L., 1940. The longicorn beetles of Hainan Island (Col.: Cerambycidae). *Philipp. J. Sci.*, **72**: 1–239, 8 pls.

——— & J. A. RONDON, 1970. Cerambycids of Laos (Distiniidae, Prioninae, Philinae, Aseminae, Lepturinae, Cerambycinae). *In* GRESSITT, J. L., *et al.*, Cerambycid-beetles of Laos (Longicornes du Laos). *Pacif. Ins. Mon.*, **24**: 1–314.

KOMIYA, Z., & A. DRUMONT, 2001. Description of a new prionine genus intermediate between *Megopis* and *Eurypoda* (Coleoptera, Cerambycidae, Prioninae) from Indochina and Borneo. *Elytra, Tokyo*, **29**: 391–400.

LAMEERE, A., 1909. Revision des Prionides (*Megopis*). *Annls. Soc. ent. Belg.*, **53**: 135–170

——— 1919. Coleoptera Longicornia, Fam. Cerambycidae, subfam. Prioninae. *In* WYTSMAN, P. (ed.), *Genera Insectorum*, (172): I+1–189, 8 pls.

PASCOE, F. P., 1866. Catalogue of longicorn Coleoptera collected in the Island of Penang by James LAMB, Esq. *Proc. zool. Soc. Lond.*, **1866**: 536.

Elytra, Tokyo, **32** (1): 193–194, May 31, 2004

New Host Records of Cerambycid Beetles (Coleoptera, Cerambycidae) from Okinawa Prefecture, Part 1

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Based on emergence from many wood species gathered by the author in Okinawa Prefecture, new host-plant records for cerambycid species are given. These timbers and felled trees were collected by the author from Okinawa Is. on March 7, 2002, and from Okinawa Is. and Ishigaki Is. from February 27 to March 6, 2003. The wood of *Styrax japonica* SIEB. et ZUCC., gathered in 2002, were put into the cage set outdoors, and other material obtained in 2003 into the homoiothermal laboratory (25°C) at Tsukuba. In the first part of this report, I will record nine cerambycid species belonging to the subfamilies Lepturinae and Cerambycinae.

The author wishes to express his sincere thanks to H. IREI, researcher, T. MIYAGI, Chief of the Laboratory, M. GUSHIKEN, Sub-Director, and M. NEMA, Director, of the Okinawa Prefectural Forest Institute for their kind support and help in the field.

1. *Mimostrangalia longicornis* (GRESSITT)

Specimens examined. 1♂, 1♀, Mt. Nagodake, Okinawa Is., *Viburnum awabuki* K. KOCH (Caprifoliaceae), 27–II–2003 coll., 18–VI–2003 emer.

2. *Ephies japonicus okinawanus* HAYASHI

Specimen examined. 1♀, Mt. Nagodake, *Viburnum awabuki*, 27–II–2003 coll., 19–VI–2003 emer.

3. *Nortia carinicollis* SCHWARZER

Specimens examined. 3♂♂, 2♀♀, Mt. Fukai-Omotodake, Ishigaki Is., *Machilus japonica* SIEB. et ZUCC. (Lauraceae), 4–III–2003 coll., 22–IV~20–V–2003 emer.

4. *Ceresium longicorne* PIC

Specimens examined. 77♂♂, 82♀♀, Mt. Nishimedake, Okinawa Is., *Diospyros morrisiana* HANCE (Ebenaceae), 28–II–2003 coll., 8–IV~6–VI–2003 emer.; 1♀, Mt. Nishimedake, *Celastrus orbiculatus* THUNB. var. *punctatus* REHDER (Celastraceae), 28–II–2003 coll., 8–IV–2003 emer.; 2♂♂, 2♀♀, Mt. Fukai-Omotodake, *Machilus japonica*, 4–III–2003 coll., 8~22–IV–2003 emer.; 1♀, Mt. Omotodake, Ishigaki Is., *Machilus thunbergii* MAXIM. (Lauraceae), 5–III–2003 coll., 3–VI–2003 emer.; 1♀, Mt. Omotodake, *Pleioblastus linearis* (HACK.) NAKAI (Gramineae), 3–III–2003 coll., 13–V–2003 emer.

5. *Ceresium unicolor pseudounicolor* KUSAMA et KOMIYA

Specimens examined. 4♂♂, 7♀♀, Tamagusuku, Okinawa Is., *Ficus wightiana* WALL. (Moraceae), 1–III–2003 coll., 6~27–V–2003 emer.

6. *Ceresium fuscum shirakii* HAYASHI

Specimens examined. 3♂♂, 4♀♀, Mt. Fukai-Omotodake, *Machilus japonica*, 4–III–2003 coll., 8–IV–2003 emer.

7. *Xylotrechus atronotatus angulithorax* GRESSITT

Specimens examined. 1♀, Mt. Nishimedake, *Mallotus japonicus* (THUNB. ex L. F.) MÜLL. ARG. 28–II–2003 coll., 8–IV–2003 emer.; 51♂♂, 70♀♀, Mt. Nishimedake, *Diospyros morrisiana*, 28–II–2003 coll., 8–IV~6–VI–2003 emer.; 3♂♂, 4♀♀, Tamagusuku, *Ficus wightiana*, 1–III–2003 coll., 8–IV~3–VI–2003 emer.

8. *Chlorophorus muscosus* (BATES)

Specimens examined. 1♂, 2♀♀, Mt. Nagodake, *Diospyros morrisiana*, 27–II–2003 coll., 8~15–IV–2003 emer.

9. *Chlorophorus quinquefasciatus* (CASTELNAU et GORY)

Specimens examined. 1♀, Tamagusuku, *Ficus wightiana*, 1–III–2003 coll., 20–V–2003 emer.; 1♂, Mt. Nishimedake, *Oreocnida pedunculata* (SHIRAI) MASAMUNE (Urticaceae), 28–II–2003 coll., 27–V–2003 emer; 2♂♂, 1♀, Mt. Omotodake, *Machilus japonica*, 1–III–2003 coll., 29–IV~3–VI–2003 emer.

References

KOJIMA, K., & S. NAKAMURA, 1986. Food Plants of Cerambycid Beetles (Cerambycidae, Coleoptera) in Japan. 336 pp. Hiba Society of Natural History, Shobara City.

OHBAYASHI, N., M. SATÔ & K. KOJIMA (eds.), 1992. An Illustrated Guide to Identification of Longicorn Beetles of Japan. 696 pp. Tokai Univ. Press, Tokyo.

Elytra, Tokyo, **32** (1): 195–199, May 31, 2004

Supplement to the Genus *Ziglipton* (Coleoptera, Cerambycidae, Prioninae), with Description of a New Species from the Philippines

(Revisional Studies of the Genus *Megopis* sensu LAMEERE, 1909–5)

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Abstract A new species of the prionine genus *Ziglipton* KOMIYA, 2003 is described from Is. Panay of the Philippines. A key to the six known species of this genus is given.

Résumé Une nouvelle espèce du genre prionine *Ziglipton* KOMIYA, 2003 est décrite de l'île de Panay dans les Philippines. Une clé de détermination pour les six espèces du genre est donnée.

Five species were placed in the genus *Ziglipton* KOMIYA, 2003 in the original description. Just after its publication, we were able to examine a male example obviously belonging to this genus but differing from any of the five known species in the collection of Karl-Ernst HÜDEPOHL which is now preserved in the Zoologische Staatssammlung, München and also we obtained a female which agreed with this male. In the present paper, we are going to describe *Ziglipton huedepohli* sp. nov. based on these examples. Then, we are giving a key to all the known species of this genus.

The abbreviations used in this paper are the same as those used in KOMIYA (2003).

Before going into details, we would like to express our gratitude to Dr. Shun-Ichi UÉNO of NSMT for his help in preparing the manuscript of this paper. We are also grateful to Dr. Martin BAEHR of ZSM for using the collection in ZSM and to Dr. K.-E. HÜDEPOHL to use his collection.

Ziglipton huedepohli sp. nov.

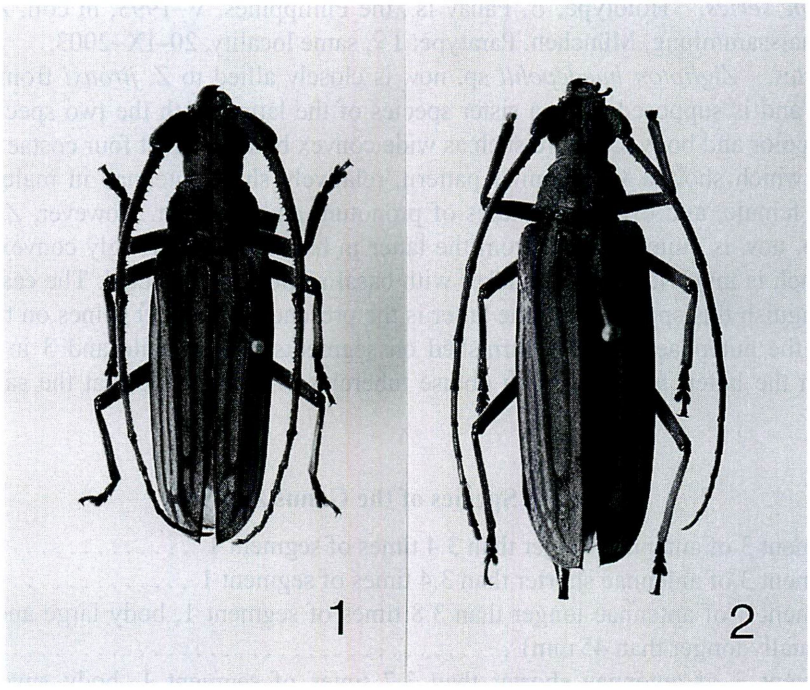
(Figs. 1, 2)

Male. Integument reddish brown and looking grayish brown due to short pubescence covering the most part of dorsal side. Joint parts of antennal segments and joints between femora and tibiae dark-colored.

Head about 1.3 times as long as wide, parallel-sided, finely pubescent throughout, frons concave at middle and sparsely granulated, vertex furnished with sparse granules only around eyes; mandibles short, furnished with an obtuse external dent at about apical third, covered with granules on basal half of the external side; jugular process blunt; antennal tubercles large but not strongly raised. Antennae slightly longer than body; segment 1 robust, reverse conically thin at base and widened apicad, covered with small granules, a little longer than a half of head, segments 1–5 covered with thin pubescence and 2–5 furnished with long hairs on the underside, segment 3 about 3.1 times as long as segment 1, rather roughly granulated and furnished on the inside with many, acute and irregular-sized conical spines which are about a third of the diameter of antennal shaft in length, covered with thin pubescence, segment 4 narrower than segment 3, about 0.55 times long, furnished with smaller spines and in other points looking very similar to segment 3, segment 5 about as long as segment 1, furnished with irregular-sized small and obtuse spines on the inside, segments 6–8 thickened at each apex and furnished with granules here and there, segments 6–10 gradually decreasing in length, each with a triangular process at apico-internal end and each next segment attached close to the apex of the process, segment 11 as long as segment 9, segments 6–11 covered with thin pubescence which becomes thinner apicad.

Pronotum convex, PL/PW 0.64, PA/PW 0.66, lateral line widest at base, constricted just after base, then roundly divergent and widest again at basal two-fifths, after the widest point roundly and irregularly narrowed to apex, basal angle not strongly but distinctly projected, apical margin roundly expanded forwards at middle and lateral angle not projected at all, covered with pubescence and granules throughout except at the middle part of posterior half where granules are almost absent and pubescence is thick. Scutellum linguiform, thickly covered with pubescence except on the basal half of median line which is almost glabrous.

Elytra wide, EL/EW 2.47, covered with gray pubescence except for sutural margin and two internal costae, and also with granules on two costae and around shoulders and apices; each elytron furnished with four costae, first strongly raised, glabrous, starting from humeri, disappearing around apical fifth of elytron and just before disappearing, connected with the second by a broad branch; second stronger than the first, glabrous, starting from humeri, meeting the first and then meeting the third and the fourth at about apical eighth and disappearing just before the end; third very weakly raised, thinly pubescent, starting just before the half, becoming very thin and scarcely meeting the second; fourth more prominent than the third and thinly pubescent for the most part, starting from humeral angle, disappearing closely before the end and just



Figs. 1–2. *Ziglipton huedipohli* sp. nov.; 1, holotype ♂, from Panay Is., the Philippines; 2, paratype ♀, same locality.

before disappearing, connected with the second by a broad branch; lateral margin clearly hemmed throughout, furnished with a small sutural process.

Ventral surface clothed with thin pubescence for the most part; gula covered with granules; abdominal sternites sparsely punctured and haired for the most part, having slender and shiny band along each apical margin of segments 1–4.

Legs smooth and slender, thinly pubescent throughout, each claw shorter than combined length of three basal segments.

Body length: 41.8 mm.

Female. Similar to male in general appearance. Head smaller, eyes relatively larger than in male. Antennae more slender, about 0.93 times as long as body, not furnished with longer hairs on the underside of segments 2–5, sparsely granulated on segments 1–5, furnished with small spines on the inner side of segment 3 which become smaller and sparser apicad, segments 5–11 depressed, apico-external angle of segments 6–10 triangularly projected and next segment attached close to inner angle. Pronotum narrower than in male, lateral line widest at base, irregularly sinuate and rather straightly convergent apicad, constricted just before apical end and having distinct angles at apical corner.

Body length without ovipositor: 35.6 mm.

Type series. Holotype: ♂, Panay Is., the Philippines, V–1993, in coll. Zoologische Staatssammlung, München. Paratype: 1♀, same locality, 20–IX–2003.

Notes. *Ziglipton huedepohli* sp. nov. is closely allied to *Z. jirouxi* from Sabah, Borneo and is supposed to be a sister species of the latter. Both the two species have similar color and body structure such as wide convex body, distinct four costae on each elytron which show a very similar pattern, relatively short antennae in male though long in female, and distinct granules of pronotum and shoulder. However, *Z. huedepohli* sp. nov. is quite different from the latter in having more strongly convex pronotum which is much longer and thicker with basal angle less projected. The easiest key to distinguish this species from the latter is the presence of distinct spines on the inner side of the antennae which is furnished on segments 3–5 in male and 3 in female, while in the latter, furnished with obtuse tubercles or quite smooth at the same portions.

Key to the Species of the Genus *Ziglipton*

1. Segment 3 of antennae longer than 3.4 times of segment 1 ..... 2.
— Segment 3 of antennae shorter than 3.4 times of segment 1 ..... 5.
2. Segment 3 of antennae longer than 3.8 times of segment 1, body large and robust (usually longer than 45 mm) ..... 3.
— Segment 3 of antennae shorter than 3.7 times of segment 1, body smaller and slenderer (usually shorter than 40 mm) ..... 4.
3. Elytra covered with distinct stripes, third and fourth costae strongly raised; (Mindanao, Panay, Luzon) ..... *Z. lumawigi.*
— Elytra uniformly covered with grayish brown pubescence, third and fourth costae not raised or absent; (Luzon, Negros) ..... *Z. sanchezi.*
4. Elytra mottled in apical two-thirds; (Luzon) ..... *Z. marieae.*
— Elytra uniformly pubescent; (Palawan) ..... *Z. drumonti.*
5. Antennae with distinct spines on inner side of segment 3, basal angles of pronotum not strongly projected; (Panay) ..... *Z. huedepohli* sp. nov.
— Antennae without spines on inner side of segment 3, basal angles of pronotum strongly projected; (Sabah, East Malaysia) ..... *Z. jirouxi.*

要　約

小宮次郎・A. DRUMONT：*Ziglipton*属1新種の記載および同属の検索表．—— Panay島産標本1♂, 1♀をもとに，新種*Ziglipton huedepohli* sp. nov.を記載する．マレーシア，サバ州産の*Z. jirouxi*によく似ているが，体に厚みがあり，前胸背板基部の突出が小さく，触角第3節の内側に多くの小さい棘があるため，容易に区別できる．本種を含めて6種となる*Ziglipton*属の検索表を附す．

References

HÜDEPOHL, K. E., 1987. The longicorn beetles of the Philippines (Cerambycidae, Prioninae). *Ent. Arb. Mus. Frey*, **35/36**: 117–135, 6 pls.

KOMIYA, Z., 2003. Description of a new genus close to *Baralipton* (Coleoptera, Cerambycidae). *Elytra, Tokyo*, **31**: 307–320.

Elytra, Tokyo, **32** (1): 199–200, May 31, 2004

New Host Records of Cerambycid Beetles (Coleoptera, Cerambycidae) from Okinawa Prefecture, Part 2

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This is the second part of the new host records of cerambycid beetles from Okinawa Prefecture. This part contains records of 15 species belonging to the subfamily Lamiinae. The collecting and breeding condition are the same as those of the previous report.

1. *Mesosa yonaguni subkonoi* BREUNING

Specimens examined. 4♀♀, Tomino, Ishigaki Is., *Hibiscus tiliaceus* L. (Malvaceae), 5–III–2003 coll., 6–V~3–VI–2003 emer.; 1♂, Mt. Fukai-Omotodake, Ishigaki Is., *Ficus pumila* L. (Moraceae), 4–III–2003 coll., 6–V~10–VI–2003 emer.

2. *Mesosa konoi okinawana* HAYASHI

Specimen examined. 1♀, Mt. Nishimedake, Okinawa Is., *Diospyros morrisiana*, 28–II–2003 coll., 19–VI–2003 emer.

3. *Sybra oshimana* BREUNING

Specimens examined. 2♂♂, 2♀♀, Tamagusuku, Okinawa Is., *Ampelopsis glandulosa* (WALL.) MOMIY. var. *hencei* PLANCH. (Vitaceae), 28–II–2003 coll., 15–IV–2003 emer.

4. *Sybra mimogeminata* BREUNING et OHBAYASHI

Specimens examined. 1♂, Tomino, *Hibiscus tiliaceus*, 5–III–2003 coll., 8–IV–2003 emer.; 2♂♂, 2♀♀, Mt. Fukai-Omotodake, Ishigaki Is., *Machilus japonica* SIEB. et ZUCC., 4–II–2003 coll., 15~29–IV–2003 emer.; 1♂, Mt. Fukai-Omotodake, *Ficus pumila*, 4–III–2003 coll., 6–V–2003 emer.

5. *Ropica caenosa* (MATSUSHITA)

Specimens examined. 1♂, 1♀, Tamagusuku, *Ampelopsis brevipedunculata glabrifolia*, 1–III–2003 coll., 20–V~3–VI–2003 emer.

6. *Ropica loochooana hayashii* BREUNING

Specimens examined. 3♂♂, 5♀♀, Mt. Fukai-Omotodake, *Machilus japonica*, 4–II–2003 coll., 8–IV～6–V–2003 emer.; 1♂, Tomino, *Hibiscus tiliaceus*, 5–III–2003 coll., 8–IV–2003 emer.

7. *Pterolophia annulata* (CHEVROLAT)

Specimens examined. 2♂♂, 4♀♀, Mt. Fukai-Omotodake, *Ficus pumila*, 4–III–2003 coll., 14–IV～20–V–2003 emer.

8. *Pterolophia latefascia* SCHWARZER

Specimens examined. 5♂♂, 6♀♀, Tomino, *Hibiscus tiliaceus*, 5–III–2003 coll., 8–IV～20–V–2003 emer.; 1♂, 2♀♀, Mt. Fukai-Omotodake, *Machilus japonica*, 4–III–2003 coll., 8–IV–2003 emer.

9. *Monochamus maruokai* HAYASHI

Specimens examined. 2♂♂, 1♀, Mt. Omotodake, *Machilus japonica* 5–III–2003 coll., 8–IV–2003 emer.; 18♂♂, 23♀♀, Mt. Omotodake, *Machilus thunbergii*, 5–III–2003 coll., 8–IV～13–V–2003 emer.; 1♂, Mt. Omotodake, *Cinnamomum japonicum* SIEB. ex NAKAI, 3–III–2003 coll., 6–V–2003 emer.

10. *Acalolepta amamiana simillima* BREUNING et OHBAYASHI

Specimen examined. 1♀, Kunigami, Okinawa Is., *Styrax japonica*, 7–III–2002 coll., 14–VI–2003 emer.

11. *Peblephaeus ishigakianus* (YOKOYAMA)

Specimen examined. 1♂, Mt. Omotodake, *Cinnamomum japonicum*, 3–III–2003 coll., 8–IV–2003 emer.

12. *Rhodopina okinawensis* (MATSUSHITA)

Specimen examined. 1♂, Kunigami, *Styrax japonica*, 7–III–2002 coll., 13–VI–2003 emer.

13. *Sciades* (*Estoliops*) *fasciatus yaeyamanus* N. OHBAYASHI

Specimens examined. 2♂♂, Mt. Fukai-Omotodake, *Machilus japonica*, 4–III–2003 coll., 20–V–2003 emer.; 1♂, Mt. Fukai-Omotodake, *Ficus wightiana*, 4–III–2003 coll., 3–VI–2003 emer.

14. *Sciades* (*Estoliops*) *sakishimanus sakishimanus* (GRESSITT)

Specimens examined. 3♀♀, Mt. Fukai-Omotodake, *Machilus japonica*, 4–III–2003 coll., 22–IV–2003 emer.

15. *Exocentrus hayashii* SAMUELSON

Specimens examined. 1♂, 2♀♀, Mt. Omotodake, *Machilus japonica*, 5–III–2003 coll., 15–IV～13–V–2003 emer.

Elytra, Tokyo, **32** (1): 201–218, May 31, 2004

Discovery of the Brachelytrous Cerambycid Genus *Necydalis* (Coleoptera, Cerambycidae) from Northeastern Laos, with Descriptions of Four New Species

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Abstract Members of the genus *Necydalis* are recorded for the first time from Laos and four new species are described based on the materials collected by our recent field surveys. *Necydalis atricornis* and *N. montipanus* spp. nov. are new members of the *N. nanshanensis* group; the former species has relationship with *N. nanshanensis* KUSAMA from Taiwan and its related species, and the latter with *N. shinborii* TAKAKUWA et NIISATO from northern Vietnam. *Necydalis wakaharai* sp. nov. is a unique species belonging to the *N. esakii* group and may be closest to *N. kumei* TAKAKUWA from northern Thailand. These three new species belong to the subgenus *Necydalis* s. str. *Necydalis concolor* sp. nov. is the most unexpected discovery of the four new species. It is not only a peculiar species in having the entirely black body but also the first representative of the subgenus *Necydalisca* PLAVILSTSHIKOV from Indochina.

Introduction

Laos is not only an inland country in Indochina but also rich in primary forests. Although the cerambycid fauna has been clarified fairly well by GRESSITT, RONDON and BREUNING (1970), there still remain scientifically unexplored areas along the eastern and northeastern borders of the country. Unknown necydaline species have been expected to be found from those forests, since about a dozen species of the genus were recently recorded from the neighboring countries.

In the spring to early summer of the last three years, Japanese coleopterologists including us have repeatedly visited the Phu Pan Mountains in Houaphan Province of northeastern Laos for field survey, which are an isolated mountain group lying near the borders of Vietnam. We were able to collect an enormous number of cerambycid specimens from the mountain, and found some *Necydalis* species among the collection. The *Necydalis* species examined were classified into four undescribed species belonging to

two subgenera, *Necydalis* s. str. and *Necydalisca* PLAVILSTSHIKOV, and also the former subgenus includes three species of two species-groups, namely two of the *N. nanshanensis* group and the other of the *N. esakii* group. The remaining one is a member of the subgenus *Necydalisca* and is the first representative of the subgenus in Indochina. In the following lines we will introduce them into science.

Abbreviation. The following abbreviations are used in the description and the depository of the type specimens: HE – maximum width of head across eyes, FL – length of frons, FB – basal width of frons, FA – apical width of frons, PL – length of pronotum; PW – maximum width of pronotum across lateral tubercles, PA – apical width of pronotum; PB – basal width of pronotum, EL – length of elytron, EW – humeral width of elytra, M – arithmetic mean; NSMT – National Science Museum (Nat. Hist.), Tokyo; EUEL – Entomological Laboratory, Ehime University, Matsuyama; TN – T. NIISATO's private collection.

Necydalis (*Necydalis*) *atricornis* NIISATO et N. OHBAYASHI, sp. nov.

(Figs. 1a, 2a, 3 & 5a)

Medium-sized species belonging to the *N. nanshanensis* group and is characterized by the entirely black antennae. It has a close relationship to *N. nanshanensis* KUSAMA from Taiwan and its relatives in the short elytra with completely rounded apices.

Male. Colour entirely black including head, antennae and thoraces, brown in abdomen and legs, moderately shiny; head black, brownish in mouthpart except for almost black mandibles and yellow maxillae, apical margin of clypeus narrowly brown; antennae entirely black, slightly shiny in basal four segments and mat on the remainders; thoraces including scutellum black, moderately shiny on pronotum; elytra brown, rather widely bordered in black both on external and sutural margins, raised areas in apical fifth also infuscate; hind wings translucent brown, slightly infuscate distally; abdomen brown, largely black in the middle of ventrite 1 except for apical part, sometimes black in basal part of ventrite 2, weakly shiny; legs brown, black in coxae, infuscate on dorsum of fore and mid tarsi, apical halves or so of fore and mid tibiae, and apical part of hind tibia, hind tarsus yellow.

Head relatively voluminous, though slightly narrower or nearly as wide as the maximum width of pronotum, closely and somewhat rugosely punctured, densely clothed with light yellow pubescence, though thinly pubescent on occiput and vertex, HW/PA 1.16–1.22 (M 1.20), HW/PW 0.91–1.00 (M 0.95); frons quadrate, quite parallel-sided, gently raised at sides, declivous towards a fine median longitudinal furrow,

Fig. 1. New *Necydalis* species from northeastern Laos. —— a, *N.* (*Necydalis*) *atricornis* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pakan (Mt.), holotype ♂; b, *N.* (*N.*) *montipanus* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.), holotype ♂; c, *N.* (*N.*) *wakaharai* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.), holotype ♀; d, *N.* (*Necydalisca*) *concolor* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.), holotype ♀.



a



b



c



d

which runs from apical margin to posterior part of vertex, strongly rugosely punctured, FL/FB 0.75–0.80 (M 0.78), FB/FA 1.00–1.09 (M 1.05); clypeus with strongly transverse apical lobe, truncate in margin, hardly raised, sparsely provided with small punctures, basal lobe semicircular, fairly short, coarsely rugged, fronto-clypeal suture strongly arcuate, relatively shallow, weakly vermiculate; mandibles short, gently sinuate along external margins; genae rather short, slightly longer than a half the depth of lower eye-lobes, almost parallel in frontal view; tempora thick, roundly produced laterad, slightly exceeding eyes, with truncate posterior margin; occiput gently raised; eyes rather weakly prominent. Antennae relatively long, 0.55–0.60 times as long as body, almost reaching apex of ventrite 4, moderately stout, more or less flattened and slightly serrate apicad in segments 5–9, thinly clothed with brown pubescence on segments 1–4, and densely with minute ones on the remaining segments; scape short, gently arcuate and weakly broadened apicad, a little shorter than segment 3, with dense small punctures, though almost smooth in apical part, segments 3 and 4 moderately thickened apicad, indistinctly punctured, the latter 3/5–7/10 the length of the former, segments 5–7 nearly equal in length, terminal segment moderately arcuate, blunt at the extremity.

Pronotum short and fairly broad, slightly longer than the maximum width, hardly contracted to both apex and base, rather weakly constricted before and behind lateral swellings, moderately convex in basal 3/10, PL/PA 1.31–1.43 (M 1.39), PL/PW 1.08–1.17 (M 1.09), PB/PA 1.14–1.27 (M 1.19), PW/EW 0.91–0.98 (M 0.94), PL/EL 1.06–1.16 (M 1.10); base almost transversely truncate, narrowly but distinctly marginate; sides gently arcuate in apical fourth and weakly so in basal third, provided with very weak swellings at a level between apical and basal third; disc moderately convex in basal 3/4 and forming a large callosity with a vestigial median line, transversely raised behind apex and before base, the latter of which is slightly produced forwards at middle; surface provided with coarse punctures except for raised areas which are very sparsely or shallowly punctured, usually provided with transverse furrows near apex and base, almost smooth near middle of callosity, sparsely clothed with light yellow hairs at sides. Scutellum trapeziform, densely clothed with golden yellow pubescence.

Elytra slightly transverse, always wider than long, moderately shorter than pronotum, barely reaching apical seventh of metepisterna, widest at humeri, distinctly exposing the sides of meso- and metathoraces, EL/EW 0.90–0.96 (M 0.93); sides with humeri distinctly projected forwards, gently arcuate in basal 3/10, then slightly sinuately narrowed to completely rounded apices; suture completely conjoined in basal fourth, then narrowly dehiscent to apical fourth, and strongly arcuately so towards the apices; disc weakly convex and somewhat uneven, longitudinally depressed near suture except for apical sixth which is strongly thickened, narrowly depressed along basal 2/5 of external margins, hardly declivous near bases, provided with large punctures except for shagreened apical raised area and sparsely punctured humeri, very thinly pale pubescent, partly with golden yellow pubescence at inner parts of apical raised areas. Hind wings reaching base of abdominal tergite 6.

Prosternum hardly convex, provided with a few distinct furrows in apical 2/5. Meso- and metathoraces moderately voluminous, clothed with light yellow hairs, partly with dense golden yellow pubescence on mesepimeron, at apex of metepisternum and apical side of metasternum; mesosternum coarsely and somewhat rugosely punctured, with mesosternal process strongly vertical towards apex; metasternum markedly convex, arcuately concave along posterior margins of mid coxae, evenly shallowly punctured near the middle, heavily so at sides; metepisternum with coarse punctures.

Abdomen elongate and slender, nearly 0.7 times as long as body, shiny on ventrites 1–3, slightly shagreened on ventrites 3–5, provided with a few minute punctures on ventrite 1, thinly pale pubescent; ventrites 1 and 2 gently emarginate at sides and slightly thickened apicad, the former almost 1.5 times as long as the latter, though slightly variable in length according to individuals, ventrite 3 almost as in the preceding species in both shape and length, ventrite 4 markedly dilated apicad, with apex more than 1.5 times as wide as base, nearly as long as the preceding; ventrite 5 with sides straightly dilated to apical fifth, then somewhat suddenly narrowed to the rounded apical corner, rather deeply triangularly emarginate on apical margin, disc flattened near base, then longitudinally impressed near the middle, the impression gradually becoming deeper and wider towards the deep apical concavity in apical fifth whose basal margin is moderately arcuate. Tergite 8 1.3 times as long as basal width, with sides slightly arcuately narrowed in basal halves, then straightly convergent to completely rounded apex.

Legs long and slender, exceeding abdominal apex at base of first hind tarsal segment; hind femur moderately clavate in apical third, hind tibia weakly sinuate throughout and weakly dilated apicad; hind tarsus long, weakly thickened apicad, with first segment almost twice as long as the following two segments combined.

Median lobe slightly shorter than ventrite 5, slender even at the basal part, strongly narrowed apicad, weakly convex and arcuate in profile; dorsal plate almost straightly narrowed to apex which is narrowly truncate, exposing apical sixth of ventral plate in dorsal view; ventral plate narrowed as dorsal plate, though slightly emarginate near the middle, with apical part rather distinctly thickened in profile; median struts slender and rather long, a little more than a half the length of median lobe. Tegmen slightly longer than median lobe, slender, arcuate in profile; paramere thin, 5/12 the length of tegmen, with sides parallel in basal 4/5, slightly approximate in apical fifth, each lobe blunt cultriform in apical fifth, provided with irregular-sized seta in apical fourth and along inner margin.

Body length 23.5–26.0 mm.

Female. Unknown.

Type series. Holotype ♂, Phu Pakan (Mt.), 1,600 m in alt., Ban Saleui, Houaphan Province of NE. Laos, 6–V–2002, N. OHBAYASHI leg. (EUEL). Paratypes: 3♂♂, Phu Pan (Mt.), Ban Saleui, 2,000 m in alt., 5～10–V–2003, H. WAKAHARA leg. (EUEL); 1♂, same locality and collector as the preceding, 5–V–2002 (TN).

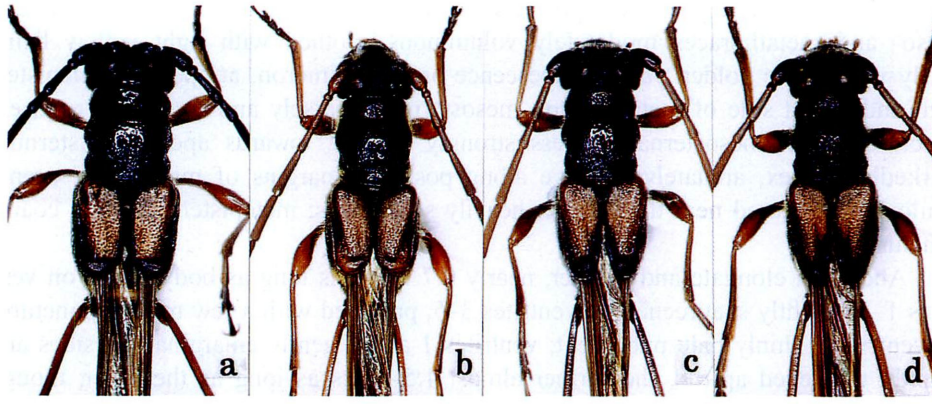

Fig. 2. Fore bodies of four species of the *Necydalis nanshanensis* group. —— a, *N.* (*Necydalis*) *atricornis* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pakan (Mt.), NE. Laos, holotype; b, *N.* (*N.*) *nanshanensis* KUSAMA, from Nanshanchi, C. Taiwan; c, *N.* (*N.*) *montipanus* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.), NE. Laos, holotype; d, *N.* (*N.*) *shinborii* TAKAKUWA et NIISATO, from Mt. Tam Dao, N. Vietnam, paratype.

Distribution. NE. Laos.

Notes. *Necydalis atricornis* sp. nov. belongs to the *N. nanshanensis* group, and has closer relationship in the short elytra with completely rounded apices to *N. nanshanensis* KUSAMA from Taiwan, *N. alpinicola* NIISATO et N. OHBAYASHI, from northwestern Vietnam, *N. niisatoi* HOLZSCHUH from Sichuan and other related species. It is distinguished at first sight from such related species by the entirely black antennae.

Total five male specimens of this new species were collected from the peaks of Phu Pan (Mt.) and Phu Pakan (Mt.) near Ban Saleui (Village).

Necydalis* (*Necydalis*) *montipanus NIISATO et N. OHBAYASHI, sp. nov.

(Figs. 1b, 2c, 4 & 5c)

Slender and medium-sized species related to *N. shinborii* of the *N. nanshanensis* group, but distinguished from it by the more slender body with longer antennae, the hardly convergent apical part of pronotum whose disc is rather sparsely punctured instead of close punctation, and also the different features of male last ventrite and genital organ.

Male. Colour entirely black in head and thoraces, brown in abdomen, legs and antennae except for their basal parts, moderately shiny; head black, brownish along margins of clypeus and most of mouthparts; antennae brown and matted in segments 5–11, black and shiny in scape, and more or less infuscate in dorsum of segments 2–4; thoraces including scutellum black, strongly shiny on pronotum; elytra brown, rather broadly infuscate on both external and sutural margin, weakly shiny; hind wings

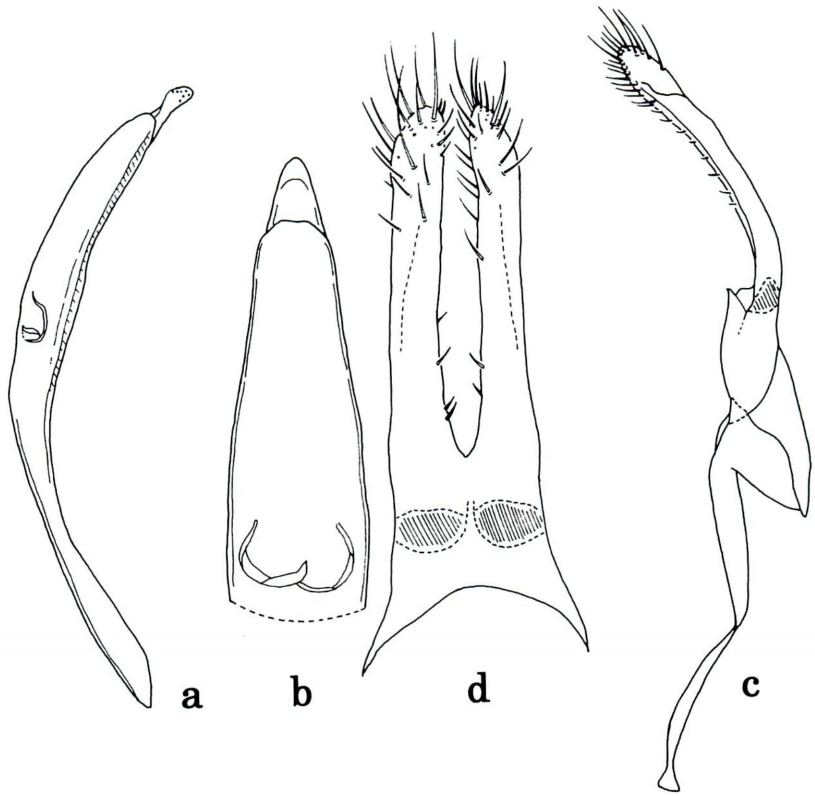

Fig. 3. Male genital organ of *Necydalis* (*Necydalis*) *atricornis* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.). —— a, Median lobe in lateral view; b, ditto, apical part in dorsal view; c, tegmen in lateral view; d, ditto in dorsal view.

translucent dark brown; abdomen brown, largely black in middle of ventrite 1, near base of ventrite 2 and narrowly so at margins of ventrites 1–4; legs brown, black in coxae, trochanters, basal 2/3 of fore and mid femora, base of hind femur, infuscate on dorsum of tarsi and apical halves of tibiae in fore and mid pairs, hind tarsus yellow.

Head not so voluminous, a little broader than the maximum width of pronotum, closely and strongly punctured, densely clothed with golden yellow pubescence, genae almost bare, HW/PA 1.28–1.29 (M 1.28), HW/PW 1.04–1.10 (M 1.07); frons quadrate, with sides quite parallel, gently raised, with a median longitudinal furrow distinct and deep, running from apical margin to base of occiput, FL/FB 0.77–0.80 (M 0.79), FB/FA 1.00; clypeus with apical lobe transverse trapezoidal, truncate in margin, slightly raised and moderately punctured except near apical margin, basal lobe semi-triangular, punctured as on apical lobe, fronto-clypeal suture deep and wide, deeper at the sides; mandibles relatively short, moderately arcuate, punctured on dorsum; genae short, nearly 2/5 the depth of lower eye-lobes, almost parallel in frontal view; tempora

not developed, weakly narrowed posteriad in dorsal view; occiput gently raised; eyes moderately prominent. Antennae relatively long, 0.56 times as long as body, almost reaching apex of ventrite 4, slightly stout, moderately flattened and weakly dilated apicad in segments 5–10, clothed with dense brown pubescence on scape and basal four segments, and more minute ones on the remaining segments; scape short, gently arcuate and weakly broadened apicad, a little shorter than segment 3, shallowly punctured, segments 3 and 4 weakly thickened apicad, somewhat rugged, the latter segment 3/4 the length of the former, segments 5–7 nearly equal in length, segment 5 usually the longest, terminal segment weakly arcuate, blunt at the extremity.

Pronotum relatively long, distinctly longer than the maximum width, hardly contracted to both apex and base, though distinctly constricted before and behind lateral swellings, moderately convex towards base, PL/PA 1.43–1.51 (M 1.47), PL/PW 1.22–1.23 (M 1.22), PB/PA 1.06–1.18 (M 1.12), PW/EW 0.86–0.91 (M 0.88), PL/EL 0.91–0.98 (M 0.94); base almost transversely truncate, very narrowly marginate, with oblong transverse punctures near margin; sides moderately arcuate in basal fifth, with gradually raised arcuate swellings at a level between apical and basal 3/10, distinctly constricted before and behind the swellings, gently dilated in basal 3/10; disc moderately convex in basal 3/10 and forming a large callosity which is indistinctly bisinuate at anterior margin, with vestigial median depressions at the apical fifth and near the base; surface sparsely provided with relatively large punctures though partly with a few punctures near the middle of discal callosity, sparsely clothed with short pale-yellow hairs, though almost glabrous near the middle. Scutellum trapeziform, distinctly concave near middle, with reflexed sides, shagreened, pale yellow pubescent.

Elytra relatively long, longer than wide, nearly equal in length to pronotum, almost reaching apex of metepisterna, widest at humeri, moderately exposing the sides of meso- and metathoraces, EL/EW 1.13–1.16 (M 1.15); sides with humeri distinctly projected forwards, straightly convergent to apical 3/10, then arcuately rounded to apices which are slightly rounded and provided with blunt inner angles; suture completely conjoined in basal fourth, then gently arcuately dehiscent to apices; disc convex and uneven, longitudinally depressed along suture except for bases and apical raised areas, also depressed near scutellum, provided with coarse punctures though shagreened on raised parts in apical fifth, thinly pale pubescent near sides. Hind wings reaching base of abdominal tergite 6.

Meso- and metathoraces moderately voluminous, closely and strongly punctured at sides, shagreened on mesosternum, shallowly and densely punctured near middle of metasternum, clothed with silvery white recumbent hairs, partly with dense same-colored pubescence on mesepimeron, at apical part of metepisternum, middle of apical part of metasternum and along margin of hind coxa.

Abdomen elongate and slender, 0.7 times as long as body, slightly shagreened, sparsely with minute punctures on ventrites 1–2, sparsely clothed with pale yellow pubescence; ventrites 1 and 2 gently emarginate at sides and slightly thickened apicad, the former 1.45 times as long as the latter, ventrite 3 similar in shape to the preceding,

slightly shorter and more distinctly thickened apicad, ventrite 4 remarkably dilated apicad, with apex 1.8 times as wide as base, a little longer than the preceding; ventrite 5 with sides gently dilated to apical third, then narrowed to apex which is strongly arcuately emarginate, with disc longitudinally impressed along median line at a level between basal fifth and apical third, then suddenly and distinctly concave in a semicircular form. Tergite 8 a little longer than the basal width, weakly arcuately narrowed to apex which is almost truncate or shallowly emarginate.

Legs long and slender, exceeding abdominal apex at base of first hind tarsal segment; hind femur weakly clavate in apical 3/10; hind tibia gently sinuate in basal half, weakly dilated apicad; hind tarsus moderate in length, not so thick, with first segment 1.4 times as long as the following two segments combined.

Median lobe a little shorter than ventrite 5, rather broad near base though strongly narrowed apicad, slightly convex and moderately arcuate in profile; dorsal plate straightly narrowed apicad and truncate at the extremity, exposing bluntly pointed apex of ventral plate in dorsal view; ventral plate straightly narrowed apicad though weakly arcuate just behind apex which is slightly thickened; median struts short, a little less

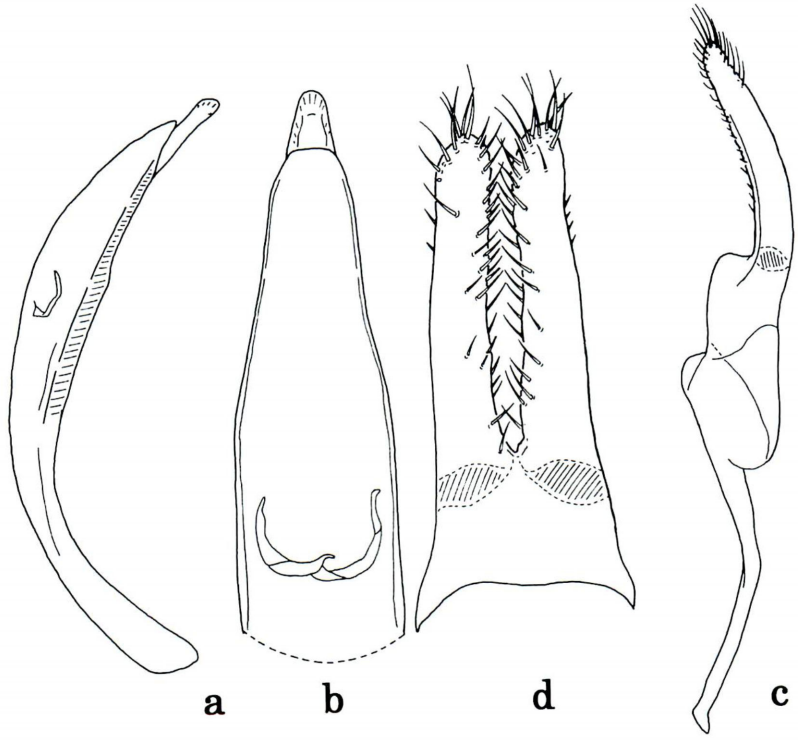

Fig. 4. Male genital organ of *Necydalis* (*Necydalis*) *montipanus* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.). —— a, Median lobe in lateral view; b, ditto, apical part in dorsal view; c, tegmen in lateral view; d, ditto in dorsal view.

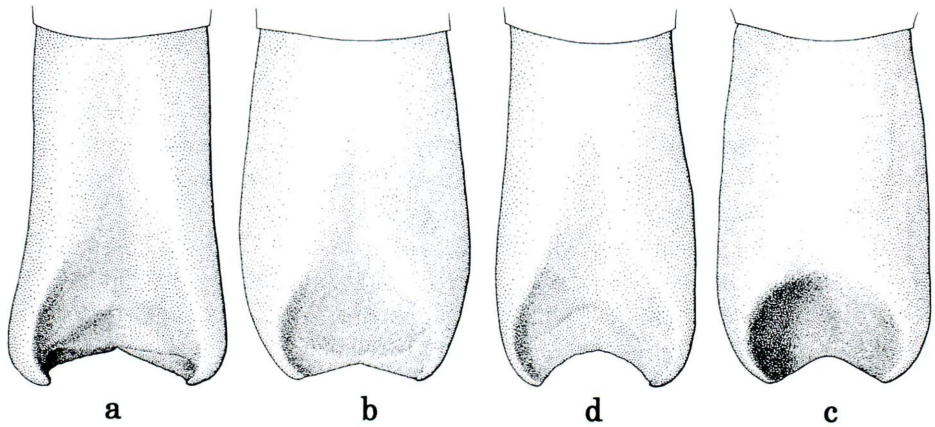

Fig. 5. Male last ventrites of four species of the *Necydalis nanshanensis* group. —— a, *N.* (*Necydalis*) *atricornis* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pakan (Mt.), NE. Laos, holotype; b, *N.* (*N.*) *nanshanensis* KUSAMA, from Nanshanchi, C. Taiwan; c, *N.* (*N.*) *montipanus* NIISATO et N. OHBAYASHI, sp. nov., from Phu Pan (Mt.), NE. Laos, holotype; d, *N.* (*N.*) *shinborii* TAKAKUWA et NIISATO, from Mt. Tam Dao, N. Vietnam, paratype.

than a half the length of median lobe. Tegmen a little longer than median lobe, rather broad, slightly arcuate in profile; paramere short and slightly wide, a little more than 2/5 the length of tegmen, with each lobe slightly divergent to apex which is rounded, provided with numerous short to medium-sized setae near apex and along inner margins.

Body length 21.5–23.5 mm.

Female. Unknown.

Type series. Holotype ♂, Phu Pan (Mt.), 1,500–1,700 m in alt., Ban Saleui, Houaphan Province of NE. Laos, 4–V–2002, N. OHBAYASHI leg. (EUEL). Paratype: 1 ♂, same locality as holotype but 5～10–V–2003, H. WAKAHARA leg. (TN).

Distribution. NE. Laos.

Notes. It is most probable that *N. montipanus* sp. nov. has a close relationship to *N. shinborii* TAKAKUWA et NIISATO of the *N. nanshanensis* group described from Mt. Tam Dao of northern Vietnam. Two species share the relatively long elytra which are always longer than wide, and provided with the small but conspicuous inner angles, the strongly dilated ventrite 4, the arcuately concave margin of ventrite 5, and unique conformation of male genital organ. It may form a species complex consisting of the two species within the *N. nanshanensis* group.

The holotype of this new species was found on the blossom of an oak tree growing at the edge of a primary forest on Phu Pan (Mt.). The paratype male specimen was caught on the peak of the same mountain.

Necydalis* (*Necydalis*) *wakaharai NIISATO et N. OHBAYASHI, sp. nov.

(Fig. 1c)

Belonging to the *N. esakii* group, and no doubt closest to *N. kumei* TAKAKUWA from northern Thailand, sharing the short fore body, elongate abdomen, and hardly sinuate sides of pronotum.

Female. Colour black in head and thoraces, brown in abdomen and appendages, moderately shiny; head almost black, brown in most of mouthparts, basal 2/3 of clypeus, mandibles except for inner margins also black; antennae brown and matted in segments 5–11, slightly paler towards distal segments, apical four segments quite yellow; thoraces and scutellum black, strongly shiny on pronotum, usually brownish on apical margin of prosternum; elytra yellowish brown, broadly black along external margins and apical parts, slightly infuscate along suture, weakly shiny; hind wings translucent dark brown; abdomen brown, shiny; legs brown, infuscate on dorsum of tarsi and apical parts of tibiae in fore and mid pairs, hind tarsi brownish, with black coxae.

Head short, slightly narrower than the maximum width of pronotum, closely and strongly punctured on frons, weakly so in the rests, moderately clothed with golden yellow pubescence, partly with dense recumbent golden yellow pubescence on frons and tempora, HW/PA 1.09–1.16 (M 1.13), HW/PW 0.90–0.93 (M 0.92); frons quadrate, with sides gently sinuate, slightly raised towards middle, with a deep distinct median longitudinal furrow, running from apical margin to posterior part of occiput, FL/FB 0.74–0.75 (M 0.74), FB/FA 1.05; clypeus with apical lobe transverse trapezoidal, truncate in margin, slightly raised and scattered with punctures in basal half, basal lobe semicircular, with a few punctures, distinctly raised, fronto-clypeal suture very deep; mandibles rather short, nearly straight at external margin though arcuate near apices; genae rather long, a little more than 3/5 the depth of lower eye-lobes, parallel-sided in frontal view; tempora strongly projected laterad, slightly exceeding beyond eyes; occiput slightly raised along midline, coarsely shagreened on surface; eyes weakly prominent. Antennae moderate in length in the *N. esakii* group, 0.52–0.54 times as long as body, slightly stout, thickened towards distal segments, somewhat flattened on segments 5–8, clothed with yellow pubescence on segments 1–4, especially dense on base of scape, and with more minute ones on the remaining segments; scape short, flattened on dorsum, hardly arcuate, slightly shorter than segment 3, provided with dense shallow punctures, segments 3 and 4 thin, slightly thickened apicad, the latter segment nearly 7/10 the length of the former, segments 5–7 nearly equal in length, segment 5 or 6 the longest, segments 7–10 somewhat serrate at apices, terminal segment simple, bluntly pointed at the extremity.

Pronotum short and relatively broad, hardly contracted to both apex and base, slightly constricted before and distinctly so behind lateral swellings, markedly convex in basal 3/5, PL/PA 1.11–1.20 (M 1.16), PL/PW 0.98–1.13 (M 1.06), PB/PA 1.11–1.20 (M 1.16), PW/EW 0.90–0.95 (M 0.92), PL/EL 0.81–0.92 (M 0.87); base almost trans-

versely truncate, very narrowly marginate, transversely grooved along margin; sides weakly arcuate in basal 3/10, gradually raised to basal 2/5 which forms lateral swellings, then rather suddenly convergent to basal constrictions, weakly arcuate in basal fifth; disc with a markedly convex callosity at a level between apical 3/5 and basal fifth, the callosity being interrupted by an indistinct median raised line, provided with a few minute punctures and a few pale short hairs, apical 3/10 weakly raised, shagreened and dense brown pubescent, and also a transverse triangular raised area along basal margin with shagreened surface, decorated with dense recumbent golden yellow pubescence at side areas, the pubescent areas slightly extending to middle of disc in apical 3/10. Scutellum trapeziform, not so wide, concave near apex, with reflexed sides, shagreened, golden yellow pubescent.

Elytra rather long in the *N. esakii* group, though shorter than pronotum, longer than wide, almost reaching apices of metepisterna, widest at humeri, moderately exposing the sides of meso- and metathoraces, EL/EW 1.05–1.16 (M 1.12); sides at humeri obliquely projected forwards, slightly convergent to middle, then gently arcuate just before apices, which are completely rounded; suture conjoined only at a short distance behind scutellum, then almost straightly and distinctly dehiscent to apices; disc convex, strongly uneven, longitudinally depressed near suture at a level between basal fourth and apical sixth, slightly depressed near scutellum, provided with large punctures, the punctures becoming sparser towards the middle, small and dense in the raised areas of apical sixth, clothed with pale hairs throughout, partly fringed with golden yellow pubescence near suture of basal 2/5 and inner sides of apical raised areas. Hind wings reaching basal part of abdominal tergite 7.

Prosternum hardly convex, coarsely shagreened, densely clothed with pale yellow hairs. Meso- and metathoraces relatively less voluminous, coarsely shagreened, densely clothed with yellow hairs, also with dense fringes of golden yellow pubescence at side of mesepisternum, on mesepimeron, basal margin and apical part of metepisternum, most of metasternum and middle of hind coxa.

Abdomen elongate and slender, 0.72–0.77 times as long as body, moderately shiny, smooth on surface, very sparsely with minute pale hairs; ventrites 1 parallel-sided, 1.6–1.7 times as long as ventrite 2, ventrite 2 distinctly dilated apicad, ventrite 3 gently arcuate at sides and nearly equal in length to the preceding, ventrite 4 moderately narrowed apicad, as long as the preceding, ventrite 5 slender and elongate, gradually narrowed apicad, with truncate apical margin.

Legs long and distinctly slender, exceeding abdominal apex at base of first hind tarsal segment; hind femur gradually and rather weakly clavate in apical third; hind tibia gently sinuate, with extremely thin base, slightly thickened apicad; hind tarsus long, with first segment hardly broadened and 2.25 times as long as the following two segments combined.

Body length 24.8–27.0 mm.

Male. Unknown.

Type series. Holotype ♀, Phu Pan (Mt.), 1,700 m in alt., Ban Saleui, Houaphan

Province of NE. Laos, N. OHBAYASHI leg. (EUEL). Paratypes: 2♀♀, same locality as the holotype, 2,000 m in alt., 5~10–V–2002, H. WAKAHARA leg. (TN).

Distribution. NE. Laos.

Notes. This new species belongs to the *N. esakii* group and may be most closely related to *N. kumei* TAKAKUWA from northern Thailand. Two species share the short fore body as compared with the elongate abdomen, the broad pronotum with weakly sinuate sides, the dense recumbent golden yellow pubescence on pronotum and undersides of meso- and metathoraces. However, *N. wakaharai* sp. nov. is distinct from the Thai species by the smaller head which is slightly narrower than the maximum width of pronotum across lateral swellings, the completely rounded apices of elytra, and the dense recumbent golden-yellow pubescence on pronotum not extended to the middle of base.

The flying specimen of the holotype of *N. wakaharai* sp. nov. was found on the forestry road of Phu Pan (Mt.). According to Mr. H. WAKAHARA, the other paratype specimens were collected on the peak of the same mountain.

Necydalis* (*Necydalisca*) *concolor NIISATO et N. OHBAYASHI, sp. nov.

(Fig. 1d)

Medium-sized species of entirely black body provided with conspicuous silvery white pubescence beneath.

Female. Colour wholly black, dark yellowish brown only on apical margin of clypeus, labrum, maxilla and prementum, hind wings translucent blackish brown, shiny in general, somewhat shagreened or closely punctured head, pronotal base, elytra and antennae

Head slightly transverse, less voluminous, nearly as broad as the maximum width and slightly wider than the apical width of pronotum, closely provided with small punctures, clothed with yellowish pubescence, densely with similar pubescence on frons and vertex, HW/PA 1.12, HW/PW 1.04; frons distinctly transverse, with sides weakly straightly narrowed apicad, gently raised near middle, depressed at sides, a deep but narrow median longitudinal furrow running from apical margin to base of occiput, FL/FB 0.47, FB/FA 1.09; clypeus with apical lobe transverse trapezoidal, truncate at margin, moderately raised, scattered with a few punctures in basal third, basal lobe short, arcuate in base, with a few punctures, fronto-clypeal suture very deep and wide; mandibles moderately long, nearly straight at external margin, hardly arcuate even at apical parts; genae rather long, a little less than 3/5 the depth of lower eyelobes, parallel-sided in frontal view; tempora thick, bluntly projected laterad, almost reaching external margins of eyes; occiput weakly convex posteriad, distinctly raised along posterior margins of eyes, closely and somewhat rugosely punctured; eyes not so large though well prominent laterad. Antennae relatively long in the subgenus *Necydalisca*, 0.73 times as long as body, fairly thin, weakly thickened towards distal segments, more or less flattened in segments 3–6, almost cylindrical in the remainders,

weakly shiny and clothed with brownish pubescence on segments 1–4, matted and silvery white pubescent on the remainders; scape very short, distinctly swollen, provided with small punctures on dorsum, a little less than 7/10 the length of segment 3, segments 3 and 4 shallowly punctured, gently thickened apicad, the latter segments slightly shorter than the former, segments 5–7 nearly equal in length, terminal segment weakly arcuate, bluntly pointed at the extremity.

Pronotum moderately long, narrow, weakly contracted to apex, strongly uneven at side and on disc, PL/PA 1.19, PL/PW 1.11, PB/PA 1.07, PW/EW 0.76, PL/EL 0.86; base gently arcuate, distinctly marginate; sides prominent just behind apex, straightly narrowed to apical 3/10, then moderately dilated to the lateral blunt tubercles at basal 2/5, and then moderately sinuate to basal angles; disc strongly convex, distinctly depressed along apical and basal margin, triangularly so just behind the median callosity, with a strongly convex callosity at a level between apical and basal 3/10, which is indistinctly interrupted by a shallow median furrow, and also with a triangular raised area just behind the median callosity; surface largely smooth, provided with a few small punctures at sides, coarsely and rugosely punctured on basal 3/10, rather sparsely clothed with silvery white hairs at sides and near base. Scutellum narrow trapeziform, distinctly bordered at sides, with truncate apex, densely clothed with silvery white pubescence.

Elytra very short in the subgenus *Necydalisca*, though longer than pronotum, nearly as long as wide, almost reaching apex of metepisterna, widest at humeri, slightly exposing the sides of meso- and metathoraces, EL/EW 0.98; sides with moderately prominent humeri, gently arcuate in basal fourth, then slightly and straightly convergent to roundly truncate external halves of apices whose inner angles are completely rounded; suture completely conjoined in basal fourth, narrowly dehiscent to middle, then arcuately so towards apices; disc gently convex, almost even, weakly depressed near middle, longitudinally so along suture behind scutellum, slightly raised near apices; surface closely rugosely punctured, except for almost smooth humeri, rather densely clothed with light-yellow minute pubescence.

Prosternum weakly convex, provided with transverse furrows in apical half, sparsely clothed with light yellow hairs, hardly convex, coarsely shagreened, densely clothed with light yellow hairs. Meso- and metathoraces moderately voluminous, with mesosternal process strongly raised apicad, coarsely and somewhat irregularly punctured in most parts, rugosely so on mesepisternum, densely clothed with long silvery white hairs, especially dense on mesepisternum, base and sides of metasternum and hind coxae.

Abdomen moderately long, 0.60 times as long as body, broad and flattened, slightly broadened towards ventrite 4, shagreened at sides of ventrites 3–5, scattered with a few small punctures on the rest, sparsely clothed with light yellow hairs and also with silvery white pubescence on apical sides of ventrite 1, transverse parts near apical margins of ventrites 2–3, most of ventrite 4 except for base, and basal side of ventrite 5; ventrites 5 strongly narrowed to apical fifth then almost parallel to apical

margin which is slightly emarginate.

Legs fairly long and thin in the subgenus *Necydalisca*, exceeding abdominal apex at apical third of hind tibia, with dense silvery white hairs on coxae and undersides of femora; hind femur well compressed, rather weakly clavate in apical 2/5; hind tibia quite straight, very long, gradually dilated apicad; hind tarsus very thin and rather long, with first segment 1.7 times as long as the following two segments combined.

Body length 18.2 mm.

Male. Unknown.

Type specimen. Holotype ♀, Phu Pan (Mt.), 1,500–1,700 m in alt., Ban Saleui, Houaphan Province of NE. Laos, 2–V–2002, N. OHBAYASHI leg. (EUEL).

Notes. As was noted in the introduction, *N. concolor* sp. nov. is a unique species belonging to the subgenus *Necydalisca* PLAVILSTSHIKOV. It is the first representative of the subgenus from the subtropical region of Indochina since the range of the subgenus has so far been known from the temperate to subfrigid zones in the Northern Hemisphere. The subgenus was established based upon the North Asian species, *N. eoa* PLAVILSTSHIKOV and other three species, and is characterized by the flattened body form, especially on simply broad abdomen, thin antennae with almost cylindrical segments, and transverse frons of head. Although the subgenus has been usually considered synonymous with *Necydalis* s. str., it is no doubt independent for the reason of above peculiarities.

Necydalis concolor sp. nov. is also an isolated species characterized by the entirely black body with silvery white pubescence beneath, and has no close relative within the subgenus. It is very unexpected that such a unique necydaline species belonging to *Necydalisca* was found in the warm-temperate forest of northeastern Laos. The single female specimen of this new species was found on the road under the full blossom of an oak tree. The specimen may have visited the flowers for feeding. The melliphagous behavior has been seldom known among the species of *Necydalisca*.

Acknowledgements

We are much indebted to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his constant guidance and kindly reading through the original manuscript of this paper. Thanks are also due to Dr. Masataka SATÔ and Ms. Sumiko OOIWA of Nagoya, Mr. Haruki KARUBE of Kanagawa Prefectural Museum of Natural History, Odawara, Dr. Hiroyuki YOSHITOMI of Bioindicator Co., Ltd., Sapporo, and especially to Mr. and Mrs. Hiroyuki WAKAHARA and their staff of Vientiane and Ban Saleui for their kind support in the field work.

要　約

新里達也・大林延夫：ラオス北東部から発見されたホソコバネカミキリ属の4新種．—— インドシナは長いあいだホソコバネカミキリ属の分布空白地帯であったが，比較的最近の調査に

よって，ベトナムから8種，さらにタイから1種の同属種が記録されている．インドシナ他地域から本属の発見が期待されていたが，私たちの最近の調査によって，ラオス北東部のホウアパン州パン山周辺から新しく4種が見出された．これらは次に示すように，基亜属のナンシャンホソコバネカミキリ種群の2種とエサキホソコバネカミキリ種群の1種，および*Necydalisca*亜属の1種である．

1) *Necydalis* (*Necydalis*) *atricornis* NIISATO et N. OHBAYASHI, sp. nov.

ナンシャンホソコバネカミキリ種群に属し，短くまた完全に丸い先端部を備えた上翅の特徴から，台湾の*N. nanshanensis* KUSAMA や北ベトナムの*N. alpinicola* NIISATO et N. OHBAYASHI, *N. niisatoi* HOLZSCHUH などに類縁が近いものと考えられる．しかしながら，本種の触角は全体が黒色を呈し，一見してこれらの類似種との識別は容易である．パン山および隣接するパカン山の山頂の吹上げなどで採集された5雄個体が知られる．雌は未発見である．

2) *Necydalis* (*Necydalis*) *montipanus* NIISATO et N. OHBAYASHI, sp. nov.

本種もナンシャンホソコバネカミキリ種群に属するが，先端内角を備えた比較的長い上翅，半円状に深くえぐれた腹部腹板末端節などの特徴から，北ベトナムから記録のある*N. shinborii* TAKAKUWA et NIISATO に類縁が近い．この北ベトナムの種とは，前胸背板が前方に強く狭まらず，点刻がややまばらで，触角は細く長いことなどから区別は難しくない．パン山中腹で開花中のカシの花上などで採集された2雄個体が知られている．雌は未知．

3) *Necydalis* (*Necydalis*) *wakaharai* NIISATO et N. OHBAYASHI, sp. nov.

エサキホソコバネカミキリ種群に属し，短い頭部と前胸背板に対して非常に長い腹部，前胸や中・後胸腹板などに備えた黄金色毛の縁取りなどの特徴から，タイ北部から記載された*N. kumei* TAKAKUWA に類縁が近いものと考えられる．このタイの種とは，前胸背板の最大幅より狭い頭部，前胸背板の黄金毛帯は基部中央に伸張しない，上翅先端は完全に丸められるなどの特徴から区別は難しくない．本種はパン山山道上や山頂で飛翔中の個体が採集されている．雄は未知．

4) *Necydalis* (*Necydalisca*) *concolor* NIISATO et N. OHBAYASHI, sp. nov.

今回記録されるホソコバネカミキリ属のなかで，唯一本種だけが*Necydalisca*亜属に含まれる．本亜属の種は，北半球の温帯から亜寒帯にかけての分布が知られていたが，東洋区のインドシナから記録されるのは初めてのことである．本種は特異な種であり，体が全体に黒く，長い銀白色毛を備え，触角と肢は同亜属のなかではとりわけ長く，類縁関係の近い種はいまのところ知られていない．パン山中腹で開花中のカシの直下で採集された1雌の基準標本が知られているだけである．

Postscript

After the manuscript of the present paper had been sent to the press, we had revisited Phu Pan (Mt.) of northeastern Laos for researching the spring fauna of cerambycid beetles, and unexpectedly found additional specimens of *Necydalis atricornis* sp. nov. All the six males were found on the blossoms of *Castanopsis* tree at a higher part of the mountain at an altitude of about 1,800 m. It was surprising that the *Necydalis* adults occur in the earlier season even in such a higher place of the mountain. According to our experience in northern Vietnam, most necydaline species usually occur from

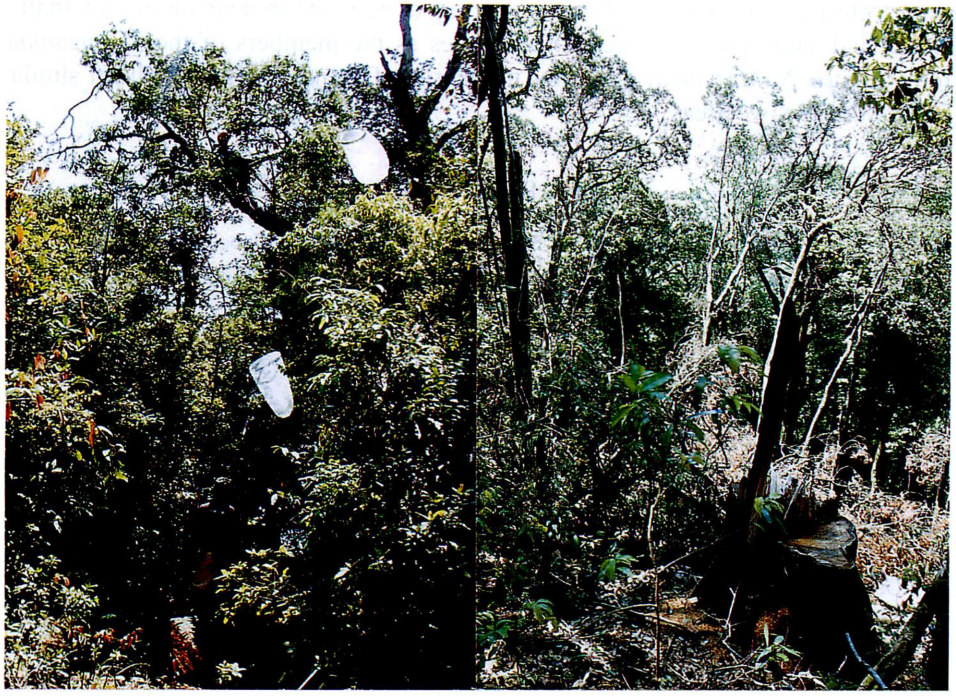

Fig. 6. Collecting sites on Phu Pan (Mt.) of northeastern Laos. —— Blossoms of *Castanopsis* trees. *Necydalis atricornis* sp. nov. were usually found on the blossoms (left); a small gap made by felling in the forest. *Necydalis* species fly along the border of the forest (right).

early May at about 1,000 m in altitude, and from mid May up to 1,500 m. As shown below, all the newly collected specimens are added to the type series of *N. atricornis* sp. nov.

Supplement to the type series. Paratypes: 2♀♀, Phu Pan (Mt.), 1,750 m in alt., Ban Saleui, 11–IV–2004, N. OHBAYASHI leg. (EUEL); 4♂♂, same locality, 1,750–1,800 m in alt., 11～12–IV–2004, T. NIISATO leg. (3♂♂ paratypes in TN, and 1♂ in Toyohashi Museum of Natural History, Toyohashi). Though the additional type specimens agree well with the specimens previously examined, a large male specimen attains to 29.0 mm in body length.

Could we find more necydaline species in Laos? It is almost doubtless that our expectation will be realized. Nearly ten members including undescribed species of *Necydalis* have been collected from such a neighboring area as northern Vietnam. They belong to two subgenera, *Necydalis* s. str. and *Eonecydalis* OHBAYASHI, of which the former subgenus from northern Vietnam is provisionally classified into four species-groups, namely the groups of *N. nanshanensis*, *N. esakii*, *N. mizunumai* and *N. hirayamai*. As was recorded in the preceding pages, the two species-groups of *Necydalis* s. str., *N. nanshanensis* and *N. esakii*, and a *Necydalisca* species have so far been

found from Laos. In the course of field survey to be made in near future, we shall be able to find such unknown necydaline species as the members of the *N. mizunumai* group and the *N. hirayamai* group for the reason of faunal and geographical similarities between the two areas.

References

CHEN, S.-c., 1991. A new species of genus *Necydalis* from Shennongjia, Hubei, China (Coleoptera: Cerambycidae). *Acta ent. sin.*, **34**: 344–345.

GRESSITT, J. L., J. A. RONDON & S. VON BREUNING, 1970. Cerambycid-beetles of Laos. *Pacif. Ins. Mon.*, **24**: 1–651+i–vi.

HOLZSCHUH, C., 2003. Beschreibung von 72 neue Bockkäfern aus Asien, vorwiegend aus China, Indien, Laos und Thailand (Coleoptera, Cerambycidae). *Ent. basil.*, **25**: 147–241.

NIISATO, T., 1998. Cerambycid beetles of the genus *Necydalis* (Coleoptera, Cerambycidae) from northern Vietnam. II. *Gekkan-Mushi, Tokyo*, (332): 16–21.

——— & N. OHBAYASHI, 2003. A new *Necydalis* species (Coleoptera, Cerambycidae) discovered on Mt. Phang Si Pang of northwestern Vietnam. *Elytra, Tokyo*, **31**: 301–304.

PLAVILSTSHIKOV, N. N., 1936. Cerambycidae 2 (Prinoninae, Leturinae). *Fauna URSS, Insects, Coléoptères*, **21**: 1–612.

* Other references are given in our recent collaborated paper (NIISATO & N. OHBAYASHI, 2003) and NIISATO (1998).

Elytra, Tokyo, **32** (1): 219–224, May 31, 2004

Two New Species of Cerambycidae (Coleoptera) from the Nansei Islands, Southwest Japan

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Abstract Two new species of cerambycid beetles are recognized from the Nansei Islands, Southwest Japan, *Epania morimotoi* sp. nov. from Amami-Oshima Is. and *Xylotrechus yukawai* sp. nov. from Okinawa Is.

In the present paper, two new species of cerambycid beetls are described from the Nansei Islands, Southwest Japan. *Epania morimotoi* sp. nov. from Amami-Oshima Is. is closely related to *E. dilaticornis kumatai* HAYASHI from Amami-Oshima Is. and Okinawa Is. and also to *E. atra* HAYASHI from Taiwan. *Xylotrechus yukawai* sp. nov. from Okinawa Is. is similar to *Kazuoclytus fukienensis* (GRESSITT) from China, Amami-Oshima Is. and Okinawa Is. in the elytral marking.

I wish to gratefully dedicate this paper to Professor Dr. Jun-ichi YUKAWA on the occasion of his retirement from Kyushu University, and will name a new species, *Xylotrechus yukawai* sp. nov., in his honor.

Epania morimotoi sp. nov.

[Japanese name: Morimoto-hime-kobane-kamikiri]

(Fig. 1 A & 2 A, A′)

Male. Body shining black; antennae dark reddish brown except for segments I–II; elytra provided with a pair of light testaceous brown oblique portions in middle; legs shining pitchy brown, pitchy reddish brown on petioles of mid and hind femora. Body decorated with dense silvery pubescence on lateroanterior and lateroposterior portions of prothorax, meso- and metasterna, and abdominal sternites; head with sparse erect blackish brown hairs; antennae with a few brown erect or suberect hairs on segments I–II and undersides of III–V and apices of VI–VII; prothorax with long sparse erect black hairs; elytra with a very few erect hairs; ventral surfaces moderately clothed with erect gray hairs; legs with sparse erect silvery white hairs.

Head slightly narrower than prothorax, deeply and roughly punctured; frons slightly broader than deep; genae 2/5 as deep as lower eye-lobe. Antennae 1.25 times

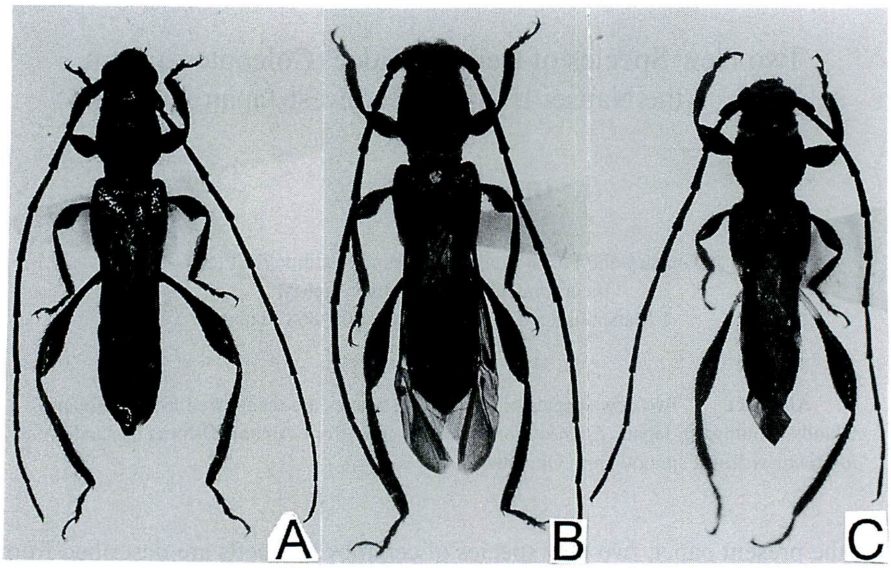

Fig. 1. *Epania* spp., male. —— A, *E. morimotoi* sp. nov.; B, *E. dilaticornis kumatai* HAYASHI from Amami-Oshima Is.; C, ditto from Okinawa Is.

as long as body, slender; relative length of each segments (%):— 7.4 : 1.7 : 6.4 : 8.6 : 10.5 : 10.8 : 11.5 : 11.5 : 12.0 : 10.8 : 8.8; segment I well thickened before apex, sparsely punctured; segment XI constricted and curved apically. Prothorax 1.3 times as long as broad, distinctly wider at apex than at base, slightly constricted in apical collar, strongly constricted at basal collar, gradually broadened from apex to behind middle and then slightly rounded and strongly narrowed basad; disc strongly reticulate-punctate, about 11 punctures in an approximate median longitudinal row. Scutellum tongue-shaped, slightly wider than long, deeply impressed along median line. Elytra 1.7 times as long as broad, almost evenly narrowly dehiscent, separately broadly rounded apically; disc somewhat flattened basally, strongly depressed just behind center and raised before apex, somewhat heavily punctate. Ventral surfaces finely and sparsely punctured. Legs moderately stout; mid femur swollen in apical 3/5; hind femur swollen in apical 5/8, hind tibia almost evenly arched, moderately asperate; hind tarsal segment 1 slightly longer than segments 2+3, and subequal to claw.

Tegmen of male genital organ 0.7 mm long; paramere broad, with apical margin truncate, provided with a few long setae at sides (Fig. 2 A, A′).

Body length 8.0 mm; body width 1.7 mm.

Female. Unknown.

Distribution. Amami-Oshima Is. of the Nansei Isls., SW. Japan.

Type specimen. Holotype ♂ (Type no. 3191, Kyushu University), Mt. Yuidake, Amami-Oshima Is., Nansei Isls., SW. Japan, 18~21–VII–2003, H. MAKIHARA leg.

Notes. This new species closely resembles *Epania atra* HAYASHI (Fig. 3, holo-

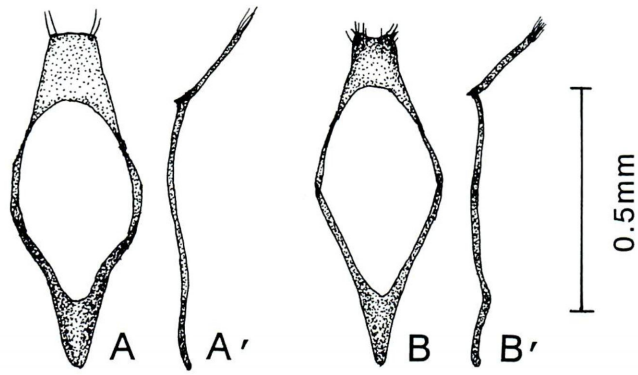

Fig. 2. Parameres of male genital organ in *Epania* spp. —— A, A′, *E. morimotoi* sp. nov.; B, B′, *E. dilaticornis kumatai* HAYASHI; A, B, ventral view; A′, B′, lateral view.



Fig. 3. *Epania atra* HAYASHI, holotype male.

type) known from Taiwan and *E. dilaticornis kumatai* HAYASHI from Amami-Oshima Is. (Fig. 1 B) and Okinawa Is. (Fig. 1 C) of the Nansei Isls., but is distinguishable from the latter two species by the following key.

A Key to the Males of the Three Related Species of *Epania*

1. Elytra finely punctate.....2.

— Elytra weakly rugoso-punctate; paramere of male genital organ weakly concave at apical margin, provided with many irregular setae on apex (Fig. 2 B, B′)..... ..... *E. dilaticornis kumatai* HAYASHI.

2. Elytra without clear testaceous brown markings ..... *E. atra* HAYASHI.

— Elytra with clear testaceous brown markings..... *E. morimotoi* sp. nov.

This species is named in honor of Dr. Katsura MORIMOTO, Emeritus Professor of Kyushu University, for his contribution to the Japanese coleopterology.

Xylotrechus yukawai sp. nov.

[Japanese name: Yukawa-zumaru-tora-kamikiri]

(Figs. 4 & 5)

Male. Body black, extensively clothed with grayish-white pubescence, and silvery-gray pubescence beneath. Head not densely pubescent, with some longer erect hairs on postgenae; antennae briefly clothed, with a few long oblique hairs on inner sides of segments II–V; prothorax sparsely clothed with black pubescence on a trapeziform spot, the spot being dilated to just before middle, and broadened basad; scutellum

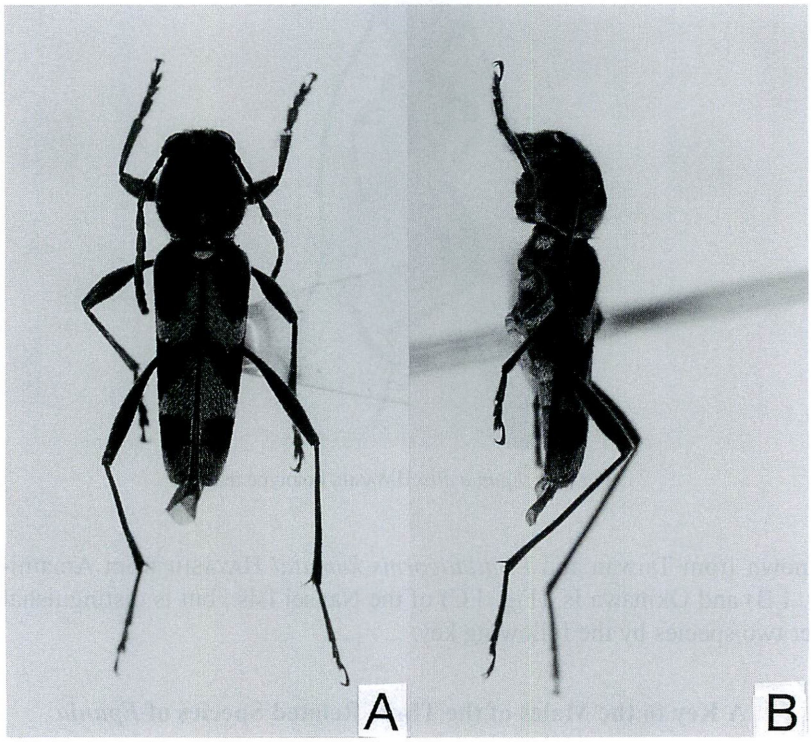

Fig. 4. *Xylotrechus yukawai* sp. nov.; A, dorsal view; B, lateral view.

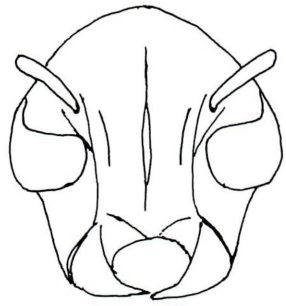

Fig. 5. Head of *Xylotrechus yukawai* sp. nov.

densely clothed in apical half; elytra each with following pubescent areas: 1) sutural stripe from scutellum bent outwards before middle, then bent again forwards to near external margin and running forwards along margin, 2) postmedian band not quite reaching external margin, and greatly broadened towards suture, strongly oblique anteriorly and slightly oblique posteriorly, 3) apical band extending forwards along suture, connecting with the postmedian one by narrow sutural stripe; ventral surfaces densely clothed with pubescence except on central portions of meso- and metasternum, and coxae.

Head much narrower than prothorax, roughly punctured; frons with long median and short lateral carinae. Antennae not quite reaching middle of elytra; relative length of each segment (%):— 13.1 : 5.1 : 11.7 : 9.5 : 10.2 : 10.2 : 8.8 : 8.0 : 7.3 : 8.0 : 8.0; segments IV–XI very slightly compressed. Prothorax as long as broad, rounded at sides, broadest just behind middle; disc somewhat closely rugoso-punctate. Scutellum semicircular, slightly broader than long. Elytra very slightly broader than prothorax, gradually narrowed posteriorly; apices somewhat narrowed at sides, slightly rounded and dehiscent. Hind femora slightly exceeding elytral apices, slender; first hind tarsal segment compressed and slightly longer than remaining segments combined.

Body length 7.5 mm; body width 2.1 mm.

Female. Unknown.

Distribution. Okinawa Is. of the Nansei Isls., SW. Japan.

Host plant. *Cinnamomum doederleinii* ENGLER (Lauraceae).

Type specimen. Holotype ♂ (Type no. 3192, Kyushu University), Iso-rindô, Okinawa Is., Nansei Isls., SW. Japan, dead tree of *Cinnamomum doederleinii* ENGLER (Lauraceae), collected on 10–X–1988, *Xylotrechus* emerged in V–1989, H. MAKIHARA leg.

Notes. This new species closely resembles *Kazuoclytus fukienensis* (GRESSITT) known from China, Amami-Oshima Is. and Okinawa Is. in elytral markings, but differs from it by the presence of carinae on frons (Fig. 5). And also, this species is closely similar to *Xylotrechus albolatifasciatus* MAKIHARA known from Okinawa Is. and *X. chujoi chujoi* HAYASHI from Okinawa Is. in the frontal carinae (MAKIHARA, 1979, p.

151, fig. 1), but differs from the former species in the dense whitish pubescence on abdominal sternites V–VII, and from the latter in the absence of extensive dense grayish pubescence on the male elytra.

Acknowledgements

The present paper could never have been completed without support, cooperation and understanding of the following persons. I would like to express my sincere thanks to K. MIZUNO of Uji City and S. SHIAKE of the Osaka Museum of Natural History for their help of in reexamination of the type specimens. My thanks are also due to M. GUSHIKEN, Vice-director of Okinawa For. Expt. St. for his support in field study.

要　　約

槇原　寛：南西諸島からのカミキリムシ2新種．—— 南西諸島からカミキリムシの2新種を記載した．1種は，奄美大島産のクマタヒメコバネカミキリ *Epania dilaticornis kumatai* HAYASHI と，台湾産の *E. atra* HAYASHI に近縁な，奄美大島に産する *Epania morimotoi* sp. nov. であり，もう1種は，中国，奄美大島および沖縄島に分布するフッケントラカミキリ *Kazuoclytus fukienensis* (GRESSITT) に似ている，沖縄に産する *Xylotrechus yukawai* sp. nov. である．なお，この論文は，九州大学を退官された湯川淳一教授に捧げるものであり，その功績を称えて *Xylotrechus* 属の1新種に献名をした．

References

GRESSITT, J. L., 1951. Longicorn beetles of China. *Longicornia*, **2**: 1–667, 22 pls.

HAYASHI, M., 1978. Studies on Asian Cerambycidae, II (Coleoptera). *Ent. Rev. Japan*, **31**: 85–92.

MAKIHARA, H., 1979. Tribe Clytini of Okinawa Prefecture (Coleoptera: Cerambycidae). *Esakia, Fukuoka*, (14): 149–173.

TAKAKUWA, M., 1981. A revisional study of Japanese Longicornia I. Genus *Epania* PASCOE (Molorchini). *Elytra, Tokyo*, **9**: 1–10.

Elytra, Tokyo, **32** (1): 225–228, May 31, 2004

Discovery of a New *Olenecamptus* (Coleoptera, Cerambycidae) from the Ogasawara Islands, Japan

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Abstract A new species of the lamiine genus *Olenecamptus* is described from Ani-jima Island of the Ogasawara Islands under the name of *O. fukutomii*. It seems related to *O. cretaceus* from Japan, Korea and Taiwan.

In the summer of 2002, a single female specimen of a peculiar dorcascematine species was emerged out from a dead branch of an unidentified broad-leaved tree, which was collected from Ani-jima Island of the Ogasawara Islands, by Mr. Hirokazu FUKUTOMI in the spring of the same year, and was submitted to me for taxonomic examination. The dorcascematine species in question actually belongs to the genus *Olenecamptus*, and seem to be closest to *O. cretaceus* BATES. However, this species can be easily distinguished from all known *Olenecamptus* species including *O. cretaceus* by the unique markings of elytra and the body form. I am therefore going to describe it as a new species in the present paper.

Before going further, I wish to express my deep gratitude to Dr. Tatsuya NIISATO of Bioindicator Co., Ltd., Tokyo, for his reading through the original manuscript of this paper. Thanks are also due to Mr. Hirokazu FUKUTOMI of Nagoya City, for giving me the opportunity to examine this striking specimen.

The abbreviations used in this paper are as follows; IEL – length of inferior eye lobe, measured in sublateral view; GL – length of gena, measured in sublateral view; PL – length of pronotum; PB – basal width of pronotum; EL – length of elytra; EW – width of elytra across humeri; TL – total length of body, from tip of head to elytral apices.

Olenecamptus fukutomii HASEGAWA, sp. nov.

[Japanese name: Ogasawara-ooshiro-kamikiri]

(Figs. 1–2)

Female. Large-sized species of elongate body. Color almost light reddish brown, partially dark reddish brown in femora, tarsi, scape and apical areas of antennal segments 3–11, eyes and mandibles black. Body largely clothed with short gray pubes-

cence and decorated with white scales; head with short gray pubescence, the pubescence dense on genae, apical half of frons and margins of eyes, and decorated with small indistinct white patches in middle area and along basal margin of occiput; antennae with scape to 4th segments very sparsely with short gray pubescence, and apical half of 4th to 11th sparsely with short black hairs; pronotum rather sparsely with gray pubescence except for mid line, with broad white vittae at sides of disc; scutellum sparsely with gray pubescence; elytra sparsely with gray pubescence, each decorated with a broad vermiculate white vitta, whose external margin is concave in a U-shape at the posterior part of shoulder and basal 2/3. Sides of body decorated with broad white vittae extending from pronotum to apex of abdomen. Venter of body densely clothed with gray pubescence.

Head voluminous, scattered with granules on scape, frons, gena and near margins of eyes; frons (Fig. 2 A) strongly transverse, moderately convex, with dense and distinct granules; antennal tubercles prominent, with a robust apical tooth; eyes large and strongly convex, with transversely square inferior eye-lobe, LEL/LG 1.75; occiput

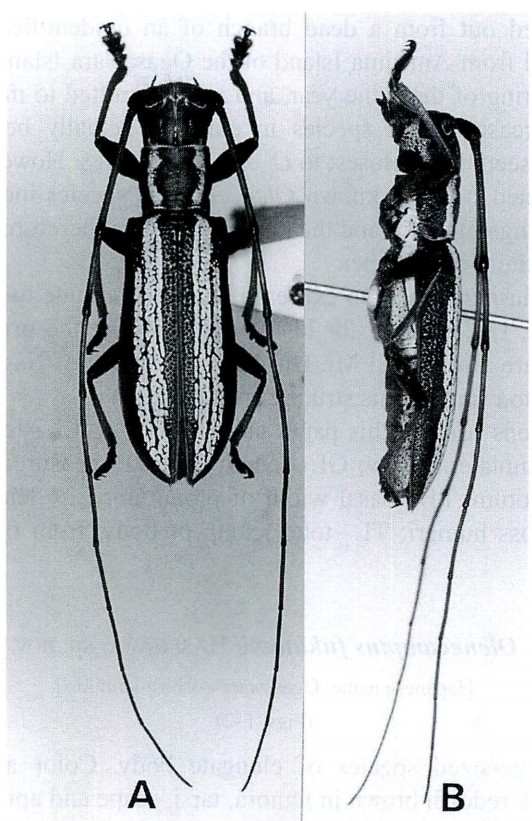

Fig. 1. *Olenecamptus fukutomii* HASEGAWA, sp. nov., ♀, holotype; A, dorsal view; B, lateral view.

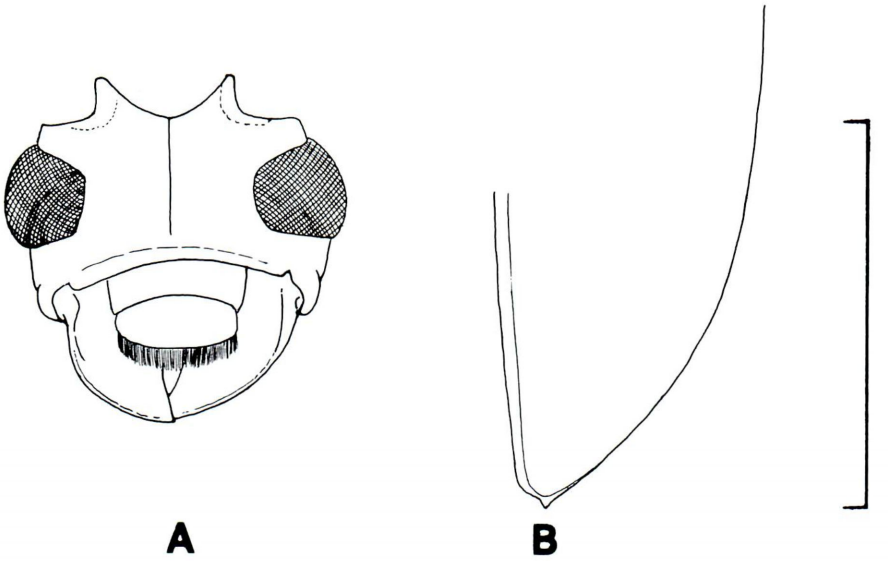

Fig. 2. *Olenecamptus fukutomii* HASEGAWA, sp. nov., ♀, holotype; A, head in frontal view; B, elytral apex. Scale: 5 mm.

rather weakly rugose. Antennae 1.8 times as long as body, passing elytral apices at base of 7th segment; scape moderately clavate, distinctly granulate on the exterior part of scape, 2nd segment and basal half of 3rd segment; relative lengths of segments as follows:— 4.4 : 1 : 18.5 : 11.8 : 11.8 : 11.2 : 10.6 : 9.0 : 9.0 : 8.6 : 11.5.

Pronotum cylindrical, rather short, weakly convex above, constricted at apical and basal fourth, widest behind middle; PL/PB 0.95, EW/PB 1.48, EL/PL 4.0; disc distinctly transversely rugose. Scutellum semicircular.

Elytra elongate, EL/EW 2.58, EL/TL 0.67; sides with shoulders moderately prominent, almost parallel in basal fourth, then weakly divergent posteriad, most widely distant at apical third, and roundly convergent towards apices, which are narrowly obliquely truncate and with small equilateral triangular teeth at external angles (Fig. 2 B); disc with a pair of indistinct costae, of which the inner one extends from behind base to apical 3/7 and the other one from behind shoulder to apical seventh, provided with deep punctures throughout, though the punctures become stronger and denser towards sides. Metasternum and abdomen sparsely provided with deep and large punctures except for median area of sternite 7, each puncture bearing a suberect pale hair. Legs stout and relatively short; first tibia about 1.2 times as long as femur.

Body length 20.5 mm (from tip of head to elytral apices), width 6.0 mm (maximum width of elytra).

Male. Unknown.

Type specimen. Holotype: female, Ani-jima Is., Ogasawara Islands, Japan,

1–VII–2002 (emerged), Hirokazu FUKUTOMI leg. (TMNH–I–21044).

The holotype is deposited in the Toyohashi Museum of Natural History, Toyohashi City.

Distribtution. Ani-jima Island of the Ogasawara Islands, Japan.

Note. *Olenecamptus fukutomii* is similar to *O. cretaceus* BATES from Japan, Korea and Taiwan, in having the closely transversely rugose pronotum, the narrowly obliquely truncate elytral apices which are provided with small rectangular teeth at external angles, the white scales on dorsal and lateral surface, the gray pubescence on ventral surface, and two semicircular incisions on the external margins of white vittae on the elytra as in those of *O. cretaceus*. However, the new species can be easily distinguished from all the other *Olenecamptus* species including *O. cretaceus* by the unique elytral markings and body form.

Etymology. The specific epithet is dedicated to Mr. Hirokazu FUKUTOMI who collected this interesting species.

要　　約

長谷川道明：小笠原諸島から発見されたシロカミキリ属の1新種．—— 2002年の春に，名古屋市の福富宏和氏によって小笠原諸島兄島から採集された広葉樹の枯枝から，同年の夏に羽化脱出した非常に特異な大型のシロカミキリ属の1種に，オガサワラオオシロカミキリ *Olenecamptus fukutomii* という新名をつけて記載した．この種は，形態上の各種の特徴から，日本，朝鮮半島および台湾に分布するオオシロカミキリ *O. cretaceus* に類縁性の高い種であると考えられる．

References

BREUNING, E. DE, 1940. Études sur les Lamiaires, IX. Dorcaschematini. *Novit. ent., Paris*, (11): 527–568.

DILLON, L. S., & E. S. DILLON, 1948. The tribe Dorcaschematini (Coleoptera, Cerambycidae). *Trans. Amer. ent. Soc.*, **73**: 173–298, pls. 1–14.

Elytra, *Tokyo*, **32** (1): 229–232, May 31, 2004

A New Species of the Genus *Basitropis* (Coleoptera, Anthribidae) from the Island of Minami-Daitô-jima, Southwest Japan

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Abstract A new species of the anthribid genus *Basitropis* is described from the Island of Minami-Daitô-jima, Southwest Japan under the name of *B. bimaculata*. It resembles *B. lutosa* JORDAN described from the Island of Luzon, the Philippines.

Through the courtesy of Mr. Tadafumi NAKATA of the Japan International Research Center for Agricultural Sciences, we have recently had an opportunity to examine six specimens of a peculiar species of the genus *Basitropis* collected by himself from the Island of Minami-Daitô-jima, Southwest Japan. But for one specimen, these anthribids were collected by a light trap in a forest of *Casuarina equisetifolia* lying on the seaside of the Island. After a careful examination, it was clarified to be new to science, and will be described in the present paper.

Before going further, we wish to express our sincere gratitude to Emeritus Professor K. MORIMOTO of Kyushu University for his constant guidance and encouragement, and to Dr. S.-I. UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for kindly reading the original manuscript of the present paper. Deep appreciation is also due to Mr. T. NAKATA, for his kindness in providing us with the specimens used in this research.

Basitropis bimaculata SENOH et MATOBA, sp. nov.

[Japanese name: Futamon-futo-higenagazoumushi]

(Figs. 1–4)

Length: 7.4–10.0 mm (from apical margin of rostrum to apices of elytra).

Male. Colour predominantly black, labrum, maxillary and labial palpi, funiculi,

tarsi and claws brown to dark brown. Pubescence dense, gray and black; black hairs of elytra forming many small round irregular patches, of which two behind the middle of elytra are relatively large. Pygidium and underside covered with gray hairs, without maculation.

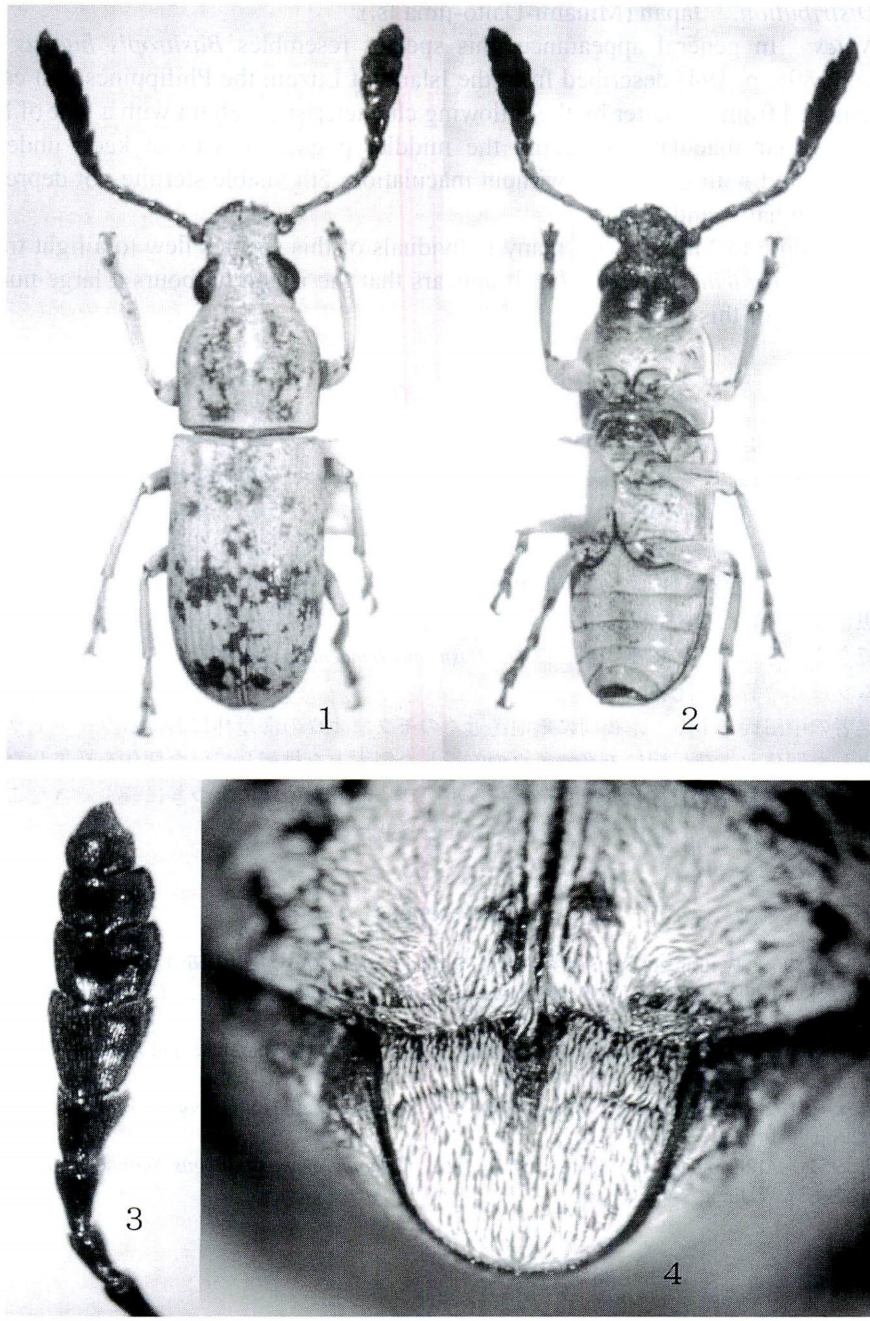
Head punctate, with a longitudinal sulcus between eyes; eyes strongly convex above, emarginate in anterior margin, and relatively separated from each other; rostrum transverse, about 1.5 times as wide as long, slightly widened towards the bases of mandibles, raised in middle of anterior margin; maximum width of rostrum about 1.6 times as wide as the shortest distance between eyes. Antennae stumpy, moderately long, extending obviously beyond the basal margins of elytra, 2nd segments the shortest, 6th elongated triangular, 7th triangular, 8th triangular, distinctly larger than 7th, 9th transverse, the widest, about 1.19 times as wide as long, 10th transverse, about 1.5 times as wide as long, 11th subpentagonal, angulate at apex; 6th to 11th segments forming a large club; proportions in length from 1st to 11th about 18 : 12 : 24 : 25 : 20 : 20 : 20 : 29 : 22 : 17 : 15.

Pronotum quadrate, about 1.1 times as wide as long, widest at middle; basal margin almost represented by dorsal transverse carina; lateral sides slightly expanded at middle; disc convex at the centre, vertical in basal declivity; dorsal transverse carina slightly bisinuate, and angularly connected with each lateral carina, the latter somewhat declivous in basal half, and horizontally extending to subapical part of side margin; whole parts of carinae black and saw-like. Scutellum somewhat transverse. Elytra long, about 1.76 times as long as wide, parallel-sided in basal three-fourths, then narrowed posteriorly, basal margin almost straight; strial punctures very small, deep, intervals flat, broad, distinctly broader than the distance between punctures of striae. Pygidium semicircular, somewhat inclined forwards, about 1.64 times as wide as long, lateral margins gradually convergent towards widely rounded apex; disc flat.

Prosternum coarse, deeply punctate; metasternum punctate except for the centre, the punctures smaller and shallower than those on prosternum. Viewed from side, 1st to 4th visible sternites conjointly horizontal, the terminal one somewhat slanting. Legs relatively thick; anterior femur nearly as long as the median which is shorter than the posterior; anterior, median and posterior tibiae subequal in length to one another; anterior tarsus shorter than the posterior which is shorter than the median.

Female. Antennae short, not reaching the basal margin of pronotum, 8th segments apically dilated, about 1.3 times as wide as long, 9th triangular, about 1.2 times as wide as long, 10th transverse, about 1.7 times as wide as long, 11th subtriangular; 8th to 11th segments forming a large club; proportions in length from 8th to 11th about 6 : 12 : 9 : 14.

Type series. Holotype ♂, Island of Minami-Daitô-jima, Okinawa Pref., Japan, 1–VIII–2002, Tadafumi NAKATA leg. Paratypes 2♂♂, 3♀♀, same data as the holotype. The holo- and 1♂, 1♀ paratypes are preserved in the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo; the remaining paratypes are in MATOBA's collection.



Figs. 1–4. *Basitropis bimaculata* SENOH et MATOBA, sp. nov., ♂, from the Island of Minami-Daitô-jima, Okinawa Pref., Southwest Japan; 1, dorsal, 2, ventral, 3, left antennal club, 4, pygidium.

Distribution. Japan (Minami-Daitô-jima Is.).

Notes. In general appearance, this species resembles *Basitropis lutosus* [sic] JORDAN (1895, p. 194) described from the Island of Luzon, the Philippines, but can be distinguished from the latter by the following characteristics: elytra with a pair of black round irregular maculations behind the middle; pygidium without keel; underside wholly covered with gray hairs, without maculation; 5th visible sternite not depressed, without long hairs, and so on.

According to Mr. NAKATA, many individuals of this species flew to a light trap in a forest of *Casuarina equisetifolia*. It appears that the island harbours a large number of individuals of this species.

要　約

妹尾俊男・的場　績：南大東島から発見されたナギナタヒゲナガゾウムシ属（新称）の1新種．—— 南大東島で昆虫類の調査を実施された，国際農林水産業研究センター沖縄支所の中田唯文氏によって，背面の斑紋に著しい特徴をもつヒゲナガゾウムシが採集された．この種は，フィリピンのルソン島から記載された*Basitropis lutosa* JORDANに似ているが，上翅中央後に不規則ながら1対の黒色紋をもつ，尾節板中央に隆起線がない，腹面は全体的に淡黄色の毛でおおわれ黒色紋がない，第5腹板は圧平されず，長毛を欠く，などの特徴により容易に区別することができる．それでこの種を新種と認め，*Basitropis bimaculata*（新称：フタモンフトヒゲナガゾウムシ）と命名し，記載した．

採集者の中田氏によると，夜間に亀池港近くのモクマオウの海岸林におけるライトトラップに飛来した個体および昼間にモクマオウの乾燥した倒木上を徘徊していた個体を採集したという．そのとき採集されたのは6頭のみであるが，ライトトラップに次つぎに飛んできたことを考えると，かなり多くの個体が発生しているものと思われる．

References

JORDAN, K., 1895. Beitrag zur Kenntniss der Anthribidae. *Ent. Ztg., Stettin*, **56**: 122—204.

MORIMOTO, K., 1978. The family Anthribidae of Japan (Coleoptera). Part 1. *Esakia, Fukuoka*, (12): 17–47.

SHARP, D., 1891. The rhynchophorous Coleoptera of Japan. Part II. Apionidae and Anthribidae. *Trans. ent. Soc. London*, **1891**: 293–328.

WOLFRUM, P., 1929. Anthribidae. *In* JUNK, W., & S. SCHENKLING (eds.), *Coleopterorum Catalogus*, pars 102 (pp. 3–145). W. Junk, Berlin.

——— 1953. Anthribidae. *In* HINCKS, W. D. (ed.), *Coleopterorum Catalogus Supplementa*, pars 102 (pp. 3–63). W. Junk, 's-Gravenhage.

Elytra, Tokyo, **32** (1): 233–234, May 31, 2004

Synonymic Notes on Japanese Ceutorhynchinae (Coleoptera, Curculionidae)

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In the course of our study of Japanese Ceutorhynchinae, we found three species that are synonymous severally with *Coeliodes babai* VOSS et CHÛJÔ (Ceutorhynchini), *Coeliodes etorofuensis* KÔNO (also Ceutorhynchini), and *Mecysmoderes ater* HUSTACHE (Mecysmoderini). Nomenclatural changes are declared as below.

Ceutorhynchini

Coeliodes babai VOSS et CHÛJÔ, 1960

Coeliodes babai VOSS et CHÛJÔ, 1960, 1 (Japan: Niigata Pref.). —— MORIMOTO, 1962, 193 (in catalog); 1989: 513 (in catalog); 1993, 4 (habitus of the holotype).
Coeliodes brunneus: HONG *et al.*, 1999 [nec HUSTACHE, 1916], 164 (South Korea: Mt. Jiri).
Coeliodes (*Coeliodes*) *zinovjevi* KOROTYAEV, 1997, 617 (Russia: Amurskaya Prov.). —— YOSHITAKE, 1999, 165 (Japan: Honshu, Shikoku). —— HONG *et al.*, 2000, 102 (South Korea). *Syn. nov.*

Note. Our examination of the holotype of *Coeliodes babai*, which is preserved in the Entomological Laboratory of Kyushu University, Fukuoka, revealed that the diagnostic characters of *Coeliodes zinovjevi* KOROTYAEV were identical well with those of *C. babai*, including shape of the male aedeagus. Therefore, *C. zinovjevi* is synonymized herein with *C. babai*.

Coeliodinus etorofuensis (KÔNO, 1935), comb. nov.

Coeliodes etorofuensis KÔNO, 1935 a, 104 (Kurilen: Ins. Etorofu); 1935 b, 59 (Kurilen: Ins. Kunashiri, Ins. Shikotan). —— KUWAYAMA, 1967, 170 (in catalog).
Coeliodes (*Coeliodinus*) *insularis* KOROTYAEV, 1997, 615 (the Kurile Isles: Kunashir I.). *Syn. nov.*

Note. We examined a male specimen of *Coeliodes etorofuensis* in the Hokkaido University Museum, Sapporo. The specimen collected from Kunashiri Island is not the holotype but was identified by KÔNO (1935b) just after publication of the original description. Based on morphological and topological reasons, we concluded that *Coeliodes insularis* KOROTYAEV is a synonym of *C. etorofuensis*. This species should be transferred to the genus *Coeliodinus* DIECKMANN, following the latest classification system (ALONSO-ZARAZAGA & LYAL, 1999).

Mecysmoderini

Mecysmoderes ater HUSTACHE, 1916

Mecysmoderes ater HUSTACHE, 1916, 124 (Japon: Nikko, Kioto). —— MORIMOTO, 1962, 190 (in catalog); 1984, 314 (habitus & diagnosis); 1989, 513 (in catalog).
Mecysmoderes japonicus PIC, 1916, 13 (Japon). —— MORIMOTO, 1962, 191 (in catalog). *Syn. nov.*

Note. We examined the cotypes of *Mecysmoderes ater* and the holotype of *Mecysmoderes japonicus* PIC in the Muséum National d'Histoire Naturelle, Paris. Morphologically, it is doubtless that *M. japonicus* is synonymous with *M. ater*.

Finally, we would like to extend our thanks to Drs. Masahiro ÔHARA and Hélène PERRIN for the opportunity to study material under their care. This study was supported in part by a grant from JSPS Research Fellowships for Young Scientists (to HY).

References

ALONSO-ZARAZAGA, M. A., & C. H. C. LYAL, 1999. A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (Excepting Scolytidae and Platypodidae). 315 pp. Entomopraxis, Barcelona.

HONG, K.-J., A. B. EGOROV & K.-S. WOO, 1999. Taxonomic review of Korean Ceutorhynchinae (Coleoptera, Curculionidae). II. Subtribes Coeliodina, Ceutorhynchina, Hypurina, Mecysmoderina, and tribe Orobitini. *Ins. Koreana*, **16**: 163–195.

———, ——— & B. A. KOROTYAEV, 2000. Illustrated catalogue of Curculionidae in Korea (Coleoptera). *In* PARK, K. T. (ed.), *Insects of Korea*, **5**: 1–340. Korea Research Institute of Bioscience and Biotechnology & Center for Insect Systematics, Korea.

HUSTACHE, A., 1916. Synopsis des Ceuthorrhynchini du Japon. *Annls. Soc. ent. Fr.*, **85**: 107–144.

KÔNO, H., 1935 a. Die Rüsselkäfer aus den Kurilen (Dritter Beitrag zur Kenntnis der Käferfauna der Kurilen). *Ins. matsum.*, **9**: 99–107.

——— 1935 b. Die Curculioniden aus den Kurilen II (Fünfter Beitrag zur Kenntnis der Käferfauna der Kurilen). *Ibid.*, **10**: 52–63.

KOROTYAEV, B. A., 1997. Review of the weevil genus *Coeliodes* SCHOENH. (Coleoptera, Curculionidae) of the Far East. *Ent. Obozr.*, **76**: 613–630. (In Russian, with English title.)

KUWAYAMA, S., 1967. Insect Fauna of the Southern Kurile Islands. 225 pp.+6 pls. Hokunoukai, Sapporo. (In Japanese, with English book title.)

MORIMOTO, K., 1962. Provisional check list of the family Curculionidae of Japan. I. *Sci. Bull. Fac. Agric. Kyushu Univ.*, **19**: 183–217.

——— 1984. Curculionidae. *In* HAYASHI, M., K. MORIMOTO & S. KIMOTO (eds.), *The Coleoptera of Japan in Color*, **4**: 269–345 [incl. pls. 53–68]. Hoikusha, Osaka. (In Japanese, with English book title.)

——— 1989. Curculionoidea. *In* HIRASHIMA, Y. (superv.), *A Check list of Japanese Insects*, 485–538. Entomological Laboratory, Kyushu University, Fukuoka.

——— 1993. [Two reminiscent notes of Dr. K. BABA.] *Coleopterists' News, Tokyo*, (102): 4. (In Japanese.)

PIC, M., 1916. Espèces et varietés [sic] nouvelles. *Mél. exot.-ent.*, **19**: 6–20.

VOSS, E., & M. CHÛJÔ, 1960. Curculionid-beetles of Niigata Prefecture, Honshu, Japan, collected by Dr. K. BABA (IV). *Niponius, Takamatsu*, **1** (3): 1–10.

YOSHITAKE, H., 1999. Additional records of *Coeliodes zinovjevi* (Coleoptera, Curculionidae, Ceutorhynchinae) from Japan. *Elytra, Tokyo*, **27**: 165–166.

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4．新タクサの命名記載をともなう報文には，正基準標本（ホロタイプ）の全形写真あるいは図を掲載することが望ましい．

5．文献は著者名のアルファベット順に並べて，下記の形式で記す．

FLEUTIAUX, E., 1942. Entomological result from the Swedish Expedition to Burma and British India. Coleoptera, Elateridae, recueillis par René MALAISE. *Ark. Zool.*, **33A**(18): 1–24.

WATANABE, Y., 1995. A new micropeplid species (Coleoptera) from Yunnan, Southwest China. *Elytra, Tokyo*, **23**: 245–249.

——— & LUO, Z., 1991. The micropeplids (Coleoptera) from the Tian-mu Mountains in Zhejiang Province, East China. *Ibid.*, **19**: 93–100.

6．報文中の標本採集データは次のように略記する．

（例）3♂♂, 1♀, Iryuda, Odawara-shi, Kanagawa Pref., C. Honshu, Japan, 9–V–2003, M. TAKAKUWA leg.
20 exs., Phu Pan (Mt.), 1,600 m alt., Ban Saleui, Houaphan Prov., NE Laos, 1–V–2002, H. YOSHITOMI leg.

7．原稿には，原稿用紙と同質の表紙をつけ，これに表題，ランニングタイトル（簡略した報文表題，欧文50字以内），著者名，連絡先を記し，赤字で原稿枚数，別刷部数（表紙の有無を明記），そのほか連絡事項があれば記入する．また，電子データの入ったフロッピィディスクをかならず添付する．

8．図はすべて挿図（text-figure）として扱い，カラー写真などを除いて図版（plate）にしない．線画は耐水性黒色インク等で鮮明に描き，そのまま印刷できるようにする．印刷された図の拡大（縮小）率を示したい場合には図中にスケールを入れる．原図には薄紙のカバーをかけ，これに著者名，図の番号，上になる方向を示す．原図版上に取り扱い指定文字を入れたい場合には，かならず青鉛筆を用いる．なお，原図の大きさは台紙を含めてB4判以内とする．

9．図の説明および表は，それぞれ別紙に書き，原稿末につける．図表のだいたいの挿入位置を，原稿本文に鉛筆で記入する．

10．原稿の送付先は下記学会宛とする．

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