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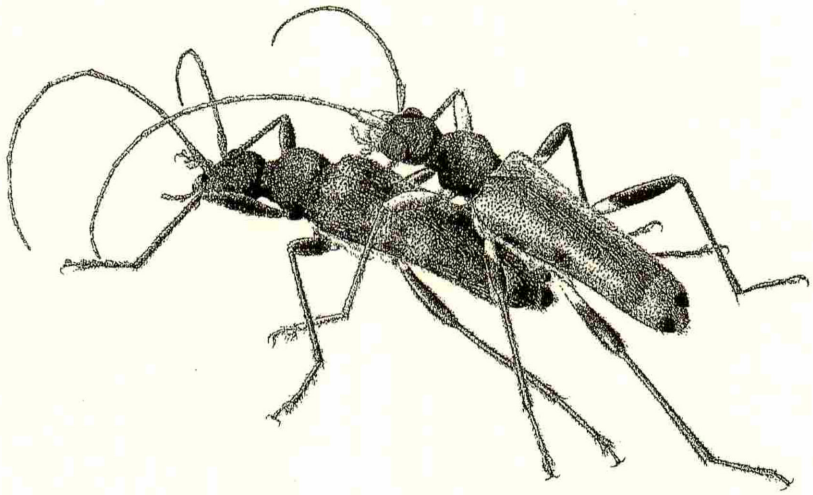

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Discovery of the Subgenus *Macroceble* of the Genus *Agathidium* (Coleoptera: Leiodidae) from Honshu, Japan, with Descriptions of Two New Species*

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Abstract The subgenus *Macroceble* of the genus *Agathidium* is newly recorded from Honshu by two new species which are described under the names of *Agathidium* (*Macroceble*) *yuhkiae* sp. nov. and *A.* (*M.*) *sakuragiae* sp. nov. Keys to the subgenera of the genus *Agathidium* and the species of the subgenus *Macroceble* from Japan are provided.

The subgenus *Macroceble* ANGELINI, 1993 of the genus *Agathidium* PANZER, 1797 consists of about 30 species from the Oriental region and a half of them are known from Nepal (ANGELINI & MARZO, 1981 and 1994). In addition to these, there may be some other Oriental species which have previously been placed in the subgenus *Agathidium* but ought to be classified into *Macroceble*. As to the Japanese fauna of *Macroceble*, one species, *A.* (*M.*) *narusawae*, is known to occur in the Ryukyus (HOSHINA, 1998).

Recently we had an opportunity to examine some specimens of this subgenus collected from Honshu, Japan and found two new species among them. In this paper, we are going to describe them, and provide the keys to the subgenera of the genus *Agathidium* and the species of the subgenus *Macroceble from Japan,* which are modified the keys presented by ANGELINI, 1995.

All the type specimens described here are preserved in the collection of Entomological Laboratory, Kyushu University, Fukuoka.

We wish to express our deep gratitude to Dr. JUN-ICHI YUKAWA of Kyushu University and Dr. KATSURA MORIMOTO, Fukuoka, for their critical reading of our early draft. Our thanks are also due to Mr. KENJI KANNO, Mie, who kindly lent us his valuable specimens for this study.

A Key to Subgenera of the Genus *Agathidium* from Japan

1 Elytra with sharp humeri; femoral line absent 2
- Elytra with blunt humeri. femoral line variable 3
2 Head widest at eyes ..... *Neoceble* GOZIS
- Head widest behind eyes ..... *Cyphoceble* THOMSON

*Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, (Ser. No. 5, No. 13)

3 Mesocoxae and metacoxae close to each other ..... *Macroceble* ANGELINI
- Mesocoxae and metacoxae distant 4
4 Head relatively smaller, about 0.5-0.6 times as wide as pronotum ..... *Microceble* ANGELINI et MARZO
- Head of normal size ..... *Agathidium* PANZER

Subgenus *Macroceble* ANGELINI, 1993

Macroceble ANGELINI, 1993, Boll. Soc. ent. ital., Genova, 125: 30-34, 41-44 (type species: *Agathidium* (*Agathidium*) *shermathangense* ANGELINI et MARZO, 1981); ANGELINI et MARZO, 1994, Stuttgarter Beitr. Naturk., 505: 1, 36-45, 52-53; ANGELINI, 1995, Rev. tasson. specie paleartiche gen. *Agathidium*: 35-37; ANGELINI et MARZO, 1995, Rev. suisse Zool., 102: 175, 178, 198-201, 253; HOSHINA, 1998, Jpn. J. syst. Ent., 4: 137-159.

This subgenus is characteristic in having the following features: body a little more convex than the other subgenera of the genus *Agathidium*; head relatively larger, about 0.7-0.9 times as wide as pronotum; eyes usually located a little more posteriorly than in species of other subgenera; elytra at most sparsely micro-punctate and with weak humeral angles; mesocoxae and metacoxae close to each other and therefore the space of metasternum seeming to be narrow; femoral line indistinct.

Distribution: Oriental region (Nepal, India, Malaysia, Thailand, Taiwan, and Japan).

A Key to the Species of the Subgenus *Macroceble* from Japan

1 Body less than 1.5 mm in length. Distribution: Ryukyus ..... *Agathidium* (*Macroceble*) *narusawae* HOSHINA
- Body more than 1.5 mm in length. Distribution: Honshu. 2
2 Body brown to dark brown in general; elytron with an indistinct sutural stria; median lobe of aedeagus rapidly becoming thinner from apical one-forth towards apex in lateral view (Fig. 5) ..... *A.* (*M.*) *yuhkiae* sp. nov.
- Body reddish brown to brown in general; elytron without sutural stria; median lobe of aedeagus almost straight at apical one-forth in lateral view (Fig. 12) ..... *A.* (*M.*) *sakuragiae* sp. nov.

Agathidium (*Macroceble*) *narusawae* HOSHINA, 1998

(Japanese name: Narusawa-maru-tamakinokomushi)

Agathidium (*Macroceble*) *narusawae* HOSHINA, 1998, Jpn. J. syst. Ent., 4: 140 (Japan: Ryukyus).

Length: 1.3-1.5 mm.

Distribution. Japan: Ryukyus (Amami Is, Tokunoshima Is., and Okinawa Is.).

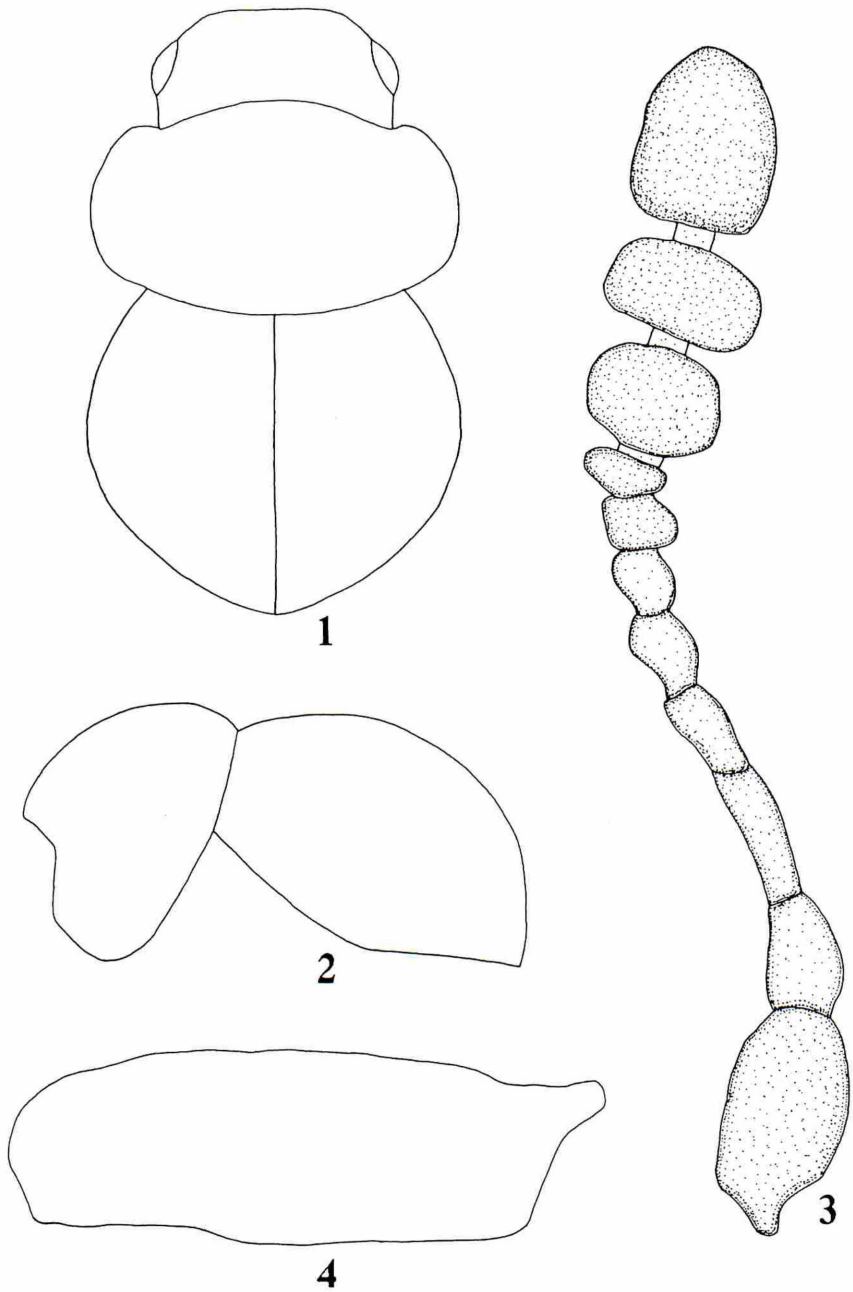
Specimens examined.Holotype, ♂, Mt. Yonahadake, Okinawa Is., Okinawa Pref., 16. IV. 1996, H. HOSHINA leg.

Remarks. This species is the smallest in Japanese *Macroceble*.

Agathidium (*Macroceble*) *yuhkiae* sp. nov. (Figs. 1-7)

(Japanese name: Yuhki-maru-tamakinokomushi)

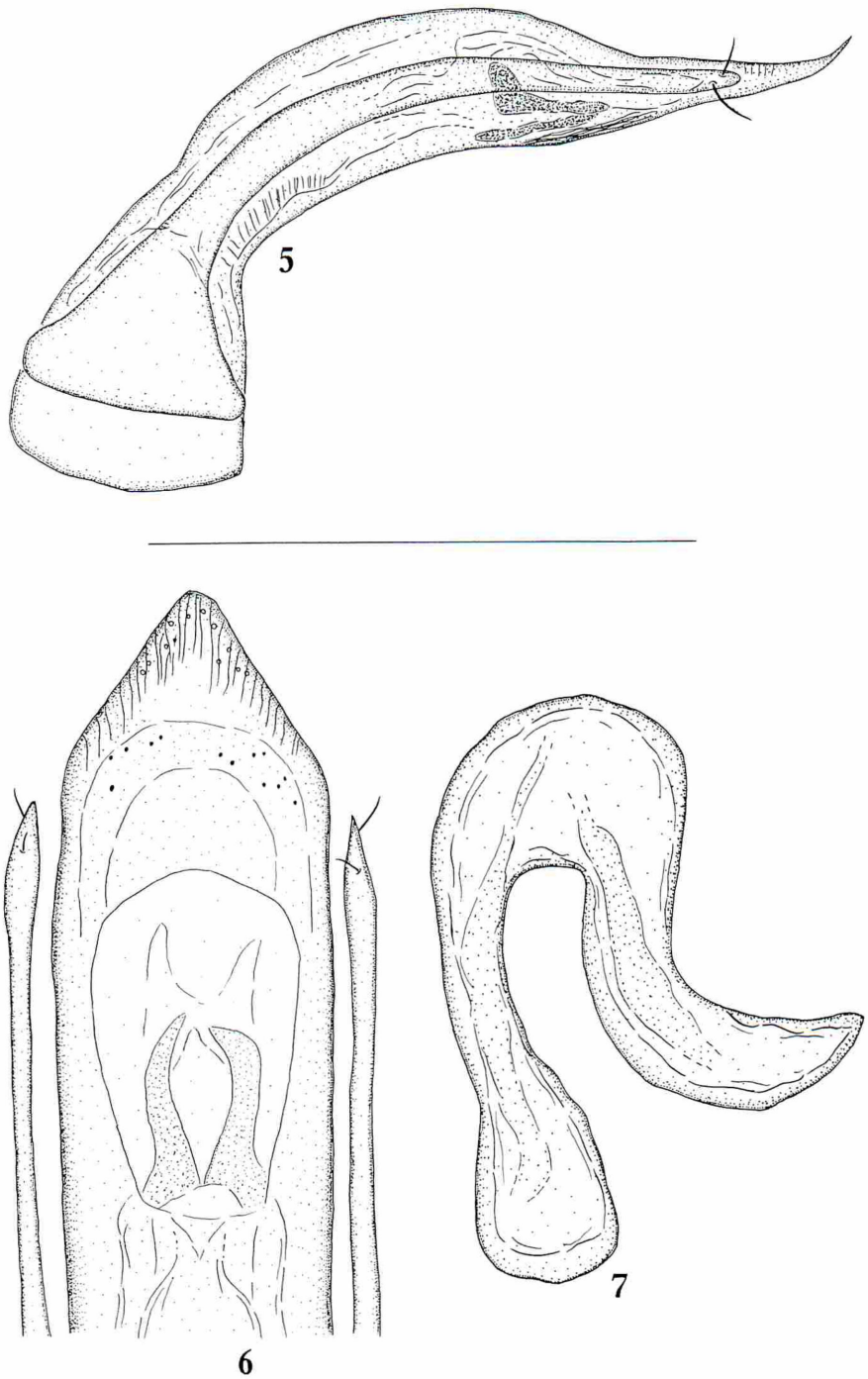
Male and female. Body convex, about 1.6 times as long as wide, almost glabrous on dorsum, shining, brown to dark brown in general; antennae tri-colorous, 1st and 7th-8th segments brown, 2nd-6th segments light brown, 9th-11th segments brown to dark brown;



Figs. 1-4. *Agathidium* (*Macroceble*) *yuhkiae* sp. nov. 1, body, dorsal aspect; 2, body, lateral aspect; 3, antenna; 4, hind femur of male

pronotum brown to dark brown with a light brown margin; legs brown with a little lighter tarsi; meso- and metasterna and venter brown.

Head about 1.6 times as wide as long, about 0.76 times as long as and about 0.67 times as wide as pronotum (Fig. 1), widest at eyes, narrowed in front of eyes, feebly narrowed behind



Figs. 5-7. *Agathidium* (*Macroceble*) *yuhkiae* sp. nov. 5, aedeagus, lateral aspect; 6, apex of aedeagus, ventral aspect; 7, spermatheca. Scale: 0.5 mm for Fig. 5.

eyes, almost straight at anterior margin, without punctures or microsculpture on dorsum, and ventral side without punctures, with microsculpture and distinct antennal grooves, which are present on about apical half. Eyes oval, located at about two-fifths from base. Clypeal line indistinct. Labrum with about 5 semi-transparent fine hairs along anterior margin. Mandibles hairy, denser apically than base, almost straight at inner margin, arcuate at outer margin, strongly pointed at apex, almost of the same size to each other in female and in two males out of three, but in one male, with cornu curved posteriorly on left mandible, which is about as long as length of eyes. Antennae elongate (Fig. 3), about 0.80 times as long as width of head, 1st-6th segments longer than wide, 7th-11th segments wider than long, 3rd segment about 1.5 times as long as 2nd, and about as long as 4th plus 5th, 9th segment about twice as wide as 8th, about as large as 10th, 11th segment oval, rounded apically; all segments hairy, 1st-4th segments hairy only on one side, 1st-8th segments with a few semi-transparent fine hairs which are longer than width of each segment, 9th-11th segments densely hairy.

Pronotum about 1.7 times as wide as long, about 0.68 times as long as and almost as wide as elytra, widest in the middle, arcuate at anterior and lateral margins, and more feebly expanded posteriorly than anteriorly in dorsal view (Fig. 1), distinctly angulate at anterior and posterior corners in lateral view (Fig. 2), without punctures or microsculpture.

Elytra about 1.1 times as wide as long, widest at about two-fifths from base (Fig. 1), with weak humeral angle in lateral view (Fig. 2), without punctures or microsculpture; sutural stria shallow and indistinct, present at about apical one-seventh.

Mesosternum glabrous, impunctate, with microsculpture. Metasternum glabrous, impunctate, with microsculpture and an indistinct femoral line. Venter hairy, a little more sparsely so near the base, impunctate, with microsculpture.

All femora microsculptured, with about 5-9 semi-transparent fine hairs along anterior margins; hind femora sparsely hairy on ventral surface, without teeth on posterior margin in male (Fig. 4). All tibiae dilated apically, with fine spines along external margin and apical half of internal margin. All tarsi densely hairy, tarsal formula 5-5-4 in male, 4-4-4 in female.

Hind wings absent.

Male. Aedeagus (Figs. 5-6) constricted at the base, curved, abruptly becoming thinner from about apical one-fourth towards apex, reflexed and pointed at apex in lateral view, almost parallel-sided and triangular at apex in ventral view; parameres a little shorter than median lobe, tri-angular basally, curved in an arc, rounded apically in lateral view, slender in general, almost straight at sides, a little expanded and pointed at apex in ventral view.

Female. Spermatheca (Fig. 7) folded at the middle, pointed apically.

Length. 2.0-2.1 mm (Holotype: 2.1 mm).

Distribution: Japan: Honshu (Hyogo Pref.).

Type series. Holotype: ♂, Tentaki, Oya-cho, Hyogo Pref., 8. vi. 1996., H. HOSHINA leg. (Type No. 3075, Kyushu University). Paratypes: 2 ♂♂ and 1 ♀, same data as holotype.

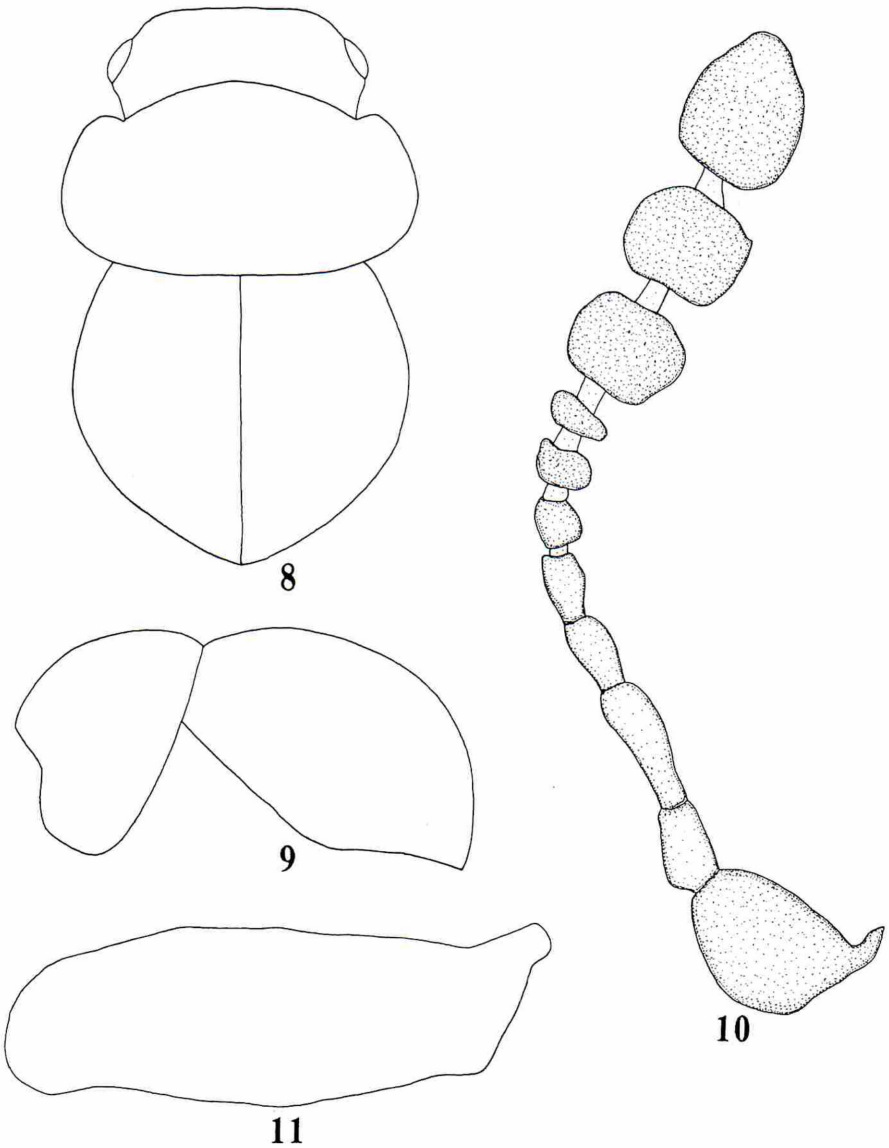
Remarks This species is similar to *Agathidium* (*Macroceble*) *oblitum* ANGELINI et MARZO, 1995 in general appearance, but the aedeagus is relatively thicker.

Agathidium (*Macroceble*) *sakuragiae* sp. nov. (Figs. 8-14)

(Japanese name: Sakuragi-maru-tamakinokomushi)

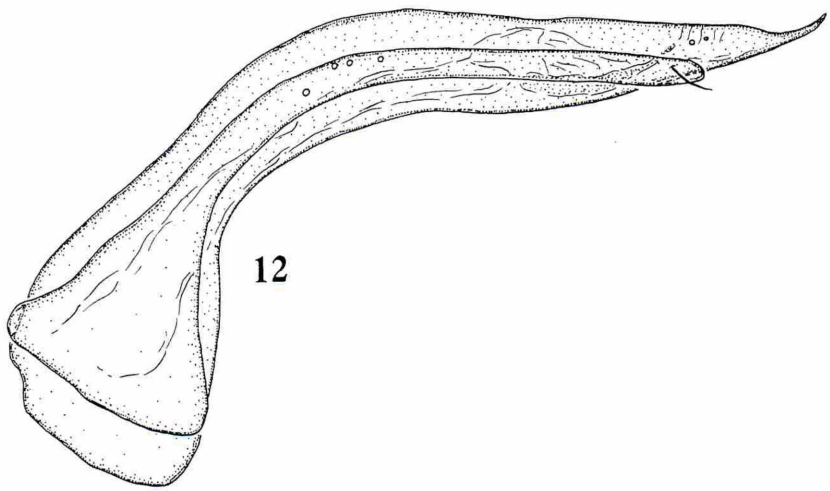
Male and female. Body convex, about 1.6 times as long as wide, almost glabrous on dorsum, shining, reddish brown to brown in general; head reddish brown to brown; antennae tetracolorous, 1st segment reddish brown, 2nd-6th segments light brown, 7th and 8th segments a little darker than 2nd to 6th, 9th-11th segments brown to dark brown; pronotum reddish brown to brown with light brown margin; elytra reddish brown to brown; legs brown with a little lighter tarsi; meso- and metasterna and venter light brown to brown.

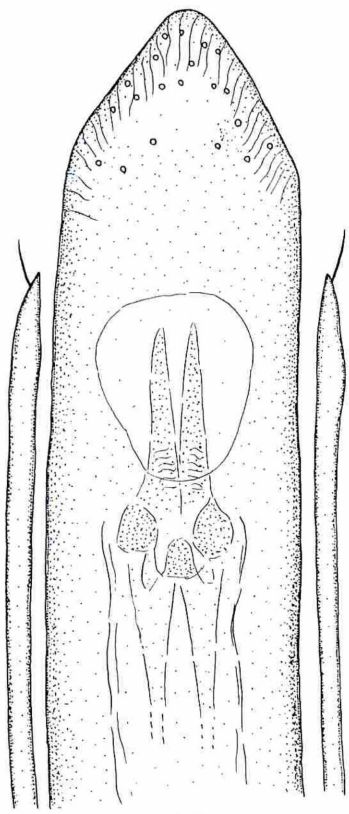
Head about 1.6 times as wide as long, about 0.70 times as long as and about 0.73 times as

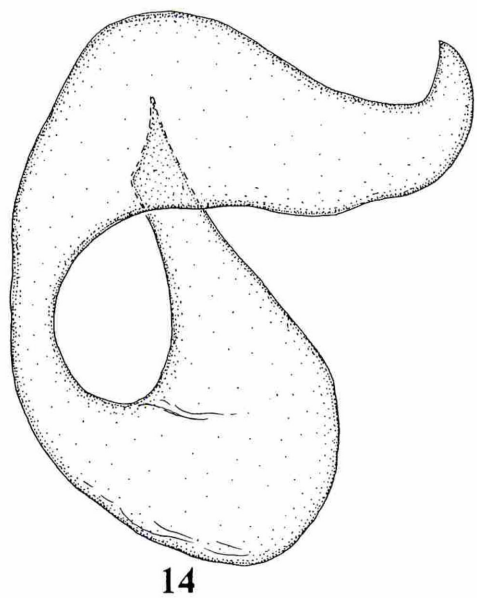


Figs. 8-14. *Agathidium* (*Macroceble*) *sakuragiae* sp. nov. 8, body, dorsal aspect; 9, body, lateral aspect; 10, antenna; 11, hind femur of male.

wide as pronotum (Fig. 8), widest at eyes, narrowed in front of eyes, feebly narrowed behind eyes, almost straight at anterior margin, with micro-punctures sparse inside eyes, without microsculpture on dorsum, and ventral side without punctures, with microsculpture and distinct antennal grooves, which is present on about apical three-fifths. Eyes oval, located at about two-







Figs. 8-14. *Agathidium* (*Macroceble*) *sakuragiae* sp. nov. 12, aedeagus, lateral aspect; 13, apex of aedeagus, ventral aspect; 14, spermatheca. Scale: 0.5 mm for Fig. 12.

fifths from base. Clypeal line indistinct. Labrum with about 5 semi-transparent fine hairs along anterior margin. Mandibles hairy, denser apically than base, almost straight at internal margin, arcuate at external margin, strongly pointed at apex; in male left mandible about 1.1 times as long as and about 1.2 times as wide as right one, and sharply curved to right apically; in female almost of the same size to each other. Antennae elongate (Fig. 10), about 0.84 times as long as width of head, 1st-6th segments longer than wide, 7th-11th segments wider than long, 3rd segment about 1.7 times as long as 2nd, and about as long as 4th plus 5th, 9th segment about 1.5 times as wide as 8th, about as large as 10th, 11th segment oval, rounded apically; all segments hairy, 1st-4th segments hairy only on one side, 1st-8th segments with a few semi-transparent fine hairs which are longer than width of each segment, 9th-11th segments densely hairy.

Pronotum about 1.7 times as wide as long, about 0.65 times as long as and almost as wide as elytra, widest at about three-sevenths from base, arcuate at anterior and lateral margins, more feebly expanded posteriorly than anteriorly in dorsal view (Fig. 8), distinctly angulate at anterior and posterior corners in lateral view (Fig. 9), without punctures or microsculpture.

Elytra about 1.1 times as wide as long, widest at about two-fifths from base (Fig. 8), with weak humeral angle in lateral view (Fig. 9), without punctures or microsculpture; sutural stria absent. Hind wings absent.

Mesosternum glabrous, impunctate, with microsculpture. Metasternum glabrous, impunctate, with microsculpture and an indistinct femoral line. Venter hairy, a little more sparser near the base, impunctate, with microsculpture.

All femora microsculptured, and with about 5 semi-transparent fine hairs along anterior margins; middle and hind femora sparsely hairy near posterior margins on ventral surface, and without teeth on posterior margin in male (Fig. 11). All tibiae dilated apically, with fine spines along external margin and apical half of internal margin. All tarsi densely hairy, tarsal formula 5-5-4 in male, 4-4-4 in female.

Female. Spermatheca (Fig. 14) curved at three points, crossing basally, pointed apically.

Length. 1.8-2.1 mm (Holotype: 2.0 mm).

Distribution: Japan: Honshu (Mie Pref.).

Type series. Holotype: ♂, Nunobikino-taki, Kiwa-cho, Mie Pref., 11. V. 1996, N. NARUKAWA leg. (Type No. 3076, Kyushu University). Paratypes: 1 ♂, same data as holotype; 2 ♀♀, Tsurugi-toge, Ise-shi, Mie Pref., 28. I. 1996, N. NARUKAWA leg.; 2 ♂♂ and 2 ♀♀, Mt. Minamimatayama, Ohchiyama-mura, Mie Pref., 4. XI. 1996, K. KANNO leg.

Remarks This species is similar to *Agathidium* (*Macroceble*) *oblitum* ANGELINI et MARZO, 1995 in appearance, but the parameres of aedeagus are triangular basally in *Agathidium* (*Macroceble*) *sakuragiae* sp. nov. The new species is also similar to *A.* (*M.*) *yuhkiae* sp. nov., but the body is reddish brown to brown, the median lobe is almost straight in apical one-fourth, and the length is about 0.78 times as long as that of latter species (Figs. 5 and 12).

General Remarks The Japanese species of the subgenus *Macroceble* have the completely atrophied hind wings and exclusively inhabit the litter layers of forest floor. Judging from these evidences, it is estimated that the speciation in narrow area had to occur, and therefore, by further study many species would be expected to be discovered from Japan.

要　　約

保科英人＆生川展行：タマキノコムシ科 *Agathidium* 属（和名：マルタマキノコムシ属）*Macroceble* 亜属の本州からの発見と２新種の記載．－*Macroceble* 亜属はネパール，東南アジア及び琉球に分布することが知られていたが、著者と官能健次氏によって，兵庫県と三重県からそれぞれ別新種が採集され，それぞれ *A.* (*M.*) *yuhkiae* sp. nov.（和名：ユウキマルタマキノコムシ）と *A.* (*M.*) *sakuragiae* sp. nov.（和名：サクラギマルタマキノコムシ）として記載した。兵庫県と三重県という比較的近距離での種分化は，両種が後翅を欠くことと関係があると思われる。日本産 *Agathidium* 属５亜属と日本産 *Macroceble* 亜属３種への検索表を付した。

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Two New Species of the Genus *Agathidium* (Coleoptera: Leiodidae) from Japan*

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Abstract Two new species of the genus *Agathidium* are described under the names *A.* (*Agathidium*) *katsuragiae* sp. nov. and *A.* (*A.*) *morishitae* sp. nov. from Honshu and Kyushu respectively, in Japan. They were collected from litter layers by use of Berlese's funnel.

The genus *Agathidium* PANZER, 1797 comprises about 450 species known from the Palaearctic region and is divided into 7 subgenera, among which the subgenus *Agathidium* is the largest group.

Among 5 subgenera known to occur in Japan (ANGELINI et MARZO, 1988; HOSHINA, 1998), the subgenus *Agathidium* includes 16 specie, of which 9 species of which have completely atrophied wings and inhabit litter layer in the forest floor. These conditions may result the allopatic speciation by the reproductive isolation and our species of the subgenera *Agathidium* and *Macroceble* serve as an example of it. As each of these species has an isolated small range, it can be predictable that many species will be discovered from Japan with the progres of collecting in the future.

In the course of my studies on Japanese Leiodidae, two species of the genus *Agathidiu*m were discovered from Honshu and Kyushu, and a careful examination has revealed that these species are new members of the subgenus *Agathidium*. Prior to the complete revisional work on Japanese Leiodidae, they are described in the present paper.

Most of the type specimens described here are preserved in the collection of the Entomological Laboratory, Kyushu University, and the remainder is in the private collection of YASUHIKO HAYASHI, Kawanishi C. The specimens taken by me were collected by Berlese funnels.

Before going further, I am very grateful to Dr. JUN'ICHI YUKAWA of Kyushu University, for his continuous guidance and critical reading of my early draft. My deep gratitude is also due to Mr. YASUHIKO HAYASHI, Kawanishi City, Mr. TOSHIO KISHIMOTO of Tokyo University of Agriculture, Mr. NOBUYUKI NARUKAWA, Mie Pref., and Mr. TERUHISA UENO of Kyushu University for their kindly supplying me valuable specimens used in this study.

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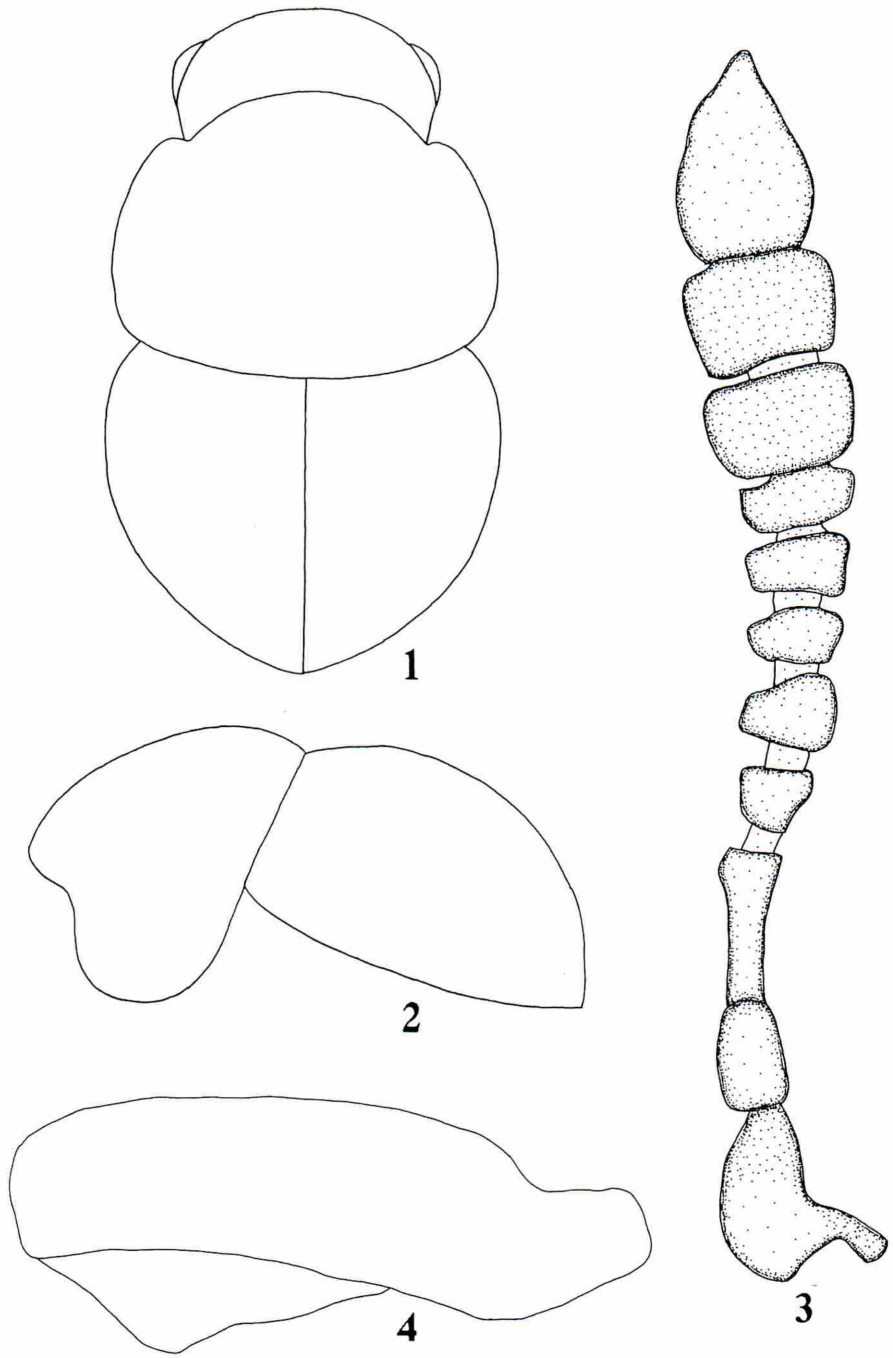
*Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, (Ser. 5, No. 14)



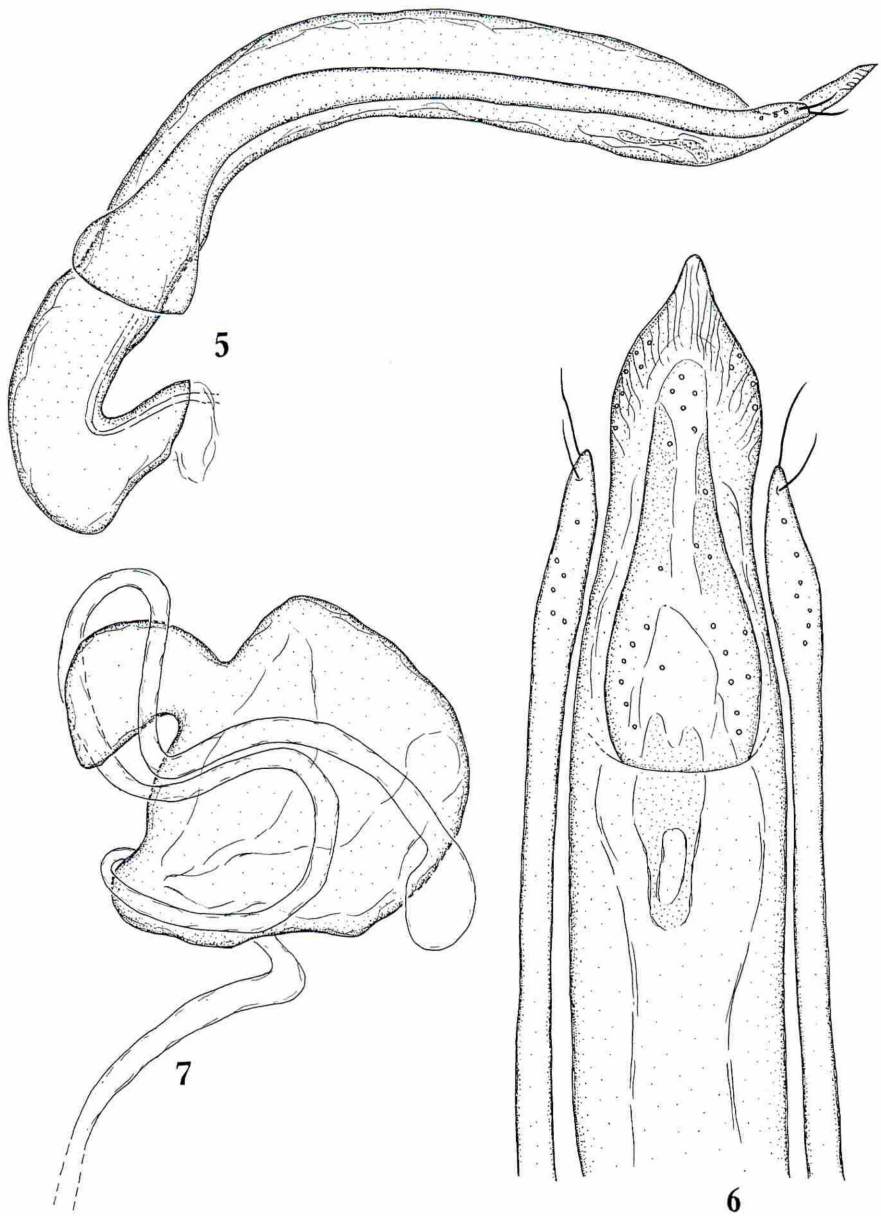
Figs. 1-4. *Agathidium* (*Agathidium*) *katsuragiae* sp. nov. 1, body, dorsal view; 2 , body, Iateral view; 3, antenna; 4, hind femur of male.

Agathidium (*Agathidium*) *katsuragiae* sp. nov.

(Katsuragi-maru-tamakinokomushi)

(Figs. 1-7)

Body about 1.7 times as long as wide, almost glabrous on dorsum, shining, reddish brown or reddish brown to brown in general; antennae reddish brown and almost concolorous, but about apical third of 11th segment a little lighter than the other parts; legs brown with a little lighter tarsi; mesosternum light brown to reddish brown; metastemum and venter brown.



Figs. 5-7. *Agathidium* (*Agathidium*) *katsuragiae* sp. nov. 5, aedeagus, lateral view; 6, apex of aedeagus, ventral view; 7 , spermatheca.

Head widest at eyes, about 1.7 times as wide as long, about 0.60 times as long as and about 0.68 times as wide as pronotum (Fig. 1), with micro-punctures very sparsely, sometimes about 1 to 4 semitransparent fine hairs along anterior margin, without microsculpture on dorsum; anterior margin of head almost straight, gradually curved toward the position of eyes; lateral margins of head almost straight behind eyes; ventral side hairy in about apical third, without punctures, with microsculpture and distinct antennal grooves, which are present at about basal third. Eyes slender, located at about basal three-fifths. Clypeal line absent. Labrum with about 10 semitransparent fine hairs. Mandibles hairy, almost straight at inner margin, arcuate at outer margin, strongly pointed at apex, almost of the same size in both sexes. Antennae elongate (Fig. 3), about 0.88 times as long as width of head; 1st to 3rd and 11th segments longer than wide; the other segments wider than long; 3rd segment about 1.7 times as long as 2nd and longer than the 4th plus 5th; 9th segment about 1.7 times as long as and about 1.4 times as wide as 8th, and almost as large as 10th; 11th segment oval, a little pointed at apex; all seg-ments hairy; 1st to 3rd segments hairy only on one side; 4th to 11th segments each with a few semitransparent fine fairs which are longer than width of respective segment; 9th to11th segments densely hairy.

Pronotum widest at about basal third, about 1.5 times as wide as long, 0.73 times as long as and almost as wide as elytra in dorsal view (Fig. 1), distinctly angulate at anterior and posterior corners in lateral view (Fig. 2), with very sparse micro-punctures, without microsculpture.

Elytra widest at about two-fifth from base, about 1.1 times as wide as long (Fig. 1), with a weak humeral angle in lateral view (Fig. 2), with sparse micro-punctures, without microsculpture; sutural stria absent. Hind wing absent.

Mesosternum glabrous, impunctate, with microsculpture. Metasternum sparsely hairy, impunctate, with microsculpture and a distinct femoral line. Venter densely hairy, impunctate, with microsculpture.

All femora microsculptured, hairy on ventral sides; hind femora in male with a wide tooth on posterior margin (Fig. 4). All tibiae dilated apically, densely hairy, with many fine spines along margins. All tarsi densely hairy, tarsal formula 5-5-4 in male, 5-4-4 in female.

Aedeagus (Figs. 5-6) slender in general, markedly bent near base, arcuately curved ventrad, almost parallel-sided but rapidly becoming thinner toward pointed apex from about apical eighth and reflexed near apex in lateral view; parameres slender and subcylindrical in general, nearly straight in middle, a little shorter than median lobe, gently curved ventad near dilated base, feebly expanded and reflexed in apical portion in lateral view and pointed at the tip in ventral view.

Female. Spermatheca as shown in Fig. 7 .

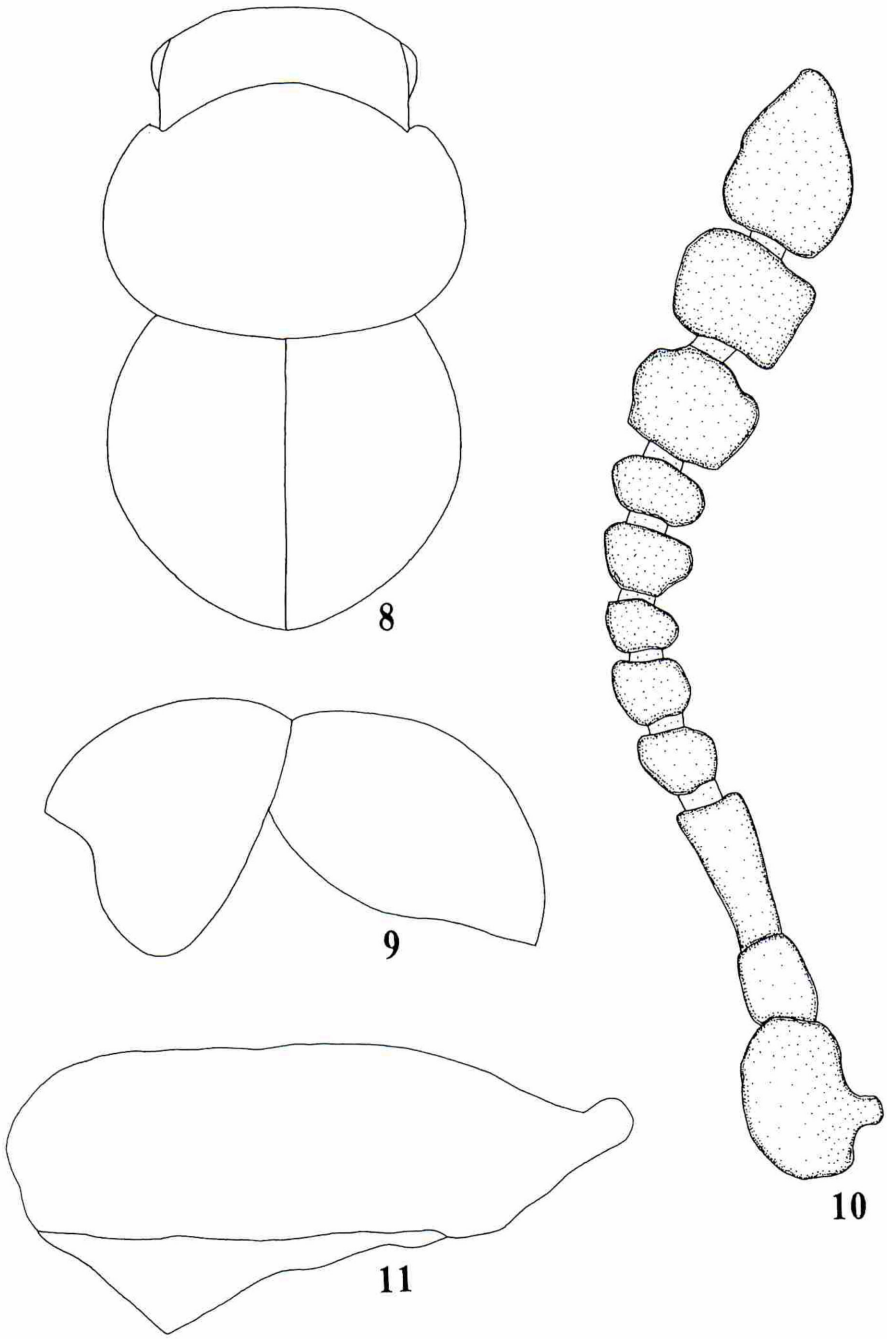
Length. 2.9-3.3 mm (Holotype: 3.0 mm).

Distribution. Japan: Honshu (Hyogo Pref. and Mie Pref.).

Type series. Holotype: ♂, Mt. Maya, Kobe-shi, Hyogo Pref., 30. V. 1998, H. HOSHINA leg. (Type No. 3077, Kyushu University). Paratypes: 2♂♂, 5♀♀, same data as holo-type; 5♀♀, Mt. Maya, Kobe-shi, Hyogo Pref., 5. V. 1993, T. KISHIMOTO leg.; 1♂, Mt. Maya, Kobe-shi, Hyogo Pref., 9. X. 1995, H. HOSHINA leg.; 2♂♂, 2♀♀, Mt. Maya, Kobe-shi, Hyogo Pref., 12. X. 1996, H. HOSHINA leg.; 3♂♂, 1♀, Tentaki, Oya-cho, Hyogo Pref., 7. V. 1997, H. HOSHINA leg.; 2♂♂, Tentaki, Oya-cho, Hyogo Pref., 28. V. 1998, H. HOSHINA leg.; 2♂♂, 1♀, Mt. Amaishiyama, Sasayama-cho, Hyogo Pref., 19. IV. 1997, Y. HAYASHI leg. (in coll. Y. HAYASHI); 4♀♀, Suzuka-toge, Seki-cho, Mie Pref., 23. XI. 1993, H. YOKOZEKI leg.; 1♂, Hirakura, Misugi-mura, Mie Pref., 28. V. 1994, H. YOKOZEKI leg.

Remarks. This species is similar to *Agathidium (Agathidium) egregium* ANGELINI et

MARZO, 1995 in appearance, but the hind femora in male have a distinctly pointed tooth on posterior margin.



Figs. 8-14. *Agathidium* (*Agathidium*) *morishitae* sp. nov. 8, body, dorsal view; 9 , body, Iateral view; l0, antenna; 11 , hind femur of male.

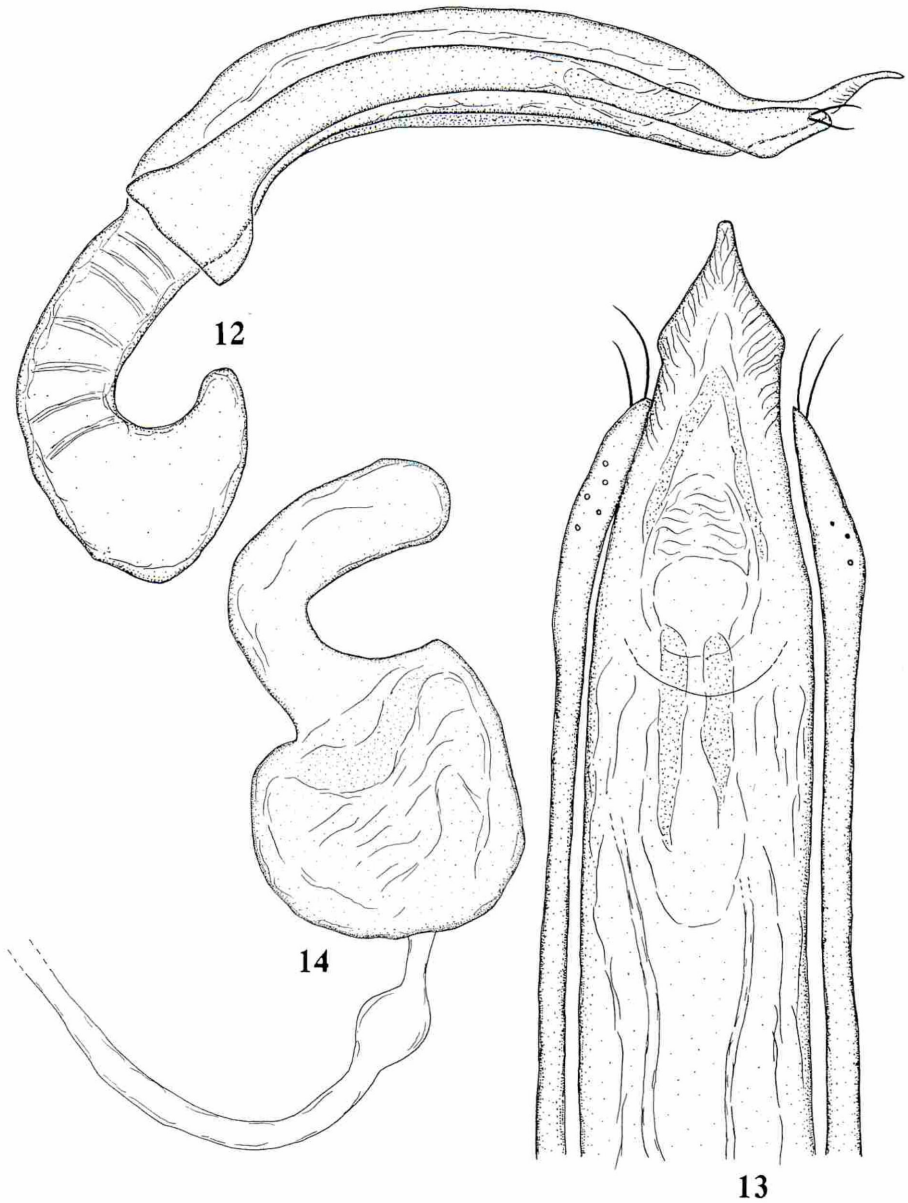
Agathidium (*Agathidium*) *morishitae* sp. nov.

(Morishita-maru-tamakinokomushi)

(Figs. 8-14)

Body about 1.8 times as long as wide, almost glabrous on dorsum, shining, dark brown to black in general; antennae reddish brown, almost concolorous, but about apical third of 11th segment a little lighter than other parts; pronotum a little lighter at margins; legs reddish brown with a little lighter tarsi; mesosternum reddish brown to brown; metasternum and venter brown.

Head widest at eyes, about 1.6 times as wide as long, about 0.60 times as wide as and



Figs. 12-14. *Agathidium* (*Agathidium*) *morishitae* sp. nov. 12, aedeagus, lateral view; 13, apex of aedeagus, ventral view; 14, spermatheca.

about 0.69 times as long as pronotum (Fig. 8), with sparse micro-punctures and without microsculpture on dorsum; anterior margin of head almost straight, gradually curved toward the position of eyes; lateral margins of head almost straight behind eyes; ventrai side sparsely hairy, without punctures, with microsculputure and distinct antennal grooves, which are present on about one-third from base. Eyes slender, located at about three-fifth from base. Clypeal line absent. Labrum with about 10 semitransparent fine hairs. Mandibles sparsely hairy, almost straight at each inner margin, arcuate at each outer margin, strongly pointed at apices, almost of the same size in both sexes. Antennae elongate (Fig. 10), about 0.79 times as long as width of head; 1st to 3rd and 11th segments longer than wide; the other segments wider than long; 3rd segment about 2.1 times as long as 2nd and longer than 4th plus 5th; 9th segment about 1.8 times as long as and about 1.4 times as wide as 8th, and almost as large as 10th; 11th segment oval, rather pointed at apex; all segments hairy; 1st to 3rd segments hairy only on one side; 4th to 11th segments each with a few semitransparent fine hairs, which are longer than width of respective segment; 9th to 11th segments densely hairy.

Pronotum widest at the middle, about 1.4 times as wide as long, 0.85 times as long as and almost as wide as elytra in dorsal view (Fig. 8), distinctly angulate in lateral view (Fig. 9), with very sparse micro-punctures and without microsculpture.

Elytra widest at about basal two-fifths, about 1.2 times as wide as long (Fig. 8), with a weak humeral angle in lateral view (Fig. 9), with very sparse micro-punctures, without microsculpture; sutural stria absent. Hind wings absent.

Mesosternum glabrous, with sparse micro-punctures and microsculpture. Metasternum sparsely hairy, impunctate, with microsculpture and a distinct femoral line. Venter densely hairy, impunctate, with microsculpture.

Front and middle femora microsculptured, sparsely hairy on ventral side; hind femora microsculptured, densely hairy on ventral side, and in male with a tooth on posterior margin (Fig. 11). All tibiae dilated apically, densely hairy; with many fine spines along margins. All tarsi densely hairy, tarsal formula 5-5-4 in male, 5-4-4 in female.

Aedeagus (Figs. 12-13) slender in general, almost parallel-sided, gently arcuate but markedly bent ventrad near base, abruptly becoming subtriangularly thinner towar pointed apex in lateral and dorsal views and reflexed in about apical one-sixth; parameres slender and gently arcuate in general, not reaching apex of median lobe, triangularly dilated in base, a little expanded and feebly reflexed near apex in lateral view, almost straight at lateral margins, a little expanded and pointed apicaily in ventral view.

Female. Spermatheca shown as in Fig. 14.

Length. 3.0-3.4 mm (Holotype: 3.3 mm).

Distribution. Japan: Kyushu (Shimo-Koshiki Is.).

Type series. Holotype: ♂, Mt. Otake, Shimo-Koshiki Is., Kagoshima Pref., 24. V. 1994, T. UENO leg. (Type No. 3078, Kyushu University). Paratypes: 1♂, 2♀♀, same data as holotype.

Remarks This species is similar to *Agathidium* (*Agathidium*) *samurai* ANGELINI et MARZO, 1988 in appearance, but the median lobe is much less arcuate in the middle (Fig. 12). This is also closely related to *A.* (*A.*) *katsuragiae* sp. nov. in appearance, but the body is much darker, and median lobe is relatively thicker in lateral view (Figs. 5 and 12) and angulate at its apical portion in ventral view (Fig. 13).

要　　約

日本産マルタマキノコムシ属の２新種．一本州・関西地方と九州・下甑島から *Agathidium* 属（マルタマキノコムシ属）の２新種が発見され，それぞれ *A.* (*Agathidium*) *katsuragiae* sp. nov.（和名：カツラギマルタマキノコムシ）と，*A.* (*Agathidium*) *morishitae* sp. nov.（モリシタマルタマキノコムシ）として記載した．これら後翅を欠く２種のタマキノコムシは，台湾と日本から記録されていた同属の種に似るが，雄交尾器と雄後腿節の突起の形態により区別できる．

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Notes on *Cryptocephalus luridipennis pallescens* KRAATZ and *C. instabilis* BALY in Japan, with Descriptions of their Larvae (Coleoptera: Chrysomelidae)

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Abstract *Cryptocephalus luridipennis pallescens* KRAATZ is newly recorded from Japan. Also the difference between *C. luridipennis pallescens* and *C. instabilis* is made clear and it is proposed that the application of name *C. luridipennis pallescens* to *C. instabilis* is erroneous. Simultaneously the adult and larval characters, distribution and biological notes are given.

Key words *Cryptocephalus*, *instabilis*, *luridipennis*, Japan, New record, Larva, Biology

Introduction

BALY described *Cryptocephalus instabilis* from Japan in 1873, and MATSUMURA (1931), YUASA (1950), CHÛJÔ (1956), NAKANE (1963) and CHÛJÔ & KIMOTO (1961) used this name. GRESSITT & KIMOTO (1961) synonymized *C. luridipennis* SUFFRIAN with *C. pustulipes* MÉNÉTRIÈS based on Chinese materials. KIMOTO (1964) also synonymized *C. instabilis* with *pustulipes*. As the result of these treatment, only *C. pustlipes* was recognized in Japan. MEDVEDEV (1973 & 1982), however, treated *C. luridipennis* and *pustulipes* as independent species, showing figures of aedeagi, and simultaneously treated *C. pallescens* KRAATZ as a subspecies of *luridipennis*. KIMOTO (1986) also accepted this treatment, and applied the name *C. luridipennis* to Japanese species instead of *C. instabilis*. But *C. instabilis* has clear characteristics different from *C. luridipennis* as shown hereafter and we think that *C. instabilis* should be treated as an independent species. Both *instabilis* and *luridipennis pallescens* are found in grassland of Honshu Is., Japan.

In this paper, we are going to make clear the difference between *C. instabilis* and *C. luridipennis* and to describe some morphological features of their adult and larvae together

with the biological notes.

We wish to express our hearty thanks to Dr. L. MEDVEDEV of Institute of Animal Morphology and Ecology, Moscow for identifying these species, Dr. S. KIMOTO of Kurume Univ., Kurume for his help on literatures, and to Mr. Y. HIRANO, Odawara, Dr. Y. KOMIYA, Maebashi, Mr. R. SONOBE of the Tochigi Prefectural Museum in Utsunomiya, and Mr. S. TSUYUKI, Zushi for their kind offer of numerous materials.

Adult Stage

Both the species, *C. instabilis* and *C. luridipennis pallescens*, are distinguished from the other Japanese species of the genus as follows: Dorsum yellowish to pale reddish brown, with large black marks at least on pronotum ; clypeus with yellowish white patch; pro-notum more or less densely covered with oval punctures;elytra irregularly punctate and glabr-ous; elytral pattern variable, but usually without posterior transverse band; 5th abdominal sternite in male without tooth nor tubercule.

Cryptocephalus instabilis BALY (resurrected from synonymy)

(Fig. 1a)

Cryptocephalus instabilis BALY, 1873, Trans. Ent. Soc. Lond., 1873: 911 (Japan). - MATSUMURA, 1931, 6000 Illustrated Insects of Japan-Empire, Toko-shoin Publ., Tokyo, p.232-233. - YUASA, 1950, Iconog. Insect. Japon., Hokuryu-kan Publ., Tokyo, p.1194. - CHUJO, 1956, (Illustrated Japanese leaf beetles), The Forestry Agency, Tokyo, p.42-47. - NAKANE, 1963, Iconog. Insect. Japon. Col. Nat. Ed., Hokuryu-kan Publ., Tokyo, p.325. - CHUJO & KIMOTO, 1961, Pac. Ins. 3: 133.

Cryptocephalus kiotosinus PIC, 1908, L'Echange, Rev. Linn. 24: 92 (Kioto).

Cryptocephalus multiconnexus PIC, 1908, t.c. (Japan).

Cryptocephalus pustulipes: KIMOTO, 1964, Jour. Fac. Agr. Kyushu Univ., 13: 151.

Cryptocephalus lulidipennis: KIMOTO, 1986, Entomol. Rev. Japan 41: 124, 125; — 1994, Leaf-beetles of Japan, vol. adult: 117, 119, 217, 282.

Diagnosis Body short and subcylindrical as usual in the genus, 4.5mm in length (mean of 29exs., range 4.0-5.0mm) in male, 5.2mm (mean of 29exs., range 4.6-5.6mm) in female; dorsum yellowish to reddish brown, venter black; head black with small yellowish white patches on fronto-clypeus and genae; pronotum with 5 black marks of various sizes; elytra with 4 pairs of black marks, of variable size as shown in Fig. 2 and Tab. 1; in female elytra sometimes tinged with yellowish brown between black marks; legs black, sometimes with trochantin brownish; antennae black with 4 or 5 basal segments reddish brown.

Antennae robust, 10th segment twice as long as wide (Fig. 3); pronotum densely covered with distinct oval punctures; legs stout, 1st tarsal seg-ment of fore legs in male distinctly wider than half of the length; aedeagus strongly widened dorso-ventrally toward apex, circular orifice perpendicular as in Fig. 3.

Distribution: Japan (Honshu).

Host plants: *Salix* spp., *Malus toringo*, *Lespedeza* sp., and *Alnus hirsuta*.

Specimens examined. Aomori Pref. - 4exs., Hiraka cho, 8. VI. 1960, K. SHIMOYAMA leg.; 3exs., Kuzukawa, Hiraka, 8. VI. 1960, K. SHIMOYAMA leg. Iwate Pref. -1ex., Arakawa-kogen, Tohno shi, 28. VI. 1987, S. ITOH leg. Fukushima Pref. - 1ex., Kasshi-onsen, 12, 13. VI. 1994, H.TAKIZAWA leg.(HT).Tochigi

Pref. - 1ex., Mt. Chausu, Nasu, 18. VIII. 1996, HT; 4exs., Jomin Yukari, Nasu, 5. V. 1997, 2. VI. 1996, HT; 28exs., Shioya-machi, Kinugawa Riv., 18. V. 1996,on *Salix* sp. HT; 4exs., Mt. Minamigassan, Nasu., 5. VII. 1997, 20. VII. 1996, HT; 1 ex., Nikko-zawa, Kuriyama, 23. VI. 1991, HT; 1ex., Nishinasuno, Sabigawa Riv., 23. VI. 1991, S.TSUYUKI leg.; 1 ex., Senjogahara, Nikko, 11-13. VI. 1967, on *Malus toringo*, HT; 1 ex., Takaku, Nasu, 20. V. 1995, HT; 3exs., Toyohara, Nasu, 28. IV. 1997, on *Salix* sp., HT. Yamanashi Pref. -1ex., Mt. Senjo, 9-11. VII. 1971,HT. Nagano Pref. - 1ex., Kamikochi, 16. VI. 1987, N.YAMADA leg.; 4exs., Kiriga-mine, 1,2. VI. 1974, HT; 3exs., Shirakaba-ko, 6,7. VI. 1987, HT; 2exs., Utsukushigahara, 5. VII. 1970, HT. Seventy-four specimens from the following localities in Tochigi Pref. are pereserved in the collection of the Tochigi Prefectural Museum, Utsunomiya: Nikko (Kotoku, Yumoto), Imaichi (Kobayashi, Togawa), Kuriyama (Aoyagidaira, Kawamata, Yunishikawa), Fujihara (Keicho-kaitaku, Yokokawa), Shiobara (Hikinuma, Happogahara), Shioya (Kinugawa Riv.), Nasu (Takaku: Nakagawa Riv.), Kuroiso (Akasaka: Nakagawa Riv., Okawa, Osawa, Sigiuchi), Kawachi (Shimookamoto: Kinugawa Riv.), Utusunomiya (Ishii), and Awano (Kaminagano).

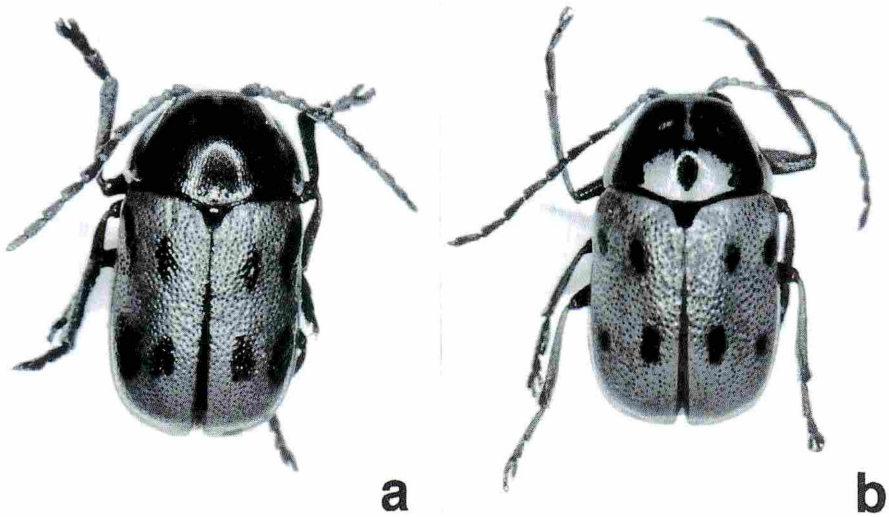

Fig. 1. Habitus of the genus *Cryptocephalus* spp.: a, *Cryptocephalus instabilis* BALY (from Shioya-machi, Tochigi); b, *C. luridipennis pallescens* KRAATZ (from Jomin Yukari, Tochigi)

Cryptocephalus luridipennis pallescens KRAATZ

(Fig. 1b)

Cryptocephalus pallescens KRAATZ, 1879, D. E. Z. 23: 133, 134 (Amur). - CHUJO, 1940, Trans. Nat. Hist. Soc. Formosa 30: 388, 389 (Amur, Korea).

Cryptocephalus luridipennis pallescens: MEDVEDEV, 1973, Entomo-fauna of Soviet Far East 9 (112): 116-119 (S. Khabarovsk, Primorskyi: aedeagus figured); — 1982, Insects of Mongolia: 48, 225 (Amur, NE. China, Korea: aedeagus figured)

Cryptocephalus pustulipes: GRESSITT & KIMOTO, 1961, Pac. Ins. Mon. 1A: 125, 142-143 (Siberia, N. China, Korea: figured).

Diagnosis Body somewhat smaller than in *C. instabilis*, 3.7 mm in length (mean of 16 exs., range 3.4-4.4mm) in male, 4.5mm (mean of 22exs., range 4.2-5.0mm) in female; dorsum yel-lowish brown with or without black marks; pronotum in male with a broad M-shaped black mark, which is sometimes widely spread on disc, and in female with 5-7 small black marks, which are often partially fused together; elytra with 4 small black marks, which sometimes

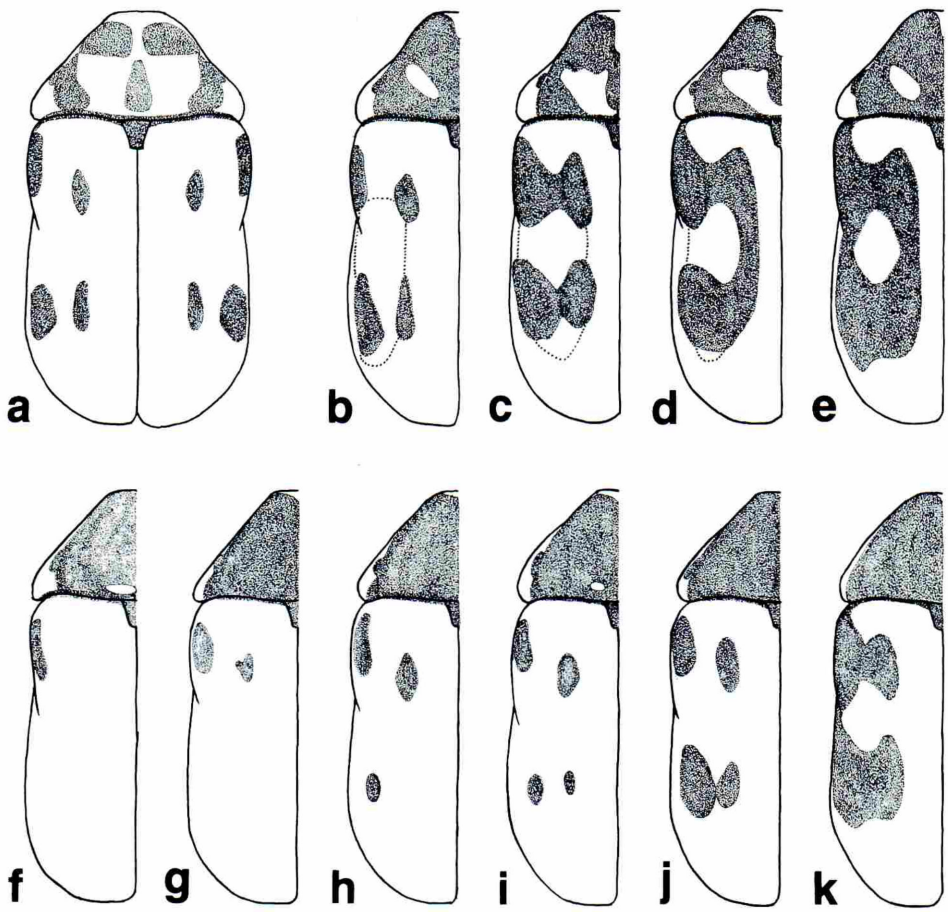

Fig. 2. Variation of the dorsal patterns in *C. instabilis* BALY, a-e: male, f-k: female; a-d, g, i & j from Shioya-machi, Tochigi; e & k from Nikko, Tochigi; f from Kirigamine, Nagano; h from Shirakaba-ko, Nagano

Table 1. Variation in dorsal patterns in *C. instabilis* and *luridipennis*

	Pronotum			Elytron						
	separate spots	fused spots	largely black	no. of spots 0	1	2	3	4	fused spots	
instabilis										
male	0	0	29	0	1	1	3	22	2	exs.
female	12	13	4	0	1	0	1	14	13	
luridipennis										
male	0	12	4	6	3	1	0	6	0	
female	14	6	1	6	1	0	2	9	3	

fused together as shown in Fig. 4 and Tab. 1; venter black, in female generally yellowish brown in pygidium and apical portion of 5th abdominal sternite; legs reddish brown, sometimes infuscated; antennae blackish brown, 4 basal segments reddish brown.

Antennae slender, 10th segment 2.5 times as long as wide (Fig. 3); pronotum densly

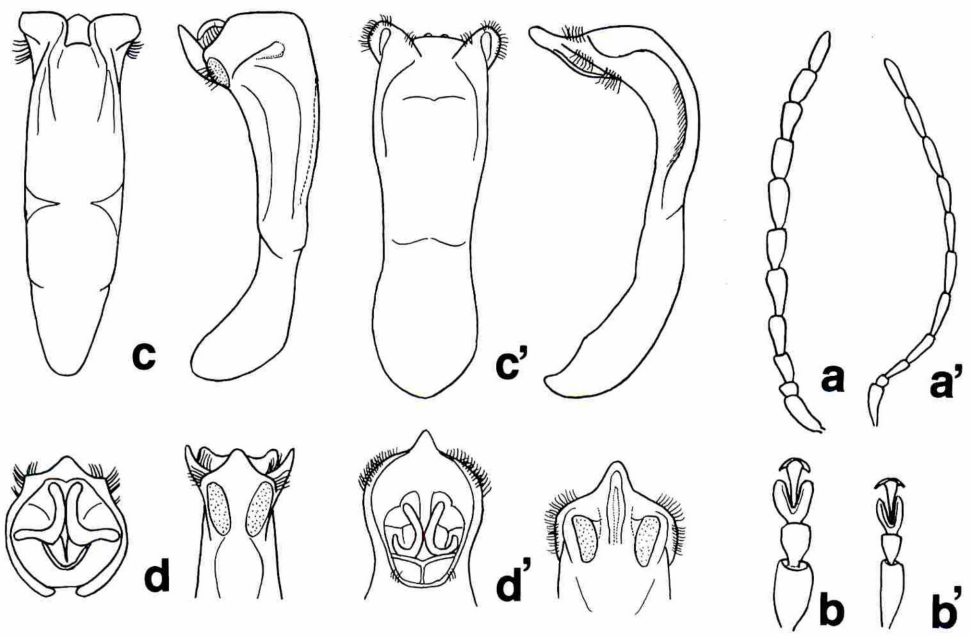

Fig. 3. Diagnostic characters between *C. instabilis* BALY and *C. luridipennis pallescens* KRAATZ; a-d, *C. instabilis* BALY; a'-d', *C. luridipennis pallescens* KRAATZ a, male antenna; b, male tarsus of fore leg; c, aedeagus (left, dorsal view; right, lateral view); d, apex of aedeagus (left, dorsal view; right, ventral view)

covered with shallow oval punctures leaving almost impunctate baso-median area.; legs slender, with 1st tarsal segment of fore legs 2.3 times as long as wide in male; aedeagus strongly curved at apical portion, not widened dorso-ventrally and with oval median orifice as in Fig. 3.

Distribution: Japan (Honshu), Korea, NE. China and Amur.

Host plants: *Salix* spp. and *Lespedeza* sp. in laboratory

Specimens examined: Tochigi Pref. - 10exs., Jomin Yukari, Nasu, 24. V. 1995, K. SATO leg., 18exs., 28. IV, 18. V. 1997, 26. V, 2. VI. 1996, HT; 2exs., Kofukabori, Nasu, 17. V. 1994, 16. VI. 1993, K. SATO leg., 8exs., 20. V, 3. VI. 1995, HT; 2exs., Shioya, Kinugawa Riv., 5. VI. 1997, K. SATO leg. Gumma Pref. - 1 exs., Mt. Haruna, 16. VII. 1963,Y. KOMIYA leg., 1 ex., 28. VI. 1981, S. TSUYUKI leg. Yamanashi Pref. - 1ex., Masutomi, Sudama, 2. V. 1984, M. MINAMI leg.; 1ex., Mt. Ogiyama, 27. V. 1973, HT; 1ex., Mt. Oohira, 28. V. 1972,Y. HIRANO leg. Nagano Pref. - 1ex., Kirigamine, 1,2. VI. 1974, HT; 5exs., Shirakaba-ko, 21, 22. VII. 1974, 13, 14. VII. 1991, HT.

This species is newly recorded from Japan. The subspecies *C. luridipennis pallescens* is mainly distinguished from the nominotypical subspecies occuring in Siberia, Mongolia and Amur by the colour patterns of the dorsum as shown in MEDVEDEV, 1973. In *C. luridipennis pallescens* the pronotum has 2 large yellowish spots near base in general, elytra are generally lacking spots in male and bearing 2, 2 spots in female. Whereas in the nominotypical subspecies the pronotum lacks such yellow spots and each elytron having 2, 2 spots in both sexes. But, on the other hand, it is indicated by his figures of variation of dorsal patterns that the characters mentioned above overlap to each other. Such a variation is often detected in the Japanese population as shown in Fig. 4. Six among 16 males have 4 black spots on the elytron, whereas 12 among 21 females have 4 spots or larger fused spots. Thus, it is uncertain whether these two subspecies are independent But, following his opinion, we would like to treat the Japanese population as ssp. *pallescens* tentatively, until we will have a chance to examine

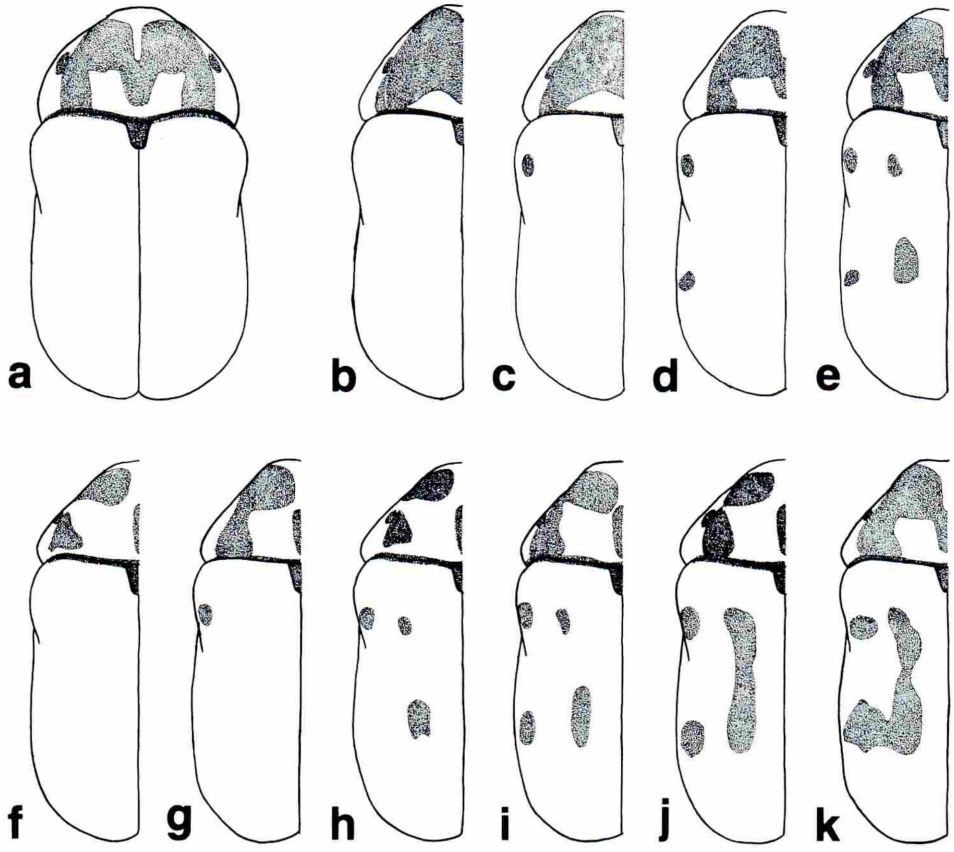

Fig. 4. Variation of the dorsal patterns in *C. luridipennis pallescens* KRAATZ, a-e: male, f-k: female; a: Ohiradai, Yamanashi; b-h from Kofukabori, Tochigi; i & j from Jomin Yukari, Tochigi; k from Mt. Ogiyama, Yamanashi

enough material of the nominotypical subspecies.

This subspecies, *C. luridipennis pallescens* is well similar to *C. instabilis*, and KIMOTO mistakenly confused these species. But the difference between two species are clear as noted in the following key.

1a Antennae rather slenderer, 10th segment narrower, 2.5 times as long as wide; aedeagus not widened, median orifice oval; lst tarsal segment of fore legs slenderer, 2.3 times as long as wide in male; punctures on pronotum shallower, lacking in baso-median area ..... *C. luridipennis pallescens* KRAATZ

1b Antennae rather robust, 10th segment wider, 2 times as long as wide; aedeagus strongly widened dorso-ventrally at apex, median orifice circular; 1st tarsal segment of fore legs robuster, 1.6 times as long as wide in male; punctures on pronotum deeper ..... *C. instabilis* BALY

Immature Stages

Cryptocephalus luridipennis pallescens KRAATZ

(Fig. 5)

Fully grown larva. Body J-shaped, widened and strongly bent forward at 5th abdominal segment, ca. 6mm in length, 2mm in width; yellowish white, almost glabrous except tubercles on head and thorax dark brown.

Head round, acutely ridged along frontal sutures; vertex declivitous, ruglose with mumerous short setae; frontal ridge with 6 pairs of setae; frons flat, with 3 pairs of median clavate setae and about 5 pairs of short setae, with irregularly granulate patterns; clypeus not fully separated from frons; antennae 3-segmented, with a sensory conical papilla on 3rd segment; mandibles 4-toothed; lower mouth parts strongly sclerotized; postmentum long-trapezoid, with 2 pairs of short setae.

Pronotum dorsally with a large transverse sclerite bearing 50-60 short setae mainly along the margins; venter with 2 weakly sclerotized tubercles at median line. Meso- and metathorax each with 2 smaller tubercles on dorsal region, with a large oval one on dorso-lateral region; spiracle strongly sclerotized; a small weakly sclerotized tubercle situated latero-posteriorly to the large tubercle; venter with 2 weakly sclerotized tubercles, one of which fused with the same same tubercle on the other side; legs slender, with numerous setose; tarsi with 2 pairs of broad spines on the ventral side.

Larval case: Blackish brown, 6.5mm in length and 3.5mm in width; surface rough with irregular protuberances, and weakly keeled longitudinally at antero-median part.

Pupa. Body 4 mm in length, 2 mm in width, yellowish white, glabrous, with stigma pale brownish; head with 2 pairs of small pinacle on vertex; fronto-clypeus with 2 pairs of short

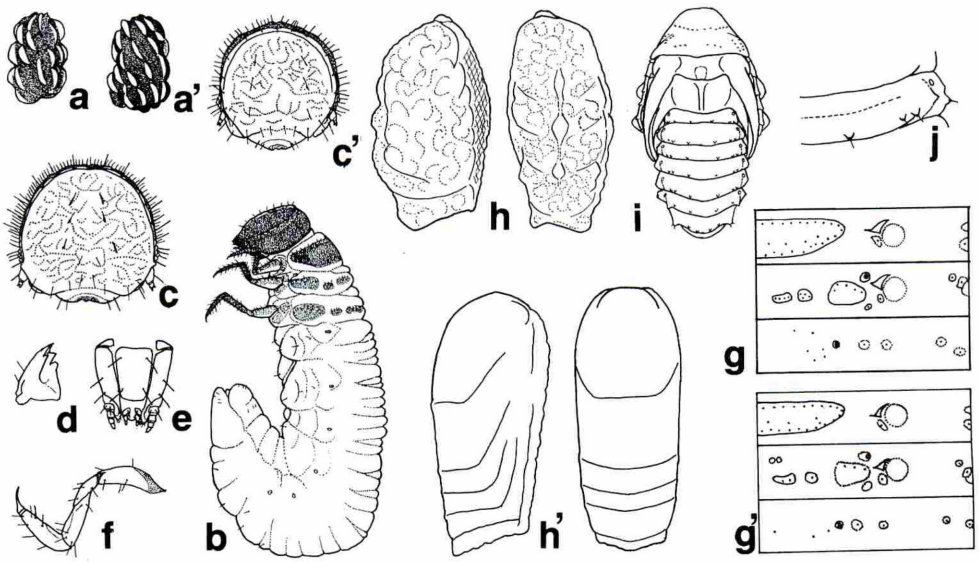

Fig. 5. Immature stages of *C. luridipennis pallescens* KRAATZ and *C. instabilis* BALY; a-j, . *luridipennis pallescens* KRAATZ; a'-j, *C. instabilis* BALY; a, egg; b-g: larva, b, lateral view; c, head-capsule; d, mandible; e, lower mouthparts; f, fore leg; g, tubercular pattern (above, prothorax; middle, mesothorax; below, 2nd abdominal segment); h, larval case (left, lateral view; right, front view); i-j: pupa i, dorsal view; j, 3rd abdominal segment

setae; pronotum with about 20-36 micro pinacles, each with a minute seta; each abdominal segment with 5 pairs of small pinacles, each one of them with a minute seta, 7th abdominal segment with a pair of small lateral projections.

Egg: Ovoid, 1mm in length; dark brown coated with feces; surface with 6-8 interruped spiral ridges.

Speceimens examined: A lot of specimens obtained by rearing the parent adults collected at Kofukabori, Nasu on 20. V. 1995, HT from egg to adult.

Cryptocephalus instabilis BALY

(Fig. 5)

Two months old larva. Body very similar in shape to the preceding species, 6.3mm in length. Head with vertex less perpendicular than the preceding species, wider and area visible from above; mesothorax with 2 additional pairs of small obscure tubercles antero-medially; thorax with ventral tubercles weak but distinct.

Larval case: Outline rather cylindrical and smooth, ca. 7mm in length and 3mm in width; surface rather smooth without ridges or tubercles.

Specimens examined. A lot of specimens of larvae for 2 months old obtained by rearing the parent adults from eggs, Kinugawa Riv., Shioya-machi, Tochigi Pref., 18. V. 1996, HT; a few larvae, Mt. Amagisan, Shizuoka Pref., 17. V. 1966, HT and Kirigamine, Nagano, 1,2. VI. 1974, HT.

This species is very similar to the preceding in larval stages but is discriminated from the latter by the presence of 2 additional pairs of weak dorsal tubercles on mesothorax, and the rather cylindrical shape of larval cases. The larva of this species was described as *C. luridipennis* SUFFRIAN (TAKIZAWA, 1994). The former figures and description were based on reared specimens from Mt. Kirigamine, Nagano Pref. This larva is 3.5 mm in length, which was erroneously written as the overwintering larva and has no dorsal tubercles on the meso- and metathorax in contrast to present specimens. However, younger larvae of both *C. instabilis* and *luridipennis pallescens* also lack the dorsal tubercles. These thoracic tubercles in both the species develop with larval instars. But in larvae of *C. signaticeps* BALY, which has the similar thoracic tubercles, it has already been reported that such a change does not occur (FUJITA1958).

Due to the matter mentioned above, Takizawa's key to larvae (1994, p.495) should be emended to include *C. luridipennis pallescens* as the following:

9a. Meso- and metathorax without blackish brown tubercles on the dorsum; granules on frons indis-tinctly and reticulately arranged ..... *C. approximatus* BALY
9b. Meso and metathorax with blackish brown tubercles on the dorsum 10
10a. Metathorax dorsally with 2 internal pairs of tubercles ..... *C. parvulus* MÜLLER
10b. Metathorax dorsally with 3 pairs of blackish brown tubercles 11
11a. Mesothorax antero-medially with 2 pairs of small additional tubercles; larval case smooth and cylindrical ..... *C. instabilis* BALY
11b. Mesothorax without additional tubercles; larval case more or less roughned with irregular and obscure protuberances 12
12a. Larva larger than 8mm in length; femora pale, only tibiae and tarsi dark brown ..... *C. signaticeps* BALY
12b. Larva smaller, about 6mm in length; legs wholly dark brown ..... *C. luridipennis pallescens* KRAATZ

Notes on Biology

Both *C. instabilis* and *luridipennis pallescens* are found in north to central Honshu. The former species has been recorded from Aomori, Iwate, Miyagi, Yamagata, Fukushima, Tochigi, Saitama, Kanagawa, Yamanashi, Nagano and Niigata Prefectures by the authors. The latter is now recorded from Tochigi, Gumma, Yamanashi and Nagano Prefs. The both seem to be associ-ated with natural grassland of alt. 500-1500m. In Tochigi Pref. *C. instabilis* is found in large numbers on *Salix* spp. at river side of lower land from late April to July, and in Summer on *Malus toringo*, *Alnus hirsuta* and *Lespedeza* sp. in higher land. *C. luridipennis* is also found from late April to early June in lower land and from July to Augast in the higher land. Though its host plants in fields are unknown, in laboratory it feeds and lays eggs on leaves of *Salix* spp. and *Lespedeza* sp.

In the same way as the beetles of the genus *Cryptocephalus*, both species seem to overwinter in old larvae, and to pupate in early spring. The newly emerged adults feed and copulate on host plants. The females drop the eggs coated with feces onto the earth. The lifespan of adults may last for a month long. The hatched larvae may feed on fallen leaves till Autumn, and then go overwin-tering in leaf litters. The eggs laid by adults of *luridipennis* on late May, 1995 hatched on early June, overwintered in old larvae and emerged as adult on May 7, 1996. This univoltine lifecycle common to the genus is also similar in higher land, but the active period of adults is shifted from late July to Augast. Though *C. instabilis* was only examined by rearing from oviposition in late May to larvae in July, these 2 species seems to have almost identical life-cycle.

要　　約

滝沢春雄・南雅之・佐藤光一：*Cryptocephalus luridipennis pallescens* KRAATZ ニセコヤツボシハムシを日本から記録すると共に，近年，*C. luridipennis* とされてきたコヤツボシハムシの学名を *C. instabilis* BALY にもどした．またこの２種について成虫および幼虫の特徴，食草，分布および生活史を報告した．

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Ent. Rev. Japan, 53(2): 77-80, Dec. 30, 1998

Two New Subspecies of *Homotechnes motschulskyi* (FLEUTIAUX,1902) (Elateridae, Coleoptera) from Mie and Nara Prefectures. Some New Forms of Elateridae in Japan(XXVII)*

By TAKASHI KISHII

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Abstract Two subspecies of *Homotechnes motschulskyi* (FLEUTIAUX,1902) are newly described (Hypnoidinae, Elateridae, Coleoptera) under the names *H. m. narukawai* subsp. nov. and *H. m. okudai* subsp. nov., from Miyakawa-son in Mie Prefecture and from Kasugayama in Nara Prefecture, respectively.

Key words Taxonomy; New subspecies, Hypnoidinae; Elateridae; Coleoptera; Japan.

Up to now, 36 subspecies of *Homotechnes motschulskyi* (FLEUTIAUX, 1902) has been known from Honshu and Shikoku in Japan. Recently I received two interesting examples of this species from Mie and Nara Prefectures through the courtesy of Messrs.NOBUYUKI NARUKAWA, Tsu, Mie and YOSHIHIDE OKUDA, Minoo, Osaka. At the result of my examination I concluded that they are undoubtedly new subspecies of *H. motschulskyi* in each. Although they are very similar to each other and to some other large subsepsies, both subspecies are easily distinguished from these resemblances by the structures of the pronotum and of the thorny plates on the bursa copulatrix in female genital organ.

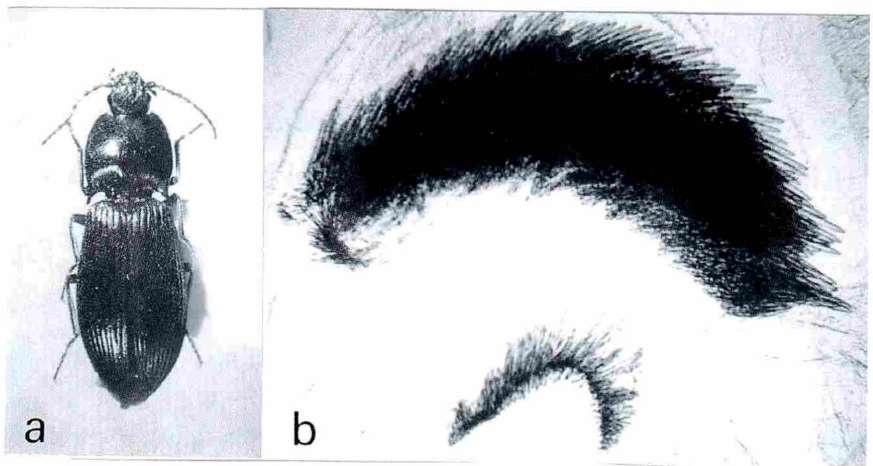
Before going further, I wish to express my sincere gratitude to Messrs. N. NARUKAWA and Y. OKUDA mentioned above for their kind goodwill, and to Mr. KOZO MIZUNO, Uji, Kyoto for the usual kindness through my examinating work of elaterids.

Homotechnes motschulskyi narukawai subsp. nov.

(Fig. 1)

Female, 14.25×4.85mm. General feature and coloration similar to those of subsp. *kawasei*. Distinctly larger, more or less shining all over. Pronotum (Fig.1-d) plainly broad and quadrate, ca. 1.19 times as wide as long, simply and roundly convex above, without any median line nor furrow, widest a little behind the middle, thence gently and roundly convergent forwards; anterior edge transversely emarginate, widely and clearly excavated and roundly emarginate at each lateral corner; latero-anterior ends obtusely projected forwards; hind angles elongate, developed postero-laterad, obviously narrowed at each base and acute at the tips; basal furrow situated at base of each hind angle, fine, rather distinct and elongate; discal punctures simple, small, sparse and nearly even on median area, generally becoming larger and

* Correction: I would like to amend as follows: In Entomological Review of Japan, 51(2), Cover of the off print, for subtitle number (XXXVI), read (XXVI).



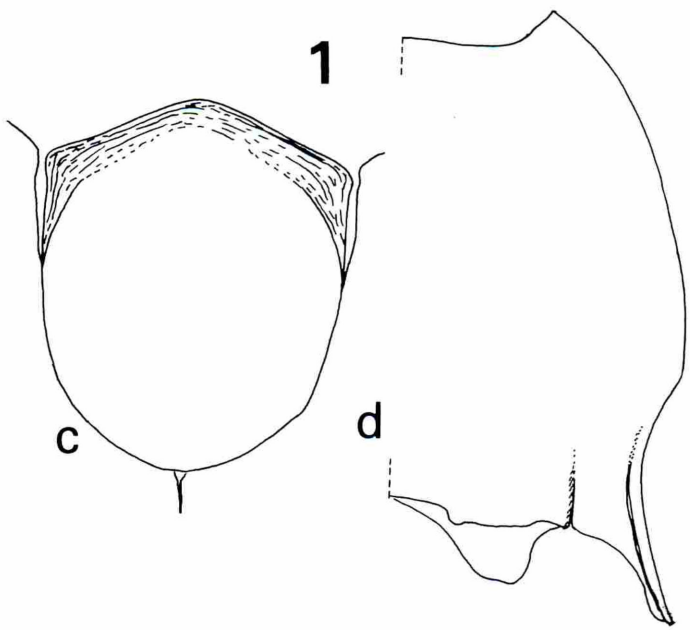


Fig.1. *Homotechnes motschulskyi narukawai* KISHII subsp. nov.; a, habitus of holotype, 14.25 mm; b, thorny plates on bursa copulatrix; c, scutel-lum; d, right half of pro-notum.

denser laterad, more or less ocellated at antero-lateral portion, and their interstices entirely smooth. Scutellum (Fig.1-c) subpentagonal or rather circular, subtriangularly expanded anterad at frontal edge, flattened and rather evenly and roundly depressed, and obliquely declined. Elytra with pubescence long, tender, sparse and generally grieseous; striae clearly and finely grooved; apices not compressed and moderately ended. Thorny plates on bursa copulatrix as figured in Fig.1-b, and the inner small plate conspicuously small and narrow.

Male unknown.

Holotype, ♀, Nishitani in Miyakawa-son, Mie Prefecture, 4.V.1994, N.NARUKAWA leg. (Preserved in the collection of Osaka Museum of Natural History).

The new subspecies is allied to subsp. *kawasei* (OHIRA,1995) from Hirakura in Misugi-son, Mie prefecture, but is different from the latter in having the structures stated in the above description, especially clearly narrowed bases of hind angle of pronotum, which is plainly prominent postero-laterad, and in having a small and thick inner thorny plate of the bursa

copulatrix. Further, it resembles subsp. *taichii* (NAKANE,1963), but differs from the latter in having the darker and larger body, more sparsely punctate pronotum, narrowly prominent hind angles of the pronotum and short and broad shape of the thorny plates of bursa copulatrix in female genitalia.

Homotechnes motschulskyi okudai subsp. nov (Fig.2)

Homotechnes motschulskyi ssp.: KISHII, 1997, NEJIREBANE, 76: 1-2, fig.2 (Mt. Kasugayama in Nara City).

This new subspecies is similar to the proceding new subspecies, but is distinguished from the latter by the pronotum parallel-sided and not constricted bases of hind angles, and the thicker thorny plates on the bursa copulatrix in female genitalia.

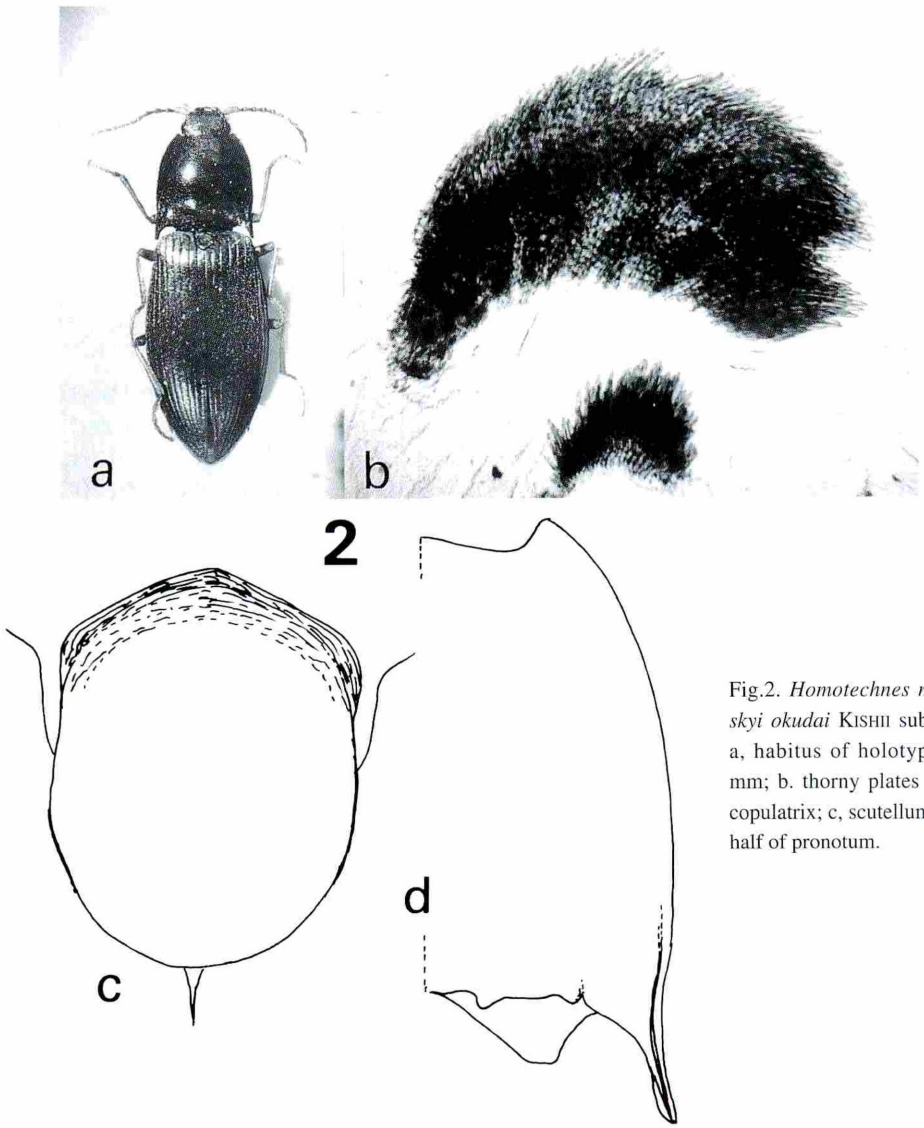


Fig.2. *Homotechnes motschulskyi okudai* KISHII subsp. nov.; a, habitus of holotype, 13.75 mm; b. thorny plates on bursa copulatrix; c, scutellum; d, right half of pronotum.

Female,13.75×4.80mm. Relatively large and generally well shining all over, allied in general appearance, coloration and structures of antennae to subsp. *kawasei* and subsp. *narukawai*. Pronotum (Fig.2-d) ca. 1.15 times as wide as long, subparallel-sided at posterior half, then gently and roundly converging forwards, simply and roundly convex above, without any median line nor furrow; emargination of anterior edge wide, weakly and roundly expanded at the middle and a little more strongly emarginate at lateral corners; antero-lateral ends obtusely prominent anteriad; hind angles elongately peojected posteriad and hardly divergent laterad, feebly narrowed at each base, with a basal furrow conspicuously small and rather obscure; punctures simple, exceedingly minute and sparse on disc, then gradually becoming a little larger and denser toward lateral border, but entirely simple and not ocellated at antero-lateral area. Scutellum (Fig.2-c) subpentagonal, flattened, declivous anteriad, not so wide, feebly and evenly concave and plainly expanded medio-anterad at frontal margin. Elytra rather sparse covered with pubescence slender, straight and entirely greyish; striae distinctly and finely grooved; apices feebly and elongately developed and a little depressed. Thorny plates on bursa copulatrix as figured in Fig. 2-b, and the inner small plate remarkably small, short and thick.

Male unknown.

Holotype,♀, Mt. Kasugayama in Nara City, Nara Prefecture, 3.V.1983, Y.OKUDA leg. (Preserved in the collection of the Osaka Museum of Natural History).

This new subspecies has a close similarlity to *Homotechnes brunneus* (NAKANE, 1954) in the general outline and the habitat, though the metawings in the former are entirely degenerated.

要　　約

岸井　尚：三重県宮川村と奈良市春日山からのミヤマヒサゴコメツキの２新亜種の記載．－*Homotechnes motschulskyi* (FLEUTIAUX, 1902)は後翅が退化しているのと，寒冷な高地に局所的に棲息するものが殆どで，これまでに３６亜種が記載された．本稿では大台ケ原山に近い三重県の宮川村及び，棲息可能性はないものと見られた奈良市内の春日山から得られた，何れも極めて大型の本種をそれぞれ別新亜種として記載した．何れも大型な点と前胸背板の形状，その点刻及びこの種に特徴的な雌の貯精嚢内にあるブラシ状の構造形態の差で区別できる．新名はそれぞれ発見者生川展行氏及び奥田好秀氏に因む．また和名新称はそれぞれミヤカワミヤマヒサゴコメツキ及びカスガミヤマヒサゴコメツキとする．

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—— 1993. Ditto(12). *ibid.*.37: 1-19, Figs.1-58.

—— 1994. Ditto(13). *ibid.* 38: 1-35, Figs.1-54.

—— 1996. Ditto(14). *ibid.* 39. 1-40, Figs.1-63.

OHIRA,H.,1955. New or little known Elateridae (Coleopyera) from Japan, XXXI. *Jap.Journ.sys.Ent.* 1(1): 96-97, Fig.2 (Hirakura and Fujiwara-cho in Mie Pref.).

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Ent. Rev. Japan, 53(2): 81-85, Dec. 30, 1998

A New Synaptine Genus and Species from Japan (Elateridae, Coleoptera)
Some New Forms of Elateridae in Japan (XXVIII)

By TAKASHI KISHII
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Abstract A new synaptine genus (Elateridae, Coleoptera), *Kinokunia* gen. nov. is erected based on a new species, *K. yoshidai* sp. nov., from Wakayama Prefecture in Japan

Key words Taxonomy; New Genus and Species; Synaptini; Elaterinae; Elateridae; Coleoptera; Japan.

The tribe Synaptini is a group of elaterid beetles, which are characterized by the body cylindrical, elongate, subparallel-sided or subfusiform and generally small-sized, and the tarsal claws sharply pectinate in usual by a few teeth. Up to date, the tribe has comprised nine genera, *Adrastus*, *Ctenoplus*, *Glyphonyx*, *Lanecarus*, *Microglyphonyx*, *Okinawana*, *Peripontius*, *Silesis* and *Synaptus* and four genera of them have been known from Japan, viz., *Glyphonyx*, *Lanecarus*, *Okinawana* and *Silesis*.

Recently, I received an interesting example belonging to the Synaptini from Wakayama Prefec-ture in the Western Honshu, Japan through the courtesy of Mr. MOTOSHIGE YOSHIDA. At a glance, the example seemd to be a species of the genus *Glyphonyx*, but the detailed examination comes to the conclusion that it is a new species and a new genus of the tribe Synaptini should be established for it.

Before going into further details, I wish to express my sincere thanks to Mr. M. YOSHIDA of Yura-cho in Wakayama Pref. and a membership of our society. The holotype is deposited in the collection of the Osaka Museum of Natural History.

Kinokunia gen. nov.

Type species: *Kinokunia yoshidai* sp. nov.

Body rather small (ca.4 mm) than the members of the tribe, robust, not so elongate and rather subfusiform, plainly cylindrical, distinctly convex above and below medio-longitudinally, dark brownish in colour, and well shining all over. Head capsule gently convex; front margin of head complete, entire, clearly defined and carinated, acutely pointed anteriad at the middle and conspicuously pitted at lateral ends before eyes; frontal groove broad, transversely quadrate, clearly and evenly concave, perfectly separated at the middle by a clear medio-longitudinal carina, and inferior margin of groove not conjoined nor approached to anterior edge of head at the middle. Mouth parts prognathous inferiad. Antennae 11-segmented, subfiliformed, with basal joint exceedingly elongate, 2nd and 3rd short, cylindrical, and ill-serrated from 4th to

10th. Pronotum broad, subtrapezoidal, and simply and roundly convex above without any median line nor elevation; lateral margins complete, clearly sinuate before hind angles and entirely invisible in dorsal view; each hind angle having an obvious straight carination, which extends near anterior margin and a little expanded laterad at anterior end like a nodule; basal furrows near hind angles small, but plainly notched at inner sides. Scutellum subtriangular, flattened, without any line nor elevation. Elytra plainly punctate-striate; each humeral angle well defined with a pair of small mucrones at anterior margin; posterior ends acute and moderate. Prosternum broad. Prosterno-pleural sutures linear, clearly carinate at prosternal side and duplicately margined throughout at pleural edges and the anterior parts clearly furrowed. Prosternal process elongate, narrow, largely and roundly excavated at hind apex, with lateral sides plainly carinated and short protuberant anteriad from procoxal cavities; posterior end of lower mucro broad, with a small projection at the middle, and hind apex sharply projected posteriad. Mesosternal cavity elongate-trapezoid, concave at the middle, with lateral edges a little elevated inferiad at posterior ends. Metasternum broad, with a pair of weak linear carinae extending posteriorly behind mesocoxal cavities. Metacoxal plates narrow, parallel-sided and a little broadend at bases. First tarsal segment elongate and simple, 2nd and 3rd short and feebly projected at infero-posterior ends, 4th small with elongate and narrow lamella at infero-posterior end, claws distinctly dentate by a few acute teeth. Male genitalia rather broad.

Key to the Genera of the Tribe Synaptini in Japan

1. The 3rd tarsal segment lamellate apically ..... *Lanecarus* OHIRA
- The 4th tarsal segment lamellate apically 2
2. Frontal groove of head widely obsolete at the middle, and hardly visible near each antennal sulcus 3
- Frontal groove of head separated at the middle 4
3. Hind edge of 7th abdominal sternite sharply projecting ..... *Silesis* CANDÈZE
- Hind edge of 7th sternite rounded ..... *Okinawana* KISHII
4. Frontal groove separated by an acute point and conjoined with anterior edge of frons and inferior one of head; each groove spindle-shaped ..... *Glyphonyx* CANDÈZE
- Frontal groove entirely separated by a distinct medio-longitudinal carina; each groove transversely trapezoidal ..... *Kinokunia* gen. nov.

Kinokunia yoshidai sp. nov.

(Figs.1 & 2)

Male, 4.14×1.20mm. Reddish brown with head and apical part of elytra more or less black, antennae, posterior border of pronotum and legs more or less paler; pubescence tender, long, rather dense, recumbent and pale yellowish with clear lustre.

Head broad, trapezoidal, widest behind eyes, plainly convex above, and gently declining anteriad; relative median distance between eyes and each eye breadth in dorsal view as 47:9 (ca. 5.2 times); frons narrowly depressed along anterior edge, acutely projecting at the middle, exceedingly carinated, roundly curved inferiad at bases, with a pair of distinct pits at each terminal end before eye; punctures large, perfectly ocellated, not so dense, but rather uneven in size, their interstices completely smooth and a little narrower than diameter of punctures in general; frontal groove (Fig.2-b) broad, conspicuously separated by an acute mediolongitudinal carina, each

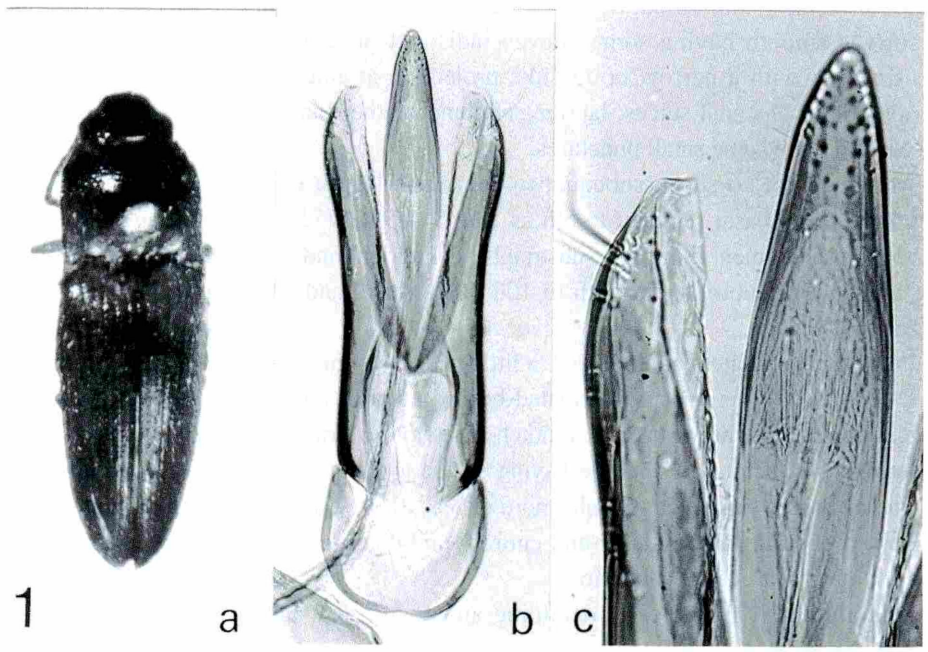

Fig.1. *Kinokunia yoshidai* KISHII gen. et sp. nov.; a, habitus; b, genitalia in dorsal view; c, ditto, apical part.

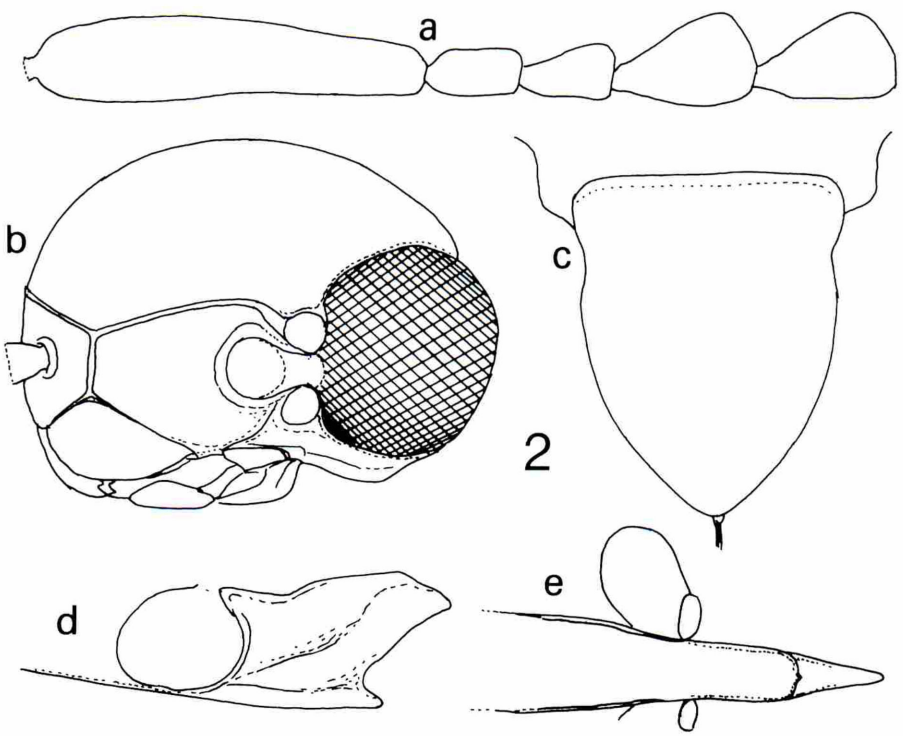

Fig.2. *Kinokunia yoshidai* KISHII gen. et sp. nov.; a, right antenna, 1st to 5th joints; b, head in profile, c, scutellum; d, prosternal process in profile; e, ditto in ventral view.

groove transversely trapezoidal at the middle, widest near antennal sulcus, clearly excavated, with surface smooth having some uneven indistinct punctures; eyes large, well prominent outwards, each with a narrow bridge-like projection at anterior margin and connected with posterior side of antennal sulcus; labrum semilunar, rather flattened, faced ahead, with smooth surface and having some small punctures.

Antennae not so short, subequal to combined length of head and prothorax; relative length/width from basal segment to 5th as 28/6.5, 7/5, 6.5/5.5, 10/7.5 and 10/7.5 respectively (Fig.2-a); basal segment elongate, substraight, cylindrical and feebly expanded near base, 2nd barrel-shaped, 3rd subtriangular, 4th to 10th ill-serrated, and 11th spindle-shaped and a little longer than 10th.

Pronotum quadrate, parallel-sided, a little wider than median length (1.26:1), sides clearly marginated and a little strongly carinated behind anterior ends; hind angles rather short, not divergent postero-laterad, with a small notch at the inner corner, and basal furrows distinct; disc with smooth part behind the middle having sparse and minute punctures; generally punctures large, rather dense, simple at summit, more or less ill-ocellated on surrounding area, then progressively becoming larger denser and entirely umbilical to lateral borders, and partly reticulated each other near lateral carination.

Scutellum (Fig.2-c) clearly declining antero-inferiad; lateral sides a little constricted behind anterior corners; surface almost smooth, having sparse and remarkably fine punctures; anterior margin straight transversely, and posterior end rounded.

Elytra not so elongate, 1.96 times as long as wide, a little more than 2.8 times the median length and subequal to the width of pronotum, subparallel-sided and widest at basal 1/3; dorsum gently and mediolongitudinally convex and highest near the middle; disc with clear and narrowly grooved striae which are densely and coarsely punctured; intervals rather flattened, smooth with sparse uneven and minute punctures; lateral margins well marginated with narrow and deep furrow along margin; humeri angulate, distinctly emarginate at the angles and with a pair of small mucrones at the anterior edge; sutures moderate at both the ends.

Prosternum plainly and roundly convex below, widest at anterior angles, then straightly narrowed posteriad; surface entirely smooth with sparse, minute and simple punctures, their interstices exceedingly wider than diameters of puncture; anterior lobe narrow, a little declined antero-inferiorly, with fore edge clearly marginated and roundly expanded. Prosterbo-pleural sutures straight, duplicated at pleural sides and plainly furrowed at anterior ends, narrowly carinated at sternal sides, and generally smooth on surface without punctures. Prosternal process narrow in ventral view (Fig.2-e), parallel-sided but a little broadened near base, well marginated at sides and the marginal lines extending ahead a little beyond procoxal cavities, with posterior end nearly rounded and having a small projection at the middle, which is broad and thick in profile (Fig.2-d), straightly extending backwards behind procoxal cavities, with a round excavation before obtusely pointed apex. Propleuron narrow, narrowly shagreened along pronotal side, with punctures conspicuously large, dense and ocellated in anterior half, almost smooth having no punctures in hind half. Metasternum large, broad and with a short and oblique carina behind each mesocoxal cavity; surface smooth, densely punctured, the punctures rather large and simple, but clearly sparse and fine behind mesosternal cavities. Legs moderate in size; Tarsal claws quadri-dentate.

Genitalia as figured in Fig.1-b, c, generally broad; median lobe narrowed at apex but not acutely projected; each paramere a little expanded laterad at apical part and having a pair of

long hairs on dorsal and ventral sides respectively.

Female unknown.

Holotype: ♂, Kushi in Hidaka Town, Wakayama, 21. V. 1991, M.YOSHIDA leg. (in coll. Osaka Museum of Natural ahistory).

要　　約

岸井　尚：和歌山県日高町で採集されたニセクチブトコメツキ族の新属新種の記載－ Synaptini 族の新属新種として *Kinokunia yoshidai* を記載した．世界で 9 属（日本からは 4 属）知られているこの族の中で，前頭溝が広く中央で縦の隆起線で左右にわけられる点及び他の多くの特徴により，極めて特異な構造を持つので新属と認定した．新名は紀の国と発見者の吉田元重氏にちなむづくものである．（和名新称：ニセクチボソコメツキ属，ニセクチボソコメツキ）．

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Notes on the *Eucibdelus* Group of the Staphylinidae (Coleoptera) from Asia, 3.
A New Species of the Genus *Rhynchocheilus* SHARP from Malay Peninsula.

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Abstract *Rhynchocheilus exophthalmus* sp. nov. is described from Malaysia, which is closely related to *R. pectoralis* SHARP.

Recently I had an opportunity to examine two species of the genus *Rhynchocheilus* in the collection of the Natural History Museum, London through the courtesy of Mr. Martin J. D. BRENDEL of the Natural History Museum. It seems to me that they are new species. One specimen is a male andthe other is a female. I am going to describe the former as a new species but not to do the latter for warding off confusion with a few very similar species.

The new species is closely allied to *R. pectoralis* SHARP from Malay Peninsula in the similar structure of antennae and coloration of elytra.

I wish to express my deep gratitude to Mr. M. J. D. BRENDEL, who was kindly lending me precious materials. I thank cordially to Dr. KATSURA MORIMOTO, the Emeritus Professor of Kyushu University, for his critically reading the original manuscript of this paper.

Rhynchocheilus exophthalmus sp. nov. (Figs. 1-3)

Body slender, somewhat cylindrical, dull shiny, black with brownish tinge in pronotum and abdomen, elytra reddish brown, mouth organs pitchy brown, antennae nearly black with 1st segment brownish yellow with infuscate apex, each base of 4th and 5th segments reddish, apical margins of abdominal segments narrowly brownish, coxae and tarsi dark brown, trochanters, femora and tibiae yellow; pubescence on head, pronotum and elytra almost lost but the remained pubescence silvery white; 3rd to 6th tergites rather densely pubescent except median convex areas, 7th and 8th wholly pubescent, and all pubescence silvery white with faint yellowish tinge. Length: 16.8 mm (strongly exteNded).

Head obtrapezoidal, conspicuously narrowed posteriad, wider than long (27.0 : 21.0), much wider and slightly longer than pronotum (27.0 : 19.0 & 21.0 : 20.0), nearly straight at postgenae, widely rounded at hind angles and rather deeply emarginate at base; upper surface weakly convex, shallowly and widely bi-impressed on frons, rather strongly convex at the middle between eyes and moderately densely punctured, the punctures umbilicate, becoming denser toward postero-laterally, and interstices flat, much narrower than the diameter of the puncture and very sparsely and minutely punctured, and median line narrow, weakly convex,

running from front margin to vertex and irregularly impunctate; chaetotaxy composed of genal, occipital, infraorbital and subgenal macrosetae, occipital macrosetae very close to eyes a little behind the middle level of eye, and other macrosetae reduced, imperceptible. Eyes very large, extremely prominent, slightly shorter than postgenae (17.0 : 18.0). Labrum rather narrow, long, nearly two-thirds as long as head; lobes triangular, narrowly rounded at apex, separated in front, nearly straight at inner margin, slightly arcuate at outer margin, weakly declivous antero-laterally, very sparsely and weakly punctured with rather short golden pubescence and with about 7 long setae around apical angle. Mandibles very long, slightly longer than head; right mandible strongly and left one weakly tuberculate at about the middle of dorsum. Antennae slender and long, extending a little beyond elytral shoulders, all segments longer than wide, weakly thickened apicad from 2nd segment, widest at 9th segment; basal 4 segments polished, 5th segment weakly so, 11th subfusiform, and each segment with the following relative length: 26.0 : 16.0 : 22.0 : 12.0 : 10.0 : 10.0 : 10.0 : 9.5 : 9.5 : 9.0 : 12.5.

Under surface of head distinctly limited by the difference of surfacial sculpture at horizontal middle level of postgena,viz., upper surface strongly sculptured by dense punctures and not so shiny, on the other hand under surface weakly and very sparsely punctured, the interstices with rather close micro-punctures and rather shiny; subgenae very sparsely and shallowly punctured with sparse pubescence, interstices very minutely punctured and not pubescent. Fourth segment of maxillary palpus very sparsely punctured and pubescent.

Pronotum subcylindrical, widest at anterior third, slightly longer than wide (20.0 : 19.0), much shorter and narrower than elytra (20.0 : 38.0 & 19.0 : 36.0), slightly narrowed posteriad, nearly straight at sides, weakly emarginate at anterior margin and weakly arcuate at posterior one, gently narrowed anteriad from anterior third, sharply angulate at anterior angles and widely rounded at posterior ones; disc somewhat uneven, very densely and rather finely punctured and opaque, weakly convex medially in anterior fourth and in posterior half, with weakly convex small plaques at the middle and before base in each side, those convexities sparsely and coarsely punctured and shiny; punctures umbilicate and a little irregular in size, interstices not sculptured and rugulose in part; chaetotaxy of macrosetae consisting of antero-lateral and midlateral macrosetae, and 2 additional macrosetae present at anterior corner.

Elytra subquadrate, slightly longer than wide, slightly dilated posteriad, weakly arcuate at sides, rather shallowly emarginate at apices, narrowly rounded at outer and inner hind angles; surface weakly convex, somewhat uneven, sparsely and minutely punctured, the punctures umbilicate and becoming much finer and sparser posteriorly, interstices among punctures flat and not microsculptured, sutural space narrowly and weakly convex; macrosetae and long setae almost lost, and their sockets arranged along median line of each elytron and on epipleuron, about five in each number.

Abdomen narrow, nearly straight and subparallel at sides; 3rd to 6th segments deeply depressed at each base, the depression densely, coarsely, strongly and rugosely punctured and opaque in tergites, and the rest parts minutely punctured, the punctures dense in base but very sparse in apical sides; 7th and 8th segments not depressed, rather coarsely and not densely punctured at bases, minutely punctured in the rest, the punctures dense in middle, becoming sparser posteriad and extremely sparing in apical portions; 8th sternite widely and subtri-angularly emarginate at the middle of apical margin and narrowly rounded at extreme base of the emargination.

Legs slender, moderately long and not setose; protibiae subclavate, not thick, shallowly

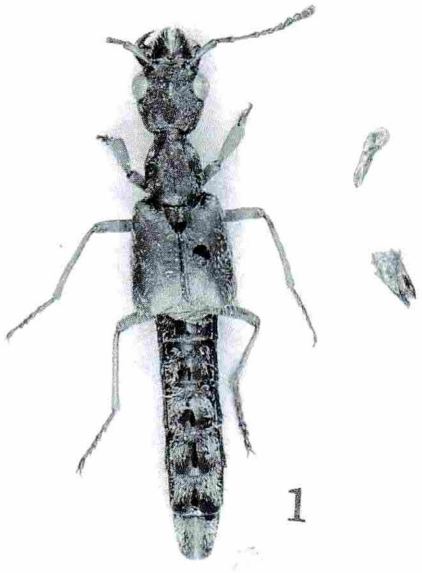
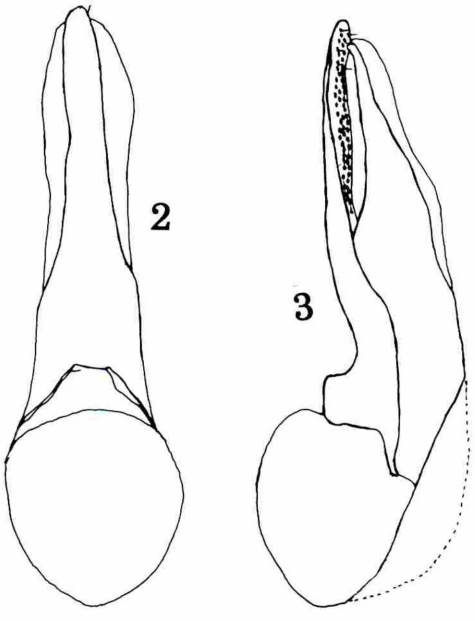


Fig 1. *Rhynchocheilus exophthalmus* sp. nov.:Habitus.



Figs. 2, 3. *Rhynchocheilus exophthalmus* sp. nov.: 2, male genitalia, ventral view; 3, ditto, right lateral view.

emarginate at inner side of apex, nearly straight at outer margin and weakly arcuate at inner margin; mesotibiae weakly and uniformly arched, and metatibiae nearly straight.

Male genitalia (Figs. 2, 3) somewhat asymmetrical, slightly twisted to the left; penis thick, membranous on dorsum, subparallel-sided in ventral view, nearly straight in lateral view but abruptly bending ventrad at apical portion and rounded at the tip; parameres unilobed, elongate, extending a little beyond penis, in basal fourth subparallel-sided and slightly wider than penis, then gently tapered toward blunt tip and much narrower than penis in apical half, with flat and sparse peg-setae medially in apical half of inner face.

Holotype: ♂, Malacca, Malay Pen., WALLACE leg. (In coll. Natural History Museum, London)

The present species is very closely allied to *R. pectoralis* SHARP from Malay, but in the latter species the body is much larger (19.5-21.0 mm in length), head is less narrowed behind, the lateral margins of pronotum are gently arcuate, and the pubescence on 3rd to 6th tergites of abdomen are golden yellow. The present species also well resembles to *R. assamensis* CAMERON, *R. antennalis* CAMERON and *R. argenteus* FAUVEL in the antennal structure, but in these species their heads are nearly subquadrate or oblong and not narrowed behind.

Rhynchocheilus sp. (Fig. 4)

Specimen examined: ♀, Koni, Shan States, Manders, 1888. (In coll. Natural History Museum, London)

The present species is closely allied to *R. kraatzi* EPPELSCHEIM in having similar structure of antennae, shape of head and pronotum, but the punctures on occiput are very dense, the

Fig. 4, *Rhynchocheilus* sp., habitus.

interstices are rugulose and elytra are entirely reddish brown.

要　　約

林　靖彦：東南アジア産ハイイロハネカクシ群覚書き，3．マレー半島産 *Rhynchocheilus* 属の一新種 — ロンドンの自然史博物館所蔵の *Rhyncho-cheilus* 属の未調査種2頭を調べた結果2種含まれていることが明らかとなった．一頭は雄で，未記載種と考えられたのでここに記載したが，他の一頭はは雌で，近似種が多く，標本の状態も良くないので混乱を避けるためにも記録にとどめた．本新種は属模式種の *R. pectoralis* SHARP (マレー産）に極めてよく似ているが後者よりかなり小形で，前胸背板の形が明らかに異なっているので比較的容易に区別できる．

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Some Species of the Subgenus *Amaroschesis* from Sichuan and Gansu in China (Coleoptera: Carabidae: Harpalini)

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Abstract Five new species of the subgenus *Amaroschesis* TSCITSCÉRINE of the genus *Trichotichnus* MORAWITZ are described from Sichuan and Gansu in China, and a redescription of *Trichotichnus* (*Amaroschesis*) *curtipennis* SCHAUBERGER is given.

As mentioned in former papers (N. ITO, 1998a and 1998c, KATAEV et N. ITO, 1998), the species of the trichotichine subgenus *Amaroschesis* TSCHITSCHÉRINE were extremely speciated in each narrow region of Central to South China. This phenomenon had to be caused by the apterous characteristic of the species and the isolation by the geographical barriers as steep mountains, desert, and deep valleys. Recently I got some opportunities to examine many materials and some types of the subgenus from China and found several new species.

In this paper I am going to describe two new species from Sichuan under the names of *Trichotichnus* (*Amaroschesis*) *brevicollis* and *T.* (*A.*) *brunneus,* and three new species from Gansu under the names of *T.* (*A.*) *foveicollis*, *T.* (*A.*) *minshanensis* and *T.* (*A.*) *brunneomarginatus*. *T. brevicollis* is peculiar in having two outer marginal setae of the stylus. Also *T. brunneus* is remarkable that each elytron has one or two dorsal pores and the number of setae on 6th abdominal sternite of male is various from two to four. Further, in *T. brunneomarginatus* the elytra have no dorsal pores. Such a variety in the steady characteristics are often found in the species of the subgenus.

I wish to express my cordial thanks to Dr. FRITZ GUSENLEITNER of the Oberösterreichisches Landesmuseum, Linz for his kind loan of SCHAUBERGER's types under his care. Further my hearty thanks are due to Mr. TAICHI SHIBATA, Nishinomiya for his continuous guidance on my taxonomic study.

The abbreviations employed in the present paper are as follows: AAFCc: collection of the Agriculture and Agri-Food Canada, Ottawa; NIc: collection of the author, Kawanish. Concerning the measurement of each part of body, refer N. ITO, 1998 b.

Trichotichnus (*Amaroschesis*) *curtipennis* SCHAUBERGER, 1936

(Figs. 1 & 2)

Trichotichnus curtipennis SCHAUBERGER, 1936. Kol. Rundsch., 22:12, 15-16.

Body short, suboval, rather convex, blackish brown, shiny, very weakly iridescent on elytra; frons and mandibles dark reddish brown, palpi yellowish brown, labrum light brown, antennae and legs reddish brown.

Head gently convex, narrow, about three-fifths of the pronotal width, relatively wide at

Fig. 1. Habitus and Labels of *Trichotichnus* (*Amaroschesis*) *curtipennis* SCHAUBERGER, 1936.

interocular space, which is 0.71 times as wide as the width of head, very sparsely and finely punctate, rugose near frontal impressions and on occiput; labrum subtrapezoidal, shallowly emarginate at apex; clypeus transversely depressed between a pair of lateral setae, gently slant before the depression and weakly swollen behind it, with apex uniformly and shallowly emarginate; clypeal suture obscure, almost reduced near the ends; frontal impressions fovea-like, shallow, rudimentary near supraorbital grooves; eyes gently prominent and rather large; temples short, more or less abruptly convergent to neck constriction; space between buccal fissure and genuine ventral margin of eye relatively narrower than usual species of the subgenus; antennae missing 6th to 11th segments in the left and 3rd to 11th segments in the right in the type, slender, 3rd segment glabrous in basal fifth, as long as the 4th and a half longer than the 2nd; mandibles comparatively sharp at apices, terebral tooth of left mandible small and trapezoidally produced and that of right one indistinct, retinacular tooth of left one sharply protrudent and that of right one triangular and rounded at tip; labial palpi slender, 3rd segment as long as the 2nd; ligula wide, abruptly expanded before truncate apex; paraglossae separated from ligula in area of the expansion, not prolonged forwards beyond ligula; mentum clearly and entirely sutured with submentum, epilobes slender, weakly dilated apicad, median tooth of mentum large and regular-triangular; microsculpture partly impressed, not clear, and consisting of mixtures of isodiametric and transverse meshes.

Pronotum not convex, subquadrate, widest at a little behind apical two-fifths, not convex; sides clearly atcuate apicad and straightly oblique basad from the widest point, hardly sinuate before base; apex deeply and uniformly emarginate, with entire border; base one-third wider than apex, shallowly emarginate, straight in bottom of the emargination, thickly bordered as lateral borders; apical angles well prominent, widely rounded; basal angles rectangular, with a

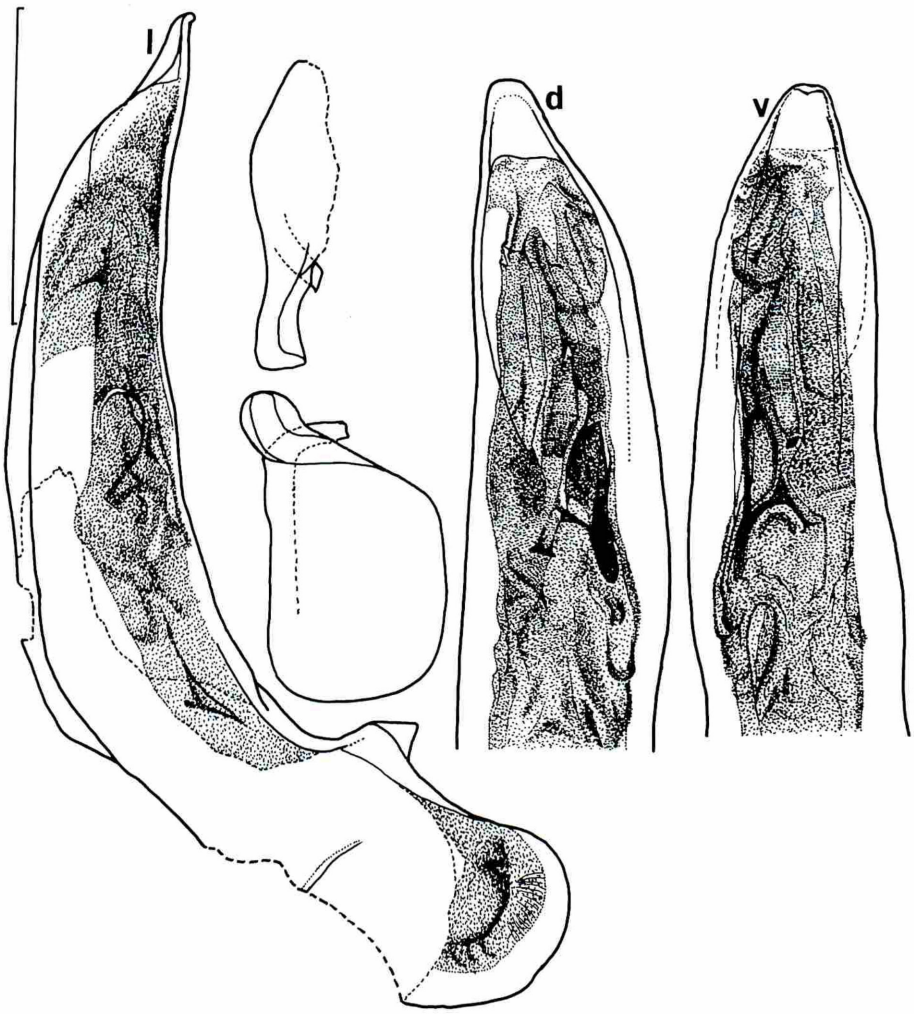
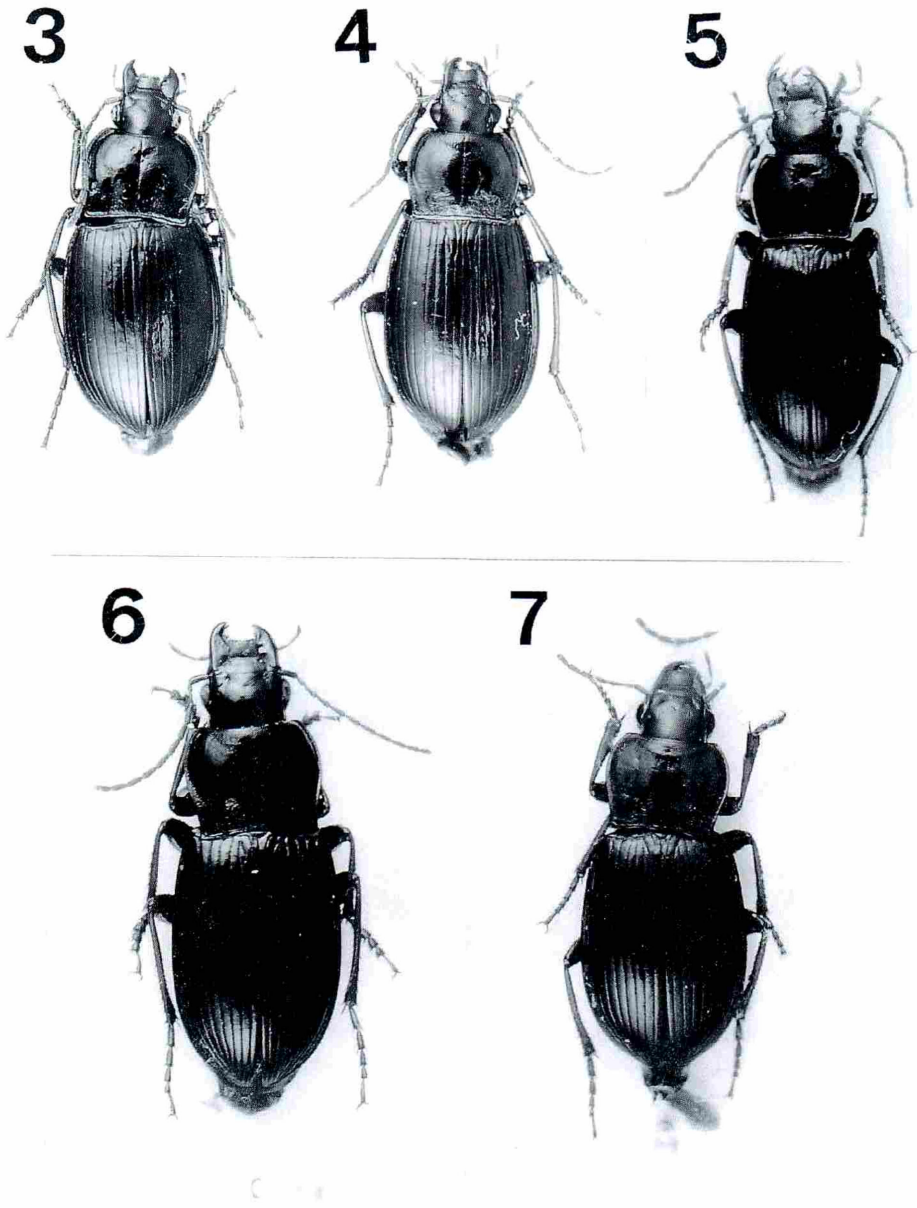


Fig. 2. Male genitalia of *Trichotichnus* (*Amaroschesis*) *curtipennis* SCHAUBERGER, 1936. d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm.

tiny tooth at each tip; lateral furrows narrow in apical third, thence gradually expanded backwards and fused with basal foveae, which are wide and only flattened; front transverse impressions rather deep, the hind one vague; median line fine and deep, extending near apex and base; dorsal puncture fine and very sparse on disc, denser near apex, corser and denser in the furrows and foveae; microsculpture vague on disc, clear near apex and in the furrows and foveae, consisting of isodiametric meshes.

Elytra suboval, short, 1.29 times as long as wide, impunctate; sides gently arcuate in humeri, with shallow subapical sinus; apices widely rounded, narrowly separated from each other, blunt at sutural angles; bases shallowly emarginate, obtuse and angular at humeral angles; striae shallow thoughout, finely crenulate; intervals flat, without dorsal pores; marginal series interrupted in middle, composed of 9 + (12-14) umbilicate pores; microsculpture vague, observable as fine transverse lines. Hind wings rudimentary, one-fifth of the elytral length.

Ventral surface sparsely punctate on metepisterna and lateral areas of 1st and 2nd abdominal sternites, sparsely covered with short pubescence medially on pro- and metasterna



Figs. 3-7. Habitus of *Trichotichnus* spp. 3, *Trichotichnus* (*Amaroschesis*) *brevicollis* N. ITO, sp. nov.; 4, *T.* (*A.*) *brunneus* N. ITO, sp. nov.; 5, *T.* (*A.*) *foveicollis* N. ITO, sp. nov.; 6, *T.* (*A.*) *minshanensis* N. ITO, sp. nov.; 7, *T.* (*A.*) *brunneomarinatus* N. ITO, sp. nov.

and 2nd and 3rd abdominal sternites; metepisternum 0.91 times as long as wide; 6th abdominal sternite in ♂ bisetose at each side and truncate at apex.

Mid coxae wholly setose; hind femur bisetose along hind margin; fore tibia not incised in external half of apex, not sulcate on dorsal surface, with three spines along apico-external margin; 1st mid tarsal segment of ♂ bearing biseriate adhesive hairs only at apex, hind tarsus in ♂ one-seventh longer than the width of head, 2nd segment one-fifth shorter than the 1st, one-third

longer than the 3rd, and twice the 4th, claw segment tri- or quadrisetose along each ventral margin.

Aedeagus (Fig. 2) missing partly in right side of apical part in the type, robust, weakly curved, ab-ruptly tapered near apex, which is thinned and ventro-obliquely directed at tip; apical lobe gently convergent distad, rounded at tip; apical orifice widely open in apical half, inner sac without sclerites.

Length: 10.5 mm. Width: 4.5 mm.

Specimen examined: ♂ (holotype), Tatsienlu, Szetschwan (=Sichuan), China, Exp. Stétzner (preserved in Oberösterreichisches Landesmuseum).

Trichotichnus (*Amaroschesis*) *brevicollis* N. ITO, sp. nov.

(Figs. 3, 8, & 13-A)

Body wide, oval, rather flat, black, shiny, weakly iridescent on elytra; palpi and antennae light brown, mandibles and head dark reddish brown, lateral margins of pronotum and legs reddish brown.

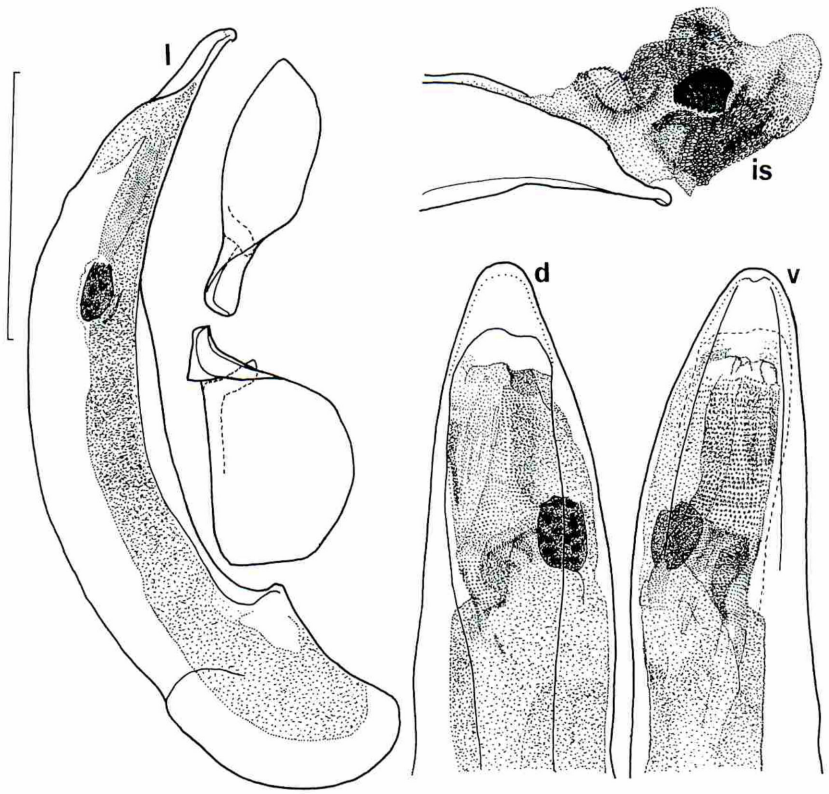


Fig. 8. Male genitalia of *Trichotichnus* (*Amaroschesis*) *brevicollis* N. ITO, sp. nov. d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm.

Head narrow, three-fifths of the pronotal width, gently convex, very sparsely and finely punctate, not or vaguely rugose, with interocular space seven-tenths times as wide as the width of head; labrum more or less produced at apical corners, with weakly convergent sides; clypeus almost even, weakly depressed between a pair of lateral setae in individuals, shallowly emarginate at apex; clypeal suture clear and shallow; frontal impressions also shallow, but not reduced even near supraorbital grooves; eyes gently convex, relatively small; genuine ventral margin of eye widely separated from buccal fissure; mandibles somewhat elongate, left mandible blunt at tip, weakly and roundedly produced at terebral tooth, sharp and small at retinacular tooth, right mandible sharp at tip, tiny and blunt at terebral one, rather well prominent and narrowly rounded at retinacular one; antennae slender, reaching at basal tenth of elytra, 3rd segment as long as the 4th and a half to two-thirds longer than the 2nd; palpi slender, 3rd segment of labial palpus as long as the 2nd; ligula abruptly expanded before apex, sharply produced at apical corners; paraglossae narrow, a little prolonged forwards beyond ligula; mentum with epilobes narrow and parallel-sided, median tooth regular-triangular and rounded at tip; microsculpture somewhat clear, consisting of isodiametric meshes in apical third of clypeus and of transverse meshes in the other portions.

Pronotum transversely subcordate, widest a little behind apical two-fifths, 1.44-1.55 times as wide as long, weakly sloping apico-laterad, almost flat on disc; sides arcuately and rather strongly convergent forwards and straightly and weakly so backwards from the widest point, shallowly and long-sinuate before base; apex deeply emarginate, sometimes straight at the bottom; base wide, about a half wider than the apex (1.45-1.53 in ratio), shallowly emarginate, the emargination uniform or straight at the bottom; both margins thickly and entirely bordered; apical angles well protrudent and widely rounded; basal angles almost rectangular, slightly directed ventrad, not toothed at tip; lateral furrows narrow in apica two-fifths, thence gradually widened basad; basal foveae each large, longitudinally grooved in the middle, with or without weak swell; front transverse impression vague or slightly deep, the hind one obsolete; median line fine, shallow, reduced just behind apex and before base; surface widely smooth in central portion, covered with very fine and sparse punctures in apical and lateral portions, with mixtures of fine and somewhat coarse ones in lateral furrows and basal foveae; microsculpture partly visible, comopsed of somewhat clear isodiametric meshes in the front impression and lateral furrows and of vague transverse meshes laterally on disc and in the basal foveae.

Elytra oval, short, 1.28-1.34 times as long as wide, weakly convex, without punctures; sides gently arcuate from humeri to apical third, thence gradually strongly convergent behind; preapical sinus very shallow; apices almost straight at margins, subacute at tips, closed or very narrowly separated from each other, with blunt sutural angles; bases each very shallowly emarginate, forming an obtuse and angulate angle with lateral border; striae fine, shallow and becoming slightly deeper laterad and apicad, finely and clearly crenulate, scutellar striole moderate in length; intervals not convex, a dorsal pore of 3rd interval situated near the middle and adjoining or isolated from 2nd stria; marginal series continuous, though rather wide in spaces among pores in middle, consisting of 20-26 umbilicate pores; microsculpture observable as fine transverse lines.

Hind wings rudimentary, one-sixth of the elytral length.

Ventral surface impunctate, sparsely covered with short pubescence medially on pro- and metasterna and on 2nd and 3rd abdominal sternites; metepisternum short, one-fourth wider than long; 6th abdominal sternite in ♂ unisetose at each side or bisetose only at left side and weakly

arcuate at apex and in ♀ bisetose at each side and widely arcuate at apex.

Legs long; hind femur bisetose along hind margin; tarsi long, 1st segment of mid tarsus bearing adhesive squamae only at apex, hind tarsus one-fifth in ♂ and one-eleventh in ♀ longer than the width of head, 1st segment three-fourths of the 2nd and 3rd taken together and a half longer than the 2nd, 3rd 1.55 times as long as the 4th, claw segment quadrisetose along each ventral margin.

Aedeagus (Fig. 8) thick, weakly arcuate, with a very small and sharp hook ventrally at apex; apical lobe wide, gently convergent distad, rounded at tip; apical orifice widely open in apical half, inner sac with an elliptical sclerotized disc; ventral surface laterally bordered, shallowly concave between the borders. Stylus (Fig. 13-A) short, rather stout, with a small spin at each outer margin in general (abnormally bisetsose at ventral margin in one example); basal segment bisetose at apico-external corner; valvifer unisetose at apex.

Length:10.5-11.0 mm. Width:4.6-4.9 mm.

Holotype: ♂, 28.07 N, 101.05E, Bowa, alt. 3,500 m, mixed forest, 30 Km NW from Muli, Sichuan, 24. VII. 1995, JAROSLAV TURMA leg. (preserved in AAFCc). Paratypes: 4♂♂, 3♀♀, same data as the holotype. (preserved in AAFCc and NIc).

This new species is similar to *Trichotichnus* (*Amaroschesis*) *curtipennis* SCHAUBERGER, but the head is much less rugose, the clypeus is flatter, the pronotum is smoother and not prominent laterad at basal angles, and the aedeagus bears a small sclerite on inner sac.

The new species is also allied to *Trichotichnus* (*Amaroschesis*) *jizuensis* N. ITO, 1998, but is easily distinguished from the latter by the pronotum more sparsely and finely punctate, sinuate at sides and with base more strongly emarginate and the elytra shorter.

The number of setae at apical margin of 6th abdominal sternite is not steady (in ♂ bisetose at left side in some individuals). The number is also variable in each species of the subgenus *Amaroschesis*. Whereas in the species of the other subgenera the number is fixed. This peculiar phenomenum is found only in the subgenus Amaroschesis.

Trichotichnus (*Amaroschesis*) *brunneus* N. ITO, sp. nov.

(Figs. 4, 9, 13-B)

Body oblong, gently convex, brown to dark brown, shiny, with weak iridescent lustre on elytra; palpi, antennae, tarsi and tibiae light brown, femora darker than tibiae, head and pronotum reddish brown, femur darker than tibiae.

Head somewhat small, 0.64-0.66 times as wide as the pronotal width, weakly elevated at vertex, sparsely punctate, not or partly and vaguely rugose; labrum rather depply and triangularly emarginate at apex; clypeus evenly sloping over all or weakly and transversely swollen in basal two-thirds and flattened in the remaining part, with subtruncate apex; clypeal suture finely carved or almost rudimentary; frontal impressions thin, shallow and obliterated just before supraorbital grooves; eyes large and somewhat well convex; temples rather steeply oblique towards neck constriction, short, and one-fourth of eye length; space between genuine ventral margin of eye and buccal fissure relatively narrow; mandibles relatively slender, sharpened apicad, terebral tooth of left mandible blunt-triangularly and weakly protrudent, that of right one indistinct, retinacular tooth of left mandible trapezoidal and that of right one narrowly triangularly prominent; antennae slender, reaching basal tenth of elytra, 3rd segment slightly

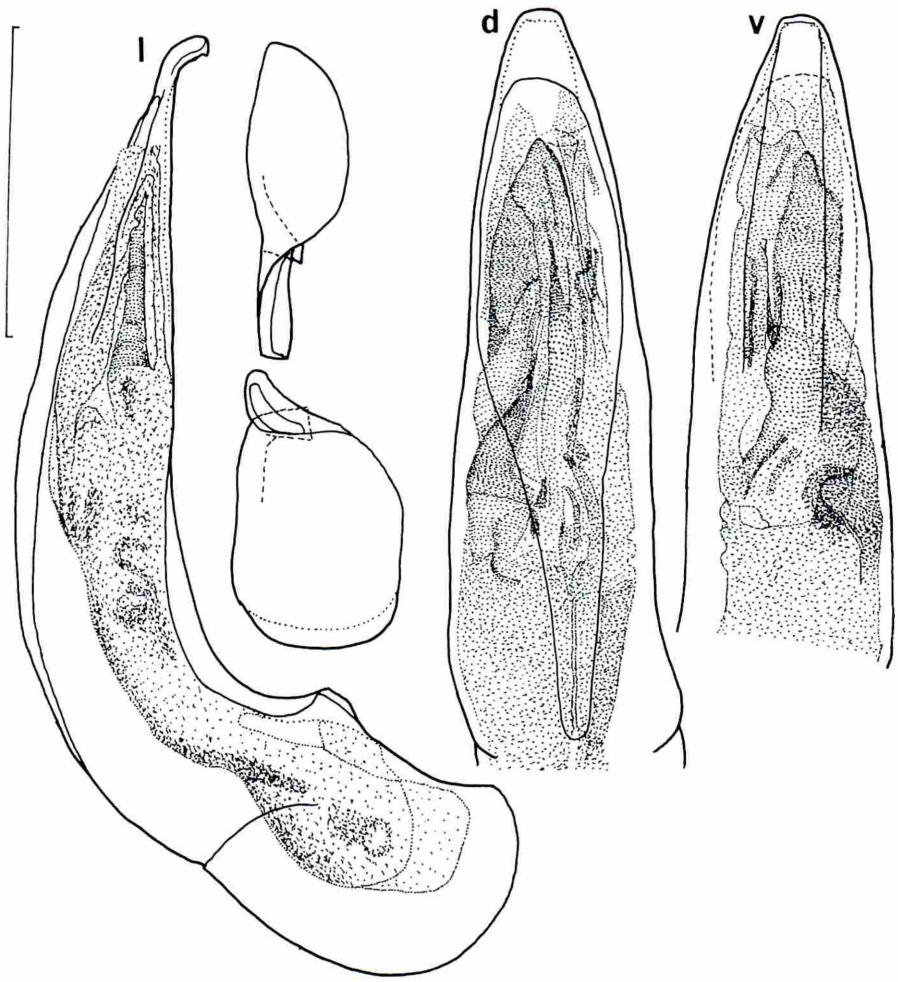


Fig. 9. Male genitalia of *Trichotichnus* (*Amaroschesis*) *brunneus* N. ITO, sp. nov. d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm.

longer than the 4th (1.07-1.10 in ratio) and one and three-fifths of the 2nd; palpi slim, 3rd segment of labial palpus equal in length to the 2nd; ligula wide, sharply and weakly prominent laterad at apical corners, with truncate apex; paraglossae narrow, fused with ligula just before its apex, slightly prolonged forwards beyond it; mentum relatively narrow, median tooth regular-triangular and rounded at apex, epilobes narrow, weakly expanded distad; microsculpture not clear, detectable as isodiametric meshes on clypeus and transverse meshes in the remaining portion.

Pronotum subquadrate, widest a little before apical two-fifths, 1.40-1.46 times as wide as long, sides gently arcuate, weakly convergent apicad and basad, short-sinuate before base; apex shallowly to moderately emarginate, with border entire or interrupted in middle; base 1.20-1.32 times as wide as apex, shallowly emarginate or subtruncate, medially straight, entirely bordered; apical angles fairly prominent, widely rounded; basal angles prominent latero-basad, almost rectangular, triangularly protuberant at tips; lateral furrows narrow in apical two-fifths, thence

weakly gradually widened behind; basal foveae each wide, shallowly engraved or only flattened, sometimes with a weak hump in middle; front transverse impression thin and relatively clear, the hind one vague; median line fine, reaching apex and base or reduced near them; dorsal punctures absent on disc, fine and more or less dense in the front impression, fine and sparse on lateral portions, coarse and dense in lateral furrow and basal foveae where they are confluent in part; microsculpture rather clear, consisting of mixtures of isodiametric and transverse meshes.

Elytra elliptically oblong, widest near apical two-fifths, about two-fifths longer than wide, gently convex, very sparsely and minutely punctate; sides gently arcuate at humeri, with rather deep subapical sinus; apices relatively produced behind, widely to somewhat narrowly rounded at tips, separated from each other; bases almost straight; humeral angles obtuse and angulate; striae narrow, irregular in width lengthwise, shallow, and finely crenulate, scutellar striole moderately long; intervals mostly flat, weakly raised near apices, dorsal pore of each 3rd interval adjoining 2nd stria, situated between middle and apical four-sevenths, single in number in six examples and two in two examples, but the latter must be abnormal; marginal series not interrupted, consisting of 25-28 umbilicate pores; microsculpture obscurely visible as fine transverse lines.

Hind wings fully reduced, one-fifth of eylytral length.

Ventral surface mostly smooth, roughly punctate on mes- and metepisterna and lateral portions of metasternum, sparsely short-pubescent medially on pro- and metasterna and 2nd and 3rd abdominal sternites; metepisternum one-fifth wider than long; 6th abdominal sternite in ♂ truncate and in ♀ widely rounded at apex, in ♂ two setae in five examples and single seta in two example (in one of them right seta abnormally absent) and in ♀ two setae at each side.

Hind femur bisetose along hind margin (bisetose in one example); fore tibia slender, weakly dilated distad, not incised in external half of apex, not sulcate on dorsal surface, terminal spur slim and lanceolate; tarsi glabrous, 1st segment of mid tarsus of ♂ with adhesive hairs in apical fourth, hind tarsus 1.05-1.06 times in ♂ and 0.94 times in ♀ as long as the width of head, 1st segment about five-eighths of the 2nd and 3rd taken together and one-fourth longer than the 2nd, 3rd one-third longer than the 4th, claw segment quadrisetose ventral at each side.

Aedeagus (Fig. 9) thick, straightly prolonged and gradually tapered distad, abruptly curved ventrad at apex; apical lobe trapezoidal, subtruncate at tip; apical orifice widely open in apical half, innersac without armature. Stylus (Fig. 13-B) stout, weakly curved outwards, unispinous at each external margin, with a short seta near apex; basal segment bisetose apico-externally; valvifer trisetose at apex.

Length:10.4-11.7 mm. Width:4.4-5.1 mm.

Holotype: ♂, Jiuzhaigou, alt. 3,100 m, 30 Km W from Nanping, N. Sichuan, 13-15. VI. 1992, JAROSLAV TURMA leg. (preserved in AAFCc). Paratypes: 6♂♂, 1♀, same data as the holotype. (preserved in AAFCc and NIc).

This new species is allied to *Trichotichnus* (*Amaroschesis*) *notabilangulus* N. ITO, 1998, but is easily descriminated from the latter by the body and legs not black, the pronotum not sinuate at sides and with teeth of basal angles more strongly produced, and the elytra not so convex.

The new species is similar to *Trichotichnus* (*Amaroschesis*) *kurbatovi* KATAEV et N. ITO (in press) from Central Sichuan, but the head is narrower, the pronotum is not sinuate, and the elytra bear the dorsal pores of 3rd intervals.

The marginal setae of the 6th abdominal sternite is usually steady in numberin each spcies of this genus, but is variable in the species of the subgenus *Amaroschesis*.

Trichotichnus (*Amaroschesis*) *foveicollis* N. ITO, sp. nov.

(Figs. 6, 10, & 13-C)

Body oblong, relatively narrow, black, shiny, with weak iridescent lustre on elytra; palpi and antennae light brown, tarsi light brown to brown, tibia brown, femora blackish brown, labrum and mandibles dark reddish brown.

Head well convex, somewhat large, 0.66-0.70 times as wide as the pronotal width, very sparsely and minutely punctate and sometimes somewhat coarsely so on near vertex, not rugose

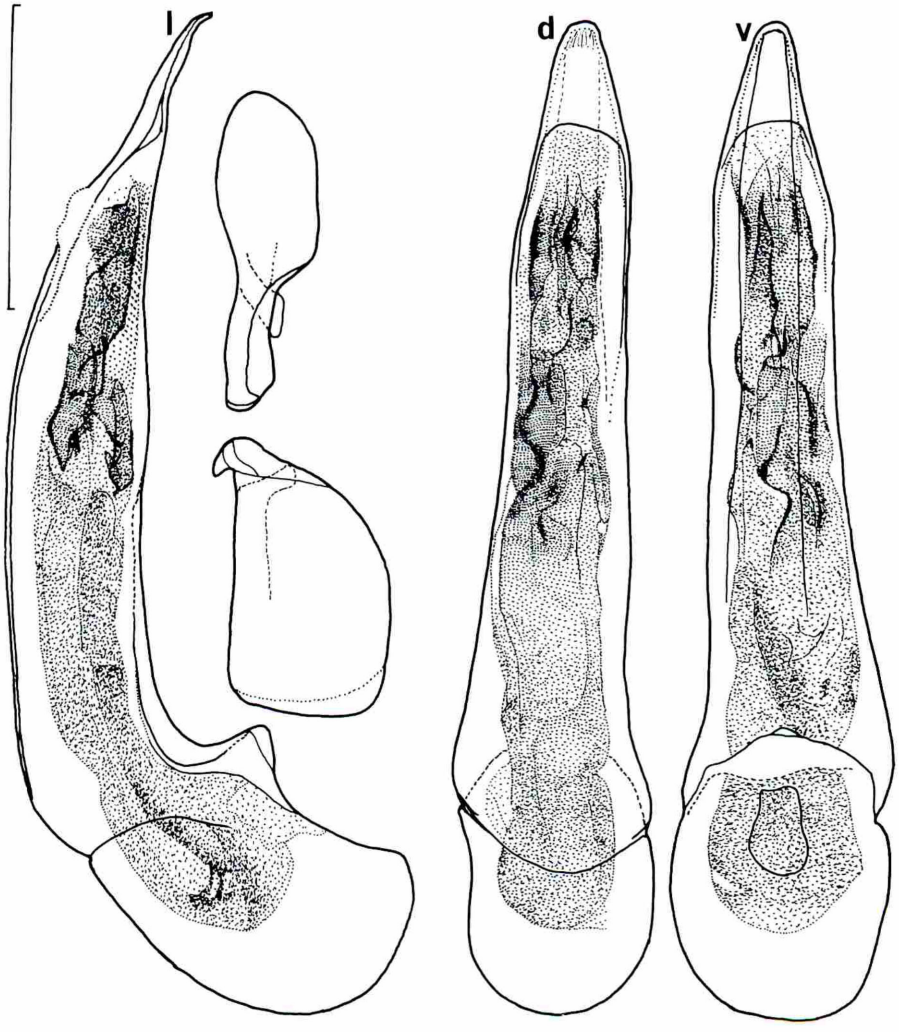


Fig. 10. Male genitalia of *Trichotichnus* (*Amaroschesis*) *foveicollis* N. ITO, sp. nov. d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm.

except for clypeus which is longitudinally rugose; labrum subquadrate, shallowly emarginate at apex; clypeus almost evenly and weakly sloping, hardly swollen in basal half; clypeal suture finely and very shallowly engraved, sometimes almost redimentary; frontal impressions arcuately divergent posteriorly, shallow, obliterated in basal halves between apices and supraorbital grooves; eyes slightly or somewhat gently prominent, small or moderate-sized; temples relatively developed, weakly arcuately convergent to neck constriction, two-fifths to a half as long as the eye length; distance between genuine ventral margin of eye and buccal fissure comparatively large; mandibles somewhat long, vertically truncate at apex of left mandible, terebral tooth of left mandible roundedly and weakly produced, that of right one only slightly swollen, retinacular tooth of left mandible sharply and short-prominent, that of right one triangularly produced, blunt at tip; antennae slender, short as 11th segments only surpass the pronotal base, 3rd segment pubescent in apical half, as long as the 4th and twice the 2nd; palpi slim, 3rd segment of labial palpus as long as the 2nd; ligula wide, very weakly divergent distad, hardly sinuate at apex; paraglossae narrow, extending forwards a little beyond ligula; mentum trans-verse, medi-an tooth widely triangular and rounded at tip, epilobes weakly widened apicad; microsculpture somewhat clear, observed as isodiametric meshes on apical half of clypeus and as mixtures of isodiametric and transverse meshes in the remaining portions.

Pronotum quadrate, widest near apical third, 1.37-1.45 times as wide as long, weakly convex on disc, gently sloping latero-apicad; sides weakly and arcuately convergent forwards and weakly oblique backwards, long-sinuate before base; apex weakly or gently emarginate, with border interrupted in narrow middle portion; base shallowly emarginate, brokenly bordered medially and entirely so in remaining portions; apical angles more or less protrudent forwards, narrowly rounded; basal angles rectangular, weakly and obtusely protuberant at tips; lateral furrows narrow from apex to basal two-fifths, thence gradually expanded behind; basal foveae humped in middle, rather deeply and roundedly concave inside the humps; front transverse impression widely V-shaped and relatively deep, the hind one obscure; median line thin, shallow, abruptly reduced destally from both the impressions; microsculpture fine and rather clear, visible as isodiametric meshes in the front impression and as transverse lines in the remaining portions.

Elytra oblong, subparallel-sided, 1.40-1.45 times as long as wide, one-fouth wider than the pronotal width, rather steeply declivous laterad and apicad, with very sparse and minute punctures; sides weakly arcuate at humeri, shallowly sinuate before apices, which are relatively produced behind, clearly rounded at tips, narrowly separated from each other, and with sutural angles angulate; bases shallowly emarginate, abruptly oblique near humeral angles, which are well protrudent, sharp and hardly toothed at tips; striae shallow to somewhat deep, fine, irregular in width, scutellar striole short to moderate in length; intervals flat to hardly convex on disc, a dorsal pore of 3rd stria situated just behind middle; marginal series interrupted in middle, 19-23 in total number of umbilicate pores, the fore group consisting of 7-11 and the hind group of 10-12 pores; surface finely, obscurely microlined. Hind wings rudimentary, though relatively longer than usual species of the subgenus, three-tenths of the elytral length.

Ventral surface vaguely and sparsely punctate on prepisterna, clearly and moderately so on meso- and metepisterna, lateral portions of metasternum and of 1st and 2nd abdominal sternites, covered with spase and short punbescence on middle of pro- and metasterna and with relatively dense one medially on the 2nd and 3rd sternites; metepisternum short, one-third shorter than wide; apical margin of abdominal sternite qiadrisetose in both sexes, widely and weakly

arcuate at tip in ♂ and gently so in ♀.

Legs long; hind femur bisetose, rarely trisetose along hind margin; fore tibia fairly dilated distad, apico-externally trispinous and unispinous in two examples, with apex truncate and medially protuberant, and without sulcus dorsally, terminal spur slender and edentate; tarsi comparative long, 1st segment of mid tarsus in ♂ biseriately armed with adhesive squamae in apical one-fourth, hind tarsus one-tenth in ♂ longer and one-seventh in ♀ shorter than the width of head, 1st segment two-thirds times as long as the 2nd and 3rd taken together, 3rd nearly four-fifths times as long as the 2nd and one and a half as long as the 4th, claw segment quadrisetose ventrally along each side.

Aedeagus (Fig. 10) elongate, almost straight, thinned at apex, directed ventrad at tip; apical orifice wide, inner sac without armature; apical lobe narrowly triangular, rounded at tip; ventral surface sharply bordered laterally, concave between both the borders. Stylus (Fig. 13-C) rather robust, fairly curved, unispinous basally at each external margin (abnormally bispinous at the dorsal margin in one example), with a short seta before tip; basal segment narrow, bisetose at apex; valvifer with two long setae at apex.

Length: 9.6-10.7 mm. Width:4.1-4.6 mm.

Holotype: ♂, Minshan range, alt. 2,100 m, 70 Km NW from Wudu, Gansu, 1. VI. 1997, A. GORODINSKI leg. (preserved in OMNHc). Paratypes: 7♂♂, 2♀♀, same data as the holotype, (preserved in NIc).

In comparison with *Trichotichnus* (*Amaroschesis*) *oreas* (BATES), this new species has the eyes more weakly prominent, the pronotum less transverse and not entirely bordered, the elytra bearing humeral angles sharper and more prominent forwards, and the legs not black.

Trichotichnus (*Amaroschesis*) *minshanensis* N. ITO, sp. nov.

(Figs. 7, 11, & 13-D)

Body oblong, not wide, gently convex, reddish brown, iridescent on elytra; 3rd to 6th abdominal sternites and most portions of elytra black, outer margins and sutural intervals of elytra dark reddish brown, mandibles blackish along margins.

Head somewhat large, 0.62-0.65 times as wide as the pronotal width, gently raised on vertex, very sparsely and microscopically punctate, transversely rugose in part on frons and vertex, with relatively narrow interocular space 0.67-0.68 times the width of head; labrum subtrapezoidal, almost truncate at apex; clypeus narrowly depressed between a pair of lateral setae, slightly elevated behind the depression, subtruncate or shallowly emarginate at apex; clypeal suture shallow, but clear throughout; frontal impressions more or less deep, engraved in a line, gradually shallowed behind, though not reduced even just before supraorbital grooves; eyes large and relatively prominent; temples short, one-sixth of the eye length; distance between buccal fissure and genuine ventral margin of eye not wide; mandibles moderately sharpened apicad, vertically truncate at tips, terebral tooth roundedly produced in left mandible, widely and slightly so in right one, retinacular tooth minutely and trapezoidally projecting in left one, roundedly so in right one; antennae slender, short, not surpassing elytral base, 3rd segment pubescent in apical three-fifths, almost as long as the 4th and twice the 2nd; palpi slim, 3rd segment of labial palpus sparsely pubescent and as long as the 2nd; ligula comparatively wide, weakly and straightly divergent distad, hardly arcuate at apex; paraglossae narrow, widely sepa-

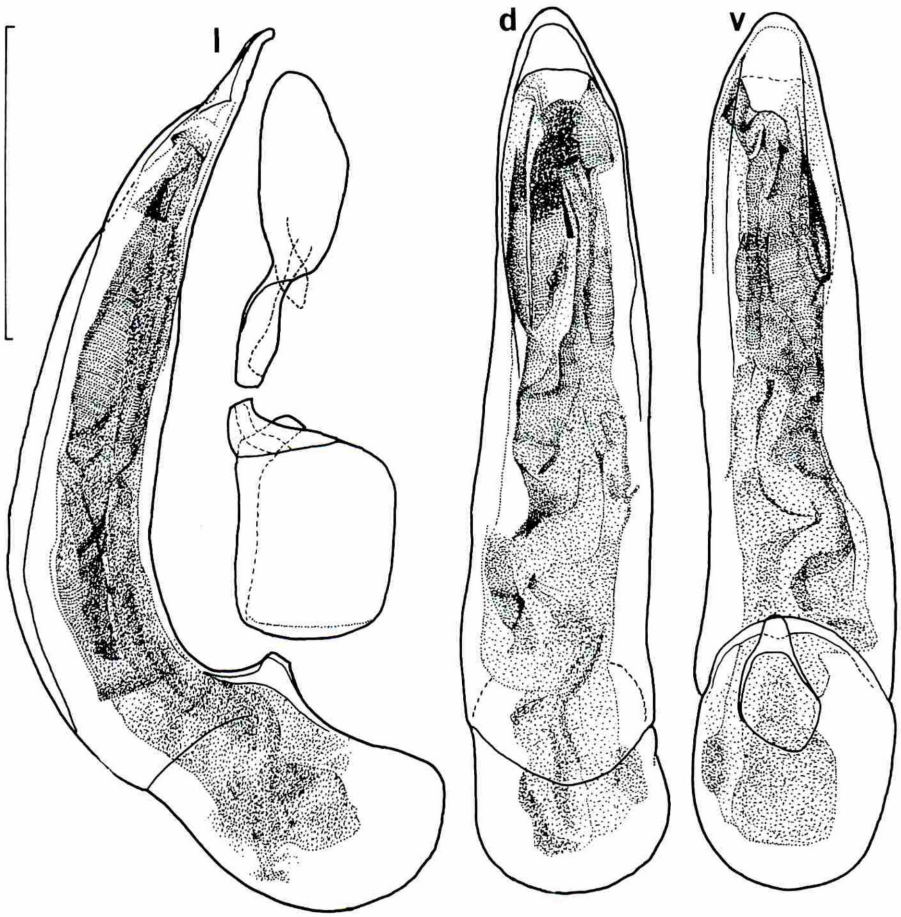


Fig. 11. Male genitalia of *Trichotichnus* (*Amaroschesis*) *minshanensis* N. Ito, sp. nov. d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm.

rated from ligula before its apex; mentum not so transverse, median tooth regular-triangular and rounded at apex, epilobes narrow and subparallel-sided; microsculpture fine and not so clear, consisting of isodiametric meshes on clypeus and of transverse lines on frons.

Pronotum subcordate, widest at slightly before apical two-fifths, two-fifths wider than long, gently convex, mostly smooth, covered with very sparse and fine punctures in apical and lateral portions, coarser ones in lateral furrows, and dense and coarse ones in basal foveae where those are partly confluent; sides arcuately convergent forwards and straightly so backwards from the widest point, rather deeply sinuate before base; apex rather deeply emarginate, straight at the bottom, with entire border; base one-fifth wider than apex, weakly emarginate, hardly rounded at sides, thickly bordered lengthwise; apical angles fairly protrudent, narrowly rounded; basal angles triangularly produced laterad, sharper than rectangular; lateral furrows each narrow, weakly gradually widened posteriorly, isolated by a weak hump from basal fovea, which is small, rounded and longitudinally grooved along the middle; both front and hind transverse impressions obsolete; median line thin but clear, punctate, reduced near apex and base; microsculpture invisible on disc, vaguely and partly carved in the remaining portions, composed of mixtures of square and transverse mehses.

Elytra widely oblong, about one-third wider than the pronotal width, 1.40-1.46 times as long as wide, gently convex, with very sparse and minute punctures; sides more or less clearly curved, with comparatively deep preapical sinus; apices a little more strongly produced behind than usual species of the subgenus, almost straight at outer margins, subarcuate at tips, and narrowly separated from each other; striae fine, somewhat deep, gradually and weakly deepened apicad and laterad, scutellar striole long; intervals flat on disc, becoming a little convexer towards sides and apices, a dorsal pore of 3rd interval situated just before and behind apical two-fifths; marginal series continuous, composed of 21-26 umbilicate pores; microsculpture thinly and vaguely visible as transverse lines.

Hind wings fully rudimentary, 0.14 times as long as elytra.

Ventral surface mostly smooth, sparsely and moderately punctate on prepisterna, a little more coarsely so on lateral portions of metasternum and metepisterna, ragged laterally on 1st and 2nd abdominal sternites; metepisternum almost equal in length to width; apical margin of 6th abdominal sternite unisetose at left side and bisetose at right one in ♂, bisetose at each side in ♀, widely rounded at tip in both sexes.

Hind femur bisetose; fore tibia weakly dilated apicad, weakly emarginate in external half of apex, trispinous along apico-external margin, without sulcus, terminal spur short and simple; 1st mid tarsal segment of ♂ squamous only at apex, hind tarsus one-tenth longer in ♂ and very slightly shorter in ♀ than the width of head, 1st segment three-fifths as long as the 2nd and 3rd combined together, 3rd 0.80-0.82 times as long as the 2nd and a half longer than the 4th, claw segment quadrisetose along each ventral margin (quinquesetose along one side, but that must be abnormal).

Aedeagus (Fig. 11) robust, gently arcuate, thinned apically, directed ventro-distad at tip; apical orifice open almost fully in the width, inner sac without sclerite; apical lobe widely subtriangular, rounded at distal margin, and bordered; ventral surface widely depressed medially, thinly bordered at sides of the depression. Stylus (Fig. 13-D) missing at apex, weakly arcuate, unispinous at each outer margin, with subapical seta short; basal segment unisetose at apico-external corner; valvifer bearing stout seta at apex and three very fine setae along external margin before apex.

Length:10.5-11.3 mm. Width:4.4-4.9 mm.

Holotype: ♂, Mts. Min Shan range, alt. 2,100 m, 70 Km NW from Wudu, Gansu, 1. VI. 19967, A. GORODINSKI leg. (preserved in OMNHc). Paratype:1 ♀, same data as the holotype (preserved in NIc).

This new species is similar to *Trichotichnus* (*Amaroschesis*) *notabilangulus* N. ITO, 1998, but is easily distinguished from the latter by the body basically not black, the pronotum more strongly protrudent laterad and possessing a hump in each basal fovea, and the elytra reddish brown along outer margins and sutural intervals instead of being uniformly black and possessing iridescent lustre.

The new species is different from *Trichotichnus* (*Amaroschesis*) *oreas* (BATES, 1891) in having the body not black, the pronotum sinuate before base instead of being straightly oblique and protuberant at basal angles, and the elytra a little longer and not oval.

Trichotichnus (Amaroschesis) brunneomarginatus N. ITO, sp. nov.

(Figs. 5 & 12)

Body subelongate-oblong, rather thick, not strong in convexity, pitchy black, shiny, without iridescent lustre; palpi and tibiae yellowish brown, antennae, lateral and basal margins of pronotum, lateral margins and sutural intervals of elytra, and tarsi light brown, labrum, mandibles, clypeus and frons dark reddish brown, femur blackish brown.

Head large, seven-tenths times of the pronotal width, gently convex, subflattened in triangular space from vertex to frons, scattered with extremely sparse and microscopic punctures; lab-rum subquadrate, with rounded apical angles slightly produced forwards; clypeus somewhat thick, subtruncate at apex, vaguely and transversely depressed between a pair of lateral setae, hardly swollen behind the depression, which is even or bears several short rugosities; clypeal suture obscure and not deepened; frontal impressions finely and very shallowly carved thoughout, but are not reduced even near supraorbital grooves; eyes gently convex and rather small; temples somewhat steeply oblique towards neck constriction, short, and 0.23 times as long as the eye length; genuine ventral margin of eye widely removing from buccal fissure; mandibles moderate in length and robustness, terebral tooth of left mandible roundedly and weakly protrudent, that of right one not produced, retinacular tooth of left one tiny and trapezoidal and that of right one rather well prominent and blunt-triangular; antennae slender and short, only apical segments surpassing pronotal base, 3rd segment pubescent in apical half, as long as the 4th and three-fifths longer than the 2nd; palpi short and slender, 3rd segment of labial palpus slightly longer than the 2nd (1.06 in ratio); ligula constricted behind apex, sharply produced laterad at apical corners; paraglossae adnated with ligula before the constriction, narrow in por-tion free from ligula; mentum not transverse, median tooth small, narrowly triangular, and trun-cate at tip, epilobes narrow, slightly divergent forwards; microsculpture vaguely and partly visible, consisting of isodiametric meshes in apical half of clypeus and of subsquare meshes laterally on frons and vertex.

Pronotum subquadrate, widest at apica two-fifths, 1.32-1.40 times as wide as long, weakly and arcuately convergent at sides, steeply declined apico-laterad, gently elevated on disc, mostly smooth, rather coarsely and moderately punctate in lateral furrows and basal foveae; sides shallowly short-sinuate before base; apex shallowly and evenly emarginate; base 1.14-1.16 times as wide as apex, subtruncate, hardly arcuate in each lateral one-third; borders of all margins complete; lateral furrows narrow, slightly and gradually expanded backwards from apical two-fifths; basal foveae each isolated from the furrow by wide and weak swell, small, and oblong; front transverse impression very shallow, but not invisible as the hind one; median line fine, brokenly engraved, entire orreduced just behind apex; microsculpture fine, vague, and partly visible, consiting of mixtures of transverse lines and meshes.

Elytra elliptically oblong, about a half longer than wide (1.47-1.55 in ratio), 1.27-1.31 times as wide as the pronotal width, flat on disc, weakly declivous laterad and apicad, sparsely and minutely punctate; sides gently rounded in humeri, weakly arcuate in middle, shalloly sinuate preapically; apices produced behind, almost straightly oblique at outer margins, narrowly rounded at tips, not closed from each other; bases very shallowly emarginate; humeral angle obtuse and angulate or blunt; striae thin, shallow, and finely crenulate, scutellar striole of moderate length; intervals flat of hardly raised lengthwise, dorsal pore of 3rd interval lacking; marginal series widely interrupted or subcontinuous, composed of 21-22 umbilicate pores; surface

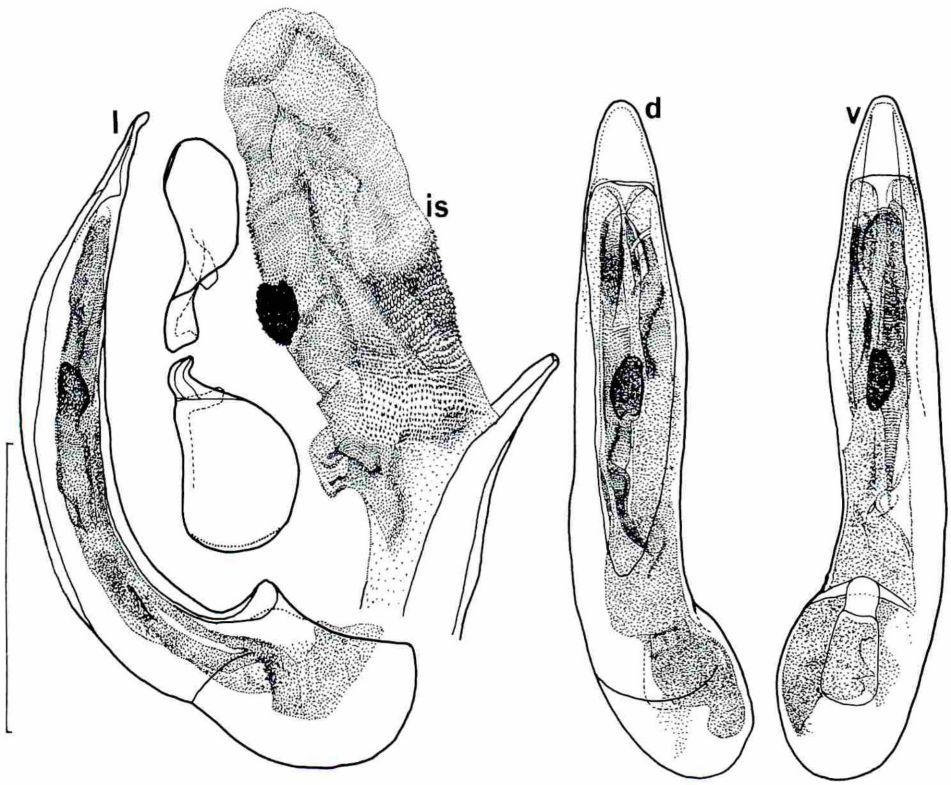


Fig. 12. Male genitalia of *Trichotichnus* (*Amaroschesis*) *brunneomarginatus* N. ITO, sp. nov.. d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm

finely and vaguely microlined. Hind wings reduced, one-seventh of the elytral length.

Ventral surface sparsely punctate on pro-, meso- and metepisterna and lateral portions of metasternum, pubescent on prosternum and median part of metasternum and 2nd and 3rd abdominal sternites, the pubescence short and relatively sparser than usual; metepisternum one-fifth longer than wide; 6th abdominal sternite in ♂ bisetose and truncate at apical margin.

Legs of morerate length; femora tumid, hind femur bisetose along hind margin; tibiae rather massive, fore tibia relatively dilated distad, bispinous along apico-external margin, apex truncate at external half and with protuberance smaller than usual; 1st segment of mid tarsus in ♂ possessing with adhessive squamae on apical half, hind tarsus almost as long as the width of head, 1st segment 0.79-0.82 times as long as the 2nd and 3rd taken together, 3rd segments four-fifths of the 2nd and twice the 4th, claw segment tri- orquadrisetose along each ventral margin.

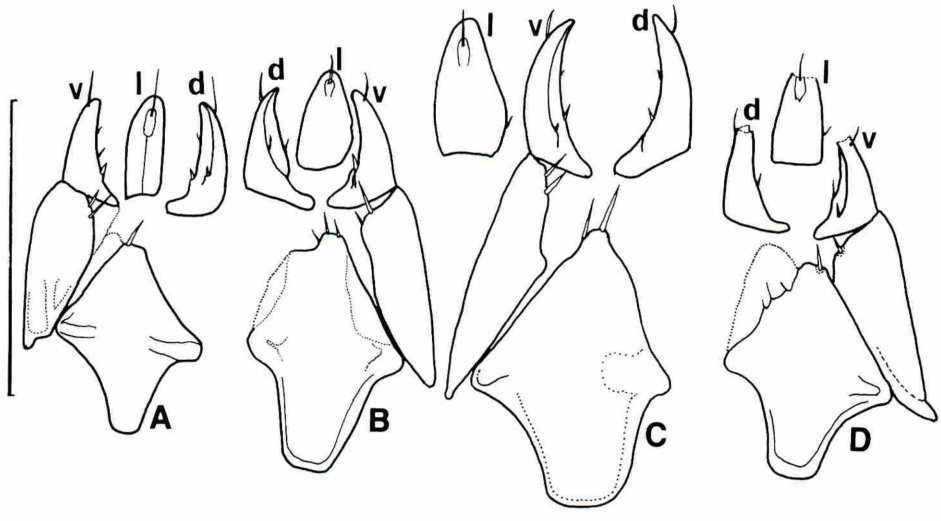
Aedeagus (Fig. 12) slender, clearly arcuate, gradually tapered distad in apical third, weakly bent ventrad at tip; apical orifice moderate in width, inner sac with a oval sclerite; ventral surface laterally bordered, concave between the borders.

Female unknown.

Length:8.4-8.6 mm. Width:3.3 mm.

Holotype: ♂, Mts. Min Shan range, alt. 2,100 m, 70 Km NW from Wudu, Gansu, 1. VI. 1997, A. GORODINSKI (preserved in OMNHc). Paratype: 1 ♂, same data as theholotype.

This nes species is somewhat similar to *Trichotichnus* (*Amaroschesis*) *obtusicollis*



Figs.13. Female genitalia of *Trichotichnus* spp. A, *Trichotichnus* (*Amaroschesis*) *brevicollis* N. ITO, sp. nov.; B, *T.* (*A.*) *brunneus* N. ITO, sp. nov.; C, *T.* (*A.*) *foveicollis* N. ITO, sp. nov.; D, *T.* (*A.*) *minshanensis* N. ITO, sp. nov.; d, dorsal aspect; l, lateral aspect; v, ventral aspect. Scale: 1 mm.

SCHAUBERGER, 1936, but is easily distingushed from the latter by the body not strong convex, the head and legs not black, the head narrower, the pronotum sinuate before base instead of being arcuate throughout and angulate at hind angles, the elytra lacking dorsal pore, and the microsculpture much obscurer.

The new species is also similar in general appearance to Trichotichnus (s. str.) congruus (MOTSCHULSKY, 1934), but in addition to the differenece in the subgeneric characteristics, it is different from the latter in having the body lighter in coloration, the eluytra lacking dorsal pore, the 6th abdominal sternite in Åâunisetose at each side instead of being bisetose and so on.

要　　約

伊藤　昇：中国四川省及び甘粛省からの Amaroschesis 亜属の数種について．— *Amaroschesis* 亜属における地域毎の著しい種分化は既に指摘されている．本稿では四川省及び甘粛省から新たに5新種を記載し，同時に *Trichotichnus* (*Amaroschesis*) *curtipennsi* SCHAUBERGER, 1936 を再記載した．本亜属の種においては，他の亜属では安定している形質が不安定である事が既に報告されているが，今回記載された種においても，上翅第三間室の孔点の数が変化する点，第六腹板側縁の数が一定でない点，雌交尾器の stylus 外縁の小刺の数が変化する点など特異な特徴が見られた．

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原稿作成の要領

A．欧文原稿

1. 用紙にはＡ４版を用い，左右に3 cm 以上の余白をあけ，タイプライター，ワードプロセッサーあるいはコンピューターで打ち出したものとする．行間はダブルスペースとし，人名を除いて，表題や見出しを含めていかなる場合も大文字だけでは打たない．人名のみ大文字で打つ．
   タイプ原稿やフロッピーの作れない原稿の場合は，スキャナーで読み取るためイタリックやボールドなどの指定のない文字を使用し，下線や訂正の書き込みのない原稿（コピーでもよい）を一部付ける．
2. 報文原稿は，表題，著者名，所属機関とその所在地，または住所，刷り上がり 10 行程度までの（約150語）の英文の著者抄録 (Abstract)，本文，和文要約，文献の順に配列する．
   提出原稿の一部は無処置で，他の一部は動，植物の属およびそれ以下の学名に下線を引き，また人名には二重の下線引く（第一字を除いて）．引用文献は著者名のアルファベット順に並べ下記の形式で記す．
   BLACKWELDER, R. E., 1936. Morphology of the coleopterous family Staphylinidae. Smiths. misc. Coll., 94 (13): 1-102
   —1952. The generic names of the beetle family Staphylinidae with an essay on genotypy. Bull. U.S. natn. Mus., 200: i-iv+1-483.
   MüLER, J., 1925. Terzo contributo alla conoscenza del genere Staphylinus L. Boll. Soc.ent.ital., 50: 40-48.
3. 報文中の採集または検視データは以下のように表記する．
   （例）3♂♂, 2♀♀, Amaishi, Hyôgo, 28. V. 1995, Y. HAYASHI leg.
4. 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（簡略化した論文表題，— 欧文 40 字内外），著者名，連絡先を明記し，赤字で原稿及び図表の枚数，別刷りの必要部数，その他連絡事項など記入．
5. 図は耐水性黒色インクで鮮明に描き，そのまま印刷出来るようにする．図の拡大（縮小）率を示したい場合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，上の方向を示し，図の裏にその種名を入れる．もし原図版上に取り扱い指定文字を入れるときにはかならず青鉛筆を用いる．原図の大きさは，台紙を含めてＡ４(210 x 295) 以内とされたい．また原図の返送が必要な場合はカバーにその旨を記入する．
6. 図の説明及び表はそれぞれ別紙に書き，原稿末につける．

編集委員からのお願い

投稿される原稿については，投稿規定並びに原稿作製の要領をよく参照されて作製してください．本文の入ったフロッピーディスクはマッキントッシュまたはＭＳ－ＤＯＳのフォーマットされたものに，必ずテキストファイルで入力してください．ワードプロセッサー専用機は専用ＯＳの為，そのままでは取り込みは出来ません．ＤＯＳ変換したものをお送り下さい．

原稿をプリントアウトする際には特に段落がはっきり判るように作製してください．，また段落内の文節や単語の間が開きすぎないようにしてください．スキャナーで取り込むときに文章がバラけて取り込まれ，文章が壊れることがあります．

引用文献については，編集でチェック出来ないものもありますので，本紙の書式をよく確かめてください．また文献名の省略の仕方も充分確認してください．

人名（欧文）は全て大文字で打ち込んで下さい．中国，朝鮮，タイなど，日本と同じ順序による姓名表記の場合も欧米式の姓名表記とします（つまり名，姓の順）．

会　　報

会費納入のお願い

本学会の会費は前納制です．１９９９年度会費５，０００円を早急にお納め下さい．自身の会費納入状況は封筒の宛名の下に記入してあります．宛名ラベル作製の時期の具合によって，納入されているにもかかわらず未納扱されている場合があるようですので，お気付きの方は会計（野村英世：〒590　堺市赤坂台1-18-5　Tel 0722-98-4066）までご連絡下さい．

会費納入は振替口座をご利用下さい．　振替口座：００９９０－８－３９６７２

会誌の発行について

“昆虫学評論”及び“ねじればね”の発行日は６月１５日と１２月１５日に設定していますが，投稿原稿の審査制の採用により原稿の事前処理に以前より時間がかかり，校正を終えるのが遅れがちで，発行も遅れがちになっています．それで原稿は一応の締切を３月１５日（６月発行に対して），９月１５日（１２月発行に対して）とします．但し事前処理の進行によっては，掲載が早まることも，遅れることもありますのでご了承下さい．

“ねじればね”は来年度も少なくも３回は発行する予定です。“昆虫学評論”は慢性的に原稿が不足しています。今回も締切を延ばし延ばしでアドバイサーにも大変ご無理お願いしていますが，原稿が少なく，今回も大変薄いものとなってしまいましたことお詫びいたします。

投稿された原稿は掲載することを原則としています．時にかなりの補正を求める場合もありますが，それは論文がより良い状態になることを望んでのことですのでご理解お願いいたします．ご投稿下さる方はなるべく早めにご投稿ください。

編集委員からのお願い

投稿される原稿については，投稿規定並びに原稿作製の要領をよく参照されて作製してください．本文の入ったフロッピーディスクはマッキントッシュまたはＭＳ－ＤＯＳのフォーマットされたものに，必ずテキストファイルで入力してください．ワードプロセッサー専用機は専用ＯＳの為，そのままでは取り込みは出来ません．ＤＯＳ変換したものをお送り下さい．

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引用文献については，編集でチェック出来ないものもありますので，本紙の書式をよく確かめてください．また文献名の省略の仕方も充分確認してください．

人名（欧文）は全て大文字で打ち込んで下さい．中国，朝鮮，タイなど，日本と同じ順序による姓名表記の場合も欧米式の姓名表記とします（つまり名，姓の順）．

和文要約について

評論への投稿原稿には和文要約を必ず付けて下さい．学術用語で打ち出せない漢字もあるのですが，できるだけ努力します．

会　　告

去る１０月５日，本学会会長の林匡夫氏が急逝されました．それに伴って学会事務処理体制を立て直し，今後の学会の運営が順調に行きますように努めています．ご遺族の方の理解もえられて会計帳簿，資金などの確認引き継ぎもほぼ終わりました．またご遺族のご好意，ご理解をいただいて故林会長のコレクションは本人の意志どうり取り敢えず大阪自然史博物館へ会長の蔵書（昆虫関係の）とともに寄贈され，論文の別刷は学会に全て寄贈して頂きました．ここにご遺族に心から感謝の意を表します．

将来の安定した学会運営の為にも，学会本部を大阪自然史博物館に，館長さん以下のご了解を得て，置いていただくことになりました．また総務，会計，編集，渉外などを分担して担当し，それらのバックアップ体制が取れるようにしたいと考えています．

学会の各事務担当委員は下記のとうりです．

総務，庶務（林）：会計（野村）：編集（評論：林，木村，初宿；ねじればね：水野，伊藤建）：本部，例会（初宿）：会員（野村，伊藤建）：渉外（伊藤昇）

故林匡夫会長の追悼号について

故林匡夫会長の追悼の号として５４巻２号を当てますので論文を寄せていただくと大変有り難いのでご協力をお願い致します．投稿規定は通常のものに準拠します．締め切りは１９９９年８月３１日とします．細目については林靖彦までお問い合わせ下さい．学会としては氏の略歴及び著作目録を編纂するべく，現在調べています．また氏の記載された新種のタイプリストも作成する予定でいます（何れも水野弘造担当）．

１９９９年度行事予定

例　会：４月１１日（日），１０月２４日（日）に大阪自然史博物館に於いて開催予定
採集会：７月１０，１１日，和佐又山に於て日本鞘翅学会と共催で
大　会：１２月１２日，大阪自然史博物館に於いて
特別例会：９月２３～２５日の何れかに，愛媛大学農学部に於いて

経費節減の為案内は‘ねじればね’誌上でしたいと思いますので，取り敢えず来年のカレンダーに記入しておいて下さい．

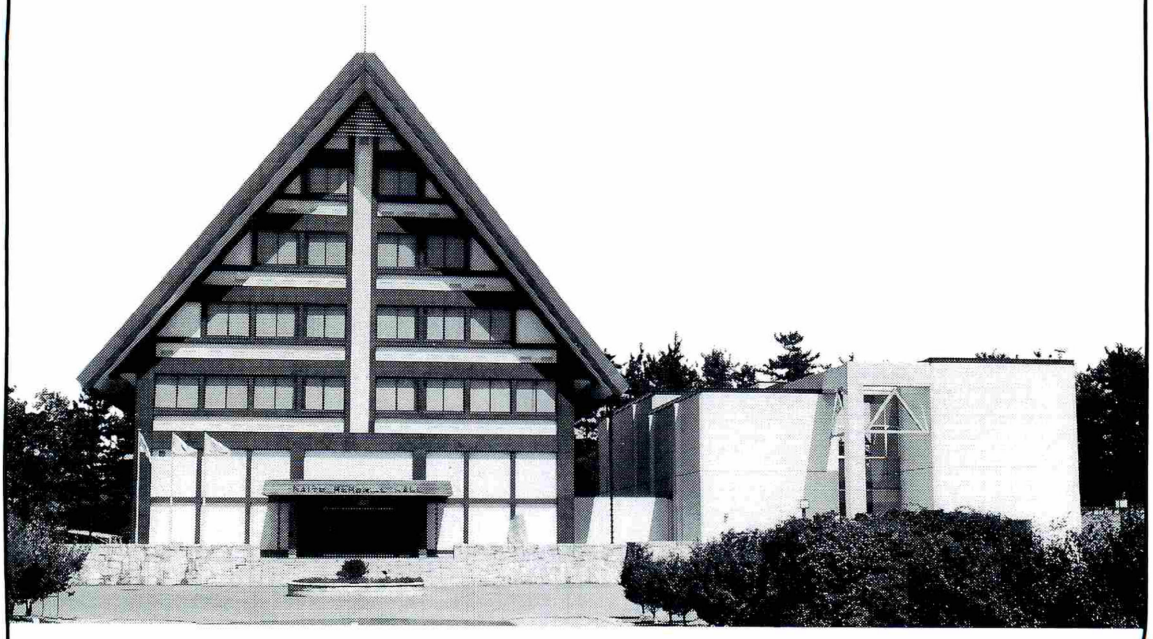
投稿原稿，別刷について

従来超過ページ負担無しを１０ページまでとしていましたが，当分の間１６ページまでとします．また別刷は全て表紙付きとして，表紙代のみ学会負担とし，他の経費は著者負担とします．現在最も高くついているのが製本代です．

一日いれば、くすり博士。

いつの時代にも、どこの国でも、薬は「いつも健康で、長生きしたい」「早く病気をなおしたい」という願いをこめて生み出され、医学とともに進歩してきました。
その薬の歴史を物語る貴重な資料がわかりやすく展示され、だれでも自由に見られるのが「内藤記念くすり博物館」です。
岐阜県川島町のエーザイ川島工園の中にあり、展示や映像や付属薬用植物園などを楽しく見ているうちに、薬に関するいろいろなことを学ぶことができます。
入場無料・月曜日は休館です。

エーザイ川島工園は、自然林を残した約14万坪の敷地の中に製剤工場や研究所や博物館などの建物が点在しており、公園のような工場なので「工園」と名付けました。



内藤記念くすり博物館

〒501-61　岐阜県羽島郡川島町
☎ 058689-2101

エーザイ川島工園内

著　作　権

昆虫学評論及び”ねじればね”に掲載された著作は原則として本会に属する．

1.. 執筆者自身が自分の著作の一部を複製・翻訳などの形で利用する場合，これに対して当会では原則的に意義申し立てしたり妨げることはしない．ただし，執筆者自身でも全文を複製の形で他の著作物に利用する場合に限り，事前に本会へ文書で申出を行い，許諾を求めなければならない．

2. 第三者から論文の複製あるいは転載に関する許諾の要請があり，当会において必要と認めた場合は，執筆者に代わって許諾することがある．

投　稿　規　程

1. 投稿は原則として当学会員に限る．登載は原則的には受領順によるが，全額実費負担の原稿は優先的に取り扱うことが可能である．但しアドバイサー制の導入により掲載の順位の変更がありうる（原稿は適当な方の校閲を受けたものであることが望ましい）．

2. 昆虫学評論には，当分の間，欧文原稿のみを掲載し，和文原稿は当面“ねじればね”に掲載されるものとする．但し原著には和文要約を付けることとします．またプレートは当分の間廃止し，図版はすべて本文内に収めるtext figure 扱いとする．但し著者負担によるカラー・プレートは認める．原稿の長さは刷り上がり10ページ以内とし，超過ページの印刷経費は著者負担とする．

3. 原稿（本文，図，表および表紙）は別記の要領で作成し，２部（一部はコピーで）を編集幹事に書留で郵送する．
本文をワードプロセッサーで作成した場合はDOSフォーマット化されたフロッピーに，またコンピューターで作成した場合はマッキントッシュまたはDOS-フォーマット化されたフロッピー（1.44MB）に，ストリップテキスト化した後それぞれ書き込んで，プリントアウトした原稿とともに同時に提出することが望ましい．フロッピーが提出されることによって校正や編集上の負担が著しく軽減される（当学会においてはマッキントッシュＬＣ６３０にワードパーフェクトを乗せて編集しています）．その他の詳しい原稿作成の要領については別ページを参照してください．

4. 原稿の掲載上の体裁については編集委員に一任されたい．編集委員はアドバイサーの意見に基づいて原稿の内容について著者に再検討や訂正を求めることがある．

5. 著者校正は原則として初校のみとする．校正での大幅な変更や追加は認めない．

6. 別刷は 50 部単位で作成し，50 部を学会負担とする．

7. 原稿の送付，問い合わせ先は当分下記とする．

昆虫学評論，学会事務局

〒666-0116　川西市水明台３-１-７３　　林　靖彦　Tel 0727-93-3712　FAX 0771-86-0863

ねじればね

〒611　　宇治市木幡熊小路１９-３５　水野弘造 Tel 0774-32-4929

〒614　　八幡市男山雄徳８　Ｅ７-３０３　伊藤建夫 Tel 075-983-3491

学会本部・担当

大阪自然史博物館・初宿成彦

和文原稿について

和文原稿は，原著に付ける和文要約を除いて，当分の間“ねじればね”紙上にのみ掲載の予定ですので，新しい分類学的処理を含む内容の論文の掲載は出来ません．“ねじればね”は年２回以上の発行として，１号６－１２頁建てとします．分布，生態などの短報，分類学的な解説やノート，同定の手引き，その他役にたつ論説，情報など幅広い内容で紙面を作っていきたいと考えています．

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