

Pteroloma kurosawai, a New Subalpine Agyrtid Beetle
(Coleoptera, Agyrtidae) from Central Japan,
with a Key to the Asian Species

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Abstract A new species of the agyrtid genus *Pteroloma* GYLLENHAL, *Pteroloma kurosawai*, is described from the subalpine areas of Central Japan. This new species is closely similar to *Pteroloma rufovittatum* (NAKANE), but can be distinguished from the latter by the immaculate elytra and the head without distinct pale mounds, and the configuration of male genitalia. A key is given for the species of the genus *Pteroloma* presently known from Asia.

Introduction

Only seven species belonging to the agyrtid genus *Pteroloma* GYLLENHAL have hitherto been known in the world (NEWTON, 1997). SCHAWALLER (1985) previously reviewed the Japanese members of the genus; four species were recognized, though two of the four were corrected (NISHIKAWA, 1996) or transferred to the genus *Apteroloma* HATCH (KUROSAWA, 1985; SCHAWALLER, 1991; NEWTON, 1997). In the Russian Far East, LAFER (1989) reviewed two species of the genus, and recently found a strange species (LAFER, pers. comm.). RŮŽIČKA and SCHNEIDER (1995) described *Apteroloma plutenkoi* from the southern part of the Sikhote-Alin Mountains, and made a key to the three species which are mainly characterized by strongly convex elytra, though two of the three were transferred to the genus *Pteroloma*. NIKOLAJEV (1989) described *Pteroloma altaicum* from Kazakhstan. No species of the genus has been recorded from Northeast China and the Korean Peninsula until recently, though *Pteroloma koebelei* was newly found from South Korea (CHO, PARK & AHN, 2001).

At the National Science Museum (Natural History), Tokyo, I have found a *Pteroloma* species in having wholly brownish body without elytral maculations, and is closely similar to *Pteroloma rufovittatum* (NAKANE) in many respects. After a close examination, I have concluded that the species is new to science, and will describe it in the following lines.

The abbreviations used in the present paper are as follows: HL – length of head; HW – greatest width of head; PL – median length of pronotum; PW – greatest width of pronotum; EL – length of elytra; EW – greatest width of elytra; MLL – length of the

median lobe of male genitalia; M – arithmetic mean.

Description

Pteroloma kurosawai M. NISHIKAWA, sp. nov.

[Japanese name: Chûbu-tsuyashidemushi]

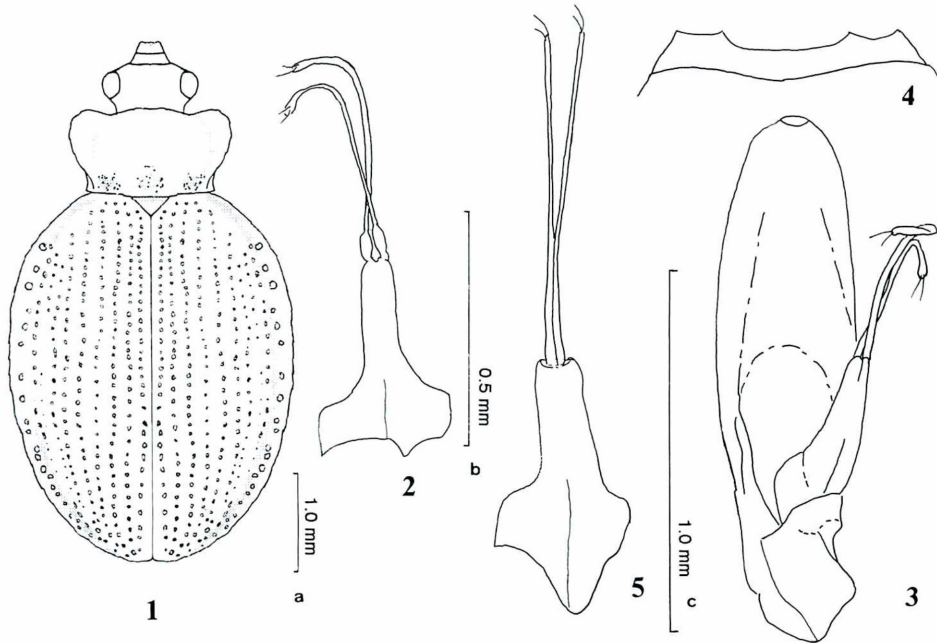
(Figs. 1–4)

Male. Length 5.25–5.50 mm (from apical margin of clypeus to apices of elytra), width 2.85–2.95 mm. Unicolorous, yellowish brown or dark brown. Similar to *P. rufovittatum* in general appearance (Fig. 1).

Head irregularly foveolate, the fovea sometimes setiferous, the setae long, with microsculpture aciculate on frons, depressed inside each antennal cavity and in the middle of vertex, without distinct pale mounds, front margin almost straight and fronto-clypeal suture also straight, widest just before eyes, HW/HL 0.91–0.92; labrum transverse, subtrapezoidal, slightly emarginate at front margin, with puncturations as on frons; maxillary palpi with last segment 1.9× as long as the penultimate one; eyes well prominent. Mandibles each with inner preapical tooth. Antennae long, with segments longer than wide; segments II–IV, V–VI, VII–VIII and IX–XI of the same length, respectively; segment I 2× as wide as long; II the shortest, almost 1/2 as wide as III; III–V, VI and XI, and VII–VIII of the same width, respectively; IX slightly shorter than 2× as long as wide, and X 1.5× as long as wide.

Pronotum transverse, subcordate, obliquely explanate in lateral portions, widest at the middle, PW/HW 2.11–2.18 (M 2.14), PW/PL 1.55–1.79 (M 1.67); front margin well emarginate; front angles broadly rounded; sides sinuate, gently serrate; basal margin gently sinuate; hind angles pointed, slightly reflexed; surface with subround depressions in the middle of basal portion and inside each hind angle, foveolate in the depressions, the foveoles sparse as well as on lateral portions and the middle of apical portion; interstices among the foveae polished, though rather mat in middle portion. Scutellum triangular, with fine punctures dense in basal portion. Hind wings complete.

Elytra ovate, convex apicad, explanate in lateral portions, which are gradually convergent apicad, widest at about basal 1/3; EW/PW 1.68–1.74 (M 1.70), EL/PL 3.23–3.84 (M 3.52), EL/EW 1.24–1.25 (M 1.24); sides strongly arcuate, gently serrate throughout; apices separately rounded; suture entire; each elytron with 10 puncturate striae including sutural stria, the outermost one situated on explanate field, its punctures transparent, larger than those of inner ones; interspace with a few brevi-setiferous punctures and microsculpture, though shiny among the punctures; epipleura broad, strongly sinuate along inner margins, gradually convergent apicad, ending before apices, sparsely foveolate in inner halves, with dense microsculpture. Pygidium sparsely punctate, the punctures setiferous in apical portion, with microsculpture transversely rugose.



Figs. 1–5. *Pteroloma* spp. from Central Japan; 1–4, *Pteroloma kurosawai* M. NISHIKAWA, sp. nov., from Mt. Kai-koma-ga-take, Akaishi Mountains, Yamanashi Pref.; 5, *Pteroloma rufovittatum* (NAKANE), from Mt. Daibosatu-rei, Kwantô Mountains, Yamanashi Pref. — 1, Outline of body, ♂; 2, 5, parameres of male genitalia, dorsal view; 3, male genitalia, right lateral view; 4, abdominal sternite VIII, ♂, ventral view. Scales: a for Fig. 1, b for Figs. 2 and 5, and c for Figs. 3 and 4.

Prosternum with punctures transversely rugose. Mesosternum finely and densely punctate. Metasternum with asperate punctations. Mesepisterna punctate, obliquely rugose. Abdomen 7-segmented; sternites finely and densely punctate, with a row of setiferous punctures on each apical portion, the setae long; sternite VII emarginate at apical margin, sternite VIII (Fig. 4) projected in apico-lateral corners, distinctly emarginate at the middle of apical margin, depressed in the middle of apical portion.

Legs long and slender, with protibia parallel-sided, weakly curved outwards near apex, longitudinally carinate; protarsus weakly dilated; meso- and metatibiae longitudinally carinate; mesotarsus normal.

Median lobe of male genitalia (Figs. 2–3) asymmetrical, robust, almost spindle-shaped (MLL/EL 0.43 in the holotype) with blunt apex, depressed in the basal half of dorsal surface, rather flat in lateral view, slightly curved dorsad in apical portion, with a short sinuate wrinkle longitudinally at the right side near basal 1/3, membranous in apico-inner portion of ventral surface. Parameres (Fig. 2) fused to each other though narrowly membranous longitudinally at the middle, asymmetrically spatulate, slender in apical portion, with a flexible process at each apex, the process thicker just before

base, also thicker and somewhat flat at bisetose apex. Basal piece asymmetrical, strap-shaped.

Female. Length 5.25–5.30 mm (measured as in male), width 2.90–2.95 mm. Similar to male in general appearance. Proportions of body parts as follows: PW/HW 2.12–2.14, PW/PL 1.60–1.62, EW/PW 1.63–1.79, EL/PL 3.55–3.64, EL/EW 1.27–1.34. Abdomen 6-segmented, with sternites VII–VIII emarginate at each apical margin. Tarsus simple in shape. Female genitalia with styli setose, digitiform.

Type series. Holotype: ♂, Mt. Kai-koma-ga-take, 2,645 m in alt., Akaishi Mountains, Yamanashi Pref., Central Japan, 14–IX~15–X–1986, S. J. MARTIN leg. Paratypes: 1♀, same locality and collector as for the holotype, 2,600 m in alt., 16–X~16–XI–1986; 1♂, Mt. Senjō-ga-take, 2,600 m in alt., Akaishi Mountains, Yamanashi Pref., 20–VII~15–VIII–1986, same collector as for the holotype; 1♀, Hiwada, Takane-mura, Gifu Pref., 24~25–VI–1995, H. YOSHITOMI leg. The type series, except for the paratype from Hiwada (in NISHIKAWA's collection), is deposited in the National Science Museum (Nat. Hist.), Tokyo.

Distribution. Japan (Montane areas of Central Honshu).

Etymology. Named after the late Dr. Yoshihiko KUROSAWA who kindly informed me of the occurrence of an immaculate *Pteroloma* species in the Akaishis.

Notes. The present new species was erroneously recorded by MARTIN (1989) under the name *P. rufovittatum*. The other pair of the specimens of this new species were also examined at the National Science Museum, Tokyo, though no label is attached to them, which have been kept in the same unit tray together with the types from the Akaishis designated above.

The type locality of *P. kurosawai* sp. nov., Mt. Kai-koma-ga-take, and Mt. Senjō-ga-take stand at the northern part of the Akaishi Mountains, and Hiwada (about 1,400 m in altitude) is at the northeastern foot of Mt. Ontake-san of the Hida Mountains. In the former, the new species was taken only by pit-fall traps with formalin set in the subalpine zones (cf. MARTIN, 1989), while in the latter, it was found at an old deforested site of a coniferous forest in the montane zone. On the other hand, *P. rufovittatum* and *Pteroloma koebelei* VAN DYKE inhabit the montane zone at 1,000–2,000 m in altitude, according to their collecting data (VAN DYKE, 1928; NAKANE, 1955; KAMIMURA, NAKANE & KOYAMA, 1964; KIDO, 1982; SCHAWALLER, 1985; RŮŽIČKA & SCHNEIDER, 1995), except for those of the questionable locality Kami-koshiki-jima Island off Southwest Kyushu (HLÍŠNIKOVSKÝ, 1963; SCHAWALLER, 1985; KUROSAWA, 1986).

The other Japanese congener, *Pteroloma sibiricum* SZÉKESY, inhabits the subalpine and alpine zones (1,400–1,900 m in altitude) of the Daisetsu Mountains, Central Hokkaido (YASUDA, 1996). A few specialists threw doubt about the absence of *Pteroloma forsstromii* (GYLLENHAL) in the Japanese agyrtid fauna, judging from the coexistence of these two species in the neighboring areas (LAFER, pers. comm.; SCHAWALLER, 1999). However, the *Pteroloma* species from Hokkaido is identical with *P. sibiricum* so far as the specimens examined are concerned. Unexpectedly, I have recently become acquainted with the occurrence of a *P. forsstromii*-like species in

Tôhoku District, Northeast Japan. It will be reported in detail after a sufficient number of specimens are taken in the future.

As the result, a total of seven congeners (88% of all the known species) are now known from Asia. They are tentatively divided into two groups: the *rufovittatum* group is characterized by strongly convex and laterally explanate elytra (Fig. 1; NAKANE, 1963, pl. 37, fig. 22; SCHAWALLER, 1985, fig. 5; KUROSAWA, 1985, pl. 45, fig. 2), robust and spindle-shaped median lobe of the male genitalia (Fig. 3); the *forsstromii* group is characterized by carabid-like appearance (VAN DYKE, 1928, figs. 1–6; NAKANE, 1963, pl. 37, fig. 21; SCHAWALLER, 1985, figs. 2–3; KUROSAWA 1985, pl. 45, figs. 3–4; LAFER, 1989, fig. 201, 1), slender, prolonged or spatulate median lobe (SZÉKESSY, 1935, figs. 1–4; LAFER, 1989, figs. 204, 1–4; NIKOLAJEV, 1989, figs. 1–3; CHO, PARK & AHN, 2001, fig. 2 A–B). Although *P. plutenkoi* has only been known from a single female specimen, it seems to be a member of the former, judging from the shape of the elytra (RŮŽIČKA & SCHNEIDER, 1995, fig. 1). They may be discriminated by using the following key:

Key to the Species of the *Pteroloma* in Asia

1. Elytra ovate, strongly convex, explanate laterad 2.
— Elytra elongate-ovate, ordinarily convex 4.
2. Elytra with a pair of 9 punctate striae; pronotum deeply emarginate at front margin; body unicolorous; Russia (Primorskyi Kray)
. *P. plutenkoi* (RŮŽIČKA et SCHNEIDER).
— Elytra with a pair of 10 punctate striae; pronotum emarginate at front margin . . . 3.
3. Head with pale mounds; elytra maculate, blackish brown with orange stripes; apical portion of parameres of male genitalia broad, with process simple¹⁾; Japan (Honshu, Shikoku, Kyushu). *P. rufovittatum* (NAKANE).
— Head without distinct pale mounds; elytra immaculate; unicolorous, yellowish brown to dark brown; apical portion of parameres slender, with process thicker near base and somewhat flat at the apex; Japan (Honshu)
. *P. kurosawai* sp. nov.
4. Mandibles each with one large, acute, and two shorter blunt teeth; pronotum strongly transverse, smooth at sides; Japan (Honshu, Kyushu), Korea²⁾
. *P. koebelei* VAN DYKE.
— Mandibles each with a single large preapical tooth; pronotum subcordate, serrate at sides 5.
5. Pronotum with sides straightly convergent apicad; median lobe of male genitalia

¹⁾ The processes of the parameres are variably twisted according to the conditions of their sclerotization and desiccation (cf. Figs. 2–3).

²⁾ According to the illustration (fig. 2B) given by CHO, PARK and AHN (2001), the shape of the median lobe of the male genitalia is slightly different from that of the Japanese specimens.

- spatulate, strongly developed in apical portion; NE Kazakhstan, E Russia (Kuznetsky Alatau, Altai, E Sayan, Khamar-Daban³⁾)
 *P. altaicum* NIKOLAJEV.
 — Pronotum with sides arcuately convergent apicad 6.
 6. Median lobe lanceolate, prolonged at the apex; Russia (Siberia, Russian Far East, Sakhalin, Kamchatka, Kuril Islands), Japan (Hokkaido)
 *P. sibiricum* SZÉKESY.
 — Median lobe spatulate, simply broad in apical portion; Europe, Mongolia, Russia (Siberia, Russian Far East, Sakhalin) *P. forsstromii* (GYLLENHAL).

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要 約

西川正明：中部日本の亜高山帯から発見されたツヤシテムシ科甲虫の1新種，およびアジア産同属種の検索表。——赤石山脈北部の甲斐駒ヶ岳と仙丈ヶ岳の亜高山帯で得られ，アカスジツヤシテムシ *Pteroloma rufovittatum* (NAKANE)の名称のもとに記録されたものと，新たに飛騨山脈の御嶽山の山麓で得られたものを新種と認め，チュウブツヤシテムシ *Pteroloma kurosawai* sp. nov.と命名して記載した。この新種は，前種に外形がよく似ているが，翅鞘に帯紋を欠くこと，雄交尾器のとくに側片の形状が異なることなどによって区別できる。最後に，現在，アジア大陸から知られる本属の7種（世界産の88%）が，2群に分けられることを指摘し，それらの検索表を掲げた。

³⁾ *Specimens examined from new localities.* 1 ♀, Lake Baikal, nr. Marituy, Irkutskaya Oblast, Russia, 23-VII-1994, A. ANISTSCHENKO leg.; 2 exs., nr. Slyudyanka, 1,600 m in alt., Khamar-Daban Kreet, 10~14-V-1996, A. ANISTSCHENKO leg.; 5 exs., Snezhnaya River, nr. Lake Baikal, Khamar-Daban Kreet, 19~25-V-1997, A. ANISTSCHENKO leg.; 3 exs., nr. Snezhnaya River, 500 m in alt., Khamar-Daban Kreet, 6~11-VIII-2001, M. NISHIKAWA leg. (carrion traps set in a talus slope).

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