

Four New Species of the genus *Ainu* Lewis (Coleoptera, Stenochiinae, Cnodalonini) from Southeast Asia

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Abstract. Four new species of the genus *Ainu* Lewis, 1894, are described from Southeast Asia: *Ainu kobayashii* sp. nov.; *A. sakaii* sp. nov.; *A. yoroi* sp. nov.; *A. yoshitakei* sp. nov. A list of all the species of the genus *Ainu* including the newly described ones is also provided.

INTRODUCTION

The genus *Ainu* was erected for *A. tenuicornis* Lewis, 1894, originally described from Nishimura and Kurigahara, Japan. Thirteen species have hitherto been known from Japan and Southeast Asia.

From the Masumoto Collection in the National Museum of Nature and Science, Tsukuba, Japan and the Akita private collection in Mie, Japan, we found several unknown *Ainu* species. We examined them for two years, and as a result we recognized four species are new to science. So we describe them as new species in the present paper.

Recently, Yuan et al. (2014) proposed *Erulipus* Fairmaire, 1903, as a subgenus of the genus *Ainu*. They mentioned the most important differences between the subgenera *Ainu* and *Erulipus* as follows:

1. Protarsomeres longitudinal in both sexes. Head, pronotum and elytra similar in colour (=the subgenus *Ainu*). 2. Male protarsomeres I to IV transverse, those of female slightly transverse, subequal in length and width or slightly longitudinal. Head and pronotum differ from the elytra in the colour (=the subgenus *Erulipus*).

We examined those characters in a huge number of *Ainu* species. As a result, even in *Ainu andoi* Ruzzier, 2014, we found some individuals whose elytra were of the same coloration as the head and pronotum. Furthermore, the shape of tarsi were subtly different in individuals, therefore, we cannot clearly separate species on the subgeneric level. So, we do not agree with accepting the subgenus *Erulipus* in the present paper.

The data of the holotype label are verbatimly cited between quotation marks, a slash is used to separate lines of the data on the label, and a double slash separates the labels. Abbreviations used herein are as follows: BL/BW = Body length / Body width; LAI-XI = Length of antennomere I to XI in mm; WE/ED = Width between eyes / Eye transverse diameter; PW/PL = Pronotal width / Pronotal length; EL/EW = Elytral length / Elytral width; EL/PL = Elytral length / Pronotal length; EW/PW = Elytra width / Pronotal width; LTB-A = Lengths of pro-, meso- and metatarsi from baso- to apicomeres in mm.

All the holotypes will be deposited in the National Museum of Nature and Science, Tsukuba, Japan and some paratypes will be shared to the major museums and institutes in future.

TAXONOMY

***Ainu* Lewis, 1894**

Type species. *Ainu tenuicornis* Lewis, 1894.

General Features. Body elongate, subcylindrical, gently convex longitudinally. Head irregularly, not closely punctate, sometimes with an impression between eyes. Antennal orbit well elevated, the antennae very long and slender. Pronotum subquadrate, mostly wider than long, lateral margins bordered; disc gently convex, punctate. Scutellum triangular. Elytra rather strongly punctate-striate; intervals convex and smooth. Anterior and intermediate tarsi with four tarsomeres dilated and padded on the underside. Female with chitinous ovipositor, and aedeagus with apices more or less arrow head like thickened.

***Ainu kobayashii* sp. nov.**

(Figs. 1-5)

Type locality. N. Borneo, Sabah, Mt. Trus Madi.

Type material. Holotype (♂): "Mt. Trus Madi / Sabah / N. Borneo / 10.-13. IV. 1993 / leg. S. Nirasawa // Coll. Masumoto / 2013 // HOLOTYPE / *Ainu kobayashii* / Masumoto et Akita, 2021". Paratypes: N. Borneo, Sabah: (1 ♂): nr. Keningau, Kimanis Road, 5. V. 1994; (1 ♀): nr. Keningau, Crocker Range, 1000-1400m, 11-15. IV. 1988, N. Kobayashi leg.; (1 ♂): Mt. Trus Madi, 15-20. III. 2018, T. Yoro & H. Watanabe leg.

Description of the holotype. Body length: 15.4 mm, width: 4.2 mm; BL/BW 3.7. Body colour mostly dark reddish brown, head dark green, with round brownish spot between eyes, pronotum, scutellum and elytra dark, with greenish reflexion under a certain light direction, antennae and tarsi brownish black, ventral surface partly with weak greenish reflexion, apical portion of abdomen brownish black; major dorsal surface strongly shining, four apical antennomeres mat, legs moderately shining, ventral surface weakly shining; except for the antennae and ventral parts of tarsi, the body is almost glabrous.

Head subdecagonal, though the basal portion is hidden by the pronotum, weakly convex in medial and posterior portion; clypeus wide hexagonal, basal part flattened, weakly microsculptured and rather closely, irregularly punctate, medial part very weakly convex and with irregularly scattered larger punctures, lateral parts with sparsely scattered minute punctures, apex widely truncate; genae obliquely raised, very weakly microsculptured, with scattered small punctures, which are intermixed with much more smaller ones, exterior margins gently produced; fronto-clypeal sulcus strongly, roundly impressed, hardly reaching to exterior margins; frons gently declined to fronto-clypeal sulcus, the borders of genae indistinct, irregularly punctate, posterior part with a round impression; vertex weakly convex. with sparsely scattered small punctures; interior borders of eyes grooved. Eyes obliquely comma-shaped in dorsal view, strongly convex laterad; WE/ED 1.2. Antennae reaching to basal 1/3 of elytra; LAI-XI: 0.48, 0.18, 0.91, 0.69, 0.73, 0.72, 0.72, 0.74, 0.79, 0.77, 1.03.

Maxilla with terminal palpomere rather sharply subsecuriform. Mentum somewhat inverted trapezoidal, though the medial part of apical side a little produced, raised antero-medially, microsculptured. Gula triangular, depressed, with sparsely scattered microscopic punctures.

Pronotum PW/PL 1.2 widest at apical 2/5; apical margin slightly emarginate, finely bordered in lateral parts; base weakly produced in medial part, sinuous in lateral parts, clearly bordered by a groove; front angles slightly obtusely angulate; hind angles subrectangular; disc gently, fairly widely convex, weakly, transversely depressed in anterior 1/3, with irregularly scattered small

punctures, which become closer in lateral portions; sides steeply inclined laterad, slightly enveloping underside of body, lateral margins finely bordered. Scutellum sublinguiform, slightly raised in major medial parts, weakly depressed in latero-basal parts, almost wholly smooth.

Elytra EL/EW 2.6, EL/PL 4.8, EW/PW 1.4, widest at apical 2/5, weakly constricted around basal 1/3; dorsum fairly strongly convex longitudinally, highest at basal 1/5; disc finely punctate-striate, the punctures in striae small, closely set and roundly invading into intervals; intervals weakly convex, very weakly microsculptured, transversely micro-aciculate, with sparsely scattered microscopic punctures; sides steeply declined to lateral margins, which gently envelop underside of the body, are bordered by irregularly and sparsely punctate grooves, and barely visible from above; humeri swollen, smooth; apex dehiscent with acute apices.

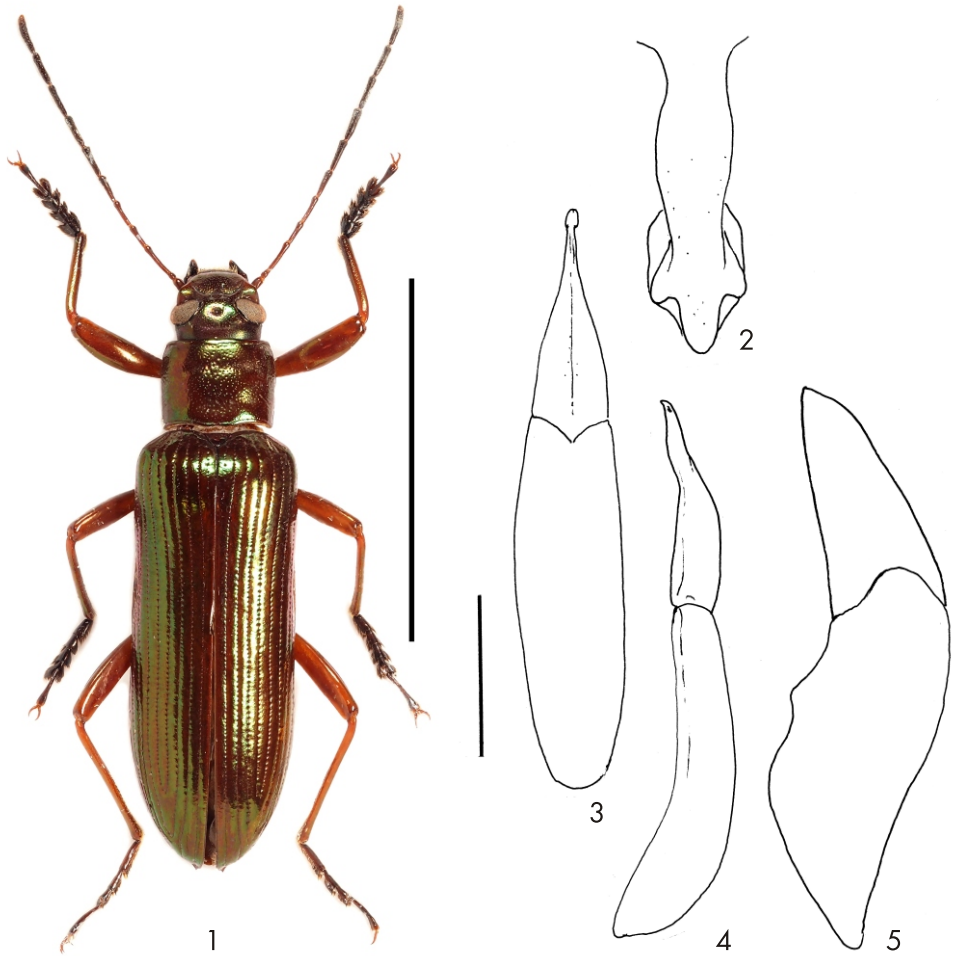
Prosternum rather wide, apex widely, weakly emarginate, finely ridged, anterior part sparsely punctate, medial part (=area between procoxae) strongly raised, very weakly depressed medially, with sparsely scattered minute punctures, posterior part slightly narrowed, also with scattered minute punctures, and continuing to prosternal process; prosternal process (Fig. 2) produced somewhat in nose-form, with apex roundly projected. Mesoventrite short, anterior part depressed and hidden under prosternum in repose, ridged on median line, closely, minutely punctate, posterior part strongly, inverted-triangularly depressed. Metaventrite rather wide, longitudinally impressed in posterior 3/4 on midline, raised in basal 1/4 (=inter-mesocoxal space), then inclined posteriad, weakly convex on both side of median groove, hardly punctate. Abdomen rather large; ventrite I to IV rather closely, minutely punctate, the punctures often transverse, or transversely connected with each other; ventrite V closely punctate, with apex rounded.

Femora boldly subclavate and minutely punctate; profemora with anterior faces nearly straight, and gently gouged in apical halves, posterior face rather strongly produced; meso- and metafemora with anterior (=exterior) faces gently produced, and posterior (=interior) faces nearly straight and weakly gouged in apical halves. Tibiae minutely punctate; protibiae with exterior faces nearly straight, interior faces very weakly produced in middle, weakly gouged and clothed with setaceous hairs in apical halves; mesotibiae with exterior faces nearly straight, interior faces very slightly gouged and clothed with fine setaceous hairs in apical 4/5; metatibiae very slightly curved exteriorad, clothed with fine setaceous hairs in apical 1/3, with interior faces slightly gouged in apical 1/3. Tarsi with LTB-A: 0.58, 0.37, 0.42, 0.39, 0.70; 0.61, 0.53, 0.51, 0.60, 1.00; 1.04, 0.68, 0.57, 1.13.

Aedeagus subfusiform, 3.37 mm in length, 0.67 mm in width, very weakly curved in lateral view; basale longitudinally subelliptical, though the apical part is truncate; apicale 1.34 mm in length, elongated triangular, apical part noticeably prolonged in apical 2/7, with thickened apices (see Figs. 3 and 4).

Variability (n=3). Body length: 14.8-15.4 mm, coloration rather variable, partly with dark greenish to dark purplish reflexion in some individual. Ratio ranges of major body as follows: BL/BW 3.3-3.7, WE/ED 1.1-1.2, PW/PL 1.2-1.3, EL/EW 2.5-2.6, EL/PL 4.8-4.9, EW/PW 1.4-1.5.

Female (n=1). Body length: 15.7 mm. Compared with males the body shorter, BL/BW 3.6; eyes smaller, WE/ED 1.3; antennae and legs shorter, PW/PL 1.4, EL/EW 2.6, EL/PL 5.1, EW/PW 1.4. Ovipositor as in Fig. 5.



Figs. 1-5. *Ainu kobayashii* sp. nov. — 1- habitus; 2- prosternal process; 3- aedeagus (dorsal view); 4- ditto (lateral view); 5- ovipositor (lateral view); 1-4- holotype, ♂; 5- paratype, ♀. Scales: 10.0 mm for 1; 1.0 mm for 2-5.

Differential diagnosis. The new species resembles *A. basifemoratum* Nabozhenko & Ren, 2018. The former can be distinguished from the latter by legs dark reddish brown to blackish brown (basal third of femora, interior sides of tibiae and tarsi yellowish brown in the latter), punctures on the head and pronotum sparser and smaller, the male pronotum more longitudinal and widest at apical 2/5 (PW/PL 1.4, widest at the middle in the latter), apices of the apicale not so noticeably thickened (noticeably thickened in the latter).

Etymology. The specific name, *kobayashii*, is given in honour of our old entomological friend, Nobuyuki Kobayashi, Kawasaki City, Japan, who collected the paratype.

Distribution. North Borneo.

***Ainu sakaii* sp. nov.**

(Figs. 6-10)

Type locality. Malaysia, Selangor, near K. K. Bahru.

Type material. Holotype (♂): "(Near K. K. Bahru) / SELANGOR, MALAYSIA / 27th, March, 1976 / Coll. Kaoru Sakai // Coll. Masumoto / 2002 // HOLOTYPE / *Ainu / sakaii* / Masumoto et Akita, 2021". Paratypes: Malaysia, Pahang: (1 ♀): Cameron Highlands, 17-18 miles from Tapah, 11. III. 1976, K. Sakai leg.; (1 ♂, 1 ♀): ditto, 18. III. 1976, K. Sakai leg.; (1 ♀): Tanah Rata, 3. III. 1976, K. Sakai leg.; (1 ♂): ditto, 28-30. III. 1974, Y. Miyake leg.; (1 ♀): 19 miles from Tapah, 21. III. 1976, Y. Miyake leg.; (1 ♀): ditto, 30. III. 1984, Y. Miyake leg.; (1 ♀): Mt. Jasar, 8. IV. 1976, Y. Miyake leg.

Description of the holotype. Body length: 10.5 mm, width: 3.4 mm; BL/BW 3.1. Body colour mostly brownish black, major dorsal surface with dark greenish to purplish reflexion under a certain light direction, ventral surface mostly with dark greenish reflexion and postero-lateral parts with rather purplish reflexion; head and pronotum weakly shining, scutellum, elytra and legs moderately shining, ventral surface mostly, somewhat metallically shining; except for the antennae and ventral parts of the tarsi, the body is almost glabrous.

Head subhexagonal, though the basal portion is hidden by the pronotum, gently raised posteriad; clypeus somewhat wide hexagonal, gently convex in medial part, very weakly microsculptured and fairly closely punctate; genae obliquely raised and weakly dilated, weakly microsculptured, with scattered irregular-sized punctures, exterior margins gently raised and weakly, roundly produced; fronto-clypeal sulcus strongly, roundly impressed, barely reaching to exterior margins; frons narrow and subquadrate, the borders of genae indistinct, major anterior part weakly depressed, flattened and closely, coarsely punctate, lateral parts weakly raised and flattened, with scattered smaller punctures, vertex weakly convex and with irregularly scattered small punctures, inclined posteriad; interior borders of eyes grooved. Eyes transversely comma-shaped in dorsal view, strongly convex laterad; WE/ED 0.9. Antennae reaching to medial part of elytra; LAI-XI: 0.30, 0.12, 0.60, 0.49, 0.57, 0.56, 0.54, 0.58, 0.61, 0.63, 0.89.

Maxilla with terminal palpomere gently dilated, with apex obliquely truncate. Mentum subhexagonal, transversely ridged in medial part, rather steeply inclined anteriad and gently so posteriad from the ridge, with two pairs of minute, long haired tubercles on the ridge. Gula triangular, depressed, smooth.

Pronotum PW/PL 1.5, widest at base; apical margin nearly straight, mostly clearly bordered, the border finely punctate; base clearly bordered by a groove, very weakly produced in medial part, weakly sinuous in lateral parts; front angles slightly obtusely angulate with rounded corners; hind angles subrectangular; disc gently, fairly widely convex, weakly microsculptured, with irregularly scattered rather large punctures in medial portion, closely punctate in lateral portions; sides steeply declined to lateral margins, which are bordered by punctate-grooves. Scutellum triangular with weakly rounded sides, slightly convex, very weakly microsculptured, with sparsely scattered minute punctures.

Elytra EL/EW 2.3, EL/PL 5.1, EW/PW 1.5, widest at middle, weakly constricted around basal 1/3; dorsum fairly strongly convex longitudinally, highest at basal 1/3; disc punctate-striate, the striae rather deep, the punctures in striae small, round, and notching intervals, closely set in interior portion, becoming sparser in lateral portions; intervals gently convex, very weakly microsculptured, transversely micro-aciculate, with sparsely scattered microscopic punctures; sides steeply declined to lateral margins, which are bordered by closely punctate grooves, and almost invisible from above (visible in areas constricted); humeri gently swollen, rather smooth, with scattered minute punctures; apex feebly produced.

Prosternum rather wide, apex widely, weakly emarginate, finely ridged, anterior part smooth, medial part (=area between procoxae) strongly raised, weakly depressed medially, with very sparsely scattered minute punctures, posterior part slightly narrowed, microsculptured, and continuing to prosternal process; prosternal process (Fig. 7) gradually narrowed apicad. Mesoventrite short; anterior part depressed and hidden under prosternum in repose, ridged on median line, microsculptured, obliquely wrinkled; posterior part strongly inverted-triangularly depressed. Metaventrite rather wide, longitudinally impressed in posterior 4/5 on median line, weakly raised in inter-mesocoxal space, then weakly inclined posteriad, gently convex on both sides of median groove, with sparsely scattered shallow punctures, microsculptured and wrinkled. Abdomen fairly large, ventrite II to IV with shallow subovate depression in lateral part, ventrite I to III rather sparsely minutely punctate, longitudinally wrinkled, ventrite IV with scattered minute punctures, ventrite V weakly microsculptured, with scattered minute punctures, with apex rounded.

Femora subclavate and minutely punctate; profemora with anterior faces nearly straight, and gently gouged in antero-ventral face, posterior faces roundly produced; meso- and metafemora with anterior (=exterior) faces gently produced; mesofemora gouged before apical parts on posterior faces; metafemora on posterior face weakly produced in major medial part, and weakly gouged in apical 1/6. Tibiae weakly curved intero-ventrad, minutely punctate; protibiae with exterior faces nearly smooth, interior faces very weakly gouged apical 2/3, with two small tubercles in the middle, and densely clothed with setaceous hairs in apical parts; mesotibiae gently curved interiorad, with exterior faces smooth, interior faces weakly gouged at apical 1/5, and clothed with fine setaceous hairs in 3/7; metatibiae nearly straight, feebly becoming bolder apicad, interior face clothed with fine setaceous hairs in apical 1/3. Tarsi with LTB-A: 0.32, 0.29, 0.33, 0.34, 0.62; 0.38, 0.27, 0.29, 0.34, 0.58; 0.67, 0.25, 0.23, 0.70.

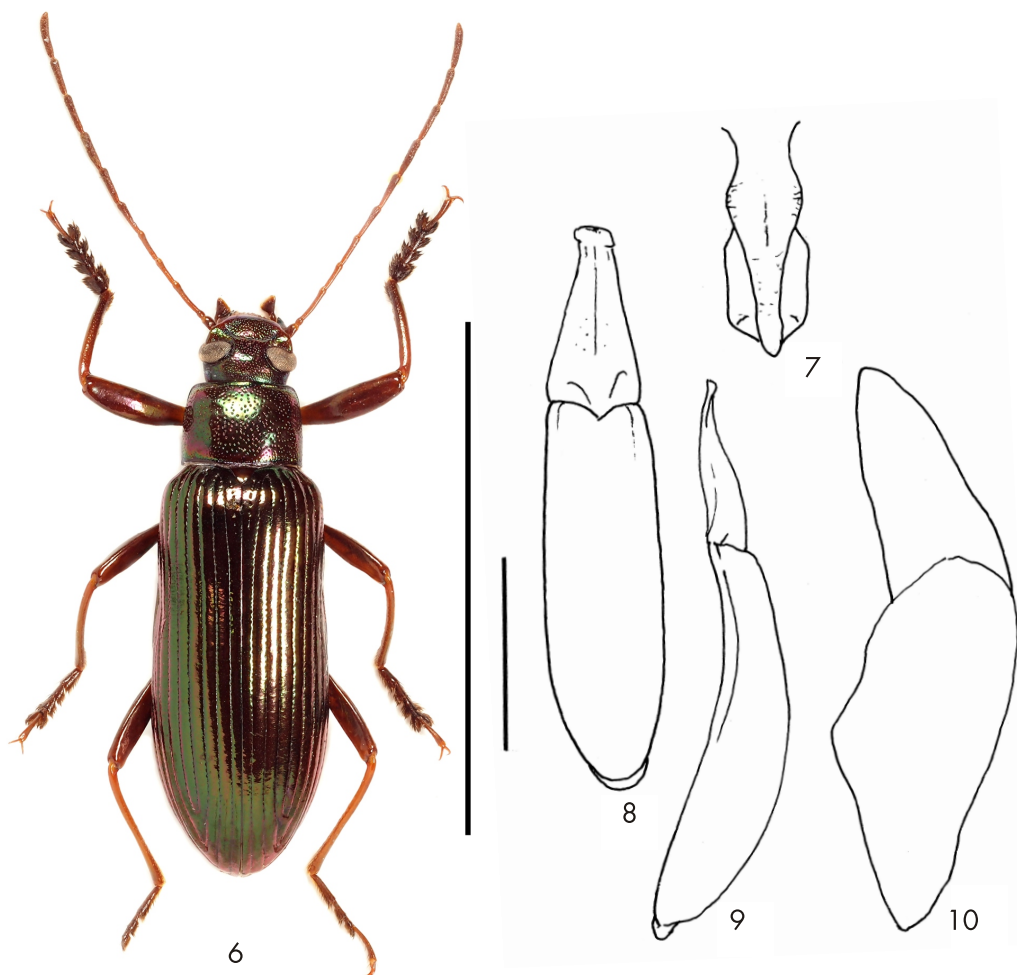
Aedeagus subfusiform, 2.80 mm in length, 0.60 mm in width, weakly curved in lateral view; basale longitudinally subelliptical, though the apical part is truncate; apicale 0.80 mm in length, slightly elongated triangular, apical part slightly constricted, with apices thickened and weakly truncate (see Figs. 8 and 9).

Variability (n=3). Body length: 10.3-13.0 mm. Lighter in colour. Ratio ranges of major body parts as follows: BL/BW 3.1, WE/ED 0.9-1.0, PW/PL 1.5, EL/EW 2.2-2.3, EL/PL 5.1, EW/PW 1.5.

Females (n=6). Body length: 12.3-15.0 mm. Compared with males, the body obviously bolder, the eyes rather obliquely set, the antennae shorter and bolder, punctures on the pronotum and the elytra coarser, and the legs shorter and not modified. Ratio ranges of major body parts as follows: BL/BW 2.2-2.4; WE/ED 1.3-1.5; PW/PL 1.6-1.7; EL/EW 1.8-2.0, EL/PL 4.7-5.8, EW/PW 1.6-1.8. Ovipositor as in Fig. 10.

Differential diagnosis. The new species resembles *A. maoi* Masumoto & Akita, 2019. The former can be distinguished from the latter in male by the pronotum wider and the widest at the base (PW/PL 1.2, widest at the middle in the latter), the aedeagus bolder and shorter (3.21 mm in length, 0.36 mm in width in the latter), with apices thickened and weakly truncate (roundly thickened in the latter).

Etymology. The specific name, *sakaii*, is given in honour of our old entomological friend, Kaoru Sakai, Tokyo, Japan, who collected the holotype.



Figs. 6-10. *Ainu sakaii* sp. nov. —6- habitus; 7- prosternal process; 8- aedeagus (dorsal view); 9- ditto (lateral view); 10- ovipositor (lateral view); 6-9- holotype, ♂; 10- paratype, ♀. Scales: 10.0 mm for 6; 1.0 mm for 7-10.

Distribution. Malay Peninsula.

***Ainu yoroi* sp. nov.**
(Figs. 11-15)

Type locality. Malaysia, Pahang, Cameron Highlands, Mt. Bringchan (alt. 1800 m).

Type material. Holotype (♂): "Mt. Bringchan / (Alt. 1800m) Cameron Hld / Pahang St., Malaysia / 3 May 1999 / Takeshi Yoro leg. // K. AKITA / Collection / KAC 252745 // HOLOTYPE / *Ainu yoroi* / Masumoto / et Akita, 2021". Paratypes: Malaysia, Pahang: (1 ♀): same data as for the holotype; (1 ♂): 38 miles from Tapah, 30. III. 1976, Y. Miyake leg.; (1 ♀): ditto, 1. IV. 1976, Y. Miyake leg.; (2 ♀♀): Mt. Bringchang, 2000m, 9-12. V. 2013, T. Hatayama leg.

Description of the holotype. Body length: 15.0 mm, width: 5.0 mm; BL/BW 3.0. Body colour mostly blackish brown, antennae brown, medial part of head with dark greenish lustre, transverse bands of pronotum with dark greenish lustre, legs lighter in colour, ventral surface partly with dark greenish lustre; dorsal surface strongly shining, antennae moderately shining, ventral surface weakly, sericeously shining; except for the antennae, interior faces of tibiae, and ventral parts of the tarsi, the body is almost glabrous.

Head somewhat transversely hexagonal, though the basal portion is hidden under the pronotum, feebly raised posteriad; clypeus widely subhexagonal, flattened, very weakly microsculptured, with scattered minute punctures, with apex truncate; genae weakly elevated, obliquely produced laterad, with scattered minute punctures, weakly wrinkled; fronto-clypeal sulcus finely, roundly impressed, hardly reaching to exterior margins; frons weakly raised in somewhat wide-based Y-shape, with scattered minute punctures, weakly depressed in medial part, weakly wrinkled in antero-medial part; vertex weakly convex and with irregularly scattered small punctures, gently inclined posteriad; interior borders of eyes grooved, especially noticeable in posterior parts. Eyes transversely comma-shaped in dorsal view, strongly convex laterad; WE/ED 0.7. Antennae with two apical antennomeres lost in the holotype; LAI-IX: 0.50, 0.18, 1.38, 0.90, 0.96, 0.95, 0.89, 0.89, 0.79, —, —.

Maxilla with terminal palpomere gently dilated. Mentum somewhat inverted trapezoidal, though basal halves of the sides are sinuous, convex antero-medially, sparsely microscopically punctate. Gula triangular, weakly convex, with sparsely scattered microscopic punctures, with a pair of rather short impressions along the borders of neck.

Pronotum PW/PL 1.5, widest at base; apical margin noticeably, widely emarginate, feebly produced in medial part, bordered in lateral parts; base weakly produced in medial part, weakly sinuous and finely bordered in lateral parts, area opposite to scutellum slightly emarginate; front angle gently acute and directing anteriorly; hind angles acute angular, directing postero-interiad; disc gently, widely convex, longitudinally grooved along median line, very weakly microsculptured, with irregularly scattered punctures, closely so in basal and lateral portions; sides gently inclined laterad, then fairly steeply declined to lateral margins, which are bordered by grooves and wholly visible from above. Scutellum triangular with lateral sides slightly sinuous, gently raised, flattened, and very weakly microsculptured.

Elytra EL/EW 2.4, EL/PL 5.3, EW/PW 1.4, widest at middle, very slightly sinuous around basal 1/3; dorsum fairly strongly convex longitudinally, highest at basal 1/3; disc punctate-striate, the striae rather fine but clear, the punctures in striae small, round, and notching intervals, closely set in interior portion, becoming sparsely so in lateral and posterior portions; intervals gently convex, very weakly microsculptured and transversely micro-aciculate, with scattered microscopic punctures; sides steeply declined to lateral margins, which are bordered by closely punctate grooves, and barely visible from above; humeri swollen, rather smooth, with scattered minute punctures; apex feebly produced, with apices acutely produced.

Prosternum rather wide; apex widely, shallowly emarginate, finely ridged in lateral part, anterior part smooth, medial part (=area between procoxae) strongly raised and flattened, weakly wrinkled and sparsely with scattered minute punctures, posterior part slightly weakly inclined and continuing to prosternal process; prosternal process produced somewhat in finger-form, flattened, weakly microsculptured and with sparsely scattered minute punctures, with apex roundly projected. Mesoventrite short, anterior part depressed and hidden under prosternum in repose, microsculptured, microscopically punctate and haired, posterior part strongly, inverted-triangularly depressed, with a hollow at middle of posterior part, ridged along interior borders of procoxae. Metaventrite a little short, longitudinally impressed in posterior 4/5 on median line,

weakly raised in inter-mesocoxal space, then weakly inclined posteriad, weakly convex on both sides of median groove, weakly microsculptured, and micro-aciculate; lateral parts mat, transversely wrinkled, sparsely with scattered shallow punctures. Abdomen fairly large, wholly weakly microsculptured and with scattered minute punctures; ventrite I to IV with shallow depression in each lateral part, ventrite I to lateral parts of III wrinkled, medial part of III, IV and V almost smooth, ventrite V weakly depressed in apical part, with apex angulate.

Femora subclavate and minutely punctate; profemora with anterior faces slightly produced, and gently gouged in apical 3/5, posterior faces gently, roundly produced; mesofemora with anterior face weakly produced, posterior face nearly straight and weakly gouged in apical 3/7; metafemora with anterior faces gently produced, posterior face nearly straight and weakly gouged in apical 1/3. Tibiae fairly slender, minutely punctate; protibiae weakly curved intero-ventrad, with exterior face nearly smooth, interior face sparsely clothed with fine hairs, and densely clothed with short setaceous hairs in apical half; mesotibiae weakly curved intero-ventrad, with exterior faces smooth, interior face clothed with fine hairs in 4/7, densely clothed with short setaceous hairs in apico-interior part; metatibiae nearly straight, with exterior face very sparsely haired, interior face sparsely clothed with fine hairs in apical 5/7, becoming denser in apical 1/5. Tarsi with LTB-A: 0.58, 0.37, 0.36, 0.39, 1.03; 0.60, 0.52, 0.48, 0.50, 1.23; 1.72, 0.81, 0.68, 1.42.

Aedeagus elongated subfusiform, 3.94 mm in length, 0.60 mm in width, weakly curved in lateral view; basale subfusiform, though the apical part is truncate, fairly strongly convex longitudinally; apicale 1.47 mm in length, basal 3/5 elongated triangular, apical part noticeably prolonged, apices triangularly thickened, with lateral margins slightly reflexed and angulate at basal parts (see Figs. 13 and 14).

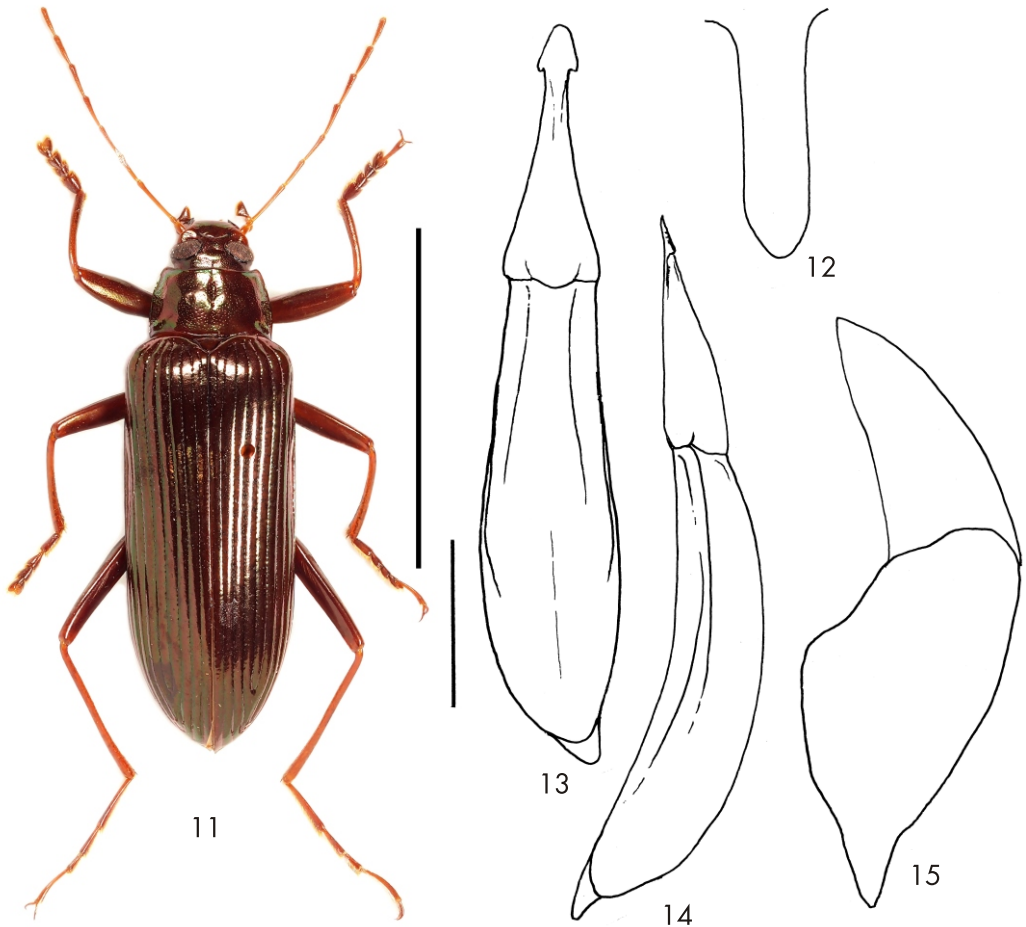
Variability (n=2). Body length: 15.0-16.1 mm. Rational ranges of major body parts as follows: BL/BW 2.8-3.0; WE/ED 0.7; PW/PL 1.5-1.6, EL/EW 2.3-2.4, EL/PL 5.3-5.4, EW/PW 1.4-1.5.

Females (n=4). Body length: 15.2-15.8 mm. Compared with males, the body obviously bolder, the eyes a little smaller, the antennae slightly shorter, punctures on the head and the pronotum a little stronger, the elytra more strongly striate, and the legs shorter and bolder. Ratio ranges of major body parts as follows: BL/BW 2.4-2.7, WE/ED 0.7-1.1, PW/PL 1.6-1.7, EL/EW 1.8-2.0, EL/PL 5.3-5.5, EW/PW 1.5-1.6. Ovipositor as in Fig. 15.

Differential diagnosis. This new species resembles *A. medoganus* Ren & Yuan, 2005. The former can be discriminated from the latter by the body larger (12-13 mm in the latter), the eyes larger, and the interocular space narrower than the transverse diameter of own eye (WD/ED 1.8 in the latter), the pronotum widest at base (widest at before middle in the latter), and longitudinally grooved along median line, and apices of the apicale more noticeably thickened.

Etymology. The specific name is dedicated to Takeshi Yoro who collected types of the present new species.

Distribution. Malay Peninsula.



Figs. 11-15. *Ainu yoroi* sp. nov. — 11- habitus; 12- prosternal process; 13- aedeagus (dorsal view); 14- ditto (lateral view); 15- ovipositor (lateral view); 11-14- holotype, ♂; 15- paratype, ♀. Scales: 10.0 mm for 11; 1.0 mm for 12-15.

***Ainu yoshitakei* sp. nov.**

(Figs. 16-19)

Type locality. Malaysia, Pahang, Cameron Highlands, Mt. Jasar.

Type material. Holotype (♂): "MALAYSIA; / Cameron Highland / Mt. Jasar / 16-22. VIII. 1998 / H. Yoshitake leg. // K. AKITA / Collection / KAC 36046 // HOLOTYPE / *Ainu / yoshitakei* / Masumoto et Akita, 2021". Paratype: (1 ♂): Malaysia, Cameron Highlands, Tanah Rata, 3. III. 1976, K. Sakai leg.

Description of the holotype. Body length: 20.3 mm, width: 5.0 mm; BL/BW 3.1. Body colour mostly brownish black, head, pronotum, scutellum, interior portions of elytra and major parts of ventral surface with dark coppery tinge, lateral portions of elytra with feebly dark bluish tinge, meso- and metatibiae lighter in colour; major posterior portion of head, pronotum (except margin part of apex) and major parts of ventral surface weakly, sericeously shining, anterior

portion of head, apical margin of pronotum, scutellum, elytra and legs moderately shining; except for six apical antennomeres, apico-ventral part of tibiae, and ventral parts of the tarsi, the body is almost glabrous.

Head somewhat transversely hexagonal, though the basal portion is hidden under the pronotum, very weakly raised posteriad; clypeus widely subhexagonal, flattened, very weakly microsculptured, rather closely, minute punctate, with apex widely truncate; genae gently raised antero-laterad, depressed in areas before eyes, minutely punctate, with exterior margins rounded; fronto-clypeal sulcus finely, roundly impressed, barely reaching to exterior margins; frons somewhat wide-based Y-shaped, weakly raised posteriad, very weakly depressed in antero-medial part, with irregularly scattered minute punctures; vertex weakly convex and with irregularly scattered small punctures, gently inclined posteriad; interior borders of eyes grooved, especially noticeable in posterior part. Eyes transversely comma-shaped in dorsal view, strongly convex laterad; WE/ED 1.0. Terminal antennomeres lost in the holotype; LAI-X: 0.61, 0.22, 1.30, 1.01, 1.22, 1.26, 1.28, 1.23, 1.19, 1.14, —.

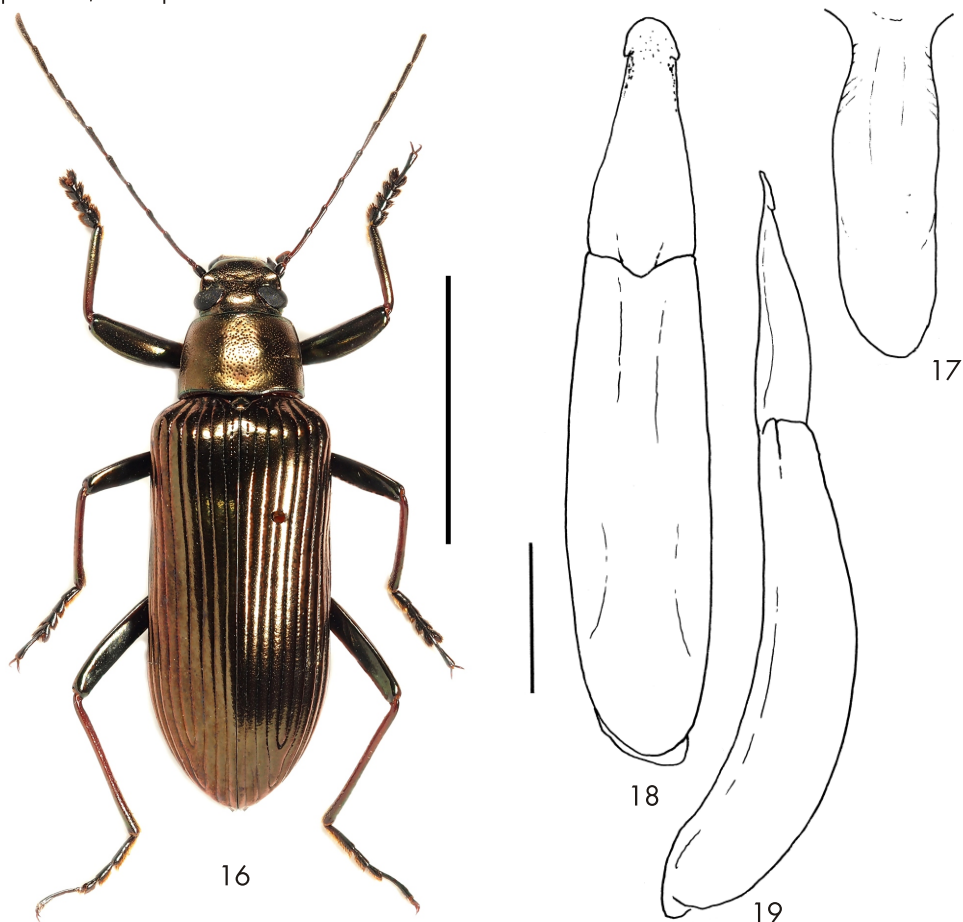
Maxilla with terminal palpomere gently dilated, with apical side obliquely truncate. Mentum subhexagonal, transversely ridged in medial part, rather steeply inclined anteriad and gently so posteriad from the ridge, with a pair of minute tubercles on the ridge. Gula bordered from neck in wide-based parabolic shape, and rather strongly impressed in apical part, irregularly, microscopically wrinkled and minutely punctate.

Pronotum PW/PL 1.4, widest at base; apex margined and hardly punctate in medial part, finely ridged in lateral parts; base weakly produced in medial part, weakly sinuous and finely bordered in lateral parts, with area opposite to scutellum slightly emarginate; front and hind angles obtusely angulate; disc gently, widely convex, very weakly, longitudinally grooved along median line in basal 1/3, weakly obliquely depressed in basal 2/5 on both sides, weakly microsculptured, with irregularly scattered round punctures, which become closer and smaller laterad; sides gently inclined laterad, then fairly steeply declined to lateral margins, which are bordered by fine grooves and finely ridges, and wholly visible from above. Scutellum subcordate, gently convex, and very weakly microsculptured.

Elytra EL/EW 2.3, EL/PL 4.6, EW/PW 1.4, widest at apical 1/3, very weakly constricted in middle; dorsum fairly strongly convex longitudinally, highest at basal 1/4; disc punctate-striate, the striae rather fine but clear, the punctures in striae small, round, closely set and weakly notching intervals; intervals gently convex in antero-medial portion, becoming rather strongly convex in lateral and posterior portions, transversely micro-aciculate and rather closely, minutely punctate; sides steeply inclined in anterior portions, gently inclined in posterior portions, with lateral margin bordered by punctate groove, and only medial portions visible from above; humeri gently swollen, rather smooth, scattered with minute punctures; apex feebly produced, with apices slightly dehiscent and acute.

Prosternum rather short; apex widely, shallowly emarginate, wholly finely ridged; anterior part depressed and rather smooth; medial part strongly raised and flattened, and with sparsely scattered minute punctures; posterior part slightly weakly inclined, longitudinally, shallowly depressed, and continuing to prosternal process; prosternal process produced somewhat in finger-form, nearly flattened, with apex roundly projected. Mesoventrite short; anterior part strongly depressed and hidden under prosternum in repose, raised along median line, microsculptured and microscopically punctate; posterior part strongly, inverted-triangularly depressed, with areas of antero-interior procoxal borders strongly ridged in V-shape. Metaventricle a little short, longitudinally impressed in posterior 3/5 on median line; inter-mesocoxal space weakly reflexed, sparsely, transversely aciculate; anterior part gently

depressed, microsculptured and transversely aciculate; posterior part microsculptured and with sparsely scattered minute punctures; lateral parts microsculptured and rather mat. Abdomen fairly large, wholly weakly microsculptured and minutely punctate; ventrite I, and latero-basal parts of II and III somewhat longitudinally wrinkled, IV feebly transversely punctate, ventrite V closely, finely punctate, with apex rounded.



Figs. 16-19. *Ainu yoshitakei* sp. nov., holotype, ♂. — 16- habitus; 17- prosternal process; 18- aedeagus (dorsal view); 19- ditto (lateral view). Scales: 10.0 mm for 16; 1.0 mm for 17-19.

Femora subclavate and minutely punctate; profemora with anterior faces nearly straight, weakly gouged in apical 2/5, posterior faces rather strongly roundly produced; mesofemora with anterior face slightly strongly produced, posterior face nearly straight and weakly gouged in apical half; metafemora with anterior faces moderately produced, posterior face nearly straight and weakly gouged in apical 3/4. Tibiae minutely punctate; protibiae very weakly curved ventrad, with exterior face nearly smooth, interior face gouged and finely haired in apical 2/5, and densely clothed with short setaceous hairs in apical parts; mesotibiae weakly curved ventrad, with exterior face smooth, interior face weakly gouged in apical 1/3, clothed with fine hairs in

apical half, densely clothed with short setaceous hairs in apico-interior part; metatibiae nearly straight, with exterior face nearly smooth, interior face very weakly gouged in apical half, rather densely clothed with setaceous hairs in apical 1/7. Tarsi with LTB-A: 0.70, 0.53, 0.64, 0.39, 1.45; 0.78, 0.58, 0.53, 0.71, 1.47; 1.50, 0.71, 0.68, 1.58.

Aedeagus elongated subfusiform, 4.61 mm in length, 0.67 mm in width, weakly curved in lateral view; basale subfusiform, though the apical part is truncate, fairly strongly convex longitudinally; apicale 1.58 mm in length, slightly narrowed anteriorly in basal 2/5, more strongly narrowed in apical 3/5, apices obtusely produced with lateral margins slightly ridged (see Figs. 18 and 19).

Variability (n=2). Body length: 18.8-20.3 mm. Darker in colour. Ratio ranges of major body parts as follows: BL/BW 3.0-3.1, WE/ED 1.1-1.2, PW/PL 1.4-1.5, EL/EW 2.4-2.3, EL/PL 4.6-4.8, EW/PW 1.4.

Female. Unknown.

Differential diagnosis. This new species somewhat resembles the preceding new species, *A. yoroi* sp. nov. The former can be distinguished from the latter by the following points; body larger (15 mm in the latter); pronotum without longitudinally groove along median line; front angles obtusely angulate (front angle gently acute and directing anteriorly in the latter); apical part of apicale not noticeably prolonged.

Etymology. The specific name, *yoshitakei*, is given in honour of Hiraku Yoshitake who collected types of the present new species.

Distribution. Malay Peninsula.

LIST OF ALL THE SPECIES OF THE GENUS *AINU* LEWIS WITH THEIR DISTRIBUTIONS

- Ainu andoi* Ruzzier, 2014; Laos, China (Yunnan)
A. angustus Ren & Yuan, 2005; China (Guangxi, Sichuan)
A. basifemoratus Nabozhenko & Ren, 2018; China (Yunnan)
A. fukudai Masumoto, 1981; Taiwan
A. fruhstorferi (Fairmaire, 1903) (*Erulipus*) (= *Ainu grandis* Ren & Yuan, 2005); N. Vietnam, China (Guangxi)
A. linwenxini Nabozhenko & Ren, 2018; Taiwan
A. maoi Masumoto & Akita, 2019; Laos
A. masumotoi Nakane, 1968; Japan (Ryukyus: Amamiōshima Is., Iriomotejima Is.)
A. medonganus Ren & Yuan, 2005; China (Xizang)
A. multicolor (Pic, 1927) (*Erulipus*); China, N. Vietnam
A. kobayashii sp. nov.; N. Borneo
A. sakaii sp. nov.; Malay Peninsula
A. sichuanus Ren & Yuan, 2015; China (Sichuan)
A. tenuicornis Lewis, 1894; Japan (Honshu, Shikoku, Kyushu), "Korea"
A. thailandicus Masumoto & Akita, 2019; Thailand
A. yoroi sp. nov.; Malay Peninsula
A. yoshitakei sp. nov.; Malay Peninsula

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