

Descriptions of a new subfamily, new genera and species of the family Curculionidae of Japan (Comparative morphology, phylogeny and systematics of the superfamily Curculionoidea of Japan. II)

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Descriptions of a new subfamily, new genera and  
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(Comparative morphology, phylogeny and  
systematics of the superfamily  
Curculionoidea of Japan. II)

Katsura MORIMOTO

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In this paper the author describes a new subfamily, twenty new genera and fifteen new species of the family Curculionidae from Japan.

Before going further the author wishes to express his cordial thanks to the late Prof. Teiso Esaki, Prof. Keizō Yasumatsu and Prof. Yoshihiro Hirashima for their kind guidance in the course of the present study.

*Galloisiinae* subfam. nov.

Type genus: *Galloisia* Hustache, 1920

Head slightly constricted behind eyes; eyes lateral, convex; rostrum directed anteriorly in repose, robust, nearly as long as pronotum, dorsum flat, sexually dimorphic, male rostrum slightly widened towards the apex, female rostrum strongly swollen laterally and ventrally, antennal scrobes narrow, rapidly curving downwards from the dorso-lateral margin of rostrum; antennae inserted a little before the middle of rostrum, scape reaching the lower edge of eye in repose, funicle 7-segmented, club normally segmented; postmentum scarcely pedunculate, prementum large, covering the whole buccal cavity; labial palpi absent; mandibles with the inner surface excavate, mandibular scar absent; maxillae with palpi rigid, retracted into a large palpiger, galea and lacinia connate.

Pronotum with the anterior margin simply truncate.

Scutellum present.

Elytra with humeri distinct, 9th and 10th striae complete, intervals flat, apices narrowly separated.

Pygidium exposed. Front coxae connate. Femora clavate, not sulcate beneath, armed with a tooth. Tibiae bisinuate on the inner margin, front tibiae triangularly pointed a little behind the middle, mucronate and uncinat, uncus arisen from the dorsal part of inner carina, outer setose fringe of corbel short. Tarsi visibly 4-segmented, 3rd segment dilated and bilobed, spongy beneath, 4th segment not longer than 3rd, bearing a single claw.

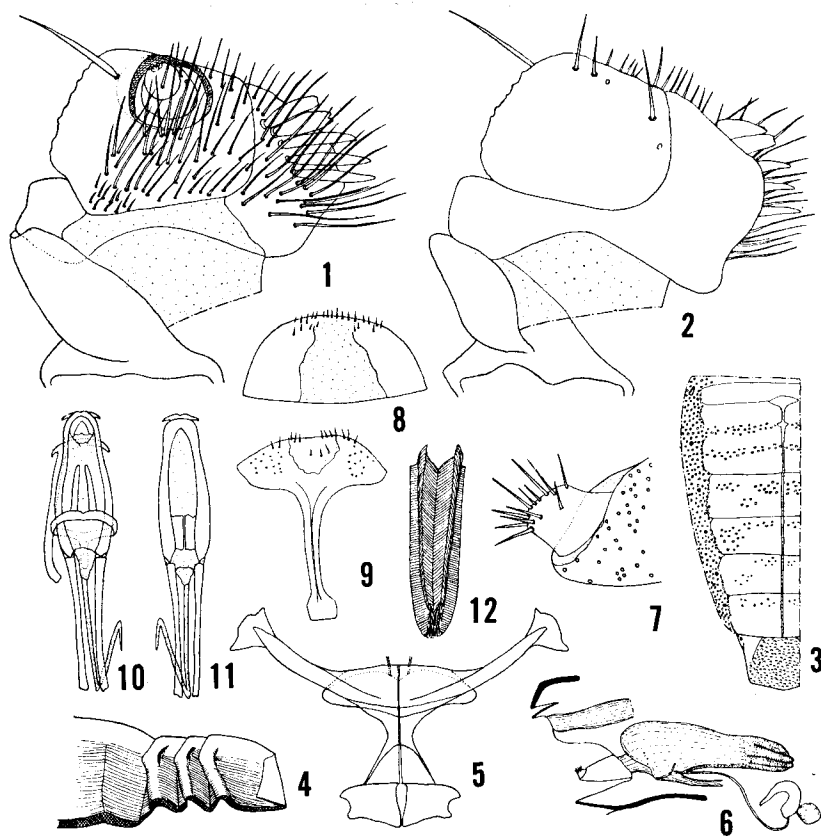


Fig. 1. *Galloisia inflata* Hustache.

1-2. Maxilla, dorsal and ventral aspects. 3. Tergal region of abdomen. 4. Articulation method of abdominal sternites. 5. Metendosternite. 6. Female external genital organs. 7. Stylus. 8. 8th tergite of female. 9. 8th sternite of female. 10-11. Male aedeagus, dorsal and ventral aspects. 12. Proventriculus.

Mesepimera larger than the mesepisterna. Metepisterna tapered posteriorly, metepimera invisible from side. Metasternum shorter than coxa, with a longitudinal sulcus on entire length.

Abdomen with the process triangular, much narrower than coxa.

This new subfamily may be very characteristic among the subfamilies of Curculionidae by the absence of labial palpi and larger palpiger of maxillae, short 4th segment of tarsi and swollen rostrum in female.

### *Stereonychidius* gen. nov.

Type species: *Stereonychus galloisi* Hustache, 1920, from Japan.

Head hemispherical; eyes oblong oval, convex; frons between eyes a little narrower than the base of rostrum, depressed; rostrum as long as head and pronotum taken together, weakly curved, antennal scrobes oblique, very close to each other under the base of rostrum; antennae inserted before the middle of rostrum, funicle 5-segmented, 2nd segment slender, club oval.

Pronotum transverse with a median and lateral tubercles along a transverse line a little before the middle, anterior margin truncate, posterior margin weakly arched, prosternum deeply canaliculate before front coxae, which are separated.

Elytra much broader than pronotum, humeri rectangular, 3rd and 5th intervals much broader than the others and bearing tubercles, subapical swellings distinct, apices of elytra conjointly rounded.

Third and 4th segments of abdomen as broad as 2nd. Femora weakly clubbed, denticulate, sulcate beneath. Tibiae straight, front tibiae unarmed at tip, posterior two pairs each armed with a small mucro. Third segment of tarsi broader than the preceding, bilobed, claws single.

This new genus may be easily separable from the known genera of the subfamily Cioninae by the separated front coxae and sulcate femora.

### *Barinomorphus* gen. nov.

Type species: *Barinomorphus antennatus* sp. nov.

Head with frons a little narrower than the base of rostrum; eyes oval, flat; rostrum with its dorsal outline contiguous with that of head, nearly as long as pronotum, curved, narrowed dorso-ventrally from base to the apex, antennal scrobes oblique, confluent beneath the base of rostrum; antennae inserted into the middle of rostrum, funicle 7-segmented, widened terminally from 2nd segment, 7th segment annexed to club, club small, half as long as funicle.

Pronotum with the anterior margin truncate, posterior margin bisinuate.

Scutellum distinct, lying on the same surface with elytra.

Elytra with 9th and 10th striae complete.

Pygidium vertical, not visible from above, transverse.

Femora weakly clubbed, unarmed, sulcate beneath. Tibiae widened terminally, each with an oblique mucro, not uncinat, outer setose fringe of tarsal groove complete, inner setose fringe present only on the lower half. Tarsi with 3rd segment bilobed, much broader than the preceding, claw segment small, the apex a little exceeding 3rd segment and bearing only a single claw.

Prosternal canal terminate at the middle of front coxa, with a pair of depressions near the apex; mesosternal process oblique, as broad as a median coxa; metasternum not sulcate at the middle.

Abdomen with the process broad, slightly arched, as broad as hind coxa, the suture between 1st and 2nd segments obsolescent at the middle, 5th segment quadrately pointed posteriorly at the middle in male.

This genus may be the second one of the Barinae that has only a single claw on tarsi. Close to *Eremonychus* Marshall, 1935, but may be separable from it by the rostrum not separated from head, all femora sulcate beneath and 7th segment of funicle annexed to club.

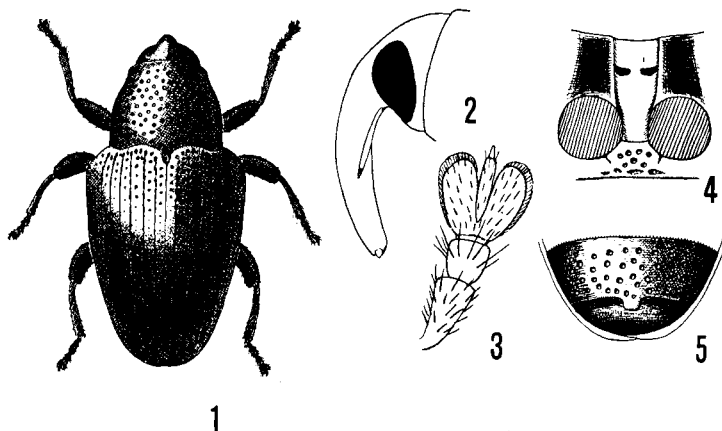


Fig. II. *Barinomorphus antennatus* sp. nov.

1. Holotype. 2. Female rostrum. 3. Right front tarsus, female.
4. Prosternum, female. 5. Terminal segment of male abdomen.

*Barinomorphus antennatus* sp. nov.

♂. Black, mandibles black to dark brown.

Head very finely shagreened, sparsely punctured; frons between eyes half as broad as the base of rostrum, nearly as long as pronotum, gently curved, with a median weak keel, the dorsal surface with two rows of punctures on each side, lateral surface closely wrinkled punctured and shagreened above the antennal scrobes; antennae inserted into the middle of rostrum, funicle as long as scape, 1st segment robust, twice as long as wide, as long as the three following segments taken together, 2nd segment the narrowest, subquadrate, 7th segment twice as broad as long, club a little longer than wide.

Pronotum transverse (6:5), broadest at the base, the sides gently narrowed from the base to the middle, thence rapidly narrowed forwards, subapical constriction weak, disc finely shagreened, separately punctured, interval between punctures as broad as or a little narrower than the diameter of a puncture.

Scutellum circular in shape, shallowly depressed at the middle.

Elytra much broader than pronotum, broadest on the shoulders, gently narrowed posteriorly; striae narrow, punctured, narrowed from the base to the median part, thence slightly widened terminally; intervals flat, finely shagreened, with a row of punctures, which are closer and larger on the base.

Femora shagreened, closely with oblong punctures. Tibiae shagreened and longitudinally with fine costae.

Prosternal process as broad as a front coxa; lateral surface of prothorax, lateral pieces of meso- and metathorax, lateral margins of metasternum and 3rd-4th segments, and 5th segment of abdomen very closely punctured, median part of metasternum sparsely with larger punctures, each of 3rd and 4th segments of abdomen with irregular two transverse rows of punctures.

♀. Rostrum less strongly punctured. Antennae inserted just before the middle of rostrum. Prosternal process narrower than front coxa. Fifth segment of abdomen truncate at the posterior margin.

Length: 2.0-2.5 mm.

Habitat: Japan.

Holotype ♂, Mt. Fukuchi, Kokura, Fukuoka Pref., 5. V. 1954, T. Yoshida leg. Paratypes 1♂2♀, same data as holotype; 1♀, 11. VII. 1954, T. Yoshida leg.

Holo- and two female paratypes are preserved in the collection of the Entomological Laboratory of Kyushu University and a male and a female paratypes are in Morimoto's cabinet.

### *Barinomorphoides* gen. nov.

Type species: *Barinomorphoides similis* sp. nov.

Head separated from rostrum by a transverse depression; frons as

broad as the base of rostrum; rostrum nearly as long as pronotum, curved, scarcely narrowed dorso-ventrally from the base to the apex, antennal scrobes oblique, closely approximated under the base of rostrum; antennae inserted into the middle of rostrum, funicle slightly longer than scape, 7-segmented, 7th segment twice as broad as long, not annexed to club; club oval, half as long as funicle.

Pronotum with the anterior margin truncate, posterior margin bisinuate.

Scutellum distinct, lying on the same surface with elytra.

Elytra with the apices separately rounded, 9th and 10th striae complete.

Pygidium vertical, transverse, not visible from above.

Femora weakly clubbed, not sulcate beneath, unarmed. Tibiae longitudinally costate, unci oblique, mucros absent, outer setose fringe of tarsal groove complete, inner setose fringe bordering the lower margin of tarsal groove. Tarsi with 3rd segment bilobed, much broader than the preceding, claws connate at the base.

Prosternum deeply depressed before coxae, the depression crescent, much deeper on each side, prosternal process narrower than front coxa, mesosternal process nearly flat, slightly oblique to the axis of body, as broad as median coxa, metasternum without a median sulcus. Abdomen with the process as broad as hind coxa, 2nd segment as long as 3rd and 4th taken together, 5th segment quadrately projected posteriorly in male.

This genus may easily be recognized from any of the known genera of the tribe Barini by the deeply depressed prosternum, basally connate claws, and rather robust and curved rostrum which is separated from head, and not sulcate and unarmed femora.

### *Barinomorphoides similaris* sp. nov.

♂. Black, tarsi dark brown.

Head shagreened, sparsely with fine punctures, punctures a little closer on frons; rostrum as long as pronotum, curved, sparsely punctured and shagreened on the lateral sides above antennal scrobes; mandibles sharply bidentate; antennae inserted into the middle of rostrum, 1st segment of funicle robust, nearly as long as four following segments taken together, twice as long as wide, 2nd segment as long as wide, the remaining segments transverse, club with the 1st segment as long as the 2nd and 3rd taken together.

Pronotum transverse (4:3), broadest at the base, the sides gently narrowed anteriorly from the base to the 1/3 from apex, thence rapidly narrowed forwards, subapical constriction weak, anterior margin 3/5 times as broad as the posterior one, strongly punctured, the punctures

more or less obliquely disposed, but not confluent on disk and obliquely confluent on the lateral surface.

Scutellum oval, a little longer than wide, punctured.

Elytra 7/5 times as long as wide, the sides scarcely narrowed from shoulders to the middle; striae narrow, deepened posteriorly on the declivity, intervals flat, each with a row of punctures, which are larger and closer on the base.

Femora closely with shallow punctures, shagreened. Tibiae multi-striate shallowly.

Undersurface closely punctured, punctures very close on the lateral piece of meso- and metathorax, lateral sides of metasternum and posterior margin of 5th abdominal segment, 3rd and 4th segments each with a transverse row of punctures on the median part.

♀. Fifth segment of abdomen truncate at tip.

Length: 2.7-3.2 mm.

Habitat: Japan (Shikoku, Kyushu).

Holotype ♂, Shimizu, Kôchi Pref., 27. VI. 1956, K. Morimoto leg. Paratype ♀, Satanomisaki, Kagoshima Pref., 6. VI. 1959, J. Nagao leg.

Types are preserved in the collection of the Entomological Laboratory of Kyushu University.

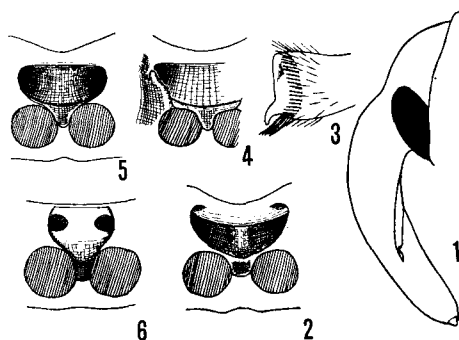


Fig. III. 1-2: *Barinomorphoides similaris* sp. nov. (1. Rostrum, female. 2. Prosternum, male). 3-5: *Pseudorhysssematus rufitarsis* Roelofs (3. Apex of hind right tibia; 4. Male prosternum; 5. Female prosternum). 6. *Centrinopsis nitens*, male prosternum.

### *Pseudorhysssematus* gen. nov.

Type species: *Rhysssematus* (?) *rufitarsis* Roelofs, 1875, from Japan.

Body rhombic. Head hemispherical; eyes flat, not prominent from the outline of head, oval, closely approximated beneath; frons between eyes as broad as the base of rostrum; rostrum as long as head and pronotum taken together, curved, separated from head by a transverse depression, antennal scrobes oblique, confluent under the base of rostrum; mandibles sharply bidentate; antennae inserted before the middle of rostrum, scape a little longer than funicle, funicle 7-segmented, each of 3rd-7th segments transverse, 7th segment not annexed to club, club sub-oval, nearly half as long as funicle.

Pronotum with the anterior margin truncate, posterior margin bisinuate.



Scutellum distinct, lying on the same level with elytra.

Elytra with the apices conjointly rounded, 9th and 10th striae complete.

Pygidium entirely concealed.

Femora unarmed, weakly clubbed, finely sulcate or flattened beneath. Tibiae weakly widened terminally, inner carina of tarsal groove well developed, the dorsal edge rectangular, uncus arisen from the lower part of the carina, mucro absent, outer setose fringe of tarsal groove complete, inner setose fringe being present only on the lower half. Tarsi with the 3rd segment bilobed, much broader than the preceding, claws simple, free.

Prosternum with a transverse deep depression, much deeper on each side, lateral borders of the depression each armed with an obtuse tooth in male.

Abdomen with the suture between 1st and 2nd segments fine and obsolescent at the middle, 2nd segment as long as 3rd and 4th taken together.

This genus may belong to Casey's group Centrinini, and may be separable from the known genera of Centrinini by the depressed prosternum, sharply bidentate mandibles, free tarsal claws and rhombic general shape.

*R. rufitarsis* was originally described under the genus *Rhysematus* (?) (Cryptorrhynchinae), but the mesepimera are ascended upwards as far as the 9th stria of elytra.

### *Endaenidius* gen. nov.

Type species: *Endaenidius ikezakii* sp. nov.

Head with frons as broad as the base of rostrum; eyes strongly convex, suboval; rostrum as long as pronotum, weakly curved, antennae inserted just before the middle of rostrum, scape not reaching eyes, as long as three basal segment of funicle taken together, funicle 6-segmented, club fusiform, twice as long as wide, as long as two basal segments of funicle taken together.

Pronotum transverse, the sides rounded, broadest at the middle. Scutellum oval. Elytra subparallel from base to the middle, 10th striae much narrowed from a point above hind coxa towards the apex and obsolescent above 4th and 5th segments of abdomen.

Pygidium concealed.

Prosternum with a submarginal transverse ditch lying on the middle of truncate gular margin and coxae, front coxae contiguous; mesosternal process narrower than the base of median femur; metasternum shallowly depressed at the middle on the basal half; abdomen with the process half as broad as hind coxa, 1st segment behind coxa as broad

as 2nd, 3rd and 4th segments equal in length to each other, shorter than 2nd, posterior margins of 1st-4th segments slightly angulate posteriorly on each side. Femora clubbed, front femora not thicker than the posteriors, each armed with a minute obtuse tooth. Tibiae with the front and median pairs uncinat, uncus minute and arisen from the lower end of inner carina, hind tibiae unarmed, outer setose fringe complete. Tarsi with 3rd segment bilobed, claws appendiculate.

This genus is close to *Gryphorrhynchus* Roelofs, 1875, and *Imerodes* Marshall, 1926, but may be separable from the former by the characters noted in the key and from the latter by the minutely dentate femora and narrower abdominal process.

*Endaenidius ikezakii* sp. nov.

♀. Reddish brown, abdomen dark brown.

Head closely punctured and slightly wrinkled; frons flat, lying on the same level with rostrum; rostrum three times as long as wide, as long as pronotum, slightly curved, closely punctured on the base and lateral sides above the scrobes; antennae with scape a little exceeding the anterior margin of eye, funicle with 1st segment robust, conical,  $3/2$  times as long as wide, as long as 2nd, 3rd segment half as long as 2nd, 3rd-6th segments subequal in length to each other, slightly longer than wide, club fusiform, 1st segment as long as 2nd, transverse.

Pronotum transverse (4:3), broadest at the middle, anterior margin scarcely narrower than the posterior, both margins truncate, lateral sides rounded, constricted near the anterior and posterior margins, disc strongly punctured.

Scutellum oval, finely punctured.

Elytra longer than wide (13:9), basal half subparallel, apices separated; punctured striae a little shallowed behind, intervals flat or weakly convex, sparsely pubescent, with an irregular row of recumbent setae.

Lateral pieces of meso- and metathorax strongly punctured, median area of metasternum and abdomen excepting 5th segment finely and transversely wrinkled, posterior margins of 2nd-4th and 5th segments closely with fine punctures.

Tibiae widened terminally, curved near the base, the inner margin nearly straight, dorsal margin obliquely truncate at tip.

♂. Unknown.

Length: 2.7 mm.

Habitat: Japan (Kyushu).

Holotype ♀, Mt. Taradake, Nagasaki Pref., 4. V. 1958, Y. Ikezaki leg., preserved in the collection of the Entomological Laboratory of Kyushu University.

*Heterendaeus* gen. nov.

Type species: *Heterendaeus miyamotoi* sp. nov.

Head with frons a little narrower than the base of rostrum; eyes oblong oval, strongly convex; rostrum straight, parallel-sided, as long as pronotum, antennal scrobes prolonged anteriorly from the antennal insertions; antennae inserted into the basal 1/3 of rostrum, scape as long as two basal segments of funicle taken together, funicle 7-segmented, 1st segment robust, club half as long as funicle, twice as long as wide.

Pronotum broadest at the middle, subapical constriction weak, anterior and posterior margins truncate, the sides rounded.

Scutellum distinct. Elytra with 10th striae obsolescent on the posterior half. Pygidium concealed.

Submarginal transverse ditch of prosternum contiguous with front coxal grooves, prosternum before coxae narrow, almost flat; front coxae contiguous; mesosternal process narrower than the base of median femur, metasternum with a longitudinal median sulcus on the posterior half.

Abdomen with the process a little narrower than hind coxa, 1st segment of abdomen behind coxa as long as 2nd, 3rd and 4th segments equal in length to each other, a little shorter than 2nd, posterior margin of 2nd-4th segments curved posteriorly on each side.

Front femora not thicker than the posteriors. Tibiae uncinatae, not mucronate. Tarsi with 3rd segment bilobed, claws appendiculate.

This genus is similar to *Nesendaeus* Marshall, 1931, but these two genera are separable by the following points.

*Nesendaeus* Marshall: Tibiae unarmed and bearing a small tuft of erect setae between the sharp, triangular tooth and the apex. Antennae inserted beyond the middle of rostrum, scape as long as funicle.

*Heterendaeus* gen. nov.: Tibiae uncinatae, setose tuft absent. Antennae inserted behind the middle of rostrum, scape much shorter than funicle.

This genus may also be close to *Aedenus* Voss, 1953, but the rostrum of *Heterendaeus* is straight, antennae are inserted behind the middle of rostrum, the scape is shorter and the pygidium is concealed.

*Heterendaeus miyamotoi* sp. nov.

♀. Reddish brown, meso- and metathorax, abdomen, scutellum, and two transverse bands on elytra dark brown to brownish black.

Head closely punctured; frons a little narrower than the base of

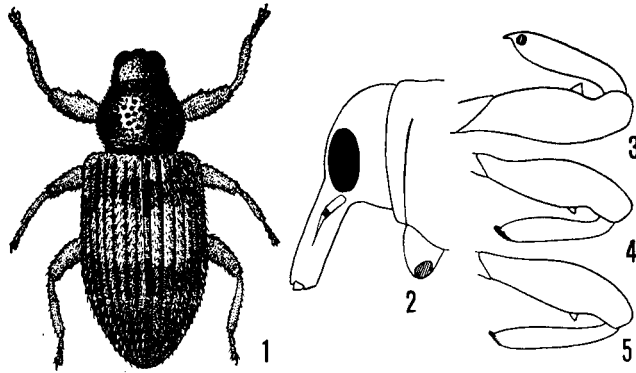


Fig. IV. *Heterendaeus miyamotoi* sp. nov. ♀.

1. Holotype. 2. Head and rostrum. 3-5. Legs, tarsi removed.

rostrum, flat; rostrum as long as pronotum, straight, the dorsal outline angular to that of frons, sparsely with fine punctures; antennae inserted into the basal 1/3 of rostrum, funicle with 1st segment robust, conical, a little longer than wide, as long as 2nd, 2nd segment slender,  $3/2$  times as long as 3rd, 3rd-7th segments subequal in length to each other, 7th segment globular, club suboval, twice as long as wide, 1st segment a little longer than 2nd.

Pronotum broadest at the middle, the sides rather strongly rounded, anterior margin a little narrower than the posterior one, strongly punctured, punctures are smaller on the anterior and posterior margins.

Scutellum tongue-shaped, as long as wide, punctured.

Elytra  $5/3$  times as long as wide, broadest a little behind the middle, the apices narrowly separated; punctured striae deep, scarcely shallow-ed behind, intervals convex, glossy, sparsely clothed with recumbent white pubescences and further with a row of suberect setae.

Lateral pieces of mesothorax shagreened; metepisterna longitudinally punctured striate, metasternum strongly punctured on the lateral sides and anterior margin, median major area of metasternum transversely wrinkled; abdomen irregularly punctured; underside of thorax and abdomen sparsely pubescent.

Femora weakly clubbed. Tibiae uncinatae, the uncus oblique, outer setose fringe complete.

♂. Unknown.

Length: 2.5 mm.

Habitat: Japan (Amami-Ōshima).

Holotype ♀, Shinmura-Yuwan, Amami-Ōshima, 4. IV. 1956, S. Miyamoto leg., preserved in the collection of the Entomological Laboratory of Kyushu University.

*Euphyllobiomorphus* gen. nov.

Type species: *Euphyllobiomorphus kurosawai* sp. nov.

Head with frons as broad as rostrum a little before the base; eyes strongly convex, oval; rostrum slender, as long as head and pronotum taken together, cylindrical, slightly curved, antennal scrobes very shallow, directing towards eyes; antennae inserted a little before the base of rostrum, scape slender and reaching the anterior margin of pronotum, funicle 7-segmented, club oblong fusiform.

Pronotum truncate at the anterior and posterior margins, the sides rounded, broadest at the middle, ocular lobes absent.

Scutellum distinct. Elytra parallel-sided, 10th striae complete.

Front coxae lying a little closer to the anterior margin than the posterior one; mesosternal process narrow, parallel-sided, much narrower than the base of median femur.

Abdomen with the process much narrower than hind coxa, 1st segment behind coxa as long as 2nd and a little longer than 3rd, 4th segment the shortest, 5th segment notched at tip.

Femora clubbed, denticulate. Tibiae flattened, dorsal margin costate and straight, inner margin weakly bisinuate; inner carina of corbel absent, mucronate, outer setose fringe complete. Tarsi with 3rd segment bilobed, claw segment slender, claws connate at the base.

Derm excepting legs entirely covered with scales.

This genus is close to *Brachyonyx* Schönherr, 1836, but easily separable from it by the longer scape of antennae and slenderer 4th segment of tibiae.

*Euphyllobiomorphus kurosawai* sp. nov.

General appearance of this species is similar to a species of the genus *Phyllobius*.

♂. Black, antennae, legs and apical half of rostrum reddish brown, whole derm excepting legs and antennae covered with metallic green hairy scales and sparsely with recumbent pubescence.

Head punctured, frons with a shallow median depression, rostrum narrowest a little before the base, subparallel before the antennal insertion, antennal scrobes entirely visible from above, dorsum sparsely punctured; antennae slender, funicle with 1st segment as long as 2nd and a little longer than 3rd, 5th segment as long as 7th and a little shorter than 4th, 6th segment the shortest, club three times as long as wide, 1st segment a little longer than 2nd.

Pronotum transverse (7:6), broadest at the middle, anterior margin a little narrower than the posterior one, disc reticulately punctured,

punctures on the anterior margin smaller, weakly depressed transversely a little behind the anterior margin, median keel glossy.

Scutellum tongue-shaped, glossy, naked, sparsely punctured.

Elytra 2.2 times as long as wide, the sides parallel from shoulders to 1/4 from apex, weakly depressed a little behind the base; punctured striae narrow, a little shallow behind, intervals flat.

Metasternum transversely wrinkled; abdomen finely shagreened, sparsely with shallow punctures.

Legs glossy, sparsely haired, outer fringe of corbels yellowish brown.

♀. Unknown.

Length: 5.1 mm.

Habitat; Japan (Yakushima).

Holotype ♂, Hananoego, Yakushima, 12. VII. 1952, M. Kobayashi leg., preserved in the collection of the National Science Museum in Tokyo.

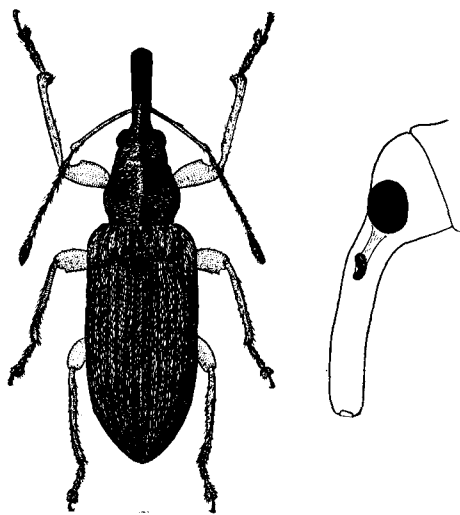


Fig. V. *Euphyllobiomorphus kurosawai*  
sp. nov. ♂.

### *Acallinus* gen. nov.

Type species: *Acallinus tuberculatus* sp. nov.

Head with frons as broad as the base of rostrum, depressed; eyes subpyriform, entirely concealed by ocular lobes when rostrum is embraced; rostrum nearly as long as pronotum, curved, antennal scrobes oblique, directing towards the lower ends of eyes; antennae with funicle 7-segmented, nearly as long as scape, 1st segment robust, as long as 2nd, 3rd-7th segments globular, club compact, oval, sutures vestigial, distinguishable only on the apex and strongly sinuate.

Pronotum broadest at the middle, subapical constriction distinct, almost concealing head from above, with feeble postocular lobes, posterior margin subtruncate, dorsum with 4 tubercles on a median transverse line.

Scutellum small, triangular.

Elytra with humeri reduced, 9th stria complete, 10th stria abbreviate behind metacoxa, 3rd, 5th and 7th intervals with 4-6 tubercles respec-

tively. Wings vestigial.

Front coxae separated. Mesosternum declivous on the anterior part, the mesosternal process lying on the same level as metasternum, slightly oblique, as broad as the base of median femora; metasternum between meso- and metacoxae much shorter than 1st segment of abdomen behind coxa; metepisterna parallel-sided.

Abdomen with the process subtruncate, as broad as metacoxa, 2nd segment as broad as 1st behind coxa and as broad as 3rd and 4th taken together at the side.

Femora weakly clavate, not sulcate beneath, unidentate. Tibiae weakly bisinuate. Tarsi with 3rd segment bilobed, claws simple, free.

Derm closely covered with scales and each tubercle bearing a scaly tuft.

This genus belongs to Lacordaire's group "Psephalacids", and is easily separable from the known genera of the group by the slenderer rostrum, broad and not vertical mesosternal process, reduced humeri and peculiar shaped club of antennae.

*Acallinus tuberculatus* sp. nov.

♂. Derm brown to blackish brown. Derm closely covered with recumbent brownish grey oval and round scales, erect and oblong oval dark brown scales forming scaly tufts, undersurface covered with yellowish grey scales, which are sparser on abdomen.

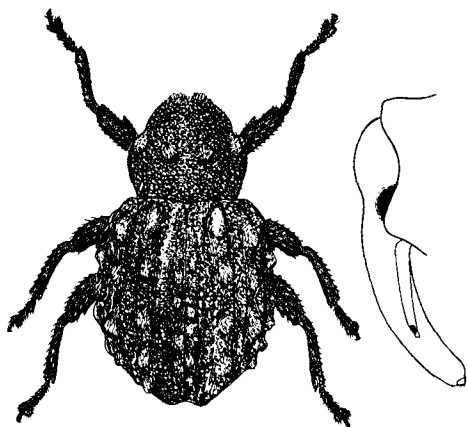


Fig. VI. *Acallinus tuberculatus* sp. nov. ♂.

Head closely punctured; rostrum a little shorter than pronotum, scarcely narrowed from the base to the antennal insertions, transverse oval in cross-section, finely punctured and naked on the anterior half, the punctures are robuster towards the base, with three pairs of sulci and a keel on the basal half; antennae inserted into the apical 1/3 of

rostrum, 1st segment of funicle  $3/2$  times as long as wide and as long as 2nd, 3rd-7th segments globular, 7th segment slightly transverse, club  $3/2$  times as long as wide.

Pronotum as long as wide, convex, broadest at the middle, anterior margin arched and  $4/5$  the width of the posterior one, disc closely

punctured, each puncture bearing a scale, with 6 scaly tufts, two on the anterior margin and the other on a median transverse line.

Scutellum triangular, naked.

Elytra convex,  $5/4$  times as long as wide, the sides gently rounded, striae narrow, intervals flat, 1st interval with 6-8 small scaly tufts, 3rd interval with 6 tubercles, posterior one is often obsolete, 5th interval with 4, 7th interval with 5 and 9th interval with one tubercles, each tubercle bearing a scaly tuft, basal tufts on 3rd and 5th intervals larger than the others, tuberculate intervals a little broader than the others.

Metasternum and basal two segments of abdomen reticulately punctured, 3rd and 4th segments with a row of punctures respectively.

♀. Rostrum as long as pronotum. Antennae inserted a little before the middle of rostrum.

Length: 4.3-4.7mm.

Habitat: Japan (Kyushu).

Holotype ♂, Paratypes 2♂ 2♀, Hikosan, Fukuoka Pref., 2-4. VI. 1958, K. Morimoto leg., holo- and a single paratype specimens are preserved in the collection of the Entomological Laboratory of Kyushu University and the others are in the author's cabinet.

### *Protacallinus* gen. nov.

Type species: *Protacallinus uenoi* sp. nov.

Head with eyes flat, narrow, lateral; rostrum separated from head by a shallow transverse depression, as long as pronotum, curved, rounded in cross-section, antennal scrobes oblique; antennae inserted a little beyond the middle of rostrum, funicle 7-segmented, 1st segment longer than 2nd, 3rd-7th segments transverse, club short fusiform, compact, 1st segment half as long as club.

Pronotum as long as wide, broadest at the middle, the sides gently rounded, anterior and posterior margins truncate, ocular lobes feeble and with short vibrissae.

Scutellum absent.

Elytra with humeri obsolete, the bases scarcely broader than the base of pronotum, 7th and 8th striae not reaching the base, 10th stria weak and abbreviate behind 2nd segment of abdomen, striae with large punctures, intervals convex, 3rd and 5th intervals with weak tubercles, the apices conjointly rounded.

Pygidium entirely concealed.

Prosterum very shallowly depressed before the coxae, each side of the depression finely keeled, inside of the depression punctured and scaled as on the neighbouring area, front coxae connate; mesosternal process oblique, triangular, narrower than the base of median femur,



episterna separated from elytra by epimera; metasternum short, longitudinally depressed in entire length at the middle, metepisterna obsolete.

Abdomen with the process truncate, as broad as metacoxa, 2nd segment longer than 1st behind coxa and longer than 3rd and 4th taken together, suture between 1st and 2nd segments obsolete at the middle and very deep on each side.

Femora clavate, unarmed. Tibiae uncinata, uncus oblique, arisen from the lower part of inner carina, outer setose fringe of corbel complete. Tarsi with 3rd segment bilobed, broader than 2nd, claws small, separated, free.

Derm sparsely covered with amorphous incrustation and suberect scales.

This genus is close to *Protacalles* Voss, 1957, but may be separable from it by the feeble ocular lobes, unarmed femora, fine prosternal canal and obsolete metepisterna, and also close to *Cryptallorrhynchus* Voss, 1957, but the scutellum is absent.

*Protacallinus uenoi* sp. nov.

♂. Dark reddish brown. Derm sparsely covered with amorphous greyish incrustation and suberect greyish clavate scales.

Head closely punctured, each puncture bearing a recumbent scale; eyes narrow, anterior margin straight; rostrum with 3-4 punctured shallow sulci on each side behind antennal insertion and scaled, glossy and finely punctured before the antennal insertion, scarcely narrowed from the base to the antennal insertion, thence slightly widened terminally; antennae inserted into

the apical 1/3 of rostrum, scape swollen at the distal area, funicle with 1st segment 3/2 times as long as wide, compact, 1st segment half as long as club.

Pronotum as long as wide, broadest at the middle, the sides gently rounded, anterior and posterior margin truncate, anterior margin a little narrower than the posterior one, subapical constriction weak, reticulately punctured, each puncture bearing a scale and amorphous incrustation,

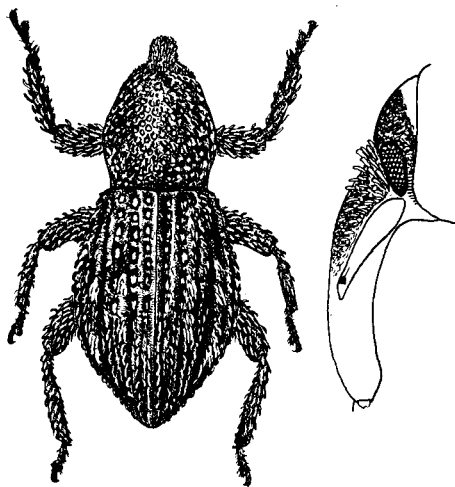


Fig. VII. *Protacallinus uenoi* sp. nov. ♂.

median keel absent.

Elytra  $3/2$  times as long as wide, broadest a little behind the middle, striae as broad as intervals, striae with oblong large punctures; intervals convex, 3rd and 5th intervals with 2-3 weak tubercles respectively, each interval with a row of scales, scales a little closer on tubercles.

Undersurface not closely punctured, finely shagreened, 1st and 2nd segments shallowly depressed at the middle.

Femora and tibiae finely shagreened, ventral margin of tibiae feebly bisinuate.

♀. Unknown.

Length: Japan (Honshu).

Holotype ♂, Paratype ♂, Mt. Ohdaigahara, Nara Pref., 8. VIII. 1954. S. Uéno leg., preserved in the collection of the Entomological Laboratory of Kyushu University.

### *Heterocryptorrhynchus* gen. nov.

Type species: *Heterocryptorrhynchus maculicollis* sp. nov.

Head simply convex; frons weakly depressed at the middle; eyes oval; rostrum as long as pronotum, more or less flattened dorso-ventrally, closely punctured on the basal area and lateral sides; antennae inserted a little behind the middle of rostrum, scape short, half as long as funicle, funicle 7-segmented, 1st segment as long as 2nd, the latter slender, 3rd segment a little longer than wide, 4th-6th segments each globular, 7th segment transverse, club oval, normally segmented, twice as long as wide.

Pronotum broadest at the middle, anterior margin arched, posterior margin weakly bisinuate, with weak ocular lobes and short vibrissae.

Scutellum distinct.

Elytra with humeri rectangular, basal half subparallel, the apices separately rounded.

Pectoral canal reaching a line between the anterior margin of meso-coxae, receptacle broader than long; metasternum with a fovea on the middle near the posterior margin. Abdomen with the process as broad as metasternum between meso- and metacoxae or 1st segment behind coxa, 2nd segment as long as 3rd and 4th taken together.

Femora scarcely clavate, finely unidentate, not sulcate beneath, hind femora not reaching the apex of elytra. Tibiae curved at the base and straight thence after, uncinat, with a pair of setal tufts on the ventro-apical angles.

General shape of this genus is similar to *Cryptorrhynchus* and its allied genera, but easily separable from them by the not sulcate femora, longer 2nd segment of abdomen which is as long as 3rd and 4th taken

together and short pectoral canal on mesosternum. This genus is also close to *Cyambolus-Euthyrhinus* allied genera, but the apex of elytra rounded, hind femora not exceeding the apex of elytra and not sulcate beneath, rostrum curved and scape of antennae short.

*Heterocryptorrhynchus maculicollis* sp. nov.,

♂. Black, tarsi and antennae dark brown. Derm closely covered with oval scales. Pronotum with seven black scaly tufts, two on the anterior margin and five on a transverse median line, scutellum and

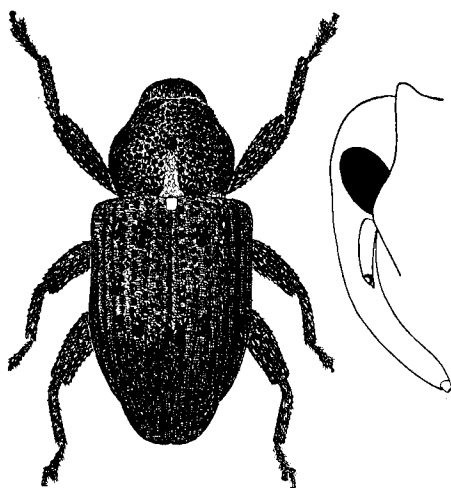


Fig. VIII. *Heterocryptorrhynchus maculicollis* sp. nov. ♀.

antiscutellar short patch grey, elytra with several black scaly tufts, tufts are on 3rd and 5th intervals near the base, 1st-3rd intervals a little behind the middle and the subapical swellings on 5th intervals; undersurface and bases of femora covered with greyish brown scales, scales more or less darkened on the lateral pieces of meso- and metathorax and lateral and posterior margins of abdomen.

Head reticulately punctured; frons between eyes a little narrower than the base of rostrum, shallowly depressed at the middle; rostrum as long

as pronotum, slightly narrowed from the base to the antennal insertion, thence slightly widened terminally, closely punctate and the punctures are more or less longitudinally confluent on the base behind the antennal insertion, sparsely punctured before the antennal insertion, lateral sides of rostrum closely punctured; antennae inserted behind the middle of rostrum, scape short, three times as long as wide and half as long as funicle, funicle with 1st segment clubbed,  $5/2$  times as long as wide and as long as 2nd, 3rd segment  $2/3$  times as long as 2nd, 5th-7th segments equal in length to each other, 7th segment transverse, club twice as long as wide, 1st segment as long as 2nd.

Pronotum broader than long (5:4), broadest at the middle, anterior margin arched, posterior margin weakly bisinuate, the sides rounded, subapical constriction distinct, anterior margin  $4/5$  the width of the posterior one, disc strongly punctured.

Scutellum pyriform, weakly convex.

Elytra with humeri rectangular, parallel-sided on the basal half, subapical swellings weak, the apices separately rounded; striae strongly punctured, the punctures separated; intervals flat, scarcely broader than striae.

Femora not clavate, minutely unidentate, not sulcate beneath. Tibiae uncinata, straight. Tarsi with 3rd segment bilobed and much broader than 2nd, claws simple, free.

Undersurface punctured, structures are concealed under scales. First and 2nd segment of abdomen flat at the middle.

♀. Rostrum slightly slenderer than male. Antennae inserted into the basal 1/3 of rostrum. First and 2nd segments of abdomen weakly convex.

Length: 5.0–5.5 mm.

Habitat: Japan (Honshu, Shikoku, Kyushu).

Holotype ♂, Mt. Tebako, Kôchi Pref., 7. VIII. 1957, K. Morimoto leg. Paratypes: 2♂3♀, Hikosan, Fukuoka Pref., 3. VI. 1958, K. Morimoto leg.; 1♀, Mt. Sobo, Ôita Pref., 27. VIII. 1952, Y. Miyatake leg.; 3♂3♀, same data as holotype; 4♂3♀, Misakubo, Shizuoka Pref., 3. VIII. 1955, K. Kojima leg.; 1♂, Naginosen, Tottori Pref., 22. VII. 1954, S. Nakao leg.; 1♀, Hirayu, Gifu Pref., 28. VII. 1956, M. Uno leg.; 1♂1♀, Masutomi, Yamanashi Pref., 24. VII. 1956, H. Kamiya leg.; 1♀, Yumoto, Nikko, 8. VII. 1950. M. Takahashi leg.; 1♂, Yunomata, Ôhata-Machi, Aomori Pref., 13. VII. 1956, K. Morimoto leg.

Holo- and some paratypes are preserved in the collection of the Entomological Laboratory of Kyushu University, the remaining paratypes are in the collections of the Ehime University, the National Science Museum of Tokyo, the U.S. National Museum, British Museum of Natural History, private collections of Dr. M. Konishi and the author.

Host plants: Adults were collected on the dead trunk of *Styrax obassia* Sieb. et Zucc. and *Quercus* spp.

### *Rhyssematoides* gen. nov.

Type species: *Rhyssematoides flavomaculatus* sp. nov.

Body rhombic, glossy, sparsely scaled.

Head simply convex; frons depressed on each side along eye, a little narrower than the base of rostrum; eyes subpyriform, anterior margin almost straight; rostrum weakly separated from head by a shallow depression, slightly curved, weakly flattened dorso-ventrally, closely punctured, not striate; antennae inserted beyond the middle of rostrum, scape a little shorter than funicle, not reaching eyes; funicle 7-segmented, 1st segment as long as 2nd, 3rd–7th segments subequal in length to each other and a little broader than long, club oval, weakly flattened, 4/3 times as long as wide, normally segmented.

Pronotum broadest at the base, the sides weakly rounded and narrowed towards the apex, subapical swelling slight, posterior margin bisinuate, ocular lobes present.

Scutellum minute, punctiform.

Elytra with humeri oblique, a little broader than pronotum, the apices conjointly rounded.

Pectoral canal reaching mesosternum before the middle of mesocoxa, receptacle broader than long, mesosternum truncate between the middle of mesocoxa, mesepisterna very small, metasternum between meso- and metacoxa as long as 1st segment of abdomen behind coxa, longitudinally sulcate at the middle in entire length, ventral and lateral surfaces of metasternum angulate between coxae. Abdomen with 2nd segment separated from 1st by a deep suture and  $2/3$  times as long as 3rd and 4th segments taken together.

Femora not clavate, femoral tooth minute or vestigial, sulcate beneath, the sulci of front femora broad and not reaching the base, hind femora not reaching the apex of elytra. Tibiae straight, multicostate, uncinata, not mucronate. Tarsi with 3rd segment bilobed and much broader than 2nd, claws simple, free.

This genus is a somewhat aberrant member of the *Syrotelus-Aechmura* groups, agreeing with these genera in the structures of the receptacle on mesosternum and longitudinally sulcate metasternum in entire length, but easily separable from these genera by the sparsely scaled derm, 2nd segment of abdomen a little longer than 3rd and depressed frons above eyes.

### *Rhyssematoides flavomaculatus* sp. nov.

♂. Castaneous brown. Derm sparsely clothed with yellowish grey scales; frons nearly half as broad as the base of rostrum, deeply depressed on each side above eyes; eyes pyriform; rostrum slightly curved near the apex, slightly narrowed from the base to the antennal insertion, closely punctured and finely shagreened, punctures are closer towards the base, median impunctate keel fine, antennal scrobes directing towards the lower ends of eyes, strongly constricted on each side before eyes; antennae inserted into the apical  $1/3$  of rostrum, scape and funicle shagreened, scape not reaching eye, funicle 7-segmented, a little longer than scape, 1st segment subconical,  $3/2$  times as long as wide and as long as 2nd, 7th segment twice as broad as long, club oval, weakly flattened.

Pronotum broadest at the base, broader than long (10:7), anterior margin nearly half as broad as the posterior one, ocular lobes developed, dorsum closely provided with oval punctures.

Scutellum minute, punctiform.

Elytra longer than wide (9:7), broadest a little behind shoulders, shoulders rounded, subapical swellings slight, the apices conjointly rounded, striae deep, 9th and 10th striae complete; intervals flat, broader than striae, each interval with a row of strong punctures, the dorsal area of elytra finely shagreened, lateral area not shagreened, glossy.

Undersurface and legs sparsely punctured and finely shagreened, metepisterna with a longitudinal row of punctures, 3rd-4th segments of abdomen each with a transverse row of punctures on the median area.

Front femora unarmed, median and hind femora minutely denticulate. Mesosternum and 1st segment of abdomen depressed.

Length: 4.6-5.0 mm.

Habitat: Japan (Shikoku, Kyushu).

Holotype ♂, Mt. Tebako, Kōchi Pref., 7. VIII. 1957, K. Morimoto leg. Paratype ♀, Mt. Kumado, Yame, Fukuoka Pref., 3. V. 1959, Y. Miyake leg. Types are preserved in the collection of the Entomological Laboratory of Kyushu University.

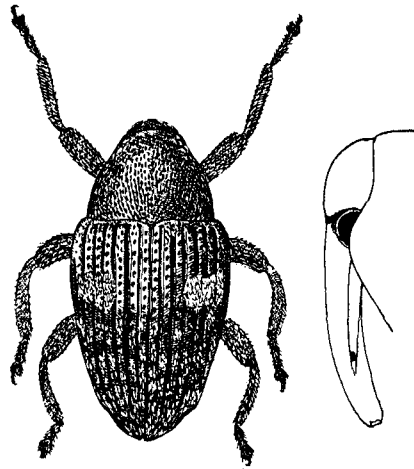


Fig. IX. *Rhyssematoides flavomaculatus* sp. nov. ♂.

### *Caenocryptorrhynchus* gen. nov.

Type species: *Caenocryptorrhynchus frontalis* sp. nov.

Head similar to *Sculptosternellum*, sulcate along the dorsal margin of eyes and the sulci contiguous to each other on frons; eyes pyriform; rostrum separated from frons, curved, closely punctured on the base and finely punctured on the distal half, slightly narrowed from the base to the middle; antennae inserted just before the middle of rostrum, funicle a little longer than scape, 7-segmented, 1st segment as long as 2nd, 4th segment a little longer than wide, each of 5th-7th segments as long as wide, club  $5/2$  times as long as wide, broadest on the distal  $1/3$ .

Pronotum with ocular lobes. Scutellum distinct.

Mesosternum subtruncate between mesocoxae. Abdomen with 2nd-4th segments equal in length to each other.

Femora not clubbed, bidentate, sulcate beneath, the sulcus indistinct or obsolescent near the base of femora. Tibiae uncinat, punctured, not

costate. Tarsi similar in both sexes, claws free, simple.

This genus may be similar to *Rectosternum* Heller, 1937, *Cryptorrhynchus* Illiger, 1807, *Coelosteridius* gen. nov., and *Sculptosternellum* gen. nov., but may easily be separable from *Rectosternum* and *Sculptosternellum* by the bidentate femora, and from *Cryptorrhynchus* and *Coelosteridius* by a transverse sulcus which is separating the rostrum from the head.

*Caenocrptorrhynchus frontalis* sp. nov.

♂. Black; tarsi and apical half of rostrum dark brown, antennae brown. Derm covered with scales; pronotum with five scaly black tufts, two on the anterior margin and three on a median transverse line; elytra not or sparsely covered with scales and visibly black on the basal triangular area and the apical area behind declivity, the remaining median area covered with brown to greyish brown scales, greyish scales forming a transverse vague band on the posterior 1/3 of elytra and short oblique bands from shoulders to the anterior 1/3 of suture, black erect scales forming a scaly tuft on 3rd and 5th intervals near the base respectively, brown to greyish brown erect scales forming 4-6 scaly tufts on the median part of 3rd and 5th intervals respectively. Underside sparsely covered with brown scales. Femora and tibiae closely covered with brown scales, femora annulate with dark brown scales a little beyond the middle and with whitish scales on the exterior margin of dark annulus.

Head closely punctured on vertex and rugose on frons; frons separated from vertex by an arched depression and a little lower than the level of vertex, with a pair of tubercles and a median keel, deeply sulcate along the dorsal margin of eyes; rostrum as long as pronotum, closely punctured on the base, sulcate above the antennal scrobes; antennae with 1st segment of funicle 5/3 times as long as wide and as long as 2nd, 3rd-4th segments equal in length to each other and half as long as 1st, 5th-7th segments subequal in length to each other, as long as wide and a little shorter than 4th, club compact, suture of segments very fine, closely covered with velvety pubescence.

Pronotum a little broader than long (8:7), broadest at the base, the sides slightly sinuate behind the middle, anterior margin 3/5 times as broad as the posterior one, arched anteriorly, posterior margin bisinuate, basal part covered with the bases of elytra, derm shagreened, sparsely punctured, with a median keel, which is glossy and strongly costate on the median part.

Scutellum oval, naked, punctured.

Elytra 3/2 times as broad as pronotum, 3/2 times as long as wide, basal half subparallel, subapical swellings weak; striae separately punctured; 3rd, 5th, 7th and 9th intervals more or less convex, the other

intervals almost flat, derm shagreened.

Lateral pieces of meso- and metathorax, metasternum and 1st segment of abdomen closely punctured, 2nd-4th segments each with an irregular transverse row of shallow punctures, 1st segment longitudinally depressed at the middle and each side of the depression closely scaled.

♀. First segment of abdomen not closely scaled.

Length: 8.0-8.5 mm.

Habitat: Japan (Honshu, Shikoku, Kyushu).

Holotype ♂, Mt. Ichifusa, Miyazaki Pref., 28. VII. 1953, S. Kimoto leg. Paratypes: 1♂4♀, same data as holotype 1♀, Mt. Fukuchi, Kokura City, Fukuoka Pref., 9. V. 1948, K. Matsuda leg.; 1♀, Nagasawa, Kôchi Pref., 27. VII. 1949, K. Morimoto leg.; 1♀, Erimon, Kôchi Pref., 6. VI. 1952, H. Kashiwabara leg.; 1♀, Mayasan, Kôbe City, 24. V. 1950, S. Shibanaï leg.; 1♀, Misakubo, Shizuoka Pref., 16. VII. 1954, K. Kojima leg.

Holo- and three paratypes are preserved in the collection of the Entomological Laboratory of Kyushu University, the remaining paratypes are in the collection of the Entomological Laboratory of Ehime University and in the author's cabinet.

### *Paracryptorrhynchus* gen. nov.

Type species; *Cryptorrhynchus navicularis* Roelofs, 1875, from Japan.

Head not sulcate above eyes; frons rugose, separated from vertex by an arched depression and a little lower than the level of vertex, with a pair of small tubercles; small median depression between eyes shallow; eyes pyriform; rostrum slightly flattened at the base, strongly punctured and the punctures closer on the base in male, strongly punctured on the base and finely punctured on the distal half in female; median keel obsolescent a little before the base; antennae inserted before the middle of rostrum, scape as long as funicle, funicle 7-segmented, 1st segment as long as 2nd, each of 3rd-4th segments a little longer than wide, the remaining segments as long as wide, club oval, compact, twice as long as wide.

Pronotum with ocular lobes.

Mesosternum truncate between mesocoxae. Abdomen with 2nd-4th segments equal in length to each other.

Femora scarcely clavate, unidentate, not distinctly sulcate beneath. Tibiae with the inner carina of corbels strongly laminate, uncinat, longitudinally costate. Tarsi similar in both sexes, claws free, simple.

This genus is close to *Cryptorrhynchus* Illigar, 1807, and *Shirahoshizo* Morimoto, 1962, but may be separable from *Cryptorrhynchus* by the unidentate femora, from *Shirahoshizo* by the strongly laminate inner carina



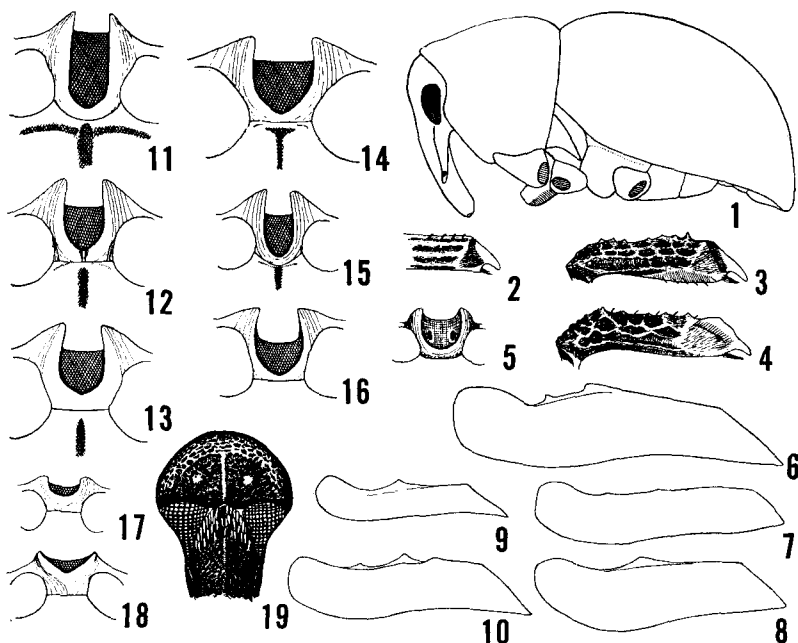


Fig. X. 1-2. *Pseudoporoapterus simulator* Roelofs (2. Apex of hind tibia). 3-5. *Hyotanzo uenoi* sp. nov. (3. Front tibia; 4. Hind tibia; 5. Prosternal canal). 6-10. Right front femur. 6. *Cryptorrhynchus lapathi*. 7. *Caenocryptorrhynchus frontalis*. 8. *Shirahoshizo rufescens*. 9. *Sculptosternellum sulcatostriatum*. 10. *Coelosteridius nigricollis*. 11-18. Prosternal canal. 11. *Coelosteridius nigricollis*. 12. *Caenocryptorrhynchus frontalis*. 13. *Shirahoshizo rufescens*. 14. *Cryptorrhynchus lapathi*. 15. *Sculptosternellum sulcatostriatum*. 16. *Paracryptorrhynchus navicularis*. 17. *Rhyssematoides flavomaculatus*. 18. *Heterocryptorrhynchus maculicollis*. 19. Head of *Caenocryptorrhynchus frontalis*.

of tibiae and not distinctly sulcate femora.

### *Sculptosternellum* gen. nov.

Type species: *Coelosternus* (?) *sulcatostriatus* Roelofs, 1875, from Japan.

Head with frons rugosely punctured and depressed, with a median keel and a pair of tubercles, shallowly depressed along the dorsal margin of eyes; eyes oval; rostrum separated from frons by a shallow depression, closely punctured and with a median keel on the basal half, glossy and finely punctured on the distal half; antennae inserted into the middle of rostrum, scape a little shorter than funicle, funicle 7-segmented, 1st segment robust, as long as 2nd, 3rd segment a little longer than wide, each of 4th-7th segments globular, club compact, nearly three times

as long as wide, bullet-shaped.

Pronotum with ocular lobes, posterior margin weakly bisinuate.

Mesosternum arched posteriorly, the apex close to a line between the posterior ends of mesocoxae, abdomen with 2nd-4th segments subequal in length to each other.

Femora not clubbed, hind femora a little longer than the anteriors, broadly sulcate beneath in entire length. Tibiae longitudinally costate, uncinus oblique, outer setose fringe oblique. Tarsi similar in both sexes, claws free, simple.

This genus is the closest to *Sculptosternum* Heller, 1937, but may be separable from it by the slenderer club of antennae.

### *Coelosteridius* gen. nov.

Type species: *Cryptorrhynchus nigricollis* Roelofs, 1875, from Japan.

Head with frons a little narrower than the base of rostrum, with a shallow median depression; eyes subpyriform, rostrum rather slender, slightly curved, weakly tapered anteriorly from the base to the antennal insertion, closely punctured near the base, glossy on the distal half; antennae inserted behind the middle of rostrum, scape a little shorter than funicle, funicle 7-segmented, 1st segment robust, twice as long as wide, 6th and 7th segments globular, club compact, oblong oval, twice as long as wide, very finely segmented.

Pronotum with ocular lobes and short vibrissae.

Mesosternum arched posteriorly, the apex close to a line between the posterior ends of metacoxae. Abdomen with 1st segment behind coxa as long as 2nd, 2nd-4th segments equal in length to each other, 1st segment separated from 2nd by a deep suture.

Femora bidentate, deeply sulcate beneath in entire length, front femora with the same width throughout, median and hind femora weakly clubbed. Tibiae longitudinally costate, slightly narrowed anteriorly, uncinus, outer setose fringe oblique, dorsal margin sharply angulate near the base, male tarsi similar to those of female, claws simple, free.

This genus is close to *Coelosternus* Schönherr, 1826, *Coelosternulum* Heller, 1937, and *Coelosternechus* Heller, 1937, but easily separable from *Coelosternus* by the pyriform eyes and the shape of tarsi, from *Coelosternulum* by the bidentate and normal-shaped femora, and from *Coelosternechus* by the presence of ocular lobes.

### *Hyotanzo* gen. nov.

Type species: *Hyotanzo uenoi* sp. nov.

Gender: Masculine.

Head with frons narrower than the base of rostrum; rostrum separated from head by a shallow depression, as long as pronotum, weakly curved, the sides sharply constricted at the base before eyes; antennal scrobes directing towards the lower part of eyes; antennae inserted into the middle of rostrum, funicle 7-segmented, 1st segment conical, as long as 2nd, each of 4th-7th segments transverse, club oval, compact, sutures very fine.

Pronotum broadest at the middle, the sides rounded, subapical constriction distinct, basal margin slightly bisinuate, ocular lobes weak.

Scutellum minute, triangular.

Elytra with humeri reduced and oblique, the apices conjointly rounded, 10th stria complete, not tuberculate.

Pectoral canal reaching the middle of mesocoxa, receptacle as long as wide, with a pair of deep foveae on the bottom.

Mesepisterna episterna separated from elytra by epimera. Metasternum short, longitudinally sulcate at the middle in entire length, metepisterna distinct throughout. Abdominal process subtruncate, as broad as hind coxa, 2nd segment as broad as 1st behind coxa and much shorter than 3rd and 4th taken together, posterior margin of 2nd-4th segments of abdomen straight.

Femora weakly clavate, sulcate beneath, minutely unidentate, hind femora not reaching the apex of elytra. Tibiae more or less serrate on the dorsal margin. Tarsi with 3rd segment bilobed, transverse, broader than 2nd, claws simple, free.

This genus is close to *Mormosintes* Pascoe, 1865, *Poropterus* Schönherr, 1844, and *Pseudoporopterus* Lea, 1878, but may be separable from *Mormosintes* by the bilobed 3rd segment of tarsi, from *Poropterus* and *Pseudoporopterus* by the shorter 2nd segment of abdomen.

### *Hyotanzo uenoi* sp. nov.

♂. Dark brown to black; antennae, apex of rostrum and tarsi reddish brown. Derm covered with dirty amorphous incrustation in normal condition and sparsely with greyish brown short scales.

Head closely punctured; rostrum closely and confluent punctured at the base and the punctures sparser towards the apex, sulcate above the antennal scrobes, scape as long as the basal 6 segments of funicle taken together, 1st segment conical, a little longer than wide, club oval, twice as long as wide and as long as the basal two segments of funicle taken together.

Pronotum transverse (7:6), broadest at the middle, the sides slightly rounded, subapical constriction distinct, anterior margin weakly arched and 2/3 the width of the posterior one, dorsum flat, reticulately provided with large punctures, punctures are smaller on the anterior margin

and bearing a short scale respectively, shallowly depressed a little before scutellum, lateral sides of the depression slightly raised.

Scutellum minute, often concealed under incrustation, shagreened.

Elytra a little longer than wide (7:6), the sides gently rounded, dorsum weakly flattened, intervals separately punctured, the punctures very deep and oval, intervals scarcely broader than striae, flat, with an irregular rows of shallow punctures, intervals are often weakly wrinkled and finely shagreened.

Metasternum, 1st and 2nd segments of abdomen reticulately punctured, 3rd and 4th segments with two irregular transverse rows of punctures respectively, 1st segment flattened at the middle. Femora closely punctured, the punctures are slightly sparser to the base. Punctures of tibiae longitudinally confluent.

♀. Rostrum a little slenderer. First segment of abdomen not flattened.

Length: 4.1–4.5 mm.

Habitat: Japan (Honshu, Shikoku, Kyushu).

Holotype ♂, Kitashirakawa, Kyoto, 8. V. 1953, S. Uéno leg.

Paratypes, 1 ♀, Katsurahama, Kôchi Pref., 5. IV. 1956, S. Uéno & N. Kobayashi leg.; 1 ♀, Momoji, Fukuoka City, 3. VIII. 1953, K. Fujita leg. Holo- and one paratype are preserved in the collection of the Entomological Laboratory of Kyushu University, one paratype is in the author's cabinet.

Holotype was collected by sifting the litter by means of the Berlese's apparatus, one paratype from Kôchi was captured under a wooden piece on the seashore and the remaining paratype was under seaweed which was thrown ashore by wave.

### *Deiradocranoides* gen. nov.

Type species: *Deiradocranoides setosus* sp. nov.

Head with a median carina from the back of frons to the vertex; frons narrower than the base of rostrum; eyes suboval, very coarsely faceted, rostrum weakly flattened dorso-ventrally; antennae inserted beyond the middle of rostrum, scape reaching the anterior margin of eye, funicle 6-segmented, club oval, normally segmented.

Pronotum weakly bisinuate at the base, broadest at the base, ocular lobes conspicuous, rounded.

Scutellum distinct, closely scaled.

Elytra with 10th stria shallowed and obsolescent towards the apex.

Femora not clavate, parallel-sided, median and hind femora weakly clavate, hind femora not reaching the apex of elytra. Tibiae curved at the base, thence straight. Tarsi with 3rd segment bilobed and broader than 2nd, claws small, free, but close together.

Pectoral canal extending to metasternum, which is deeply excavate

to receive the apex of rostrum, posterior margin of the canal bordered with an arched costa, which is a little raised above the level of metasternum; metasternum between meso- and metacoxae as broad as 1st segment behind coxa, longitudinally sulcate behind the receptacle. Second segment of abdomen a little shorter than 3rd and 4th taken together, posterior margin of 2nd and 4th segments weakly curved posteriorly on each side.

So far as the author is aware, this genus may be the second one of the tribe Sophrorrhinini bearing 6-segmented funicle of antennae.

This genus is similar to *Deiradocranus* Marshall, 1953, from Angola, but may be separable from it by the shorter 2nd segment of abdomen, which is shorter than the 3rd and 4th taken together, and the round ocular lobes of pronotum.

*Deiradocranoides setosus* sp. nov.

♂. Chestnut brown to blackish brown. Derm covered with recumbent white and brown scales, brown scales are faded into grey in old weevils; head, pronotum and elytra with their bases and odd-numbered intervals covered with brown scales, white scales are aggregated into spots along even-numbered intervals of elytra; undersurface and legs covered with greyish scales; derm clothed further sparsely with stick-shaped white and black setae.

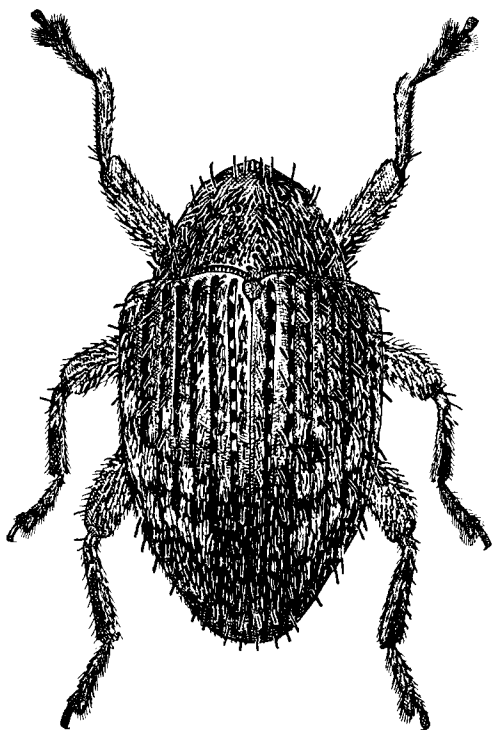


Fig. XI. *Deiradocranoides setosus*  
sp. nov. ♂.

old weevils; head, pronotum and elytra with their bases and odd-numbered intervals covered with brown scales, white scales are aggregated into spots along even-numbered intervals of elytra; undersurface and legs covered with greyish scales; derm clothed further sparsely with stick-shaped white and black setae.

Head closely punctured, frons flat; rostrum as long as head and pronotum taken together, glossy, with two punctured sulci on each side; antennae with 1st segment of funicle robust,  $3/2$  times as long as wide and  $5/2$  times as long as 2nd, each of 4th-6th segments broader than long, club oval, twice as long as wide.

Pronotum transverse (3:2), broadest at the base, sub-

trapezoidal, anterior margin  $2/3$  the width of the posterior one, the sides narrowing straightly to the apex, which is not constricted laterally, but weakly depressed dorsally, dorsum closely punctate.

Scutellum rounded, with dense white scales.

Elytra longer than wide (4:3), shoulders rectangular, basal half parallel-sided, subapical swellings obsolete, the apices conjointly rounded; striae sharply incised, narrow, intervals flat, glossy, impunctate, much broader than striae. Tibiae slightly widened terminally. Metasternum and 1st segment of abdomen depressed at the middle.

♀. Rostrum less strongly punctate sulcate. Metasternum less strongly depressed, 1st segment of abdomen convex.

Length: 1.5–1.8 mm.

Habitat: Japan (Honshu, Shikoku, Kyushu).

Holotype ♂, Hikosan, Fukuoka Pref., 4. VI. 1958, K. Morimoto leg. Paratypes 1♂4♀, Kuroson, Kôchi Pref., 29. IV. 1956, K. Morimoto leg. 1♂, same locality as holotype, 16. V. 1955, K. Morimoto leg., 1♀, 13. VI. 1957, K. Morimoto leg.; 1♀, Magaribuchi, nr. Fukuoka, 22. IV, 1956, S. Kimoto leg.; 1♀, Makiyama, Kôchi Pref., 29. VIII. 1954, K. Morimoto leg.; 1♀, Mayasan, Kobé, 3. IX. 1953, Y. Wada leg.; 1♀, Yunomata, Ôhata-machi, Aomori Pref., 9. VII. 1956, K. Morimoto leg.

Types are preserved in the collections of the Entomological Laboratory of Kyushu University (including holo- and paratypes), the Entomological Laboratory of Ehime University, the National Science Museum of Tokyo, and in the private collection of the author.

These specimens were collected on the dead twig of *Quercus* spp., *Castanea* spp., and *Shiia* spp.

### *Karekizo* gen. nov.

Type species: *Karekizo impressicollis* sp. nov.

Gender: Masculine.

Head with frons a little narrower than the base of rostrum; eyes lateral, flat, oval; rostrum as long as head and pronotum taken together, curved, parallel-sided from the base to the antennal insertion, thence slightly narrowing anteriorly, antennal scrobes oblique, confluent under the base of rostrum, anterior part of scrobe visible from the side; antennae inserted a little before the base of rostrum, funicle 7-segmented, 1st segment longer than 2nd, each of 3rd–7th segments transverse, club oblong oval, 1st segment half as long as club.

Pronotum with ocular lobes, dorsum with three longitudinal shallow depressions.

Scutellum small, scaled.

Elytra with humeri rectangular, parallel-sided on the basal  $2/3$ , apices conjointly rounded, 10th stria abbreviate behind hind coxa.

Procoxae very narrowly separated, prosternum depressed before coxae; mesosternal process oblique, arched posteriorly, as broad as the base of median femur, mesepisterna broadly separated from elytra by mesepimera; metasternum between meso- and metacoxae as broad as 1st segment of abdomen behind coxa; abdomen with the process as broad as the hind coxa, with 2nd segment as long as 1st behind coxa and much longer than 3rd and 4th taken together, suture between 1st and 2nd segment obsolete at the median part.

Femora clavate, front femora a little thicker than the posteriors, unidentate, median and hind femora not dentate, hind femora slenderer, not reaching the apex of elytra, basal area parallel-sided; tibiae uncinata, the ventral margin bisinuate; tarsi with 3rd segment shallowly bilobed, as long as 2nd, claws simple, free.

So far as the author is aware, four genera, *Metrachodes* Marshall, 1948, *Acicnemis* Lacordaire, 1866, *Semelima* Pascoe, 1872, and *Ancylocnemis* Marshall, 1920, were described under Acicneminae. *Karekizo* is easily separable from these genera by the unarmed median and hind femora, depressed rostrum, and confluent scrobes of antennae.

*Karekizo impressicollis* sp. nov.

♂. Brown to dark brown. Derm very closely covered with oval recumbent scales and erect clavate scales, which are forming scaly tufts;

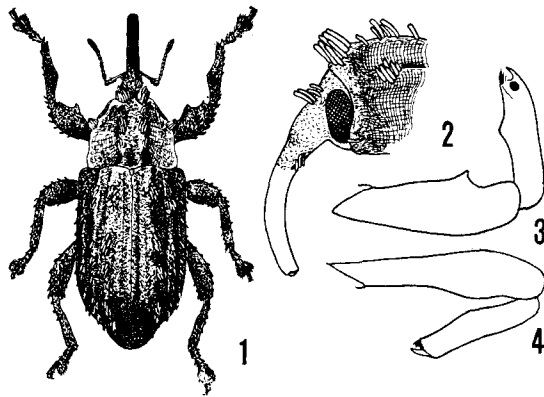


Fig. XII. *Karekizo impressicollis* sp. nov. ♂.  
(3. Front leg., 4. Hind leg.)

pronotum covered with grey scales in major part, median depression brownish grey on the anterior half and dark brown on the posterior half, with six scaly tufts, one pair on the anterior margin, one pair on the lateral side a little before the middle and the others on each side of the median depression at the middle; elytra with humeri grey, the other area variegated with grey and dark brown scales, odd-numbered

intervals with erect scales, 3rd intervals with 4-5 and 5th intervals with 3-4 scaly tufts; undersurface grey, lateral area of meso- and metasternum often brownish grey, median area of 3rd and 4th segments and entire 5th segment of abdomen brownish grey; legs dark grey, base of front femora, 1-2 vague annular markings on median and hind femora, basal and apical area of tibiae and tarsi grey.

Head with frons bearing a pair of scaly tufts between eyes, rostrum closely scaled behind antennal insertion and with a scaly tuft above the antennal scrobe, with three rows of punctures on each side, the punctures are stronger towards the base; antennae inserted into the basal 1/4 of rostrum, scape swollen on the distal half and 3/4 the length of funicle, 1st segment of funicle 5/3 times as long as wide, and 5/4 times as long as 2nd, 3rd-7th segments transverse, 7th segment weakly annexed to club, club twice as long as wide, broadest at the middle, 1st segment as long as the remaining segments taken together.

Pronotum slightly broader than long, broadest just before the base, dorsal and lateral surfaces rather angulate, disc with three longitudinal shallow depressions, lateral depressions broader than the median one, the depression slightly deeper at the anterior and posterior margins.

Scutellum cordiform, as long as wide, scaled.

Elytra 5/3 times as long as wide, parallel-sided, striae concealed under scales, odd-numbered intervals a little higher than the others, 3rd interval the broadest.

Abdomen with 1st and 2nd segments shallowly depressed, 5th segment haired at the middle.

♀. Rostrum less strongly punctured. Basal segment of abdomen flat, 5th segment sparsely haired.

Length: 3.5-4.2 mm.

Habitat: Japan (Honshu).

Holotype ♂, Mie University Forest, Ichishi-gun, Mie Pref., 11. VI. 1956, H. Ichihashi leg. Paratypes, 1 ♀, same data as holotype; 1 ♂, Daisen, Tottori Pref., 10. VII. 1951, S. Shibanaï leg. Holo- and paratypes are preserved in the collection of the Entomological Laboratory of Kyushu University and one paratype is in the author's cabinet.

### *Atrachodes* gen. nov.

Type species: *Atrachodes murakamii* sp. nov.

Closely allied to *Karekizo*, especially in the complete absence of tooth on median and hind femora, and to *Acicnemis* in the separated scrobes of antennae, but differing from these genera by the following characters:—

Antennal scrobes rather broadly separated throughout. Pronotum transverse, convex. Scutellum minute, transverse, glossy, naked. Elytra



broadest at the middle, convex. Abdominal process broader than the hind one, median and hind femora unarmed.

*Atrachodes murakamii* sp. nov.

♀. Reddish brown. Derm closely covered with recumbent oval scales and erect clavate scales which are forming scaly tufts; pronotum and elytra greyish brown, the sides of pronotum, humeri and a submedian band greyish, head and undersurface grey, femora greyish brown and the base greyish, pronotum before scutellum dark brown.

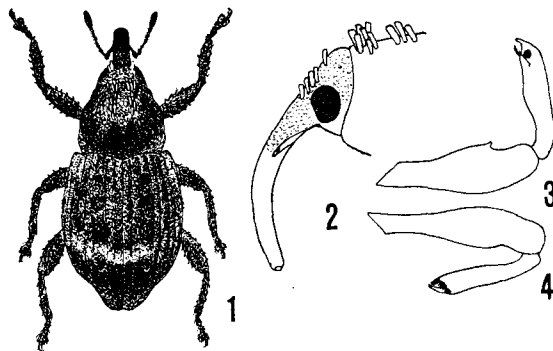


Fig. XIII. *Atrachodes murakamii* sp. nov. ♀.

(3. Front leg., 4. Hind leg.)

Head with frons a little narrower than the base of rostrum, with a pair of scaly tufts between eyes; rostrum as long as head and pronotum taken together, curved, slightly narrowed from the base to the antennal insertion, strongly punctured and with a fine keel behind the antennal insertion, finely punctured before the antennal insertion, antennal scrobes oblique, the posterior part invisible from lateral aspect, antennae inserted into the basal  $1/4$  of rostrum, scape clubbed on the distal half, funicle  $3/2$  times as long as scape, 1st segment robust,  $5/3$  times as long as wide and  $4/3$  times as long as scape, 1st segment robust,  $5/3$  times as long as wide and  $4/3$  times as long as 2nd, each of the 3rd-7th segments transverse, 7th segment annexed to club, club  $3/2$  times as long as wide.

Pronotum transverse (8:7), broadest a little before the base, thence the sides slightly narrowed and straight to the apical  $1/4$ , subapical constriction distinct, postocular lobes feeble, dorsum reticulately punctured, with two pairs of scaly tufts, one on the anterior margin and the other a little behind them.

Scutellum minute, transverse, glossy, naked.

Elytra convex,  $5/4$  times as long as wide, broadest at the middle, humeri rectangular and slightly broader than pronotum, the sides gently rounded, striae narrow, separately punctured, odd-numbered interval with 3 scaly tufts, posterior three on the 3rd and the basal two tufts on the 5th intervals dark brown.

Front coxae narrowly separated, mesosternal process oblique, arched posteriorly, as broad as the base of median femur.

Abdominal process subtruncate, broader than hind coxa, 2nd segment a little longer than 1st behind coxa and much longer than 3rd and 4th taken together, the suture between 1st and 2nd segments bisinuate.

Femora clavate, front femora minutely unidentate, median and hind femora unarmed, ventral margins of tibiae feebly bisinuate. Tarsi with 3rd segment weakly bilobed and as long as and much broader than 2nd, claws simple, free.

♂. Unknown.

Length: 3.5 mm.

Habitat: Japan (Honshu).

Holotype ♀, Mt. Hakusan, Ishikawa Pref., 31. VII. 1956, Y. Murakami leg., preserved in the collection of the Entomological Laboratory of Kyushu University.

### *Pseudohylobius* gen. nov.

Type species: *Pseudohylobius setosus* sp. nov.

Head with eyes small, lateral, flat; rostrum rather robust, shorter than pronotum, quadrate in cross-section, antennal scrobes oblique, not confluent below the base; antennae inserted far beyond the middle of rostrum, scape as long as funicle, not reaching eye, funicle 7-segmented, 1st segment large, 2nd segment deeply retracted into 1st, each of 2nd-7th segments transverse, club suboval, 1st segment half the length of club.

Pronotum without distinct ocular lobes, posterior margin slightly bisinuate.

Scutellum absent.

Elytra with rectangular humeri, the bases much broader than pronotum, parallel-sided, 10th stria short, abbreviate behind metacoxa, 3rd and 5th intervals a little broader and higher than the others.

Pygidium entirely concealed.

Front coxae narrowly separated; mesosternal process arched posteriorly, oblique, as broad as the base of median femur, mesepisterna separated from elytra by the narrow mesepimera; metasternum much longer than 1st segment of abdomen behind coxa, with a median short stria, which is extending from the posterior margin to the middle,

metepisterna parallel-sided.

Abdomen with the process subtruncate, a little broader than metacoxa, 2nd segment a little longer than 1st and much longer than 3rd and 4th taken together, 3rd segment much longer than 4th.

Femora not clavate, unarmed. Tibiae parallel-sided, straight, uncus formed by a direct prolongation of the dorsal edge of tibia. Tarsi spongy beneath, 3rd segment bilobed, broader and longer than 3rd, 4th segment as long as the three basal segments of tarsi taken together, claws simple, free.

This genus may be an aberrant one of the subfamily Pissodinae, and easily separable from the known genera of Pissodinae by the broad abdominal process, concealed scutellum and robust rostrum.

*Pseudohylobius setosus* sp. nov.

♂. Brown to black, antennae and tarsi always brown.

Derm very closely covered with grey amorphous incrustation, curved short yellowish grey scales and sparsely with erect grey to blackish grey clavate setae.

Head reticulately punctured, frons transversely and shallowly depressed, with a median fovea; rostrum  $3/4$  times as long as pronotum, anterior part of antennal scrobes visible from above, dorsum closely punctured; antennae inserted into the anterior  $1/3$  of rostrum, scape clavate, scaled, funicle with 1st segment large, clavate,  $3/2$  times as long as wide, 2nd segment deeply retracted into 1st, the apex exposed, 7th segment

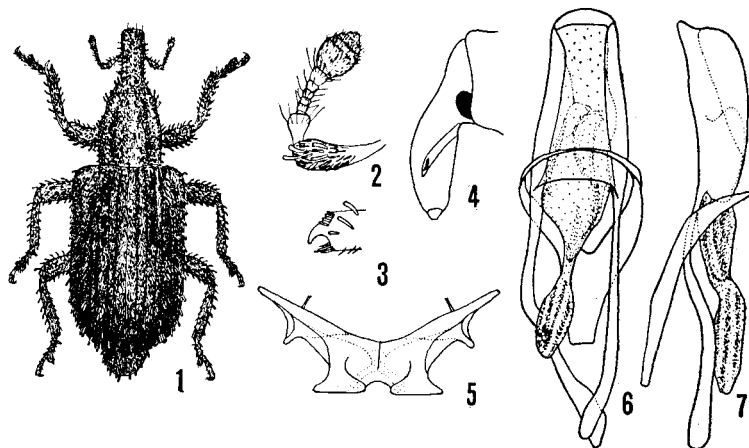


Fig. XIV. *Pseudohylobius setosus* sp. nov. ♂.

1. Holotype. 2. Antenna. 3. Apex of hind right tibia. 4. Male head.
5. Metendosternite. 6-7. Aedeagus, dorsal and ventral aspects.

annexed to club, club a little longer than wide.

Pronotum longer than wide (8:7), parallel-sided at the basal half, subapical constriction weak, very closely provided with strong punctures, anterior margin 7/9 the width of the posterior one.

Elytra nearly twice as long as wide, parallel-sided, basal margin between 2nd and 5th striae weakly produced anteriorly over pronotum, striae deep, a little shallowed behind, 3rd and 5th intervals slightly costate, weakly tuberculate at the base.

Front coxae lying at the basal 1/3 of prosternum, gular margin shallowly excavated; undersurface closely punctured, suture between 1st and 2nd segments of abdomen bisinuate, 1st and 2nd segments flattened at the middle.

♀. First and 2nd segments of abdomen not flattened.

Length: 5.6-6.0 mm.

Habitat: Japan (Kyushu).

Holotype ♂, Mt. Fukuchi, Kokura, Fukuoka Pref., 12. VI. 1955, S. Takashima leg. Paratypes: 1 ♀, same locality as holotype, 4. VI. 1955, S. Takashima leg., 1 ♂, Mt. Kumado, Yame, Fukuoka Pref., 9. VI. 1957, M. K. leg. Dissected material, 1 ♂, Hikosan, Fukuoka Pref., 13. VI. 1959, K. Morimoto leg.

Types are preserved in the collection of the Entomological Laboratory of Kyushu University and in the author's cabinet.

Punctures are concealed by scales and the description given above is partly based on the naked and dissected material.