

Studies on the Asian Staphylininae (Coleoptera, Staphylinidae)

IV. Revisional Notes on the Genera *Rhynchocheilus* FAUVEL and *Rhynchocheilus* SHARP, with Redescriptions of their Type Species

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Abstract Characteristics of the genera *Rhynchocheilus* FAUVEL and *Rhynchocheilus* SHARP are reviewed, and their type species, *Staphylinus aureus* FABRICIUS and *Rhynchocheilus pectoralis* SHARP, are redescribed.

Rhynchocheilus was firstly introduced (published) by FAUVEL in 1882 without description as an unpublished generic name for *Staphylinus aureus* FABRICIUS. SHARP (1889) established the genus *Rhynchocheilus* for *Rhynchocheilus pectoralis* SHARP, though he did not give any comment on *Rhynchocheilus* FAUVEL. Thereafter, most researchers of the Staphylinidae, even FAUVEL himself, treated the former as an invalid name and/or a junior synonym of the latter. CAMERON (1932) may be the first and the only one researcher who redescribed the genus *Rhynchocheilus* (spelled as *Rhyncochilus*) after SHARP in his sense. On the other hand, BLACKWELDER (1952) recognized *Rhynchocheilus* FAUVEL as an acceptable name and regarded *Rhynchocheilus* SHARP as a junior synonym of the former. His arrangement seems reasonable under the present nomenclature, but COIFFAIT (1982) still considered *Rhynchocheilus* SHARP to be an available name.

Recently, I had an opportunity to closely examine the type specimen of *Staphylinus aureus* FABRICIUS with some additional specimens and the type specimens of *Rhynchocheilus pectoralis* SHARP. After a careful examination of these type specimens and several additional ones, it has become clear that the two genera are clearly different. Therefore I am going to redescribe these genera on the basis of close reexamination of the type specimens, and to discuss their phylogenetic relationships.

“*Rhyncocheilus*” may be a miss-spelling of “*Rhynchocheilus*”, but both are correct original spellings according to the present Code of Zoological Nomenclature. These names are, however, very similar to each other, and confusing; it has been often miss-spelled as *Rhyncochilus* or *Rhynchochilus*. Such confusions are inevitable so far as the two names are available. It is therefore desirable that a new substitute name will be proposed for *Rhynchocheilus* under the plenary power of the Commission of Zoological Nomenclature.

Before going into further details, I wish to express my hearty thanks to Mr. M. J. D. BRENDALL of the Natural History Museum, London, for his courtesy and generosity to loan me the precious materials, the type specimens of *Staphylinus aureus* FABRICIUS and *Rhynchocheilus pectoralis* SHARP. I am very grateful to Dr. H. SHILLHAMMER of the Naturhistorisches Museum Wien for his kind offer of the specimens of the group of *Rhynchocheilus aureus* and information about the *Eucibdelus* group; to Dr. Shun-Ichiro NAOMI of the Natural History Museum and Institute, Chiba, Dr. Fumiaki KIMURA of the Kashihara Insectarium and Mr. Hiroyoshi KONISHI (Ikoma City) for their kind loan of *Rhynchocheilus aureus*. I am much indebted to Dr. Shun-Ichi UÉNO, Emeritus Curator of the National Science Museum (Nat. Hist.), Tokyo, for his invaluable guidance on the nomenclatural problem and for his kindness of critically reading the manuscript of this paper.

Terminology. The main terminology and the abbreviations used herein are the same as those explained in the previous parts of this series of papers.

Differential Diagnosis of *Rhynchocheilus* FAUVEL and *Rhynchocheilus* SHARP

1. Pronotum obtrapezoidal, rather widely flattened in middle; protarsus much widened and foliaceous, much wider than apex of protibia; terminal spurs of tibiae very short, hardly visible; 5th segment of maxillary palpus not haired; genal and subgenal macrosetae absent; molar tooth of mandible large and wide
 *Rhynchocheilus* FAUVEL.
- Pronotum barrel-shaped to subcylindrical and strongly convex as a whole; protarsus less widened and sub-oblong, a little narrower than apex of protibia; terminal spurs of tibiae long, distinctly visible; 5th segment of maxillary palpus haired; genal and subgenal macrosetae basically present; molar tooth of mandible small and narrow *Rhynchocheilus* SHARP.

Genus *Rhynchocheilus* FAUVEL

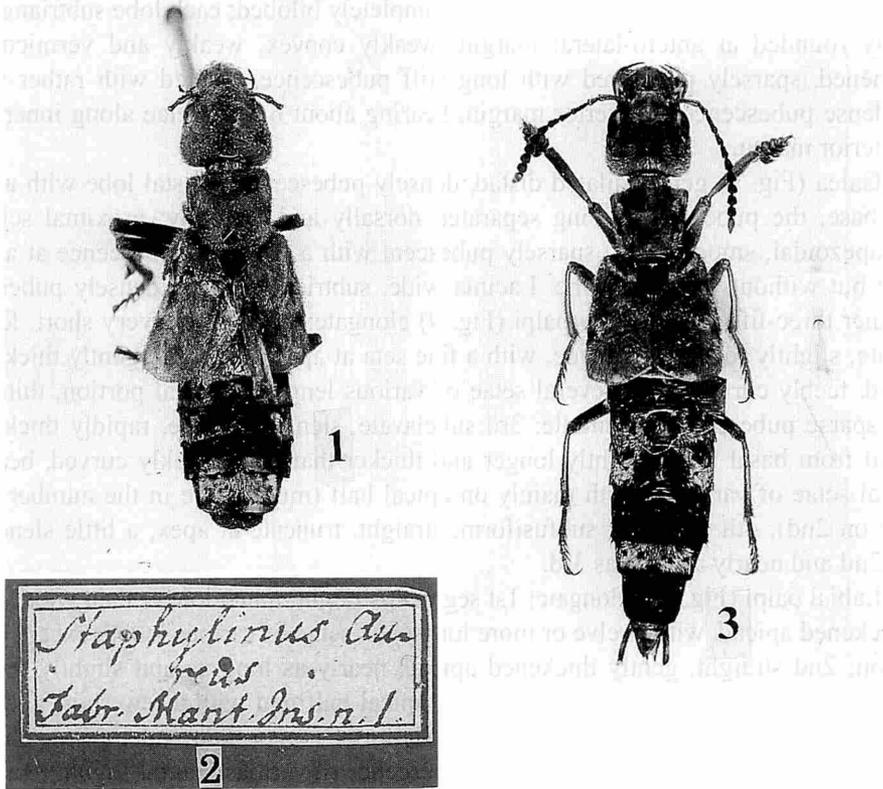
(Figs. 1–22)

FAUVEL, 1882, *Revue Ent.*, Caen, **1**: 211. — BLACKWELDER, 1952, *Bull. U.S. natn. Mus.*, **200**: 341.

Type species: *Staphylinus aureus* FABRICIUS (type area: Siam).

Body thick, wide, robust, rather flattened above, covered with conspicuous tomentum and rather shiny.

Head (Fig. 4) large, wide, subtrapezoidal (seemingly subtriangular including labrum), widened posteriad, rounded at hind angles, feebly emarginate at base, feebly convex above; surface densely and minutely punctured on dorsum, with dense pubescence; neck thick, much wider than half the width of head. Antennae (Fig. 5) filiform, rather long, with basal 4 segments polished but 4th segment weakly so. Eyes large in size, strongly convex, a little shorter than postgenae. Chaetotaxy of head composed of



Figs. 1–3. *Rhyncocheilus aureus* (FABRICIUS); 1, habitus, holotype, female; 2, label attached to the holotype; 3, habitus, male.

5 pairs of macrosetae, viz., supra-antennal, supraorbital, postgenal, occipital and infra-orbital macrosetae, supraorbital and occipital ones sometimes accompanied with one or two long setae, the occipital macrosetae situated before postgenal ones; genal, front marginal and subgenal macrosetae reduced, imperceptible, but the front marginal one is rarely present and mal-developed.

Subgenae rather flat, minutely reticulo-cribrate as minute punctures, finely and sparsely punctured, with pubescence. Infragenal line absent.

Mandibles (Figs. 6 & 7) long and robust, strongly curved inwards, gently so ventrad, narrowly sulcate along inner margin of apical half and sharply edged at the upper margin; left mandible more strongly curved than the right, bearing 2 large teeth, namely canine and molar, the canine tooth large and long, acute at the tip, and the molar tooth very large, wide and subquadrate, rectangular at the distal angle, sharply protuberant at the proximal angle as a small tooth; right mandible bearing a large, wide and subquadrate molar tooth, which is sharply protuberant at the distal and proximal

angles.

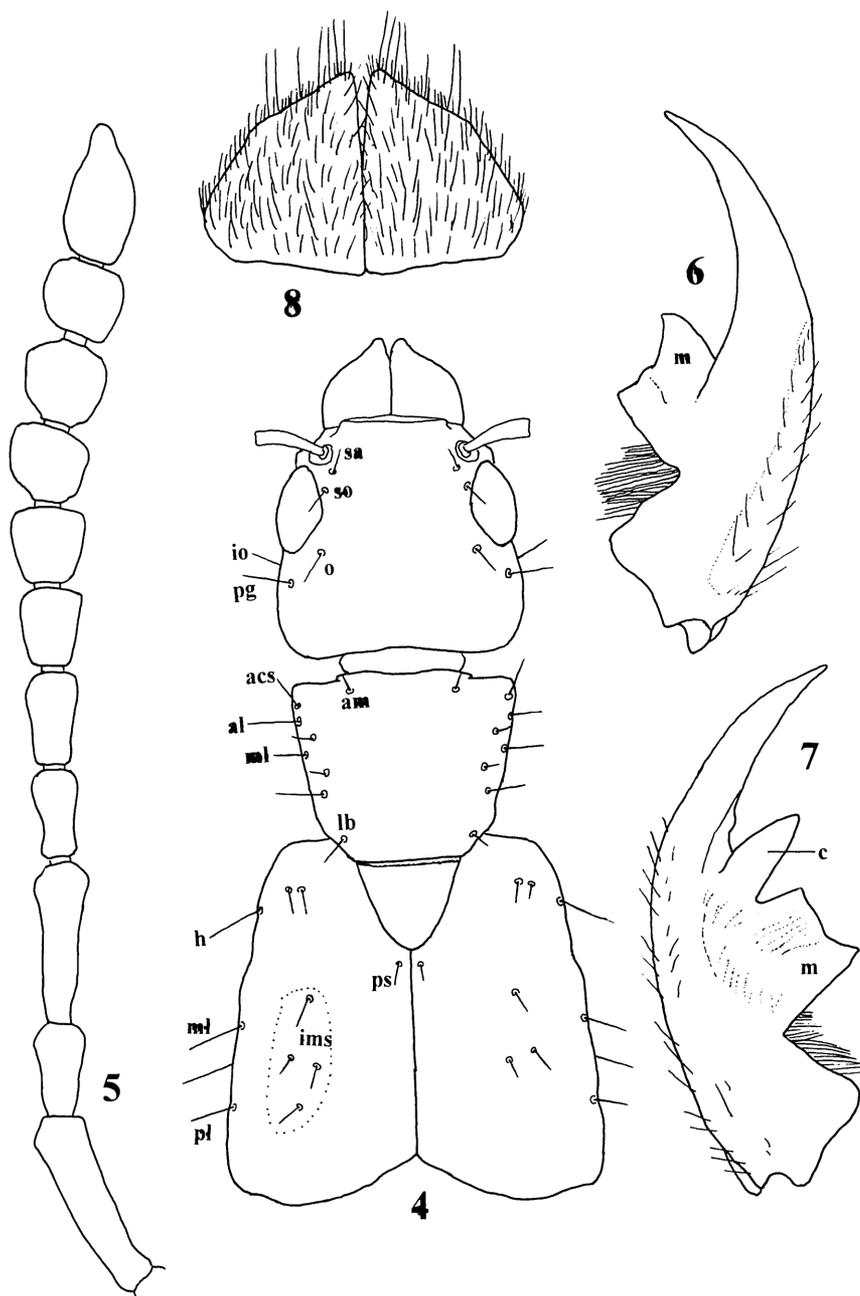
Labrum (Fig. 8) very long, wide, and completely bilobed; each lobe subtriangular, largely rounded at antero-lateral margin, weakly convex, weakly and vermicularly roughened, sparsely punctured with long stiff pubescence, fringed with rather short and dense pubescence at anterior margin, bearing about 6 long setae along inner half of anterior margin.

Galea (Fig. 9) gently dilated distad, densely pubescent on distal lobe with a seta near base, the pubescence being separated dorsally and ventrally; proximal sclerite subtrapezoidal, smooth, very sparsely pubescent with a few fine pubescence at apical angle but without terminal spine. Lacinia wide, subtriangular and densely pubescent on inner three-fifths. Maxillary palpi (Fig. 9) elongate; 1st segment very short, feebly arcuate, slightly longer than wide, with a fine seta at apex; 2nd long, gently thickened apicad, feebly curved, with several setae of various length in apical portion, thin and very sparse pubescence in middle; 3rd subclavate, slender at base, rapidly thickened apicad from basal third, slightly longer and thicker than 2nd, weakly curved, bearing several setae of various length mainly on apical half (much more in the number than those on 2nd); 4th glabrous, subfusiform, straight, truncate at apex, a little slenderer than 2nd and nearly as long as 3rd.

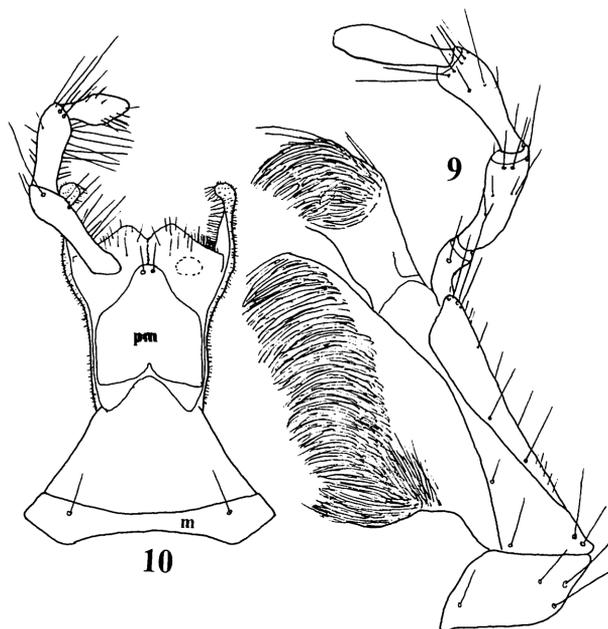
Labial palpi (Fig. 10) elongate; 1st segment straight, much longer than wide, gently thickened apicad, with twelve or more long erect setae of various length except basal portion; 2nd straight, gently thickened apicad, nearly as long as and slightly thicker than 1st, with several long setae mainly on apical half and with a few short and thin setae near base and on lateral side; 3rd subfusiform, longer than wide, a little shorter and slenderer than 2nd, with sparse stiff pubescence of various length. Ligula long and wide, widely excised at apex in two lobes, deeply impressed medially, each lobe fringed with pubescence at apical margin and sparsely pubescent on ventral face. Paraglossae long and wide, rounded at each tip, reaching the middle of 2nd segment of labial palpus, combed with dense thin setae at each inner margin and densely pubescent dorsally. Prementum subpentagonal, rather long, nearly as long as wide and finely depressed medially.

Mentum (Fig. 10) very short, rather weakly sclerotized, feebly emarginate at front margin, with a long erect seta inside each front corner. Submentum roundly depressed in the middle, with several long erect setae and a few thin short setae. Mental fossae sharply carinate along hind border. Gular suture very narrowly separated.

Pronotum (Figs. 4, 11 & 12) obtapezoidal, transverse, more or less narrower than head, much narrower and shorter than elytra, nearly straightly narrowed posteriad; disc weakly convex, with dense, umbilicate and rather small punctures with long tomentose pubescence; median line narrow and weakly convex, irregularly impunctate; anterior corner strongly and subtriangularly expanded laterad, and superior lateral line invisible in dorsal view, united with inferior lateral line at about the level of anterior two-fifths of the sides in ventral view, so that the hypomeron is narrow and small; anterior corner conspicuously widely protrudent laterad in ventral view, so that the anterior margin is



Figs. 4-8. *Rhyncocheilus aureus* (FABRICIUS). — 4, Head, pronotum and elytra with chaetotaxy of setae in male (al: antero-lateral, am: antero-marginal, h: humeral, io: infraorbital, lb: latero-basal, ml: mid-lateral, o: occipital, pg: post-genal, pl: post-lateral, ps: parascutellar, sa: supra-antennal, and so: supraorbital macrosetae; acs: seta on anterior corner and ims: intermedial setae); 5, antenna; 6, left mandible (m: molar); 7, right mandible (c: canine and m: molar); 8, labrum.



Figs. 9–10. *Rhyncocheilus aureus* (FABRICIUS). — 9, maxilla; 10, labium (m: mentum and pm: prementum).

visible only in the middle half in dorsal view; chaetotaxy composed of 4 usual macrosetae and 1 additional macroseta, viz. antero-marginal, antero-lateral, mid-lateral, latero-basal and ante-angular macrosetae, a few additional long setae being present between ante-angular and antero-lateral macrosetae. Epimeron (=hypomerical projection) absent.

Scutellum large, lingulate, rounded at apex; prescutum well developed.

Elytra (Fig. 4) subtrapezoidal, nearly straightly dilated posteriad and feebly emarginate at hind margin, flattened, minutely and rather densely punctured, with streamings of tomentose pubescence; sutural space narrowly convex but obscurely delimited, parasutural line not impressed. Macrosetae forming rather underdeveloped chaetotaxy, thin and not so long; humeral, mid-lateral and post-lateral macrosetae well recognized, but the parascutellar macrosetae are reduced, barely perceptible far distant from scutellum, each macrosetae sometimes accompanied with one or two setae; several long setae (similar in size to macrosetae) arranged longitudinally in inner mid area.

Prosternum (Figs. 11 & 12) rather flattened, moderately long, widely transversely convex in middle, without a pair of macrosetae at the middle but with a few dark poor long setae in a middle transverse row and not carinate medially; lateral border short, bounded with anterior angle of pronotum; prosternal fossae deep; prosternal process slightly convex and rounded at the tip. Furcasternum short, not carinate medially.

Mesosternum (Fig. 13) transversely subrhomboidal, reflexed laterally, feebly convex in middle, sparsely and minutely punctured with long pubescence, widely rounded

at posterior angle; intersternal piece very shallowly sunken. Mesocoxae widely separated.

Abdomen very wide, subparallel-sided, 3rd to 6th segments shallowly depressed dorso-ventrally at each base, finely and densely punctured with tomentose pubescence; 4th to 7th sternites each with several bare round spots, each spot bearing a bristle at the centre; male 7th sternite (Fig. 14) feebly emarginate in the middle of hind margin; male 8th sternite (Fig. 14) widely roundly emarginate in the middle of hind margin; male 10th tergite (Fig. 15) subtriangular, not setose; 9th sternite (Fig. 16) rather narrow, deeply and widely emarginate at apex. In female, 8th sternite slightly emarginate at hind margin; 10th tergite (Fig. 17) subtriangular, not prolonged laterally at base; 2nd gonocoxite (Fig. 18) thick and relatively short, not setose but with long stiff pubescence of various length at apical portion, and minute stylus with a few fine and weak setae of various length at apex.

Legs moderately long, fore legs stout, mid- and hind legs slender; tibiae not spinous, terminal spurs very short, hardly visible; protibiae (Fig. 19) moderately thickened apicad as usual, meso- and metatibiae elongate and feebly curved; protarsi (Fig. 19) strongly dilated and patellate in basal 4 segments, gently narrowed apicad, much wider than apex of protibia and with agar-like dense hairs on planta, 5th segment flat, short, nearly as long as 4th and invaginated into 4th; metatarsi (Fig. 20) with 1st segment distinctly longer than the following 2 segments combined and nearly as long as 5th, 2nd to 4th segments each seemingly bilobed; empodial setae paired, generally about two-thirds as long as claw but rather variable in length.

Male genitalia (Figs. 21 & 22) elongate, subparallel-sided and asymmetrical; penis subcylindrical; parameres unilobed, inclined to the left, narrowed apicad, with numerous peg-setae on apical portion of inner face.

Notes. This genus is more closely related to the genus *Phytolinus* SHARP than to the genus *Rhynchocheilus* SHARP in the following characteristics: in both the former two genera, the 4th segment of the maxillary palpus is glabrous, the 3rd segment of labial palpus is elongate and nearly as long as the 2nd, structures of the molar teeth and of the protarsi are very similar to each other, and at least terminal spurs of the protibiae are hardly visible.

Rhynchocheilus aureus (FABRICIUS)

(Figs. 1–22)

Staphylinus aureus FABRICIUS, 1787, Mant. Ins., 1: 219. — OLIVIER, 1794, Ent. III, 42: 7, t. 2, f. 1. —

KRAATZ, 1859, Arch. Naturg., 25: 74.

Palaestrinus (?) *aureus*: ERICHSON, 1839–'40, Gen. Spec. Staph., 344.

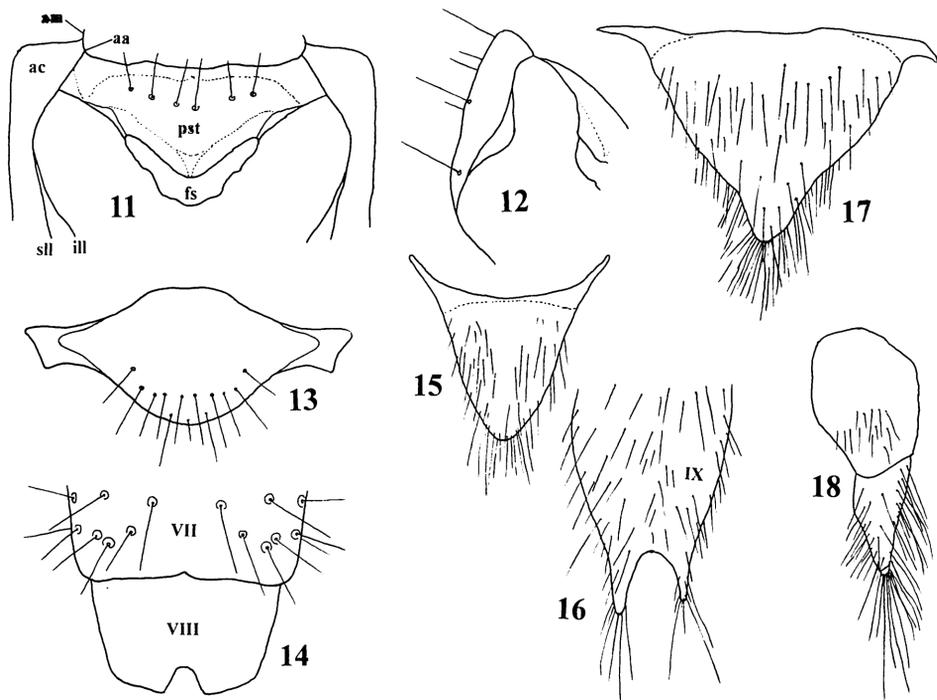
Rhynchocheilus aureus: FAUVEL, 1882, Revue Ent., Caen, 1: 211. — BLACKWELDER, 1952, Bull. U. S. natn. Mus., 200: 341.

Rhynchocheilus aureus: BERNHAUER & SCHUBERT, 1914, Coleopt. Cat., (57): 394.

Rhynchochilus aureus: CAMERON, 1932, Fn. Brit. India, Coleopt. Staphylinidae III, 225–226.

Description of the type specimen.

Female. Body thick, robust, gently convex above, fairly shiny, mainly covered with yellowish golden pubescence in fore body and with whitish golden pubescence in hind body; head, pronotum and elytra light reddish yellow, with a few indistinct obscure patches here and there; labrum and palpi yellowish brown, the former covered with long and sparse golden pubescence, mandibles and maxillae pitchy; antennae with basal 2 segments yellowish brown and their apical halves infusate, the following segments lost; prosternum, inflexed sides of pronotum, abdomen, coxae and tibiae except for the apices blackish; scutellum yellowish brown with a large, black and suboval mark in hind part; metasternum reddish yellow and densely covered with long, shiny golden pubescence; 3rd and 4th tergites of abdomen yellowish brown at sides and hind margins, densely covered with long whitish golden pubescence except for both sides of the middle and peri-spilacular portions; 5th tergite densely covered with whitish golden pubescence on both lateral sides and dense black ones in middle; 6th and 8th segments covered with dense blackish brown to blackish pubescence, but each sternite with patches of scanty silvery white pubescence at sides and the middle; 7th tergite



Figs. 11–18. *Rhyncocheilus aureus* (FABRICIUS). — 11, Ventral view of prothorax (aa: apical angle, ac: anterior corner; am: apical margin, fs: furcasternum, ill: inferior lateral line, pst: prosternum and sll: superior lateral line); 12, ditto, oblique view (see Fig. 4); 13, mesosternum; 14, male 7th and 8th sternites of abdomen; 15, ditto, 9th sternite; 16, male 10th tergite; 17, gonocoxite of female genital segment; 18, female 10th tergite of abdomen.

densely covered with long silvery white pubescence except for apical area, with 3 pairs of bare spots; 3rd to 5th sternites of abdomen wholly covered with dense, long and silvery white pubescence, 3rd sternite with a pair of bare spots, 4th with 5 pairs and 5th with about 10 pairs of similar ones, 7th sternite rather sparsely covered with long silvery white pubescence and with 8 pairs of similar ones, the spots being glabrous, each bearing a large seta with its socket; tibiae and tarsi yellowish brown, protibiae weakly darkened dorsad. Length: about 20 mm (in a shrunk state).

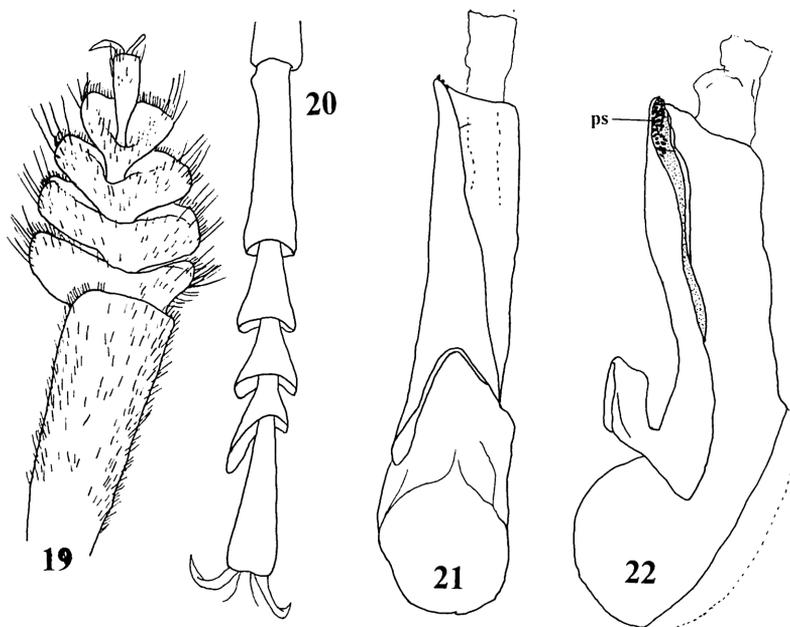
Head subtrapezoidal, at a glance not strongly dilated behind because of strongly convex eyes, nearly straight at sides, considerably emarginate at base, widely rounded at basal angles, a little wider than long (43.0:37.0), a little wider and longer than pronotum (43.0:39.0 & 37.0:31.0); dorsal surface gently convex above, very shallowly depressed at the top of vertex, minutely and very densely punctured but the punctures are much smaller and rather sparse in occipital area. Mandibles very long, nearly three-fourths as long as head. Labrum very large, about a half as long as head. Eyes large, strongly convex and about three-fifths as long as postgenae. Antennae with basal 2 segments much longer than wide and each segment with the following relative length: 18.0–10.0, the following segments lost. Subgenae nearly flattened, opaque, minutely and sparsely punctured as on vertex but much more sparsely pubescent; subgenal macrosetae absent; mental fossae finely carinate except for inner third of each posterior margin.

Pronotum obtrapezoidal, conspicuously narrowed behind, much wider than long (39.0:31.0), nearly two-thirds as long as and a half as wide as elytra (39.0:64.0 & 31.0:63.0), feebly arcuate at sides, gently convex and shallowly depressed at anterior corner; anterior margin feebly emarginate, basal one feebly arcuate, anterior angles simply rounded, basal angles widely so; disc finely and very densely punctured, the punctures umbilicate and much larger than those on head; median line narrow, weakly convex, irregularly impunctate and running from front fourth to base; about 2 or 3 long additional setae present along lateral side between respective macrosetae.

Elytra subtrapezoidal, gently dilated posteriad, nearly as wide as long, flattened, feebly arcuate at sides, shallowly emarginate at apices and simply rounded at latero-apical angles; surface minutely and sparsely punctured, with rather sparse and short pubescence, somewhat uneven and shallowly depressed here and there, the depressions each bearing a macro- or long seta at the middle; in addition to original macrosetae, several less long setae present in median area of elytron.

Abdomen wide, gently convex above, shallowly depressed at each base of 3rd to 6th tergites, finely and closely punctured, the punctures becoming smaller posteriorly on each segment and a little larger on sternites than on tergites; 8th segment gently arcuate at posterior margin and shallowly emarginate in the middle; paratergites rather wide and almost vertically erect.

Fore legs thick, long and robust, much longer than mid- and hind legs, which are slender and not long; protibiae thick, clavate, gently thickened apicad, weakly curved ventrad, with long and dense suberect pubescence on underside; protarsi with basal 4



Figs. 19–22. *Rhyncocheilus aureus* (FABRICIUS); 19, protarsus, male; 20, metatarsus, male; 21, male genitalia, in ventral view; 22, ditto, lateral view (ps: peg setae).

segments conspicuously strongly dilated and flattened, much wider than the apex of protibia, sparsely pubescent dorsally, very densely covered with short modified pubescence on the sole, and 5th segment rather short, flat, invaginated mostly into dorsum of 4th as in the genus *Phytolinus* SHARP, and the apical portion only beyond 4th; meso- and metatibiae each with 2nd to 4th segments apparently bilobed in dorsal view, the outer lobe much longer than the inner one; 1st segment of metatarsi a little longer than the following 2 segments combined.

Specimen examined. 1 ♀ (holotype), labeled “*Staphylinus aureus* Fabr. Mant. Ins. n. 1”.

Note. The type specimen examined only bears the species name label as shown in Fig. 2 without any other data label. Judging from other female specimens, the 10th tergite is subtriangular, blunt at the apex, and the base is produced laterally for a short length.

Additional description of male specimen.

Body a little slenderer. Head relatively long and less dilated posteriad, slightly wider than long (35:32); eyes more strongly convex, less short than postgenae (12.0:7.0); antennae (Fig. 5) long and slender, reaching near basal angles of pronotum, gradually thickened apicad, 1st to 5th and 11th segments distinctly longer than wide, 6th nearly as long as wide, 7th to 10th a little transverse, 11th segment entirely whitish and each segment with the following relative length: 25.0–14.0–23.0–13.0–

13.0–12.0–10.0–10.0–11.0–11.0–17.0. Pronotum relatively wide, slightly narrower than head (33:35), a little wider than long (35.0:28.0). Abdomen with 8th tergite nearly truncate at apical margin; 8th sternite narrowly and feebly emarginate at apical margin and subtriangularly flattened before the emargination. Protibiae a little slenderer.

Male genitalia (Figs. 21 & 22) in ventral view rather thick, slightly narrowed apicad and a little asymmetrical; penis nearly straight at sides and obliquely truncate at the apex, which is sharply protuberant to the left; parameres unilobed, elongate, reaching apex of penis, strongly inclined to the left, nearly straightly narrowed towards the blunt tip, with peg setae densely distributed at margin of apical portion.

Specimens examined. 1♂, Tan Keo (alt. 800 m), Doi Suthep, Chiang Mai Prov., N. Thailand, 10–VI–1965, Y. MIYATAKE leg.; 1♂, Ban Huai Po (alt. 1,600–2,000 m; 19.19N and 97.59E), Mae Hong Son, NW Thailand, 17–23–V–1991, L. DEMBICKY leg.; 1♀, Ph Rao, Thailand, 26–V–1991, H. KONISHI leg. 1♀, Doi Sang, N. Thailand, 3–9–V–1990.

Notes. The present species is very similar to *Rhynchocheilus andrewesi* CAMERON, from India (Nilgiri Hills) but is easily distinguished from the latter in the colour of hairs on the 7th abdominal tergite, that is, in the former the colour is silvery but in the latter it is golden. The specimens from Ban Huai Po, Ph Rao and Doi Sang are a little different, though distinctly, from typical specimens in having much less convex eyes, blackish apex of the 11th segments of antennae and a little different apical portion of the male genitalia.

Genus *Rhynchocheilus* SHARP

(Figs. 23–39)

Rhynchocheilus SHARP, 1889, Ann. Mag. nat. Hist., (6), **3**: 120. — BERNHAUER & SCHUBERT, 1914 (spelled as *Rhynchocheilus*), Coleopt. Cat., (57): 394. — CAMERON, 1932, Fn. Brit. India, Coleopt. Staph. III, 223–225. — SCHEERPELTZ, 1933 (spelled as *Rhynchocheilus*), Coleopt. Cat., (129): 1407. — BLACKWELDER, 1952, Bull. U. S. natn. Mus., **200**: 341.

Type species: *Rhynchocheilus pectoralis* SHARP.

Body markedly elongate and robust, somewhat gnarled, moderate to large in size, covered with conspicuous tomentum and moderately shining.

Head large, subquadrate, rounded at hind angles, bearing a pair of large and rather shallow foveae between eyes; genae very short, base of mandible nearly contiguous to eye; postgena long, more or less longer than longitudinal diameter of eye; chaetotaxy of macrosetae variable in respective species, and the macrosetae and their sockets sometimes discernible, genal setae and infraorbital ones rather mal-developed; discal punctures dense and umbilicate; infragenal line absent. Eyes large, strongly convex laterad. Antennae rather long, filiform, basal 4 to 6 segments polished and the following 1 or 2 segments sometimes weakly polished. Neck not so thick, about two-fifths as wide as head.

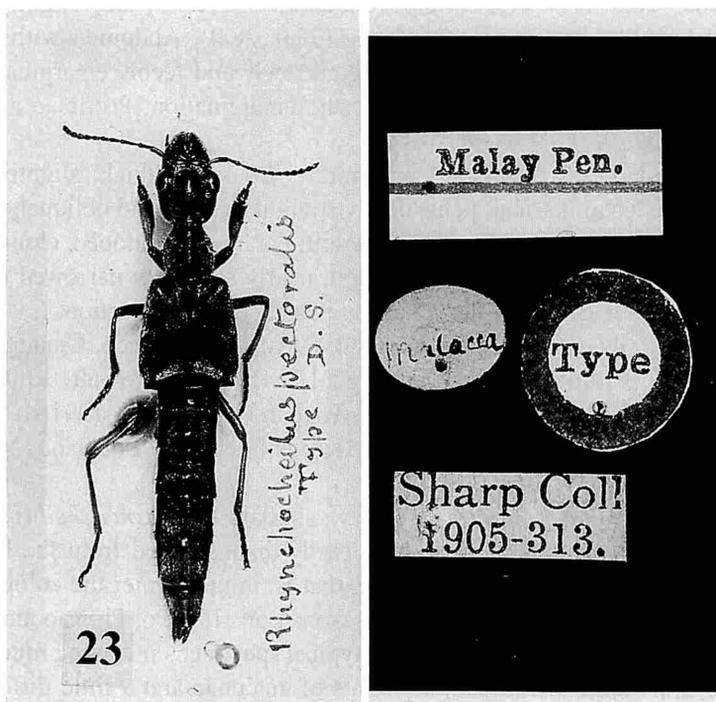
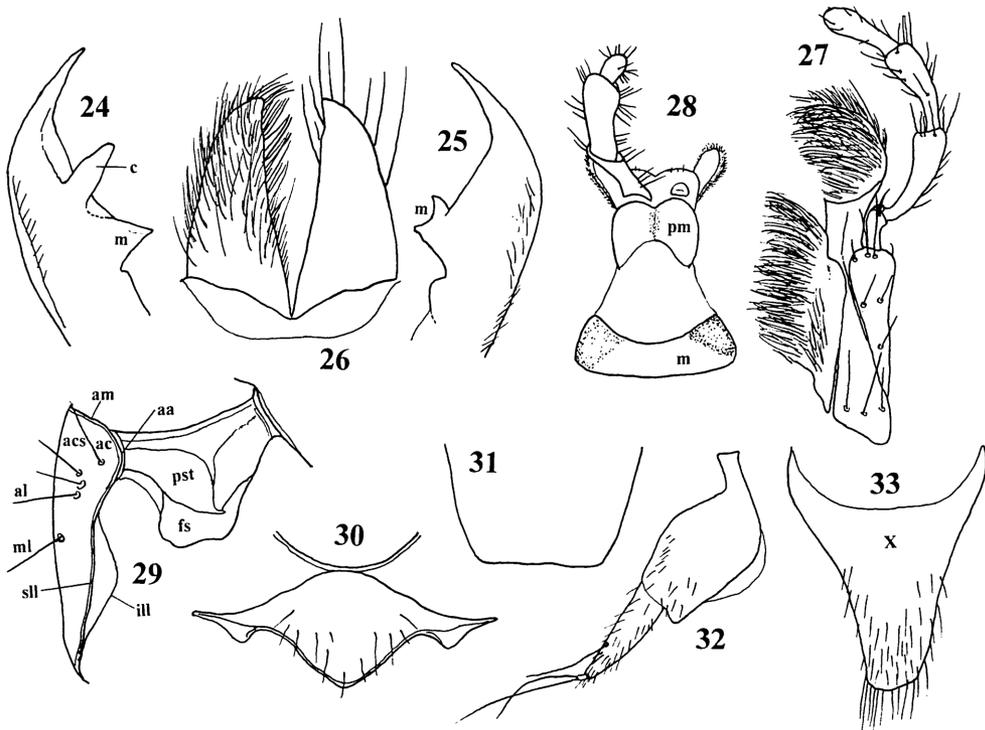


Fig. 23. *Rhynchocheilus pectoralis* SHARP; 23, habitus, holotype, female, and label attached to the holotype.

Mandibles (Figs. 24 & 25) thick, long, robust, about as long as head, projecting a little ventrad, conspicuously curved ventrad at about the middle and convex dorso-laterally like a ridge in basal half of lateral margin; left mandible bearing 2 large teeth, viz., canine and molar, the molar situated at about basal third and wide at base, rather short and narrow, much shorter than the canine, which is situated at about the middle of upper side, very long, stout and sharp; right mandible with a conspicuous molar at about basal third, the molar as large as the left one and sharply bidenticulate at the apex.

Labrum (Fig. 26) large and long (sometimes nearly as long as head) but rather variable in size and shape according to species, incised to the base, lobes subtriangular, furnished with long stiff pubescence and setae, and strongly declivous antero-laterally.

Galea (Fig. 27) thickened apicad; distal lobe rather wide, densely pubescent, but the pubescence is divided into dorsal and ventral strata; proximal sclerite subtrapezoidal, glabrous and without any terminal setae at the apex. Lacinia elongate, densely pubescent in inner half, with numerous short pubescence at base, the pubescence somewhat spread out at the inner margin. Maxillary palpi (Fig. 27) elongate; 1st segment the shortest, nearly twice as long as wide and bearing a long fine seta at the apex; 2nd elongate, much longer than wide, gently curved inside and thickened apicad, with



Figs. 24–33. *Rhynchocheilus pectoralis* SHARP. — 24, Left mandible (c: canine and m: molar); 25, right mandible (m: molar); 26, labrum; 27, maxilla; 28, labium (m: mentum and pm: prementum); 29, oblique view of prothorax (abbreviations same as in Figs. 4, 11 & 12); 30, mesosternum; 31, female 8th sternite of abdomen; 32, gonocoxite of female genital segment; 33, female 10th tergite of abdomen.

sparse fine setae mainly on the outer side and several longer and fine setae at the apex; 3rd gently thickened apicad and curved inwards, almost as long as and as thick as 2nd, bearing sparse short fine setae nearly in the middle, and several longer fine setae at the apex; 4th subclavate, a little shorter than 3rd, blunt at the tip and with very scanty fine setae here and there.

Labial palpi (Fig. 28) long and slender; 1st segment slender, long, nearly twice as long as wide, weakly thickened apicad, with several erect setae on the inner side; 2nd strongly thickened apicad, obconical, a little longer than wide, a little longer and much thicker than 1st, bearing numerous erect setae of various length on the inner side; 3rd subcylindrical, much shorter than 1st, much slenderer than 2nd, slightly longer than wide, blunt at the tip, and bearing scanty erect setae here and there. Ligula (Fig. 28) short, bilobed by a shallow excision, sulcate medially and with scanty short fine hairs, each lobe gently arcuate at apical margin. Paraglossae moderate in length, embracing labial palpi in between them, facing to each other, not reaching apex of 1st segment of

labial palpi, furnished with dense long stiff pubescence at the inner edges and densely pubescent dorsally. Prementum short, much wider than long and impressed medially.

Mentum (Fig. 28) very short, strongly transverse, rather deeply emarginate at front margin, depressed on each side, without any setae at each lateral corner, which is shallowly depressed. Gular sutures very narrowly separated from each other; gular plate very shallowly depressed.

Pronotum (Fig. 29) barrel-shaped to subcylindrical, strongly convex, nearly as long as wide, much narrower and shorter than elytra; discal punctures dense and umbilicate; chaetotaxy composed only of antero-lateral macrosetae and mid-lateral ones, the former accompanied with a few well-developed long setae, other macrosetae reduced, imperceptible; superior lateral line hidden under pronotum at hind angle, then running forwards and united with inferior lateral line a little behind apical angle, the united line extending forwards and shifting to anterior margin, which is visible nearly in full length. Epimera (=hypomeral projection) absent.

Scutellum triangular, rounded at apex, nearly flattened; prescutum well developed.

Elytra long, wide, rather flattened, subquadrate, weakly dilated posteriad, disc finely punctate; sutural area weakly and narrowly convex, ill-defined and sparsely punctured; chaetotaxy on each elytron mainly composed of 3 groups of macrosetae, which are rather mal-developed, lateral group being on lateral margin and consisting of humeral, mid-lateral and post-lateral macrosetae, median ones consisting of antero-median, mid-median and post-median macrosetae, and inner one consisting of parascutellar and parasutural macrosetae, but those macrosetae are not stable, often irregular or absent, especially in the inner group.

Prosternum (Fig. 29) rather flattened, gently convex in the middle and not ridged medially; paired long setae absent; prosternal process sometimes protuberant vertically; prosternal fossae not deep; lateral borders long, united with pronotum at the apical angles. Furcasternum narrow, not short, weakly emarginate at hind margin and convex medially but not ridged. Mesosternum (Fig. 30) rather long, gently rounded behind, weakly and transversely convex behind the middle, indefinitely and finely rugose, with long tomentose pubescence, punctures imperceptible and without carina or ridge; intersternal piece shallowly sunken. Mesocoxae widely separated.

Abdomen elongate, nearly parallel-sided, much narrower than elytra; 3rd to 6th segments deeply and transversely depressed at each base and markedly convex in each apical half of the tergites, 7th and 8th tergites even, not depressed or convex; 8th sternite in male (Fig. 36) rather deeply and roundly emarginate at apex; male 9th sternite (Fig. 37) wide, somewhat foliaceous and narrowly incised at apex. Female 8th sternite (Fig. 31) nearly truncate at apical margin; female 9th sternite with a subcylindrical minute stylus, which is distinctly separated from second gonocoxite (Fig. 32) with membranous part and bearing 2 fine setae; 10th tergite (Fig. 33) subtriangular, subtruncate at apex, not setose, base protuberant laterally like a long band as in *Eucibdelus* (s. str.) but not separated into distinct pieces.

Legs long and slender; all the tibiae pubescent, without any spines but with conspicuous terminal spurs; empodial setae paired, not long and straight; procoxae rather elongate; profemora elongate, straightly narrowed apicad; protibiae (Fig. 34) long, strongly clavate, thick and stout, apex shallowly emarginate at the inner half, bearing a few short spines and fringed with pubescence; protarsi (Fig. 34) dilated, sub-oblong, not spatulate, much narrower than apex of protibia, with planta bearing pale agar-like hairs on basal 4 segments, each one of which is very short, much wider than long, and 5th narrow, weakly curved ventrad, slightly shorter than the preceding 4 segments combined; claws slender and rather short; mesotibiae slender, slightly thickened apicad and weakly curved downwards, proportion of each mesotarsomere very similar to that of metatarsomere; metatibiae slender, slightly arcuate inwards; metatarsus (Fig. 35) with 1st to 4th segments densely pubescent underneath and each segment shorter than the preceding one, 1st segment long, much longer than the following 2 segments combined and nearly as long as the following 3 segments together, 3rd and 4th segments seemingly more or less bilobed in dorsal view, the inner lobe shorter than outer one, 5th long, slightly shorter than 1st, strongly clavate, thick, curved below, deeply excised at apex of underside and sparsely pubescent; claws nearly symmetrical and produced from the excision; empodial setae paired, thin and about two-thirds as long as claw.

Male genitalia (Figs. 38 & 39) almost symmetrical; penis with dorsum weakly sclerotized and partially membranous; parameres well developed, unilobed, with numerous fine tubercles (=peg-setae) on apical portion of inner face (dorsal side).

Notes. This genus is considerably different from *Rhynchocheilus* FAUVEL in the structure of the pronotum, the fore leg and tibiae as mentioned above in the key, and the former is more closely related to the latter than to any other genera of the *Eucibdelus* group (*sensu* HAYASHI, 1997) in view of the similarity of the buccal organs. This genus is rather similar in general appearance to robust *Eucibdelus*.

Rhynchocheilus pectoralis SHARP

(Figs. 23–35)

Rhynchocheilus pectoralis SHARP, 1889, Ann. Mag. nat. Hist., (6), 3: 120.

Description of type specimens.

Female. Body very elongate and stout, somewhat gnarled, covered with golden tomentum and weakly shiny. Colour black; labrum and tarsi pitchy brown; antennae with 1st segment reddish brown, each apex of 4th to 6th segments narrowly reddish and the rest blackish; head and pronotum variegated with short golden tomentum, the tomentum very sparse in frontal portion, those on pronotum longer and more fleecy; scutellum velvety with stiff black pubescence in the hind half mingled with sparse golden pubescence; elytra brown to deep brown, rather sparsely clothed with long fleecy golden tomentum; abdomen with apices of segments obscurely reddish, 3rd to 6th tergites widely almost glabrous in middle, base and sides of each segment clothed

with golden long tomentum as on pronotum but the tomentum becoming much shorter and denser around the glabrous portions, 7th and 8th tergites wholly clothed with golden tomentum, and underside very sparsely tomentose; coxae dark brown, femora and tibiae yellowish brown. Length: 19.5–21.0 mm.

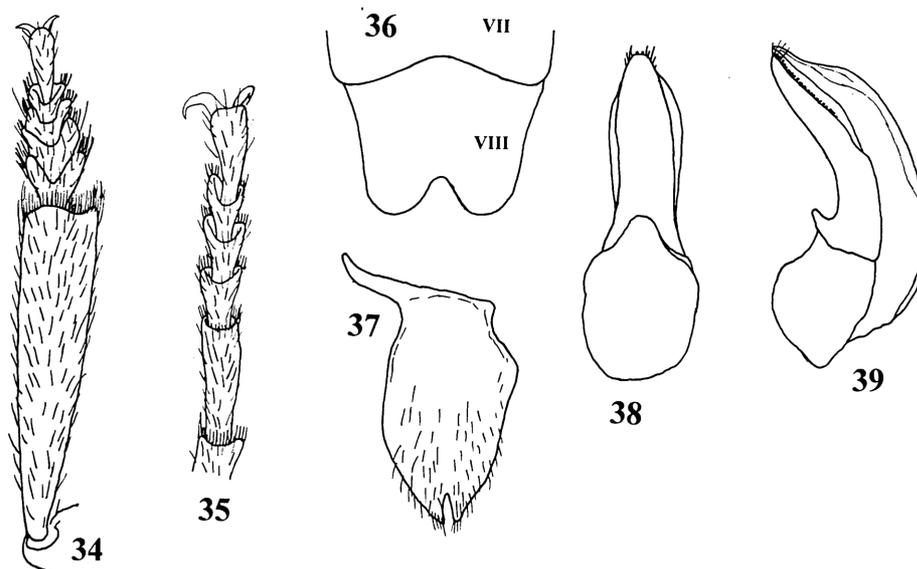
Head obtrapezoidal, gently narrowed behind, a little wider than long (31.5 : 26.0), much wider and slightly longer than pronotum (31.5 : 23.5 and 26.0 : 24.0); postgenae weakly arcuate, a little longer than eyes (4 : 3), which are strongly prominent; hind angles widely rounded and hind margin rather deeply emarginate; upper surface with a pair of large rounded depressions between eyes, moderately densely and coarsely punctured but narrowly and subtriangularly impunctate in front area, the punctures rather coarse and sparse in front area and rather dense along ventral margins of postgenae, the interstices smooth, very minutely and sparsely punctured without any microsculpture. A well developed large seta present posteriorly inside each eye. Neck not wide, about two-fifths as wide as head. Antennae long and slender, reaching elytral shoulder, feebly thickened in apical 5 segments; basal 5 segments polished, 6th weakly polished, 8th to 10th somewhat asymmetrical, 8th the thickest, 11th subfusiform; all the segments more or less longer than wide, and each segment with the following relative length: 17.0–10.0–14.0–7.0–6.0–6.0–6.0–5.5–5.5–5.0–8.5.

Basal molar tooth of left mandible simple. Labrum (Fig. 0) remarkably large and long, divided into 2 triangular lobes, more than four-fifths as long as head, simply rounded at apex, strongly declivous antero-laterally, clothed with long sparse pubescence, finely and very sparsely punctured dorsally, covered with transverse linear microsculpture, with several long setae along each apical margin, which is fringed with long pubescence at the extremities. Fourth segment of maxillary palpus with rather long and very scanty hairs. Paraglossae with dorsal sides densely ciliated. Gula slightly divergent posteriad from posterior third; gular plate very shallowly depressed.

Pronotum nearly barrel-shaped, strongly convex, nearly as long as wide, much shorter and narrower than elytra (23.5 : 45.5 and 24.0 : 48.0), widest just behind anterior third and more strongly narrowed in front than behind; front margin weakly emarginate, front angles obtusely angulate but not tuberculate, side margins gently arcuate, hind angles simply rounded, hind margin weakly arcuate and a little longer than front one; disc rather coarsely and extremely densely punctured except for much less punctured narrow space along front margin and on median line, with nearly flat small plaque lying at the middle and base on the mid-line of each half, the punctures umbilicate and a little smaller than those on head, interstices in densely punctured area markedly rugosely convex and without microsculpture; apical corner in ventral view wide but not protrudent.

Scutellum nearly flattened, clothed with rather sparse yellow tomentum mingled with golden one in anterior half, and dense black and short pubescence in posterior half, finely and extremely densely punctured except marginal portions, which are sparsely punctured; prescutum rough.

Elytra long, wide, rather flattened, subquadrate, weakly dilated posteriad, a little



Figs. 34–39. — 34–35. *Rhynchocheilus pectoralis* SHARP; 34, protibia and protarsus; 35, metatarsus. — 36–39. *Rhynchocheilus* sp.; 36, male 7th and 8th sternites of abdomen; 37, male 9th sternite of abdomen; 38, male genitalia, ventral view; 39, ditto, lateral view.

longer (in the maximum length) than wide (48.0:43.5); sides weakly arcuate, apex shallowly emarginate, shoulder nearly square, latero-apical angles widely and inner apical angles narrowly rounded; disc densely and finely asperate-punctate, the punctures much finer and sparser in humeral and apical portions; sutural space weakly and narrowly convex and sparsely punctured.

Prosternum rather flattened, strongly convex in the middle, ridged medially in hind half, the ridge not sharp; prosternal process sharply and conspicuously protuberant vertically; prosternal fossae rather deep and rugosely roughened.

Mesosternum rather long, gently rounded behind, indefinitely and finely rugose, with very scanty pubescence; intersternal piece with several transverse sulci.

Abdomen elongate, nearly parallel-sided, much narrower than elytra (about 3:5); 3rd to 6th tergites deeply and transversely depressed at each base and markedly convex in each apical half, the depressions densely, coarsely and markedly rugosely punctured, the rest finely, sparsely and simply punctured, 7th and 8th tergites weakly and evenly convex, simply and much more densely punctured; tomentum on tergites running laterad at each base and latero-posteriad in the rest, and the convex portions nearly glabrous; sternites similarly structured to each opposite tergite, but the basal depressions not rugose, the pubescence long, much sparser and not tomentose, the punctures much sparser; 8th tergites gently arcuate at apex, 8th sternite nearly truncate; gonocoxite as shown in Fig. 32; 10th tergite subtruncate at apex, not setose.

Legs long and slender; profemora straightly narrowed apicad; protibiae long,

strongly clavate, thick and stout, apex shallowly emarginate at the inner half, bearing a few short terminal spurs and fringed with long yellow pubescence; protarsi gradually narrowed apicad, 5th segment narrow, weakly curved ventrad, slightly shorter than the preceding 4 segments combined; mesotibiae slender, slightly thickened apicad and weakly curved ventrad, proportion of each mesotarsomere very similar to that of metatarsomere; metatibiae slender, slightly arcuate inwards; 1st to 4th segments of metatarsus densely pubescent underneath and each shorter than the preceding one, 3rd and 4th segments seemingly bilobed in dorsal view, but the lobes are rather short, and inner lobe a little shorter than outer one, 5th long, slightly shorter than 1st, strongly clavate, thick, curved ventrad, sparsely pubescent, apex deeply excised on the ventral side but truncate on the dorsal side; claws nearly symmetrical, long and produced from the excision.

Male. Unknown.

Specimens examined. Type series: ♀, Malacca, Malay Pen. (herewith designated as the lectotype); 1 ♀, Malacca, Malay Pen., CASTELNAU; 2 ♀♀, Malay Pen. (herewith designated as the paralectotypes).

Discussion. The present species is closely allied to *R. assamensis* CAMERON, *R. antennalis* CAMERON and *R. argenteus* FAUVEL in the resemblance of general appearance and structures of the antennae and the abdomen, but it is readily distinguished from the latter three by the following points: in the latter species the 7th tergite of abdomen is covered with silvery white pubescence, and their heads are subquadrate or oblong and not narrowed behind.

要 約

林 靖彦：アジア産ハネカクシ亜科の研究。IV. *Rhynchocheilus* FAUVELおよび*Rhynchocheilus* SHARPの再検討。——*Rhynchocheilus* FAUVELは、従来*Rhynchocheilus* SHARPの同物異名あるいは無効名として扱われてきたが、BLACKWELDER (1952)は前者が有効名であり、後者はその下位同物異名であるとした。しかしその後も、ほとんどの研究者が従来の立場、つまり後者を有効名として扱う立場を取ってきた。筆者は、両属の基準種の正基準標本を大英博物館から借用することができ、また手許の同属の若干の他種ともあわせて精査した結果、両者はそれぞれ独立の別属であるという結論にいたった。そこでこれら両属の再記載を行うとともに、あわせて両基準種の正基準標本の再記載をも行った。

Errata and Corrigenda

Elytra, Tokyo, 25(2), p. 487:

Line 10, for ... as pronotum (... read ... as elytra (...

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Elytra, Tokyo, **27** (2): 571–572, November 13, 1999

Records of the Aquatic Coleoptera from the Island of Ikema-jima, the Ryukyus

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Until now, 2 species of the Noteridae, 3 species of the Dytiscidae and 3 species of the Hydrophilidae, which are indicated by asterisks, have been recorded from the Island of Ikema-jima of the Ryukyus. In 1998 and 1999, we had opportunities to visit the island and to collect insects. The aquatic Coleoptera collected are as listed below. Their collecting data are as follows: July 18–Aug. 3, 1998 (A), Dec. 17–29, 1998 (B), Mar. 5–17, 1999 (C) and July 30–Aug. 9, 1999 (D).

Noteridae

| | |
|---|------------|
| <i>Neohydrocoptus subvittulus</i> (MOTSCHULSKY) | C |
| <i>Noterus japonicus</i> SHARP* | A, B, C, D |
| <i>Canthydrus nitidulus</i> SHARP* | A, C, D |