

Study on Asian Carabidae, V
(Coleoptera)

The Species of the Genus *Coleolissus* BATES

By NOBORU ITO¹⁾

Abstract Three new species of the genus *Coleolissus* from Borneo and one new species from Taiwan are described.

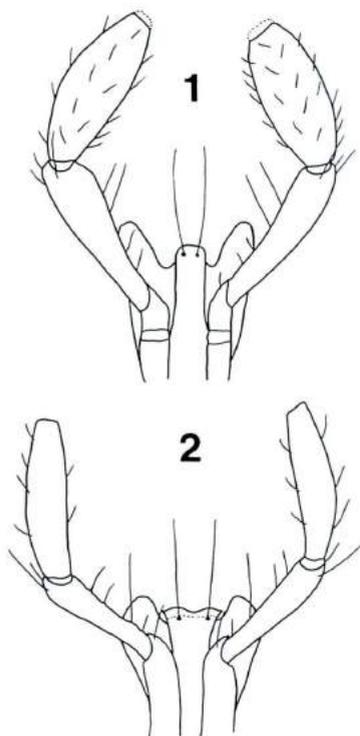
Coleolissus (Coleolissus) ohkurai sp. nov.

(Text figs. 2-4 & 11, Pl. 6, A)

Body elongate-oval and flattened above, shiny, elytra weakly iridescent, with a purplish blue reflection, mandibles blackish brown, legs dark reddish brown, palpi and antennae reddish brown.

Head moderately convex, relatively narrow in width exclusive of eyes, finely (in some specimens somewhat coarsely) and very sparsely punctate, labrum transversely square and hardly emarginate at apex, clypeus almost flattened, with long and longitudinal rugosities arranged transversely along middle and dulled on central area, clypeal suture fine, more or less deep throughout or becoming shallow in middle, frontal impression from each end of the suture running obliquely toward eye, fairly deep but rapidly shallowed behind and almost rudimental before eye, vertex not flattened and weakly, regularly raised, a supraorbital seta situated at one-fourth before hind level of eye, eyes large and hemispherically exposed because of short tempora, which are not more than one-tenth times the eye's length and steeply narrowed to neck-constriction, genuine ventral margin of eye adjoining buccal fissure, antennae not long and extending only a little beyond pronotal base, mandibles robust and long, clearly curved inward before apex, ligula (Fig. 2) wide, subparallel-sided or fairly expanded apically, bisetose, and shallowly notched at apex, paraglossae prolonged forward beyond ligular apex and adnate to ligula basally from behind the ligular expansion, median tooth of mentum elongate and arcuate at apex, epilobes narrow and weakly widened apically; microsculpture obscure, observed as

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Figs. 1-2. Ligulae and labial palpi of *Coleolissus* (*Coleolissus*) spp.

1, *C. (C.) cyanescens* sp. nov.; 2, *C. (C.) jhkurai* sp. nov.

mixtures with transverse and isodiametric meshes and invisible here and there, but clearly observed as isodiametric meshes on apical half area of clypeus.

Pronotum transversely square, a half wider than long and one and two-fifths times the width of head inclusive of eyes, weakly convex, flat on disc, and weakly reflected on basal area, sides fully curved throughout and a little stronger in curvature forward than backward, apex sub-straight and clearly bordered even in middle, base also entirely bordered, shallowly bisinuate and briefly oblique at sides, basal angles obtuse, not fully and rather narrowly rounded (those seem to be dully angulate), lateral furrows widened gradually from apex to apical two-fifths, then distinctly behind, and linked with basal foveae, basal foveae shallow and large, extending basal and lateral borders, front transverse impression obscure but not rudimental alike hind one, median line fine, marked in middle and reduced near both apex and base, surface largely smooth except several rugosities fine and

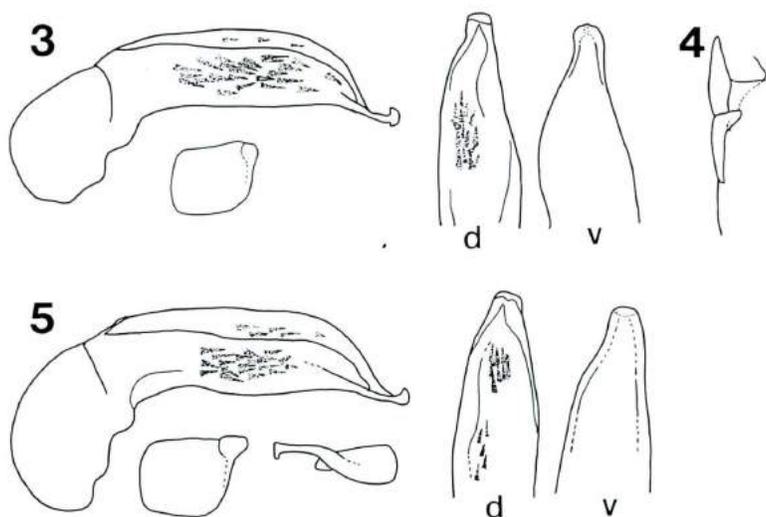
vague, somewhat finely, rather densely, and not confluent punctate on basal foveae, the punctures spread over lateral furrows, where those become finer and sparser; microsculpture mostly absent, visible partly on basal foveae and lateral furrows and consisting of transverse lines and meshes.

Fully winged. Elytra oblong, two-fifths wider than pronotum and a little more than one and a half times as long as wide, apparently smooth (observed very sparse and microscopic punctures in 40 magnification), sides widely, obscurely sinuate before middle, weakly widened behind from there, arcuately narrowed toward apex from apical two-fifths, and shallowly sinuate before apex, apex narrow and fairly produced behind, apical teeth sharp and very small, basal border shallowly

bisinate and very gently oblique at sides, humeral angles widely and fully rounded, striae narrow and finely crenulate, intervals almost flat on disc (quite flat in ♀), so striae seem to be shallow, and raised near apex, 3rd interval with a row of 6-9 setiferous pores along 2nd stria, scutellary strioles fairly long, marginal series subinterrupted in middle, composed of (13-15)+(14-16) umbilicate pores; microsculpture invisible or rarely observed as very vague transverse lines.

Ventral surface widely punctate and smooth only on buccal area and 3rd to 6th abdominal segments, prosternum sparsely, obscurely punctate, mesepisterna, metepisterna, metasternum, and lateral areas of 1st and 2nd abdominal segments rather coarsely punctate, metepisterna a half longer than wide, abdomen very sparsely ciliate along middle of 3rd to 6th segments, outer margin of 6th quadrisetose in both sexes, feebly emarginate at apex in ♂, and fairly produced behind and arcuate in ♀.

Fore tibiae slender and weakly widened distally, clearly sulcate lengthwise, many setae (9-10 setae) seriate along the sulcus, terminal spur simple, hind tarsi a little shorter in both sexes than the width of head, 1st joint two-thirds longer than 2nd and subequal in length to 2nd and 3rd together, claw joint trisetose along each ventral margin.



Figs. 3-5. Genitalia of *Coleolissus (Coleolissus)* spp.; 3, 5, male; 4, female. 3, 4, *C. (C.) ohkurai* sp. nov.; 5, *C. (C.) cyanesces* sp. nov. d: dorsal side, v: ventral side.

Aedeagus (Figs. 3 & 11) robust and widely sinuate at ventral side, steeply constricted before apex, apex hemispherically thickened and obliquely directed, apical orifice occupying mostly on dorsal side and extending just before apex, so apical lamella is fairly small, membranous part with many wedge-shaped copulatory pieces, basal part large and triangularly protrudent at margin of basal orifice; styluses (Fig. 4) slender and substraightly produced behind, bearing a small spine on each outer margin and a long seta just before apex.

Length: 13.5-14.0 mm. Width: 5.2-5.5 mm.

Holotype: ♂, Keningau, Sabah, Is. Borneo, E. Malaysia, 16. II. 1989, M. ITOH leg. (in T. SHIBATA'S coll.). Paratypes: 1 ♀, same data as the holotype; 3 ♀♀, same locality as the holotype, 10-20. X. 1988, M. ITOH leg.; 1 ♀, same locality as the holotype, 18. II. 1989, M. ITOH leg.; 1 ♀, Sepilok, Sabah, Is. Borneo, E. Malaysia, 13. V. 1981, M. YAMAMOTO leg.

The new species resembles *Coleolissus (Coleolissus) leveri* EMDEN from Russel Is in Solomon Islands, but it is distinguished from the latter by the body larger in size, without any aeneous reflection, the pronotum fully arcuate instead of not linearly oblique behind, whose punctures are finer and sparser, and the metepisterna shorter.

The specific name is given after Mr. MASAFUMI OHKURA for his great contributions to the development of the Japan Coleopterological Society and for his kind support to my study.

Coleolissus (Coleolissus) cyanescens sp. nov.

(Text figs. 1 & 5)

The new species is different from the preceding species in the following points: 1) labial palpi (Fig. 1) and maxillary palpi more tumid; 2) ligula (Fig. 1) distinctly narrower, with apex arcuate and not notched; 3) pronotum narrower and not more than one and a half times as wide as long.

Holotype: ♂, Keningau, Sabah, Is. Borneo, E. Malaysia, 16. II. 1989, M. ITOH leg. (in T. SHIBATA'S coll.).

Coleolissus (Coleolissus) formosanus sp. nov.

(Text figs. 6, 7, & 12, Pl. 6, B)

Body relatively narrow and subparallel-sided, brownish black, with a weak greenish aeneous tinge on pronotum and on elytra, elytra faintly iridescent, outer margin of labrum, palpi, antennae, tarsi, and lateral margins of pronotum and of elytra reddish brown, tibiae and femora dark reddish brown, mandibles blackish brown.

Head not wide, about two-thirds times the pronotal width, gently

convex but almost flattened from vertex to middle of frons, sparsely and minutely punctate, the punctures a little denser than those of *Coleo-lissus azumai* HABU, apex of labrum shallowly emarginate, clypeus vaguely depressed transversely between both setae on sides and longitudinally rugose only near the setae, clypeal suture fine and obscure, but not interrupted even in middle, frontal impressions divergent behind, moderate in front and gradually decreasing behind in depth, almost reduced in middle, thence vestigial to eyes, eyes large and well convex, but not so prominent as to be hemispherical, tempora very short and seeming to be absent, viewed from above, space between buccal fissure and genuine ventral margin of eye distinctly narrow, antennae extending a little beyond pronotal base, mandibles thick and fairly produced forward, pointed at apices, labial palpi short and slender (comparatively slenderer than in *C. azumai*), 3rd joint as long as 2nd (in *C. azumai*, a little shorter than 2nd), ligula more or less widened in front and gently notched at apex, paraglossae fairly produced forward beyond ligula and rounded at apices, median tooth of mentum fully produced in front and blunt at apex (more or less sharp in some specimens), epilobes narrow and weakly widened apically; microsculpture partly visible, observed as isodiametric meshes on apical area of clypeus and as transverse lines near frontal impressions and supraorbital setae, the lines obscure but clearer than in *C. azumai*.

Pronotum transversely oblong, clearly rounded at sides, densely punctate on the most area and rather densely even on central area, the punctures fine centrally and gradually becoming coarser toward all margins, especially coarse and partly confluent on basal foveae, sides widest at apical two-fifths and more strongly arcuate in front than behind from the widest point, apex very shallowly emarginate, base slightly bisinuate and gently short-sloped at sides, both apex and base completely bordered, basal angles wide and quite rounded, basal foveae shallow and ill-defined, from which lateral furrows extend forward and not wide even on basal area, front transverse impression almost vestigial, hind transverse one also indistinct; microsculpture largely absent, partly visible as obscure transverse lines.

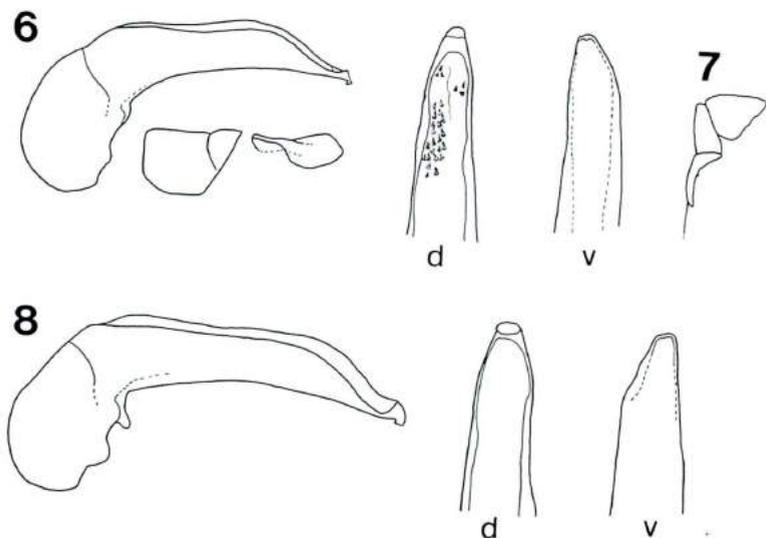
Fully winged. Elytra elongate, two-thirds longer than wide, parallel-sided, gently convex and not steeply declivous to sides, sides gradually strongly arcuate behind from apical third and shallowly sinuate before apex, apex narrow and fairly produced behind, tooth of each tip comparatively distinct and elongate-triangular, basal border shallowly bisinuate, humeral angles wide and clearly arcuate, striae fine and shallow, finely crenulate, intervals gently convex even on disc (the convexity weaker in ♀), fairly more convex apically and basally, more or less

coarsely and densely punctate, the punctures denser than in *C. azumai*, and coarser and denser laterally and apically, 3rd interval with a row of 8-11 setiferous pores, scutellary strioles fairly long, marginal series subinterrupted medially, composed of 33-36 umbilicate pores; microsculpture mostly absent, partly observed very obscure transverse lines.

Ventral surface coarsely, rather densely punctate on metasternum and mes- and metepisterna and finely, sparsely punctate laterally on 1st to 3rd abdominal segments, metepisterna elongate and two-thirds longer than wide, abdomen bearing very short and sparse ciliae along middle on 2nd to 6th, 6th bisetose on each side of outer margin in both sexes, the margin truncate and not emarginate in ♂ and clearly arcuate in ♀ at apex.

Fore tibiae clearly sulcate on dorsal side, terminal spur simple, fore tarsi not dilated as usual species belonging to genus of subtribe Trichotichnina, hind tarsi slightly longer than the width of head in both sexes, 1st joint two-thirds longer than 2nd and subequal in length to 2nd and 3rd together, claw joint trisetose along each ventral margin.

Aedeagus (Figs. 6 & 12) thick, somewhat twisted to left, with large basal part, apical part thick and rapidly constricted just before apex, apex knob-shaped, relatively thin and oblique to left in lateral view, slightly hooked at under tip, apical orifice occupying largely on dorsal



Figs. 6-8. Genitalia of *Coleolissus* (*Coleolissus*) spp.; 6, 8, male; 7, female.
6, 7, *C. (C.) formosanus* sp. nov.; 8, *C. (C.) azumai* HABU.

side, with many conical copulatory pieces on inner sack, apical lamella widely triangular and one-fourth wider than long, fairly arcuate at apex, basal orifice transverse-triangularly protuberant at margin; styluses (Fig. 7) slim and weakly arcuate outward, acute at tips, two long setae situated before apex and a small spine at basal third of each outer margin.

Length: 10.5–11.0 mm. Width: 3.8–4.0 mm.

Holotype: ♂, Is. Lanhsu, Taitung Hsien, Taiwan, 23. IV. 1971, Y. HAYASHI leg. (in T. SHIBATA's coll.). Paratypes: all examples same locality as the holotype, 1 ♀, 20. IV. 1971, Y. HAYASHI leg., 1 ♂, 22. IV. 1971, Y. HAYASHI leg., 2 ♀ ♀, 23. IV. 1971, Y. HAYASHI leg., 1 ♀, 5. IV. 1971, S. TAKEDA leg.

The new species is similar to *Coleolissus* (*Coleolissus*) *azumai* HABU (Pl. 6, C), but differs from the latter in having the following characteristics except the points mentioned above: 1) the body smaller in size (12.5 mm in *C. azumai*); 2) the colour lighter and bearing a greenish aeneous tinge; 3) the pronotal punctures denser; 4) the elytral intervals more convex on disc.

I wish to express my hearty thanks to Mr. SUMAO KASAHARA for his kind loan of material, *Coleolissus azumai* HABU.

Coleolissus (*Tenuistilus*) *similis* sp. nov.

(Text figs. 9, 10, & 13, Pl. 6, D)

Body weakly oval, pitchy black, shiny, with a rather clearly iridescent lustre and a weak purplish aeneous reflection on elytra and on pronotum, palpi, antennae, and legs brown or reddish brown.

Head rather wide in comparison with *Coleolissus nigricans* N. ITO, a little more than seven-tenths times as wide as pronotum, gently convex, very sparsely and minutely punctate, labrum square and shallowly emarginate at apex, clypeus flattened on front half area and weakly raised transversely on hind half area, obliquely slant at apex, clypeal suture fully deep and not changed in depth throughout, frontal impressions also deep, so that the triangular areas in front of the impressions appear well convex, prolonged obliquely up to eyes and little shallowed even near eyes, eyes large and more or less well convex, tempora weakly swollen and short, one-tenth times as long as eye's length, angulate at junctions with neck-constriction, distance between buccal fissure and genuine ventral margin of eye very short, antennae slender and moderate in length, passing a little pronotal base, 3rd joint weakly dilated distally, a little longer than 4th, and about twice as long as 2nd, mandibles long and rather robust, fairly curved inward and acute at tips, 3rd joints of labial palpi fairly long and one-fifth longer than 2nd, ligula bisetose, weakly widened forward, and subarcuate at apex, paraglossae

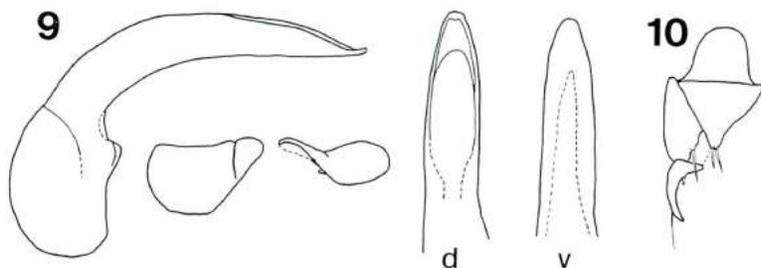
narrow and parallel-sided in part, where they are free from ligula, narrowly rounded apically, epilobes of mentum slender and weakly narrowed basally, median tooth large and fully produced in front, dull at tip; microsculpture obscure except clear isodiametric meshes on apical half area of clypeus, partly absent on frons and vertex, consisting of transverse meshes and of lines.

Pronotum rather well convex and transversely subquadrate, two-fifths wider than long, mostly smooth as in *C. nigricans* but very sparsely, minutely punctate not only on lateral furrows but also on basal foveae, sides gently arcuate in front and obliquely straight behind from basal three-fifths, fairly reflected basally, apex substraight or weakly emarginate and completely, finely bordered, base hardly bisinuate and gently oblique at sides, apical angles clearly rounded and more or less wide (but narrower than in *C. nigricans*), basal angles obtuse and narrowly rounded, lateral furrows narrow in front and increasing in width behind from middle, where they gradually remove from the sides due to reflection of the sides, basal foveae seeming to be prolongation of lateral furrows, longitudinally oblong and isolated from sides, without any rugosities, front transverse impression shallow and vague but more or less clearer than the hind one, median line fine and clear, marked only between both the impressions; microsculpture mostly absent and rarely observable near lateral furrows and basal foveae as transverse meshes.

Fully winged. Elytra elongate-oblong, flattened on disc, almost parallel at sides, very sparsely and microscopically punctate, sides hardly widened from humeri to apical two-fifths, then roundedly narrowed distally and shallowly sinuate before apex, apex narrow and fairly produced backward, angulate but edentate at sutural angles, humeral angles wide and angularly rounded, striae somewhat wide and moderate in depth, intervals quite flat on disc and moderately convex near humeri and apex, 3rd interval with a row of 5-7 setiferous pores (rarely 4 pores), scutellary striae fairly long, marginal series subinterrupted in middle, consisting of (8-10)+(11-13) umbilicate pores; microsculpture invisible or barely observed as vague transverse lines.

Ventral surface quite smooth and almost glabrous except very sparse and short ciliae along middle of 3rd to 5th abdominal segments, metepisterna a half longer than wide, 6th segment of abdomen bisetose on each side in both sexes, not emarginate and arcuate at apex even in ♂.

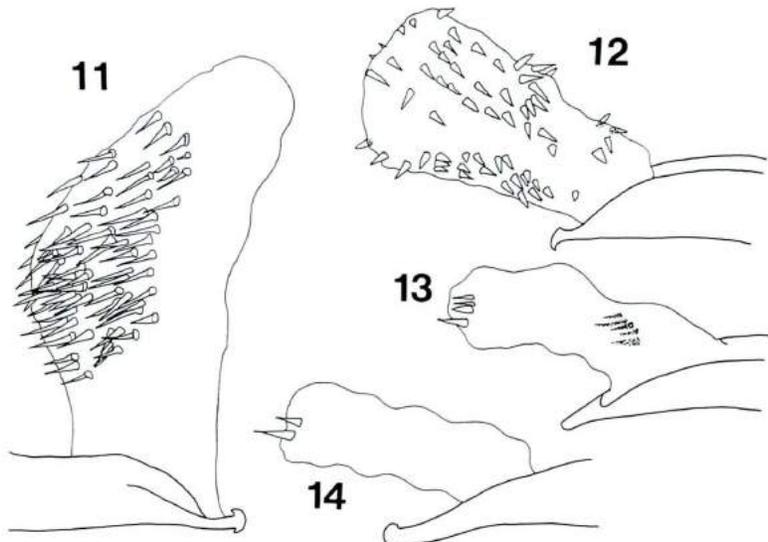
Fore tibiae bearing three spines along apical outer margins and clearly sulcate dorsally, tri- or quadrisetose along the sulcus, 1st joint of mid tarsi biserially squamous on ventral sides alike 2nd to 4th, hind tarsi hardly longer in ♂ than the width of head and a little shorter in ♀, 1st twice as long as 2nd and a half longer than 3rd and 4th together,



Figs. 9-10. Genitalia of *Coleolissus (Tenuistilus) similis* sp. nov.; 9, male; 10, female.

5th bisetose along each ventral margin.

Aedeagus (Fig. 9) thin and well gently arcuate, apex weakly, dully reflected above and rounded at tip, apical orifice occupying largely on dorsal side, inner sack (Figs. 13 & 14) bearing four peg-shaped copulatory pieces at apex and five pieces far from apex (in *C. nigricans* two pieces only at apex), ventral side unbordered and well convex longitudinally,



Figs. 11-14. Inner sacks of *Coleolissus* spp. 11, *C. (C.) ohkurai* sp. nov.; 12, *C. (C.) formosanus* sp. nov.; 13, *C. (T.) similis* sp. nov.; 14, *C. (T.) nigricans* N. Iro.

apical lamella elongate-triangular, arcuate and bordered at apical margin, basal orifice weakly sinuate at margin; styluses (Fig. 10) slender and clearly curved, acute at apex, a long seta situated at apical one-sixth on inner margin.

Length: 10.5–11.0 mm. Width: 3.8–4.0 mm.

Holotype: ♂, Keningau, Sabah, Is. Borneo, E. Malaysia, 16. II. 1989, M. ITOH leg. (in T. SHIBATA's coll.). Paratypes: 1 ♀, same data as the holotype; 1 ♀, same locality as the holotype, 10–20. X. 1988, M. ITOH leg.; 4 ♂♂, 3 ♀♀, Saplut, Sabah, Is. Borneo, E. Malaysia, 8. IV. 1982, M. YAMAMOTO leg.

The new species is very closely allied to *Coleolissus nigricans* N. ITO from the Malay Peninsula, but the body is more elongate and bears a weak purplish reflection on the pronotum and on the elytra instead of the only black body, the pronotum is a little narrower, with the basal foveae not smooth and sparsely punctate, and the elytral intervals on disc are flat and not convex at all.

References

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- HABU, A., 1973: Fauna Japonica, Carabidae: Harpalini (Insecta: Coleoptera): 215–220.
- ITO, N., 1987: Three new species of the genus *Coleolissus* (Harpalini) from Southeast Asia, with the subgeneric note (Coleoptera, Carabidae), Ent. Rev. Japan, 42 (Suppl.): 21, 27–29.

Explanation of Plate 6

- A. *Coleolissus* (*Coleolissus*) *ohkurai* sp. nov.
 B. *Coleolissus* (*Coleolissus*) *formosanus* sp. nov.
 C. *Coleolissus* (*Coleolissus*) *azumai* HABU.
 D. *Coleolissus* (*Tenuistilus*) *similis* sp. nov.

Correction

Coleolissus (*Tenuistilus*) *nigricans* N. ITO (1987, Ent. Rev. Japan, 42 (Suppl.): 27–29). In the original description the ratio of pronotal width to head's one was mistakenly described (p. 27, line 27). It should be amended as "1.6 times as wide as head."

