Elytra, *Tokyo*, New Series, **6** (2): 359–372
December 25, 2016

Six New Species of the Selenophori Carabids from India and Adjacent Regions (Coleoptera, Carabidae, Harpalini)

Noboru Ito

1–7–18 Higashiuneno, Kawanishi City, Hyôgo, 666–0117 Japan

Abstract Six new species of Harpaline Selenophori group carabids are described: *Coleolissus* (*Tenuistilus*) *turturensis* from Turture in Nepal, *C.* (*T.*) *nakajimai* from Tamil Nadu in India, *Hyphaereon splendidipennis* from Meghalaya in India, *Allosiopelus fulvicollis* from Madras in India, *Trichotichnus* (*Trichotichnus*) *distinctus* from Frontier in Pakistan, and *T.* (*Pseudotrichotichnus*) *meghalayaensis* from Meghalaya in India.

Introduction

Species diversity of harpaline Selenophori group, sensu Noonan, 1985 is distinct in Asia and recently many species are described (for examples, Ito, 1991 a, b, 1995, 1996, 2000 a, b, 2004, 2006, 2013; Kataev, 2010, 2012). The species may become approximately three times in number, comparing the known species until 1990. For the present study, I was offered interesting specimens through the courtesy of Dr. Martin Baehr of the Zoologische Staatssammlung, München, Dr. Ottó Merkl of the Hungarian National Museum of Natural History, Budapest, and some my personal friends, and after a careful examination, I found six new species among them.

In this paper I am going to describe two new species of the genus *Coleolissus*, one new species of the genus *Hyphaereon*, one new species of the genus *Allosiopelus*, and two new species of the genus *Trichotichnus*.

Method

Observation of materials. Specimens and aedeagi are observed by microscope of Nikon under 10–80× magnifications.

Preparation of aedeagi. Aedeagi are softened in 60% ethyl alcohol and isolated from body. The aedeagi are immersed in 100% ethyl alcohol for several days and thence those are permuted the alcohol by 100% xylene and enclosed in Canada Balsam.

Measurement of body parts. The length of body: the distance between the apex of labrum and the apices of elytra. The width of body: the maximal transverse distance of body. The width of head: the maximal transverse distance including compound eyes. The eye length: the longitudinal distance viewed in dorsal aspect. The prontal width: the maximal transverse distance between sides. The pronotal length: the distance from apical edge to basal edge along the middle. The elytral length: the distance between the basal border and the apices along the suture. The elytral width: the maximal transverse distance between sides.

Terminology. Technical terms are referred to Beutel and Leschen, 2005 and Lawrence and Ślipiński, 2013

Coleolissus* (*Tenuistius*) *turturensis N. Ito, sp. nov.

(Figs. 1 & 7)

Body oblong-suboval, flattened, black, very shiny, with clear iridescent lustre on elytra; antennae, legs, lateral margins of pronotum light brown, apex and base of pronotum and lateral margins and sutural intervals of elytra light reddish brown, mandibles dark reddish brown, labrum brown.

Head moderate in width, 0.64 times as wide as pronotum, narrow in interocular space which is 0.60 times as wide as width of head, weakly convex on vertex, very sparsely and minutely punctate except for a little coarsely so in outer areas of frontal impressions; labrum almost quadrate, very shallowly and triangularly emarginate at apex; clypeus weakly and triangularly produced at lateral corners, straight between the corners, transversely depressed along apex and between lateral setiferous pores; clypeal suture very thin, straight; frontal impressions arcuately running towards supraorbital grooves, clear but shallowed in hind halves; eyes large and hemispherical; temples short, one-fourth the eye length, abruptly oblique towards neck constriction; genuine ventral margins of eyes adjoining buccal fissure; mandibles stout, long, clearly arcuate in apical half, and acute at tips; antennae slender, 3rd segment pubescent in apical four-fifths, 1.04 times as long as the 4th and twice the 2nd; ligula constricted just behind apex, rounded at apical corners, feebly biarcuate at apex; paraglossae a little surpassing from ligula, widely arcuate in outer margins, blunt at apices; labial palpi rather robust, 3rd segment one-eighth longer than the 2nd; mentum weakly and roundly toothed at apex, epilobes abruptly widened apicad; microsculpture largely invisible, detectable as isodiametric meshes near clypeal apex.

Pronotum transversely quadrate, two-fifths wider than long, arcuate at sides, a little more strongly convergent apicad than basad, weakly convex, depressed on disc; dorsal surface wholly punctate, sparsely and minutely so centrally, more densely and coarsely so in apical, lateral and basal areas, basal punctures partly confluent, longitudinally rugose near apex; apex shallowly and obtrapezoidally emarginate, entirely bordered; base one-fourth wider than apex, very weakly emarginate, with entire border; apical angles weakly produced, rather widely rounded; basal angles quite widely rounded; lateral furrows gradually widened backwards, fused with basal foveae; basal foveae longitudinally elliptical, large, and shallow; median line thin, shallow, reduced near both apex and base; microsculpture hardly and partly observed, obscurely visible as transverse lines.

Elytra rather widely oblong, three-fifths longer than wide, gently convex, flat on disc, sparsely and minutely punctate; sides parallel in middle, gradually and strongly convergent apicad, very slightly sinuate preapically, gently arcuate in humeri; apices fairly produced backwards, closed to each other at tips which are subangulate but edentate; bases each clearly emarginate, steeply oblique in each lateral half, forming right angles with elytral lateral borders; striae deep, clearly and minutely crenulate in bottoms, scutellar striole long; intervals clearly convex even on disc, becoming more convex towards outer areas, 3rd interval of left elytron with 13 pores along 2nd stria and of right elytron with eight pores along two stria and two pores in the middle; marginal series narrowly interrupted in middle, composed of 11 + 13 umbilicate pores; microsculpture obscure, consisting of short transverse lines. Hind wings fully developed.

Ventral surface mostly smooth, sparsely punctate in mesoventrite and lateral areas of metaventrite, very sparsely and microscopically so in 3rd to 7th abdominal sternites; metepisterna well convergent backwards, a half longer than wide; 7th abdominal sterite in male straight middle of apical margin and unisetose at each side.

Legs long; fore tibiae entirely and clearly sulcate dorsally, several setae arranged along apical

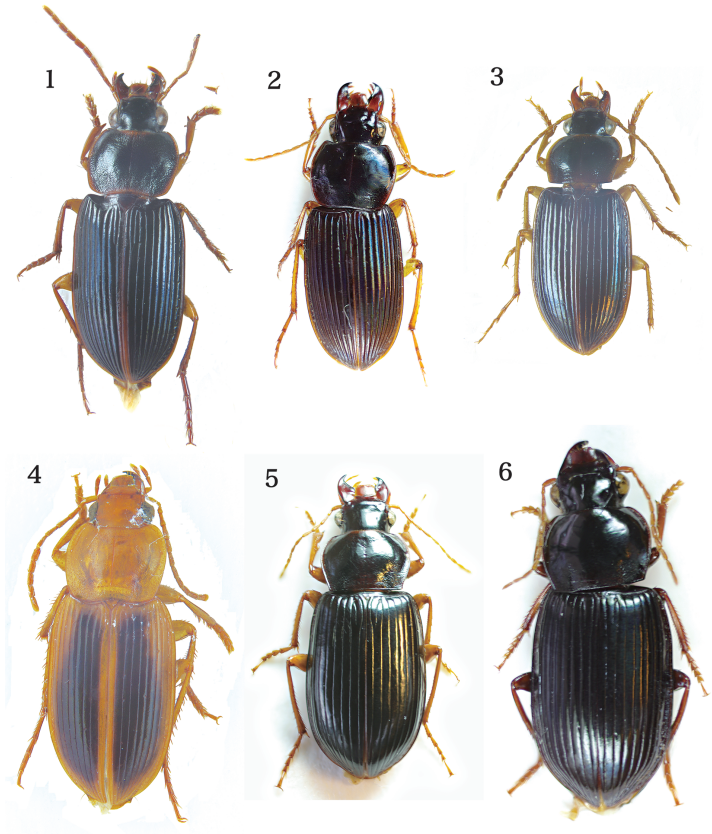

Fig. 1–6. Habitus of species of the genera *Coleolissus* Bates, *Hyphaereon* MacLeay, *Allosiopelus* N. Ito and *Trichotichnus* Morawitz. —— 1, *Coleolissus* (*Tenuistilus*) *turturensis* sp. nov.; 2, C. (*T.*) *nakajimai* sp. nov.; 3, *Hyphaereon splendidipennis* sp. nov.; 4, *Allosiopelus fulvicollis* sp. nov.; 5, *Trichotichnus* (*Trichotichnus*) *distinctus* sp. nov. ; 6, *Trichotichnus* (*Bottchrus*) *meghalayaensis* sp. nov..

third of each sulcus, terminal spur not dentate; 1st to 4th segments of mid tarsus bearing biseriate adhesive squamae in male, hind tarsus 1.23 times as long as the width of head in middle, 1st segment as long as the 2nd and 3rd taken together, 1.63 times as long as the 2nd, 2.6 times as long as the 4th, claw segment trisetose along inner ventral margin and bisetose along the outer one.

Aedeagus (Fig. 7) slender, elongate, weakly arcuate in middle, gently and arcuately reflected, pointed before tip; apical orifice widely open, without any sclerites; apical orifice elongate, rounded at distal margin.

F e m a l e unknown.

Length of body: 11.1 mm. Width of body: 4.2 mm.

Holotype: ♂, Turture, alt. 400 m, Nepal, 28.IV.1983, Y. Hama leg. (Type specimen will be reserved in the Osaka Museum of Natural History, Osaka.)

Remarks. This new species is similar in outline of body to *Coleolissus* (*Tenuistilus*) *puncticollis* N. Ito, 2008 from Laos but is easily distinguished from the latter by the body is larger and the pronotum is more widely and densely punctate and more widely rounded in the basal angles.

Etymology. The specific name is named after type locality, Turture.

Coleolissus* (*Tenuistilus*) *nakajimai N. Ito, sp. nov.

(Fig. 2)

Body widely oblong, similar in outline to genus *Harpalomimetes*, black, shiny, clearly iridescent on elytra and weakly so on pronotum; appendixes of buccal part, antennae, lateral margins of pronotum, and legs yellowish brown, labrum and mandibles brown.

Head large, 0.68 times as wide as the pronotal width, gently convex, mostly sparsely and minutely punctate, rather coarsely and densely so near lateral bases of clypeus; labrum subsquare; clypeus shallowly emarginate at apex, mostly bearing longitudinal rugosities; clypeal suture clearly but not deeply impressed; frontal impressions moderate in depth in apical third, thence abruptly shallowed backwards and obliterated near supraorbital grooves; eyes large, not convex; temples rather long, gently convergent backwards; genuine ventral margins of eyes narrowly isolated from buccal fissure; antennae slender, 3rd segment pubescent in apical four-fifths, as long as the 4th and twice the 2nd; ligula almost parallel-sided, slightly emarginate at apex; paraglossae long, rather wide; 3rd segment of labial palpus slender, truncate at apex, one-tenth longer than the 2nd; mentum blunt-triangularly toothed at apex, epilobes narrow, not widened apicad; microsculpture largely invisible, observed only on apical areas of clypeus as isodiametric meshes.

Pronotum quadrate, 1.31 times as wide as long, weakly convex, almost flat on disc, arcuate at sides, a little more strongly convergent basad than apicad, minutely and rather densely punctate in apical areas, lateral furrows and basal areas whose punctures in median part are finer and sparser; apex obtrapezoidally emarginate, unbordered in narrow middle area; base almost equal in length to apex, hardly emarginate in middle, weakly rounded at sides; apical angles fairly produced forwards, narrowly rounded; basal angles regularly rounded; lateral furrows narrow, weakly gradually widened basad, fused with basal foveae which are shallow, ill-defined, and bear thin rugosities near apico-internal areas; front transverse impression shallow, the hind one more vague; median line somewhat wide in middle, narrower and shallower near apex, thence obsolete; microsculpture partly visible in surrounding areas of disc, consisting of very obscure minute transverse meshes.

Elytra widely oblong, 1.17 times as wide as the pronotum, approximately two-thirds longer than wide, weakly elevated, almost flattened on disc, very sparsely and microscopically punctate; sides weakly curved in humeri, barely arcuate in middle, gently incurved from apical third, shallowly sinuate before apices; apices narrow, produced backwards, narrowly rounded at distal margins, edentate at sutural angles; bases each shallowly emarginate, thickened in lateral fourth, with an obtuse and acute humeral angle; striae deep, clearly crenulate in bottoms, scutellar striole long; intervals fairly convex even on disc, becoming more convex towards the surrounding areas of the disc, 3rd interval with a series of seven to nine setiferous pores along 2nd stria; marginal series not interrupted, composed of 22–24 umbilicate pores; microsculpture invisible under 80× magnification. Hind wings vestigial, 0.57 times as long as elytral length.

Ventral surface almost smooth, pro, meso- and metepisterna, and lateral areas of mtaventrite minutely punctate; metepisterna a little long, one-fourth longer than wide; apical margin of 7th abdominal sternite in female quadrisetose and widely and weakly rounded.

Legs long; fore tibiae each gently dilated apicad, not sulcate, with three thin spines along apico-external margin; tarsi long and slender, hind tarsi in female 1.07 times as long as the width of head, 1st segment as long as the 2nd and 3rd taken together, four-fifths longer than the 2nd, four times as long as the 4th, claw segment trisetose along inner ventral margin and bisetose along the outer one.

Styluses each clearly curved outwards, with two fine setae a little apart from tip, without seta

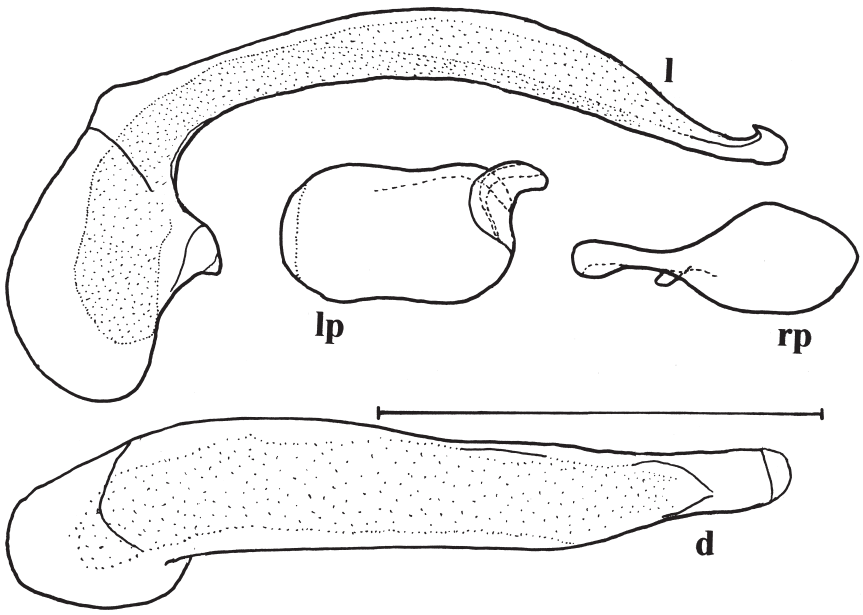

Fig. 7. Male genitalia of *Coleolissus* (*Tenuistilus*) *turturensis* sp. nov. —— l, Lateral aspect; d, dorsal aspect; lp, left paramere; rp, right paramere. Scale: 1 mm.

along both margins; basal segment bearing one long seta behind apical margin; valvifer bisetose at apex.

M a l e unknown.

Body length: 12.5 mm. Body width; 4.8 mm.

Holotype: ♀, Valparai, 1,400 m, Animalai Hills, Tamil Nadu, India, GY. TOPÁL leg. (preserved in the National Hungarian Museum of Natural History, Budapest.)

Remark. The material is only single female. But I described it, because the species is distinct in vestigial hind wing among other known species of the subgenus *Tenuistilus* HABU. Most known species do not resemble the new species. The new species is somewhat similar to *Coleolissus* (*Tnuistilus*) *shibatai* N. ITO, 1987 from Chipen in Taiwan, but is easily distinguished from the latter by the body larger in size and not greenish ting but iridescent black, the pronotum narrower, the elytra more convex on intervals, and the hind wings not entire.

The new species of the genus *Coleolissus* are described by only a single female individual. I have been pending the description of the species for twenty years, but no additional material had not been collected. Because this female individual is very peculiar in characteristics including outline of the body, it is easy to be distinguished it from the other known species. Therefore, I describe it under the name of *Coleolissus nakajimai*.

Etymology. The specific name is dedicated to Emeritus Professor Dr. Tsuyoshi NAKAJIMA of the Graduate School of Engineering in Shinshu University.

Hypaereon splendidipennis N. Ito, sp. nov.

(Figs. 3 & 8)

Body subovally oblong, slightly brownish black, well shiny, clearly iridescent on elytra; antennae and legs light brown, lateral margins of pronotum yellowish, appendixes of buccal part, mandibles, and labrum brown.

Head more or less small, two-thirds as wide as the pronotal width, gently raised, very sparsely and microscopically punctate, almost smooth near vertex, with interocular space moderate in width and two-thirds the width of head; labrum quadrate, feebly arcuate at apex; clypeus shallowly bisinuate at apex, not depressed, with several longitudinal rugosities near each lateral pore; clypeal suture thin, straight, not interrupted; frontal impressions arcuately divergent to each other, moderately deep in apical half, thence abruptly shallowed; eyes large, well prominent, but not hemispherical; temples short, one-fifth the eye length; genuine ventral margins of eyes not isolated from buccal fissure; mandibles elongate, gently incurved, acute at tips; antennae slender, relatively long, and reaching basal sixth of elytra, 3rd segment pubescent in apical three-fifths, 0.83 times as long as the 4th and 1.60 times as long as the 2nd; 3rd segment of labial palpus rather tumid, as long as the 2nd which is bisetose; ligula wedge-shaped, truncate at apex, angularly at apical corners; paraglossae surpassing beyond ligula, arcuate at outer margins and linear at inner margins; mentum not strongly and widely triangularly toothed at apex, epilobes abruptly widened apicad; microsculpture relatively clear, largely composed of isodiametric meshes, partly of quadrate meshes.

Pronotum transversely quadrate, a half wider than long, gently convex, widely not punctate on disc, very sparsely and minutely so near apex, minutely and moderately so in middle of basal area, coarsely and densely punctate in lateral furrows and basal foveae where the punctures are partly confluent, longitudinally rugose in middle area of apex; sides gently arcuate apicad, gently and linearly oblique basad from middle; apex shallowly and obtrapezoidally emarginate, entirely bordered; base 1.30 times as wide as apex, almost straight, with border not interrupted; lateral furrows gradually widened backwards, fallen into basal foveae; basal foveae shallow, transversely quadrate, weakly humped laterally; front transverse impression wide and shallow, the hind one short and vague; median line more or less deep in middle, shallowed and gradually obliterated near apex and base; microsculpture consisting of transverse meshes on disc, of isodiametric meshes in lateral furrow and basal foveae.

Elytra suboval, 1.48–1.52 times as long as wide, declivous baso-laterad, flat on disc, impunctate; sides weakly arcuate in middle, gently curved in humeri, with very shallow preapical sinus; bases each shallowly emarginate, with humeral angle not blunt and more obtuse than right angle; apices moderately rounded, closed to each other, acute at sutural angles; striae moderate in depth, clearly crenulate in bottoms, scutellar striole long; intervals weakly convex, not so convex even near apices and bases, 3rd interval with five to seven seriate setiferous pores; marginal series composed of (9–10) + (10–11) umbilicate pores; microsculpture very obscure, consisting of transverse lines. Hind wings entirely developed.

Ventral surface mostly smooth, very minutely and sparsely punctate along middle of 3rd to 7th abdominal sternites; metepisterna rather long, two-fifths longer than wide; 7th abdominal sternite in male notched at tip of apical margin and unisetose at each side, in female rounded at the tip and bisetose at the margin.

Legs long; fore tibiae clearly and entirely sulcate, with several seriate short setae along each sulcus; 1st to 4th segments of mid tarsi biseriately adhesive-squamose, hind tarsi 1.13 times in male and 1.08 times as long as the width of head, 1st segment 1.08 times as long as the 2nd and 3rd taken to-

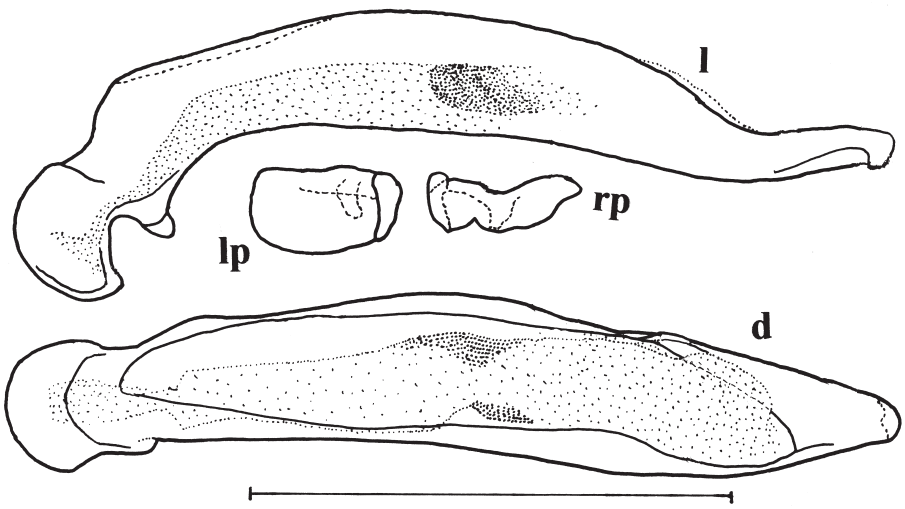

Fig. 8. Male genitalia of *Hyphaereon splendidipennis* sp. nov. —— l, Lateral aspect; d, dorsal aspect; lp, left paramere; rp, right paramere. Scale: 1 mm.

gether, 1.79 times as long as the 2nd, and 3.9 times as long as the 4th, claw segment bisetose along each ventral side.

Aedeagus (Fig. 8) slender, elongate, weakly arcuate, hooked ventrally at apex; apical orifice wide, inner sac without any spinous sclerites; basal bulb small.

Body length: 7.0–8.3 mm. Body width: 3.2–3.6 mm.

Holotype: ♂, Balphakram national park, alt. 400 ± 150 m, 25°11'N, 90°51'E, W. Garo Hill, Meghalaya State, NE India, 22–17.V.1990, E. Jendek & Ŏ. Šauaš leg. (The type specimen will be reserved in the Osaka Museum of Natural History, Osaka).

Paratypes: 1 ♂, 3 ♀♀, same data as the holotype.

Remarks. This new species is closely allied to *Hyphaereon masumotoi* (N. Ito, 1991 a) from Thailand, but the pronotum is more widely and densely punctate in apical area and basal foveae and a little less flat, and the microsculpture on head, pronotum, and elytra is more vague.

The new species also resembles to *Hyphaereon laosensis* N. Ito, 2004 from Laos, but is easily distinguished from the latter by the pronotum is less transverse, narrower in lateral furrows, and a little convex on disc and the elytra are not convex on intervals.

Etymology. Specific name, "*splendidipennis*" means splendid elytra in Latin.

Allosiopelus fulvicollis N. Ito, sp. nov.

(Figs. 4 & 9)

Body oblong, yellowish light brown, flattened; apices of mandibles black, elytra black and iridescent on 2nd to 6th intervals except for apical and basal areas.

Head weakly convex, moderate in width, two-thirds as wide as the prontal width, sparsely and very minutely punctate; labrum subtrapezoidal, very shallowly and triangularly emarginate at apex;

clypeus quite flat, gently and triangularly produced at apical angles, straight between the angles; clypeal suture linear, clearly impressed; frontal impressions weakly arcuately divergent to each other, not deep; interocular space wide, 0.68 times as wide as the width of head; eyes large, fairly but not hemispherically prominent; temples short, one-fourth the eye length; genuine ventral margins of eyes closed to buccal fissure; mandibles elongate, arcuate and sharpened at apices; antennae slender, 3rd segment pubescent in apical four-fifths, 0.87 times as long as the 4th and twice the 2nd; labial palpi not stout, 3rd segment 1.14 times as long as the 2nd; ligula gently widened forwards, apex weakly arcuate; mentum bearing weakly produced median tooth which is blunt at apex, epilobes abruptly widened; microsculpture mostly invisible under 80× magnification.

Pronotum quadrate, two-fifths wider than long, gently rounded at sides, flattened on disc, sparsely and minutely punctate on central area, coarsely and more densely so near apical area, lateral furrows and basal foveae; apex obtrapezoidally emarginate, entirely bordered; base 1.3 times as wide as apex, bisinuate, entirely bordered; apical angles fairly and roundly protruding; basal angles quite rounded; lateral furrows wide, expanded backwards, joining basal foveae; basal foveae subquadrate, shallow; front transverse impression very shallow, the hind one obscure; median line thin, shallow, lying between both the impressions; microsculpture invisible under 80× magnification.

Elytra oblong, 1.61 times as long as wide, 1.26 times as wide as the pronotal width, sparsely punctate, weakly convex, flattened on disc, almost parallel-sided, very shallowly sinus preapically; apices weakly produced backwards, very narrowly rounded at tips, sharp at sutural angles; bases each well emarginate, with humeral angle pointed and little larger than right angle; striae fairly deep and wide, clearly crenulate in bottoms, scutellar striole moderate in length; intervals weakly convex on disc, gradually becoming a little more convex apicad and basad, seriate setiferous pores eight in number on 3rd interval, three to four in apical half of 5th interval, and one at apical fifth of 7th right interval; marginal series widely interrupted medially, composed of 9 + (9–10) umbilicate pores; microsculpture more or less clear, consisting of transverse lines. Hind wings fully developed.

Ventral surface mostly smooth, sparsely punctate laterally on pro-, meso- and metaventrites, obscurely and very sparsely so on metepisterna, microscopically and very sparsely so along middle of 3rd to 7th abdominal sternites; metepisterna rather elongate, one-fifth longer than wide; 7th abdominal sternite in male truncate at apical margin, bisetose at each side.

Legs not long; fore tibiae each entirely sulcate; hind tarsus 1.21 times as long as the width of head, 1st segment as long as the 2nd and 3rd taken together, 1.82 times as long as the 2nd, nearly three times the 4th, claw segment quadrisetose along outer ventral margin and trisetose along the inner one.

Aedeagus (Fig. 9) more or less thick, almost straight, thinned preapically, thickened at apex, with a tiny hook ventrally; apical orifice widely open, not armed with any sclerites, apical lobe subquadrate, 1.07 times as long as wide, gently rounded distal margin.

F e m a l e unknown.

Body length; 8.3 mm. Body width: 4.6 mm.

Holotype: ♂, Coimbatore, alt. 1,400 ft., Madras, Indien, XI.1966, P. S. Natahn leg. (Type specimen will be preserved in the Zoologische Staatssammlung, München.)

Remarks. This new species is easily distinguished from another known species, *Allosiopelus punctatipennis* N. Ito, 1995, from India by the colour of body much lighter, elytra much more sparsely punctate and more convex on intervals etc.

Etymology. The specific name, "*fulvicollis*" is yellow pronotum in Latin.

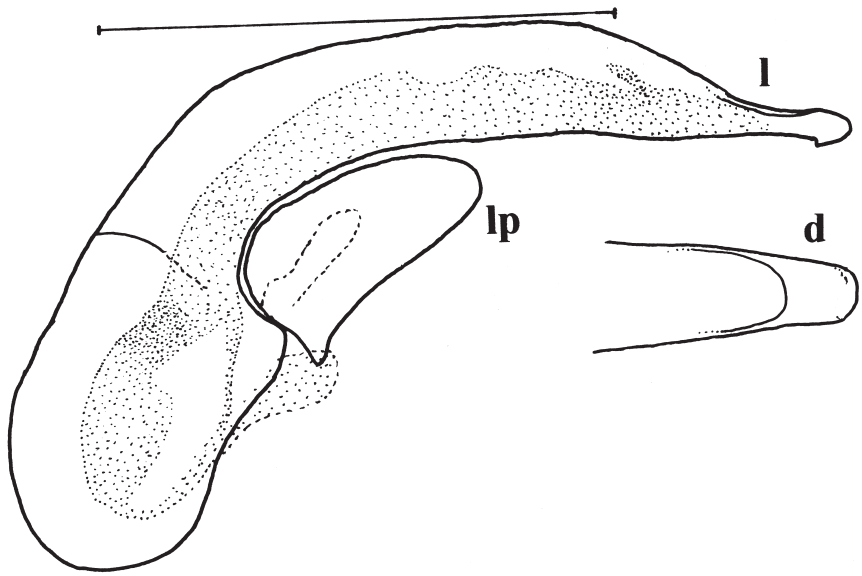

Fig. 9. Male genitalia of *Allosiopelus fulvicollis* sp. nov. —— l, Lateral aspect; d, dorsal aspect; lp, left paramere. Scale: 1 mm.

Trichotichnus (***Trichotichnus***) ***distinctus*** N. Ito. sp. nov.

(Figs. 5 & 10)

Body robust, thick, widely oblong, fairly convex, black, shiny, not iridescent; appendixes of buccal part, antennae and legs light brown, labrum and mandibles brownish black.

Head large, 0.71 times as wide as prontal width, very sparsely and microscopically punctate; labrum subtrapezoidal, with apex hardly emarginate and widely rounded at sides; clypeus shallowly emarginate apically, transversely raised in basal half; clypeal suture thin but deep, feebly bisinuate; frontal impressions moderate and uniform in depth, arcuately divergent to each other; eyes not large but hemispherically prominent; temples very short, 0.14 times as long as eye length; space between genuine ventral margins of eyes and buccal fissure narrow; antennae slender, not long, apical two segments reaching each elytron, 3rd segment pubescent in apical half, as long as the 4th and twice the 2nd; mandibles stout, thick, abruptly curved behind apices; 3rd segment of labial palpus tumid and equal in length to the 2nd; ligula strongly expanded behind apex, acute at apical corners, shallowly emarginate at apex; paraglossae small, not reaching ligular apex; mentum sharply triangularly toothed at apex, epilobes narrow, not widened forwards; microsculpture mostly unobservable, detected near clypeal apex as vague quadrate meshes.

Pronotum transversely quadrate, similar in shape to species of the subgenus *Pseudophonus*, 1.46 times as wide as long, rather steeply declivous apico-laterad, mostly smooth, moderately and partly coarsely punctate in lateral furrows and basal foveae; sides gently arcuate apicad and linearly convergent basad from middle, not sinuate before base; apex very shallowly emarginate, with border entire but obscure in middle; base 1.17 times as wide as apex, hardly bisinuate, clearly bordered throughout; apical angles weakly protruding and widely rounded; basal angles well larger than right angle and

acute; lateral furrows narrow in apical third, thence gradually widened basad; basal foveae each ill-defined, isolated from lateral furrow by indistinct hump, with short and longitudinal groove in middle: front transverse impression wide, shallow and vague, the hind one also vague; median line thin, shallow, reduced near apex and base; microsculpture mostly and partly observed as transverse meshes, more clearly so near basal punctures.

Elytra widely oblong, 1.48 times as long as wide, 1.35 times as wide as prontal width, fairly convex; sides subparallel in middle, clearly arcuate in humeri, with preapical sinus quite indistinct; apices rather produced, narrowly rounded at tips, narrowly separated to each other; bases shallowly emarginate, rounded at humeral angles; striae more or less wide, clearly crenulate in bottoms, scutellar striole moderately long; intervals weakly convex on disc, a little more convex apically and basally, a setiferous pore on 3rd interval not present; marginal series rather widely interrupted in middle, composed of 8 + 9 umbilicate pores; microsculpture relatively clear, mostly consisting of transverse lines and partly so of transverse meshes. Hind wings entirely developed.

Ventral surface mostly smooth, somewhat coarsely punctate on lateral areas of metaventrite and sparsely so on metepisterna 1.61 times as long as wide; 7th abdominal sternite in male slightly rounded at apical margin and unisetose at each side.

Legs rather long; fore tibiae each not sulcate, seriately arranged with five to six setae in apical half, terminal spur edentate; hind tarsus in male 0.91 times as long as the width of head, 1st segment three-fourths as long as the 2nd and 3rd taken together, as long as the 3rd, 2.5 times the 4th, claw segment quadrisetose along inner ventral margin and trisetose along outer one.

Aedeagus (Fig. 10) stout, weakly curved in apical part, gradually thinned apicad, simple and not thickened at tip; apical orifice widely open, without any sclerites; apical lobe triangular, narrowly rounded at distal margin.

F e m a l e unknown.

Body length: 9.9 mm. Body width: 4.3 mm.

Holotype: ♂, Malam Jabba, alt. 2,400 m, 34°47'N, 72°34'E, NW Frontier Province, Pakistan, 23–25.VII.1991, J. Kaláb leg. (The type specimen will be reserved in the Osaka Museum of Natural History, Osaka).

Remarks. This new species is peculiar as a member of the genus *Trichotichnus* Morawitz, 1863 at the point of elytra each without setiferous pore on 3rd interval. I think that the species must be belong to the genus *Trichotichnus* due to the combination of thick and short mandibles, clear frontal impressions, sharp mental tooth, glabrous on elytra and dorsal surface of tarsi.

Because of there is no member of *Trichotichnus* without the setiferous pore, the new species is easily distinguishable from other known species. This character can be thought to be valid as a new subgenus but I hesitate to treat the taxonomic position, because of the representative is only single species. Record of *Trichotichnus* from Pakistan is first.

Etymology. The specific name, '*distinctus*' is derived from a distinct characteristic state as lacking of the elytral setiferous pore in Latin.

Trichotichnus* (*Bottchrus*) *meghalayaensis N. Ito. sp. nov.

(Figs. 6 & 11)

Body widely oblong, pitchy black, very shiny, clearly iridescent and sometimes with feebly metallic greenish tinge on elytra; appendixes of buccal part, antennae, and legs somewhat light brown, labrum dark brown.

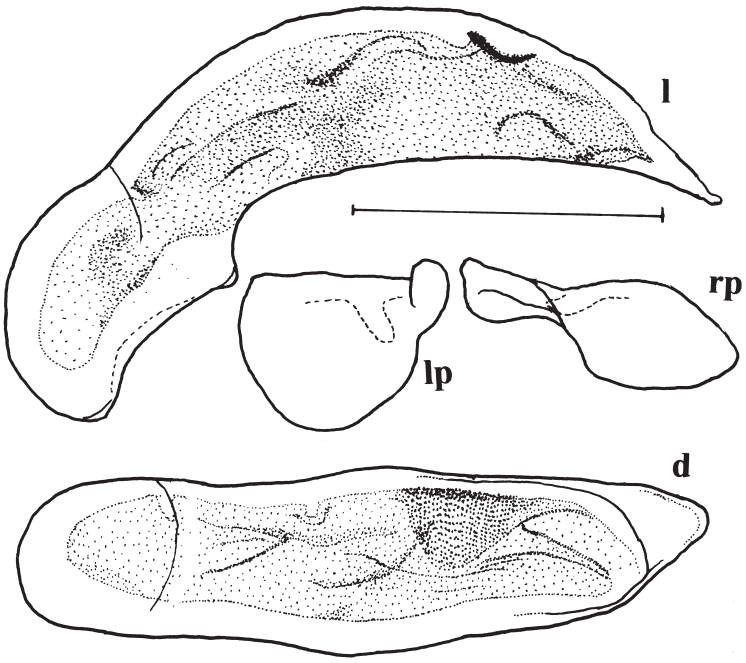

Fig. 10. Male genitalia of *Trichotichnus* (*Trichotichnus*) *distinctus* sp. nov. —— l, Lateral aspect; d, dorsal aspect; lp, left paramere; rp, right paramere. Scale: 1 mm.

Head large, three-fourths times as wide as the pronotal width, gently convex, impunctate, with one or two obscure longitudinal rugosities near each lateral pore of clypeus, interocular space moderate in width and two-thirds the width of head; labrum weakly trapezoidal, shallowly emarginate at apex; clypeus transversely convex, narrowly depressed along apex; clypeal suture deep and linear; frontal impressions also deep to supraorbital grooves; eyes rather convex, but not hemispherical; temples short, one-fifth the eye length; space between genuine ventral margins of eyes and buccal fissure wide, punctate near the fissure; antennae surpassing beyond elytral bases in apical one or two segments, 3rd segment pubescent in apical half, equal in length to the 4th and twice the 2nd; mandibles stout and thick; labial palpus weakly tumid in 3rd segment and slender in the 2nd, 3rd segment one-seventh longer than the 2nd; ligula narrow, bottle-shaped; paraglossae large, fan-shaped; mentum sharply toothed at apex, epilobes narrow; microsculpture largely unobservable, vaguely observed as isodiametric meshes near clypeal apex.

Pronotum transverse, 1.39–1.49 times as wide as long, more or less abruptly declivous apico-laterad, largely smooth, not coarsely and moderately punctate in basal foveae; sides gently arcuately apicad and linearly so basad from middle; apex almost straight, with border reduced in narrow middle; base 1.12–1.19 times as wide as apex, with thin border entire or medially interrupted in a spot; apical angles not protruding, somewhat narrowly rounded; basal angles a little larger than right angle, not blunt at tips; lateral furrows carved in a line; basal foveae flattened, with thin, shallow and longitudinal groove at each inner side; front transverse impression shallow and obscure, the hind one also shallow; median line thin, isolating from apex and reaching base; microsculpture clear, observed as mixtures with transverse and square meshes.

Elytra widely oblong, 1.50–1.58 times as long as wide, 1.30–1.33 times as wide as the pronotal width, rather steeply slant laterally, flat on disc, very sparsely and microscopically punctate; sides weakly arcuate in middle, gently curved in humeri, weakly sinuate preapically; apices more or less produced backwards, very narrowly rounded at tips, slightly blunt at sutural angles; bases almost straight, angulate and fairly larger than right angle at humeral corners; striae wide, clearly crenulate in bottoms, scutellar striole relatively long; intervals a little convex on disc, gradually becoming more convex apicad and laterad, 3rd interval bearing a setiferous pore between middle and apical third; marginal series rather widely interrupted in middle, consisting of 10 + 10 umbilicate pores; microsculpture somewhat clear, composed of transverse meshes. Hind wings fully developed.

Ventral surface smooth in most areas, vaguely and very sparsely punctate in lateral areas of metaventrite and microscopically and very sparsely so medially on 3rd to 7th abdominal sternites; metepisterna well convergent backwards, a half longer than wide; 7th abdominal sternite in both sexes bisetose at each side, in male hardly emarginate on apical margin, in female widely rounded at the margin.

Legs short; fore tibiae each thinly sulcate in basal four-fifths, terminal spur not simple, weakly and blunt-triangularly produced at left side; 1st to 4th segments of mid tarsus armed with biseriate adhesive squamae on ventral surface, hind tarsus 0.67–0.72 times in male and 0.66–0.70 times in female as long as the width of head, 1st segment as long as the 2nd and 3rd taken together, 2.25 times as long as the 3rd and three times as long as the 4th, claw segment bisetose along both inner and outer ventral margins.

Aedeagus (Fig. 11) thick, gently arcuately curved in apical part, thinned before tip, flat knob-shaped at tip; apical orifice widely open, without any sclerites.

Body length: 8.8–10.5 mm. Body width: 3.9–4.3 mm.

Holotype: ♂, Nokrec national park, alt. 1,100 ± 150 m, 25°29'N, 90°19.5'E, W. Garo Hill, Meghalaya State, NE India, 9–17.V.1992, E. Jendek & Ǒ. Šauaš leg. (The type specimen will be reserved in the Osaka Museum of Natural History, Osaka).

Paratypes: 5 ♀♀, same data as the holotype; 2 ♂♂, Jowai, Jaintia Hill, alt. 1,350 ± 150 m, 25°27'N, 92°12'E, Meghalaya State, NE India, 6–8.VI.1996, E. Jendek & Ǒ. Šauša leg.

Remarks. This new species is well similar to *Trichotichnus* (*Bottchrus*) *piceus* N. Ito, 1991 b, from Malaysia but the pronotum is not smooth, punctate in basal areas, more clearly bordered and quite acute at basal angles, and each fore tibia bears longer sulcus.

Etymology. The specific name, "*meghalayaensis*" is derived from the type locality, Meghalaya in India.

Acknowledgments

I heartily thank the Emeritus Professor of Shinshu University, Dr. Tsuyoshi Nakajima, who has vigorously studied on catalytic chemistry and molecular simulation science and has kindly introduced me on science and English. Further my cordial thanks are due to Dr. M. Baehr and O. Merkl for their kindly loaning invalid materials. Also my thanks are due to Mr. Yasuhiko Hayashi, Kawanishi, for his kindly taking pictures of habitus.

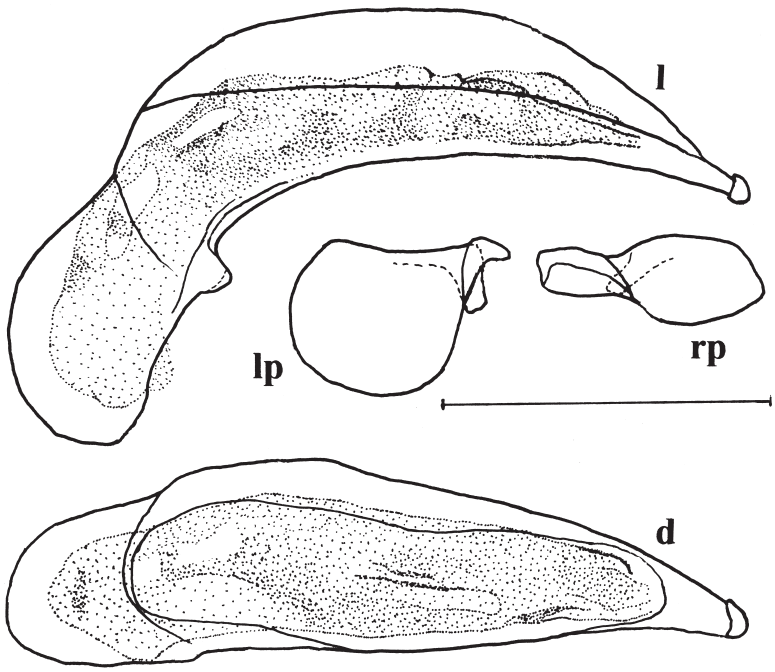

Fig. 11. Male genitalia of *Trichotichnus* (*Bottchrus*) *meghalayaensis* sp. nov. —— l, Lateral aspect; d, dorsal aspect; lp, left paramere; rp, right paramere. Scale: 1 mm.

要　　約

伊藤　昇：インドおよび隣接地域からのゴモクムシ族 Selenophori グループの 6 新種（鞘翅目ゴミムシ科）．——アジアのゴモクムシ族 Selenophori グループの種多様性は極めて著しく，特に近年多くの種が記載されている．本論文では，新たにインド，ネパール，パキスタンから，次の 6 新種を記載した：*Coleolissus* (*Tenuistilus*) *turturensis* from Turture（ネパール），*C.* (*T.*) *nakajimai*（タミールナデュ，インド），*Hyphaereon splendipennis*（メガラヤ，インド），*Allosiopelus fulvicollis*（マドラス，インド），*Trichotichnus* (*Trichotichnus*) *distinctus*（フロンティア，パキスタン），*T.* (*Bottchrus*) *meghalayaensis*（メガラヤ，インド）．*Trichotichnus* 属はパキスタンから初記録であり，かつ上翅第 3 間室に有毛孔点を有しない点で極めて特異である．なお，*Coleolissus nakajimiai* は，本属の種としては後翅が退化している点で特異であり，かつ容易に同定できるので，雌のみに基づいて記載した．

References

Beutel, R. G., & R. A. Leschen, 2005. Coleoptera, Beetles. 1. Morphology and Systematics (Archostremata, Adeaphaga, Myxophaga, Polyphaga partim). Arthopoda: Insecta, Handbook of Zoology, **4**: xi + 567 pp. Walter de Gruyter GmbH & Co,. KG, Berlin and New York.

Ito, N., 1991 a. Study on Asian Carabidae, II (Coleoptera). *Entomological Review of Japan*, *Osaka*, **46**: 21–26.

Ito, N., 1991 b. Study on Asian Carabidae, III (Coleoptera). *Entomological Review of Japan*, *Osaka*, **46**: 157–179.

Ito, N., 1995, A new and two new species of the Selenophori group (Harpalini, Carabidae, Coleoptera). *Japanese Journal of*

Systematic Entomology, *Matsuyama*, **1**: 153–159.

Ito, N., 1996. Studies on Asian Carabidae, XI. Species of the genus *Oxycentrus* Chaudoir (3) (Coleoptera). *Entomological Review of Japan*, *Osaka*, **50**: 119–130.

Ito, N., 2000 a. A new genus and species of the Selenophori group from Laos (Coleoptera: Carabidae: Harpalini). *Entomological Review of Japan*, *Osaka*, **55**: 25–30.

Ito, N., 2000 b. Four new species of the genus *Oxycentrus* from Laos (Coleoptera: Carabidae: Harpalini). *Bullines of Osaka Museum of Natural History*, **54**: 13–24

Ito, N., 2004. Descriptions of four new species of the Selenophori group (Harpalini, Carabidae) from Asia, including the first record of the genera *Coleolissus* and *Hyphaereon* from Laos (Coleoptera). *Entomological Review of Japan*, *Osaka*, **59**: 275–286.

Ito, N., 2006. Three new species of the Harpaline Selenophori group from Asia (Coleoptera, Carabidae). *Elytra*, *Tokyo*, **18**: 267–274.

Ito, N., 2013. New taxa of the Harpaline Selenophori group from tropical Asia. *Japanese Journal of Systematic Entomology*, *Matsuyama*, **20**: 61–80.

Kataev, B. M., 2010. A taxonomic review of the subgenus *Hyparpalus* (genus *Parophonus*) of the Oriental and Australian regions (Coleoptera: Carabidae: Harpalini). *Zoosystematica Rossica*, **19**: 277–300.

Kataev, B. M., 2012. Species of the genus *Dioryche* similar to *D. cuprina* (Dejean, 1929) comb. nov. (Coleoptera: Carabidae: Harpalini). *Zoosystematica Rossica*, **21**: 112–130.

Lawrence, J. F., & A. Ślipiński, 2013. Australian beetles. 1: Morphology, Classification and Keys. viii + 561 pp. CSIRO publishing.

Noonan, G. R., 1985. Reconstructed phylogeny and zoogeography of the genera and subgenera of the Selenophori Group (Insecta: Coleoptara: Carabidae: Harpalini: Harpalina). *Milwaukee Public Museum*, *Contrbutions in Biology and Geology*. **65**: 1–33.

Manuscript received 25 July 2016;
revised and accepted 10 October 2016.