

On a Collection of Carabidae from Nepal
Made by the Hokkaido University Scientific
Expedition to Nepal Himalaya, 1968

(1)

Akinobu HABU

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The author makes a report of the result of identification of the forty-six species, from the tribe Nebriini to the Agonini, of the Carabid beetles collected by the Hokkaido University Scientific Expedition to Nepal Himalaya, 1968. The tribes and the number of the species are: —Nebriini (one species), Scaritini (four), Broscini (three), Trechini (two), Bembidiini (seven), Pterostichini (eight), and Agonini (twenty-one).

So far as I am aware, the study on Carabid beetles of Nepal is not forward till recently from the earliest dawn made by Hope who described seventeen species (including *Cicindela*) from Nepal in 1831 in Gray's Zoological Miscellany (cf. Fig.). Some years ago I was asked to study ninety-nine species of the Carabidae from Nepal by Dr. T. Kumata of the Hokkaido University. However, my knowledge on Indian Carabidae being scanty, it is not an easy task to accomplish the investigation of nearly a hundred species. This paper is the first report concerning forty-five species —from the Nebriini to the Agonini— I managed to identify though left some undetermined.

During the course of the present study, I lie under great obligations to Drs. P. M. Hammond and M. J. D. Brendell of the British Museum for identification and loaning specimens. I am also indebted to Dr. H. Freude, Zoologische Staatssammlung, München, for borrowing paratypes of some species described from Nepal by Ing. A. Jedlička. I wish to express my heartfelt thanks to them for their kindness, and to Dr. T. Kumata for his giving me an opportunity to examine the interesting material. I would further express my obligations to Mr. H. Hasagawa, Laboratory of Insect Identification and Taxonomy, for his reading through the typescript.

The holotypes of the new species described in the paper are deposited in the Entomological Institute, Hokkaido University. Synonym-lists are omitted, only publications of original descriptions being cited; daggers mean indirect citation.

Abbreviations. L: length. LP: length of pronotum. W: width. WAP: width of apex of pronotum. WBP: width of base of pronotum. WE: width of elytra. WH: width of head. WP: width of pronotum.

Subfamily CARABINAE

Tribe NEBRIINI

1. *Leistus* (subg. ?) *kumatai*, sp. nov. (Figs. 1, 2-4)

Description. Length 9.0~9.6 mm. Width 3.1~3.3 mm.

Black, head rather mat, pronotum and elytra shiny (pronotum a little less shiny than elytra); labrum and mandibles brown to reddish brown, palpi pale yellowish brown, antennal segments 1 to 4 dark reddish brown except yellowish basal area of segments 2 to 4, segments 2 to 4 sometimes less dark, segments 5 to 11 pale yellowish brown, femora black, tibiae and tarsi reddish brown, tarsi less reddish, becoming pale towards apex; ventral side black.

Head well convex, dorsal side not punctate, faintly, longitudinally rugose before eyes and on either side of disk near supraorbital setae, faintly, transversely rugose at median area; microsculpture distinct, isodiametric; neck-constriction deep on dorsal side; temporae moderately oblique (about 45°), oblique parts one-half as long as eyes; eyes convex, somewhat smaller than in European *L. ferrugineus* (LINNÉ); supraorbital setae on mid-eye level, in somewhat large, elongate depression; frontal lateral furrows roundly extending in inner posterior direction far behind supraorbital setae, almost reaching neck-constriction; frontal impressions shallow; fronto-clypeal suture fine though distinct, not curved; clypeus straight to slightly rounded at apex; antennal segment 5 one and three-fifths times as long as segment

THE

ZOOLOGICAL MISCELLANY.

TO BE CONTINUED OCCASIONALLY.

BY

JOHN EDWARD GRAY,

F.Z.S., F.G.S., F.R.G.S., M.R.S.L., &c. &c.

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Synopsis of the new species of Nepal Insects in the collection of Major General HARDWICKE, by Rev. F. W. HOPE, M.A.

Cicindela Dejeanii. Obscure purpurea, elytris punctatis vittaque flava inæquali ornatis. Long. lin. 11. Lat. lin. 3½=4.

Cicindela flavomaculata. Supra viridi obscura, elytris macula humerali, secunda fere rotundata, tertiâque biloba ornatis. Long. lin. 7½; lat. 2½.

Cicindela pulchella. Species *C. bicolori*, Fabr. proxima. Viridis, elytris obscure cyaneis immaculatis, marginibus elytrorum purpureis abdomineque nigro-purpurascenti. Long. lin. 7½; lat. 2½.

Cicindela chloris. Viridiænea, elytris confertissime punctatis, tribus punctis albis marginalibus. Long. lin. 5½; lat. 1½.

Cicindela assimilis. Præcedenti affinis. Supra nigro olivacea, elytris punctatis, tribus punctis albis marginalibus. Long. lin. 6½=7; lat. 2½.

Desera Nepalensis. Viridi cuprea, elongata, thorace cylindrico cæruleo. Long. lin. 5½; lat. 1½.

Scarites Geryon. Niger, tibiis anticis tridentatis elytrisque profunde striatis. Long. lin. 20; lat. 5.

Percus Nepalensis. Totum corpus supra nigro-æneum, elytra nigro-ænea lineisque punctis impressi. Long. lin. 7½; lat. 2½.

Calosoma Indicum. Totum corpus nigro-æneum, elytris rugosis punctisque auratis triplici serie fortiter impressis. Long. lin. 11; lat. 4½.

Carabus Wallichii. Oblongo-ovatus, supra niger, elytris crenato-striatis punctisque impressis in striis despositis granulisque oblongis triplici serie prominentibus. Long. lin. 10½; lat. 3½.

Chlenius Nepalensis. Niger, capite, thorace, elytrisque nigris maculâ irregulari flavâ notatis. Long. lin. 8½; lat. 3½.

Colpodes Hardwickii. Viridibrunneus, nitidus ore ferrugineo, antennarum tribus primis articulis rubris, cæteris fuscis et ciliatis. Long. lin. 7½; lat. 2½.

Colpodes Buchannani. Viridiæneus, nitidus, ore ferrugineo, antennæ rufæ articulis ciliatis. Long. lin. 5; lat. 1½.

Omaseus Indicus. Niger, thorace convexo glabrato elytrisque, fortiter sulcatis. Long. lin. 7; lat. 2½.

Omaseus aratus. Eneovirens, thorace convexo posticeque aurato elytrisque fuscis et pubescentibus. Long. lin. 7; lat. 2½.

Platysa gagates. Nigrum, thorace convexo glabrato elytrisque fortiter sulcatis. Long. lin. 8½; lat. 2.

Sphodrus brunneus. Depressus, elytris brunneis striatis, corpore infra brunneo, femoribus, tibiis, tarsisque rufescentibus. Long. lin. 7½; lat. 3½.

Necrophorus Nepalensis. Ater, duabus fasciis ferrugineis undulatis, fasciisque quasi quatuor nigris maculis notatâ. Long. lin. 8½; lat. 3½.

Stilpha melanura. Atra, elytris punctatis, lineisque tribus elevatis lævibus, clypeo antice truncato. Long. lin. 8; lat. 4.

3; labrum moderately protrudent at middle, without two median additional setae; lateral margin of mandibles well rounded at basal area, almost even near middle, then well curved up to apex; gula with distinct transverse ridge, ridge with eight distinct spinous setae; submentum with two spinous setae on either side; mentum with two distinct setae (each inserted in distinct tubercle) at median area, two to four short and fine additional setae between two distinct setae, with one spinous seta near either lateral margin of base; ligula (Fig. 2, 1g) with distinct protuberance at middle, protuberance with two long curved setae.

Pronotum relatively small, discoid, gently convex, widest at middle, one and one-fourth times as wide as head, one and one-fourth times as wide as long (in three ♂♂ and one ♀ $WP/WH=1.24\sim1.26$, mean 1.25, $WP/LP=1.21\sim1.29$, mean 1.24, $WP/WBP=2.05\sim2.08$, mean 2.06); surface punctate at basal area, with some faint punctures at median apical area and basal half of lateral reflexed-explanate areas; microsculpture distinct, forming transverse meshes; apex shallowly bisinuate, protrudent at median area, border complete in two specimens, narrowly (or shortly) interrupted at middle in two other specimens; apical angles somewhat protrudent; base straight, narrower than apex, unbordered; basal angles obtuse (about 135°); lateral margins not bordered, well rounded towards apex and base, more contracted posteriorly, with faint short sinuation before basal angles (posterior area of proepisterna visible from above beneath sinuation); marginal setae at middle; lateral areas somewhat widely explanate and reflexed, more reflexed at posterior half; median line moderately impressed, reaching neither extremity; anterior and posterior transverse impressions somewhat deep (posterior impression a little deeper); basal foveae fairly deep.

Wings atrophied. Elytra long, elliptic or inversely ovate, convex though almost flat on disk, somewhat depressed on interval 1 behind scutellary striole, widest at basal one-fourth to one-third, one and two-fifths times as wide as pronotum ($WE/WP=1.39, 1.42, 1.43$, in three ♂♂), a little less than one and two-thirds to less than one and three-fourths times as long as wide; surface not punctate; microsculpture absent; basal border level or slightly slanting in posterolateral direction, not or weakly sinuate, forming very widely obtuse angle or almost rounding at shoulder; shoulder rounded, not distinct, with small dul tooth; lateral margin well rounded from shoulder to one-fourth or one-third, thence slightly contracted

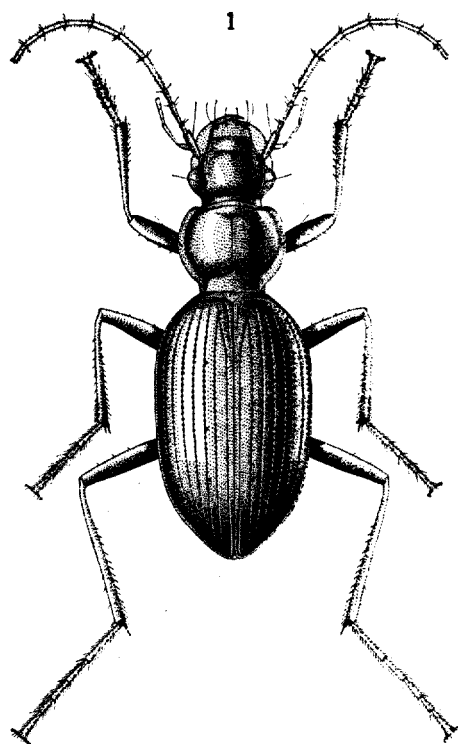


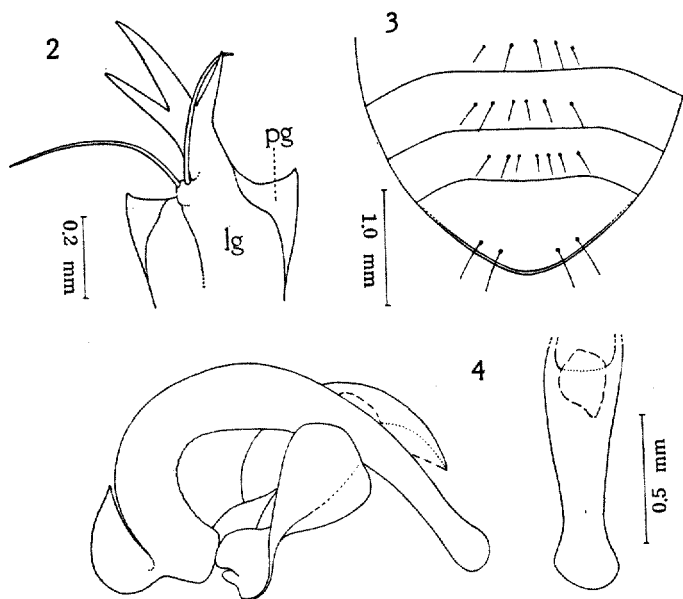
Fig. 1. *Leistus kumatai*, sp. nov., ♂.

up to behind middle in two ♂♂, parallel in one ♂ (elytra not in good condition to measure in one teneral ♀); apical sinuation faint; apex narrowly rounded; striae well impressed, distinctly punctate, striae and punctures becoming more or less faint towards apex, striae 6 to 8 less distinct than striae 1 to 5; scutellary striole moderately long; intervals somewhat convex, interval 3 with three pores adjoining stria 3 at one-sixth to one-fourth, middle and three-fourths.

Fore tarsi of ♂ with segments 1 to 3 narrowly dilated, segment 1 long, fully twice as long as segment 2, three times as long as wide, segment 2 a little less than one and one-half times as long as wide, segment 3 a little shorter and narrower than segment 2; in hind tarsi segment 1 one and two-thirds times as long as segment 2, segment 5 two-thirds as long as segment 1.

Prosternum, meso- and metepisterna and sternites 1 and 2 (at lateral areas) with some punctures; metepisterna more than one and one-fourth times as long as wide ($L/W=1.29$ in one ♂); sternites (Fig. 3) 3 to 5 with transverse row of five to seven setae (setae not symmetric in position and number), sternite 6 with two setae on either side in ♂ and ♀.

Aedeagus (Fig. 4) strongly curved before basal bulb, thence almost flat on ventral side up to middle though gently convex on dorsal side, well prolonged and fairly curved towards



Figs. 2-4. *Leistus kumatai*, sp. nov.

2. Ligula (lg) with paraglossae (pg) in lateroventral view.
3. Sternites 3 to 6, ♂. 4. Male genitalia.

apex, somewhat twisted to right side; apical lamella very long, somewhat asymmetrically, well dilated at apical part, apex widely rounded. Left paramere simple at apex.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, VI. 5, 1968, Gosainkund (at alt. 4200 m), T. Kumata leg. Paratypes: 1 ♂, same as holotype, 1 ♂, 1 ♀ (teneral), *do.* (at alt. 4300 m).

Remarks. The third to fifth sternites (Fig. 3) with a row of several setae of the new species

are very peculiar. They have only a pair of ordinary setae at the middle in the species of *Leistus* so far as I am aware.

Tribe SCARITINI

2. *Scarites subnitens* CHAUDOIR

Scarites subnitens CHAUDOIR†, 1855, Bull. Soc. Nat. Mosc., 28 (1): 87.

5 ex., V. 20, 1968, Rupakot Tal, No. 3 West (at alt. 750 m), T. Kumata leg.

3. *Scarites indus* OLIVIER

Scarites indus OLIVIER†, 1795, Ent., 3 (36): 9, pl. 1, fig. 2.

1 ex., V. 25, 1968, Balaju, Kathmandu (at alt. 1400 m), T. Kumata leg.

4. *Clivina tranquebarica* BONELLI

Clivina tranquebarica BONELLI†, 1813, Obs. Ent. 2, Mém. Acad. Sci. Turin: 484.

1 ex., VI. 22, 1968, Kathmandu (at alt. 1340 m), T. Kumata leg.

5. *Clivina semicarinata* PUTZEYS

Clivina semicarinata PUTZEYS†, 1877, Ann. Soc. Ent. Belg., 20 (Compt. Rend.): 44.

1 ex., VI. 24, 1968, Adhabar, Terai Forest (at alt. 300 m), T. Kumata leg.

Subfamily HARPALINAE

Tribe BROSCINI

6. *Brosicus* (*Nepalobrosicus*, subg. nov.) *bipilifer* ANDREWES

Brosicus bipilifer ANDREWES, 1927, Eos, 3: 71-72, fig. 5.

Brosicus eberti JEDLIČKA, 1965, Ergebn. Forsch.-Unternehmen Nepal Himalaya, Liefg. 2: 99, fig. 3.

Junior synonym, designated here.

24 ♂♂, 8 ♀♀, VI. 6, 1968, Thare Pati, Gosainkund (at alt. 3570~3600 m), T. Kumata and T. Matsumura leg.

I have examined one of the cotypes of *B. bipilifer* and two paratypes of *B. eberti* through the kindness of Drs. P. M. Hammond and H. Freude, finding no difference between the two species.

The pronotum is with two to four setae on each lateral margin before the middle. The setal numbers in the thirty-two specimens from Thare Pati are as follows:* —2 & 2 (25.0%), 2 & 3 (9.5%), 3 & 2 (12.5%), 3 & 3 (34.3%), 3 & 4 (0%), 4 & 3 (15.6%), 4 & 4 (3.1%).

The fore tarsi of the male have only the first and second segments dilated and furnished with adhesive hairs on the ventral side in this species, while they have the first to third segments dilated in the following *B. punctatus* (DEJEAN) as well as *B. cephalotes* (LINNÉ), the type-species. Therefore, I propose a new subgenus *Nepalobrosicus* to *B. bipilifer* (the type-species).

7. *Brosicus* (*Brosicus*) *punctatus* (DEJEAN)

Cephalotes punctatus DEJEAN, 1818, Spec. Gén. Col., 3: 431-432.

2 ♂♂, 1 ♀, VI. 7, 1968, Gosainkund (at alt. 2500 m), T. Kumata leg.; 1 ♀, VI. 8, 1968, Khurumsang, No. 1 West (at alt. 2500 m), T. Matsumura leg.

*2 & 3 means the pronotum is with two setae on the left lateral margin and three on the right margin excluding a pair of setae near the basal angles.

8. *Brosocosoma monticola*, sp. nov. (Figs. 5, 6)

Description. Length 9.0~9.6 mm. Width 3.4~3.6 mm

Black, shiny, elytra dark metallic blue; labrum dark reddish brown or reddish black, mandibles, palpi and antennae reddish brown, femora dark reddish brown to reddish black, basal area and apex reddish brown, tibiae reddish brown, tarsi light brown; ventral side black, reddish in part.

Head convex; dorsal side distinctly punctate in neck-constriction, faintly punctate in frontal impressions; microsculpture not describable; neck well constricted on lateral to dorsal side; temporae fairly tumid, gently oblique, oblique parts three-fourths as long as eyes; temporal ridges well visible between neck-constriction and apical margin of prothorax; eyes less convex than in Japanese *B. doenitzi* HAROLD; supraorbital setae in small foveae; frontal lateral

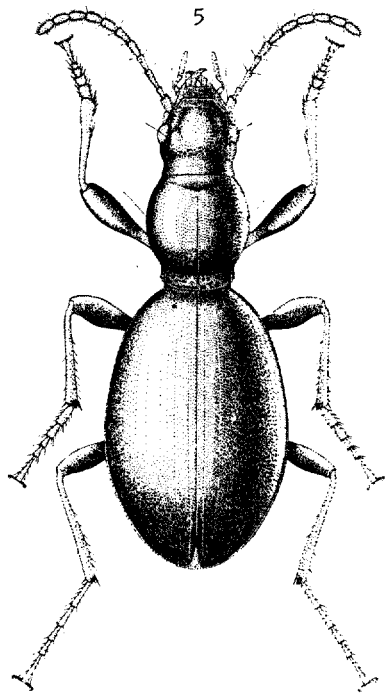


Fig. 5. *Brosocosoma monticola*, sp. nov., ♂.

furrows becoming fully deep near supraorbital setae, weakly bending inwards, terminating a little beyond level of supraorbital setae, sometimes faint curved line connecting termination of frontal lateral furrows to neck-constriction; frontal impressions rather shallow to somewhat deep, uneven, bifurcate posteriorly, inner part generally distinct, reaching mid-eye level; antennae somewhat moniliform (apparently shorter and stouter than in *B. doenitzi*), barely reaching base of pronotum, segment 1 well stout, in maximum length twice as long as segment 2, segment 3 a little more than twice as long as segment 2, one and one-half times as long as segment 4; palpi stouter than in *B. doenitzi*.

Pronotum well convex though less convex than in *B. doenitzi*, almost flat narrowly on disk, widest a little before middle, one and one-fourth times as wide as head, one and one-sixth times as long as wide (in one ♂ and five ♀♀ $WP/WH=1.23\sim1.27$, mean 1.26, $LP/WP=1.11\sim1.22$, mean 1.17, $WP/WBP=1.39\sim1.50$, mean 1.45); surface distinctly rugose-

punctate at basal pedunculate area; microsculpture hardly visible or traces of obscure transverse meshes visible; apex straight, not bordered; basal pedunculation distinct; base rounded, slightly narrower than apex, unbordered; lateral border limited on basal pedunculation (a little extending forward in *B. doenitzi*); proepisterna not observable beneath lateral margins in dorsal view; lateral setae in small faint fovea, at or a little before widest part; median line fine though distinct, not reaching both extremities; anterior transverse impression shallow to somewhat deep.

Wings atrophied. Elytra well convex though flat on disk, ovate, widest at middle, one and four-fifths times as wide as pronotum ($WE/WP=1.76\sim1.89$, mean 1.81, in one ♂ and

five ♀♀), generally a little more than one and one-half times as long as wide; surface not punctate; microsculpture invisible; lateral margin completely visible from above, not or slightly angulate at humeral pore; humeral pore less raised than in *B. doenitzi*; apical sinuation absent; apex narrowly rounded; striae very faint, only stria 1 almost complete and less faint, striae 2 to 7 visible on disk, striae 6 and 7 faintly punctate or replaced by row of some faint punctures, stria 8 absent; basal pore situated on supposed interval 3 or 4.

In fore tarsi of ♂ segment 1 as long as wide, segment 2 a little narrower than segment 1, a little wider than long; in fore tarsi of ♀ segment 1 as long as wide; in mid tarsi of ♂ segments 1 and 2 dilated,* with dense adhesive hairs (less numerous on segment 2) on ventral side, segment 1 twice (two and one-third times in ♀) as long as wide, segment 2 a little narrower than segment 1, a little less than twice as long as wide; in hind tarsi segment 5 one and one-seventh to one and one-sixth times as long as segment 1.

Ventral side not punctate; metepisterna fairly longer than wide ($L/W=1.27, 1.29, 1.33, 1.40$ in one ♂ and three ♀♀); sternite 6 with one seta on either side in ♂ and ♀.

Aedeagus (Fig. 6) well arcuate, ventral side with large rounded extension plate at middle, apical part rather stout, somewhat roundly protrudent ventrally, basal bulb very stout,

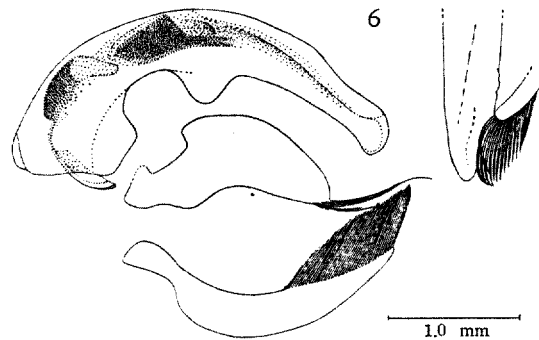


Fig. 6. Male genitalia of *Broscosoma monticola*, sp. nov.

truncate at ventral side, split at basal dorsal side. Left paramere (Fig. 6) not prolonged at apex, with some long setae at apex; right paramere fully longer and narrower than left paramere, with large tuft of dense long setae at apical area.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, VI. 5, 1968, Gosainkund (at alt. 4300 m), T. Kumata leg. Paratypes: 5 ♀♀, same as holotype.

Remarks. The present new species is, according to Andrewes, 1935 and Lindroth, 1961,** easily distinguishable from the two Indian species: —from *B. ribbei* PUTZEYS by the reduced wings, and the elytra without any microsculpture, with a basal pore on the supposed third

*In *B. doenitzi* HAROLD of Japan, the mid tarsi of the male are not dilated but slender like those of the female though the first segment is with some adhesive hairs at the apical one-third and the second segment is with a few ones only at the apical area on the ventral side.

**Andrewes, 1935, Faun. Brit. Ind., Col. Carabid. 2, Harpalinae, 1: 44-47; Lindroth, 1961, Opusc. Ent., 26: 145-152.

or fourth interval, and from *B. gracile* ANDREWES by the head and pronotum not aeneous on the dorsal side, the head punctate in the neck-constriction, the first antennal segment twice as long as the second segment, and the fully wider elytra (only "a third wider than prothorax" in *B. gracile*). It also differs from *B. moritulum* SEMENOW from West China, according to the original description, by the punctate head and the sixth sternite with a single seta on either side in the male and female—two in the female of *B. moritulum*.

Tribe TRECHINI*

9. *Trechus* (*Epaphius*) *tosioi* UÉNO

Trechus (*Epaphius*) *tosioi* UÉNO, 1972, Annot. zool. Japon, 45: 179–182, figs. 1–3.

2 ♂♂, VI. 5, 1968, Gosainkund (at alt. 4300 m), T. Kumata leg.

10. *Trechus* (*Epaphius*) *himalayanus* UÉNO

Trechus (*Epaphius*) *himalayanus* UÉNO, 1972, Annot. zool. Japon, 45: 182–185, figs. 4, 5.

1 ♂, 2 ♀♀, VI. 6, 1968, Thare Pati Gosainkund (at alt. 3570 m), T. Kumata leg.

Tribe BEMBIDIINI

11. *Tachys* (*Tachyura*) *championi* ANDREWES

Tachys championi ANDREWES, 1925, Ann. Mus. Civ. Nat. Genova, 51: 407, 453–454.

1 ♀, IV. 25, 1968, Pokhara, No. 3 West (at alt. 830 m), T. Kumata leg.

12. *Tachys* (*Tachyura*) *politus* MOTSCHULSKY

Tachys politus MOTSCHULSKY†, 1851, Bull. Soc. Nat. Mosc., 24 (2): 509.

1 ♀, VI. 22, 1968, Kathmandu (at alt. 1340 m), T. Kumata leg.

The single specimen has not spots on the elytra (f. *aspilotus* ANDREWES).

13. *Bembidion* (*Peryphus*) *pokharensis*, sp. nov. (Fig. 7)

Description. Length 4.2~4.5 mm. Width 1.8~1.9 mm.

Black, dorsal side (except scutellum) bluish (not bright blue), shiny; labrum dark reddish brown, mandibles reddish brown, palpi yellowish except brownish penultimate segment of maxillary palpi, antennal segment 1 yellow or pale yellowish brown, segments 2 and 3 and basal part of segment 4 reddish brown, remaining part of antennae dark reddish brown, basal area of pronotum slightly reddish, scutellum dark reddish brown, femora yellow, tibiae and tarsi brownish; ventral side dark reddish brown, somewhat iridescent.

Head gently convex; dorsal side with some small punctures between eyes, vertex not punctate; microsculpture indistinct except at posterior area where almost isodiametric meshes are well visible; eyes moderately large and convex; frontal impressions somewhat deep, diverging posteriorly, not reaching level of posterior supraorbital setae, extending onto clypeus in paratype, not extending in holotype; outside areas of frontal impressions gently convex, weakly carinate only at anterior supraorbital setae; antennae reaching basal one-sixth of elytra.

*Dr. S.-I. Uéno has kindly identified the two species of the Trechini.

Pronotum convex, widest a little behind one-third, transversely subcordate, one and one-fifth times as wide as head, at least one and one-fourth times as wide as long, base one and one-sixth times as wide as apex (in two ♀♀ $WP/WH=1.19, 1.22$, $WP/LP=1.24, 1.30$, $WP/WBP=1.15, 1.17$, $WBP/WAP=1.15, 1.17$); surface with some punctures in and near basal foveae and some smaller punctures at apical area; microsculpture faint, forming transverse meshes (absent on disk, a little distinct, almost isodiametric near lateral margins and at basal area); apex shortly bordered at lateral areas, sulci a little distant from apex inwards; apical angles somewhat protrudent; base gently oblique at lateral areas; basal angles almost rectangular (slightly more than 90° in holotype, slightly less than 90° in paratype), sharp, slightly protrudent laterally in paratype, moderately long carina present; lateral margins finely bordered, moderately contracted towards apex, well sinuate before basal angles, thence almost parallel (in holotype) or gently diverging (in paratype) up to basal angles; lateral furrows visible throughout from apical angles to basal angles though fully narrow; median line fine, shallow at apical half, somewhat deep at basal half; anterior transverse impression absent, posterior impression somewhat deep; basal foveae fairly deep; outside areas of basal foveae slightly raised.

Wings developed. Elytra convex, elongately elliptic, widest a little behind middle, one and three-fourths times as wide as pronotum ($WE/WP=1.71, 1.77$ in two ♀♀), more than one and one-half times as long as wide; microsculpture rather faint, meshes obscure and very transverse; lateral border terminating in small tooth opposite stria 5; lateral margin gently dilated from behind shoulder to widest part, even before widest part; apex well rounded; striae moderately impressed, a little deeper on disk, distinctly punctate, striae (except stria 1) and punctures becoming faint towards apex, stria 1 distinct up to apex though punctures obliterate, stria 2 rather faint at subapical area, thence becoming distinct at apical area and reaching stria 1, striae 3 to 7 very faint at apical area, striae 4 and 5 somewhat curved at basal one-third, stria 8 deep, adjoining stria 9 behind shoulder; scutellary striole long, deep at basal area; apical striole rather deep, not or faintly continuous to stria 7; intervals slightly convex on disk, interval 9 not visible from above at basal half, first pore on interval 3 at one-third, second pore at two-thirds.

Ventral side not punctate, glabrous; metasternal process bordered at lateral sides.

Distribution. Nepal.

Type-series. Holotype: 1 ♀, IV. 25, 1968, Pokhara, No. 3 West (at alt. 830 m), T. Kumata

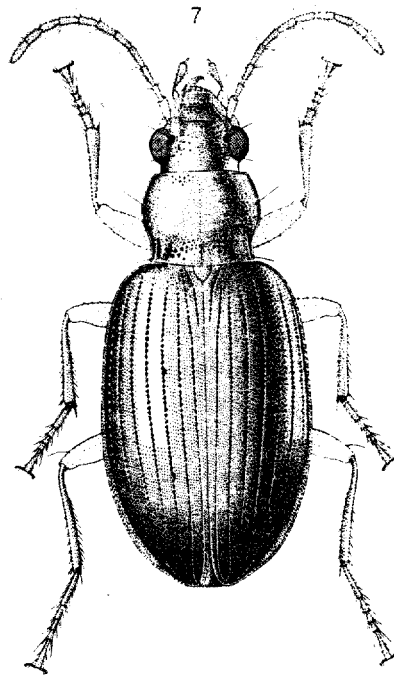


Fig. 7. *Bembidion (Peryphus) pokharensis*, sp. nov., ♀.

leg. Paratype: 1 ♀, same as holotype.

Remarks. This new species seems to resemble *B. hasurada* ANDREWES of Andrewes' *eutherum*-group of the Indian species (Andrewes, 1935),* but differs in its smaller size, the yellowish first segment of the antennae and yellowish femora, prominent eyes, shorter antennae, pronotum with a moderately long carina near the basal angle on either side, and wider elytra with the second stria shallower than the first and with the third to sixth striae more or less faint near the apex.

14. *Bembidion (Peryphus) kumatai*, sp. nov. (Figs. 8, 9)

Description. Length 4.0~4.2 mm. Width 1.6~1.7 mm.

Black, shiny, obscurely or hardly aeneous, elytra with dark yellowish patch at subapical area; labrum reddish black, mandibles reddish brown, palpi and antennae dark reddish brown or reddish black except yellowish apical segment of palpi and reddish brown basal part of segments 2 to 4, subapical patch of elytra on intervals 4 to 8 in one specimen, 5 to 9 in another specimen, legs dark reddish brown or reddish black; ventral side black.

Head gently or somewhat convex; dorsal side not punctate; microsculpture hardly visible except at posterior area where distinct isodiametric meshes are present; eyes moderately large and convex; frontal impressions rather deep, diverging, extending posteriorly behind posterior supraorbital setae; outside areas of frontal impressions convex, carinate near anterior supraorbital setae; antennae reaching one-sixth of elytra.

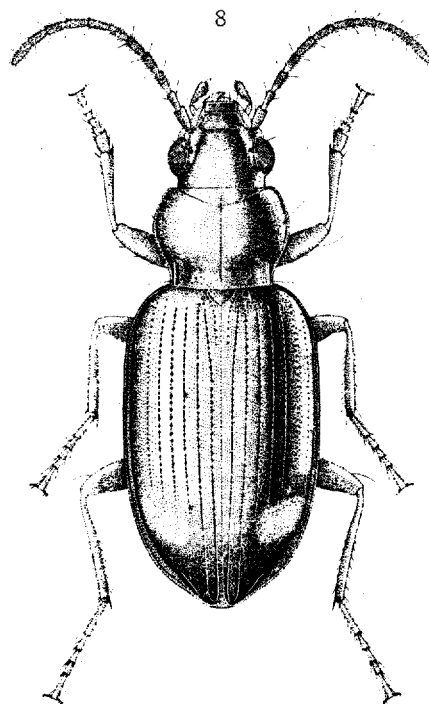


Fig. 8. *Bembidion (Peryphus) kumatai*, sp. nov., ♂.

Pronotum fairly convex, rather cordate, widest behind one-third, one and one-fourth times as wide as head, one and one-third times as wide as long, base a little wider than apex (in two ♂♂ $WP/WH=1.26, 1.26, WP/LP=1.33, 1.36, WP/WBP=1.31, 1.33, WBP/WAP=1.02, 1.10$); surface with a few punctures at inside areas of basal foveae; microsculpture absent; apex well bordered at lateral areas, sulci relatively long, fully distant from apex inside; apical angles slightly protrudent, weakly rounded; base slightly oblique at lateral areas; basal angles rectangular, with moderately long, rather weak carina inside; lateral margins hardly bordered, somewhat reflexed, fairly rounded towards apex and base, moderately sinuate before basal angles; lateral furrows somewhat wide; median line fine, rather shallow; anterior transverse impression faint, posterior impression somewhat deep; basal foveae fully deep; outside areas of basal foveae slightly

*Andrewes, 1935, Faun. Brit. Ind., Col. Carabid. 2, Harpalinae, 1: 96, 134.

raised.

Wings developed. Elytra rather convex, almost flat on disk, elongately elliptic, more than one and two-fifths times as wide as pronotum ($WE/WP=1.44$, 1.44 in two ♂♂), one and three-fifths times as long as wide; microsculpture not discernible; lateral border terminating in faint tooth, almost reaching stria 5; lateral margin parallel from basal one-third to three-fifths; apex well rounded; striae shallow (shallower in paratype) except stria 1, punctate, stria 1 deep at posterior half, stria 2 shallow but complete, reaching stria 1 at apex, striae 3 to 7 faint at subapical area, abbreviate at apical area, striae 6 and 7 replaced by row of fine punctures, stria 8 deep, reaching stria 9 behind shoulder; scutellary striole moderately long, somewhat deep at basal half, replaced by row of about five small punctures at apical half; apical striole deep, not continuous to stria 7; intervals flat, interval 9 visible throughout in dorsal view, first pore on interval 3 at one-third, second pore at two-thirds.

Ventral side impunctate, glabrous; metasternal process completely bordered, sulcus fully distant from apex of process.

Aedeagus (Fig. 9) stout, moderately curved, basal bulb deeply sinuate on right margin, right basal lobe fully short. Right and left parameres with two long setae (upper seta shorter than lower seta) at apex, with two short fine setae at subapical area.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, V. 6, 1968, Tukucha, Palpa (at alt. 2600 m), T. Kumata leg. Paratype: 1 ♂, same as holotype.

Remarks. The new species seems to be allied to *B. psiladorum* ANDREWES of Andrewes' *pamirensis*-group, and may be discriminated by the dorsal side without greenish reflections, head with moderately convex eyes, wider pronotum less punctate at the basal area, and narrower elytra without any humeral spot, with the apical striole deep.

The inner sack of the aedeagus has a spherical chitinized part before the basal bulb (Fig. 9).

15. *Bembidion (Peryphus) matsumurai*, sp. nov. (Figs. 10, 11)

Description. Length 3.9~4.0 mm. Width 1.6~1.7 mm.

Black, shiny; labrum black, mandibles reddish brown, palpi dark reddish brown except pale apical segment, antennal segments 1 and 2 and basal area of segments 3 and 4 pale brown or pale reddish brown, remaining part of antennae dark reddish brown, apical margin of elytra faintly reddish, legs light yellowish brown (femora less yellowish); ventral side black, epipleurae slightly brownish in Gorapani specimen.

Head gently convex; dorsal side not punctate in Godavari specimen, with a few indistinct punctures near posterior supraorbital setae in Gorapani specimen; microsculpture faint, transverse meshes visible in Godavari specimen, absent except at posterior area where dis-

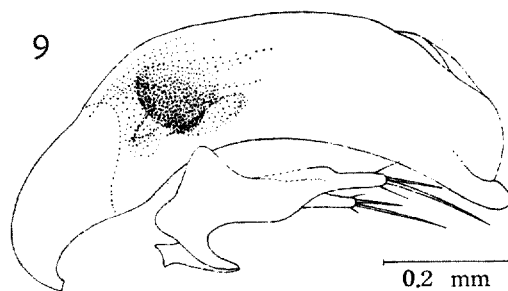


Fig. 9. Male genitalia of *Bembidion (Peryphus) kumatai*, sp. nov.

tince transverse meshes are present in Gorapani specimen; eyes moderately large and convex; frontal impressions deep, uneven, diverging, distinctly extending posteriorly behind posterior supraorbital setae; outside areas of frontal impressions convex, well carinate near anterior supraorbital setae; antennae somewhat stout, reaching one-fifth of elytra.

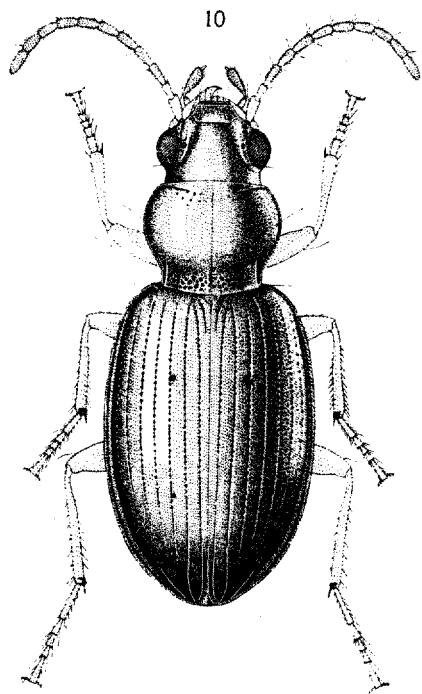


Fig. 10. *Bembidion (Peryphus) matsumurai*, sp. nov., ♀.

Pronotum well convex, cordate, widest a little behind one-third, one and one-fifth times as wide as head, one and one-fifth to one and one-fourth times as wide as long ($WP/WH=1.20, 1.21$, $WP/LP=1.21, 1.26$, $WP/WBP=1.39, 1.34$, $WBP/WAP=0.99, 1.05$, in one Gorapani specimen and one Godavari specimen respectively); surface distinctly, coarsely rugose-punctate at basal area (less distinctly punctate and hardly rugose in Godavari specimen), with some punctures at apical area; microsculpture absent (traces of meshes describable in Godavari specimen); apex well bordered at lateral areas, sulci longer than usual, distinctly remote from apex inwards; apical angles not protrudent but obtuse and narrowly rounded; base gently oblique at lateral areas; basal angles rectangular, with moderately long carina inside; lateral margins finely bordered, well rounded towards apex and base, with distinct sinuation before basal angles, thence almost parallel (in Gorapani specimen) or gently diverging (in Godavari specimen),

hypomera narrowly visible from above between widest part and basal angles; lateral furrows very narrow at apical area (behind apical angles); median line somewhat deep; anterior transverse impression obsolete, posterior impression somewhat deep; basal foveae deep, reaching basal carinae.

Wings rudimental. Elytra rather convex (less convex in Godavari specimen), ovate, widest near middle, a little more than one and one-half times as wide as pronotum ($WE/WP=1.51, 1.55$ in two ♀♀), one and one-half times as long as wide; microsculpture absent except on apical area where transverse meshes are well discernible; lateral border (Fig. 11) terminating in short hook, reaching base of stria 5; lateral margin roundly, well dilated from shoulder to before middle, thence weakly rounded up to behind middle; apex fairly rounded; striae moderately impressed and punctate (in Godavari specimen outer striae somewhat shallower), stria 1 deep at apical half, stria 2 distinct though less

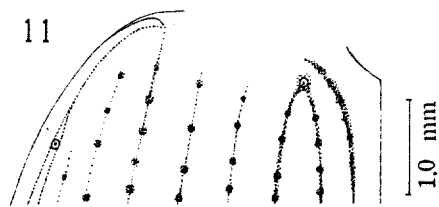


Fig. 11. Left elytron at basal area in *Bembidion (Peryphus) matsumurai*, sp. nov.

deep than stria 1, complete, somewhat deepened at apex, reaching stria 1, striae 3 to 7 faint at apical area, stria 8 deep, adjoining stria 9 behind shoulder; scutellary striole moderately long, deep; apical striole deep, faintly continuous to stria 7; intervals somewhat convex on disk, interval 9 visible throughout from above, first pore on interval 3 a little behind one-fourth, placed in fovea, second pore at or a little before two-thirds.

Ventral side not punctate, glabrous; metasternal process bordered at lateral sides.

Distribution. Nepal.

Type-series. Holotype: 1 ♀, V. 2, 1968, Gorapani, No. 4 West (at alt. 2780 m), T. Matsu-mura leg. Paratype: 1 ♀, V. 11, 1968, Godavari, Nepal valley (at alt. 1450 m), T. Kumata leg.

Remarks. Among the eighteen groups of the Indian *Bembidion* species classified by Andrewes (cf. the remarks of 12. *B. pokharensis*, sp. nov.), I cannot find any group to which the present new species should belong. According to Netolitzky (1943), it runs in with his *testaceum-fluviatile* group. Being not aware of any allied Indian species, I compare it with Japanese *B. misellum* HAROLD which resembles it in its size, colour of the antennae and legs, and the form of the pronotum: —*B. matsumurai* is deeply black and has the pronotum a little wider, less punctate at the apical area, reduced wings, and less convex elytra with a microsculpture only at the apical area where transverse meshes are rather distinct, the lateral border terminating in a hook, the second stria distinct up to the apex and with a deep apical striole.

16. *Tiruka gosainkundensis*, sp. nov. (Figs. 12, 13, 14)

Description. Length 4.4~4.6 mm (including mandibles). Width 1.7~1.8 mm.

Dark reddish brown, shiny, elytra shinier than pronotum, somewhat iridescent; labrum, mandibles, antennae, palpi and legs light brown, palpi somewhat yellowish, segments 4 to 6 of antennae somewhat reddish, lateral to apical margin and interval 1 of elytra faintly yellowish; ventral side less dark than on dorsal side.

Head convex; dorsal side impunctate; microsculpture distinct, isodiametric; temporae well tumid behind eyes, so head widest both at eyes and at temporae; posterior supraorbital setae well distant from eyes, a little behind level of hind margin of eyes; eyes small, rather flat, ventral margin well distant from buccal fissures; genae well visible in dorsal view before eyes; frontal impressions somewhat deep, almost parallel, outside areas of frontal impressions weakly convex; antennae reaching basal one-sixth or one-fifth of elytra; tooth of mentum short, wide, sharp;

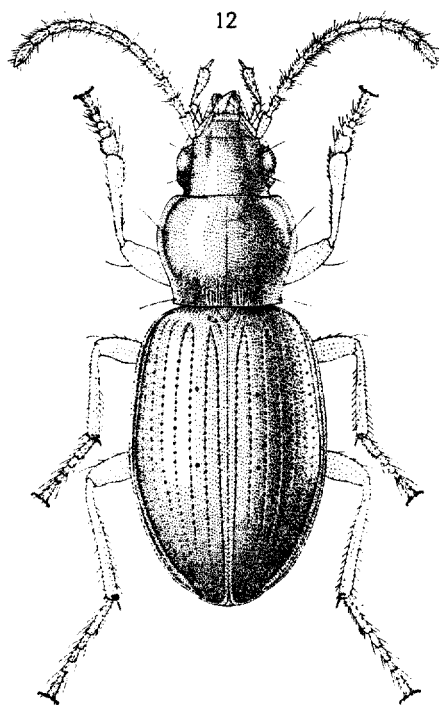


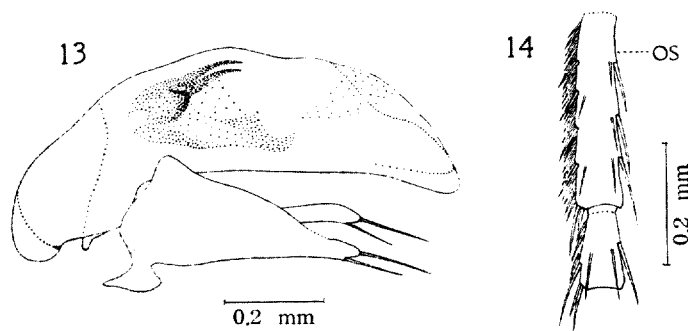
Fig. 12. *Tiruka gosainkundensis*, sp. nov., ♂.

maxillae not reaching apex of mandibles.

Pronotum subcordate, gently convex, widest behind one-third, one and two-fifths times as wide as head, more than one and one-fourth times as wide as long, base a little wider than apex ($WP/WH=1.40$, 1.40 , $WP/LP=1.26$, 1.31 , $WP/WBP=1.29$, 1.36 , $WBP/WAP=1.10$, 1.04 , in one ♂ and one ♀ respectively); surface not punctate, basal area somewhat distinctly, longitudinally rugose-carinate between basal foveae, hardly punctate; microsculpture somewhat distinct, forming fully transverse meshes; apex only slightly emarginate, bordered at lateral areas, sulci short, along apex; apical angles somewhat protrudent, rounded; base weakly oblique at lateral areas; basal angles almost rectangular, apex distinct (a little acutely protrudent laterally in one ♂), not carinate; lateral margins hardly bordered, arcuate, fairly sinuate before basal angles, reflexed at posterior half; anterior marginal setae at one-third, posterior setae a little before basal angles; lateral furrows rather wide; median line fine, somewhat deep, reaching base; anterior transverse impression indistinct, posterior impression somewhat deep; basal foveae fully deep, reaching lateral furrows.

Wings atrophied. Elytra ovate, gently convex, widest at middle, one and two-fifths times as wide as pronotum ($WE/WP=1.41$, 1.41 in one ♂ and one ♀), one and one-half times as long as wide; microsculpture rather faint, consisting of fine, close, transverse lines; shoulder widely rounded; lateral border terminating on base of interval 5 or near base of stria 6, termination hardly forming tooth; lateral margin relatively widely explanate-reflexed, slightly roundly, well dilated from behind shoulder to middle; apical situation faint; apex rounded; striae shallow, somewhat deep at basal area, with rather distinct punctures, stria 1 complete though punctures absent at apical one-third, other striae abbreviate at apical area, stria 8 adjoining stria 9 behind shoulder; scutellary striole short; apical striole shallow, rather short, faintly continuous to stria 5; intervals flat, though slightly convex at basal area, interval 3 with two pores between striae 2 and 3 in ♂ specimen, anterior pore at or a little behind one-fourth, posterior pore slightly behind middle, interval 3 of ♀ specimen with only one pore at one-third; marginal series of pores 4+2+2.

Segment 1 (Fig. 14) of mid and hind tarsi very slightly wider than segment 2, with dense brush-like setae on inner margin of ventral side (setae well visible from above) in ♂ and ♀.



Figs. 13, 14. *Tiruka gosainkundensis*, sp. nov.
 13. Male genitalia. 14. Segments 1 and 2 of right hind tarsus
 in dorsal view, ♀. os: outer side.

Ventral side not punctate, sternites glabrous; metepisterna one and one-fourth times as long as wide ($L/W=1.25$ in one ♂); metasternal process completely bordered.

Aedeagus (Fig. 13) short and stout, gently arcuate, apical part thick in lateral view, basal part well sinuate on right lateral side, right basal lobe a little shorter than left basal lobe. Right and left parameres with one seta at apex, with one seta at subapical area on ventral side.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, VI. 5, 1968, Gosainkund (at alt. 4300 m), T. Kumata leg. Paratype: 1 ♀, same as holotype.

Remarks. The present new species may easily be distinguishable from *T. bolivari* (ANDREWES) from Sikkim and *T. kashmirica* JEDLIČKA from Kashmir by the smaller size and the pronotum not punctate at the apical area.

The aedeagus has one (or two) somewhat intricate large copulatory piece(s) near the middle as indicated in Fig. 13.

The first segment of the mid and hind tarsi with dense setae on the inner margin of the ventral side (Fig. 14) is peculiar and appears to deserve to be a generic characteristic.

17. *Asaphidion championi* Andrewes

Asaphidion championi ANDREWES, 1924, Miss. Ind. Babault, Carab.: 18, 84-85, pl. 2, fig. 2.

1 ♂, 2 ♀ ♀, IV. 29, 1968, Biratanti, No. 4 West (at alt. 1150 m), T. Kumata leg.

Tribe PTEROSTICHINI

18. *Pterostichus (Bothriopterus) aeneocupreus* (FAIRMAIRE)

Platysma aeneocuprea FAIRMAIRE, 1887, Ann. Soc. Ent. Belg., 3f: 95.

1 ♂, 2 ♀ ♀, VII. 9, 1968, Namche Bazar, No. 3 East (at alt. 3400 m), T. Matsumura leg.

These specimens almost fit the key to the Indian species made by Andrewes,* the third elytral interval with three dorsal pores, however, differs from Fairmaire's description "intervallo tertio tantum quadripunctato".

19. *Pterostichus* (subg. ?) *indicus* (HOPE)

Omaseus indicus HOPE, 1831, Gray's Zool. Misc.: 21.

2 ♂ ♂, VI. 7, 1968, Gosainkund (at alt. 2500 m), T. Kumata leg.; 3 ♂ ♂, 1 ♀, VI. 8, 1968, Khurumsang, No. 1 West (at alt. 2500 m), T. Kumata and T. Matsumura leg.

Two of the six specimens examined are with an metallic tinge on the dorsal side: —one is somewhat greenish, the other is weakly purplish or pinkish.

20. *Pterostichus* (subg. ?) *letensis*, sp. nov. (Figs. 15, 16, 17, 18)

Description. Length 12.6~12.8 mm. Width 4.4~4.5 mm.

Black, shiny, elytra mat in ♀; labrum, mandibles, segments 1 to 4 of antennae dark reddish brown, palpi and segments 5 to 11 of antennae reddish brown, femora reddish black, tibiae dark reddish brown or reddish black, tarsi reddish brown to dark reddish brown; ventral side black, faintly reddish.

*Andrewes, 1937, Proc. Roy. Ent. Soc. Lond., (B) 6: 2-3.

Head gently convex; dorsal side not punctate (in paratype some deep irregular sulci present); microsculpture faint, forming somewhat transverse meshes; temporae not tumid (holotype) or slightly tumid (paratype); postgenae with faint carina (carina a little distinct

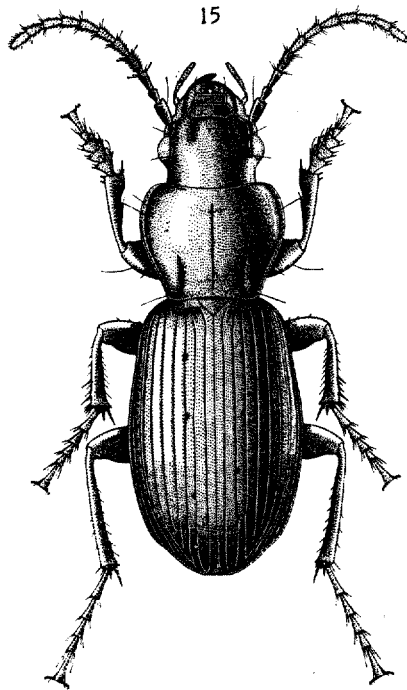


Fig. 15. *Pterostichus letensis*, sp. nov., ♂.

in paratype) near buccal fissures, carina not reaching eyes; eyes convex; frontal impressions deep, diverging posteriorly (deeply cut in paratype); antennae rather stout, reaching shoulders, segment 3 slightly shorter than segment 4, glabrous except for apical setae; mentum (Fig. 18) with lateral lobes larger than usual, well rounded, exceeding epilobes, cavities fully deep, united by deep transverse depression before base of mentum, median area faintly and longitudinally carinate except at basal area, median tooth weakly bifid at apex; submentum distinctly and transversely ridged near apex, with two setae on either side.

Pronotum weakly convex, almost flat on disk, rather cordate, widest at one-third, one and one-third times as wide as head, one and one-fourth to one and one-third times as wide as long (in one ♂ and one ♀ $WP/WH=1.33, 1.32$, $WP/LP=1.33, 1.26$, $WP/WBP=1.54, 1.55$, respectively), base a little narrower than apex; surface not punctate (holotype with short longitudinal

row of two to three faint punctures on level of anterior marginal setae on either side of disk, paratype with transverse rugae except at apical and median basal areas where longitudinal rugae are present); microsculpture rather faint, forming transverse meshes; apex moderately emarginate, finely bordered at lateral areas; apical angles inconspicuous, fairly rounded; base well emarginate in holotype, shallowly in paratype, at median area, shortly and fairly oblique and sulcate at lateral areas; basal angles fully obtuse (about 130°), dull at apex; lateral margins well bordered, moderately rounded towards apex, roundly and well contracted towards base, with shallow sinuation before basal angles; lateral furrows narrow, a little dilated at apical one-fourth, narrower before basal angles, continuous to lateral furrows of base; anterior marginal setae at one-fourth (in holotype one additional seta present before ordinary seta on left side), posterior setae a little before basal angles; median line distinct, reaching neither extremity (faintly reaching base in paratype); anterior and posterior transverse impressions faint; basal foveae rather linear, somewhat deep, gently curved, not reaching base of pronotum; outside areas of basal foveae fairly convex.

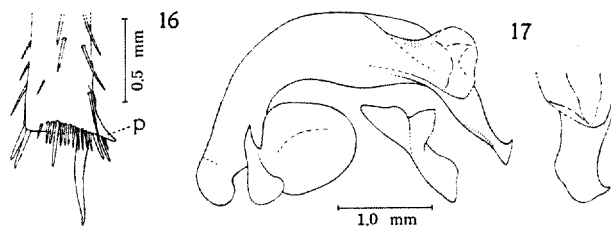
Wings atrophied. Elytra gently convex, elongately ovate, widest at middle, a little more than one and one-fifth times as wide as pronotum ($WE/WP=1.21, 1.24$ in one ♂ and one ♀), more than one and one-half times as long as wide; surface without punctures; micro-

sculpture somewhat distinct and isodiametric in ♂, fully distinct, almost isodiametric or somewhat longitudinal in ♀; basal border distinct, uneven, almost level, slightly undulate, forming dull small protuberance opposite stria 6; lateral margin moderately dilated from behind shoulder to middle, fairly sinuate at basal one-fourth; apical sinuation somewhat distinct in holotype, less distinct in paratype; inner plica distinct, withdrawn inwards, posterior part not adjoining marginal border (therefore not exposed); apex well rounded; striae deep in ♂, a little less deep in ♀, not punctate; scutellary striole very short, shallow; basal pore present; intervals fairly convex in ♂, slightly convex in ♀, interval 3 with four pores, first pore in ♂, first and second pores in ♀, adjoining stria 3, other pores adjoining stria 2, interval 7 a little narrowed and more convex at apical half, interval 8 distinctly narrower than interval 7, fully convex, interval 10 (lateral furrow) distinctly divided into two parts from basal one-fourth to apical sinuation, therefore stria 10 present; marginal series not spaced, composed of nineteen (paratype) or twenty-three (holotype) pores.

Fore tibiae with somewhat distinct protuberance (less distinct in ♀) at ventroapical area, protuberance with one short spine (shorter in ♂), mid tibiae of ♂ (Fig. 16) with somewhat distinct spur-like protuberance, hind tibiae of ♂ with smaller protuberance, at apex on inner side; fore tarsi of ♀ relatively stout, segment 1 as long as wide; segments 1 and 2 of mid tarsi and segments 1 to 3 of hind tarsi distinctly sulcate on outer side; tarsal segment 5 glabrous on ventral side.

Meso- and metepisterna and lateral areas of metasternum with some rather distinct punctures, inner area of proepisterna and lateral areas of prosternum with a few faint punctures; prosternal process wide, not bordered, flat, hardly declined posteriorly, truncate at apex; metepisterna fully shorter than wide ($L/W=0.76$ in one ♂); sternite 6 simple in ♂ and ♀, with one seta in ♂, two setae in ♀, on either side.

Aedeagus (Fig. 17) fully curved, rather bracket-shaped, somewhat twisted to right side,



Figs. 16, 17. *Pterostichus letensis*, sp. nov.

16. Left mid tibia at apical area, ♂. p: apical protuberance.

17. Male genitalia.

ventral side gently tumid at about middle; apical lamella large, fully longer than wide, right margin well sinuate, forming acute reflexed tooth near apex, left margin rounded and somewhat reflexed near middle, apex rounded. Right paramere narrow, not curved, somewhat pointed at apex.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, V. 8, 1968, Lete, Palpa (at alt. 2440 m), T. Kumata leg.

Paratype: 1 ♀, same as holotype.

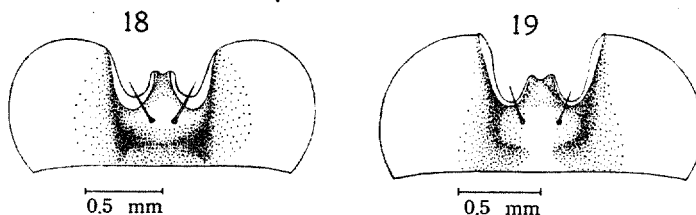
Remarks. The new species is allied to *P. novitzkii* (Tschitscherine) from India, some specimens (Sandhkph, Darjeeling, I. Hattori leg.) of which I have examined, in the form of the pronotum, the inner plica of the elytra withdrawn inwards, and the tibiae with a protuberance at the apex in the male, but easily distinguishable from it by its somewhat short body, black dorsal side, matter elytra (in the female) with a basal pore, striae deep throughout, intervals convex at the apical area, fore tarsi of the female a little stouter (the first segment is fully longer than wide in *P. novitzkii*), and irregular form of the apical lamella of the aedeagus.

21. *Pterostichus* (subg. ?) *matsumurai*, sp. nov. (Figs. 19, 20)

Description. Length 13.6~14.2 mm. Width 4.5~4.7 mm.

Black, shiny, elytra of ♀ hardly mat; labrum and mandibles almost black or slightly reddish in part, palpi dark reddish brown, antennal segments 1 to 4 black, segments 5 and 6 dark reddish brown, remaining antennal segments reddish brown, femora and tibiae black, tarsi dark reddish brown, segment 1 darker or blackish; ventral side black.

Head gently convex, wider at neck than in preceding sp.; dorsal side not punctate; microsculpture faint, almost isodiametric; temporae slightly tumid behind eyes; postgenae with obscure carina near buccal fissures, carina not reaching eyes; eyes a little less convex than in preceding sp.; frontal impressions deep, diverging at posterior half; antennae rather stout, not reaching base of pronotum, segment 3 as long as segment 4, glabrous except for apical setae; mentum (Fig. 19) with lateral lobes rather wide, moderately rounded, epilobes at or slightly exceeding level with lateral lobes, cavities deep (less deep than in preceding sp.),



Figs. 18, 19. Menta of *Pterostichus* spp.
18. *P. letensis*, sp. nov. 19. *P. matsumurai*, sp. nov.

both cavities not united but separated by somewhat raised area at middle, median tooth moderately bifid; submentum transversely and well ridged near apex, with two setae on either side.

Pronotum weakly convex, widest a little before one-third, less than one and one-third times as wide as head, more than one and one-third times as wide as long (in holotype and single paratype $WP/WH=1.28, 1.32$, $WP/LP=1.38, 1.35$, $WP/WBP=1.51, 1.54$, respectively), base five-sixths to six-sevenths as wide as apex; surface impunctate; microsculpture rather faint, forming transverse meshes; apex moderately emarginate at median area, finely bordered at lateral areas; apical angles not prominent, rounded; base fairly emarginate at median area, gently oblique and sulcate at lateral areas; basal angles obtuse, dull at apex; lateral

margins distinctly bordered, gently rounded towards apex, somewhat roundly, well contracted towards base, almost straight just before basal angles in holotype, slightly sinuate before basal angles in paratype; lateral furrows narrow, continuous to lateral furrows of base; anterior marginal setae at one-fifth, posterior setae a little before basal angles; median line distinct, reaching neither extremity; anterior and posterior transverse impressions faint; basal foveae somewhat deep, not reaching base of pronotum; outside areas of basal foveae fairly convex.

Wings atrophied. Elytra gently convex, elongately ovate, widest at middle, one and one-fifth times as wide as pronotum ($WE/WP=1.21$, 1.21 , in two ♀♀), one and three-fifths times as long as wide; surface not punctate; microsculpture distinct, isodiametric; basal border almost level, uneven and faint at middle (at bases of intervals 4 and 5), forming fully obtuse wide angle at shoulder; lateral margin moderately dilated from behind shoulder to middle, fairly sinuate at basal one-fifth; apical sinuation rather deep in paratype, less deep though distinct in holotype; inner plica normal, posterior part reaching marginal border; apex somewhat re-entrant, widely rounded; striae deep, not punctate; scutellary striole absent in paratype, complete striole present on right elytron, mostly obliterate except apical part adjoining stria 1 on left elytron in holotype; basal pore absent; intervals (♀) fairly convex, interval 3 with four pores, position of pores rather variable, generally first pore adjoining stria 3, second and third pores adjoining stria 2, fourth pore almost adjoining stria 2 (paratype) or between striae 2 and 3 (holotype), interval 5 without pore in holotype, with two pores adjoining stria 5 at basal half on left elytron, with one pore adjoining stria 4 at basal one-seventh on right elytron in paratype, interval 7 a little narrowed and more convex at apical area, interval 8 distinctly narrower than interval 7, well convex, interval 10 distinctly divided from before middle to apical sinuation by stria 10; marginal series not interrupted, composed of sixteen pores in general.

Fore tibiae of ♀ with faint ventroapical protuberance; fore tarsi of ♀ less stout than in preceding sp., segment 1 longer than wide; segment 1 of mid tarsi and segments 1 and 2 of hind tarsi with obsolete outer sulcus in holotype, somewhat distinct outer sulcus in paratype; tarsal segment 5 glabrous on ventral side.

Ventral side impunctate; prosternal process wide, not bordered, somewhat declined posteriorly, truncate at apex; metepisterna shorter than wide ($L/W=0.93$, 0.88 in holotype and paratype); sternite 6 (♀) with two setae on either side.

Distribution. Nepal.

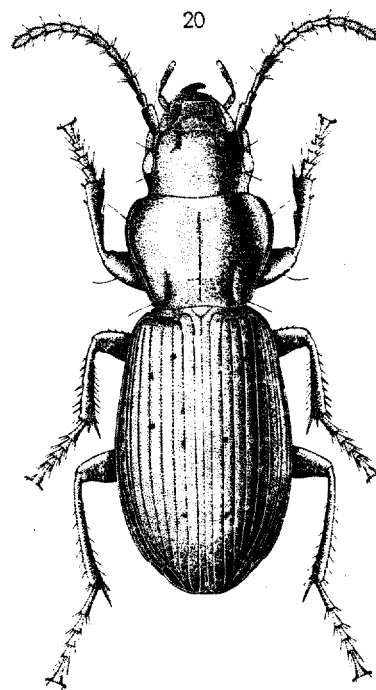


Fig. 20. *Pterostichus matsumurai*, sp. nov., ♀.

Type-series. Holotype: 1 ♀, VI. 6, 1968, Thare Pati, Gosainkund (at alt. 3570 m), T. Matsumura leg. Paratype: 1 ♀, same as holotype, T. Kumata leg.

Remarks. Although the male is not known, the present new species and the preceding one may belong to one and the same group. The differentiate characteristics from *P. letensis* are the mentum with less rounded lateral lobes and longer epilobes, the pronotum widest more anteriorly and with anterior marginal setae situated more forwards, the elytra hardly mat even in the female, with convex intervals, without basal pore, with a normal inner plica, and the smooth ventral side.

22. *Lesticus* sp.

1 ♀, VI. 16, 1968, Godavari, Nepal valley, (at alt. 1450 m), T. Kumata leg.

I cannot identify this and the following species.

23. *Lesticus* sp.

1 ♀, VII. 9, 1968, Balaju, Kathmandu (at alt. 1400 m), T. Kumata leg.

24. *Abacetus quadrinotatus* CHAUDOIR

Abacetus quadrinotatus CHAUDOIR, 1869, Bull. Soc. Nat. Mosc., 42 (2): 388-389.

2 ♂♂, IV. 19, 1968, Godavari, Nepal valley (at alt. 1450 m), T. Matsumura leg.

25. *Abacetus submetallicus* (NIETNER)

Distrigus submetallicus NIETNER, 1858, Ann. Mag. Nat. Hist., (3) 2: 177.

1 ♂, V. 20, 1968, Rupakot Tal, No. 3 West (at alt. 750 m), T. Kumata leg.; 1 ♀, V. 22, 1968, Pokhara, No. 3 West (at alt. 830 m), T. Kumata leg.

The male specimen agrees with Andrewes' key* to the Indian species of *Abacetus*, but the female specimen somewhat differs in having shallower elytral striae and flat elytral intervals.

Tribe AGONINI

26. *Calathus (Calathus) kollari* PUTZEYS

Calathus Kollari PUTZEYS, 1873, Ann. Soc. Ent. Belg., 41: 72-73.

1 ♀, IV. 19, 1968, Godavari, Nepal valley (at alt. 1450 m), T. Matsumura leg.; 7 ♂♂, 2 ♀♀, VI. 7, 1968, Gosainkund (at alt. 2500~3000 m), T. Kumata leg.; 1 ♂, VI. 8, 1968, Khurumsang, No. 1 West (at alt. 2500 m).

27. *Calathus (Nepalocalathus*, subg. nov.) *kumatai*, sp. nov. (Figs. 21, 22, 23)

Description. Length 15.5~16.0 mm. Width 5.6~5.9 mm.

Black, shiny, elytra slightly mat in ♀; labrum and mandibles dark reddish brown, palpi, antennae and tarsi reddish brown, lateral margins of pronotum and of elytra hardly reddish, femora and tibiae reddish black; ventral side black.

Head weakly convex; dorsal side not punctate; microsculpture distinct, forming transverse meshes; temporae not or slightly tumid behind eyes, oblique parts one and one-half times as long as eyes; eyes small, convex, ventral margin fairly remote from buccal fissures; posterior supraorbital setae a little behind level of hind margin of eyes, well distant from eyes; frontal impressions very shallow; antennae reaching basal one-fourth of elytra, segment 3 somewhat

*Andrewes, 1942, Proc. Roy. Ent. Soc. Lond., (B) 11: 21-28.

curved, one and one-third times as long as segment 4; mandibles slender; paraglossae separated from ligula by distinct notch; submentum with two setae (outer seta short) on either side.

Pronotum (Fig. 23) subcordate, somewhat convex, widest at one-fourth to one-third, one and one-fourth times as wide as head, one and one-fourth times as wide as long ($WP/WH=1.24, 1.24, 1.25$, $WP/LP=1.28, 1.18, 1.27$, $WP/WBP=1.39, 1.41, 1.46$, in two $\sigma\sigma$ and one φ respectively), base slightly narrower than apex; surface not punctate, faintly, transversely rugose on disk; microsculpture distinct, forming transverse meshes; apex almost straight, bordered, border somewhat faint at median area; apical angles well protrudent, narrowly rounded; base emarginate at median area, obliquely rounded at lateral areas, unbordered; basal angles obtuse, generally somewhat rounded; lateral margins unbordered, well reflexed at posterior half, gently, roundly contracted anteriorly, fairly, almost straightly contracted posteriorly, well sinuate near three-fourths, thence weakly diverging up to basal angles; anterior marginal setae at widest part, posterior setae on basal angles; lateral furrows shallow but rather wide; median line fine, distinct, abbreviate at apical and basal areas; anterior and posterior transverse impressions rather deep; basal foveae deep.

Wings atrophied. Elytra elongately ovate, rather convex, widest at middle, more than one and one-half times as wide as pronotum ($WE/WP=1.51, 1.56, 1.55$ in two $\sigma\sigma$ and one φ respectively), a little more than one and one-half to a little less than one and three-fifths times as long as wide; surface not punctate; microsculpture distinct, distincter in φ , isodiametric; basal border relatively short, gently sinuate, somewhat slanting in posterolateral direction, forming widely obtuse angle at shoulder; shoulder without tooth; lateral margin evenly, well dilated from behind shoulder to middle; apical sinuation absent; apex somewhat re-entrant and rounded; striae distinct, not punctate; scutellary striae moderately long or somewhat short; intervals rather convex, interval 3 without dorsal pore; basal pore present; marginal series continuous, composed of twenty-one to twenty-three pores.

Legs elongate; fore, mid and hind tarsi not sulcate at lateral areas; in fore tarsi of σ segments 1 to 4 somewhat cordate; in mid tarsi segment 1 shorter than segment 5 (segment 1/segment 5=0.93, 0.97 in two $\sigma\sigma$, 0.86 in one φ); in hind tarsi segment 1 slightly less than

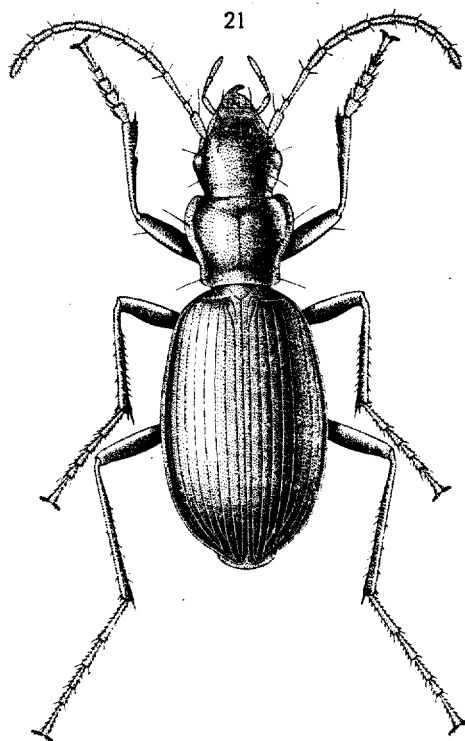
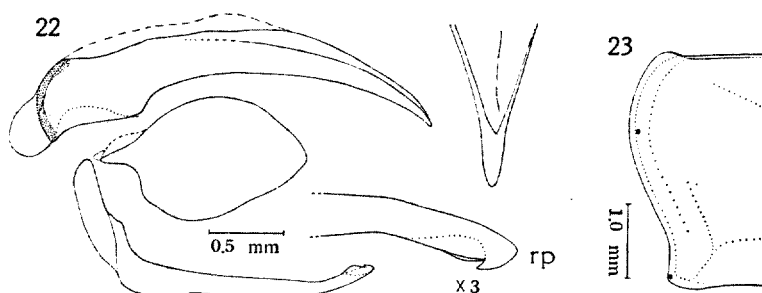


Fig. 21. *Calathus (Nepalocalathus) kumatai*, sp. nov., σ .

one and one-half times as long as segment 2 in two ♂♂, one and two-fifths times in one ♀, segment 5 five-sixths as long as segment 1 in two ♂♂, a little shorter (proportion 0.93) than segment 1 in one ♀; tarsal segment 5 with four to five setae (sometimes six in hind tarsi) on either ventrolateral margin.

Ventral side not punctate; prosternal process unbordered, finely well carinate behind; metepisterna rather short, one and one-fifth times as long as wide ($L/W=1.19$, 1.19 in one ♂ and one ♀), unbordered at outer side; sternite 6 with one seta on either side in ♂ and ♀.

Aedeagus (Fig. 22) gently curved, a little more curved near apex, slender, tapering towards apex, base distinctly compressed forming lamina; apical lamella slender, less than twice



Figs. 22, 23. *Calathus (Nepalocalathus) kumatai*, sp. nov.

22. Male genitalia. rp: right paramere at apical part in dorsal view. 23. Pronotum (holotype).

as long as wide, contracted at apical half, apex somewhat pointed though narrowly rounded, simple. Right paramere (Fig. 22) gently bent before apex, hooked near apex.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, V. 8, 1968, Lete, Palpa (at alt. 2440 m), T. Kumata leg. Paratypes: 1 ♀, same as holotype; 1 ♂, V. 11, 1968, Gorapani Deorali, No. 4 West (at alt. 2850 m), T. Kumata leg.

Remarks. According to Lindroth (1956),* this new species comes near his *ovipennis*-group, but it differs from *C. ovipennis* PUTZEYS, the single species of the group, from Mexico, in the larger size and the normal position of the male genitalia. I propose to the new species (the type-species) the new subgenus *Nepalocalathus*, in which the elytra have not dorsal pore on the third interval though have a basal pore, and the antennae have the third segment long and somewhat arcuate. The latter characteristic reminds of Caucasian *Thermoscelis*, but the third segment is a little longer: in *C. (Nepalocalathus) kumatai* it is one and one-third times as long as the fourth segment, while one and one-sixth to one and one-fifth times in *Thermoscelis insignis kamberskyi* REITTER.

28. *Pristosia*? sp.

1 ♀, V. 5, 1968, Lete, Palpa (at alt. 2400 m), T. Kumata leg., a teneral specimen, not in good condition to examine.

*Lindroth, 1956, Trans. Roy. Ent. Soc. Lond., 108: 552-561.

Kumataia, gen. nov.

Type-species: *Kumataia coriacea*, sp. nov. from Nepal.

Description. Body rather slender, not well convex, dorsal side rather mat, not punctate, glabrous. Head with large eyes; supraorbital setae complete; clypeus bisetose; antennae slender, pubescent from segment 4, segment 2 without seta on dorsal side; labrum almost truncate or slightly sinuate at apex, with six setae; mandibles rather slender, tapering, hooked at apex; apical segment of palpi (Fig. 25) subcylindrical; mentum (Fig. 25) without median tooth; ligula (Fig. 25) fully wide at apex, paraglossae splitted from ligula by narrow slit. Pronotum discoid, with two pairs of marginal setae. Wings developed. Elytra with basal border complete; lateral margin not interrupted at subapical area, without inner plica; outer apical angle and inner apical angle (Fig. 26) not dentate, apex not serrate; striae and scutellary striole normal; interval 3 with dorsal pores, interval 10 indicated; basal pore present. Legs slender; hind femora with two setae; tarsi glabrous on dorsal side, segments 1 to 3 of mid and hind tarsi bisulcate on dorsal side, segment 4 emarginate at apex, hardly bilobed, segment 5 setose on ventral side; claws smooth. Prosternal process unbordered, glabrous, not carinate behind; metepisterna longer than wide; sternites glabrous except for ordinary setae.

Remarks. So far as I am aware, the tooth of the mentum is absent in *Olisthopus* DEJEAN and *Arhytnus* BATES of the subtribe Agonina to which the present new genus belongs. From *Olisthopus* it is distinguishable by the elongate mandibles and the fully shagreened dorsal side, and from *Arhytnus*, according to Andrewes (1931),* it is distinguished by the frontal impressions not punctiform, the paraglossae not adnate to the ligula, and the fifth tarsal segment setose on the ventral side. This new genus is dedicated to Dr. T. Kumata.

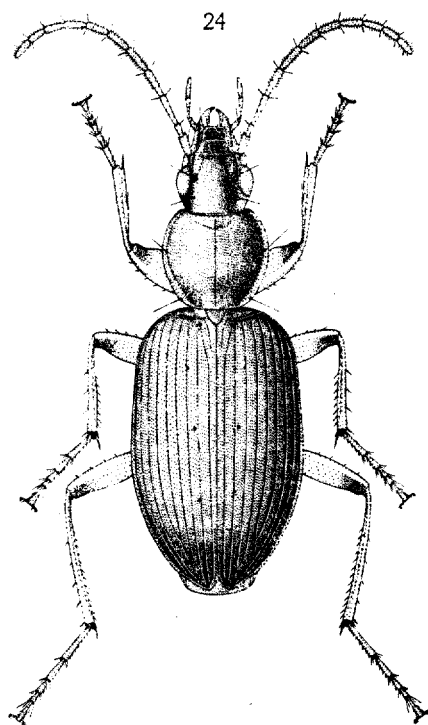
29. *Kumataia coriacea*, sp. nov. (Figs. 24, 25, 26)

Description. Length 9.8~10.0 mm. Width 3.6~3.7 mm.

Black, head half-shiny, pronotum and elytra mat (elytra a little matter than pronotum); labrum reddish black, yellowish at apical margin, mandibles reddish brown, dark in part, palpi, antennal segments 1 and 5 to 11 brown or reddish brown, segments 2 to 4 yellowish brown, lateral margins of pronotum and of elytra hardly reddish or only slightly reddish in part, legs pale yellowish brown, apical part of femora and basal part of tibiae dark, tarsi more brownish than tibiae, segments 4 and 5 reddish; ventral side black, epipleurae faintly brownish at posterior half.

Head weakly convex; dorsal side not punctate; microsculpture fully distinct, meshes isodiametric; neck moderately constricted at lateral sides, constriction not extending onto dorsal side; temporae not tumid behind eyes, oblique parts one-third as long as eyes; eyes large, gently convex, ventral margin remote from buccal fissures in some distance; anterior supraorbital setae set in foveola, posterior supraorbital setae on level of hind margin of eyes, fairly distant from eyes; frontal lateral furrows rather shallow; frontal impressions shallow; antennae reaching basal one-fourth of elytra, segment 3 longest, one and one-third times as long as seg-

*Andrewes, 1931, Journ. F. Malay State Mus., 16: 473-474.

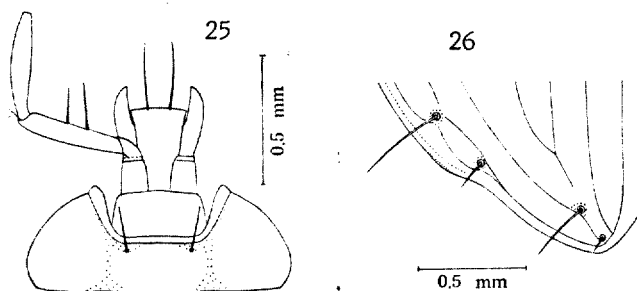
Fig. 24. *Kumataia coriacea*, sp. nov., ♀.

ment 1, slightly longer than segment 4, segment 4 glabrous at basal one-third; apical segment of maxillary palpi as long as penultimate segment; submentum with one seta on either side.

Pronotum somewhat convex, widest at two-fifths, one and two-fifths times as wide as head, one and one-sixth times as wide as long (in three ♀♀ $WP/WH=1.35, 1.40, 1.41$, $WP/LP=1.11, 1.11, 1.18$); surface not punctate, covered with very distinct microsculpture forming isodiametric small meshes, so surface well shagreened throughout, basal area somewhat rugose; apex deeply emarginate, completely, well bordered; apical angles distinctly protrudent, narrowly rounded; base weakly rounded at median area, fairly rounded at lateral areas, not bordered; basal angles rounded off; lateral margins not bordered, narrowly reflexed at anterior half, widely, more reflexed at posterior half; anterior marginal setae at two-fifths, posterior setae at seven-eighths; median line fine but distinct, almost reaching (or

abbreviate just before) both extremities; anterior and posterior transverse impressions shallow; basal foveae rather deep.

Elytra somewhat convex, widest at middle, one and one-half to one and three-fifths times as wide as pronotum ($WE/WP=1.48, 1.59, 1.60$ in three ♀♀), one and three-fifths times as long as wide; surface with strong microsculpture forming small isodiametric meshes, more shagreened than on pronotum; basal border moderately sinuate and slanting, forming obtuse angle at shoulder; lateral margin moderately dilated from behind shoulder to middle; apical sinuation somewhat distinct; apex (Fig. 26) well re-entrant or obliquely truncate at inner

Figs. 25, 26. *Kumataia coriacea*, sp. nov.

25. Mentum, labial palpus, and ligula with paraglossae.

26. Left elytron at apical part.

apical angle; striae fine, shallow though becoming deep at apical area, not punctate; intervals almost flat or slightly convex, interval 3 with three pores at one-fifth, two-fifths, and two-thirds, first pore adjoining stria 3, second and third pores adjoining stria 2 (in holotype second pore a little separated from stria 2); marginal series not interrupted, composed of fifteen pores.

Fore tibiae distinctly, longitudinally sulcate and carinate; segments 1 to 3 of fore tarsi in ♀ bisulcate, inner and outer sulci of mid and hind tarsi distinct, interspace of both sulci somewhat carinate, segments 1 to 3 of mid and hind tarsi with one row of spinous setae on either margin of ventral side, but segment 1 of hind tarsi with some short fine setae between two rows, segment 5 with three distinct setae on either ventrolateral margin; hind tarsi one and one-half times as long as width of head, segment 1 slightly less than one and one-half times as long as segment 2, segment 5 rather short, two-thirds as long as segment 1.

Ventral side completely impunctate; metepisterna less than one and one-fourth times as long as wide ($L/W=1.16, 1.23$ in two ♀♀), bordered at front, outer and inner sides; sternite 6 with two setae on either side in ♀.

Distribution. Nepal.

Type-series. Holotype: 1 ♀, VI. 10, 1968, Sundari jal, Kathmandu (at alt. 1450 m), T. Kumata leg. Paratypes: 1 ♀, same as holotype; 1 ♀, VI. 27, 1968, Jiri, No. 2 East (at alt. 1900 m), T. Matsumura leg.

30. *Agonum* (*Agonum*) *kumataianum*, sp. nov.

Description. Length 6.5 mm. Width 2.7 mm.

Brownish black (dark reddish brown under spotlight), head and pronotum slightly aeneous, somewhat mat, elytra shiny; labrum, mandibles and palpi reddish brown, apical one-third of terminal segment of maxillary palpi pale, antennae, lateral margins of pronotum, lateral to apical margin of elytra, and legs pale yellowish brown or brownish yellow, antennal segments 4 to 11 faintly reddish, lateral yellowish areas of pronotum widened near basal angles; ventral side reddish brown, hypomera and epipleurae yellowish.

Head gently convex; dorsal side not punctate; microsculpture distinct, isodiametric; neck not constricted on dorsal side; temporae short, well oblique; eyes fully large and convex, ventral margin reaching buccal fissures; posterior supraorbital setae fairly before level of hind margin of eyes, interspace one and one-tenth times as wide as interspace of anterior supraorbital setae; frontal impressions shallow, obscurely reaching anterior supraorbital setae; antennae reaching basal one-eighth of elytra, pubescent from segment 4, segment 2 without additional setae, segment 4 one and one-fourth times as long as segment 3; apical segment of maxillary palpi one and one-fifth times as long as penultimate segment; tooth of mentum triangular, acute at apex; submentum with two setae (outer seta fully shorter than inner seta) on either side.

Pronotum discoid, rather convex, widest before middle, less than one and one-third times as wide as head, more than one and one-fourth times as wide as long ($WP/WH=1.30, WP/LP=1.28$, in one ♂); surface impunctate; microsculpture distinct, forming slightly transverse meshes (isodiametric at marginal areas); apex almost even, border interrupted at

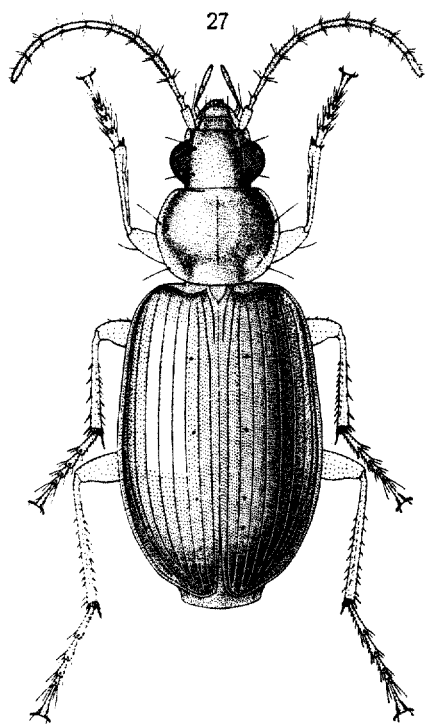


Fig. 27. *Agonum (Agonum) kumataianum*,
sp. nov., ♂.

middle; apical angles hardly protrudent, obtuse, somewhat rounded; base gently rounded at median area, slightly roundly, well oblique at lateral areas, unborded; basal angles indistinct, well rounded; lateral margins unborded, slightly roundly, moderately contracted towards apex and base (a little less contracted towards base), explanate parts narrow at apical half, widened posteriorly, reflexed near basal angles; anterior marginal setae behind one-third, posterior setae at four-fifths adjoining lateral margins; median line fine, obscurely reaching apex, obliterate at basal area; anterior transverse impression faint, posterior impression somewhat distinct; basal foveae deep.

Wings developed. Elytra rather convex, widest a little behind middle, one and two-thirds times as wide as pronotum ($WE/WP=1.66$), one and one-half times as long as wide; surface not punctate; microsculpture faint, meshes transverse; basal border well sinuate, rounding at shoulder; shoulder distinct; lateral margin slightly sinu-

ately, moderately dilated from behind shoulder to middle; apical sinuation faint; apex reentrant and rounded; striae somewhat fine, finely punctate at basal half; scutellary striole developed, finely punctate, free at apex; basal pore present; intervals flat, interval 3 with four pores, first pore at one-fourth, remote from stria 3, other pores more or less spaced from stria 2; marginal series continuous, composed of fifteen pores.

Fore tibiae distinctly sulcate and carinate; segments 1 to 3 of mid and hind tarsi distinctly bisulcate, interspace of sulci carinate, ventral side with one row of spines on either margin, glabrous between rows; segment 4 of fore and mid tarsi emarginate at apex, with one short lobe (other lobe almost absent); segment 5 with three distinct setae on each ventrolateral margin; hind tarsi one and one-fourth times as long as width of head, segment 1 one and one-third times as long as segment 2, segment 5 slightly longer than segment 1.

Ventral side not punctate; prosternal process glabrous, fully declined posteriorly; metasternum long, one and three-fifths times as long as wide ($L/W=1.63$), sulcate at front, outer, inner and hind sides, outer sulcus fully deep except on outer front area, continuous to deep hind sulcus; sternite 6 of ♂ simple at apex, with one seta on either side.

Aedeagus (Fig. 28) fairly arcuate, moderately stout; apical lamella triangular, almost as long as wide, evenly, well contracted towards apex, apex pointed though slightly rounded.

Distribution. Nepal.

Type-specimen. Holotype: 1 ♂, VI. 7, 1968, Gosainkund (at alt. 2500~3000 m), T.

Kumata leg.

Remarks. There is in many respects a strong similarity between this new species and *A. (A.) scintillans* BOHEMAN from China, from which, however, it is easily distinguishable by the smaller size, the head with posterior supraorbital setae before a level with the hind margin of the eyes (on a level in *A. scintillans*), the second antennal segment without any secondary setae (with about two short secondary setae besides one long ordinary seta near the apex in the Chinese species), and the elytra without distinct microsculpture and shinier. I have been able to compare it with a female specimen of *A. scintillans* from Foochow, China, determined by G. E. Bryant, through the kindness of Dr. P. M. Hammond.

31. *Agonum (Platynus) praedator* (ANDREWES)

Anchomenus praedator ANDREWES, 1930, Trans. Ent. Soc. Lond., 78: 8, 38-39.

1 ♂, V. 5, 1968, Larjung, Palpa (at alt. 2550 m), T. Kumata leg.

32. *Agonum (Platynus?) tetrasetosum*, sp. nov. (Fig. 29)

Description. Length 10.4~11.3 mm. Width 4.2~4.5 mm.

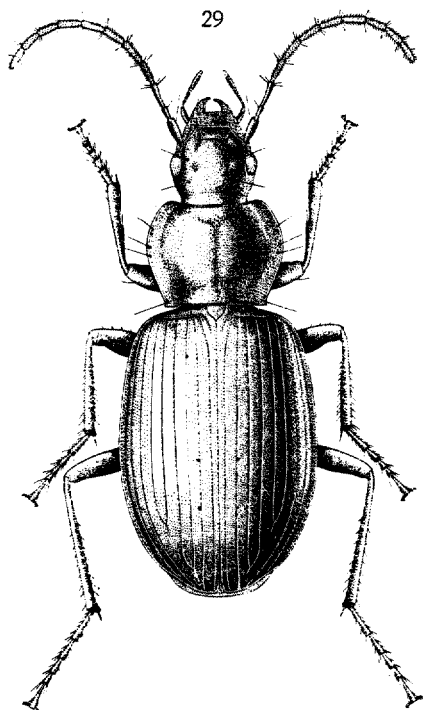


Fig. 29. *Agonum (Platynus) tetrasetosum*, sp. nov., ♀.

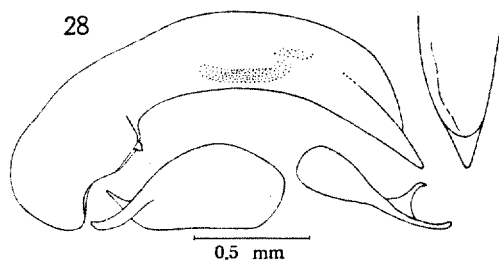


Fig. 28. Male genitalia of *Agonum (Agonum) kumataianum*, sp. nov.

Black, rather shiny; labrum reddish black, mandibles and palpi dark reddish brown, apical one-third of terminal segment of palpi somewhat pale, antennal segments 1 to 4 dark reddish brown to reddish black, remaining antennal segments reddish brown, somewhat dark, lateral margins of pronotum and of elytra black (in one specimen lateral margins of pronotum faintly reddish), tibiae somewhat reddish, tarsi dark reddish brown; ventral side black.

Head convex, frons with shallow depression on either side between eyes; dorsal side not punctate; microsculpture rather distinct, isodiametric; neck well constricted on lateral to dorsal side; tempora tumid, a little shorter than eyes; eyes weakly convex, somewhat small, ventral margin well distant from buccal fissures; posterior supraorbital setae fully distant from eyes, distinctly behind level of hind margin of eyes, interspace a little narrower than interspace of anterior supraorbital setae; frontal impressions shallow, obscurely reaching anterior supraorbital setae; antennae

reaching basal one-sixth of elytra, densely pubescent from segment 4, segment 2 glabrous except for single ordinary seta, segment 3 as long as segment 4; apical segment of maxillary palpi a little longer than penultimate segment; mentum concave behind each seta, tooth stout, roughly twice as wide as long, emarginate at apex; submentum with two setae (outer seta short) on either side.

Pronotum weakly convex on disk, widest before middle, one and three-fifths times as wide as head, more than one and one-third times as wide as long (in three ♀♀ $WP/WH=1.56, 1.61, 1.62$, $WP/LP=1.34, 1.38, 1.39$, $WP/WBP=1.32, 1.36, 1.37$); surface not punctate; microsculpture somewhat distinct, forming transverse meshes; apex distinctly emarginate, completely bordered; apical angles well protrudent-rounded; base shallowly emarginate at median area, weakly, inversedly (viz. posterolaterally) oblique and reflexed at lateral areas, border obliterate near basal angles; basal angles a little more than 90° , apex a little protrudent laterally as small tooth; lateral areas well explanate, reflexed at posterior half; lateral margins obscurely bordered, faintly roundly, moderately contracted towards apex, evenly (very slightly sinuately to very slightly roundly), moderately contracted towards base, with small notch at posterior seta; marginal setae four on either side, three at anterior half, posterior setae just before basal angles; median line fine but distinct, reaching neither extremity, disk well depressed along median line; anterior transverse impression somewhat deep, posterior impression shallow; basal foveae fully deep.

Wings very small. Elytra almost flat or weakly convex, ovate, widest at middle, at most one and one-half times as wide as pronotum ($WE/WP=1.44, 1.50$ in two ♀♀), one and two-fifths times as long as wide; surface not punctate; microsculpture distinct, forming fully transverse meshes; basal border weakly sinuate, slightly slanting in posterolateral direction, almost rounding at shoulder; shoulder widely rounded; lateral margin fairly dilated from behind shoulder to middle; apical sinuation faint; apex rounded; striae fine, obscurely punctate; scutellary striole rather faint, short, on interval 1; basal pore absent; intervals almost flat, outer intervals a little convex, interval 3 with three pores at about one-fifth, near middle, and at three-fourths to four-fifths (position rather variable), anterior pore adjoining stria 3, posterior two adjoining stria 2; marginal series continuous, composed of fifteen to sixteen pores.

Fore tibiae finely sulcate; fore tarsi of ♀ not sulcate; segments 1 to 3 of mid tarsi and segments 1 to 4 of hind tarsi bisulcate (inner sulcus more or less shallow and faint), with two rows of spines on either area of ventral side, with longitudinal glabrous space between inner rows; segment 4 moderately emarginate at apex, somewhat bilobed in fore and mid tarsi; tarsal segment 5 with three distinct setae on either ventrolateral margin; hind tarsi more than one and two-fifths times as long as width of head, segment 1 one and one-half times as long as segment 2, segment 5 a little shorter than segment 1.

Ventral side punctate only on mesosternum and mesepisterna except posterior area; prosternal process glabrous, well declined at apex in profile; metepisterna short, one and one-fifth times as long as wide ($L/W=1.17, 1.23$ in two ♀♀), sulcate at outer, front and inner sides, outer sulcus somewhat shallow; sternite 6 (♀) with five setae on either side.

Distribution. Nepal.

Type-series. Holotype: 1 ♀, V. 11, 1968, Gorapani Deorali, No. 4 West (at alt. 2850 m), T. Kumata leg. Paratypes: 2 ♀♀, same as holotype.

Remarks. The pronotum with three setae at the apical half is characteristic in the new species. So far as I am aware, the following two species have at least two setae at the apical half of the pronotum: —*A. trisetosum* LANDIN from Burma (two setae), and *A. comatum* (ANDREWES) from India and Indo-China (four to five setae). The former is different from the Nepalense species by the "strongly prominent eyes", the pronotum "sinuate before the pointed hind angles", and the elytral microsculpture "very conspicuous, formed by isodiametric meshes"; the latter is far distant from the new species in its "dull yellow" colour (though the elytra are sometimes wholly black), the head with "a few fine punctures on the neck", the pronotum "densely and confluent punctate" at the basal area, and the elytra with "from four to six setiferous pores" on the third and fifth intervals.

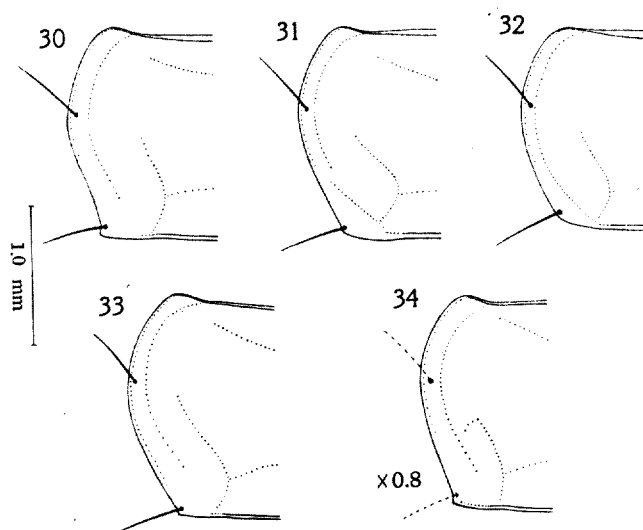
33. *Agonum* (subg. ?) *montuosa*, sp. nov. (Figs. 30–32, 35, 42)

Description. Length 7.0–8.5 mm. Width 3.2–3.5 mm.

Black, shiny, elytra sometimes faintly iridescent; labrum dark reddish brown or reddish black, mandibles reddish brown to dark reddish brown, palpi and antennae reddish brown, slightly dark except segment 1 of antennae in general, lateral margins of pronotum almost black or somewhat reddish, lateral to apical margin of elytra brownish or yellowish brown, interval 1 reddish from base to apex, femora reddish brown to dark reddish brown, tibiae and tarsi brown or light reddish brown; ventral side black, slightly reddish in part.

Head well convex, frons with faint depression on either side between eyes, without transverse impression between frontal impressions; dorsal side not punctate; microsculpture generally faint, sometimes more or less distinct, meshes isodiametric (transverse behind neck-constriction); neck distinctly constricted from lateral to dorsal side; temporae fairly tumid behind eyes, tumid parts a little shorter than eyes; eyes less convex and less large than in *A. cursor* (ANDREWES), ventral margin fully distant from buccal fissures; posterior supraorbital setae behind level of hind margin of eyes, widely distant from eyes, more remote from eyes than from neck-constriction, interspace a little narrower than interspace of anterior supraorbital setae; frontal impressions shallow, diverging posteriorly, sometimes reaching (sometimes obsolete near) anterior supraorbital setae; antennae reaching basal one-sixth of elytra, pubescent from segment 4, segment 2 glabrous except for one ordinary seta, segment 3 as long as segment 4; apical segment of maxillary palpi a little less than one and one-third times as long as penultimate segment; tooth of mentum stout, more or less truncate or somewhat bifid at apex, shallowly concave or depressed at middle of apical area; submentum with two setae (outer seta short) on either side.

Pronotum (Figs. 30–32) gently convex, widest behind one-third, transverse, variable in shape, sometimes somewhat cordate, sometimes a little discoid, at least one and one-third times as wide as head, one and one-third to one and one-half times as wide as long (in five ♂♂ and five ♀♀ WP/WH=1.33~1.44, mean 1.38, WP/LP=1.34~1.54, mean 1.44, WP/WBP=1.23~1.38, mean 1.30), base wider than apex; surface not punctate; microsculp-



Figs. 30-34. Pronota of *Agonum* spp.
 30-32. *A. montuosa*, sp. nov. 33. *A. himalayae*, sp. nov.
 34. *A. cursor* (ANDREWES) (cotype).

ture rather faint, forming transverse meshes; apex fairly emarginate in general, completely, distinctly bordered; apical angles generally well protrudent and rounded; base straight or gently rounded at median area, generally gently oblique at lateral areas, border distinct, obliterate at lateral areas; basal angles sometimes almost rectangular, with small blunt tooth, sometimes obtusely angulate, sometimes obtuse and somewhat rounded; lateral margins obscurely bordered, moderately rounded towards apex, evenly contracted towards base, sometimes sinuate before basal angles, rarely weakly rounded towards base, often with small notch at posterior marginal seta; lateral explanate areas somewhat wide, reflexed near hind angles; anterior marginal setae at or slightly before widest part, posterior setae a little before basal angles; median line fine, distinct, generally reaching neither extremity; anterior transverse impression somewhat deep, posterior impression shallow; basal foveae deep, faintly extending to middle parallel with lateral margins.

Wings atrophied. Elytra gently convex though flat on disk, widely ovate, widest at middle, one and one-half times as wide as pronotum ($WE/WP=1.43\sim1.62$, mean 1.52, in five ♂♂ and five ♀♀), one and one-fourth to one and one-third times as long as wide; surface not punctate; microsculpture somewhat distinct or rather faint, consisting of close transverse lines or forming fully transverse, obscure meshes; basal border level, slightly sinuate, forming widely obtuse angle or rounding at shoulder; shoulder rather distinct; lateral margin roundly, well dilated from behind shoulder to middle; apical sinuation faint; apex fairly rounded; striae fine and shallow, not or faintly punctate, outer striae shallower and rather faint except distinct stria 8; scutellary striole short, distincter than striae; basal pore generally absent, sometimes present on both elytra or either right or left elytron; intervals flat, interval 3 with three pores at one-fifth to one-fourth, about middle, and three-fourths to four-fifths, first

pore adjoining stria 3, second and third pores adjoining stria 2; marginal series generally not interrupted, composed of fourteen to fifteen pores.

Sulcus of fore tibiae very faint, visible at basal area, or hardly visible; fore tarsi of ♀ not sulcate; two basal segments of mid and hind tarsi faintly sulcate at outer side (sulcus sometimes almost invisible), ventral side of segments 1 to 3 of mid and hind tarsi with two rows of spinous setae (in mid tarsi setae a little dense and rows not distinct) on either area, with longitudinal glabrous space in middle; segments 4 of fore and mid tarsi moderately bilobed, inner and outer lobes equal; tarsal segment 5 with three distinct setae on either ventrolateral margin; hind tarsi one and one-fourth times as long as width of head, segment 1 one and two-fifths times as long as segment 2, segment 5 six-sevenths to nine-tenths as long as segment 1.

Ventral side not punctate; prosternal process glabrous, fully declined posteriorly; metepisterna a little longer than wide ($L/W=1.00\sim1.13$, mean 1.07, in three ♂♂ and four ♀♀), distinctly bordered at front and inner sides, not or faintly sulcate at outer side; sternite 6 with one seta in ♂, four setae in ♀, on either side, often with faint narrow sinuation at apex in ♂.

Aedeagus (Fig. 42) well curved, slender, narrow at apical part in lateral view; apical lamella a little longer than wide at base, triangular, straightly, well contracted towards apex, pointed though weakly rounded at apex.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, VI. 5, 1968, Gosainkund (at alt. 4200 m), T. Kumata leg. Paratypes: 39 ♂♂, 21 ♀♀, same as holotype (four or five somewhat teneral).

Remarks. The new species is allied to *A. cursor* (ANDREWES) from Sikkim, North India, but a little smaller, with a more transverse pronotum, wider elytra, shorter tarsi, fore and mid tarsi with the first and second segments faintly sulcate only at the outer side, and the sixth sternite of the female with four setae on either side. I have examined one of the cotypes of *A. cursor* (♀) thanks to Dr. P. M. Hammond; it is about 9.5 mm in length, 3.9 mm in width; the pronotum (Fig. 34) is somewhat cordate and less transverse ($WP/WH=1.44$, $WP/LP=1.31$, $WP/WBP=1.34$, $WE/WP=1.56$), with distinct basal angles; the elytra are one and two-fifths times as long as wide; the hind tarsi are one and two-fifths times as long as the width of the head, the first to the third segments of the mid and hind tarsi shallowly bisulcate (the inner sulcus is faint); the sixth sternite of the female is with two setae on either side.

The absence or presence of the basal pore on the elytra is an available characteristic to

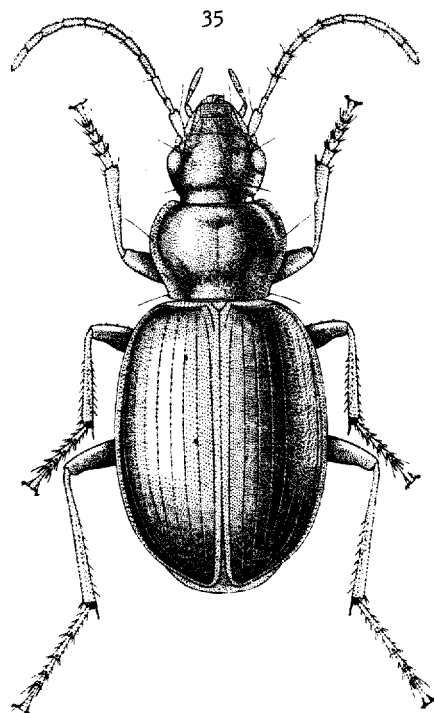


Fig. 35. *Agonum montuosa*, sp. nov., ♂.

distinguish species, sometimes subgenera or genera. In *A. montuosa*, however, the pore is not constant: among the sixty-one specimens examined, forty-seven (77.0%) have not the pore, six (9.8%) are with it on both the elytra, and the remaining eight (13.2%) have the pore only on either right or left elytron.

34. *Agonum* (subg. ?) *himalayae*, sp. nov. (Figs. 33, 36)

Description. Length 8.5 mm. Width 3.4 mm.

Black, faintly brownish, shiny; labrum dark reddish brown, mandibles, palpi and antennal segments 1 to 3 reddish brown, remaining segments of antennae dark reddish brown except basal one-fourth of segment 3, segments 3 and 4 darker than others, lateral explanate areas of pronotum and lateral to apical margin of elytra brownish, femora reddish brown, tibiae and tarsi brown; ventral side dark brown.

Head a little narrower than in preceding sp., well convex, frons with distinct depression on either side between eyes, obscurely, transversely depressed behind fronto-clypeal suture; dorsal side not punctate; microsculpture distinct, isodiametric (forming transverse meshes near neck-constriction); neck well constricted from lateral to dorsal side; temporae somewhat tumid, gently oblique behind eyes, oblique parts as long as eyes; eyes a little less convex than in preceding sp., ventral margin fully distant from buccal fissures; posterior supra-orbital setae distinctly behind level of hind margin of eyes, half-way between eyes and neck-constriction, interspace narrower (eight-ninths) than interspace of anterior supraorbital setae; frontal impressions somewhat deep, reaching anterior supraorbital setae; antennae reaching

basal one-fifth of elytra, pubescent from segment 4, segment 2 glabrous but for one ordinary seta, segment 3 as long as segment 4; apical segment of maxillary palpi a little longer than penultimate segment; tooth of mentum stout and wide, emarginate at apex, depressed at middle; submentum with two setae (outer setae fallen off in single specimen) on either side.

Pronotum (Fig. 33) gently convex, widest before middle, less than one and one-half times as wide as head, one and one-half times as wide as long (in one ♂ $WP/WH=1.45$, $WP/LP=1.49$, $WP/WBP=1.47$), base slightly wider than apex; surface impunctate; microsculpture somewhat distinct, forming fully transverse meshes; apex well emarginate, completely, distinctly bordered; apical angles protrudent-rounded; base slightly rounded, bordered except at lateral areas; basal angles obtuse, distinct; lateral margins obscurely bordered, equally rounded anteriorly and posteriorly, straight before basal angles, with faint

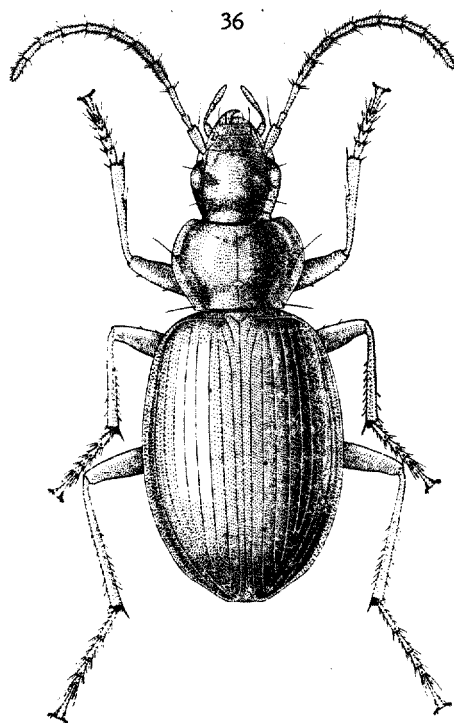


Fig. 36. *Agonum himalayae*, sp. nov., ♂.

notch at posterior marginal seta (right lateral margin with short sinuation just before basal angle in single specimen); anterior marginal setae behind one-third, posterior setae a little before basal angles; lateral explanate areas similar to those of preceding sp.; median line fine, distinct, reaching neither extremity; anterior transverse impression somewhat deep, posterior impression shallow; basal foveae rather deep, extending parallel to lateral margins a little beyond middle.

Wings atrophied. Elytra weakly convex, ovate, widest before middle, one and one-half times as wide as pronotum ($WE/WP=1.52$), one and two-fifths times as long as wide; surface not punctate; microsculpture somewhat distinct, consisting of close transverse lines or forming very transverse, indistinct meshes; basal border level, hardly sinuate, widely rounding at shoulder; shoulder indistinct; lateral margin fairly dilated (less roundly than in preceding sp.) from behind shoulder to before middle; apical sinuation shallow; apex rounded; striae 1 to 5 fine but rather distinct, becoming obscure near apex, faintly crenulate, outer striae finer and shallower, finely punctate; scutellary striole somewhat short though moderately impressed; basal pore present; intervals flat, interval 3 with three pores at one-fourth, middle, and three-fourths, first pore adjoining stria 3, second and third adjoining stria 2; marginal series continuous, composed of fifteen to sixteen pores.

Fore tibiae with shallow longitudinal sulcus at basal half; segments 1 to 3 of mid and hind tarsi with shallow sulcus at outer side, ventral side with two rows of spines (and a few setae on segment 3) on either area, with narrow longitudinal glabrous space in middle; segment 4 of fore and mid tarsi moderately bilobed, inner and outer lobes similar; segment 5 with two setae on either margin of ventral side, setae shorter than in preceding sp.; hind tarsi one and two-fifths times as long as width of head, segment 1 one and one-third times as long as segment 2, segment 5 one and one-tenth times as long as segment 1.

Proepisterna and lateral areas of metasternum with some faint punctures, mesepisterna with some rather distinct punctures; prosternal process glabrous, declined posteriorly; metepisterna one and one-fourth times as long as wide ($L/W=1.24$), distinctly sulcate at front, outer and inner sides; sternite 6 of ♂ with one seta on either side, obsoletely emarginate at apex.

Distribution. Nepal.

Type-specimen. Holotype: 1 ♂, VI. 5, 1968, Gosainkund (at alt. 4200 m), T. Kumata leg. (slightly teneral).

Remarks. This species is closely allied to the preceding *A. montuosa*, but is distinguishable from it by the narrower head with temporae less tumid behind the eyes, pronotum more contracted posteriorly at the lateral margins, longer elytra, longer tarsi, hind tarsi with the fifth segment longer than the first segment, and longer metepisterna.

The single specimen being slightly teneral, I do not examine the genitalia.

35. *Agonum* (subg. ?) *tharepatiense*, sp. nov. (Figs. 37–39, 40, 44)

*Description.** Length 8.5–9.5 mm. Width 3.4–3.9 mm.

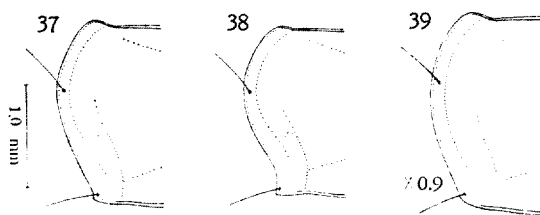
Black, shiny, elytra somewhat bluish; mandibles, palpi, antennae, tibiae and tarsi dark

* The description is founded on specimens from Thare Pati, Gosainkund.

reddish brown to reddish black, antennae becoming more reddish towards apex, labrum and femora black, lateral margins of pronotum and lateral to apical margin of elytra slightly reddish; ventral side black.

Head convex, frons with shallow depression on either side between eyes, without transverse impression at anterior area though with small depression adjoining frontal impression on either side; dorsal side not punctate; microsculpture rather faint to somewhat distinct, meshes isodiametric, partially transverse; neck deeply constricted on lateral to dorsal sides; temporae rather long, gently oblique, weakly tumid, oblique parts a little shorter than eyes; eyes rather small, gently convex (almost similar to those of *A. cursor*), ventral margin well distant from buccal fissures; posterior supraorbital setae fully behind level of hind margin of eyes, halfway between eyes and neck-constriction, interspace a little narrower than interspace of anterior supraorbital setae; frontal impressions rather shallow to somewhat deep, reaching anterior supraorbital setae; antennae reaching basal one-sixth or one-fifth of elytra, pubescent from segment 4, segment 2 without secondary seta besides one ordinary seta, segment 3 as long as segment 4; apical segment of maxillary palpi one and one-fifth times as long as penultimate segment; tooth of mentum wide, more or less emarginate at apex forming two blunt teeth; submentum with two setae (outer seta short) on either side.

Pronotum (Fig. 37) subcordate, gently convex, widest behind one-third to before middle, at least one and one-third times as wide as head, one and one-fourth times as wide as long



Figs. 37-39. Pronota of *Agonum tharepatiense*, sp. nov.
37. from Thare Pati. 38. from Syng Gomba. 39. from Gorapani Deorali.

(in five ♂♂ and five ♀♀ $WP/WH=1.33\sim1.39$, mean 1.36, $WP/LP=1.19\sim1.32$, mean 1.26, $WP/WBP=1.37\sim1.49$, mean 1.42), base a little (about one-tenth) wider than apex; surface not punctate; microsculpture rather faint to somewhat distinct (faint on disk), forming fairly transverse meshes; apex almost even, completely, distinctly bordered; apical angles somewhat protrudent, narrowly rounded; base even at median area, often weakly oblique at lateral areas, bordered, border faint at lateral areas; basal angles generally obtuse, distinct, often dully, slightly protrudent laterally; lateral margins not bordered, moderately rounded towards apex and base, with short faint sinuation just before basal angles; lateral explanate areas a little less wide than in *A. cursor*, well reflexed at posterior half; anterior marginal setae behind one-third, posterior setae near basal angles; median line fine but distinct (disk somewhat depressed along median line), reaching neither extremity or reaching apical border; anterior transverse impression somewhat deep, posterior impression rather shallow; basal foveae deep, faintly extending forwards to middle parallel with lateral margins.

Wings reduced. Elytra gently convex, flat or shallowly depressed at central area, ovate, widest at middle, at least one and three-fifths times as wide as pronotum ($WE/WP=1.60\sim 1.72$, mean 1.66, in five ♂♂ and five ♀♀), one and two-fifths times as long as wide; surface not punctate; microsculpture faint, consisting of fine, close, transverse lines; basal border short, level, straight or slightly sinuate, widely rounding at shoulder; shoulder not distinct; lateral margin roundly, distinctly dilated from behind shoulder to middle; apical sinuation faint; apex fairly rounded; striae fine, shallow (striae 6 and 7 finer and shallower), hardly or obscurely punctate; scutellary striae rather short, distinct; basal pore present; intervals flat, interval 3 with three pores at one-fourth, middle and four-fifths, first pore adjoining stria 3, other pores adjoining stria 2; marginal series continuous, generally composed of fifteen to sixteen pores.

Fore tibiae rather distinctly sulcate and carinate; fore tarsi of ♀ not sulcate; basal three segments of mid and hind tarsi shallowly but somewhat distinctly bisulcate, interspace of sulci faintly carinate, ventral side with outer row of spinous setae and inner row of setae on either area, space between inner rows glabrous; segment 4 moderately bilobed in fore and mid tarsi, outer and inner lobes slightly unequal; segment 5 with two (sometimes three in hind tarsi) short (shorter in fore tarsi) setae on either ventrolateral margin; hind tarsi more than one and one-third times as long as width of head, segment 1 a little more than one and one-third to one and one-half times as long as segment 2, segment 5 almost as long as segment 1 (sometimes a little longer, sometimes a little shorter than segment 1).

Ventral side not punctate; prosternal process glabrous, well declined posteriorly; metepisterna more or less longer than wide, variable in proportion ($L/W=1.09\sim 1.26$, mean 1.18, in three ♂♂ and three ♀♀), bordered at front, outer and inner sides, outer border obliterate at front area, front border becoming faint or obliterate at outer area; sternite 6 not or obsoletely sinuate at apex in ♂, with one seta in ♂, two setae in ♀, on either side.

Aedeagus (Fig. 44) rather slender, gently arcuate, fairly deflexed before apex, somewhat twisted to right side; apical lamella acutely triangular, fairly longer than wide, evenly, well contracted apically, apex narrowly rounded though pointed.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, VI. 6, 1968, Thare Pati, Gosainkund (at alt. 3570 m), T. Kumata leg. Paratypes: 6 ♂♂, 10 ♀♀, same as holotype, T. Kumata and T. Matsumura leg.

Remarks. This new species is also closely allied to *A. cursor* (ANDREWES)*, but the head is with less

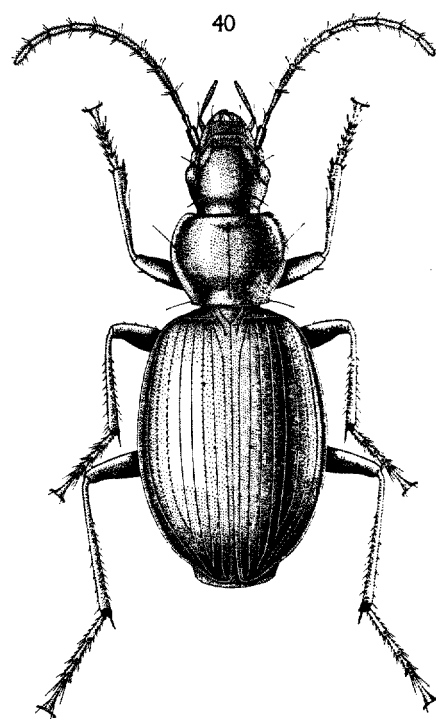


Fig. 40. *Agonum tharepatiense*, sp. nov., ♀.

tumid temporae and with a less distinct microsculpture on the dorsal side, the pronotum is a little narrower, and more contracted towards the base, and the elytra are a little more bluish, not iridescent, with shallower striae.

Besides the type-series I have examined the following two specimens: 1 ♀, VI. 2, 1968, Syng Gomba, Gosainkund (at alt. 3250 m), T. Kumata leg.; 1 ♀, V. 11, 1968, Gorapani Deorali, No. 4 West (at alt. 2850 m), T. Kumata leg. The specimen from Syng Gomba has the pronotum well sinuate at the lateral margins forming the sharp basal angles (Fig. 38), and the elytra a little narrower. The other from Gorapani Deorali is larger, 10.4 mm in length, 4.0 mm in width, and has less angulate pronotal basal angles (Fig. 39) and longer metepisterna ($L/W=1.33$). At present I consider them conspecific, but they seem to be geographical varieties.

36. *Agonum* (subg. ?) *gorapaniense*, sp. nov. (Figs. 41, 43)

Description. Length 8.5 mm. Width 3.4 mm.

Deep black, shiny, head and pronotum polished, elytra slightly brownish under spotlight; labrum black, mandibles deep reddish brown, palpi and antennae dark reddish brown, antennae becoming less dark but more reddish towards apex, femora black, slightly reddish, with brownish apex, tibiae dark reddish brown, tarsi reddish brown, mid and hind tarsi somewhat dark; ventral side reddish black.

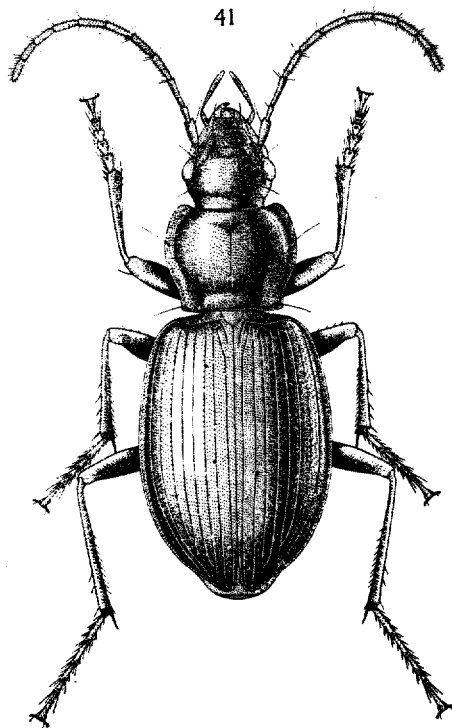


Fig. 41. *Agonum gorapaniense*, sp. nov., ♂.

Head convex, a little wider than in preceding sp., frons with obscure depression between eyes on either side, with shallow but somewhat distinct transverse impression at apical area between frontal impressions (transverse impression reaching frontal impressions); dorsal side not punctate; microsculpture almost absent, but faint isodiametric meshes visible near posterior supraorbital setae; neck-constriction distinct, but less deep than in preceding sp.; temporae weakly tumid, gently oblique, oblique parts as long as eyes; eyes rather small, but more prominent than in preceding sp., more convex at posterior half than at anterior half, ventral margin widely distant from buccal fissures; posterior supraorbital setae fairly behind level of hind margin of eyes, halfway between eyes and neck-constriction, interspace as wide as interspace of anterior supraorbital setae; termination of frontal impressions rather deep, reaching anterior supraorbital setae; antennae reaching basal one-fifth or one-fourth

*Cf. the remarks of 32. *A. montuosa*, sp. nov.

of elytra, pubescent from segment 4, segment 2 glabrous except for one ordinary seta, segment 3 as long as segment 4; apical segment of maxillary palpi one and one-fourth times as long as penultimate segment; tooth of mentum wide, with two dull dents at apex; submentum with two setae (outer seta fully short) on either side.

Pronotum rather convex, widest behind one-third, one and two-fifths times as wide as head, one and one-third times as wide as long ($WP/WH=1.39$, $WP/LP=1.33$, $WP/WBP=1.32$, in one ♂); surface not punctate, faintly rugose on disk; microsculpture indistinct, traces of almost isodiametric meshes visible in part; apex almost even, border complete; apical angles roundly, well protrudent; base shallowly, evenly emarginate at median area, weakly oblique at lateral areas, border distinct, faint at lateral areas; basal angles a little more than 90° , somewhat rounded at apex; lateral margins unbordered, almost evenly, gently contracted apically, with rather distinct sinuation before basal angles, with small shallow notch just before basal angles at posterior marginal setae; lateral explanate parts rather wide, reflexed near hind angles; anterior marginal setae at one-third, posterior setae a little before basal angles; median line fine, distinct, faintly reaching apical border, not reaching base; anterior and posterior transverse impressions somewhat deep; basal foveae deep, faintly extending forward to middle parallel with lateral margins.

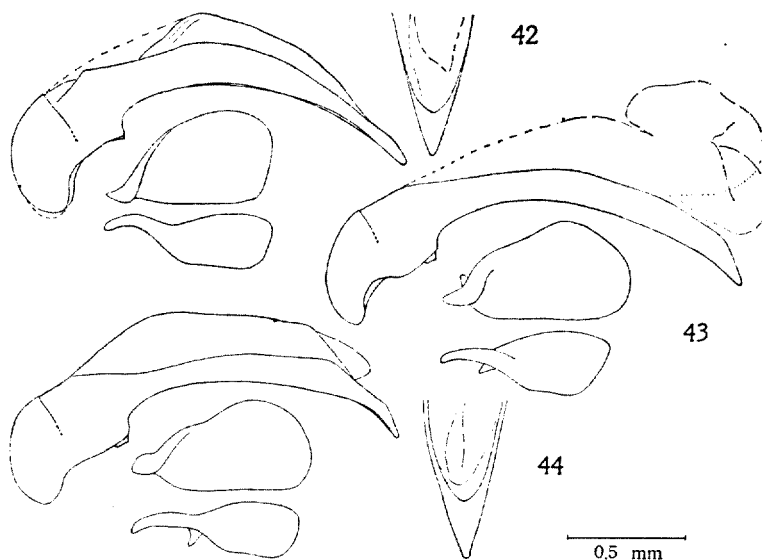
Wings atrophied. Elytra weakly convex, widest near middle, less than one and one-half times as wide* as pronotum, one and two-fifths times as long as wide; surface not punctate; microsculpture distinct, forming fully transverse meshes; basal border almost level, fairly sinuate, rounding at shoulder; shoulder somewhat distinct compared with that of preceding sp.; lateral margin roundly, well dilated from behind shoulder to middle; apical sinuation shallow; apex rounded; striae fine but distinct, somewhat deeper at basal one-third, hardly punctate; scutellary striae somewhat short, distinct; basal pore present; intervals almost flat, slightly convex at basal area, interval 3 with three pores at one-sixth, middle, and five-sixths, first pore adjoining stria 3, second and third pores adjoining stria 3; marginal series continuous, composed of about eighteen pores.

Fore tibiae with distinct sulcus and carina; basal three segments of mid and hind tarsi distinctly bisulcate, interspace of sulci carinate, ventral side with two rows of spinous setae on either side, space between inner rows glabrous though very narrow; segment 4 moderately bilobed in fore and mid tarsi, inner and outer lobes similar; segment 5 with three setae (basal one short and fine) in mid and hind tarsi, two setae in fore tarsi, on either ventrolateral margin; hind tarsi one and one-third times as long as width of head, segment 1 one and one-half times as long as segment 2, segment 5 as long as segment 1.

Ventral side not punctate; prosternal process glabrous, well declined posteriorly; met-episterna slightly longer than wide ($L/W=1.06$), distinctly bordered at front, outer and inner sides; sternite 6 slightly truncate at apex, with one seta on either side in ♂.

Aedeagus (Fig. 43) moderately arcuate, somewhat more curved ventrally before apex, less narrow at apical area in lateral view than in preceding sp.; apical lamella triangular, longer than wide, pointed and narrowly rounded at apex.

*As the elytra of the single specimen are somewhat damaged, exact proportion cannot be given.

Figs. 42-44. Male genitalia of *Agonum* spp.42. *A. montuosa*, sp. nov. 43. *A. gorapaniense*, sp. nov. 44. *A. tharepatiense*, sp. nov.

Distribution. Nepal.

Type-specimen. Holotype: 1 ♂, V. 11, 1968, Gorapani Deorali, No. 4 West (at alt. 2850 m), T. Kumata leg.

Remarks. This new species is allied to the preceding species, but is distinguishable from it by the colour deep black, not bluish on the elytra, more prominent eyes, larger pronotum with the apical angles well protrudent and with no distinct microsculpture, elytra with the microsculpture distinct, forming fully transverse meshes, and with distinct striae, and aedeagus less narrow before the apex in the lateral view.

37. *Agonum* (subg. ?) *kumatai*, sp. nov. (Figs. 45, 46)

Description. Length 5.5 mm. Width 2.1 mm.

Head and pronotum black, slightly reddish, shiny, elytra dark reddish brown, shiny; labrum, mandibles, antennal segment 1 reddish brown, palpi, antennal segments 2 and 3, tibiae and tarsi yellowish brown, antennal segments 4 to 11 brown, femora dark reddish brown, elytral interval 1 and lateral margin brownish; ventral side dark reddish brown.

Head convex; dorsal side not punctate, faintly, transversely rugose between eyes, faintly, longitudinally rugose before anterior supraorbital setae; microsculpture distinct, forming coarse transverse meshes; neck moderately constricted at lateral sides, constriction faintly extending onto dorsal side; temporae flat behind eyes, oblique parts one-third as long as eyes; eyes gently convex though moderately large, ventral margin fairly distant from buccal fissures; posterior supraorbital setae a little distant from eyes, somewhat before level of hind margin of eyes, interspace slightly wider than interspace of anterior supraorbital setae; frontal impressions faint; antennae extending before middle of elytra, pubescent from segment 4, segment 2 without additional setae, segment 3 as long as segment 4; apical segment of maxil-

lary palpi slightly less than one and one-half times as long as penultimate segment; tooth of mentum stout, simple, rounded at apex; submentum with two setae (outer seta short) on either side, two pores present (setae fallen off?) at median area.

Pronotum somewhat discoid, rather convex, widest before middle, more than one and one-third times as wide as head, as much as wide as long ($WP/WH=1.36$, $WP/LP=1.38$), base though not well measurable as wide as apex; surface not punctate; microsculpture somewhat distinct, meshes fully transverse; apex well emarginate, border faint at median area; apical angles well protrudent, rounded; base shallowly emarginate at median area, roundly oblique at lateral areas, obscurely bordered near basal foveae; basal angles indistinct, widely rounded; lateral margins obscurely bordered, moderately rounded towards apex and base, almost evenly contracted before basal angles, fairly reflexed at posterior half; anterior marginal setae at widest part, posterior marginal setae absent; lateral furrows narrow at anterior half; median line fine, distinct, faintly reaching apex and base; anterior transverse impression somewhat deep, posterior transverse impression deep; basal foveae fully deep, reaching lateral furrows.

Wings atrophied. Elytra somewhat convex, ovate, widest a little before middle, one and two-fifths times as wide as pronotum ($WE/WP=1.42$), one and one-half times as long as wide; surface not punctate; microsculpture distinct, forming fully transverse meshes; basal border fairly sinuate, inner and outer extremities on same level, forming widely obtuse angle at shoulder; shoulder indistinct, rounded off; lateral margin gently roundly, well dilated from behind shoulder to middle; apical sinuation shallow; apex somewhat re-entrant, rounded; striae distinct, obscurely crenulate, stria 7 fully deep at apical one-third; scutellary stria somewhat short; basal pore absent; intervals gently convex, interval 8 more convex at sub-apical area, interval 3 with three pores at one-seventh or one-sixth, at or a little before middle and at four-fifths, first pore adjoining stria 3, other pores adjoining stria 2; marginal series not interrupted, composed of fifteen pores.

Fore tibiae with shallow sulcus; segments 1 and 2 of mid tarsi and segments 1 to 3 of hind tarsi shallowly sulcate only at outer side, segments 1 to 3 of mid and hind tarsi with two rows of somewhat sparse setae on either margin of ventral side, setae in outer and inner rows similar, interspace of inner rows glabrous; tarsal segment 4 well emarginate at apex, not

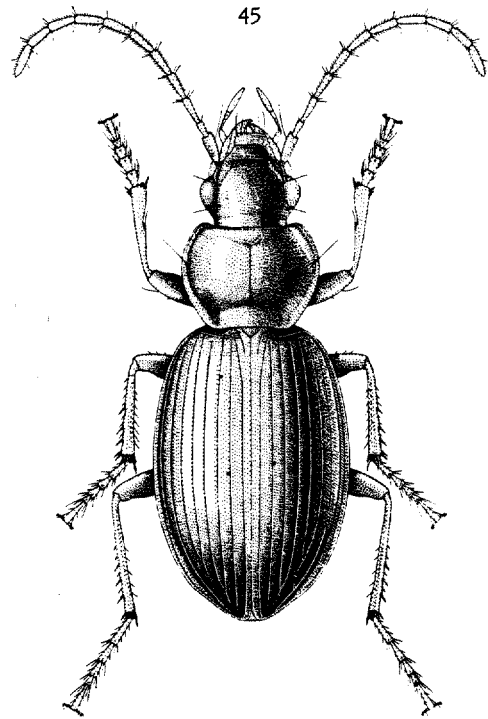


Fig. 45. *Agonum kumatai*, sp. nov., ♂.

bilobed, segment 5 with two distinct setae on either lateroventral margin; hind tarsi one and one-ninth times as long as width of head, segment 1 one and one-fourth times as long as segment 2, segment 5 a little longer than segment 1.

Ventral side not punctate, glabrous; prosternal process glabrous, well declined posteriorly; metepisterna almost as long as wide ($L/W=1.09$); sternite 6 not notched at apex, with one seta on either side in δ .

Aedeagus (Fig. 46) (teneral in specimen examined) fully narrow and slender, well curved; apical lamella elongate, almost parallel at lateral margins (right margin slightly rounded), apex well rounded.

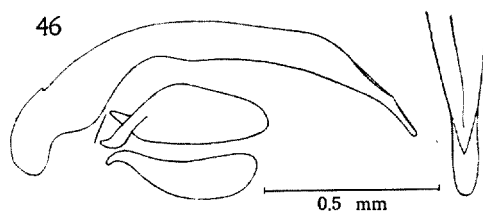


Fig. 46. Male genitalia of *Agonum kumatai*, sp. nov.

Distribution. Nepal.

Type-specimen. Holotype: 1 δ , V. 2, 1968, Tatopani, Palpa (at alt. 1260 m), T. Kumata leg.

Remarks. I know of no other *Agonum* species to compare with the present small one.

38. *Agonum* (subg. ?) *relucens* (ANDREWES)

Anchomenus relucens ANDREWES, 1923, Ann. Mag. Nat. Hist., (9) 12: 681-682.

Agonum eberti JEDLIČKA, 1965, Ergebn. Forsch.-Unternehmen Nepal Himalaya, Liefg. 2: 102, 103, fig. 6 c. **Junior synonym, designated here.**

1 δ , V. 2, 1968, Gorapani Deorali, No. 4 West (at alt. 2850 m), T. Kumata leg.; 1 δ , V. 11, 1968, *do.*, T. Kumata leg.; 2 $\varnothing\varnothing$, V. 5, 1968, Larjung, Palpa (at alt. 2550 m), T. Kumata leg.

The third pore on the third elytral interval is situated more posteriorly than usual, at about five-sixths, in this species. I have been able to examine one paratype (δ) of the species from Tonglo, Sikkim, North India, and two paratypes ($\delta\delta$) of *A. eberti* from Ting-Sang-La (at alt. 3800 m), Nepal, through the kindness of Drs. P. M. Hammond and H. Freude.

39. *Agonum* (subg. ?) *hirmocoelum* (CHAUDOIR) (Figs. 47, 48)

Colpodes hirmocoelus CHAUDOIR, 1878, Ann. Soc. Ent. France, (5) 8: 285, 365.

2 $\varnothing\varnothing$, VII. 6, 1968, Kuinibisoma, No. 1 West (at alt. 1890 m), T. Kumata leg.

As this species is little known since originally described, the redescription is given based on the above two female specimens.

Description. Length 8.4 mm. Width 3.4~3.5 mm.

Dark reddish brown, shiny, elytra dark metallic green; head and pronotum somewhat translucent, antennae, palpi and legs pale brown or light yellowish brown, lateral explanate areas of pronotum faintly yellowish, base of elytra and basal area of elytral interval 1 reddish brown, lateral to apical margin of elytra yellowish brown; ventral side reddish brown.

Head gently convex, dorsal side impunctate; microsculpture indistinct, only obscure transverse meshes visible near hind supraorbital setae; neck well constricted at lateral sides, constriction extending onto dorsal side; temporaes moderately oblique, slightly tumid, oblique parts a little more than one-half as long as eyes; eyes moderately large and convex, ventral margin reaching buccal fissures; posterior supraorbital setae on or slightly behind level of

hind margin of eyes, fairly distant from eyes, slightly more remote from neck-constriction than from eyes, interspace a little wider than interspace of anterior supraorbital setae which are situated in shallow depression; frontal impressions shallow and faint, obscurely reaching anterior supraorbital setae; antennae reaching one-fifth of elytra, pubescent from segment 4, segment 2 glabrous except for one ordinary seta, segment 3 a little longer than segment 4; apical segment of maxillary palpi a little longer than penultimate segment; tooth of mentum triangular, slightly rounded at apex; submentum with two setae (outer seta short and fine) on either side.

Pronotum (Fig. 48) gently convex, widest a little before middle, one and one-third times as wide as head, one and one-fourth times as wide as long (in two ♀♀ $WP/WH=1.29, 1.34$, $WP/LP=1.27, 1.27$), base fully wider than apex though not well measured; surface with some faint punctures in and near basal foveae; microsculpture indistinct, traces of obscure transverse lines visible on disk, somewhat transverse or almost isodiametric meshes present on basal area; apex slightly to shallowly emarginate, completely and distinctly bordered; apical angles slightly protrudent and rounded; base gently rounded at median area, roundly, well oblique at lateral areas, border obliterate on lateral areas; basal angles fairly rounded; lateral margins not bordered, well contracted towards apex, less contracted towards base; anterior marginal setae absent, posterior setae fairly before basal angles (at four-fifths); lateral explanate areas narrow; median line fine, reaching neither extremity; anterior transverse impression somewhat deep, posterior impression shallow; basal foveae somewhat deep; outside areas of basal foveae slightly convex.

Wings developed. Elytra convex, ovate, widest slightly behind middle, one and seven-eighths times as wide as pronotum ($WE/WP=1.87, 1.89$ in two ♀♀), one and one-half times as long as wide; surface not punctate; microsculpture somewhat distinct, forming fully transverse meshes; basal border gently sinuate, rounding at shoulder; shoulder somewhat distinct though rounded; lateral margin evenly and moderately dilated from behind shoulder to widest part; apical sinuation almost absent; apex somewhat re-entrant, rounded; striae replaced by eight rows of distinct punctures, punctures becoming small at apical one-third, almost abbreviate before apex, only interval 1 reaching apex; scutellary stria distinct, moderately long, punctate; basal pore present; intervals flat, interval 3 with three pores at one-fifth, a little behind middle and at three-fourths, first pore adjoining stria 3, other pores adjoining stria 2; marginal series continuous, composed of sixteen to eighteen pores.

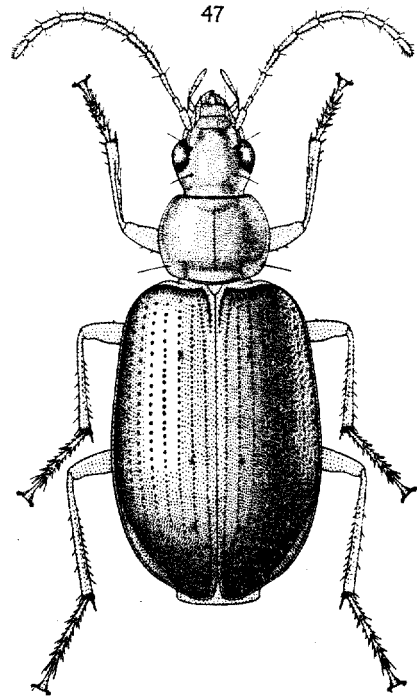


Fig. 47. *Agonum hirmocoelum* (CHAUDOIR), ♀.

Fore tibiae faintly sulcate; fore tarsi not sulcate, with whitish, rather dense pubescence on ventral side of segments 1 to 4 (♀); segment 1 of mid tarsi and segments 1 and 2 of hind tarsi bisulcate, inner sulcus shallower or faint except on segment 1 of hind tarsi, ventral side of segments 1 to 4 of mid and hind tarsi with spines and pubescence, with narrow longitudinal glabrous space in middle (pubescence little in hind tarsi, absent on segment 1); segment 4 well bilobed in fore and mid tarsi, inner and outer lobes similar, segment 4 of hind tarsi weakly bilobed; tarsal segment 5 completely glabrous on ventral side; hind tarsi a little more than one and one-fourth times as long as width of head, segment 1 one and one-fourth times as long as segment 2, segment 5 one and one-fourth times as long as segment 1.

Ventral side with some distinct punctures on mesosternum and mesepisterna, with a few punctures on metepisterna in one specimen; prosternal process glabrous, well declined posteriorly; metepisterna long, a little less than one and three-fourths times as long as wide ($L/W=1.69, 1.74$ in two ♀♀), distinctly bordered at front and inner sides, faintly sulcate at outer side; sternite 6 (♀) with two setae on either side.

40. *Agonum* (subg. ?) *matsumurai*, sp. nov. (Figs. 50, 51)

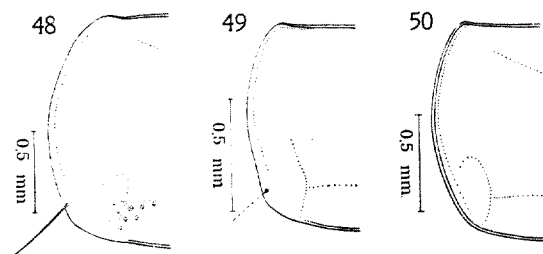
Description. Length 6.7~7.0 mm. Width 2.6~2.7 mm.

Dark reddish brown, shiny, elytra dark metallic green (disk less metallic but reddish under spotlight); head and pronotum somewhat translucent, antennae, palpi and legs light yellowish brown, elytra with interval 1 somewhat reddish, base and lateral margin brown, apical area rather widely dark yellowish brown; ventral side dark reddish brown, somewhat yellowish in part.

Head convex, dorsal side not punctate; microsculpture isodiametric though faint; neck moderately constricted, constriction extending onto dorsal side; temporae not tumid, moderately oblique, oblique parts a little more than one-half as long as eyes; eyes moderately large and convex, ventral margin reaching buccal fissures; posterior supraorbital setae a little behind level of hind margin of eyes, a little more remote from neck-constriction than from eyes, interspace one and one-seventh to one and one-sixth times as wide as interspace of anterior supraorbital setae which are placed in shallow depression; frontal impressions shallow, reaching anterior supraorbital setae; antennae reaching one-fourth of elytra, pubescent from segment 4, segment 2 with single seta on ventral side, segment 3 one and one-sixth times as long as segment 4; apical segment of maxillary palpi one and one-half times as long

as penultimate segment; tooth of mentum triangular, sharp at apex; submentum with two setae (outer seta fully short) on either side.

Pronotum (Fig. 50) small, gently convex, widest at middle, one and one-seventh to one and one-fifth times as wide as head, one and one-fifth times as wide as long (in two ♀♀ $WP/WH=1.14, 1.21$, $WP/LP=1.19, 1.21$); surface not punctate;



Figs. 48-50. Pronota of *Agonum* spp.
48. *A. himocoelum* (CHAUDOIR). 49. *A. leuroides* (JEDLIČKA). 50. *A. matsumurai*, sp. nov.

microsculpture faint, meshes transverse; apex very slightly emarginate in one specimen, somewhat rounded though sinuate near apical angle on either side in other specimen, completely and distinctly bordered; apical angles hardly protrudent, obtuse and rounded in one specimen, a little protrudent and narrowly rounded in other specimen; base gently rounded, completely bordered; basal angles well rounded; lateral margins distinctly bordered in one specimen, obscurely in other specimen, gently rounded anteriorly and posteriorly (in one specimen a little more rounded, obsoletely sinuate before basal angles); all marginal setae absent; lateral furrows very narrow; median line fine, reaching neither extremity; anterior and posterior transverse impressions rather shallow (latter somewhat deep in one specimen); basal foveae rather deep; outside areas of basal foveae weakly convex.

Wings developed. Elytra elliptic, convex, widest a little behind middle, twice as wide as pronotum ($WE/WP=1.98, 2.01$), more than one and three-fifths times as long as wide; surface not punctate; microsculpture rather distinct, forming transverse meshes; basal border gently to well sinuate near scutellum, forming indistinct wide angle or rounding at shoulder; shoulder somewhat distinct though rounded; lateral margin evenly, or slightly sinuate, moderately dilated from behind shoulder to widest part; apical sinuation indistinct or absent; apex well rounded; striae replaced by rows of rather distinct punctures, punctures abbreviate at apical one-fourth, only stria 1 faintly visible up to apex, punctures of stria 7 smaller than those of others, punctures of stria 8 indistinct; scutellary striole on interval 1, deep and not punctate at basal one-half to two-thirds, shallow and punctate or replaced by row of small punctures at apical part; basal pore present; intervals flat, interval 3 with three pores at one-fifth, near middle and at four-fifths, first pore adjoining stria 3, other pores adjoining stria 2 (third pore almost isolated inasmuch as stria 2 is obliterate at apical area); marginal series uninterrupted, composed of fourteen to fifteen pores.

Fore tibiae rather distinctly sulcate and carinate; fore tarsi of ♀ somewhat wide, segment 1 with vestigial sulcus on inner side, segments 1 to 4 with some white pubescence on ventral side; segments 1 and 2 of mid tarsi and segments 1 to 3 of hind tarsi with outer sulcus, without inner sulcus, ventral side with two rows of spines on either area, median longitudinal glabrous space narrow and not well delimited; segment 4 well bilobed in fore and mid tarsi, inner and outer lobes almost equal or slightly unequal, segment 4 of hind tarsi weakly bilobed; tarsal segment 5 completely glabrous on ventral side; hind tarsi one and one-seventh times as long as width of head, segment 1 one and one-

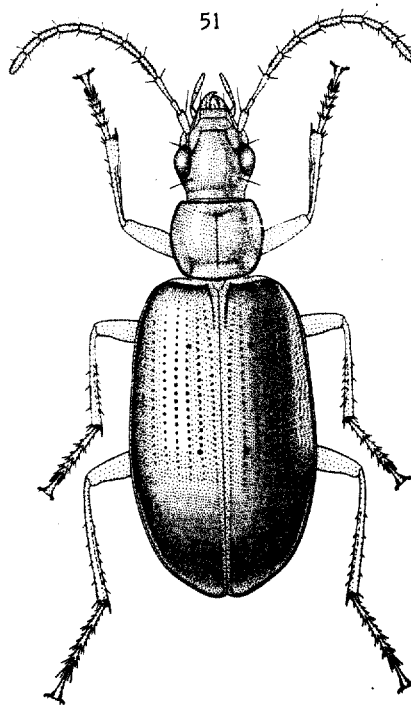


Fig. 51. *Agonum matsumurai*, sp. nov., ♀.

fifth times as long as segment 2, segment 5 one and one-third times as long as segment 1.

Ventral side not punctate; prosternal process glabrous, well declined posteriorly; metepisterna long, less than twice as long as wide ($L/W=1.88$, 1.96 in two ♀♀), distinctly bordered at front and inner sides, front border obliterate at outer area, outer side shallowly sulcate; sternite 6 (♀) with three or four (?) setae on either side (setae mostly fallen off in two specimens).

Distribution. Nepal.

Type-series. Holotype: 1 ♀, VI. 7, 1968, Khurumsang, No. 1 West (at alt. 2500 m), T. Kumata leg. Paratype: 1 ♀, same as holotype, T. Matsumura leg.

Remarks. The new species is allied to *A. leuroides* (JEDLIČKA) described from Thodung and Ting-Sang-La, Nepal, in its size, colour, small pronotum, and elytra with rows of punctures, but is easily distinguished from it by the head with longer temporae, the pronotum (Figs. 49, 50) with the lateral margins rounded from apex to base and not reflexed, the basal margin less oblique at the lateral areas where the basal border is not obliterate, and without any marginal setae, and the elytra with the microsculpture less strong, forming transverse meshes and with the rows of punctures a little distincter. I have examined one (♀) of the paratypes through the kindness of Dr. H. Freude. It seems also to resemble *A. vulpinum* (ANDREWES) from Sikkim, North India, in the colour, the form of the pronotum and the absence of the pronotal marginal setae, but may be distinguishable by the smaller size, the impunctate elytral intervals, and the fifth tarsal segment glabrous on the ventral side.

41. *Agonum* (*Metacolpodes*) *buchanani* (HOPE)

Colpodes Buchannani [!] HOPE, 1831, Gray's Zool. Misc.: 21 (lapsus calami)* (cf. Fig. in introduction).

1 ♀, VI. 16, 1968, Godavari, Nepal valley (at alt. 1450 m), T. Kumata leg.

This species is described from Nepal, being widely distributed in Southeast Asia as far as Japan, and has been found in the U.S.A.

42. *Agonum* (*Oxytselaphus*) *lissopterum* (CHAUDOIR)

Oxytselaphus lissopterus CHAUDOIR†, 1854, Bull. Soc. Nat. Mosc., 27 (1): 136.

1 ♂, VI. 6, 1968, Thare Pati, Gosainkund (at alt. 3570 m), T. Kumata leg.; 1 ♂, VI. 7, 1968, Gosainkund (at alt. 2500~3000 m), T. Kumata leg.; 2 ♂♂, VI. 7, 1968, Khurumsang, No. 1 West (at alt. 2500 m), T. Matsumura leg.; 3 ♀♀, VI. 8, 1968, *do.*, T. Kumata leg.; 1 ♂, 1 ♀, VII. 9, 1968, Namche Bazar, No. 3 East (at alt. 3400 m), T. Matsumura leg.

Nepalagonum, gen. nov.

Type-species: *Nepalagonum pygmaeum*, sp. nov. from Nepal.

Description. Body stout, not punctate, glabrous. Head not strongly constricted at neck; eyes (Fig. 53) small though not flat; genae and postgenae (Fig. 53) well developed; antennae (Fig. 56) pubescent from segment 4, segment 2 with some setae at apex like segment 3 though setae shorter; labrum truncate or weakly rounded at apex, with six setae; mandibles moderately short, hooked at apex; apical segment of palpi (Fig. 55) fusiform; mentum (Fig. 55) with simple tooth, epilobes narrow; ligula (Fig. 55) wide, somewhat rounded at apex, bisetose,

*The specific name seems to have been dedicated to F. Buchanan (1762-1829).

paraglossae narrow, adnate to ligula, fully extending beyond ligula. Pronotum transversely discoid, bisetose. Wings atrophied.* Elytra with complete basal border; lateral margin not interrupted at subapical area, inner plica absent; apex simple; striae incomplete; basal pore absent; interval 3 with dorsal pores, interval 10 narrow. Legs rather short; hind femore bisetose; tarsi glabrous on dorsal side; segments 1 to 3 of fore tarsi of ♂ dilated (segment 1 distinctly longer than wide), with adhesive hairs on ventral side, segments 1 to 3 of mid and hind tarsi sulcate only at outer side, segment 4 emarginate at apex, not lobed, segment 5 setose on ventral side; claws simple. Prosternal process unbordered, glabrous, not carinate behind; metepisterna short; sternites glabrous except for ordinary setae. Parameres of male genitalia normal.

Remarks. The new genus seems to be allied to *Lepcha* ANDREWES, but may be distinguishable by the rather convex eyes, supraorbital pores not too small, paraglossae adnate to the ligula, and incomplete striae of the elytra.

43. *Nepalagonum pygmaeum*, sp. nov. (Fig. 52, 53–57)

Description. Length 6.0–6.4 mm. Width 2.7–2.8 mm.

Black, shiny, elytra very slightly iridescent; labrum and mandibles dark reddish brown, palpi yellowish brown, antennal segments 1 to 4 reddish brown, segments 5 to 11 light brown, lateral margins of pronotum and of elytra almost black in Gorapani specimen, reddish in Chitare specimen (in which interval 1 is also somewhat reddish), legs reddish brown, femora dark except at apical area, tarsi less reddish than tibiae; ventral side dark reddish brown to reddish black.

Head well convex; dorsal side not punctate, faintly, sparsely rugose; microsculpture distinct, isodiametric; neck gently constricted at lateral sides; tempora not tumid but flatly oblique behind eyes; anterior supraorbital setae in deep foveolae, posterior supraorbital setae behind level of hind margin of eyes, well distant from eyes; eyes small but rather convex, fully distant from buccal fissures; frontal lateral furrows very deep at posterior half, terminating on level of posterior supraorbital setae; frontal furrows somewhat distinct; antennae a little extending beyond shoulders, segment 2 slightly shorter than segment 4; apical segment of maxillary palpi slightly longer than penultimate segment; tooth of mentum (Fig. 55) stout, weakly rounded at apex, fully shorter than lateral lobes; submentum with one seta on either side, posterior area of submentum and anterior area of gula transversely, deeply depressed, so submentum somewhat carinate transversely except at lateral areas.

Pronotum (Fig. 54) distinctly convex, widest a little before middle, one and one-half times as wide as head, one and one-third times as wide as long ($WP/WH=1.49, 1.53, WP/LP=1.32, 1.34$, in one ♂ and one ♀); surface impunctate; microsculpture distinct, forming transverse meshes; apex shallowly emarginate in Chitare specimen, more emarginate in Gorapani specimen, completely bordered; apical angles gently protrudent and rounded in Chitare specimen, a little more protrudent in Gorapani specimen; base shallowly emarginate at median area, well roundly oblique at lateral areas, lateral furrows extending along oblique margins up to basal foveae; basal angles rounded off; lateral margins hardly bordered,

*The elytra being fully fused at the suture, I have not well observed the wings.

moderately rounded, with short, very faint sinuation near posterior marginal setae; lateral furrows fully narrow, dilated at apical angles; anterior marginal setae at one-third, posterior setae at five-sixths, separated from lateral margins; median line fine, shallow, abbreviate at apical and basal areas; basal foveae shallow or somewhat deep, narrow; outside areas of basal foveae gently convex.

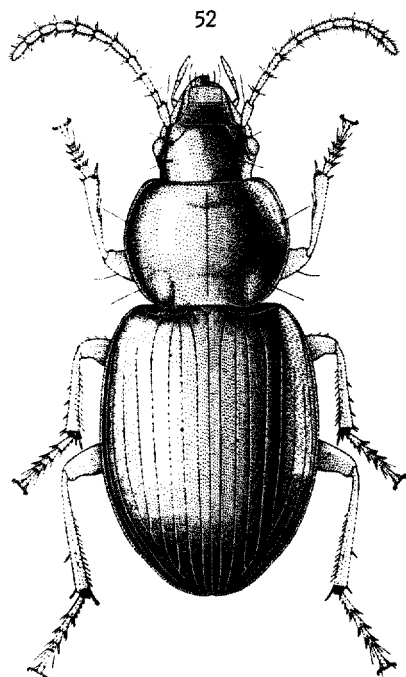


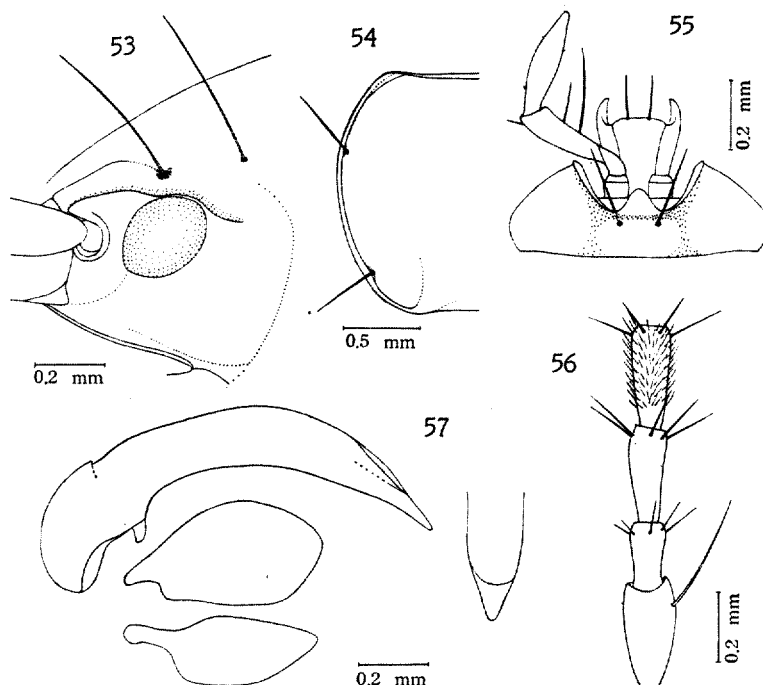
Fig. 52. *Nepalagonum pygmaeum*, sp. nov., ♀.

Elytra completely fused at suture, well convex, widely ovate, widest near middle, one and one-third times as wide as pronotum ($WE/WP=1.32$ (in one ♀), 1.35 (in one ♂)), one and one-third times as long as wide; surface smooth; microsculpture rather distinct, forming fully transverse meshes; basal border fairly sinuate, inner end and outer end almost on same level, forming obtuse angle or somewhat rounding at shoulder; shoulder rounded; lateral margin distinctly rounded from shoulder to middle, lateral furrow narrow; apical sinuation indistinct; apex rounded or almost perpendicular to suture; striae moderately impressed, finely punctate, striae 1 to 4 complete, becoming shallow or faint at basal area, striae 5 to 7 obliterate at humeral area (striae 6 and 7 more obliterate than stria 5), stria 7 deep at apical half, stria 8 distinct and complete; scutellary striole faint, very short, situated between suture and stria 1; intervals almost flat, interval 3 a little narrowed and consequently interval 4 widened near first dorsal pore, interval 3 with two fine pores, first pore at one-fifth, adjoining stria 3, second pore before middle, adjoining stria 2; marginal series interrupted at middle, 6+8.

Fore tibiae faintly sulcate at basal half; fore tarsi of ♀ not sulcate at lateral sides; segments 1 to 3 of mid and hind tarsi with one row of spines on either margin of ventral side, interspace of two rows glabrous (a few setae visible on segments 1 and 2 of hind tarsi), segment 5 with two setae on either ventrolateral margin; hind tarsi shorter in ♀ than in ♂, only a little shorter than width of head in ♂, five-sixths as long as width of head in ♀, segment 1 one and one-third times as long as segment 2, segment 5 one and one-eighth to one and one-seventh times as long as segment 1.

Ventral side impunctate; metepisterna shorter than wide ($L/W=0.92$, 0.88 in one ♂ and one ♀), not contracted behind, bordered at front and inner sides, not bordered at outer side; sternite 6 simple at apex, with one seta in ♂, two setae in ♀, on either side.

Aedeagus (Fig. 57) moderately arcuate, not twisted, somewhat slender; apical lamella well contracted towards apex, almost as long as wide, apex narrowly rounded. Parameres large.

Figs. 53-57. *Nepalagonum pygmaeum*, sp. nov.

53. Head in lateral view. 54. Pronotum. 55. Mentum, labial palpus, and ligula with paraglossae. 56. Segments 1 to 4 of left antenna. 57. Male genitalia.

Distribution. Nepal.

Type-series. Holotype: 1 ♂, V. 11, 1968, Gorapani, No. 4 West (at alt. 2850 m), T. Kumata leg. Paratype: 1 ♀, V. 10, 1968, Chitare, No. 4 West (at alt. 2400 m), T. Matsu-mura leg.

44. *Megalonychus nepalensis*, sp. nov. (Figs. 58, 59-61)

Description. Length 10.4 mm. Width 3.9 mm.

Black, head and pronotum shiny, elytra half-shiny at basal half, rather mat at apical half; labrum dark reddish brown, mandibles reddish brown, blackish at apex, palpi light brown, segment 1 yellowish, antennal segment 1 yellowish brown, segments 2 and 3 light brown, slightly reddish, segment 4 blackish exclusive of reddish brown basal area, remaining segments reddish brown, somewhat dark (segment 5 a little darker than others), lateral explanate areas of pronotum, lateral to apical margin of elytra and legs plae yellowish brown or brownish yellow; ventral side black, faintly reddish in part, hypomera yellowish brown.

Head gently convex; dorsal side microscopically punctate; microsculpture isodiametric though rather faint; neck well constricted at lateral sides, shallowly on dorsal side; temporae short, very oblique; eyes fully large and convex, genuine ventral margin reaching buccal fissures; posterior supraorbital setae a little distant from eyes, before level of hind margin of eyes, interspace as wide as interspace of anterior supraorbital setae; frontal impressions

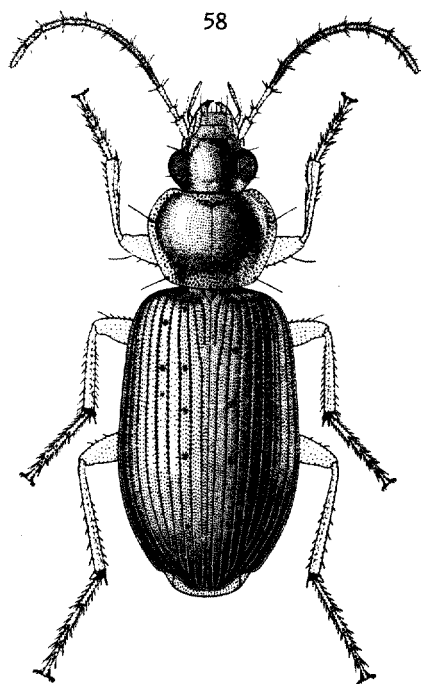


Fig. 58. *Megalonychus nepalensis*, sp. nov.,

distinct, traces of obscure transverse meshes describable; apex fairly emarginate, completely bordered; apical angles fairly protrudent, well rounded, finely, sparsely ciliate; base slightly rounded at median area, distinctly rounded at lateral areas, not bordered; basal angles obtuse, widely rounded; lateral areas well explanate and reflexed; lateral margins arcuate at widest part, slightly roundly, well contracted towards apex and base; anterior marginal setae at two-fifths, posterior setae before basal angles adjoining lateral margins; median line fine, abbreviate at apical and basal areas; anterior and posterior transverse impressions rather deep; basal foveae fully deep, faintly extending forward up to apical one-third parallel with lateral margins.

Wings developed. Elytra somewhat convex, obscurely depressed at basal one-third on intervals 3 to 6, elongately elliptic, widest a little behind middle, one and two-fifths times as wide as pronotum ($WE/WP=1.41$), one and two-thirds times as long as wide; surface not punctate; microsculpture fully distinct, distincter on apical half, meshes transverse, becoming less transverse behind middle, isodiametric at apical one-third; basal border well sinuate, forming very obtuse indistinct angle at shoulder; shoulder distinct; lateral margin moderately dilated (with shallow sinuation) from behind shoulder to behind middle; apical sinuation (Fig. 60) deep, outer apical angle obtuse though distinct, rounded; apex shortly truncate, inner apical angle (sutural angle) with small blunt tooth; striae deep, becoming a little shallow at apical area, with large punctures, punctures becoming small towards apex, obliterate at apical area; scutellary striole deep, well punctate; basal pore present; intervals rather convex, becoming flat towards apex, interval 3 with five large pores situated

shallow, obscuring posteriorly, not reaching anterior supraorbital setae; outside areas of frontal impressions longitudinally rugose-carinate, carinae reaching anterior setae; antennae reaching basal one-fifth of elytra, densely pubescent from segment 4, segments 1 and 2 (Fig. 59) with a few setae near apex, segment 4 one and one-sixth times as long as segment 3, only slightly longer than segment 5; apical segment of maxillary palpi as long as penultimate segment; tooth of mentum stout and well prominent, narrowly rounded at apex; submentum with two setae (outer seta short) on either side.

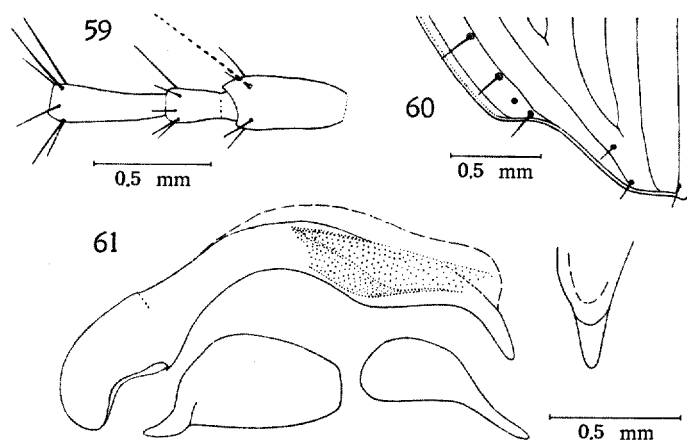
Pronotum discoid, fairly convex, widest before middle, less than one and one-half times as wide as head, one and one-third times as wide as long ($WP/WH=1.46$, $WP/LP=1.33$); surface densely, distinctly punctate at apical and basal areas, less densely in lateral furrows, not punctate but faintly, transversely rugose on disk; microsculpture not

between striae 2 and 3, each behind basal border, at one-fifth or one-fourth, at two-fifths, before three-fifths and at four-fifths, interval 5 with two (left elytron) or four (right elytron) pores, pores between striae 4 and 5 at basal half, pores on intervals 3 and 5 situated in small fovea (one additional fovea without dorsal pore visible on interval 5 behind second pore on left elytron, behind fourth pore on right elytron); marginal series continuous, composed of about twenty-seven pores.

Fore tibiae distinctly sulcate and carinate; fore tarsi of ♂ relatively slender, segment 1 more than twice as long as wide, one and one-half times as long as segment 2; segments 1 to 3 of mid and hind tarsi well bisulcate, carinate at middle between sulci, with two outer rows of sparse spines and two inner rows of dense spinous setae on ventral side, with longitudinal glabrous space between inner rows; tarsal segment 4 emarginate at apex, hardly bilobed, segment 5 with three distinct setae on either ventrolateral margin; hind tarsi one and one-third times as long as width of head, segment 1 long, one and one-half times as long as segment 2, segment 5 three-fifths as long as segment 1.

Ventral side distinctly punctate on mesosternum, meso- and metepisterna; prosternal process glabrous, well declined at apex; metepisterna one and two-fifths times as long as wide ($L/W=1.43$), distinctly sulcate at front, outer and inner sides; sternite 6 faintly, narrowly emarginate at apex, with one seta on either side in ♂, shallowly depressed at apical half between setae.

Aedeagus (Fig. 61) less chitinized than usual (somewhat teneral?), almost transparent at



Figs. 59–61. *Megalonychus nepalensis*, sp. nov.

59. Segments 1 to 3 of left antenna. 60. Left elytron at apical part.

61. Male genitalia.

basal half, fully slender, ventral side well bisinuate, apical part distinctly bent ventrally; apical lamella one and one-half times as long as wide at base, fairly contracted towards apex, narrowly rounded at apex. Parameres wide compared with aedeagus.

Distribution. Nepal.

Type-specimen. Holotype: 1 ♂, IV. 30, 1968, Biratanti, No. 4 West (at alt. 1150 m), T. Kumata leg.

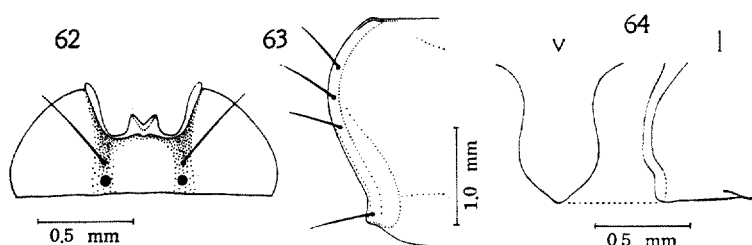
Remarks. The new species differs from *M. birmanicus* BATES in the pronotum less punctate at the basal area, shiny on the disk, with the microsculpture hardly visible (somewhat transverse meshes are distinct in *M. birmanicus*), the elytra less mat, with the microsculpture less distinct, forming fairly transverse meshes at the basal half (almost isodiametric throughout in *M. birmanicus*), with the striae more distinctly punctate, with the seventh interval having no pores, with the outer apical angle more angulate, tarsi with the longer first segment, and the ventral side more punctate.

45. *Aparupa matsumurai*, sp. nov. (Figs. 62–64, 65)

Description. Length 10.7 mm. Width 4.4 mm.

Black, polished, elytra obsoletely bluish; labrum, mandibles and segment 1 of antennae reddish brown, palpi and remaining segments of antennae brown, lateral margins of pronotum completely black, lateral to apical margin of elytra black (faintly brownish near apex), femora reddish black (apex more reddish), tibiae and tarsi light yellowish brown; ventral side black.

Head convex, frons with shallow transverse impression between front margin of eyes; dorsal side not punctate; microsculpture absent; neck well constricted on lateral to dorsal side; temporae tumid, oblique parts one and one-half times as long as eyes; eyes small, well prominent, fully distant from buccal fissures; posterior supraorbital setae inserted in small shallow foveola, behind level of hind margin of eyes, fairly remote from eyes, but fully distant from neck-constriction than from eyes, interspace a little wider than interspace of anterior supraorbital setae; frontal lateral furrows deep; frontal impressions somewhat deep, outside areas of frontal impressions not carinate; antennae reaching basal one-fourth of elytra, segment 2 with single seta at apex near ventral side, segment 3 slightly longer than segment 4;



Figs. 62–64. *Aparupa matsumurai*, sp. nov.

62. Mentum. 63. Pronotum. 64. Prosternal process in ventral view (v) and lateral view (l).

apical segment of maxillary palpi slightly longer than penultimate segment; labrum somewhat bisinuate at apex; mentum (Fig. 62) with deep round fovea behind each seta, tooth stout, well bifid; submentum with two setae (outer seta short) on either side.

Pronotum (Fig. 63) small, cordate, gently convex, widest behind one-third, one and one-fifth times as wide as head, a little wider than long ($WP/WH=1.19$, $WP/LP=1.09$, $WP/WBP=1.45$, in one ♀); surface impunctate, rugose-carinate at basal area, faintly, sparsely, transversely rugose on disk; microsculpture vestigial, only obscure transverse lines visible; apex almost straight, shortly bordered near apical angles; apical angles slightly protrudent,

weakly rounded; base thick, unbordered, somewhat roundly, well oblique at lateral areas, with small sinuation near basal angles; basal angles distinct, a little more than 90° , rounded at apex; lateral margins thick, not bordered (short border present near apical angles), somewhat reflexed at posterior half, well rounded towards apex, evenly, well contracted towards base, with short but distinct sinuation before basal angles; lateral furrows rather narrow; anterior marginal setae three on left side, four on right side in single specimen, posterior setae before basal angles, a little separated from lateral margins; median line fine, abbreviate at apical and basal areas; anterior transverse impression somewhat deep, posterior impression rather deep; basal foveae deep, faintly extending forward a little beyond middle along lateral furrows.

Wings very small. Elytra gently convex though flat on disk, widely ovate, widest a little before middle, one and three-fourths times as wide as pronotum ($WE/WP=1.76$), a little less than one and two-fifths times as long as wide; surface not punctate; microsculpture hardly visible; basal border short, almost level, slightly slanting at outer part, narrowly rounding at shoulder; shoulder indistinct, widely rounded off; lateral margin fairly rounded; apical sinuation obsolete, without inner plica; apex somewhat re-entrant, rounded; striae fine, finely punctate, striae 3 to 6 becoming shallow at apical area; scutellary striole rather short but not rudimentary; basal pore present; intervals flat, interval 3 without dorsal pores; marginal series not interrupted, composed of seventeen to nineteen pores.

Legs fully long and slender; fore tibiae only vestigially sulcate at basal area, hind tibiae curved; basal two segments of all tarsi faintly sulcate on either side, segments 1 to 3 with two rows of spinous setae on either area of ventral side in mid and hind tarsi (more spinous and sparse in hind tarsi), with longitudinal glabrous area between inner rows; segment 4 well bilobed (lobes somewhat unequal) and with long, rather dense setae on ventral side in fore and mid tarsi, weakly bilobed in hind tarsi; tarsal segment 5 completely glabrous on ventral side; hind tarsi one and one-fourth times as long as width of head, segment 1 one and one-half times as long as segment 2, segment 5 shorter than segment 1 (segment 5/segment 1=0.85).

Proepisterna at posterior area, mesepisterna, and lateral areas of sternite 1 with rather dense, large, distinct punctures, metepisterna with one or two punctures; prosternal process (Fig. 64) somewhat depressed near apex, apex forming almost rectangular angle in profile, carinate behind;

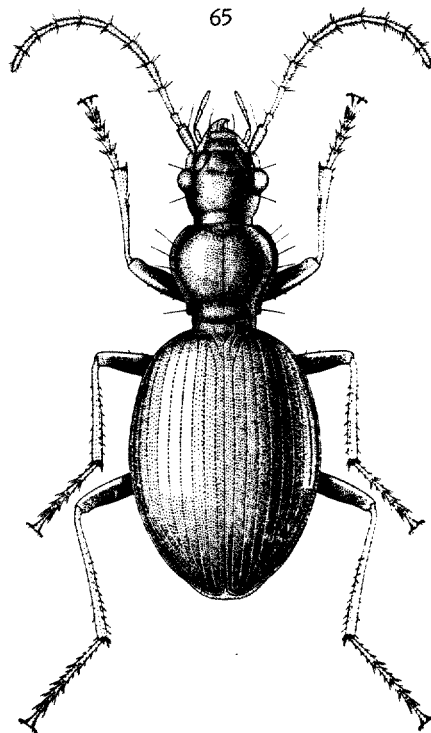


Fig. 65. *Aparupa matsumurai*, sp. nov., ♀.

metepisterna slightly longer than wide ($L/W=1.05$), sulcate at outer, front and inner sides; sternite 6 of ♀ with two setae on either side.

Distribution. Nepal.

Type-specimen. Holotype: 1 ♀, VI. 7, 1968, Thare Pati, Gosainkund (at alt. 3570 m), T. Matsumura leg.

Remarks. The new species is different from the all described species of the genus by the elytra without dorsal pores on the third interval, and the pronotal base roundly oblique at the lateral areas and sinuate near the basal angles. The former characteristic made me doubt whether it belonged to *Aparupa* or not, but, thanks to Dr. P. M. Hammond, I have been able to examine one cotype (♀) of *A. exophthalmica* ANDREWES from Sikkim, North India, the type-species of *Aparupa*, finding no reason to exclude the new species from the genus. The pronotum of this Indian species is completely and distinctly bordered at the apex and the base.

46. *Dicranoncus femoralis* CHAUDOIR

Dicranoncus femoralis CHAUDOIR†, 1850, Bull. Soc. Nat. Mosc., 23 (2): 393.

1 ♀, V. 12, 1968, Biratanti, No. 4 West (at alt. 1150 m), T. Kumata leg.

北海道大学中央ネパール生物調査隊
の採集したオサムシ科について (I)

土 生 昶 申

摘 要

北海道大学中央ネパール生物調査隊の採集によるネパールのゴミムシ類 99 種の同定を依頼されたが、本報ではその約半数のマルクビゴミムシ族からヒラタゴミムシ族までの 46 種の同定結果を報告した。46 種のうち日本と共通種はわずか 2 種にすぎず、21 種は新種として記載された。

NDC 615.86, 486.8

KAMANO, S.

**Studies on Artificial Diets and Laboratory Rearing Methods
Suitable for Successive Generation of The Rice Stem Borer,
Chilo suppressalis Walker.**

Seiya KAMANO

Bull. Natl. Inst. Agric. Sci., Ser. C 27 (March 1973) pp. 1~51.

Experiments were conducted to establish a satisfactory artificial diet and a suitable method of rearing through successive generations in the laboratory. The rice stem borer grew well from egg to adult and was satisfactorily reared through successive generations on an improved synthetic diet. The effects of vitamins, sterols and salt mixtures on larval growth and reproduction of this insect were examined to rear the insect for one generation on a chemically defined diet. Growth of the larvae was remarkably retarded on the diet containing a large amount of anti-microbial agents. When larvae were reared under the conditions of a short-day-photoperiod, a little difference of nutritional requirements was observed. It was also found that breeding techniques were important in rearing the rice stem borer for successive generations. On the artificial diet the larvae were able to develop without diapause under the conditions of 25°C or

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NDC 615.83

OHUCHI, A. and TOMINAGA, T.

Histochemical Changes of Cell Walls of Lettuce Midribs Inoculated with Pathogenic and Saprophytic *Pseudomonads*.

Akira OHUCHI and Tokito TOMINAGA

Bull. Natl. Inst. Agric. Sci., Ser. C 27 (March 1973) pp. 53~79.

Anatomical and histochemical experiments were conducted to demonstrate phytopathological differences between *Pseudomonas marginalis*, causing a soft rot of vegetables, and non-pathogenic *Ps. fluorescens*, in lettuce midrib tissues.

Two isolates of pathogenic bacteria formed a typical water-soaking symptom on the midribs. From either light or electron microscopic observations, it is disclosed that the causal organisms are generally able to invade the host tissues intracellularly in all directions.

The infected tissues were remarkably disorganized along with disease development, and large cavities were formed in an invaded portion. These tissue degradations were closely related to denaturalization of cell wall materials. On the basis of histochemical studies, pectic substances of cell walls were specifically dissolved without any visible change of cellulosic and hemicellulosic components.

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In contrast to pathogenic bacteria, two isolates of saprophytic pseudomonads did not result in any symptom, tissue collapse and dissolution of cell wall components, when inoculated to lettuce midribs.

From these results, it is proposed that the pathogenic pseudomonads possess an ability to secrete pectolytic enzyme(s) causing degradation of host tissues, but saprophytes do not produce any tissue degradation enzyme(s) in lettuce leaf tissue.

higher temperature and longday-photoperiod, while the larvae entered into diapause under the conditions of 25°C or lower temperature and short-day-photoperiod. It was found that developmental speed of the larvae were varied with conditions of temperature and photoperiod and also varied with localities where the insects were collected.

NDC 486.6

HABU, A.

**On a Collection of Carabidae from Nepal Made by the Hokkaido
University Scientific Expedition to Nepal Himalaya, 1968 (I)**

Akinobu HABU

Bull. Natl. Inst. Agric. Sci., Ser. C 27 (March 1973) pp. 81~132.

The author makes a report of the result of identification of the forty-six species, from the tribe Nebriini to the Agonini, of the Carabid beetles collected by the Hokkaido University Scientific Expedition to Nepal Himalaya, 1968. The tribes and the number of the species are:— Nebriini (one species), Scaritini (four), Broscini (three), Trechini (two), Bembidiini (seven), Pterostichini (eight), and Agonini (twenty-one).