

NOTES ON SOME DERMAPTERA FROM MALAYA WITH THE DESCRIPTION  
OF TWO NEW SPECIES

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The present paper is based on some material collected by one of us (D. Kovac) in the course of a broad study involving the fauna of bamboo internodes of *Gigantochloa scortechinii* Gamble in the Malay Peninsula. Twelve species (plus three additional ones identified only to genus level) are listed, two of which, belonging to the genera *Euenkrates* Rehn and *Proreus* Burr, are new to science. Biological observations on the new species are given. Most earwigs were found in internodes of dead bamboo culms, whereas two new species and *Spongovostox mucronatus* (Stal), occurred in living bamboo culms.

All the specimens including types are deposited in the Senckenberg Museum, Frankfurt, Germany except if otherwise stated.

PYGIDICRANIDAE

ECHINOSOMATINAE

***Echinosoma horridum* Dohrn**

1863. *Echinosoma horridum* Dohrn, *Stettiner entomol. Z.*, 24 : 66 (♂ ; Java).

1959. *Echinosoma horridum* ; Hincks, *Syst. monogr. Dermaptera*, 2 : 134, figs. 131-132.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 6.11.1991, 1 ♀, 4.11.1991.

ANISOLABIDIDAE

PLATYLABIINAE

1867. *Platylabia major* Dohrn, *Stettiner entomol. Z.*, 28 : 347 (1 ♀ ; Celebes).

1981. *Platylabia major* ; Srivastava, *Bull. zool. Surv. India*, 4 (1) : 104, figs. 1-5.

*Measurements* : Length : body-7.5 mm, forceps-1.9 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♀, 26.10.1991.

*Remarks* : Out of the three known species of *Platylabia* Dohrn, this is the most widely distributed one in the Oriental region.

#### CARCINOPHORINAE

##### **Euborellia** sp.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♂, 22.3.1991.

*Remarks* : In the absence of a ♂ it is not possible to determine the specimens up to species level.

#### LABIDURIDAE

##### ALLOSTETHINAE

##### **Allostethella guttata** (Bormans)

(Fig. 2)

1899. *Psalis guttata* Bormans, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 2 (20) : 44 (♂, ♀ ; Mentawai Islands : Sipora, 1894, E. Modigliani—Museo civico storia naturale Genova).

*Measurements* : ♂, Length : body—10.4-10.9 mm, forceps—1.8-2.0 mm ; ♀, body—10.4-10.9 mm, forceps—1.8-2.0 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 18.6.1989, 1 ♀, 30.6.1989 ; 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 1 ♀, 9.3.1991 ; 1 ♀, 23.11.1991 ; 1 ♀, 18.11.1991.

1 ♂, 1 ♀ deposited in the Zoological Survey of India, Calcutta.

*Remarks* : This species had hitherto been known only from its "Types". This is the first record after a lapse of 92 years.

Srivastava (1993) has redescribed the species on the basis of the "Type" series and the present material agrees with it in all relevant details.

#### SPONGIPHORIDAE

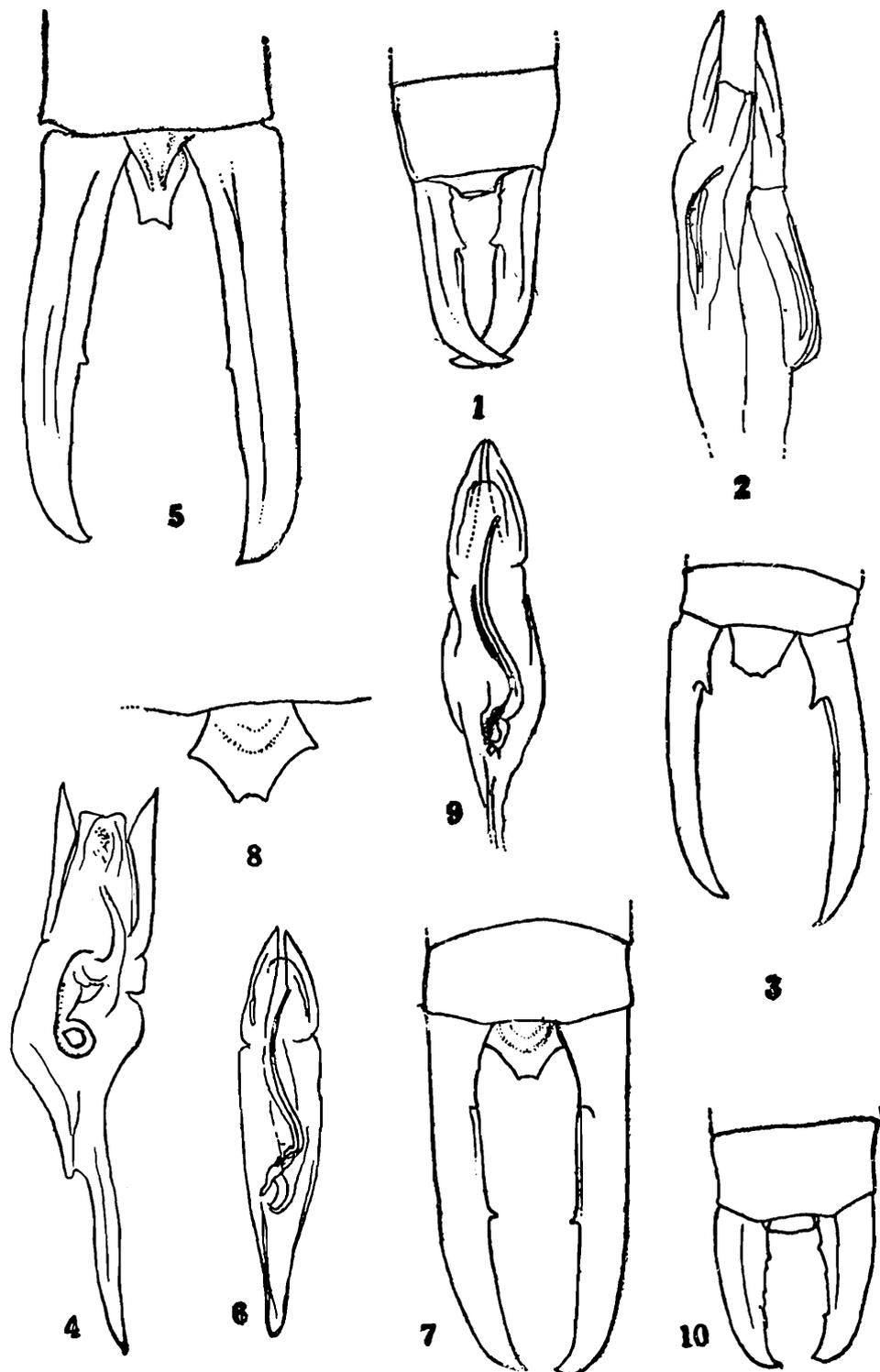
##### SPONGIPHORINAE

##### **Spongovostox mucronatus** (Stål)

(Fig. 3)

1960. *Forficula mucronata* Stål, *Eug. Resa zool. Ins.*, : 303 (♂ not ♀ ; Java).

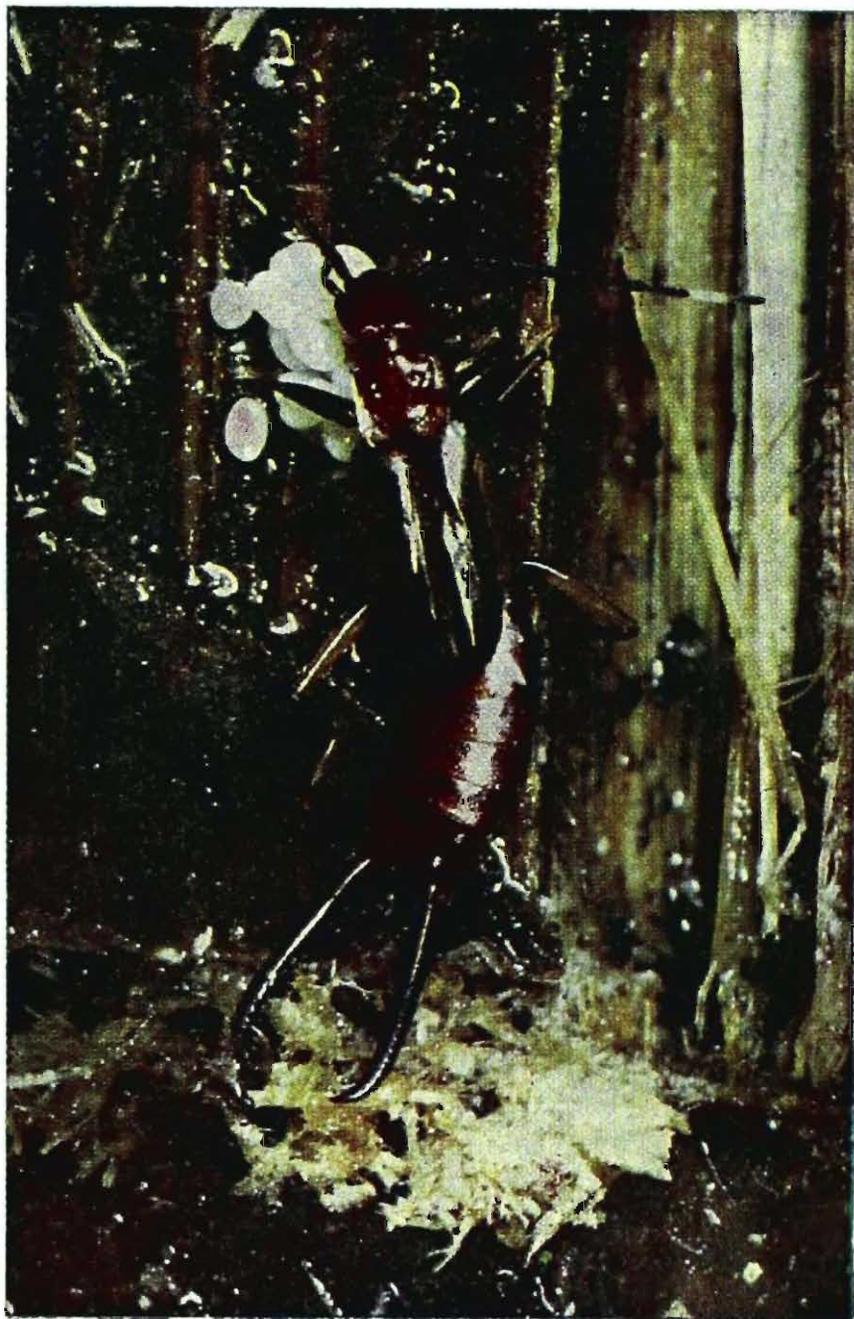
*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♂, 1 ♀, 7.6.1991.



Figs. 1-10. *Platylabia major* (Dohrn), ♀, (1) Ultimate tergite and forceps ; *Allostethella guttata* (Bormans), ♂, (2) Genitalia ; *Spongovostox mucronatus* (Stål), ♂, (3) Ultimate tergite and forceps ; *Paralabella curvicauda* (Motschulsky), ♂, (4) Genitalia ; *Chaetospania feae* Bormans, ♂, (5) Ultimate tergite and forceps, (6) Genitalia ; *Chaetospania feuerborni* Günther, ♂, (7) Ultimate tergite and forceps, (8) Pygidium, enlarged, (9) Genitalia ; *Chaetolabia* sp., ♀ ; (10) Ultimate tergite and forceps.

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PLATE 1



*Euenkrates brindlei* sp. n., female with eggs.

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PLATE 2



*Proreus pygidiatus* sp. n., female with eggs.

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PLATE 3



Internodes of bamboo, *Gigantochloa scortechinii* with a hole made by the larva of chrysomelid beetle, *Lasiochila goryi* (size of the hole : 7x3 mm, diameter of internode : 10.5 cm).

## LABIINAE

**Paralabella curvicauda** (Motschulsky)

(Fig. 4)

1863. *Forficesila curvicauda* Motschulsky, *Bull. Soc. Imp. Moscou*, 36 : 2, pl. 2, fig. 1 (♂, ♀ ; Nura Illia Mountains, Ceylon).  
 1989. *Paralabella curvicauda* ; Steinmann, *Das Tierreich*, 106 : 479, figs. 920-922.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♀, 26.10.1991 ; 2 ♀ ♀, 23.10.1991 ; 1 ♂, 24.10.1991 ; 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 1 ♀, 7.11.1991.

*Remarks* : In the investigated material the male genitalia were found to have a short virga and some chitinous accessory plates.

**Chaetospasia feae** Bormans

(Fig. 5-6)

1894. *Chaetospasia feae* Bormans, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 2 (14) : 390 (♂, ♀ ; Burma).

*Measurements* : ♂, Length : body – 5.2-6.5 mm, forceps – 2.2-2.4 mm ; ♀, Length : body – 6.5-7.5 mm, forceps – 1.6-1.88 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 1 ♀, 15.3.1989 ; 1 ♀, 25.9.1991 ; 1 ♀, 12.10.1991 ; 1 ♂, 1 ♀, 23.10.1991 ; 1 ♂, 2 ♀ ♀, 7.11.1991.

*Remarks* : In the present material the ♂ pygidium is declivious at its base, afterwards rectilinear ; it is apically narrowed with the hind margin concave. The inner tooth of the forceps is feebly marked.

**Chaetospasia thoracica** (Dohrn)

1867. *Platylabia thoracica* Dohrn, *Stettiner entomol. Z.*, 28 : 348 (♂, ♀ ; Penang Island [Strait settlements] ; Ceylon).

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 22.3.1991.

**Chaetospasia feuerborni** Günther

(Figs. 7-9)

1933. *Chaetospasia feuerborni* Günther, *Arch. Hydrobiol.*, 12 (Suppl.) : 512, fig. 10 (1 ♂ ; Java).

*Measurements* : ♂ ♂, Length : body – 6.0-8.1 mm, forceps – 3.0-3.5 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 2 ♂♂ (1 ♂ with genitalia mounted between two coverslips and pinned with the specimen), 7.11.1991.

**Chaetolabia sp.**

(Fig. 10)

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 2 ♀♀, 4.10.1991.

CHELISOCHIDAE

CHELISOCHINAE

**Euenkrates brindlei sp. n.**

(Figs. 11-19)

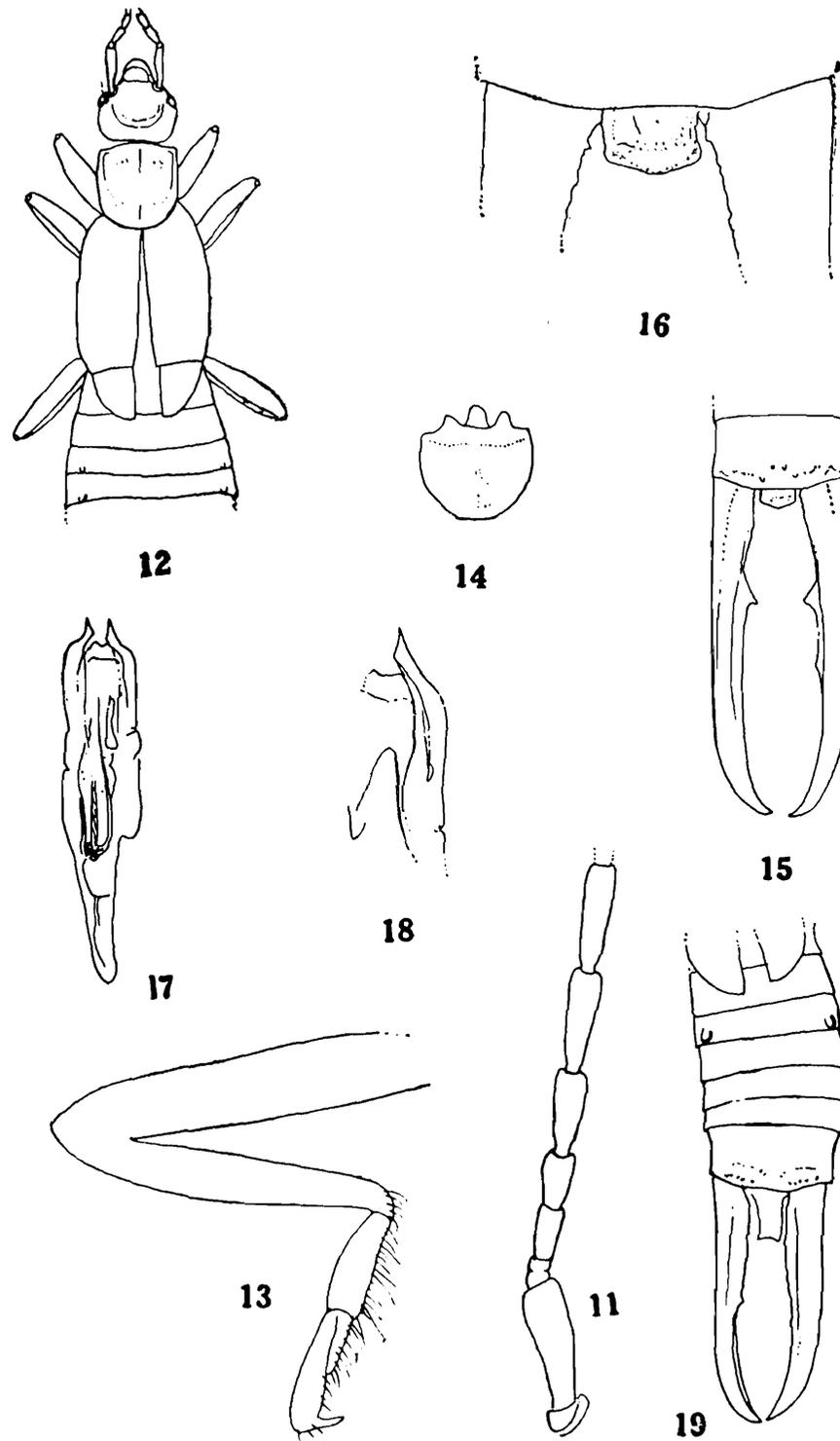
♂ : General colour blackish brown ; head and pronotum orange ; antennae dark blackish brown with 11th and 12th segments yellowish white ; legs yellow, fore femur and middle femur in basal two fifth brownish black ; elytra yellowish with uniform shade of black, hind wings black ; abdomen, forceps brown with shades of black in varying intensity.

Head slightly longer than broad, smooth, impunctate, frons and occiput feebly convex, sutures obsolete, in place of transverse suture a depression, hind margin hardly emarginate in middle. Eyes small, shorter than post-ocular area. Antennae 16-segmented, 1st segment stout, gently expanded apically, slightly longer than the antennal bases ; 2nd small ; 3rd long and slender ; 4th about as long as the preceding but slightly stouter ; 5th onwards longer and slender.

Pronotum slightly longer than broad, smooth and impunctate, sides straight, hind margin rounded, prozona feebly raised and metazona depressed, median sulcus faintly marked. Elytra and wings well developed, both smooth and impunctate, former with hind margin concave posteriorly. Legs typical for the genus, fore tibiae in apical 1/3 deplanate, middle and hind tibiae deplanate at extreme apex, hind tarsi with 1st and 3rd segments almost equal in length.

Abdomen feebly convex and extremely finely punctate, lateral folds on 3rd tergite feebly, on 4th distinctly marked. Penultimate sternite punctate, hind margin truncate, medially with a faint linear groove, manubrium short. Ultimate tergite transverse, sides straight, posterior angles a little projecting, with margin in middle straight and laterally, above the bases of the forceps, feebly concave, smooth, impunctate, with low tumid elevation above the bases of the forceps and depressed in middle, with two pairs of compressed tubercles, median sulcus faint and short. Pygidium slightly longer than broad, sides straight, turned upwards apically, with hind margin obtusely rounded.

Forceps long and slender, with a few shallow, remotely placed punctations, almost straight, gently narrowed apically with tips pointed and hooked, trigonal near base,



Figs. 11-19. *Euenkrates brindlei* sp. n., Holotype ♂, (11) A few basal antennal segments, (12) Anterior portion of body, (13) Hind leg, (14) Penultimate sternite, (15) Ultimate tergite and forceps, (16) Pygidium and basal portion of ultimate tergite and forceps, enlarged, (17) Genitalia, (18) Right paramere, enlarged; Paratype ♀, (19) Abdomen and hind portion of body.

afterwards rounded in cross-section, internally armed with a triangular tooth in basal 1/3. Genitalia as in Figs. 17 and 18.

♀ : Agrees with males in most characters except that punctation on abdominal tergites more pronounced ; pygidium broader at base, declivious, afterwards rectilinear, longer than broad, sides parallel, with margin wavy, hind margin concave, with angles a little projecting externally ; forceps with inner margin finely serrated.

*Measurements* : Holotype ♂, Length : head-1.5 mm, pronotum-1.4 mm, elytra-2.7 mm, wings-1.1 mm, body-10.8 mm, forceps-5.1 mm ; Width : head-1.4 mm and pronotum-1.5 mm.

Paratypes ♂♂, Length : body-8.4-12.6 mm, forceps-6.0-6.5 mm ; ♀♀, Length : body-8.1-10.7 mm, forceps-4.5-4.6 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, Holotype ♂ (genitalia mounted between two coverslips and pinned with the specimen), 30.6.1989 ; Paratypes, 1 ♀, 30.6.1989 ; 1 ♀, 9.2.1991 ; 2 ♂♂, 1 ♀, 26.9.1991 ; 2 ♂♂, 28.9.1991 ; 1 ♂, 1.10.1991 ; 2 ♂♂, 3 ♀♀, 10.10.1991 and 4 ♂♂, 23.10.1991.

Paratypes 2 ♂♂, 1 ♀ deposited in the Zoological Survey of India, Calcutta.

*Remarks* : The described species is similar to *Euenkrates variegatum* (Kirby, 1891) from West Africa and *Euenkrates simplex* Ramamurthi, 1967 from Bismarck Islands. It differs from both, in males, by the shape of the pygidium being longer than broad and turned upwards apically, with the posterior margin obtuse in the middle. It can be further distinguished from *E. variegatum* by the uniformly coloured elytra and from *E. simplex* by its long and slender forceps, armed with a minute tooth in basal 1/3.

It can be easily separated from *Euenkrates boesmani* Steinmann, 1981, known from a single female from Sumatra, by female pygidium being longer than broad.

*Biology* : *E. brindlei* was the most common earwig species found in bamboo internodes. This species colonized live bamboo internodes up to 3 metres above ground as well as internodes of dead bamboo stems. Pubescence on their tarsi enables these animals to walk on the smooth bamboo stems, in contrast to other earwig species that were found in the leaf litter. The internodes were entered through holes made by various wood-boring insects, such as Coleoptera (Cerambycidae : *Abryna regispetri* Paiva ; Chrysomelidae : *Lasiochila goryi* (Guér.) and Lepidoptera (Pylalidae), and by woodpeckers. The smallest hole used for entering an internode, made by a pylalid larva, was 2x3 mm (height 2.70 m). All internodes colonized by *E. brindlei* were filled with rain water. In a few cases, internodes inhabited by *E. brindlei* were detected by constantly moving antennae of these animals protruding from the entrance holes.

After copulation the males leave the internode and the females lay their eggs in a

cluster of 20 – 30 ( $n=5$ ), always close to the water surface. The females guard the eggs until the nymphs hatch. If the water level rises due to rainfall or the eggs fall onto the water surface, the female stretches out from the edge to retrieve the eggs and place them above the water surface again. After the eggs are hatched the nymphs stay together with the female for *c.* 1-2 weeks. Afterwards, most of the nymphs disperse and colonize other internodes. One individual was seen to feed on decaying organic material.

In the course of a 6-month field study, during which one hundred (dead) bamboo internodes were checked daily (Kovac & Streit in prep.) there were a total of 33 observations of predation on *E. brindlei*. The majority of these (both nymphs and adults) fell victim to combfooted spiders (Theridiidae,  $n=24$ ). On two occasions freshly moulted adult earwigs were caught by an internode-inhabiting jumping spider (Salticidae : Spartaeinae). The jumping spider was also seen to feed on the eggs of *E. brindlei*. In two cases the eggs were sucked out by true bugs (Heteroptera : Miridae and Veliidae). In the case of the veliid water strider, *Baptista* sp., the eggs had first fallen onto the water surface. The remaining victims of predation were one adult earwing caught by a fly larva (Mycetophilidae) with the help of its slime-net and earwig nymph that was caught by predaceous mosquito larva (*Toxorhynchites*) after falling onto the water surface.

The anti-predator defense of the earwigs is flight ; on occasion, both adults and nymphs of *E. brindlei* may even flee below the water surface for a brief time. This behavior has been observed also in *Proreus pygidiatus* and *Allostethella guttata*. In the latter species one individual remained submerged for several minutes.

#### ***Proreus pygidiatus* sp. n.**

(Figs. 20-32)

♂ : General colour brownish black, head and pronotum yellowish with shades of black on sides of occiput ; antennae dark black with one or two pre-apical segments yellowish white ; elytra and wings yellowish black ; legs yellow with basal half of femora and two thirds of tibiae black ; abdominal tergites brownish black and hind margin of ultimate tergite, pygidium and forceps black.

Head slightly longer than broad, smooth and impunctate, frons depressed, occiput raised with a pair of faint oblique grooves on each side, sutures obsolete, the transverse suture marked by the raised margin of occiput. Eyes small. Antennae 17-segmented, 1st segment stout, gently expanded apically, almost equal in length to distance between antennal bases ; 2nd short ; 3rd long and cylindrical ; 4th a trifle shorter than preceding but slightly stouter ; 5th slightly longer than 3rd and stouter, remaining gradually increasing in length and thinning.

Pronotum about as long as broad, smooth and impunctate, anterior margin convex in middle with lateral angles a little projecting externally, sides straight, hind margin rounded, prozona raised and metazona depressed, median sulcus distinct and present along the entire length. Legs typical for the genus, tibiae sulcate in apical 1/4, hind tarsi with 1st segment almost equal to 3rd. Elytra and wings well developed, both smooth and impunctate, former with hind margin concave.

Abdomen long and slender, convex above, tergites smooth and impunctate. Penultimate sternite with posterior margin truncate in middle, obscurely punctulated. Ultimate tergite transverse, smooth, impunctate and convex above, sides straight, strongly declivious in posterior 1/4, at this point in middle with two pairs of compressed tubercles, of which inner pair situated on either side of middle line. Pygidium transverse, declivious, hind margin concave in middle with a point above posterolaterally and below a little posteriorly another small tubercle present. Forceps (in cyclolabic ♂) short, stout, depressed, incurved in apical 1/2, narrowed apically, with tip pointed and hooked, internally at base above with a large triangular tooth, in apical 2/3 another small tooth below present and (in macrolabic form) slightly elongated. Genitalia as seen in Fig. 27.

♀ : Agrees with ♂ in most characters except that head with frons and occiput depressed and sutures finely marked ; abdominal tergites finely punctulated ; pygidium longer than broad, declivious at base, afterwards rectilinear, sides serrated with hind margin truncate and forceps simple and straight with internal margin serrated.

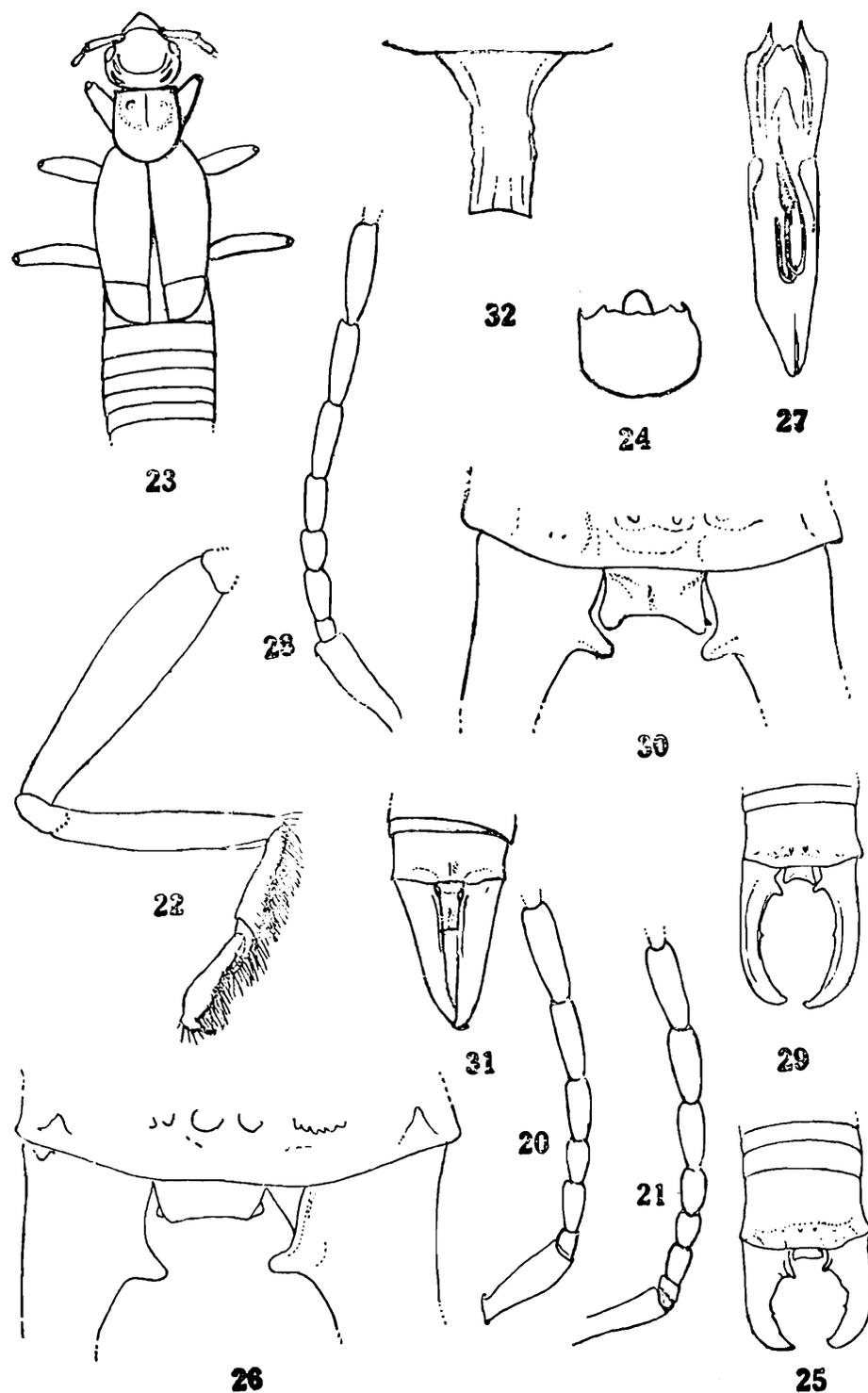
*Measurements* : Holotype ♂ (cyclolabic), Length : head—1.5 mm, pronotum—1.5 mm, elytra—2.7 mm, wings—0.9 mm, body—9.7 mm, forceps—2.3 mm ; Width : head—1.4 mm, pronotum—1.4 mm.

Paratypes, ♂ ♂ (cyclolabic), Length : body—7.8—9.6 mm, forceps—1.8—2.0 mm ; ♂ ♂ (macrolabic), Length : body—8.3—9.3 mm, forceps—2.2—2.8 mm ; ♀ ♀, Length : body—8.2—9.9 mm, forceps—2.7—3.0 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, Holotype ♂ (cyclolabic, genitalia mounted between two coverslips and pinned with the specimen), Paratypes, 1 ♂ (cyclolabic), 1 ♂ (macrolabic). 30.6.1989, 1 ♀, 18.6.1989 ; 2 ♂ ♂ (cyclolabic), 2 ♀ ♀, 11.3.1991 ; 2 ♀ ♀, 2.7.1991 ; 1 ♀ 8.7.1991 ; 1 ♂ (macrolabic), 7.8.1991 ; 1 ♀, 25.9.1991 ; 1 ♂ (macrolabic), 28.9.1991 ; 1 ♂ (cyclolabic), 26.9.1991 ; 2 ♂ ♂ (cyclolabic), 6 ♀ ♀, 1.10.1991 ; 1 ♀, 10.10.1991 1 ♂ (macrolabic) 4 ♂ ♂ (cyclolabic), 3 ♀ ♀, 23.10.1991 ; 1 ♂ (cyclolabic), 1 ♀, 26.10.1991 and 1 ♂ (macrolabic), 6.11.1991.

Paratypes 2 ♂ ♂, 2 ♀ ♀ deposited in the Zoological Survey of India, Calcutta.

*Remarks* : Some variations are noted in the shape and length of antennal



Figs. 20-32. *Proreus pygidiatus* sp. n., Holotype ♂ (cyclolabic), (20 and 21) A few basal segments of right and left antennae, (22) Hind leg, enlarged, (23) Anterior portion of body and abdomen, (24) Penultimate sternite, (25) Hind portion of body with last four tergites, pygidium and forceps, (26) Hind portion of ultimate tergite, pygidium and basal portion of forceps, enlarged, (27) Genitalia ; Paratype ♂ (macrolabic), (28) A few basal antennal segments, (29) Last two tergites, pygidium and forceps, (30) Hind portion of ultimate tergite, pygidium and basal portion of forceps, enlarged ; Paratype ♀, (31) Ultimate tergite and forceps ; (32) Pygidium, enlarged.

segments, especially 3rd and 4th, which may represent typical form on one side and on the other may be less stout and cylindrical.

In macrolabic males pygidium is distinctly concave posteriorly with posterolateral angles sharply pointed and forceps as usual more elongated.

This species comes close, in macrolabic males, to *Proreus corporaali* Boesman, 1954 from Sumatra but differs by the shape of ultimate tergite provided with two pairs of compressed, distantly placed tubercles in middle and pygidium concave posteriorly with angles produced into sharp point.

Besides, it has close resemblance with *Proreus variopictus* (Bormans, 1900), known from Sumatra, in having short and stout forceps, in cycloabic males, but differs by the shape of pygidium, inner armature of forceps and paramers.

**Biology :** *P. pygidiatus* was the second most common species in bamboo internodes. It appears to prefer dead internodes, but in one case was also discovered in a live internode at a height of 1.7 m. The females of *P. pygidiatus* preferably lay their eggs into crevices within the internode wall, if present, whereas the eggs of *Euenkrates brindleyi* are deposited openly on a horizontal surface. The principle predators of *P. pygidiatus* likewise are spiders of the family Theridiidae.

### **Laprophorella kervillei (Burr)**

(Figs. 33-39)

1905. *Mecomera kervillei* Burr, *Ann. Mag. nat. Hist.*, 16 (7) : 489 (1 ♂, 1 ♀ ; Java).  
 1913. *Lamprophorus kervillei* ; Burr, *Rec. Indian Mus.*, 8 : 143 (India : Arunachal Pradesh and Assam).  
 1976. *Laprophorella kervillei* ; Srivastava, *Rec. zool. Surv. India. Occ. pap.*, 2 : 53 (India : Assam and West Bengal).

**Measurements :** Length : body – 10.5 mm ; forceps – 2.1 mm.

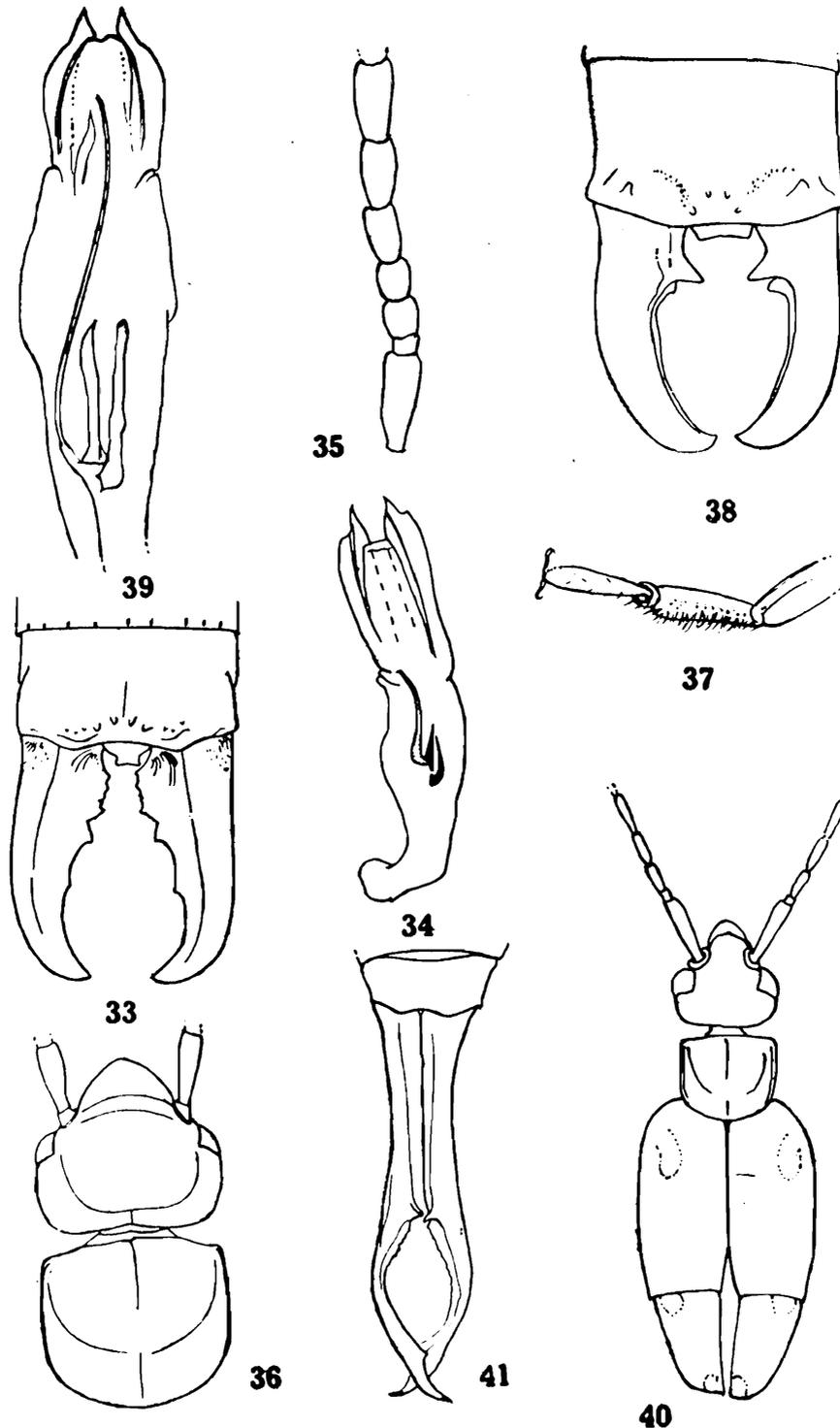
**Material examined :** MALAYA : Selangor, Genting Highlands, c. 1000 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 28.2.1991.

**Remarks :** The original description of the species is based on 1 ♂, 1 ♀ from Java. It has been subsequently recorded from India by Burr (1913) on the basis of 2 ♀ ♀ from Rotung and 1 ♀ from Dosing (Arunachal Pradesh) and 3 ♂ ♂, and 3 ♀ ♀ from Dibrugarh (Assam).

A part of the Burr's material, i.e., 1 ♀ from Rotung and 1 ♂, 1 ♀ from Dibrugarh and other specimens from Darjeeling dist., W. B. preserved in the Zoological Survey of India, Calcutta were examined. The Figs. 33-34 are based upon this material.

In comparison with Figs. 38-39 from the present material, the shape of ♂ pygidium and genitalia (especially parameres) are slightly different. In all other details both samples are identical.

Since the ♂ genitalia of holotype is not yet known it is difficult to say which of the two lots really belong to this species.



Figs. 33-41. *Laprophorella kervillei* (Burr), ♂ (Indian specimen), (33) Ultimate tergite and forceps, (34) Genitalia, ♂ (Malayan specimen), (35) A few basal antennal segments, (36) Head and pronotum, (37) Hind tarsi, enlarged (38) Ultimate tergite and forceps, (39) Genitalia; *Eparchus forcipatus* (Haan), ♂, (40) Anterior portion of body, (41) Ultimate tergite and forceps.

A brief description of the present ♂ is provided which would help in defining the proper identity of the species.

Head, antennae, elytra, wings and sides of certain abdominal tergites dark brownish black ; pronotum and legs yellowish and abdomen and forceps dark brown with shades of black on certain parts. Head depressed, sutures obsolete. Pronotum about as long as broad, anteriorly convex and angles feebly projecting, sides almost straight and hind margin broadly rounded. Elytra and wings well developed. Legs with 1st hind tarsal segment compressed and slightly shorter than third, second produced below the third as narrow projection. Ultimate tergite, pygidium, forceps and genitalia as seen in figs. 35-39.

#### **Hamaxas sp.**

*Measurement* : Length : body – 8.9 mm ; forceps – 1.5 mm.

*Material examined* : MALAYA : Selangor, Ulu Gombak Field Studies Centre, 250 m, 1 ♀, labelled as *Hamaxas* sp.

*Remarks* : Since the taxonomy of the whole Order is based on males it is often difficult to determine isolated females up to species level.

In having the body covered with long and short pubescence and punctulated elytra and wings, the above specimen is referable to *Hamaxas* Burr.

### FORFICULIDAE

#### OPISTHOCOSMIINAE

#### ***Eparchus forcipatus* (Haan)**

( Figs. 40-41 )

1842. *Forficula (Opisthocosmia) forcipata* Haan, *Verh. Naturgesch. Nederl. Overz. Bezitt.*, 1842 : 243 (♂, ♀ ; Batang, Singalang, Sumatra).

*Material examined* : MALAYA : Selangor, Genting Highlands, c. 1000 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 4 ♂♂, 2 nymphs, 28. 2. 1991 ; 1 ♂, 1 ♀, 23. 3. 1991 ; 2 ♀♀, 15. 3. 1991 ; 1 nymph, 7. 11. 1991.

1 ♂, 1 ♀ deposited in the Zoological Survey of India, Calcutta.

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## REFERENCES

Burr, M. 1913. Zoological Results of the Abor Expedition, 1911-1912. X. Dermaptera. *Rec. Indian Mus.*, 8 (2) : 135-147.

Srivastava, G. K. 1993. Notes on Bormans' some material of Dermaptera (Insecta). *Annali Mus. civ. Stor. nat. Giacomo Doria*, 89 : 219-246.