

NOTES ON A COLLECTION OF DERMAPTERA
FROM N.E.F.A*., INDIA

By

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(with 3 Text-figures)

I—INTRODUCTION

The present paper is based on a small but interesting collection of Dermaptera made by Dr. K. C. Jayaramakrishnan and Shri S. Biswas from Kameng Frontier Division, N. E. F. A., India in the year 1961. It comprises twenty species (including five represented by nymphs which could be identified up to generic level only). Two new species *viz.*, *Aborolabis kalaktangensis* and *Forficula jayarami* are described, and two species, namely, *Paralabis montshadskii* Bey-Bienko and *Cordax politus* Burr are the first records from India. Some of the species represented in the collection show Palaeartic affinities.

I am thankful to, Dr. A. P. Kapur, Director, for providing necessary facilities and to Shri K. S. Pradhan, Superintending Zoologist, Zoological Survey of India, Calcutta for very kindly going through the manuscript.

The following species are represented in the collection examined.

Superfamily PYGIDICRANOIDEA

Family PYGIDICRANIDAE

Subfamily *Pygidicraninae*

1. *Cranopygia* sp.
Subfamily *Echinosomatinae*
2. *Echinosoma sumatranum* (Haan)
Subfamily *Diplatyinae*
3. *Diplatys* sp.

Superfamily LABIOIDEA

Family CARCINOPNORIDAE

Subfamily *Carcinophorinae*

4. *Aborolabis pervicina* (Burr)
5. *Aborolabis kalaktangensis* sp. n.
6. *Paralabis montshadskii* Bey-Bienko

* since named as Arunachal Pradesh

Family LABIIDAE

Subfamily *Labiinae*

- 7.
- Homotages feae*
- (Bormans)

Superfamily FORFICULOIDEA

Family LABIDURIDAE

Subfamily *Labidurinae*

- 8.
- Nala*
- sp.
-
- 9.
- Forcipula decolyi*
- (Bormans)
-
- 10.
- Forcipula*
- sp.

Family FORFICULIDAE

Subfamily *Anechurinae*

- 11.
- Allodahlia scabriuscula*
- (Serville)
-
- 12.
- Allodahlia macropyga*
- (Westwood)
-
- 13.
- Anechura*
- sp.

Subfamily FORFICULINAE

- 14.
- Forficula schlagintweiti*
- (Burr)
-
- 15.
- Forficula beelzebub*
- (Burr)
-
- 16.
- Forficula acris*
- Burr
-
- 17.
- Forficula greeni*
- (Burr)
-
- 18.
- Forficula jayarami*
- sp. n.

Subfamily OPISTHOCOSMINAE

- 19.
- Cordax forcipatus*
- (Haan)
-
- 20.
- Cordax politus*
- Burr

II—KEY TO THE GENERA REPRESENTED IN THE COLLECTION
EXAMINED FROM N.E.F.A.

- 1(16). Second tarsal segment small, not lobed or dilated
-
- 2(5). Femora crenate
-
- 3(4). Size large, antennal segments 4-6 broader than long, nymphal cerci not segmented
- Cranopygia*
- Burr
-
- 4(3). Size small, antennal segments 4-6 longer than broad, nymphal cerci segmented
- Diplatys*
- Serville
-
- 5(2). Femora not carinate
-
- 6(7). Pronotum transverse, provided with thick hairs, metasternum sinuate posteriorly
- Echinosoma*
- Serville
-
- 7(6). Pronotum not transverse, without thick hairs, metasternum truncate posteriorly
-
- 8(15). Posterior margin of ultimate tergite deflexed and fused with the pygidium
-
- 9(12). Manubrium longer than penultimate sternite, dilated at apex
-
- 10(11). Parameres armed with a triangular tooth at base
-
- Aborolabis*
- Srivastava
-
- 11(10). Parameres without any tooth at base
- Paralabis*
- Burr
-
- 12(9). Manubrium shorter than penultimate sternite, not dilated at apex
-
- 13(12). Sides of abdomen with spines
- Forcipula*
- Bolivar
-
- 14(13). Sides of abdomen without spines
- Nala*
- Zacher
-
- 15(8). Posterior margin of ultimate tergite not fused with pygidium
- Homotages*
- Burr
-
- 16(1). Second tarsal segment lobed and/or dilated

- 17(20). Meso- and meta-sternal plates broad and strongly transverse
 18(19). Elytra keeled at costal margin . . . *Allodahlia* Verhoeff
 19(18). Elytra devoid of any keel . . . *Anechura* Scudder
 20(17). Meso- and meta-sternal plates narrow and weakly transverse
 21(22). Abdomen somewhat depressed, forceps of male depressed and
 dilated at base . . . *Forficula* L.
 22(21). Abdomen convex, forceps of male not depressed or dilated at
 base, long and cylindrical . . . *Cordax* Burr

III—SYSTEMATIC ACCOUNT

Superfamily PYGIDICRANOIDEA

Family PYGIDICRANIDAE

Subfamily *Pygidicraninae*1. *Cranopygia* sp.

Material.—(i) 1 ex. (nymph), Foot Hills below stones, on Bil-siri river bank, 27. ii. 61 ; (ii) 1 ex. (nymph), Milankang river Valley, 19. v. 61 ; and (iii) 2 exs. (nymphs), Norgum river bank, below Dengzi village, 15.iii.61 (*K. C. Jayaramakrishnan* coll.).

Subfamily *Echinosomatinae*2. *Echinosoma sumatranum* (Haan)

1842. *Forficula (Echinosoma) sumatranum* Haan, *Verh. nat. Gesch. Nederl. Overzee. Bezitt.* : 241.
 1863. *Echinosoma sumatranum* : Dohrn, *Stett. ent. Zeit.*, 24 : 65.
 1863. *Echinosoma westermanni* Dohrn, *Stett. ent. Zeit.*, 24 : 65.
 1910. *Echinosoma sumatranum* : Burr, *Fauna Brit. India, Dermaptera* : 70.

Material.—(i) 1 ♀, Sangtichu, 12.iv.61 ; and (ii) 1 ex. (nymph), Rahung village, 8.iv.61 (*K. C. Jayaramakrishnan* coll.).

Distribution.—This species occurs throughout the Oriental Region.

Subfamily *Diplatyinae*3. *Diplatys* sp.

Material.—(i) 1 ex. (nymph), Norgum river bank, below Dengzi village, 15.iii.61 ; (ii) 1 ex. (nymph), Milankang, 19.iv.61 ; and (iii) 3 exs. (nymphs), Milankang river Valley, 19.iv.61 (*K. C. Jayaramakrishnan* coll.).

Remarks.—Only one specimen is with segmented cerci, the first segment being much longer than the rest. In the other specimens the cerci are broken.

Superfamily LABIOIDEA

Family CARCINOPHORIDAE

Subfamily *Carcinophorinae*4. *Aborolabis pervicina* (Burr)

1913. *Anisolabis pervicina* Burr, *Rec. Indian Mus.*, 8 (2) : 137,

1915. *Paralabis pervicina* : Burr, *J. R. micr. Soc.*, 1915 : 540.
 1969. *Aborolabis pervicina* : *Ent. Rec.*, 81, : 246.

Material.—(i) 6♂♂, 8♀♀ Dirong Dzong, 10.iv.61 ; (ii) 2♂♂, 4♀♀, Dikongko river bank, four miles north of Rupa, 14.iv.61 ; (iii) 7♂♂, 5♀♀, Chug village, 14.iv.61 ; (iv) 1♂, Milankang river bank, two miles north, 18.iv.61 ; (v) 3♀♀, Milankang Valley, 19.iv.61 ; (vi) 1♂, 2♀♀, Shergaon, 29.iii.61 ; (vii) 3♀♀, Sangtichu, 12.iv.61 ; (viii) 6♂♂, 3♀♀, 2 exs. (nymphs) Kalaktang, 17.iii.61 ; and (ix) 1♀, Rahung village, 8.i.v.61 (*K. C. Jayaramakrishnan* coll.).

Description.—The description of the species given by Burr (1913) being inadequate, it is described below in detail.

Male.—Head triangular, shining black, convex, sutures faint. Antennae with 19-segments, black, fifth segment shorter than the third but longer than the fourth, with yellowish pubescence. Pronotum black, nearly square, median suture not well marked, prozona slightly tumid and metazona flat, posterior angles gently rounded, posterior margin truncate. Elytra and wings absent in the material examined. Sternal plates brownish, prosternum slightly wider at posterior end and meso- and meta-sternum broad ; mesosternum rounded and metasternum truncate posteriorly. Legs brownish, femora and tibiae slender, banded with black ; tarsi with yellowish brown shining pubescence on underside, first segment slightly shorter in length than the second and third combined. Abdomen black, shiny, punctulate, depressed in the middle, sides of segments 6 to 9 acute, regulose and carinate, pubescence sparse, on underside only ; last dorsal segment transverse, less punctulate with a median depression, sides with carina and a depression, striolate above the roots of forceps. Penultimate ventral segment (Text-fig. 1 A) somewhat rounded with posterior margin truncate, manubrium long, dilated at apex and a little more than double the length of ninth sternite. Forceps (Text-fig. 1 B) with branches remote, asymmetrical, trigonal and dilated at base, the upper ridge absent in apical half, tapering, and terminating to a blunt point, bent inwards, right branch is curved more strongly than the left, inner margins serrated in basal one third. Genitalia figured by Burr (1915) and Srivastava (1969).

Female.—Closely resembling the male in colour and most characters. Pronotum slightly broader posteriorly, punctulation of the body obscure, sides of abdominal segments blunt and not carinate ; last dorsal segment transverse, but narrowing posteriorly. Penultimate ventral segment obtusely rounded posteriorly, punctulation obscure and not covering the last sternite completely.

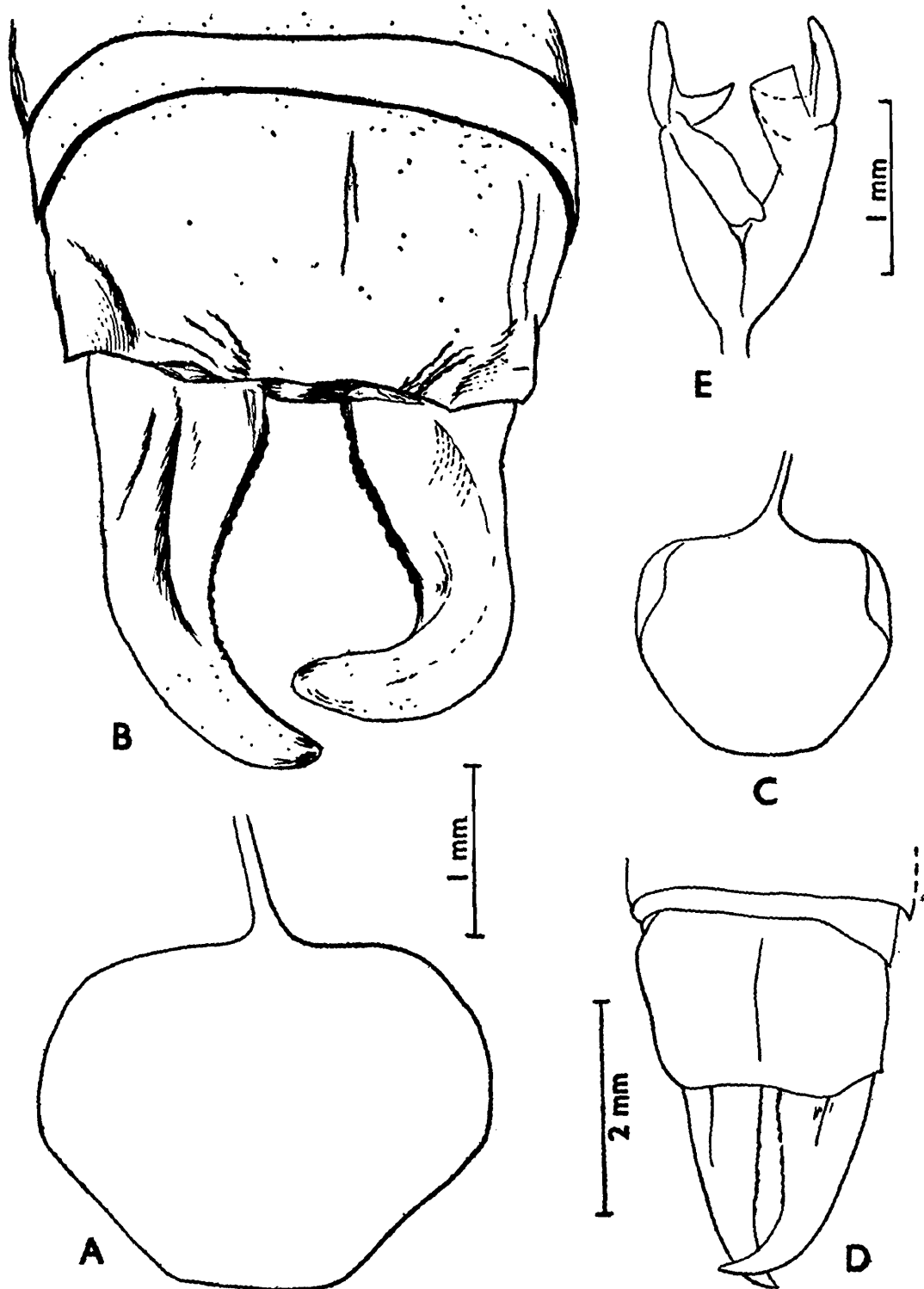
Measurements.—

	Length of body (without forceps)	Length of forceps
Male.	13 - 16 mm.	2 - 3 mm.
Female.	7 - 18 mm.	2 - 3.5 mm.

Remarks.—The colour varies from shining black to blackish brown, abdomen from finely punctulate to heavily punctate and in

some cases the forceps less asymmetrical. In one specimen from Kalaktang the posterior angles of pronotum are markedly rounded.

Distribution.—Originally described from NEFA (Abor Region, now Siang Div.), Assam in India and Bhutan, it has since not been recorded from elsewhere.



TEXT-FIG. 1. *Aborolabis pervicina* (Burr) : ♂, A. Penultimate sternite. B. Last tergite and forceps. *Aborolabis kalaktangensis* sp. n. : ♂, C. Penultimate sternite. D. Last tergite and forceps. and E. Genitalia (Figs. A & B and C & D same scale).

5. *Aborolabis kalaktangensis* sp. n.

Male.—General colour brownish, with traces of black on abdomen only. Head triangular, posterior margin gently sinuate, frons tumid, sutures faint, eyes small and black. Antennae 17-segmented, second segment yellowish and the rest brownish-yellow, clad with hairs. Pronotum almost quadrate, median suture well marked, anterior and posterior margin truncate, hind angles gently rounded, prozona tumid, metazona somewhat flat. Elytra and wings absent. Legs brownish yellow, femora proximally dark brown, clad with brownish yellow hairs; tibiae and tarsi with row of thick yellow hairs on under-side. Abdomen cylindrical, sides parallel, exceedingly finely punctulate, sides of segments 6 to 9 acute, ecarinate and without striations. Last tergite quadrate, median impression not faint, oblique striae at the bases of forceps. Penultimate ventral segment (Text-fig. 1C) somewhat oval, with posterior margin gently rounded, manubrium long, slightly more than double the length of penultimate sternite and dilated at apex. Forceps (Text-fig. 1D) with branches subcontiguous, trigonal at base, upper ridge present in basal one-third only, afterwards depressed, tapering and curved, right branch crossing over the left. Genitalia as seen in text-fig. 1E.

Female.—Agrees with male in most characters except that the sides of abdominal segments rounded; penultimate sternite triangular, with posterior margin obtusely rounded and forceps almost straight.

Measurements.—

	Length of body (Without forceps)	Length of forceps
Holotype : ♂	.13.30 mm.	1.72 mm.
Paratypes : ♀ ♀	.12.21 - 7.42 mm.	1.33-1.72 mm.

Material.—*Holotype*, ♂, Kalaktang village, 17.iii.61 (K. C. Jayaramakrishnan coll.); genitalia dissected and mounted between coverslips and attached to the specimen; *Paratypes* : 2 ♀ ♀, with same data as the holotype, and 3 ♀ ♀, from Dirong Dzong, 10-11. iii.61 (K. C. Jayaramakrishnan coll.), in the Zoological Survey of India, Calcutta.

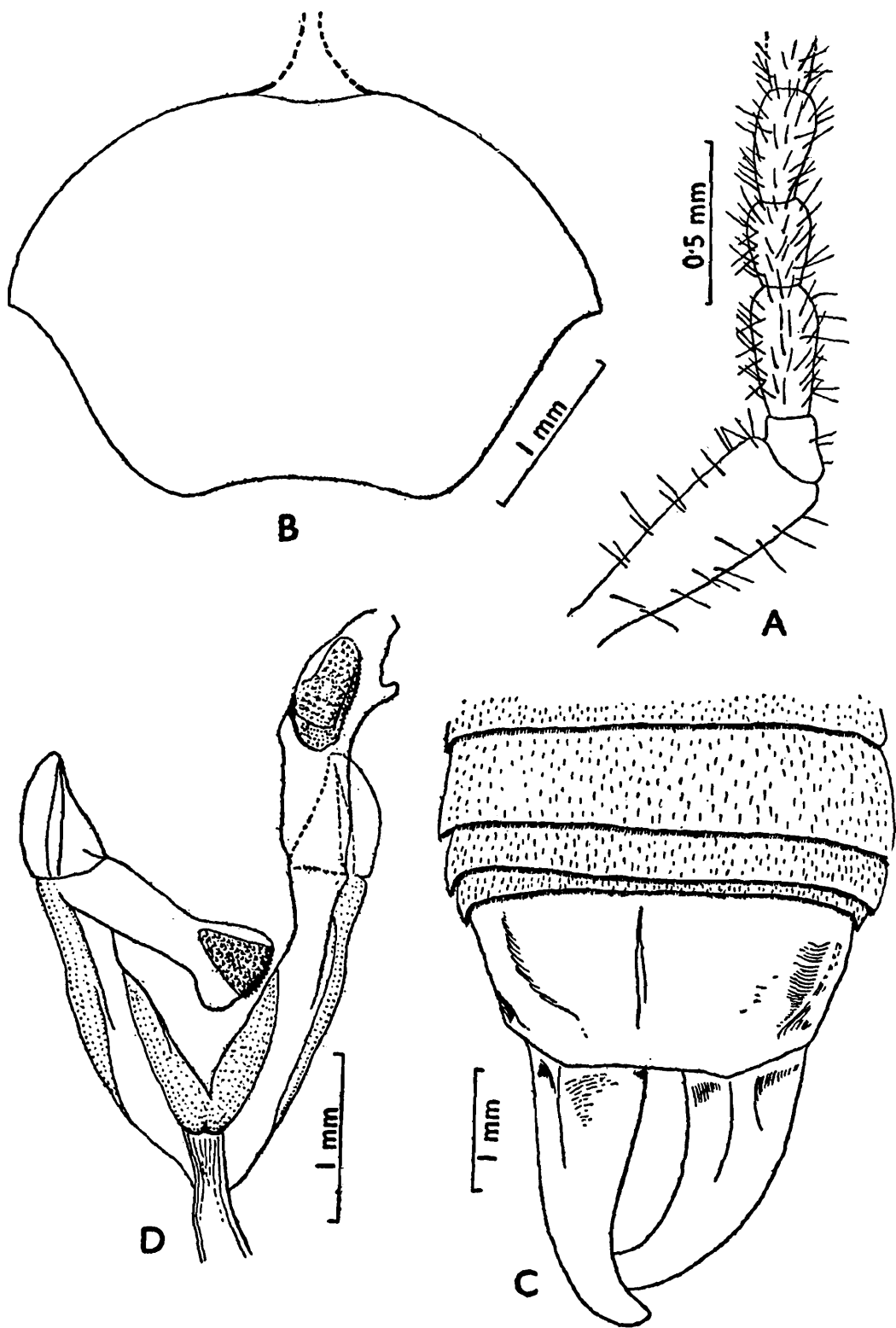
Affinities.—This species comes very close to *Aborolabis pervicina* (Burr) but differs from it in general colouration, especially femora which are not banded; abdomen almost cylindrical, parallel sided, exceedingly finely punctulate, sides of sixth to ninth abdominal segments ecarinate; last tergite quadrate, and forceps subcontiguous and weakly asymmetrical.

6. *Paralabis montshadskii* Bey-Bienko

1959. *Anisolabis (Paralabis) montshadskii* Bey-Bienko, *Ent. Obozr.*, 38, No. 3, (English translation) : 540.

Material.—(i) 1 ♂, Rahung, 9.iv.61; and (ii) 1 ♂, 2 ♀ ♀, Chug village, 15.iv.61 (K. C. Jayaramakrishnan coll.).

Distribution.—This species was hitherto known only from China, Yunnan (Bey-Bienko, 1959), is now recorded from India.



TEXT-FIG. 2. *Paralabis montshadskii* Bey-Bienko : ♂, A. First five antennal segments. B. Penultimate sternite. C. Last tergite and forceps, and D. Genitalia.

Remarks.—It agrees well with Bey-Bienko's (1959) description except for the following minor differences :

Size slightly larger (male, length of body 13.96—14.63 mm., length of forceps 2.46-2.47 ; female, length of the body 10.35-13.01 mm., length of forceps 1.90-2.37 mm.), total absence of tubercles on third

and fourth abdominal segments, subcontiguous forceps, and genitalia with praeputial sacs well armed with denticulate pads.

Family LABIIDAE

Subfamily *Labiinae*

7. *Homotages feae* (Bormans)

1888. *Anechura feae* Bormans, *Ann. Mus. Civ. Gen.*, (2) 6 : 445.
 1909. *Homotages feae* : Burr, *Deutsch. Ent. Zeitschr.* : 327.
 1910. *Homotages feae* : Burr, *Fauna Brit. India, Dermaptera* : 156.
 1916. *Homotages feae* : Burr, *J. R. micr. Soc.*, 1915 : 5.
 1961. *Homotages feae* : Bharadwaj and Bhatnagar, *Zool. Anz.*, 167 (7-8) : 285.

Material.—(i) 1 ♀, 1 ex. (nymph), Chug village, 15.iv.61 ; (ii) 1 ♀, Milankang river valley, 19.iv.61 ; and (iii) 1 ex. (nymph), Bomdila, 7.iv.61 (*K. C. Jayaramakrishnan* coll.).

Distribution.—India : West Bengal (Darjeeling), Uttar Pradesh (Naini Tal). It has also been recorded from Burma and Nepal.

Superfamily FORFICULOIDEA

Family LABIDURIDAE

Subfamily *Labidurinae*

8. *Nala* sp.

Material.—2 exs. (nymphs), Sangtichu, 12.vi.61 (*K. C. Jayaramakrishnan* coll.).

9. *Forcipula decolyi* (Bormans)

1900. *Forcipula decolyi* Bormans, *Ann. Mus. Civ. Gen.*, (2) 20 : 444.
 1910. *Forcipula decolyi* : Burr, *Fauna Brit. India Dermaptera* : 91.
 1923. *Forcipula decolyi* : Hebard, *Mem. Dept. Agric. India*, 7, No. 11 : 211.

Material.—(1) 1 ♂, 1 ex. (nymph), Chug village, 14.iv.61 ; and (ii) 2 ♀ ♀ Foot Hills, below stones on Bilsiri river bank, 27.xi.61 (*K. C. Jayaramakrishnan* coll.).

Distribution.—India : Assam (Sibsagar), West Bengal (Kurseong) and Madras (Anamalaies).

It has also been recorded from Nepal, Sikkim, China and New Guinea.

Remarks.—The specimens before me agree with the description of Burr (1910) in most characters except that the head is black and clothed with yellowish hairs. Antennae brownish yellow except for the third segment which is lighter in colour; tibiae brownish at base. Penultimate sternite and the genitalia as seen in the Text-figs. 3, A. and B.

10. *Forcipula* sp.

Material.—(i) 1 ex. (nymph), Milankang river bank, two miles north, 18.iv.61 ; (ii) 1 ex. (nymph), Amatulla village, 9.iii.61 ; (iii)

1 ex. (nymph), Bilsiri river, 27.ii.61 and (iv) 1 ex. (nymph), Norgum river, bank, below Dengzi village, 15.iii.61 (K. C. Jayaramakrishnan coll.).

Family FORFICULIDAE

Subfamily Anechurinae

11. *Allodahlia scabriuscula* (Serville)

1839. *Forficula scabriuscula* Serville, *Histoire Naturelle des Insectes Orthopteres* : 38.
 1842. *Forficula brachynota* Haan, *Verh. Natur. Gesch. Nederl. Overzee, Bezitt* : 243.
 1888. *Anechura scabriuscula* : Bormans, *Ann. Mus. Civ. Gen.*, (2) 6 : 444.
 1902. *Allodahlia scabriuscula* : Verhoeff, *Zool. Anz.*, No. 665 : 194.
 1910. *Allodahlia scabriuscula* : Burr, *Fauna Brit. India. Dermaptera* : 150.

Material.—(i). 10 ♂♂, 5 ♀♀, Pangabari Chu, three miles south-west of Kalaktang, 20.iii.61 ; and (ii) 1 ♂, Domko, 27.iii.61 (K. C. Jayaramakrishnan coll.).

Distribution.—India : Assam and West Bengal. It has also been recorded from Sikkim, Bhutan, Burma, China, Sumatra, Java and Borneo.

12. *Allodahlia macropyga* (Westwood)

1839. *Forficula macropyga* Westwood, in : Royle, *Ill. Bot. Nat. Hist. Himalyan Mts.*, 1 (2) : 53.
 1910. *Allodahlia macropyga* : Burr, *Fauna Brit. India, Dermaptera* : 151.
 1923. *Allodahlia macropyga* : Hebard, *Mem. Dept. Agric. India*, 7, No. 11 : 223.
 1947. *Allodahlia macropyga* : Hincks, *Ark. Zool.*, 39 A, No. 1 : 26.
 1961. *Allodahlia macropyga* : Bharadwaj & Bhatnagar, *Zool. Anz.*, 167 (7-8) : 228.

Material.—(i) 1 ♂, Kalaktang, Sangloom, 11.ix.61 (S. Biswas coll.); and (ii) 1 ♀, Siggon, 6.v.61 (K. C. Jayaramakrishnan coll.)

Distribution.—India : Bhutan, Sikkim, Assam; West Bengal, Himachal Pradesh, Panjab and Uttar Pradesh.

It has also been recorded from Burma, China and Tibet.

Affinities.—This species comes close to *Allodahlia scabriuscula* (Serville) but can be easily differentiated by the punctate elytra and the pygidium having a well developed median spine.

13. *Anechura* sp.

Material.—(i) 5 exs. (nymphs), Moshing, 25.iii.61 ; (ii) 5 exs., (nymphs), Dirong Dzong, 10-14.iv.61 ; (iii) 3 exs. (nymphs) Chug village, 14.iv.61 ; (iv) 3 exs. (nymphs), Rupa, 1-3.v.61 ; (v) 3 exs. (nymphs), Udalguri, 2.iii.61 ; (vi) 2 exs. (nymphs), Sangtichu, 12.iv.61 ; (vii) 2 exs. (nymphs), Milankang river bank, two miles north, 18.iv.61 ; (viii) 3 exs. (nymphs), Milankang river valley, 19.iv.61 ; (ix) 7 exs. (nymphs), Bomdila, 7.iv.61 ; (x) 1 ex. (nymph), Bomdila Pass, 7.iv.61 ; (xi) 4 exs. (nymphs), Rahung village 7.iv.61 ; (xii) 1 ex. (nymph), Norgum river bank below Dengzi village, 15.iii.61 ; (xiii).

1 ex. (nymph), Amatulla, 9.iii.61 and (xiv) 1 ex. (nymph), Shergaon, 29.iii.61 (K. C. Jayaramakrishnan coll.).

Remarks.—These nymphs are at various stages of development. Their colour varies from brown to black, and the pronotum and sternal plates are transverse.

Subfamily FORFICULINAE

14. *Forficula schlagintweiti* (Burr)

1904. *Anechura schlagintweiti* Burr, *Trans. ent. Soc. Lond* : 314.
 1910. *Forficula schlagintweiti* : Burr, *Fauna Brit. India, Dermaptera* : 165.
 1911. *Forficula beebei* Burr, *J. Asiat. Soc. Beng. (N. S.)*, 7, No. 11 : 795.
 1923. *Forficula schlagintweiti*: Hebard, *Mem. Dept. Agric. India*, 7, No 11 : 225.
 1947. *Forficula schlagintweiti* : Hincks, *Ark. Zool.*, 39 A, No. 1 : 32.

Material.—2 ♂♂, 1 ♀, Bomdila Town, 15-16.iv.61 (K. C. Jayaramakrishnan coll.).

Distribution.—India : West Bengal, Punjab and Kashmir ; Sikkim, Bhutan.

It has also been recorded from Burma, China, Tibet and Nepal.

Remarks.—The two males before me represent the typical phase of the species and agree well with Burr's (1910) description, except for the fifth antennal segment being slightly longer than the third and the abdomen exceedingly finely punctulate.

Affinities.—This species comes very close to *Forficula lebongae* Hebard, described from Sikkim, but can be easily differentiated by its larger size, transverse pronotum and more flattened forceps.

15. *Forficula beelzebub* (Burr)

1900. *Chelisoche beelzebub* Burr, *Ann. Soc. Ent. Belgique*, 64 : 51.
 1910. *Forficula beelzebub* : Burr, *Fauna Brit. India, Dermaptera* : 167.
 1923. *Forficula beelzebub* : Hebard, *Mem. Dept. Agric. India*, 7, No. 11 : 227.

Material.—8 ♂♂, Sangtichu river bank near Sangti village, 12.iv.61 ; (ii) 8 ♂♂, 1 ♀, Sangtichu, 12.iv.61 ; (iii) 1 ♂, 2 ♀♀, Udalguri, 2.iii.61 ; (iv) 1 ♂, Kalaktang village from jungle town, 16.iii.61 ; (v) 2 ♀♀, Chug village, 14.iv.61 ; (vi) 1 ♂, 1 ♀, Dirong Dzong, 13.iv.61 ; and (vii) 1 ♀ Shergaon, 19.iii.61 (K. C. Jayaramakrishnan coll.).

Distribution.—India : West Bengal (Kurseong, Darjeeling) and Uttar Pradesh.

It has also been recorded from Nepal and China.

16. *Forficula acris* (Burr)

1905. *Forficula acer* Burr, *J. Asiat. Soc. Beng. (N. S.)*, 1 : 30.
 1905. *Forficula celer* Burr, *J. Asiat. Soc. Beng. (N. S.)*, 1 : 31.
 1910. *Forficula aceris* (Sic) : Burr, *Fauna Brit. India, Dermaptera* : 168.
 1923. *Forficula acris* : Hebard, *Mem. Dept. Agric. India*, 7, No. 11 : 228.
 1947. *Forficula acris* : Hincks, *Ark. Zool.*, 39 A, No. 1 : 31.
 1959. *Forficula acris* : Bey-Bienko, *Ent. Obozr. (English translation)*, 38, No. 3 : 554.
 1961. *Forficula acris* : Bhardwaj and Bhatnagar, *Zool. Anz.*, 167 (7-8) : 286.

Material.—1 ♂, Sangtichu river bank, near Sangti village, 12.iv.61 (K. C. Jayaramakrishnan coll.).

Distribution.—Originally described from Sikkim (Mung Phu), this species has since been reported in India from Assam, Himachal Pradesh (Kulu), Panjab and Uttar Pradesh (Kumaon region). Recently, it has also been reported from Burma and China.

Affinities.—This species is closely allied to *Forficula beelzebub* (Burr). Burr (1913a) regards *F. acris* and *F. beelzebub* as the same species, and states that from a long series it is impossible to say where *F. acris* ends and *F. beelzebub* begins. Hebard (1923) has reported these two as distinct species. Hincks (1947), however, owing to a single male specimen before him of *F. acris*, could not draw any final conclusion.

After having examined a long series of specimens of *F. beelzebub* and a single male of *F. acris*, I find that these two are distinct species as there are no intermediate forms.

17. *Forficula greeni* (Burr)

1901. *Chelisoche pulchellus* Burr (nec Gerst.), *J. Bombay nat. Hist. Soc.* : 327 (partim).
 1907. *Forficula greeni* Burr, *Trans. ent. Soc. Lond.* : 111.
 1910. *Forficula greeni* : Burr, *Fauna Brit. India Dermaptera* : 170.

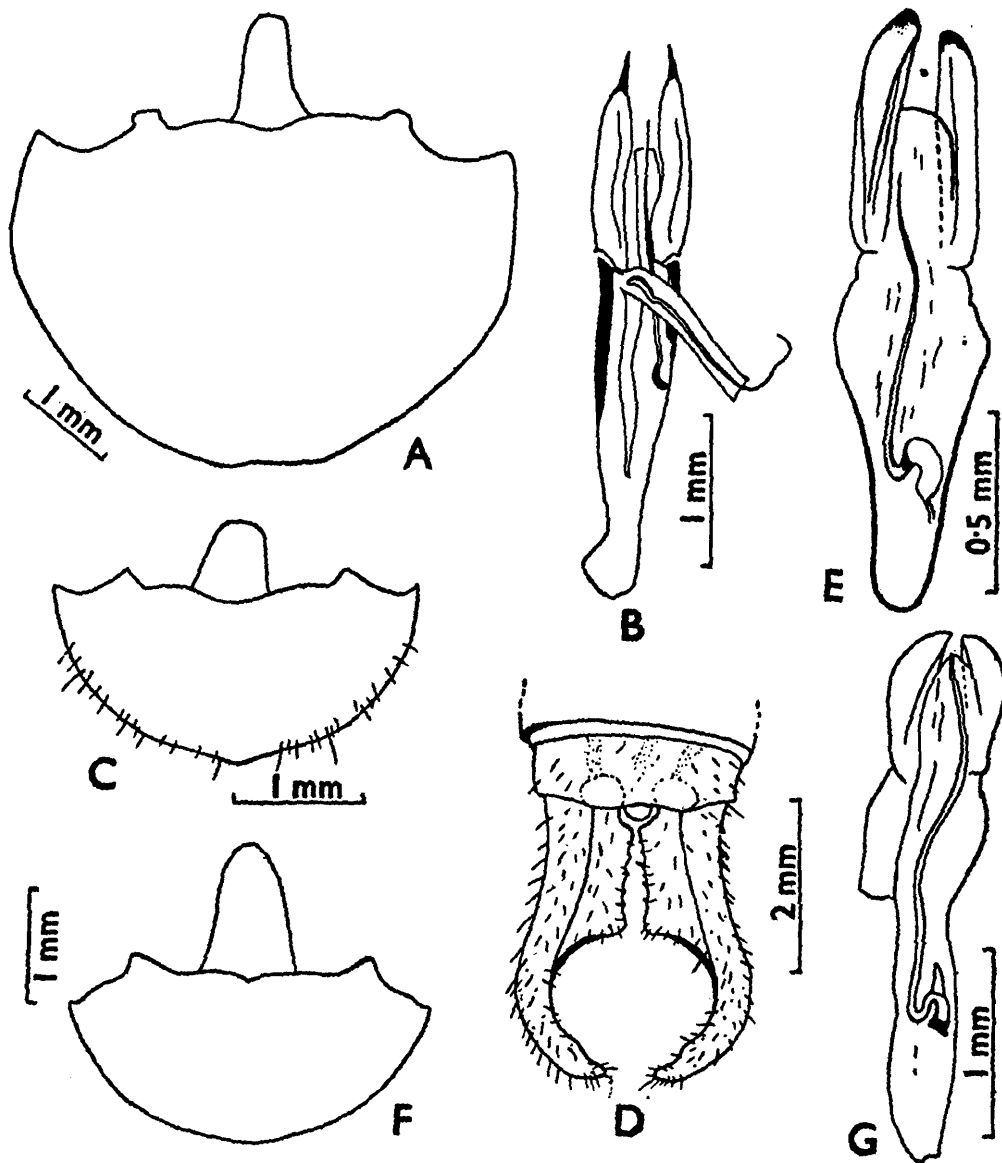
Material.—(i) 1 ♀, Udalguri, 2.iii.61 ; and (ii) 1 ♀, Rahung village, 7.iv.61 (K. C. Jayaramakrishnan coll.).

Distribution.—This species was recorded from Ceylon, but it has since been known to occur in India. It has been recorded from West Bengal (Calcutta) and Madras (Palni Hills and Shembaganur).

18. *Forficula jayarami* sp. n.

Male.—Head brownish red, with patches of black on frons, surface with micro-reticulations, triangular, posterior margin sinuate, median suture well marked, transverse suture faint, frons and occiput tumid, eyes small. Antennae 12-(?) segmented, clad with hairs, third segment almost equal to fourth. Pronotum black but brownish yellow on sides, as broad as head, weakly transverse, anterior margin truncate, sides straight and gently raised, posterior margin rounded but gently obtuse in the middle. Elytra brownish yellow, with micro-reticulations, abbreviated, rectangular, longer than the pronotum, with posterior margin truncate, lateral folds well marked. Wings much reduced, completely concealed by elytra. Legs dirty yellowish. Abdomen reddish black, not much depressed, dilated in the middle, distinctly punctate with micro-reticulations, lateral tubercles on third and fourth tergites weakly developed, sides of segments 6 to 9 rugosely punctate, with transverse, feebly granular, orange stripes at the posterior margin. Last tergite black, transverse, almost smooth, only at places longitudinal stripes of minute punctures, with

a pair of tubercles at the posterior margin. Penultimate sternite (Text-fig.3C) transverse, rounded posteriorly but very gently obtuse in the middle, punctate in the basal half. Pygidium obtusely rounded. Forceps (Text-fig.3D) dilated from base to half of its length, with a distinct longitudinal convexity diverging from base to apex, inner margin of dilated portion crenulate, subcontiguous at base then diverging gently and again slightly converging apically; then strongly bowed to a compressed point, enclosing somewhat an oval space, surface sparsely punctate, with light yellow hairs. Genitalia as seen in text-fig.3E.



TEXT-FIG. 3. *Forcipula decolyi* (Bormans) : ♂, A. Penultimate sternite B. Genitalia; *Forcipula jayarami* sp. n. : ♂, C. Penultimate sternite. D. Last tergite and forceps. E. Genitalia. *Cordax forcipatus* (Haan) : ♂, F. Penultimate sternite and G. Genitalia.

Female.—Agrees with male in most characters except that the sides of abdominal segments not rugose and without any transverse granular stripes at the posterior margin. Last tergite without

tubercles and sloping posteriorly. Penultimate sternite with posterior margin rounded, not obtuse in the middle. Forceps contiguous and straight.

Measurements.—

	Length of the body (Without forceps)	Length of the forceps
Holotype : ♂	10.81 mm.	3.35 mm.
Paratypes : ♀♀	8.86-9.20 mm.	2.32-2.40 mm.

Material.—*Holotype*, ♂ Domko, 8.vi.61 (*K. C. Jayaramakrishnan* coll.) ; genitalia and right elytra mounted between cover slips, penultimate sternite mounted on a card and all the three pinned with the specimen. *Paratypes*, 2 ♀♀ Dirong Dzong, Chug valley, 28.vii.61 and 10.viii.61 (*S. Biswas* coll.), all in the Zoological Survey of India, Calcutta.

Affinities.—This species resembles closely with *Forficula lesnei* Finot described from the Western Europe, but differs from it in being larger in size, and in the structure and punctuation of abdominal tergites, the forceps with inner margin of dilated portion not quite straight and with distinct longitudinal convexity, penultimate ventral segment with posterior margin rounded but gently obtuse in the middle and also in the details of the structure of genitalia, especially the virga forming an angle at the entrance of reniform vesicle.

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19. *Cordax forcipatus* (Haan)

1842. *Forficula forcipata* Haan, *Verh. Natur. Gesch. Nederl. Overzee., Bezitt.* : 242.
 1900. *Opisthocosmia forcipata* : Bormans, *Forficulidae, in Das "Tierreich"* : 95.
 1904. *Opisthocosmia erroris* Burr, *Trans. ent. Soc. Lond.* : 308.
 1911. *Cordax forcipatus* : Burr, *J. Asiat. Soc. Beng. (N. S.), 7, No. 11* : 797.

Material.—1 ♂, Kalaktang, Sangloom, 11.ix.61 (*S. Biswas* coll.).

Distribution.—India : NEFA (Upper Rotung), West Bengal (Kurseong). It has also been recorded from New Guinea, Siam, Java, Sumatra and Borneo.

20. *Cordax politus* Burr

1911. *Cordax politus* Burr, *J. Asiat. Soc. Beng. (N. S.), 7, No. 11* : 798.
 1947. *Cordax politus* : Hincks, *Ark. Zool., 39 A, No. 1* : 41.

Material.—1 ♀, Milankang river valley, 19.iv.61 (*K. C. Jayaramakrishnan* coll.).

Distribution.—This species was hitherto known only from Burma. This is the first record from India.

IV—SUMMARY

The material of Dermaptera collected from Kameng Frontier Division, N.E.F.A. in 1961, which has been examined by me, contains

fifteen species (excluding the species which have been identified upto generic level only). All the species reported in the present paper have been recorded for the first time from this region. Two new species are described, these being *Aborolabis kalaktangensis* and *Forficula jayarami*. Two other species viz., *Paralabis montshadskii* Bey-Bienko and *Cordax politus* Burr constitute the first record from India.

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