

ON THE TAXONOMIC STATUS AND IDENTITY OF *METISOLABIS CAUDELLI* (BURR) (DERMAPTERA : BRACHYLABIDINAE)

G. K. SRIVASTAVA

Zoological Survey of India, Calcutta

Steinmann (1989) synonymised *Brachylabis caudelli* Burr, 1908 under *Brachylabis punctata* Dubrony, 1879 but both are distinct species and the former is reinstated. In the former the mesonotum in the anterior half is provided with a weak incurved fold only whereas in the latter the lateral keel on mesonotum is well defined and runs along its full length.

Dubrony (1879) described *Brachylabis punctata*, on a single female from Java, Buitenzorg. He under the name Bormans (1894) referred some more material from Burma and Sumatra this species. Out of this Burmese material Burr (1908) described *Brachylabis caudelli* and Srivastava (1978) *Isolabis ocellata*. Besides, Srivastava (1983) reexamined the 'Type ♀, of *B. punctata* and 1 ♂ from Sumatra, det. by Dubrony as *B. puuctata* and by Borelli as *Leptisolabis punctata*. Unfortunately, the male genitalia of the latter was not traceable, perhaps it might have been taken out earlier.

The ♂ genitalia of *B. punctata* has been figured twice by Steinmann (1978, fig. 3) showing the tip of parameres strongly hooked and (1989) with tip pointed apically. It may be pointed here that latter figure of ♂ genitalia agrees well with that of *Nannisolabis hincksi* Srivastava (1981), described on the material recorded by Hincks (1947) from Burma as *Metisolabis caudelli* (Burr). Even if we accept that Steinmanns (1978) figure of ♂ genitalia as correctly referable to *B. punctata* it differs markedly from that of *B. caudelli*.

It is found and discussed here that some variations exist in *B. caudelli* in the relative length of antennal segments, length of eye and the ♂ parameres, especially apical region with overall structure remaining same and to some extent in the arrangement of virgal sclerites which perhaps may be due to mounting. In the light above it is proposed to synonymise *Ctenisolabis aciculata* Steinmann, 1983 and *C. loebli* Steinmann, 1983 under *B. caudelli*. In addition the record of *Ctenisolabis fletcheri* and *Brachylabis philetas* by Steinmnnn (1983), both on females from India : West Bengal, are referable to this species.

Thus from the above discussion, it becomes evident that there is an urgent need to establish the identity of old species by examining their 'Type' as well as by procuring fresh material from the field recording their intraspecific variations. Both these factors would help in providing sound basis for proper understanding of various known species.

ANISOLBIDIDAE

BRACHYLABIDINAE

Metisolabis caudelli (Burr)

1894. *Brachylabis punctata* ; (néc Dubrony) Bormans, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2) 14 : 386 (part of the material from Burma).
1908. *Brachylabis caudelli* Burr, *Ann. Mag. nat. Hist.*, (18) 2 : 251 (Holotype ♂, Burma Carin Cheba), 1100 m, L. Fea, V-XII.-88, det. by Bormans as *Brachylabis punctata* Dubrony—British Museum (Natural History), London).
1910. *Metisolabis caudelli* ; Burr, *Fauna British India, Dermaptera* : 109.
1912. *Metisolabis caudelli* ; Burr, *Annln. naturh Mus. Wien*, 26 : 81.
1913. *Metisolabis caudelli* ; Burr, *Rec. Indian Mus.*, 8(2) : 138 (1♂, India : Arunachal Pradesh).
1966. *Isolabis caudelli* ; Popham and Brindle, *Entomologist*, 99 : 245.
1975. *Metisolabis caudelli* ; Biswas, Lahiri and Ghosh, *Proc. zool. Soc. Calcutta*, 26 : 28 (♀ néc ♂ ; India, Meghalaya, Shillong, Khasi Hills).
1982. *Metisolabis caudelli* ; Srivastava, *Entomologica Basiliensia*, 7 : 63, figs. 2-4 (♂, India, W.B., Darjeeling genitalia figured).
1983. *Ctenisolabis fletcheri* (néc Burr, 1910) ; Steinmann, *Revue suisse zool.*, 90(3) : 544 (1♀ ; India, W. B., Darjeeling).
1983. *Ctenisolabis aciculata* Steinmann, *Revue suisse zool.*, 90(3) : 545, fig. 3 (1♀ ; India, Meghalaya, Khasi Hills)—Syn. n.
1983. *Ctenisolabis loebli* Steinmann, *Revue suisse zool.*, 90(3) : 546, fig. 4 (1♀ ; India, W.B., Darjeeling)—Syn. n.
1983. *Brachylabis philetas* (néc Burr, 1901) ; Steinmann, *Revue suisse zool.*, 90(3) : 546 (1♂ néc ♀ ; India, W.B., Darjeeling Dist., Algarah).

Material examined : India : West Bengal : Darjeeling dist., Kurseong, on the floor of Hotel varandah, 1♂ (genitalia mounted between two coverslips and pinned with the specimen) ; 1♀, 5.7.1908 (*N. Annandale*)—both determined by M. Burr as *Brachylabis verhoeffi* ; Teesta, 250 m, 1♀, 10.10.78 (*Besuchet, Löbl*)—det. by Steinmann as *Ctenisolabis fletcheri* Burr ; Tigerhill, 2000-2300 m, 1♀, 13.10.78 (*Besuchet, Löbl*)—det. and designated as Holotype ♀ of *Ctenisolabis loebli* sp. nov. by Steinmann ; Algarah, 1800 m, 1♂ (genitalia mounted between two cover slipes and pinned with the specimen), 9.10.78 (*Besuchet, Löbl*)—det. as *Brachylabis philetas* Burr, 1♀ by Steinmann ; Meghalaya, Khasi Hills, au-dessus de Shillong, 1850-1950 m, 1♀, 25.10.78 (*Besuchet, Löbl*)—det. and designated as Holotype ♀ of *Ctenisolabis aciculata* sp. nov. by Steinmann ; Shillong, Nongthymma, 1♀, 21.8.1974 (*R. S. Giri*), Shillong, Motinagar, 2♂♂, 30.5.1974 (*S. Biswas*), Shillong, Risa Colony Building, 1♀, 23.8.1971 (*R. Giri*) and Shillong, Motinagar, 1♀, 6.9.1960 (*S. N. Prasad*)—last two specimens, det. as ♂♂ by S. Biswas, A. R. Lahiri and A. K. Ghosh.

Burma : Carin Cheba, 900-1100 m, 2♀♀, 5.12.88 ; Tenizo, 1♀, Maggio, 1886 ; Palon (Pegu), 1♂, 1♀, 5—3.9.87 (*Fea* coll.)—deposited in the Institut Royal des Sciences,

Bruxelles and determined as *Brachylabis punctata* Dubr. by Bormans; Teinzo, 1♂, Maggio, 1886 (*L. Fea* coll.)—deposited in Museo Civico di Storia Naturale 'Giacomo Doria', Genova and determined as *Brachylabis punctata* Dubr. by Bormans.

Description : General colour dark blackish brown ; antennal segments, mouth parts, apical third of femora, whole of tibiae and tarsi yellowish. Body covered with fine pubescence.

Male : Head triangular, longer than broad, frons convex, punctate, hind margin almost straight. Eyes about as long as post-ocular length or distinctly longer. Antennae (partly damaged) 12-segmented or more, 1st narrowed at base, longer than the distance between antennal bases ; 2nd small ; 3rd long, slender, slightly or distinctly longer than broad ; 4th a trifle longer than broad and slightly shorter than 3rd or almost equal ; 5th longer than broad, gently narrowed basally, generally longer than 3rd, remaining segments gradually increasing in length distally. Pronotum more strongly punctate than the head, longer than broad, anteriorly wider than head, margin straight, sides straight weakly reflexed in middle, strongly diverging posteriorly, postero-lateral angles rounded and margin subtruncate, median sulcus distinct on prozona, on either side of it with a faint depression ; prozona and metazona raised, little differentiated. Mesonotum punctate, transverse, laterally with a distinct raised carina, hind margin straight. Metanotum transverse, laterally ecarinate, punctate, hind margin broadly emarginate. Legs long and slender, hind metatarsal segment almost equal to the combined length of meso-and pro-tarsal segments. Abdomen spindle shaped, punctate, convex, sides of segments posteriorly convex, lateral tubercles on 3rd and 4th tergites weakly marked. Penultimate sternite punctate, transverse, broadly rounded posteriorly with a distinct median emargination, manubrium short, about half as long as the sternite, faintly narrowed apically. Ultimate tergite transverse, sparsely punctate as compared to abdominal tergites, sloping backwards in middle posteriorly, sides straight, posterior margin trisinate, laterally oblique, above the base of forceps projecting in the form of triangular or obtuse lobe. Pygidium scarcely visible from above, vertical, narrowed posteriorly. Forceps with branches cylindrical, remote, regularly curved, tapering from base to apex with apices touching or sub-contiguous ; or straight, tapering, gently curved in apical one third and crossing, apices pointed. Genitalia as seen in figs. 3, 6, 14 and 30.

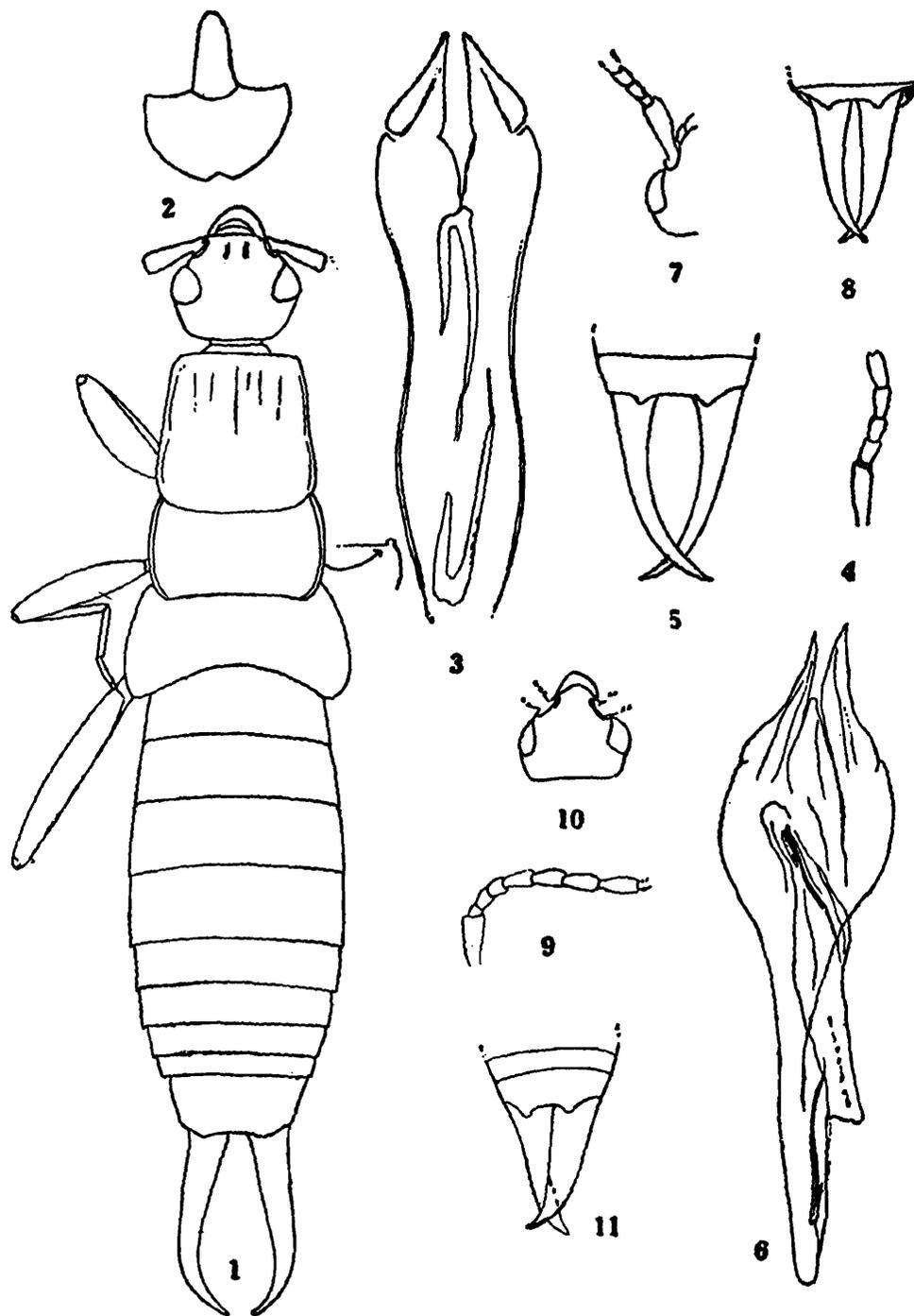
Female : Agrees with males in most characters except that the ultimate tergite strongly narrowed posteriorly and forceps simple and straight.

Measurements : (in mm)

	♂ ♂	♀ ♀
Length of body	9.3-10.3	8.2-13.1
Length of forceps	1.3-2.3	1.3-2.2

Distribution : India (North-eastern Himalayas and Khasi Hills) and Burma.

Besides there is a record of this species from Borneo (Borelli, 1932) that needs checking.

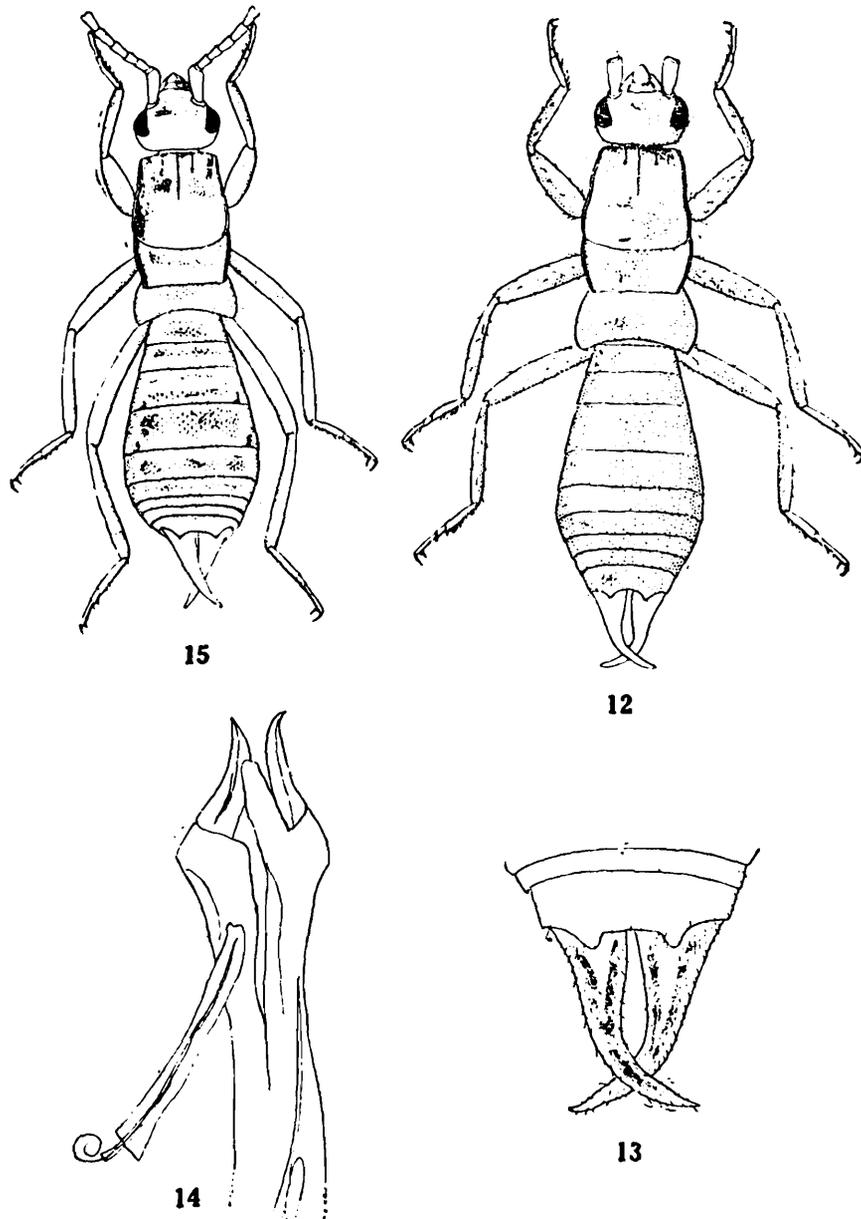


Figs. 1-11 : *Metisolabis caudelli* (Burr), Holotype ♂, (1) Dorsal view, (2) Penultimate sternite, (3) Genitalia ; 1♂ India, Shilong, Motinagar, (4) A few basal antennal segments, (5) Ultimate tergite and forceps, (6) Genitalia ; another ♂, India, Shilong, Motinagar, (7) Right half of head and antenna with a few basal segments, (8) Ultimate tergite and forceps ; 1♂, Burma, Palon (Pegu), (9) A few basal antennal segments, (10) Head, (11) Ultimate tergite and forceps. (Figs. 1-3 drawn by Mr. A. Brindle).

Remarks : Some variations in the size of eyes in relation to post-ocular length and in the length and width of 3rd and 4th antennal segments as well as the relative

length of both these segments in the antennae of two sides are noted in the present material.

Mrs. J. Marshall, British Museum (Natural History), London had supplied diagrams (figs. 1-3) and some information on the 'Holotype' of *Brachylabis caudelli* Burr, as provided by Mr. A. Brindle, which reads as "the type has the head strongly punctured, and the pronotum is more strongly punctured, the punctures relatively large and

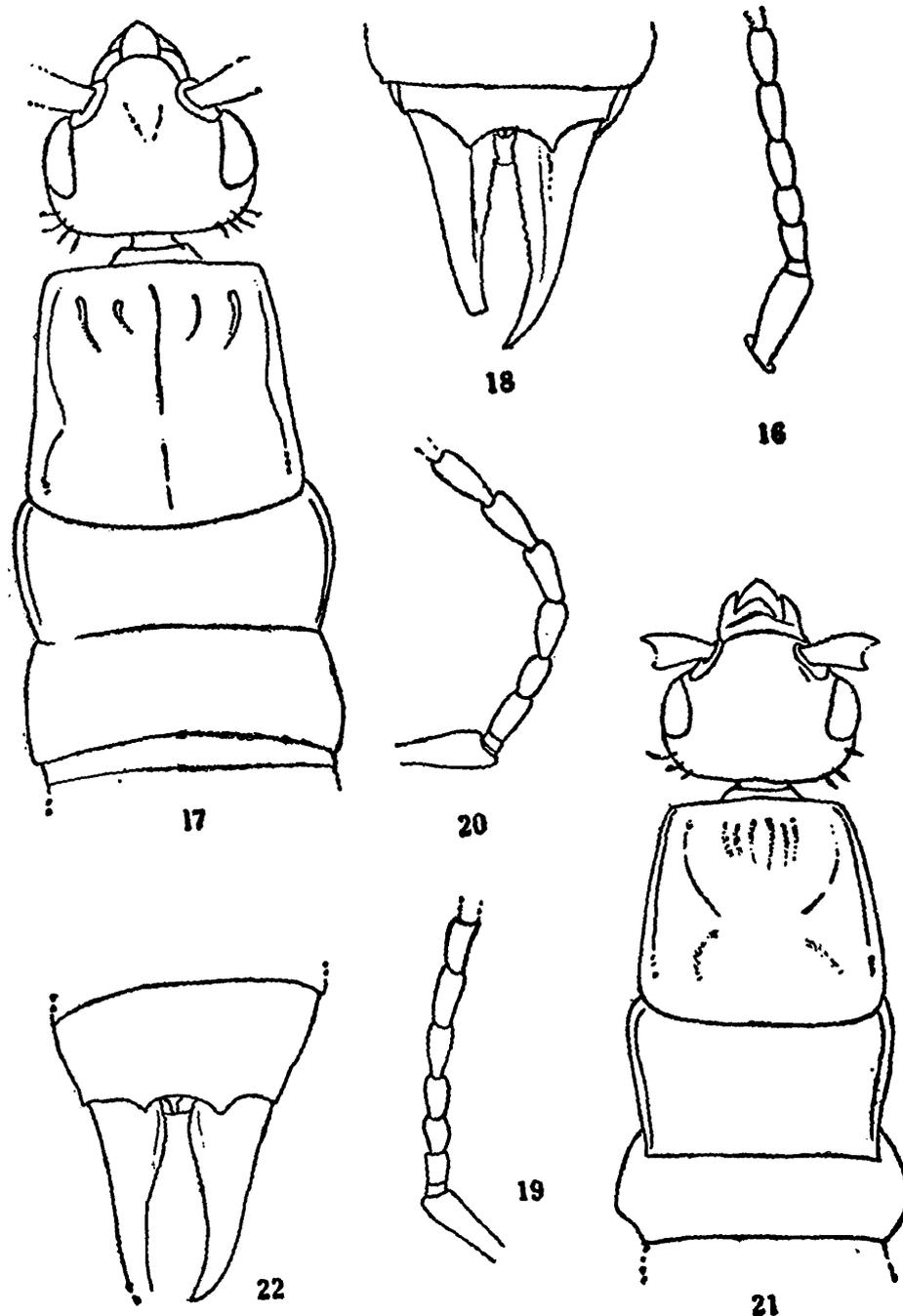


Figs. 12-15 : *Metisolabis caudelli* (Burr), ♂, India : Kurseong, (12) Dorsal view, (13) Ultimate tergite and forceps, enlarged, (14) Genitalia ; ♀, (15) Dorsal view.

close, some being confluent ; meso- and metanota similar to pronotum, but abdomen less strongly punctured. Mesonotal ridge narrow, rounded but well defined by an impressed line on dorsum (see diagram).

Genitalia rather faint in mount, especially parameres and the distal lobes are not clearly defined, but there are two sclerites, directed in opposite directions, the slender virga running through the longer arm".

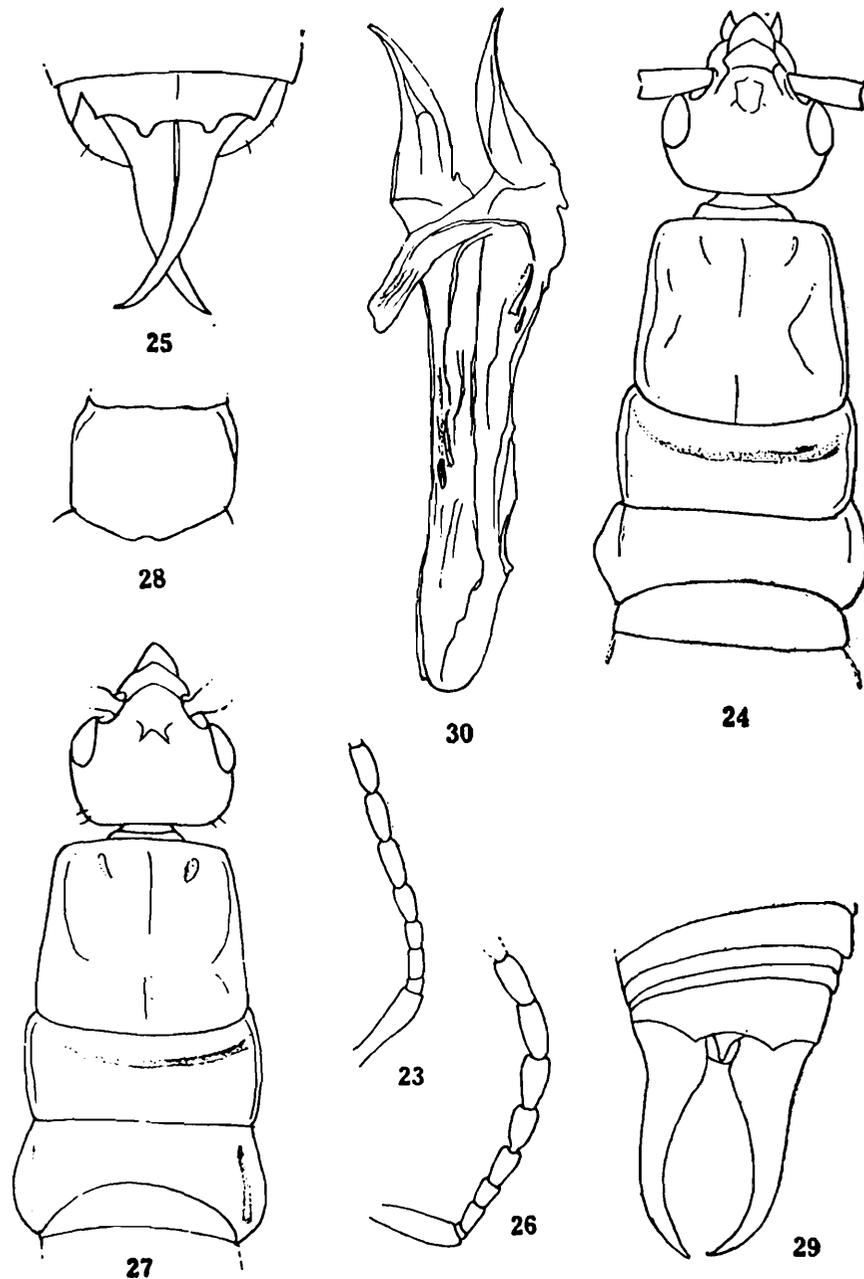
The tip of paramere (figs. 6, 14 and 30) appears to be more drawn out as compared to fig. 3 from the 'Holotype ♂' which may perhaps be due to mounting. However, general shape of parameres is same in all the four diagrams, in being broader at base and narrowing apically with tip pointed.



Figs. 16-22 : *Metisolabis caudelli* (Burr), ♂, India, Darjeeling (det. by Steinmann as *Ctenisolabis fletcheri*, ♀, (16) A few basal antennal segments, (17) Anterior portion of body, (18) Ultimate tergite and forceps; ♀, India, Meghalaya (Holotype ♀ of *Ctenisolabis aciculata* Steinmann), (19) and (20) A few basal antennal segments of right and left side, (21) Anterior portion of body, (22) Ultimate tergite and forceps.

Steinmann (1983) described two new species viz., *Ctenisolabis aciculata* from Meghalaya and *Ctenisolabis loebli* from Darjeeling on females only. Besides, he also

recorded two other species, *Otenisolabis fletcheri* Burr and *Brachylabis philetas* Burr, on females from Darjeeling. Of these former is confined to South India and the latter to Sri Lanka.



Figs. 23-30 : *Metisolabis caudelli* (Burr), ♀, India, Darjeeling (Holotype ♀ of *Ctenisolabis loebli* Steinmann), (23) A few basal antennal segments, (24) Anterior portion of body, (25) Ultimate tergite and forceps ; ♀, India, Darjeeling (det. as *Brachylabis philetas*, ♀ by Steinmann), (26) A few basal antennal segments, (27) Anterior portion of body, (28) Penultimate sternite, (29) Hind portion of abdomen, (30) Genitalia.

The Holotypes of first two species and specimens on which the record of third and fourth species are based, were examined. It was found that although the record of *Brachylabis philetas* Burr was based on a ♀ it was found to be a ♂ and the genitalia of the same was examined. All the above specimens appear to be

congeneric possessing eyes about as long as the post-ocular length, and antennal segments may be slightly slender or stout, especially 3rd and 4th and the lateral carina on mesonotum is quite sharp and complete. Since all fall within the variational limits of various morphological characters, it is proposed to synonymise here *Ctenisolabis aciculata* and *Ctenisolabis loebli* under this species. In addition, records of *Ctenisolabis fletcheri* Burr and *Brachylabis philetas* Burr from Darjeeling by Steinmann (l. c.) are rejected since these are referable to *Metisolabis caudelli* (Burr).

ACKNOWLEDGEMENTS

I am thankful to the Director, Zoological Survey of India, Calcutta for providing necessary facilities during the course of preparation of this paper. My thanks are also due to Mrs. J. Marshall, British Museum (Natural History), London for supplying the notes and diagrams prepared by Mr. A. Brindle from the 'Holotype ♂' of *Brachylabis caudelli* Burr; Dr. B. Hauser, Museum d'Histoire Naturelle, Geneve, Switzerland, for sending the Holotype ♀♀ of *Ctenisolabis loebli* Steinmann and *Ctenisolabis aciculata* Steinmann, 1 ♀ of *Ctenisolabis fletcheri* Burr and 1 ♂ (ne'c ♀) of *Brachylabis philetas* Burr, both determined by Steinmann and Dr. R. Poggi, Museo Civico di Storia Naturale 'Giacomo Doria', Genova, Italy, for sending the Burmese material of the species.

SUMMARY

The taxonomic identity of *Metisolabis caudelli* (Burr) is discussed and the species is redescribed synonymising *Ctenisolabis aciculata* Steinmann and *Ctenisolabis loebli* Steinmann.

REFERENCES

- Borelli, A. 1932. Dermapteres des Borneo. *J. Fed. Malay St. Mus.*, 17 : 179-190.
- Bormans, DE A, 1894. Viaggio di Leonardo Fea in Birmania e Regioni Vicini. LXI. Dermapteres (2 departie). *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2) 14 : 371-409.
- Durr, M. 1908. Notes on the Forficularia, XIII. A Revision of Brachylabidae (Isolabidae). *Ann. Mag. nat. Hist.*, (8) 2 : 246-255.
- Dubrony, A 1879. Enumération des Orthoptères rapportes par MM. J. Doria, O. Beccari et L. M. d'Albertis des regions Indienne et Austro-Malaise. *Annali Mus. civ. Stor. nat. Giacomo Doria*, Ser. 2a, 14 : 348-383.
- Hincks, W. D. 1947. Entomological Results from the Swedish Expedition 1934 to Burma and British India. Dermaptera collected by Rene Malaise. *Ark. Zool*, 39A(1) : 1-43.

- Srivastava, G. K. 1978. On a new species of the genus *Isolabis* Verhoeff (Dermaptera ; Brachylabinae) from Burma with a key to Oriental species. *Annali Mus. civ. Stor. nat. Giacomo Doria*, **82** : 323-328.
- Srivastava, G. K. 1981. On a new species of the genus *Nannisolabis* Burr (Insecta : Dermaptera) from Burma with a key to Oriental species. *Bull. zool. Surv. India*, **4(2)** : 147-150.
- Srivastava, G. K. 1983. Notes on Dubrony's (=Bormans) some material of Dermaptera (Insecta). *Annali Mus. civ. Stor. nat. Giacomo Doria*, **84** : 373-392.
- Steinmann, H. 1978. A revision of the genus *Ctenisolabis* Verhoeff, 1902 (Dermaptera : Carcinophoridae). *Folia ent. Hung.*, **31(2)** : 227-231.
- Steinmann, H. 1983. On the Indian and Nepalese Dermaptera from the Museum d'Histoire naturelle at Geneve. *Revue suisse Zool.*, **90(3)** : 543-558.
- Steinmann, H. 1939. Das Tierreich, Dermaptera Catadermaptera II., **105** ; I-XIX+ 504 pp. (Walter de Gruyter, Berlin, New York).