

REMARKS ON TWELVE SPECIES OF NEWLY RECORDED GRASSHOPPERS
(Order ORTHOPTERA) FROM WEST BENGAL

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ABSTRACT

Twelve species of grasshoppers of the super-family Acridoidea are recorded here for the first time from the state of West Bengal. Remarks have been given on their distribution and additional morphological features, measurements and illustrations have been provided wherever necessary.

INTRODUCTION

While working on the grasshoppers from West Bengal it is found that 12 spp. of the super-family Acridoidea that remains yet unreported from the state. So the opportunity is utilized for reporting them below for the first time. The present communication also contains in details records of localities from the state ; new data in the form of remarks of systematic value including variability of species and subspecies, additional descriptions with suitable illustrations and measurements are given wherever necessary.

All measurements are given in mm.

Super-family : ACRIDOIDEA

Family : ACRIDIDAE

Genus (1) *Phlaeoba* Stal, 1860

1. *Phlaeoba panteli* Bolivar, 1902

(Figs. 1-2)

Phlaeoba panteli Bolivar, 1902. *Annls. Soc. ent. Fr.*,
70 : 589.

Material : 1 ♂ ; Gurubathan, Darjeeling, W. B. ; 4.3.1974. 1 ♂, 1 ♀ ; Bejoynagar Tea Estate, Darjeeling, W. B. ; 19.6.1978. 3 ♂, 3 ♀ ; Naxalbari, Darjeeling, W. B. ; 17.9.1974. 2 ♂, 4 ♀ ; Chuna bati, Darjeeling, W.

B. ; 8-10.3.1974. 1 ♂, 2 ♀ ; Saurini Lower Basti, Mirik, Darjeeling, W. B. ; 23.6.1979. 2 ♀ ; Sumsing, Darjeeling, W. B. ; 6.3.1974. 1 ♂, 3 ♀ ; Mohar Tea Estate, Sukna, Darjeeling, W. B. ; 16.11.1974. 1 ♀ ; Sukna, Darjeeling, W. B. ; 13.11.1974. 1 ♂ ; Near Mirik Lake, Darjeeling, W. B. 2 ♂ ; Sundarinala, Jamduar, Darjeeling, W. B. ; 2.11.1973. 2 ♂ ; Sevok, Darjeeling, W. B. ; 22-24.11.1974. 1 ♂, 1 ♀ ; Mongpo, Darjeeling, W. B. ; 18.3.1974. 1 ♀ ; Jayanti, Jalpaiguri, W. B. ; 4.9.1975. 1 ♂ ; Rydak, Jalpaiguri, W. B. ; 9.9.1975. 2 ♂, 9 ♀ ; Botanical Garden, Howrah, W. B. (different dates). 3 ♂ ; Andul, Howrah, W. B. ; 12.9.1978. 2 ♂ ; Singur, Hooghly, W. B. ; 30.6.1978. 2 ♀ ; Garia, 24-Parganas, W. B. ; 4.8.1978.

Remarks : So far the species was known to be distributed in Madura (type : Tamil Nadu) and Pusa (Bihar). Though quite abundant in the lower part of Darjeeling district, the species has never been recorded earlier from the region. Cejchan (1969) recorded it from Afghanistan.

The species (♂ 19-25, ♀ 25-41) resembles, *P. antennata*, in the colouration of wings (being bluish in both species) but can be easily distinguished by the character of irre-

gular striped callosities of head and pronotum. Besides, sub-genital plate and epiphallus (Figs. 1, 2) are also notable.

Genus (2) *Ceracris* Walker, 1870

2. *Ceracris nigricornis laeta* (Bolivar, 1914)

(Figs. 3-4, 18)

Ceracris nigricornis Walker, 1870. *Cat. Derm. Salt. Br. Mus.*, 4 : 791.

Material : 1 ♀ ; Bamanpokri, Darjeeling, W. B. ; 22.8.1975. 4 ♀ ; Mirik, Darjeeling, W. B. ; 17.9.1974. 1 ♂ ; Adalpur, Sukna, Darjeeling, W. B. ; 15.2.1974. 2 nymphs ; Thorbu Tea Estate, Mirik, Darjeeling, W. B. ; 24.6.1979. 3 ♂, and (1 nymph) ; Saurini Lower Basti, Darjeeling, W. B. ; 22-25.6.1979. 1 ♀ ; Khanikhola, Rangpo, Sikkim ; 6.7.1979.

Remarks : Uvarov (1925) while revising the genus divided the species, *C. nigricornis*, into 2 subspecies, basing on relative size. Following Uvarov (op. cit.) the present series of specimens belong to the subspecies *laeta* (Bolivar, 1914), though Uvarov (op. cit.) stated that it usually occurred in South China and Taiwan. Therefore, this subspecies in the Himalayan West Bengal is a new record.

Additional description : Females (Fig. 18) : The female specimens (25-36) studied show that the antenna may be brownish on basal half and dark at apical half or entirely blackish. Frontal ridge at median ocellus less than half width of interocular distance. Lateral carina of pronotum more or less prominent at prozona and may be perceptible at metazona though obliterated in the posterior end or may be entirely obliterated (though perceptible by pigmentations) ; latter, a little more longer than half of prozona. Mesosternal lobe wider than long, its inner margin rounded ; interspace nar-

row (Fig. 3) ; metasternal lobe separated by a very narrow interspace (Fig. 3). Posterior tibia almost subequal to posterior femur ; former, with 10-11 external and 11-12 internal spines. Tibiae of all legs pilose.

Males : Less robust (22-24.5). Antenna uniformly dark ; olive-green colouration of body more prominent. Lateral carina perceptible only by pigments in metazona. Sub-genital plate rounded ; supra-anal-plate tongue shaped with a very wide longitudinal groove ; cercus conical ; epiphallus as figured (Fig. 4).

Nymphs : The collection contains 2 nymphs (♂ 17.2, ♀ 24.0), which are almost identical to adults except for incomplete elytra and genital parts. Lateral carina in metazona clear ; posterior femur olive-greenish without any spot or dot ; posterior knee brownish ; posterior tibia beyond basal ring pale brownish ; antenna brownish, shorter than the normal size. Elytron (6-7) brownish with curved venation. Supra-anal-plate tongue shaped ; cercus conical. Valves of ovipositor not yet formed.

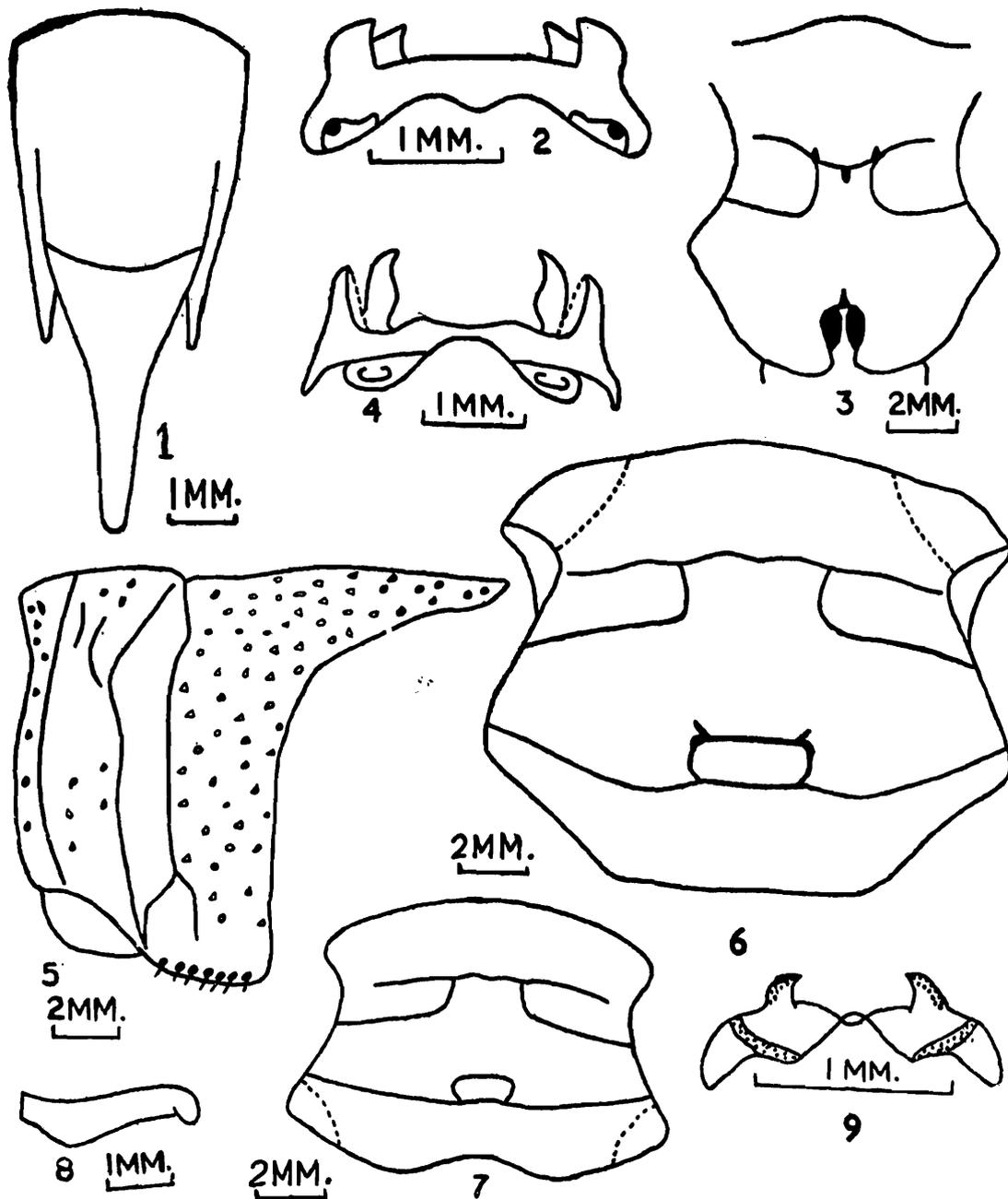
The availability of nymphal stages during May-June will indicate the pre-monsoon generation of the species.

Genus (3) *Dnopherula* Karsch, 1896

3. *Dnopherula (Aulacobothrus) luteipes* (Walker, 1871)

Stenobothrus (?) *luteipes* Walker, 1871. *Cat. Derm. Salt. Br. Mus.*, 5 (suppl.) : 82.

Material : 5 ♀ ; Suklapara, Jalpaiguri, W. B. ; 29.8.1975. 2 ♂ ; Bhutan Ghat ; 6.9.1975. 1 ♀ ; Rydak, Jalpaiguri, W. B. ; 11.9.1975. 1 ♂, 1 ♀ ; Sahapur, Maldah, W. B. ; 17.9.1975. 1 ♂ ; Andherikola, Rangpo, Sikkim ; 5.7.1979.



Figs. 1-9. 1. Subgenital plate, ventral.
Phlaeoba panteli, male.
 2. Epiphallus, dorsal.
Ceracris nigricornis laeta, female.
 3. Meso- and metasternal lobes and their interspaces.
 4. Male, epiphallus, dorsal.
Dittopternis venusta, female.
 5. Pronota lateral lobes, lateral.
 6. Meso- and metasternal lobes.
Oedaleus abruptus, female.
 7. Meso- and metasternal lobes (same scale as 3 and 6).
Eucoptacra praemorsa, male.
 8. Cercus, lateral (same scale as 1).
 9. Epiphallus, dorsal.
Cyrtacanthacris tatarica, male

Remarks : This species (δ 14-18, ♀ 21-22) is very common in oriental region. Also distributed over China ; Japan ; Europe and North America. It is, however, a new record from the present localities.

Genus (4) **Ditopternis** Saussure, 1884

4. **Ditopternis venusta** (Walker, 1870)

Oedipoda venusta Walker, 1870. *Cat. Derm. Salt. Br. Mus.*, 4 : 740.

Material : 2 δ ; Tukriajhar, Darjeeling, W. B. ; 18.6.1979. 1 ♀ ; Panitanki, Darjeeling, W. B. ; 17.6.1979. 2 δ ; Bamanpokri, Darjeeling, W. B. 1 δ (dry) & 8 ♀ (wet) ; Bhutanghat, Jalpaiguri, W. B. 2 δ , 5 ♀ (dry) & 3 δ (wet) Rydak, Jalpaiguri, W. B. 10-12.9.1975. 1 ♀ ; Jayanti, Jalpaiguri, W. B. ; 4.9.1975.

Remarks : So far known from South India (South of Pollachi ; Anaimalai ; Sheveroy : Mysore) the species is recorded here for the first time from the state of West Bengal.

Additional description : Females : Ventral parts of body and legs pilose. Frontal ridge constricted just beneath truncated apex of fastigium, and again immediately below median ocellus ; punctured. Pronotum densely punctured ; granules dense or spared ; metazona about one and half times longer than prozona ; posterior angles of lateral lobes rounded (Fig. 5). Meso-and metasternal plates punctured ; mesosternal interspace as wide as or slightly wider than one of its plates, its inner posterior angle obliquely rounded (Fig. 6) ; metasternal plates separated by an elliptical furcal suture. Median black band above abdomen extends up to tip. Upper carina of posterior femur ends in a terminal spine.

Males : Identical with females except much smaller in size and the density of

granules lesser on vertex and pronotum. Cerci conical.

Measurements : Length of body δ 18.5-19, ♀ 27-29 ; length of antenna δ 12.5-13, ♀ 13-14, length of head δ 2.8-3, ♀ 3.3-3.5 ; maximum width of face δ 2.1-2.3, ♀ 3.4-3.5 ; minimum width of interocular distance δ 1-1.1 ; ♀ 1.5-1.8 ; width of frontal ridge at median ocellus δ .4-.5, ♀ .9-1 ; length of prozona δ 1.8-1.9, ♀ 2.1-2.3 ; length of metazona δ 2.7-2.9, ♀ 3.2-3.6 ; length of elytron δ 18.3-19, ♀ 24-27 ; length of posterior femur δ 11.3-11.5, ♀ 14.5-16 ; maximum width of post. femur δ 4-4.1, ♀ 4-4.6 ; post. tibia δ 10-10.1, ♀ 11.5-13.

Genus (5) **Oedaleus** Fieber, 1853

5. **Oedaleus abruptus** (Thunberg, 1815)

(Fig. 7)

Gryllus abruptus Thunberg, 1815. *Mem. Acad. Sci. St-Petersb.*, 5 : 233.

Material : 3 δ , 8 ♀ ; Panitanki, Darjeeling, W. B. ; 17.6.1979. 2 δ ; F. R. H. Campus, Naxalbari, Darjeeling, W. B. ; 18.6.1979. 1 δ ; Tukriajhar, Darjeeling, W. B. ; 18.6.1979. 1 δ , 1 ♀ ; Lish forest, Darjeeling, W. B. ; 13.3.1974. 1 δ ; Bhutanghat, Jalpaiguri, W. B. ; 5.9.1975. 1 δ , 1 ♀ ; Suklapara, Jalpaiguri, W. B. ; 30.8.1975. 1 δ ; Falakata, Cooch Behar, W. B. ; 14.9.1975. 2 ♀ ; Sahapur, Maldah, W. B. ; 17-18.9.1975. 1 δ ; Khanikhola, Rangpo, Sikkim ; 6.7.1979.

Remarks : A common grasshopper of India. Also known from Sri Lanka ; China and Eastern Nepal. It is, however, a new record for West Bengal.

Additional description : Females (12.5-17) Fastigium with a slender median carinula continued backwards over vertex ; frontal ridge hardly sulcated, a little divergent towards

clypeus; facial carinae oblique. Antenna longer than head and pronotum taken together, filiform, testaceous; sometimes apex may be dark and apical portion may be depressed and sulcated. Intercalary serration continues along posterior media and cubitus veins up to end of post. cubital vein. Mesosternal lobe very short, much wider than long, less than width of interspace in between, inner posterior margin of plate strongly oblique (Fig. 7). Supar-anal-plate almost tongue-shaped, with a median groove on basal half. Posterior tibia pale (perhaps due to wet preservation) with 13 black tipped spines on each margin.

Males ; Identical with that of females.

Genus (6) *Eucoptacra* Bolivar, 1902

6. *Eucoptacra praemorsa* (Stal, 1860)

(Figs. 8-9)

Acridium (*Catantops*?) *praemorsum* Stal, 1860.
Eugenie's Resa, Orth. : 330.

Material : 1♂ ; Sevok, Darjeeling ; 22.7.1974. 1♀ ; Tukriajhar, Darjeeling, W. B. ; 18.6.1979. 1♀ ; P. W. D. Bunglow, Rangpo, Sikkim ; 2.7.1979. 1♂ ; Khanikhola, Rangpo, Sikkim ; 6.7.1979. 1♀ ; Andberikhola, Rangpo, Sikkim ; 5.7.1979.

Remarks : Known from China ; Burma and in India from Bombay (Maharashtra) and Tamil Nadu. It is a new record for the North India.

Additional description : Male : Antenna decidedly longer than head and pronotum taken together ; segments on distal half gradually widened. Frontal ridge convex, expanded maximally between antennae ; finely punctured. Median carina of pronotum distinctly cut by 3 sulci, 3rd sulcus restricted not only to dorsum but also extends to

lateral lobes as other sulci. Metazona longer than prozona. Lateral field of pronotum almost as long as high. Prosternal tubercle short, cylindrical ; mesosternal interspace a little narrower than width of one of lobes, with rounded inner margins, slightly more approximating in upper region than lower one ; metasternal plates separated. Elytron with a little expanded costal area, opaque up to middle ; cells of radial sector and medial region elongated ; reticulation in basal half very dense. Posterior femur rather robust, with a distinct attenuated apical portion, equalling about one third of entire length of femur ; all carinulae spotted with dark spots. Cerci slightly compressed, incurved (Fig. 8) ; epiphallus as figured (Fig. 9).

Females : Perfectly identical with males.

Measurements : Length of body ♂ 18.5, ♀ 23-25. 1 ; length of head ♂ 1.8, ♀ 2-2.8 ; length of antenna ♂ 8, ♀ 9 ; length of pronotum ♂ 4.2, ♀ 5-5.8 ; length of prozona ♂ 2.2, ♀ 2-2.7 ; length of metazona ♀ 2.3, ♀ 3-3.5 ; length of elytron ♂ 19, ♀ 21.5-23.5 ; post. femur ♂ 12.5, ♀ 13-14.5 ; post. tibia ♂ 10, ♀ 11-12. (measured 1 male and 3 females).

Genus (7) *Cyrtacanthacris* Walker, 1870

7. *Cyrtacanthacris tatarica* (Linn., 1758)

(Fig. 10)

Gryllus Locusta tataricus Linnaeus, 1758. *Syst. Nat.*
(10th. ed.) : 432.

Material : 4♂, 4♀ ; Bijanbari, Naxalbari, Darjeeling ; 12.9.1974. 1♂ 1♀ ; Tukriajhar, Naxalbari, Darjeeling ; 18.6.1978.

Remarks : Distributed over the Oriental and the African continents. In India, it is known from Barkuda I., Chilka I., Calcutta, Nilgiri and recently Tandon and Shishodia (1969) recorded it from Nagarjun Sagar,

Andhra Pradesh. The availability of the species from Naxalbari of Siliguri Sub-division is not only a new record but also very interesting from zoogeographical distribution.

Additional description : Males : Fastigium of vertex rounded, shallowly concave, horizontal and reclinate with frontal ridge ; interocular distance narrow. Pronotum with a distinct median carina, slightly tectiform on prozonal portion, flat on metazona ; latter, widened laterally and broadly angular at posterior margin ; prozona and metazona subequal in length ; punctured throughout specially on lateral lobes and with a few insignificant, scattered yellowish granules on pronotal disc. Elytron 5 times longer than its maximum width and characterized by not having precostal veins, their place being occupied by coarse and strongly irregular reticulations. Epiphallus typical for the genus ; ancora slightly indicated, lophus tooth-like (Fig. 10).

Females : Identical with males (44-46) except for their bigger size (58-60).

Field notes : Naxalbari is situated in the 'Duars' in an area (lat. 26°N to 27°N and long. 88°E to 89°E), elevation 75 metre which is associated with heavy annual rainfall (300 cm. to 400 cm.) and hot (above 27°C in summer), moist climate with tropical evergreen forest. The chief cultivation of the area is tea plantation and recently in reclaimed plots of lands rice and vegetables like Lady's finger (*Hibiscus esculentus*) and chillie (*Capscium frutescens*) are grown. Due to constant encroachment for ever growing demand for agriculture, the area of virgin forest is decreasing. The species is abundant in the locality and it is seen that the members of the species enter the chillie and Lady's finger plantations. it is reported by local

farmers that the species is fond of leaves and twings of chillie, causing serious devastation. The junior author also noticed them during July frequen'ing in the Lady's finger garden, eating on leaves and tender fruits and busy-ing themselves obviously in the act of ovipositing in the soft ground. While this observation needs further cheeking it is certain that these insects are definitely pests on the crops in the area.

Genus (8) *Eupreponotus* Uvarov, 1921

8. *Eupreponotus inflatus* Uvarov, 1921

(Figs. 11-12)

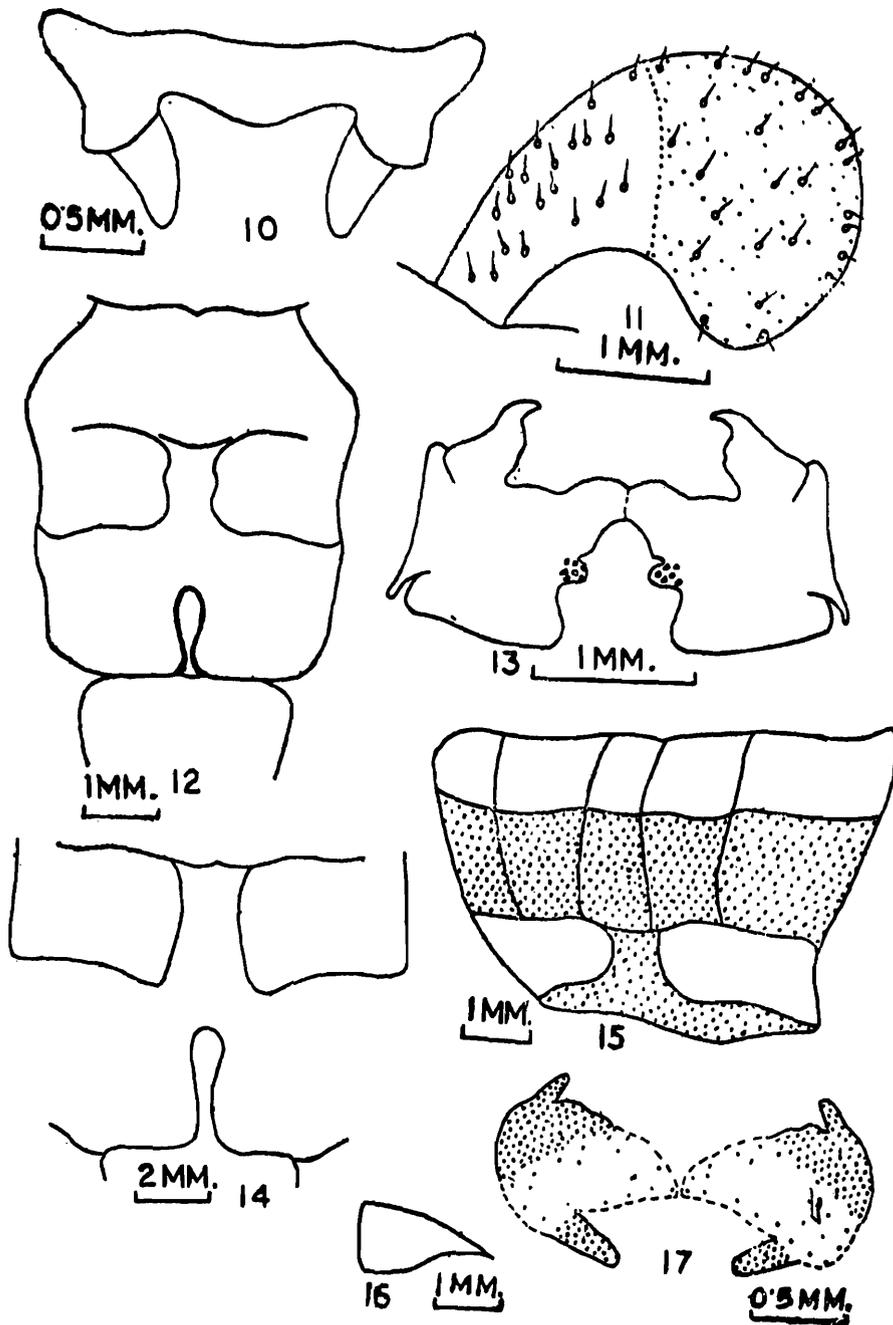
Eupreponotus inflatus Uvarov, 1921. *Ann. Mag. nat. Hist.*, 7 (9) : 508.

Material : 1 ♂, 1 ♀ ; Bamanpokri, Darjeeling, W. B ; 22.8.1975 ; H. K. Bhowmik coll. 1 ♂ (and 1 ♂, 2 ♀ nymphs) ; Sankrail, Howrah ; 8.7.1980 ; P. Halder coll.

Remarks : Uvarov (1921) erected the genus *Eupreponotus* with the single species, *E. inflatus*, from an unknown Indian locality. Later he (1927A) fixed the type locality as Cuttack and also examined one male and one female specimens from Calcutta, both these 2 examples being present in the National Collection of Zoological Survey of India. The present material (♂ 26, ♀ 38) from the ever green, thick forest of foothills of Darjeeling ('Duars') as well as from Howrah not only extends its zoogeography but also indicates its ability to adapt itself to Himalayan biotope as also to the cultivated area in the plains.

Presence of nymphs in the collection from Howrah during July will show that the species completes its life-cycle in the hot, rainy season.

Lately Singh (1978) has described the second species of the genus from Dehra Dun



Figs. 10-17. 10. Epiphallus, dorsal.
Eupreponotus inflatus, male.
 11. Cercus, lateral
 12. Meso- and metasternal lobes.
Heteracris pulchra, male.
 13. Epiphallus, dorsal.
Tylotropidius varicornis, male.
 14. Meso- and metasternal lobes.
Mesambria dubia, male.
 15. Pronotal lobes, lateral.
 16. Cercus, lateral (same scale as 15).
 17. Epiphallus dorsal (same scale as 10).
Ceracris nigricornis laeta, female.

apparently not being aware of Uvarov's type locality etc. Singh's species, *E. punctatus*, closely resembles Uvarov's species.

Figures of male cercus, mesosternal lobe are added here for the first time (Figs. 11, 12).

Genus (9) *Heteracris* Walker, 1870

9. *Heteracris pulchra* (Bolivar, 1902)

(Figs. 13, 19-21)

Euprepocnemis pulchra Bolivar, 1902. *Annls. Soc. ent. Fr.*, 70 : 680.

Material : 3♂, 2♀ ; Naxalbari (alt. c. 150 m), Siliguri, (Darjeeling) ; 13.9.1975 ; P. Halder coll. 2♂, 1♀ ; Gaur, Maldah, W. B. 19.9.1975 ; P. Halder coll. 1♂, 1♀ ; Falacata, Cooch Behar Dist., 14.9.1975 ; H. K. Bhowmik coll.

Remarks : So far was known from Tamil Nadu and Sri Lanka. The availability of the specimens from Naxalbari (borders of W. B., Bihar and Nepal), Cooch Behar and Maldah indicates that the species must be distributed throughout the plain terrain of sub-Himalayan region.

Additional description : Males (Fig. 19) : Antenna filiform (15-16), longer than head and pronotum taken together, brown, but from below segments appear dark giving it a different colouration ; middle segments elongated, about twice as long as their width. Prozona longer than metazona, posterior margin of latter being almost round. Mesosternal lobe wider than interspace, rounded on inner margin ; metasternum almost closed. Cercus compressed, laterally incurved, apex subacute and directed downwards. Subgenital plate rounded, curved upwards, apical margin straight. Epiphallus as figured (Fig. 13). Elytra about 4 times longer than their maximum width and without spot or with ill-defined

brownish spot ; rounded at apices ; costal vein with a few branches on precostal side ; medial vein giving off 4 branches of elongated cells and occupies more space than radial veinlets ; space usually occupied by intercalary vein filled with some irregular cells ; cubital veins run in dependently to be united with post-cubital apically, space between two again filled with irregular cells (Fig. 20). Wing shorter than elytron, basally with bluish tinge (decoloured in wet specimens). Posterior tibia pilose with 10 to 11 white but black tipped spines.

Females : Much larger. Frontal ridge sparsely punctated. Antenna more dark even on dorsum. Elytron slightly extends beyond posterior tibia ; clearly with brownish spots and areas, separated by hyaline areas (Fig. 21). Cercus small and gradually tapers. Superior valves of ovipositor comparatively larger than inferior ones, curved upwards and with pointed apices.

Measurements : Length of body ♂ 27.5-28, ♀ 54-56 ; length of head ♂ 3.5-4, ♀ 5-5.2 ; interocular distance ♂ 1-1.25, ♀ 2-2.15 ; length of antenna ♂ 15-16, ♀ 20-22 ; length of prozona ♂ 3-3.13, ♀ 6-6.16 ; length of metazona ♂ 2-3, ♀ 5-5.25 ; length of elytron ♂ 23-24.15, ♀ 45-46 ; posterior femur ♂ 19.5-20, ♀ 32-33 ; post. tibia ♂ 17-18.25, ♀ 29.5-30.

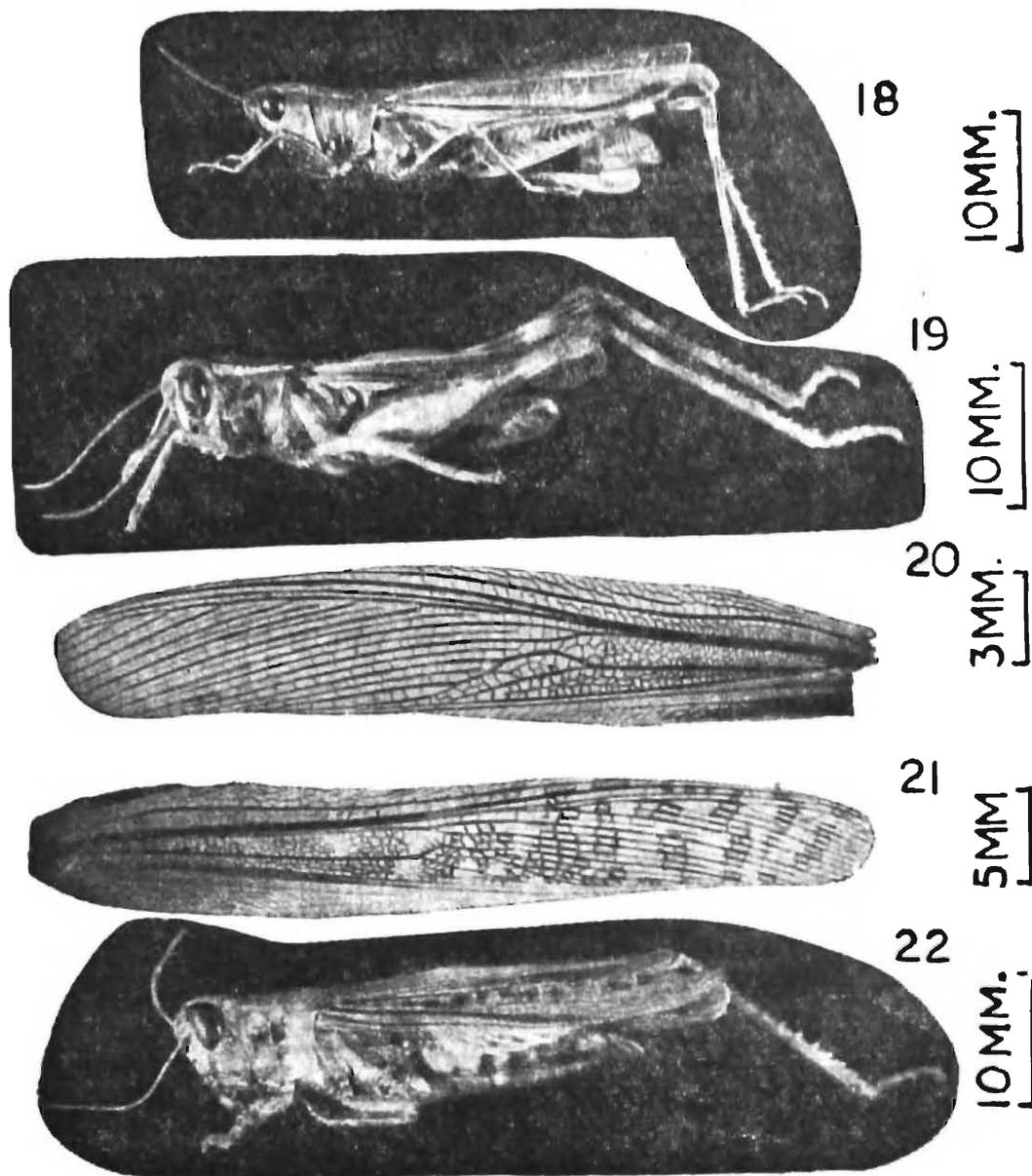
Genus (10) *Eyprepocnemis* Fieber, 1853

10. *Eyprepocnemis alacris alacris* (Serville, 1839)

(Figs. 22)

Acridium alacre Serville, 1839. *Ins. Orth.* : 682.

Material : 1♂, 1♀ ; Sukna, Mohar tea estate, W. B. ; 16.2.1974. 1♂ (nymph) ; Adalpur, Sukna ; 15.2.1974. 1♀ (damaged)



Figs. 18-22. 18. Profile.
Hetracris pulchra, male.
 19. Profile.
 20. Elytron.
 21. Female, elytron.
Eyprepocnemis alacris alacris, female.
 22. Profile.

Sevok, Darjeeling, W. B. ; 22.2.1974. 1 ♀ ;
 Mirik, Darjeeling, W. B. ; (alt. ca. 1688m).
 1 ♂ ; Andheri Khola, Darjeeling, W. B. ;
 5.7.1978. 1 ♂ ; Nilpara, Jalpaiguri ; 30-31.8.
 1975.

Remarks : Known from all over Afganis-
 than ; East Persia : Pakistan ; Sri Lanka ;
 Burma and India. In India, it is distributed in
 Tamil Nadu (Madura : Nilgiri) and Chota

Nagpur. It is recorded here for the first time from West Bengal.

The subspecies (δ 22-24, ♀ 35-36) is the commonest in the genus and tallies nicely with the revised characters given by Dirsh (1958).

Genus (11) *Tylotrypidius* Stal, 1873

11. *Tylotrypidius varicornis* (Walker, 1870)

(Figs. 14)

Heteracris varicornis Walker, 1870. *Cat. Derm. Salt. Br. Mus.*, 4 : 667.

Material : 2 δ ; Sevok, Darjeeling, W. B. ; 22.2.1974. *H. K. Bhowmik* coll. 1 δ ; Kangumaduga, Eastern Ghats, Seshacharams, Cuddapah dist. (alt. ca. 960m.) ; 20-21.7.29 ; *P. S. Pruthi* coll. 1 δ ; Rajpur. M. P. ; Dec. 1939 ; *H. S. Rao* coll. 1 δ ; Baghkor, Shillong ; 13.5.1960 ; *S. N. Prasad* coll.

Remarks : Previously known from South India ; Sri Lanka ; Burma and also from the Eastern Nepal, the species is recorded here for the first time from the North Bengal.

The specimens at hand are easily recognizable by having fastigium of vertex with two depressions at the base ; compressed, truncated and somewhat bituberculated apex of prosternal tubercle, in the castaneous tagmina having "a row of triangular whitish spots upon the radial nervure" and also with distinctly attenuated apical halves of posterior femora. Meso-and metasternal plates (Fig. 14) are added here for the first time.

Genus (12) *Mesambria* Stal, 1878

12. *Mesambria dubia* (Walker, 1870)

(Figs. 15-17)

Acridium dubium Walker, 1870. *Cat. Derm. Salt. Br. Mus.*, 4 : 632.

Material : 5 δ , 1 ♀ ; Mirik, Darjeeling, W. B. ; 17.9.1974 ; *H. K. Bhowmik* and *P. Halder* coll.

Remarks : This species was described on female from Sri Lanka. Uvarov (1927B) mentioned its male counterpart in a few words. The availability of the specimens at the high altitude of Darjeeling district is a new and interesting record of its zoogeography.

Additional description : Males : Small, slender ; testaceous brown. Head short ; fastigium of vertex produced beyond eyes, triangular and transverse on profile, rounded at apex, lateral carinae prominent and extend between eyes, separated from front by distinct edges ; frontal ridge distinctly sulcate, narrowed just after separating edge of fastigial border, gradually widened up to middle ocellus, below ocellus constricted, then parallel ; carinae raised and clear. Pronotum almost flat, though a low and weak median carina detectable ; metazona less than half length of prozona, its posterior margin truncated ; lateral lobe of pronotum brownish on lower margin which is in continuation with upper one giving it a design (Fig. 15). Mesosternal lobe with rounded inner margin ; interspace narrower than width of one of its lobes. Metasternal lobes separated. Supra-analplate wider than long, broadly angular at apex, and with a median longitudinal suture. Cercus thin, basally wide, apically tapers to a spine-like structure, a little directed downwards (Fig. 16). Knee of posterior femur and base of posterior tibia dark. Epiphallus as figured (Fig. 17).

Females : Tally fully with original description.

Measurements : Length of body δ 13.5-14-15, ♀ 18 ; length of head δ 1.8-2.2, ♀

2.4 ; length of antennae ♂ 6-7.5, ♀ (broken) ; length of pronotum ♂ 3.5-4, ♀ 4.8 ; length of prozona ♂ 2.3-2.9, ♀ 3.3 ; length of metazona ♂ .9-1-2, ♀ 1.5 ; length of elytron ♂ 2-3, ♀ 3.5 ; post. femur ♂ 9-10, ♀ 11.5 ; post tibia ♂ 8-9, ♀ 10.5.

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