

SHORT AND LONG-HORNED GRASSHOPPERS AND CRICKETS OF BASTAR DISTRICT, MADHYA PRADESH, INDIA

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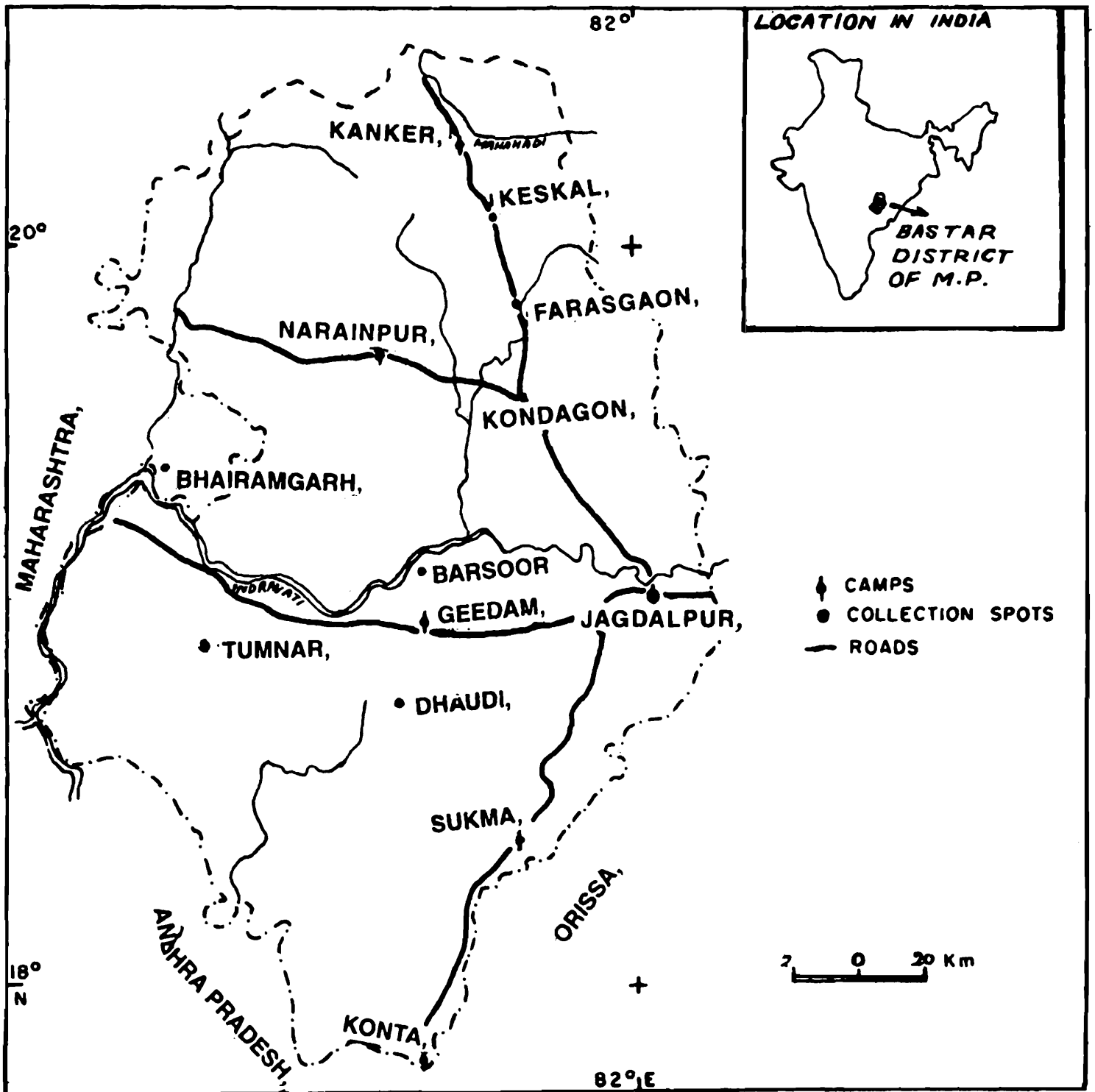
INTRODUCTION

Bastar is one of the biggest districts of Madhya Pradesh. In size it is larger than the State of Kerala in India and also some nations like Finland. The district is bounded by Maharashtra in the West, Andhra Pradesh in South and Orissa in East (Map 1). It is situated between 80°-15' to 82°-15' East Longitude and 17°-46' to 20°-34' North Latitudes. It has an area of 39,860 sq. kms. More than one-third area of Madhya Pradesh is covered with forest which is extensive and productive. Due to this thickness of forest, the fauna is very rich. the tract of Bastar is hilly and the altitude varies between 49 to 1,276 metres.

There are three seasons - winter, summer and monsoon. Winter season commences in the begining of November and lasts upto the end of February. It is mild throughout. The days are warmer and nights are colder at some places like Bailadila, Geedam, Kanker etc. Summer season extends from March to the middle of June. At that time it is extremely hot. However, in Konta Tehsil there is pleasant breeze at night from the Godavary valley. Monsoon season begins after the middle of June and lasts upto the month of October. The average rainfall is 1,521 mm. per year. The highest temperature may reach 19° C in the month of October and 31° C in the month of May.

Order Orthoptera includes both long and short-horned grasshoppers, crickets and grouse-locusts. These insects are moderate in size, but range in length from less than 5 mm. to 115 mm. The form of body and shape of head and thorax are diverse. The antennae are filiform but sometimes ensiform. Tarsi are 2-3 segmented, but 4 segmented are also found; hind femora large, slender and thick towards base and adapted for leaping. Wings either fully developed or reduced or absent; fore-wings, generally in the form of leathery tegmina; hind-wings are fan-like; male external genitalia complex (except in Tetrigidae), symmetrical and concealed when not in use. Female has external long or short ovipositor for depositing the eggs. Males of most species produce sound by different methods; females generally do not produce sound.

The number of known species of Orthoptera from the whole World is about 20,000. Out of these, 900 species are known from India. They are economically important insects, as some species do considerable damage to the crops, vegetable plants and forest plantations/ The well known locust belongs to this group. Majority of the species are tropical and well represented in temperate climates too. Vertically they are found from sea-level to high altitudes in the Himalayan region in India.



MAP 1 : District map of Bastar, Madhya Pradesh, showing places

Orthopteran insects have not been reported by any scientist from the Bastar District, except Chopard (1970) and Shishodia (1995). Chopard described *Arachnomimus subalatus* from Kutumswar cave, and Shishodia reported 15 species of Orthoptera from Indravati Tiger Reserve area, which is situated on the bank of river Indravati, in Bastar District. The present study deals with 77 species under 61 genera and 12 families. Sixty-one species are recorded for the first time from Bastar (*). All the materials reported in this study were collected by the author, unless otherwise stated.

Collecting Localities

Following is the list of localities from where the specimens were collected and studied for the present study :

- Jagdarpur : Dharampur road, P.W.D. Rest house, Kachauri village, Dongaghat, Bodghat, Sargipal forest, Jagdarpur, Atagura Kakapul.
- Geedam : Geedam, East to Geedam, P.W.D. Rest House, Haram, 2 kms. north to Geedam.
- Bhairamgarh : Bailadila; Narayanpur, Chitrakut, Bhanpuri; Kutumswar Cave; Tirathgarh.
- Tongpal : Malyawada; Tumnar; Nelasnar; Sonpur; Dhaudi; Narendrapur.
- Kondagaon : Hillock, east of Kondagaon; P.W.D. Rest House, Benur; Perambada; Keskal; Farasgaon; Bandapara.
- Kanker : Kanker north; Mankeshari, P.W.D. Rest House; Pandripani; Dumarpara.
- Sukma : Sukma; Forest Inspection Hut, Guḍiras.
- Barsoor : Barsoor; Forest Inspection Hut.
- Tumnar : Nelasnar; Sonpur; Dhaudi.
- Narayanpur : Chingrigarh; Narayanpur, Mahka.
- Govindpur : Bhanderpur.
- Konta : On way to Gollapalli.

SYSTEMATIC ACCOUNT

Order ORTHOPTERA

Key to superfamilies

1. Antennae about as long or longer than body, many segmented; tympanal organs, when present, on fore tibiae. 4
- Antennae shorter, with less than 30 segments; tympanum organs, when present, at base of abdomen. 2

2. Tarsi almost always 3-segmented; antennae usually longer. 3
 – Tarsi 1- or 2-segmented; antennae short, with 12 or fewer segments ... TRIDACTYLOIDEA
3. Pronotum extended backwards to cover abdomen; empodium absent; antennae longer than fore femur TETRIGOIDEA
 – Pronotum normal or if, rarely extended behind, then empodium present or antennae shorter than fore femur. ACRIDOIDEA
4. Tarsi 4-segmented, at least on middle and hind legs. TETTIGONIOIDEA
 – Tarsi 3-segmented. GRYLLOIDEA

Superfamily TRIDACTYLOIDEA

Antennae short; anterior tarsi 2-segmented; hind femora very large; hind tibiae, in addition to a number of subapical articulated spines, bears a pair of longer apical appendages between which lies vestigial unsegmented hind tarsi.

Family TRIDACTYLIDAE

Genus *Xya* Latreille, 1809

1. **Xya variegata* Latreille

1809. *Xya variegata* Latreille, Gen. Crust. Ins., 4 : 383.

1980. *Xya variegata* : Günther, *Dtsch. Ent. Z., N.F.* 27, Heft. I-III : 171.

Material examined : 1♂, Benur, 27.xii.1978.

Diagnosis : General colouration black to bronze, very shining almost completely glabrous; internal margin of eyes parallel, their inferior angle as much apart as the superior angle; outer posterior genicular lobe of hind femur more or less white; posterior tibiae provided with lamellae; posterior metatarsi tuberculiform; wings short.

Measurements (in mm.) : Body length 6.0; pronotum 1.5; tegmen 2.2; hind femur 4.0; hind tibia 2.9.

Distribution : India (Bihar, Kerala; Maharashtra, Meghalaya, West Bengal), South and Middle Africa, East to South-East Asia, China, and Europe.

Superfamily TETRIGOIDEA

Family TETRIGIDAE

Pronotum almost covers the whole abdomen and conceals the hind wings. The tegmina are reduced to small lateral scales, while the hind wings are well developed. The anterior and middle tarsi consist of two segments, while the posterior ones with three segments. The claws of tarsi are

not provided with an arolium or empodium. The structures of the phallic complex is entirely different. The epiphallus is absent.

Key to subfamilies

1. Posterior angles of lateral lobes of pronotum acutely produced outwards and generally spined; first segment of posterior tarsi usually longer than the third. SCELIMENINAE
 - Posterior angles of lateral lobes of pronotum rarely acutely spined; first segment of posterior tarsi generally not longer than the third. 2
2. Posterior angles of lateral lobes of pronotum a little produced outwards, obliquely truncate behind, very rarely acutely spined; first and third posterior tarsi segments nearly equal in length. METRODORINAE
 - Posterior angles of lateral lobes of pronotum turned downwards, more or less rounded; first and third posterior tarsal segments unequal in length, first rather longer than the third. TETRIGINAE

Subfamily SCELIMENINAE

Key to genera

1. Lateral margin of pronotum behind the shoulders produced. *Criotettix* Bolivar
 - Lateral margin of pronotum behind the shoulders from the side view, distinctly angulated upwards and from top view bent inwards, wider between the shoulders; generally brachypterous with strong sculptures. *Thoradonta* Hancock

Genus *Criotettix* Boliver, 1887

2. **Criotettix bispinosus* (Dalman) (Figs. 1 & 2)

1818. *Acrydium bispinosum* Dalman, *Kongl. Vet. Akad. Handl.*, 77.

1938. *Criotettix bispinosus* : Günther, *stettin. ent. Ztg.*, 99 : 134.

Material examined : 1 ♂, Bhairamgarh, 21. xii. 1978.

Diagnosis : Head not extended above the pronotal surface; vertex broader than an eye, slightly narrowed in front; pronotum extended beyond the apices of posterior femora; posterior angles of lateral lobes of pronotum dilated and laminated, apex of anterior margin provided with a sharp pointed spine; directed backwards.

Measurements (in mm.) : Body length 6.0; pronotum length 11.5; hind femur missing.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Madhya Pradesh, Manipur, Meghalaya,

Tripura, West Bengal), Borneo, Celebes, Hainan, Hongkong, Java, Luzon, Malaya, Myanmar, Sumatra, Taiwan and Thailand.

3. **Criotettix latifrons* Hebard

1929. *Criotettix latifrons* Hebard, *Revue suisse Zool.*, **36** : 578.

Material examined : 2 ♀, 2 ♂, Benur, 27. xii. 1978; 1 ♂, Perambada, Kondagaon, 28.xii.1978.

Diagnosis : Vertex broader than an eye; prozonal carinae convergent posteriorly; spine of the lateral lobes of pronotum directed transversely.

Measurements (in mm.) Body length 10.0; pronotum length 14.0; hind femur length 6.0; hind tibia 5.0.

Distribution : India (Andhra Pradesh, Maharashtra, Tamil Nadu). It is also studied from Basha ghat near Bargi, Madhya Pradesh (National Zoological Collection, Zoological Survey of India, Reg. No. 5427/H5).

Genus *Thoradonta* Hancock, 1908

4. *Thoradonta pruthii* Günther (Figs. 3 & 4)

1938. *Thoradonta pruthii* Günther, *Stettin. ent. Ztg.*, **99** : 129-130.

Material examined : 3 ♂, 1 ♀, Perambada and Bandapara, Kondagaon 2156m., 28,30.xii.1978; 1 ♂, Pandripani, Kanker, 3.i.1979; 1 ♂, Bhanpuri, 16.xii.1980; 1 ♀, Tumnar, 27.xii.1980; 1 ♀, Nelasnar, 29.xii.1980.

Diagnosis : Vertex wider than an eye; paired ocelli located below the middle of eyes; antennae situated below the eyes; lateral margin of pronotum below the shoulders less strongly folded upwards and inwards than the other Indian species; median carina of pronotum wavy and irregular but not buckled; lateral spine of pronotum narrow even at the base and almost directed transversely.

Measurements (in mm.) : Body length ♂6.5, ♀8.0; pronotum ♂8.0, ♀9.0; hind femur ♂4.0, ♀5.0; hind tibia ♂3.0, ♀4.0.

Distribution : India (Karnataka, Madhya Pradesh and West Bengal).

Subfamily METRODORINAE

Genus *Hyboella* Hancock, 1915

5. **Hyboella* sp.

Material examined : 1 (nymph), Geedam, 20.xii.1978.

Diagnosis : This species is very similar to *hyboella tentata* Hancock, but differs in having the middle of pronotum raised throughout its length.

PLATE 1

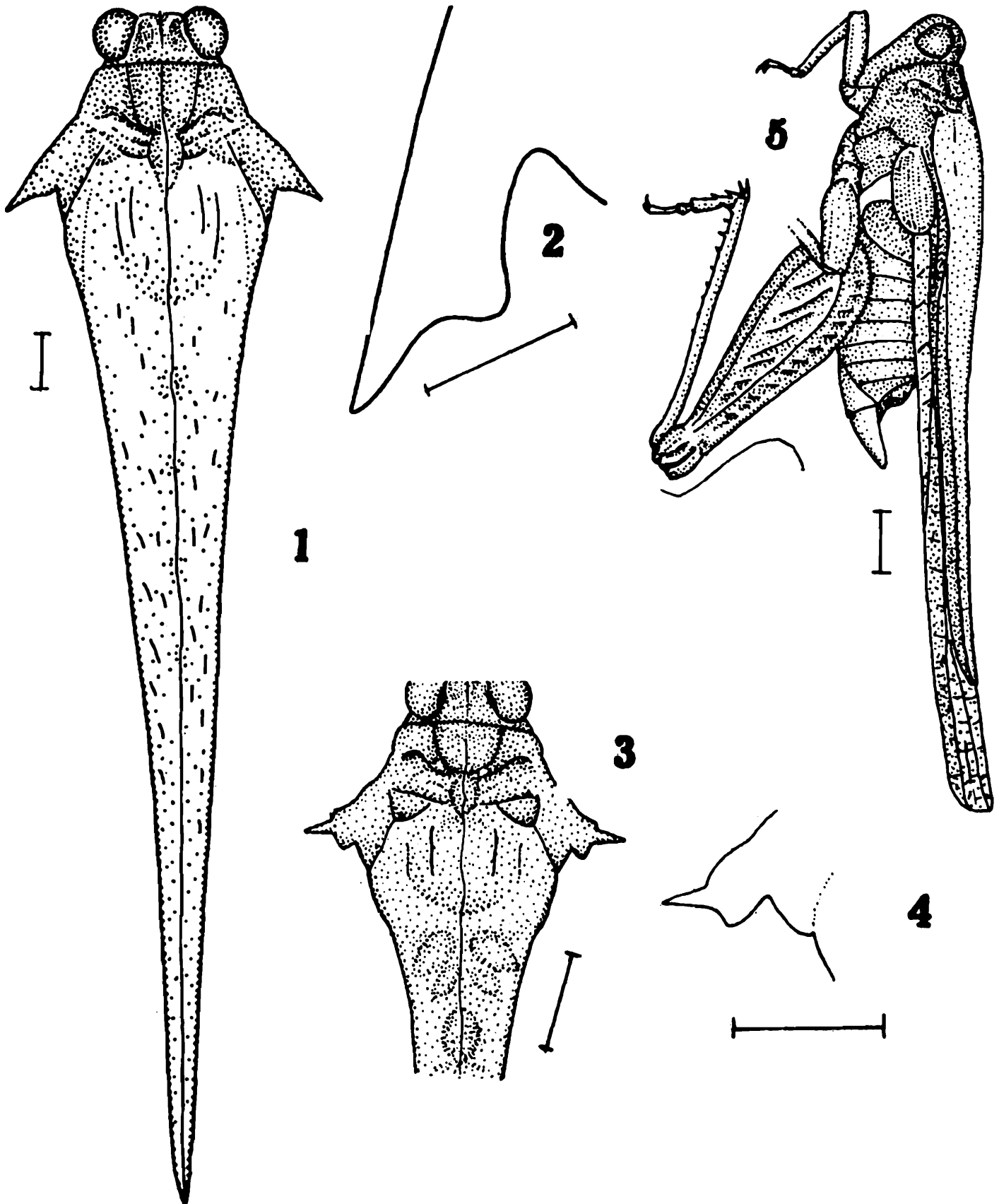


Fig. 1. Dorsal view of *Criotettix bispinosus* (Dalman); **Fig. 2.** Posterior angles of lateral lobes of pronotum of *Criotettix bispinosus* (Dalman); **Fig. 3.** Dorsal view of head and pronotum of *Thoradonta pruthii* Günther; **Fig. 4.** Posterior angles of lateral lobes of pronotum of *Thoradonta pruthii* Günther; **Fig. 5.** Dorso-lateral view of *Hedotettix gracilis* (De Haan).

Measurements (in mm.) : Interocular distance .75; body length 5.9; body length with pronotum 7.0; tegmen 4.3; shoulder width 2.1; hind femur missing.

Distribution : India, Java, Key Islands, Malaya, Myanmar, Sumatra, Thailand and Tibet.

Subfamily TETRIGINAE

Key to genera

1. Vertex and eyes obviously raised above the level of pronotum; antennae inserted between the lower border of eyes. 2
 - Vertex and eyes very little or not at all raised above the level of pronotum; antennae scarcely placed below the middle of eyes. 3
2. Vertex narrower than an eye and truncate; frontal costa arcuately produced between the middle of the eyes; antennae inserted below the middle of eyes; median carina of pronotum not undulated; posterior femora with less conspicuous nodosities on the external medial surface. *Euparatettix* Hancock
 - Vertex still narrower than an eye; antennae inserted distinctly below the inferior margin of eyes; median carina of pronotum a little or very well undulated; posterior femora with distinct nodosities on external medial surface. *Ergatettix* Kirby
3. Body generally smooth or a little granulose; vertex equal to or a little narrower than an eye, generally expanded, subtransverse or triangularly carinated in front; abbreviated carinae distinctly present; median carina of pronotum percurrent, not at all interrupted. *Hedotettix* Boliver
 - Body generally granulose or tuberculose, vertex not expanded in front; abbreviated carinae indistinctly present; median carina of pronotum not percurrent. 4
4. Vertex narrower and more narrowed in front; frontal carinulae interrupted internally or recurved; dorsum of pronotum a little rugose, often bearing round or abbreviated lineate tubercles; median carina very fine and wavy or not. *Coptotettix* Bolivar
 - Vertex narrower or equal or rarely wider than an eye, but not narrowed in front, with a concavity on either side; median carina a little raised but not wavy. *Paratettix* Bolivar

Genus *Euparatettix* Hancock, 1904

Key to species

1. Hind tibiae dense black with white annulations just behind the knee; frontal costa generally narrowly sulcate. *personatus* (Bolivar)
 - Hind tibiae subunicoloured or obscurely marked but never dense black; frontal costa generally moderately sulcate. *histricus* (Stål)

6. **Euparatettix histricus* (Stål)

1860. *Tetrix histrica* Stål, *Eugenies Resa Orth.*, : 347.

1991. *Euparatettix histricus* : Shishodia, *Rec. zool. Surv. India, Occ. Paper No. 140* : 135.

Material examined : 45 ♂, 19 ♀, Kachauri village, Jagdalpur, 11.xii.1978; 2 ♂, 2 ♀, Dongaghat, Jagdalpur, 12.xii.1978; 3 ♂, 2 ♀, Konta, 16.xii.1978; 11 ♂, 11 ♀, Benur, 27.xii.1978; 8 ♂, 5 ♀, Permbeda, Kondagaon, 28.xii.1978; 30 ♂, 11 ♀, Mankeshari, Kanker, 1.i.1979; 1 ♂, 1 ♀, Chitrakut, 14.xii.1980; 2 ♂, 2 ♀, Bhanpuri, 16.xii.1980; 1 ♀, Tumnar, 27.xii.1980; 3 ♂, 1 ♀, Narayanpur, 31.xii.1980; 1 ♂, Sonpur, 1.i.1981; 1 ♂, Dhaudi, Narayanpur, 2.i.1981; 1 ♀, Kutru, 26.i.1989, R.K. Ghosh coll.

Diagnosis : Head a little exerted; vertex narrower than an eye, front margin a little elevated, truncated, reflexed laterally; dorsum smooth or finely granulose, convex and wide between shoulders, with or without abbreviated markings. This species is always available in macropterous form.

Measurements (in mm.) : Body length ♂7-8, ♀10-11; body length with pronotum ♂10-10.5, ♀13-14; pronotum ♂9-9.5, ♀12-14; posterior femora ♂4.5-5.5, ♀5.4-7; shoulder width ♂2-2.1, ♀2.4-3.2.

Distribution : India (Throughout), N. Australia, Borneo, N. Caledonia, Celebes, S. China, Holland, Java, Malaya islands, Mindanao, Myanmar, Nepal, Pakistan, Philippines, Queensland, Sri Lanka, Sumatra and Taiwan.

7. *Euparatettix personatus* (Bolivar)

1887. *Paratettix personatus* Bolivar, *Annl. Soc. ent. Belg.*, : 31 : 188, 278.

1904. *Euparatettix personatus* : Hancock, *Spolia Zeylan.*, 2 : 146.

Material examined : 10 ♂, 9 ♀, Kachauri village, Jagdalpur, 11.xii.1978; 2 ♂, 1 ♀, Sargipal forest, Jagdalpur, 13.xii.1978; 4 ♂, 1 ♀, Geedam, 20.xii.1978; 4 ♂, 2 ♀, Benur, 27.xii.1978; 10 ♂, 9 ♀, Perambeda, Kondagaon, 28.xii.1978; 1 ♂, 1 ♀, Mankeshari, Kanker, 1.i.1979; 3 ♂, 1 ♀, Bhanpuri, 16.xii.1980; 5 ♂, 2 ♀, Kutru, 26.i.1989, R.K. Ghosh coll.

Diagnosis : Head exerted; vertex narrower than an eye; frontal costa narrowly sulcated; paired ocelli situated nearly between the middle of eyes; tegmina and wings well developed; hind tibiae dense black with white annulation just behind the knee.

Measurements (in mm.) : Body length ♂6-6.5, ♀8-9; body length with pronotum ♂9-10, ♀10.5-12; pronotum length ♂8-9, ♀10-11; posterior femora length ♂4.3-4.5, ♀4.7-5.4; shoulder width ♂2-2.2, ♀2.3-2.8.

Distribution : India (Throughout), Bangladesh, Bhutan, Indonesia (Java), Myanmar, Pakistan, Philippines, Sri Lanka and Taiwan.

Genus *Paratettix* Bolivar, 18878. **Paratettix cingalensis* (Walker)

(Plate 2, fig. 6)

1871. *Tettix cingalensis* Walker, *Cat. Derm. Salt. Brit. Mus.*, 5 : 827.1914. *Paratettix cingalensis* : Kirby, *Fauna Brit. India, Orth.* : 63.*Material examined* : 1 ♀, Benur, Kondagaon, 27.xii.1978.*Diagnosis* : Head a little or not at all exserted; frontal costa rarely sinuate; paired ocelli placed between the middle of eyes; tegmina and wings well developed; median carina of pronotum compressed, raised and generally arched in front.*Measurement* (in mm.) : Body length 8.0; pronotum length 6.0; hind femur 5.0; hind tibia 4.0.*Distribution* : India (Arunachal Pradesh, Assam, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Sikkim, Tamil Nadu), Borneo, Hainan, Malaya, Mindanao, Sri Lanka, Sumatra and Taiwan.Genus *Hedotettix* Bolivar, 1887

Key to species

1. Frontal costa widely sulcate, the rami more or less abruptly widened between antennae; median carina of pronotum more or less compressed-arcuate forwards before the shoulders, highest at the sulci; dorsum convex. *gracilis* (De Haan)
- Frontal costa not widely sulcate, rami not widened between the antennae; median carina of pronotum a little compressed, low arcuate forward. *attenuatus* Hancock

9. *Hedotettix gracilis* (De Haan)

(plate 1, fig. 5)

1842. *Acridium (Tetrix) gracile* De Haan, *Temminck, Verhandl.*, Orth. : 167, 169.1914. *Hedotettix gracilis* : Kirby, *Fauna Brit. India, Orth.* : 72.*Material examined* : ♂7, 3 ♀, Kachauri village, Jagdalpur, 11.xii.1978; 4 ♂, 4 ♀, Sabari river bed, Konta, 15.xii.1978; 1 ♀, near Kutumswar cave, 17.xii.1978; 5 ♂, 2 ♀, Geedam, 20.xii.1978; 10 ♂, 4 ♀, Perambada, Kondagaon, 28.xii.1978; 5 ♂, 5 ♀, Mankeshari, Kanker, 1.i.1979; 4 ♂, 7 ♀, Chitrakut, 14.xii.1980; 5 ♂, 2 ♀, Bhanpuri, 16.xii.1980; 1 ♂, 1 ♀, Tongpal, 21.xii.1980; 2 ♂, 3 ♀, Barsoor, 26.xii.1980; 5 ♂, 4 ♀, Tumnar, 27.xii.1980; 1 ♂, Narayanpur, 31.xii.1980; 1 ♂, 1 ♀, Sonpur, 1.i.1981; 1 ♂, 1 ♀, Bijapur, 6.ii.1990, R.K. Ghosh coll.*Diagnosis* : Both micro and macropterous forms are found in both sexes. The colour of dorsum vary from brown to brown-yellow or olive green or cineræous. Some specimens have

yellow longitudinal lines on either side of prozonal carinae which extend upto the posterior margin of shoulders, while in others this line runs in the middle of dorsum from prozonal area to posterior end of pronotum. Dark brown spots may or may not present on either side before and behind the shoulders.

Measurements (in mm.) : Body length ♂7.5-10, ♀9-10; body length with pronotum ♂7.5-13, ♀8.6-13.5; pronotum ♂7.5-12, ♀7.5-12.5; hind femora ♂5.4-6.4, ♀5.9-6.6; shoulder width ♂2.1-2.9, ♀2.1-3.

Distribution : India (Throughout), Celebes, Java, Myanmar, Sumatra, Sri Lanka, Taiwan, Thailand and Vietnam.

10. **Hedotettix attenuatus* Hancock

1904. *Hedotettix attenuatus* Hancock, *Spolia zeylan.*, 2 : 108.

Material examined : 4♂, Sargipal forest, Jagdalpur, 13.xii.1978.

Diagnosis : It is similar to the preceding species, except in the frontal costa which is narrowly sulcate and less strongly arcuate.

Measurements (in mm.) : Body length 8-10; body length with pronotum 8.6-14; pronotum 7.5-10.5; hind femora length 4.8-6; shoulder width 1.8-2.1.

Distribution : India (Arunachal Pradesh, Assam, Himachal Pradesh, Manipur, Meghalaya, Orissa, Tripura) and Sri Lanka.

Genus *Coptotettix* Bolivar, 1887

Key to species

1. Pronotum reaching upto the last abdominal segment or a little more but never beyond the hind femoral apices; dorsum not heavily granulose or tuberculose. *annandalei* Hancock
- Pronotum extended beyond the hind femoral apices; dorsum with scattered granules or tubercles. *conspersus* Hancock

11. **Coptotettix annandalei* Hancock

1915. *Coptotettix annandalei* Hancock, *Rec. Indian Mus.*, 11 : 119.

Material examined : 1♂, 7♀, near Kutumswar cave, 17.xii.1980.

Diagnosis : Pronotum acute at apex; dorsum flattened, finely granular or with scattered small tubercles or well developed rugosity; median carina undulated with depressions behind shoulders; wings extended upto or less than pronotal apex.

Measurements (in mm.) : Body length ♂7.8-8.8, ♀9.5-10.8; body length with pronotum ♂8.3-9.3, ♀9.2-10.5; pronotum ♂7.5-8.5, ♀7.5-8.5; hind femora length ♂5.4-5.9, ♀6.4-7; shoulder width ♂2.1-2.5, ♀2.5-3.7.

Distribution : India (Arunachal Pradesh, Assam, Karnataka, Manipur, Sikkim, Tripura, West Bengal), Myanmar, Nepal and Taiwan.

12. **Coptotettix conspersus* Hancock

1915. *Coptotettix conspersus* Hancock, *Rec. Indian Mus.*, 11 : 119.

Material examined : 1 ♀, Konta, 15.12.1978.

Diagnosis : Head not exserted above the surface of pronotum; vertex narrower towards front; middle carinula of vertex runs upto the half distance of fossulae; frontal costa arcuately produced, strongly divergent anteriorly; lateral lobe of pronotum narrow, roundly subtruncate; dorsum convex, finely granulose or rugose; median carina gently undulate behind the shoulders.

Measurements (in mm.) : Body length 9.0; body length with pronotum 13.5; pronotum length 12.0; hind femora length 5.0; shoulder width 2.9; hind tibia 4.0.

Distribution : India (Arunachal Pradesh, Assam, Maharashtra, Manipur, Meghalaya, Tripura, Uttar Pradesh, West Bengal) and Sri Lanka.

Genus *Ergatettix* Kirby, 1914

Key to species

1. Median carina of pronotum indistinctly undulate, lateral carinae without dilated lobes on the hind process of pronotum; middle femora less dilated, margins little lobate; hind femora with less protuberant tubercles on external surface. *dorsifera* (Walker)
- Median carina of pronotum distinctly undulate, lateral carinae with small dilated lobes on the hind process of pronotum; middle femora sufficiently flattened, margins lobate; hind femora strongly tuberculate on external surface. *güntheri* Steinmann

13. *Ergatettix doraifera* (Walker)

1871. *Tettix dorsifera* Walker, *Cat. Derm. Salt. Brit. Mus.*, 5 Suppl. : 825.

1929. *Ergatettix dorsifera* : Hebard, *Revue suisse Zool.*, 36 : 588.

Material examined : 2 ♂, Kachauri village, Jagdalpur, 11.xii.1978; 3 ♀, Konta, 15.xii.1978; 1 ♂, On way to Gollapalli, Konta, 16.xii.1978; 2 ♂, Geedam, 20.xii.1978; 5 ♂, 7 ♀, Benur, 27.xii.1978; 5 ♂, 1 ♀, Bandapara, Kondagaon, 30.xii.1978; 5 ♂, 5 ♀, Manksehari, Kanker, 1.i.1979; 1 ♂, near Kutumswar cave, 17.xii.1980; 1 ♂, Tumnar, 27.xii.1980; 5 ♂, 2 ♀, Nelasnar, 29.xii.1980; 1 ♂, 5 ♀, Kutru, 26.i.1989, R.K. Ghosh coll.

Measurements (in mm.) : Body length ♂6-8, ♀8.2-9; body length with pronotum ♂9-10.5, ♀10.5-12.5; pronotum ♂8-9.5, ♀9.5-11.5; hind femora length ♂3.7-4, ♀4.8-5; shoulder width ♂1.7-2, ♀2.1-2.9.

Diagnosis : Dark-brown patches behind the shoulders may or may not developed, and these spots may or may not unite to form a band. This species is quite similar to *Ergatettix güntheri*, except the characters mentioned in the key.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Delhi, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Sikkim, Tripura, Uttar Pradesh, West Bengal), Central Asia, Bangladesh, South China, Greater Sunda Islands, Java, Myanmar, Nepal, Sumatra, Sumba, Taiwan and Turkmenia.

14. **Ergatettix güntheri* Steinmann

1970. *Ergatettix güntheri* Steinmann, *Acta zool. hung.*, 16 : 234.

Material examined : 2♂, 3♀, Konta, 15.xii.1978; 2♂, 2♀, Geedam, 20-22.xii.1978; 4♂, 5♀, Benur, 27.xii.1978; 2♂, 2♀, Perambada, Kondagaon, 28.xii.1978; 3♂, 3♀, Mankeshari, Kanker, 1.i.1978; 2♂, 1♀, Chitrakut, 14.xii.1980; 1♀, Jagdalpur, 15.xii.1980; 3♂, 5♀, On way to Gollapalli, 20.xii.1980; 2♂, 1♀, Tongpal, 21.xii.1980; 2♀, Gudiras, 22.xii.1980; 3♂, 3♀, Nelasnar, 29.xii.1980; 5♂, 1♀, Narayanpur, 31.xii.1980.

Diagnosis : Colour variation is common in this species. Undulations in median carina of pronotum and nodosities on external surface of hind femora also vary from less to heavy. Female specimens have much undulations and nodosities on median carina of pronotum and external surface of hind femora respectively.

Measurements (in mm.) : Body length ♂6.8-8, ♀8.5-9; body length with pronotum ♂9.5-10.5, ♀11.5-12.5; pronotum ♂8.5-9.5, ♀11-11.5; hind femora length ♂3.5-4.5, ♀4.5-5.2; shoulder width ♂2-2.1, ♀2.5.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Tripura, Uttar Pradesh, West Bengal), Bangladesh and Sri Lanka.

Superfamily ACRIDOIDEA

Pronotum rarely cover a part of abdomen; tegmina, generally, well developed; tympanal organs, generally, present; all the tarsi three segmented; the claws always provided with an arolium; structure of phallic complex entirely different and epiphallus present.

Key to families

1. Foveolae of vertex contiguous, superior and forming the extremity of the fastigium; stridulatory mechanism absent. PYRGOMORPHIDAE

- Foveolae lateral or inferior, never forming the tip of fastigium; stridulatory mechanism present.
 ACRIDIDAE

Family PYRGOMORPHIDAE

Key to genera

1. Anterior margin of prosternum strongly reflexed and dilated. *Chrotogonus* Serville
- Anterior margin of prosternum neither reflexed nor dilated. 2
2. Antennae remote from the eyes, placed in front of the ocelli. *Atractomorpha* Saussure
- Antennae near the eyes and inserted below the ocelli. 3
3. Posterior lobe of pronotum on the level of anterior lobe; abdomen without callosities; 4
- Posterior lobe of pronotum convex, raised above the level of anterior lobe, with strong rugae; abdomen with dorsal callosities. *Aularches* Stål
4. Outer apical spine of posterior tibiae absent or difficult to detect; body small and slender.
 *Pyrgomorpha* Serville
- Outer apical spine of posterior tibiae very distinct; body large and robust.
 *Poecilocerus* Serville

Genus *Chrotogonus* Serville, 1839

Key to species

1. Hind wings hyaline or occasionally faintly tinged yellowish brown but never infumated.
 *trachypterus* (Blanchard)
- Hind wings always infumated. *oxypterus* (Blanchard)

15. **Chrotogonus (Chrotogonus) trachypterus trachypterus* (Blanchard)

1836. *Ommesecha trachypterus* Blanchard, *Annie. Soc. ent. Fr.*, **5** : 618.

1959. *Chrotogonus (Chrotogonus) trachypterus trachypterus* : Kevan, *Publ. Soc. ent. Co. Diam. Angola*, No. 43 : 147.

Material examined : 1 ♂, 1 ♀, Perambada, Kondagaon, 28.xii.1978.

Diagnosis : Hind wings are clearly hyaline. It is available in both brachy and macropterous forms. This species is the pest of various types of crops of economic value, specially of short type of nature.

Measurements (in mm.) : Body length ♂ 14.0, ♀ 22.0; head length ♂ 3.0, ♀ 4.0; pronotum length ♂ 3.5, ♀ 5.0; tegmina length ♂ 9.0, ♀ 15.0; hind femur length ♂ 7.5, ♀ 10.0; hind tibia length ♂ 6.5, ♀ 8.0.

Distribution : India (Andhra Pradesh, Assam, Bihar, Delhi, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal), Bangladesh, Nepal, E. Iran and Pakistan.

16. **Chrotogonus (Chrotogonus) oxypterus* Blanchard

1836. *Ommexecha oxypterus* Blanchard, *Annls. Soc. ent. Fr.*, 5 : 622.

1959. *Chrotogonus (Chrotogonus) oxypterus* : Kevan, *Publsöes cult. Co. Diam. Angola*, no. 43 : 48.

Material examined : 1♂, Dharampur, jagadalpur, 10.xii.1978; 1♀, Konta, 15.xii.1978; 4♂, 6♀, Geedam, 20-22.xii.1978; 1♀, Bhairamgarh, 21.xii.1978; 1♂, 6♀, Bailadila, 23.xii.1978; 5♂, 1♀, Kondagaon, 26.xii.1978; 1♀, Benur, 27.xii.1978; 1♀, Narayanpur, 27.xii.1978; 1♀, Farasgaon, 29.xii.1978; 2♂, 2♀, Kanker, 1.i.1979; 4♂, 1♀, Chitrakut, 14.xii.1980; 1♂, Tirathgarh, 17.xii.1980; Ahmad coll.; 3♂, 2♀, Sukma, 19.xii.1980; 1♀, Gudiras, 22.xii.1980; 3♂, 2♀, Nelasnar, 29.xii.1980; 1♂, 1♀, Dhaudi, Narayanpur, 2.i.1981.

Diagnosis : This species is fully alate to micropterous form. Hind wings infumated at basal part and extend nearly two-thirds as long as tegmina. It is a pest of various crops and vegetables and prefer the places where the amount of water is less in soil.

Measurements (in mm.) : Body length ♂ 13.5, ♀ 18-21; pronotum length ♂ 3.5, ♀ 4.5-5; tegmen length ♂ 7.5, ♀ 7.5-10; hind femur length ♂ 7.5, ♀ 9-10.5; hind tibia length ♂ 5.5, ♀ 7-9.

Distribution : India (Andhra Pradesh, Bihar, Goa, Karnataka, Kerala, South-east of Maharashtra, South of Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal) and Sri Lanka.

Genus *Poekilocerus* Serville, 1831

17. **Poekilocerus pictus* (Fabricius)

1775. *Gryllus pictus* Fabricius, *Sys. Ent.*, 289.

1914. *Poekilocerus pictus* : Kirby, *Fauna Brit. India*, Orth., : 172.

Material examined : 4♂, 6♀, Bailadila, 23.xii.1978.

Diagnosis : Body large in size; head and pronotum with faint median carina; antennae blue-black with yellow beyond the basal third of their length. Commonly known as ak grasshopper, and generally feed on ak plants (*Calotropis gigantea*), but also reported to feed on various crop, vegetable and fruit plants.

Measurements (in mm.) : Body length ♂ 50-52.0, ♀ 50-62; head length ♂ 5-5.5, ♀ 5-7; pronotum ♂ 11.5-13, ♀ 15-16; tegmen ♂ 34.5-37, ♀ 36-37.5; hind femur ♂ 20.5-23, ♀ 26.0; hind tibia ♂ 20.5-23, ♀ 24.5-26.0.

Distribution : India (Andhra Pradesh, Bihar, Delhi, Haryana, Jammu & Kashmir, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal) and Pakistan. It is also studied somewhere else from Madhya Pradesh and Gujarat in India.

Genus *Pyrgomorpha* Serville, 183118. **Pyrgomorpha bispinosa bispinosa* (Walker)

1870. *Pyrgomorpha bispinosa* Walker, *Cat. Derm. Salt. Brit. Mus.*, 3 : 499.

1975. *Pyrgomorpha bispinosa bispinosa* : Kevan, *Acrida*, 4 : 58, 65.

Material examined : 1♂, On way to Gollapalli, Konda, 16.xii.1978; 4♂, 7♀, Kanker, 1, 2, 4.i.1979.

Diagnosis : Body moderately slender; postero-ventral point of lateral pronotal lobe generally short but distinct.

Measurements (in mm.) : Body length ♂13.0, ♀18.0; pronotum ♂3.0, ♀4.5; tegmen ♂10.0, ♀13.0; hind femur ♂7.0, ♀8.5; hind tibia ♂5.0, ♀7.0.

Distribution : Peninsular India.

Genus *Atractomorpha* Saussure, 186119. *Atractomorpha crenulata* (Fabricius)

1793. *T(ruxalis) crenulatus* Fabricius, *Ent. Syst.*, 2 : 28.

1861. *Atractomorpha crenulata* : Saussure, *Annl. Soc. ent. Fr.*, 4 : 475.

1969. *Atractomorpha crenulata* : Kevan & Chen, *Zool. J. Linn. Soc.*, 48 : 187.

Material examined : 3♂, 1♀, Dharampura, Jagdalpur, 10.xii.1978; 2♂, 5♀, Konda, 15.xii.1978; 5♂, 5♀, Geedam, 22.xii.1978; 2♂, 2♀, Bhairamgarh, 23.xii.1978; 7♂, 7♀, Perambada, Kondagaon, 28.xii.1978; 2♂, Farasgaon, 29.xii.1978; 2♂, 3♀, Mankeshari, Kankar, 1.i.1979; 2♂, Chitrakut, 14.xii.1980; 2♂, 2♀, Bhanpuri, 16.xii.1980; 1♂, near Kutumswar cave, 17. xii. 1980; 1♂, Sukma, 19.xii.1980; 1♂, Tongpal, 21.xii.1980; 2♀, Malyawada, 24.xii.1980; 3♂, 4♀, Barsoor, 26.xii.1980; 4♂, Tumnar, 27.xii.1980; 2♀, Nelasnar, 29.xii.1980; 3♂, 3♀, Dhaudi, Narayanpur, 2.i.1981.

Diagnosis : Body medium and slender; fastigium of vertex shorter; eyes convex and prominent; lateral pronotal lobes with distinct membranous area, specially in females; hind femora not clearly convex; tegmina pointed, extending for one-fourth of their length beyond the hind femora; hind wings normally tyrian pink to light mallow purple at base.

Measurements (in mm.) : Body length ♂15-15.5, ♀29.0; pronotum ♂4.0, ♀6-7; head with fastigium ♂3.0, ♀4-4.5; tegmen ♂14-14.5, ♀21.5-23; hind femur ♂8-8.5, ♀12-12.5; hind tibia ♂6-6.5, ♀10-10.5.

Distribution : India (Throughout), Bangladesh, Malaya, Myanmar, Pakistan, Sri Lanka, N.W. Sumatra, Thailand and S. Vietnam.

Family ACRIDIDAE

Key to subfamilies

1. Prosternal process or tubercle usually absent; if present, then antennae ensiform and body strongly elongate. 2
 - Prosternal process or tubercle present. 5
2. Sound producing mechanism represented by articulated or non-articulated stridulatory serrations or pegs on inner side of hind femur. 3
 - Sound producing mechanism not represented by such serration or pegs on inner side of hind femur. 4
3. Sound producing mechanism represented by unarticulated serration on inner side of hind femur. TRUXALINAE
 - Sound producing mechanism represented by row of articulated stridulatory pegs on inner side of hind femur. GOMPHOCERINAE
4. Head with acute in profile, and with acute angle of frons; tegmina without intercalary vein (if present, weak, irregular and not serrated even in male). ACRIDINAE
 - Head rounded in profile, face almost vertical, rarely oblique and tegmina always with an intercalary vein in median area (mostly well developed). OEDIPODINAE
5. Lower basal lobe of hind femur as long as upper one or only insignificantly longer or shorter.. ROMALEINAE
 - Lower basal lobe of hind femur distinctly shorter than upper one. 6
6. Radial area of tegmina with a series of regular, parallel stridulatory veinlets. HEMIACRIDINAE
 - Stridulatory veinlets of radial area of tegmina absent; if apterous, then tympanum (at least rudimentary) present. 7
7. Lower external lobe of hind knee with spine-like apex. OXYINAE
 - Lower external lobe of hind knee with apex rounded, angular or subacute but not spine-like. 8
8. Last abdominal tergite in male (in majority of genera) with well developed furcula; supra-anal plate mostly with attenuate or trilobate apex; subgenital plate with transverse fold. COPTACRIDINAE
 - Last abdominal tergite in male without well developed furcula; supra-anal plate variable; subgenital plate without transverse fold. 9
9. Mesosternal interspace closed. TROPIDOPOLINAE
 - Mesosternal interspace open. 10
10. Mesosternal lobes rounded or obtuse-angular or acute-angular, but not rectangular. 11

- Mesosternal lobes rectangular..... CYRTACANTHACRIDINAE
- 11. Dorsum of pronotum flat or weakly tectiform, with median and lateral carinae linear (lateral carinae sometimes obliterated); male cercus with strongly compressed, lobiform or subacute, downcurved apex. EYPREPOCNEMIDINAE
- Dorsum of pronotum of variable shape; lateral carinae, if present, not linear; male cercus variable, but not with strongly compressed, lobiform or subacute, downcurved apex. CATANTOPINAE

Subfamily TRUXALINAE

Genus *Truxalis* Fabricus, 1775

20. **Truxalis indica* (Boliver)

1902. *Acrida (Acridella) unguiculate* Rambur, var. *indica* Bolivar, *Annl. Soc. ent. Fr.*, **70** : 589.

1951. *Truxalis indica* : Dirsh, *Eos. Madr.*, Tomo extraord (1950) : 178.

Material examined : 1 ♀, Mankeshari, Kanker, 1.i.1979; 1 ♂, Dumarpara, Kanker, 3.i.1979; 1 nymph, Narayanpur, 27.xii.1980.

Diagnosis : Fastigium of vertex broad, apex truncate; antennae lanceolate; hind femora with articulated pegs on internal surface; basal part of wing intensely bright pink.

Measurements (in mm.) : Body length ♂35.0, ♀63.0; head ♂9.0, ♀12.0; pronotum ♂5.0, ♀9.5; tegmen ♂28.0, ♀52.0; hind femur ♂22.5, ♀35.0; hind tibia ♂22.5, ♀35.0.

Distribution : India (Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu), Myanmar and Sri Lanka.

Subfamily GOMPHOCERINAE

Key to genera

1. Fastigium with acute apex; frontal ridge with obtuse lateral carinulae. *Leva* Bolivar
- Fastigium with truncate apex; frontal ridge without lateral carinulae. *Dnopherula* Karsch

Genus *Leva* Bolivar, 1909

Key to species

1. Lateral carinae of pronotum in prozona nearly parallel, divergent in metazona. *indica* (Bolivar)
- Lateral carinae of pronotum in front of medio-prozona excurved, divergent in metazona to make it X-shaped. *cruciata* Bolivar

21. **Leva cruciata* Bolivar

1914. *Leva cruciata* Bolivar, *Trab. Mus. Cienc. nat. Madr.*, **20** : 66.

Material examined : 1 ♂, Dongaghat, Jagdalpur, 12.xii.1978; 1 ♂, Konta, 15.xii.1978; 1 ♂, 1 ♀, On way to Gollapalli, 16.xii.1978; 5 ♂, 5 ♀, Geedam, 20.xii.1978; 2 ♂, 1 ♀, Narayanpur, 27.xii.1978; 1 ♂, 1 ♀, Benur, 27.xii.1978; 2 ♂, 1 ♀, Perambada, Kondagaon, 28.xii.1978; 1 ♀, Farasgaon, 29.xii.1978, 2 ♂, 1 ♀, Mankeshari, Kanker, 1.i.1979; 2 ♀, Malyawada, 24.xii.1980; 1 ♂, Tumnar, 27.xii.1980; 1 ♂, Nelasnar, 29.xii.1980; 1 ♀, Sonpur, 1.i.1981.

Diagnosis : Colour pale-yellowish or dull reddish brown; fastigium angularly produced; inferior foveolae indistinct; dorsum of pronotum constricted; median carina of pronotum distinct, lateral carinae excurved in prozona and metazona to form X-shaped marking.

Measurements (in mm.) : Body length ♂ 9.5, ♀ 11.5-12.5; pronotum ♂ 2.2, ♀ 3.0; tegmen ♂ 8.5-9, ♀ 11.0; hind femur ♂ 7.0, ♀ 9.0; hind tibia ♂ 5.0, ♀ 7.0

Distribution : India (Bihar, Karnataka, Orissa, Tamil Nadu, West Bengal) and Sri Lanka.

22. **Leva indica* (Bolivar)

1902. *Gymnbothrus indicus* Bolivar, *Annl. Soc. ent. Fr.*, **70** : 596.

1914. *Leva indica* : Bolivar, *Trab. Mus. nac. Cienc. nat. Madr.*, **20** : 64.

Material examined : 1 ♂, Sargipal forest, Jagdalpur, 13.xii.1978; 1 ♀, On way to Gollapalli, Konta, 16.xii.1978; 1 ♂, Geedam, 20.xii.1978; 1 ♀, Kondagaon, 26.xii.1978; 3 ♀, Narayanpur, 27.xii.1978; 1 ♀, Benur, 27.xii.1978; 1 ♀, Farasgaon, 29.xii.1978; 1 ♀, Mankeshari, Kanker, 1.i.1979; 1 ♀, Talkabad, 4.i.1979; 1 ♀, Malyawada, 24.xii.1980; 1 ♂, 1 ♀, Sonpur, 1.i.1981.

Diagnosis : Very similar to the preceding species, but the lateral carinae of pronotum parallel in prozona and divergent in metazona.

Measurements (in mm.) : Body length ♂ 8.5-10, ♀ 13-14; pronotum ♂ 2.5-3, ♀ 3.0; tegmen ♂ 8.5-9, ♀ 11-12; hind femur ♂ 7.0, ♀ 9-9.5; hind tibia ♂ 5.0, ♀ 7-7.5.

Distribution : India (Bihar, Delhi, Madhya Pradesh, Orissa, Tamil Nadu, Tripura, West Bengal); Sri Lanka.

Genus *Dnopherula* Karsch, 1896Subgenus *Aulacobothrus* Bolivar, 190223. **Dnopherula (Aulacobothrus) luteipes* (Walker)

1871. *Stenobothrus luteipes* Walker, *Cat. Derm. Salt. Brit. Mus.*, **5** Suppl. : 82.

1971. *Dnopherula (Aulacobothrus) luteipes* : Jago, *Proc. Acad. Sci. nat. Philad.*, **123** (8) : 243.

Material examined : 1 ♂, Sukma, 19.xii.1980.

Diagnosis : Size small; antennae filiform; fastigium of vertex almost trapezoidal, with truncate apex; fastigial foveolae not visible from above; hind femora with three black bands on the dorsal surface and with a black one at distal end; pronotum with nearly parallel lateral carinae which are weakly concave in the middle.

Measurements (in mm.) : Body length ♂ 15.0; pronotum length 3.0; tegmen 11.0; hind femur 10.0; hind tibia 8.0.

Distribution : India (Assam, Bihar, Delhi, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, West Bengal), N. America, China, Europe, Japan, Myanmar and Sri Lanka.

Subfamily ACRIDINAE

Key to genera

1. Head conically ascending; fastigium of vertex broad and laminate; lateral carinae of pronotum divergent posteriorly. ***Acrida* Linnaeus**
- Head not ascending; fastigium not so broad and laminate; lateral carinae of pronotum straight..
..... ***Phlaeoba* Stål**

Genus ***Acrida*** Linnaeus, 1758

24. ****Acrida exaltata*** (Walker)

1859. *Truxalis exaltata* Walker, *Ann. Mag. nat. Hist.*, (3) 4 : 222.

1954. *Acrida exaltata* : Dirsh, *Bull. Soc. Fouad Ent.*, 38 : 149.

Material examined : 4 ♂, Dharampur, Jagdalpur, 10.xii.1978; 1 ♂, On way to Gollapalli, Kōnta, 16.xii.1978; 9 ♂, 5 ♀, Geedam, 20.xii.1978; 1 ♂, 1 ♀, Bhairamgarh, 21.xii.1978; 1 ♂ (nymph), Bailadila, 23.xii.1978; 1 ♂, 2 ♀, Kondagaon, 26.xii.1978; 3 ♂, 2 ♀, Narayanpur, 27.xii.1978; 3 ♂, Benur, 27.xii.1978; 2 ♂, Farasgaon, 29.xii.1978; 5 ♂, 3 ♀, Mankeshari, Kanker, 1.i.1979; 1 ♀, Tirathgarh, 17.xii.1980; 2 ♀, Gudiras, 22.xii.1980; 4 ♂, 1 ♀, Malyawada, 24.xii.1980; 7 ♂, Barsoor, 26.xii.1980; 2 ♂, Tumnar, 27.xii.1980; Sonpur, 1.i.1981.

Diagnosis : Head conically ascending, basal part narrow, fastigium of vertex broad, laminate and truncate but less broad and laminate than the genus *Truxalis*; transverse sulcus of pronotum placed about the middle of disc; hind femora without any peg-like structure on internal surface.

Measurements (in mm.) : Body length ♂ 28.5, ♀ 40-50.0; head ♂ 5.0, ♀ 9-10; pronotum ♂ 5.0, ♀ 7-8.0; tegmen ♂ 23.0, ♀ 37-41.0; hind femur ♂ 16-17.0, ♀ 28-30.0; hind tibia ♂ 15.0, ♀ 25-28.0.

Distribution : India (Widely distributed), Afghanistan, Aden, Arabia, Bangladesh, S.E.Iran, Nepal, Pakistan, Sri Lanka, S.E.Tibet and Yemen.

Genus *Phlaeoba* Stål, 186025. **Phlaeoba infumata* Brunner

1893. *Phlaeoba infumata* Brunner, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 33 : 124.

1914. *Phlaeoba infumata* : Kirby, *Fauna Brit, India*, Orthopt. : 103.

Material examined : 2♂, 2♀, Bhairamgarh, 21.xii.1978; 2♀, Geedam, 24.xii.1978; 1♀, Sonpur, 1.i.1981.

Diagnosis : Brownish testaceous in colour; tegmina and wings longer than abdomen; wings fusco-hyaline, infuscated towards extremity and subgenital plate of male acute at apex.

Measurements (in mm.) : Body length ♂20.0, ♀26.5-27.0; pronotum ♂5.0, ♀5.5-6.0; tegmen ♂17.0, ♀20-22.0; hind femur ♂13.0, ♀15-15.5; hind tibia ♂11.0, ♀12-13.

Distribution : India (Arunachal Pradesh, Bihar, Delhi, Haryana, Himachal Pradesh, Madhya Pradesh, Meghalaya, Orissa, Punjab, Sikkim, Tripura, Uttar Pradesh, West Bengal), S. China, Malacca, Myanmar, E. Nepal.

Subfamily OEDIPODINAE

Key to genera

1. Median carina of pronotum entire or slightly intersected by the transverse groove. (foveolae trapezoidal). *Aiolopus* Fieber
- Median carina of pronotum very distinctly interrupted by transverse groove. 2
2. Median carina of pronotum cut by one groove. 3
- Median carina of pronotum cut by two grooves. 6
3. Thorax rather short. 4
- Thorax long. 5
4. Wings without well-marked fascia. *Dittopternis* Saussure
- Wings with well-marked fascia. *Oedaleus* Fieber
5. Pronotum with strong crest or acutely tectiform, without rugae; wings without black at apex. *Gastrimargus* Saussure
- Pronotum with well-marked median carina, and with numerous longitudinal rugae. *Morphacris* Walker
6. Pronotum with well-marked crest, angulated behind; median carina of pronotum distinctly interrupted in the prozona by 2 transverse grooves and seems to be bidentate; occiput with a pair of tubercles between the eyes; wings without dark band. *Trilophidia* Stål

PLATE 2

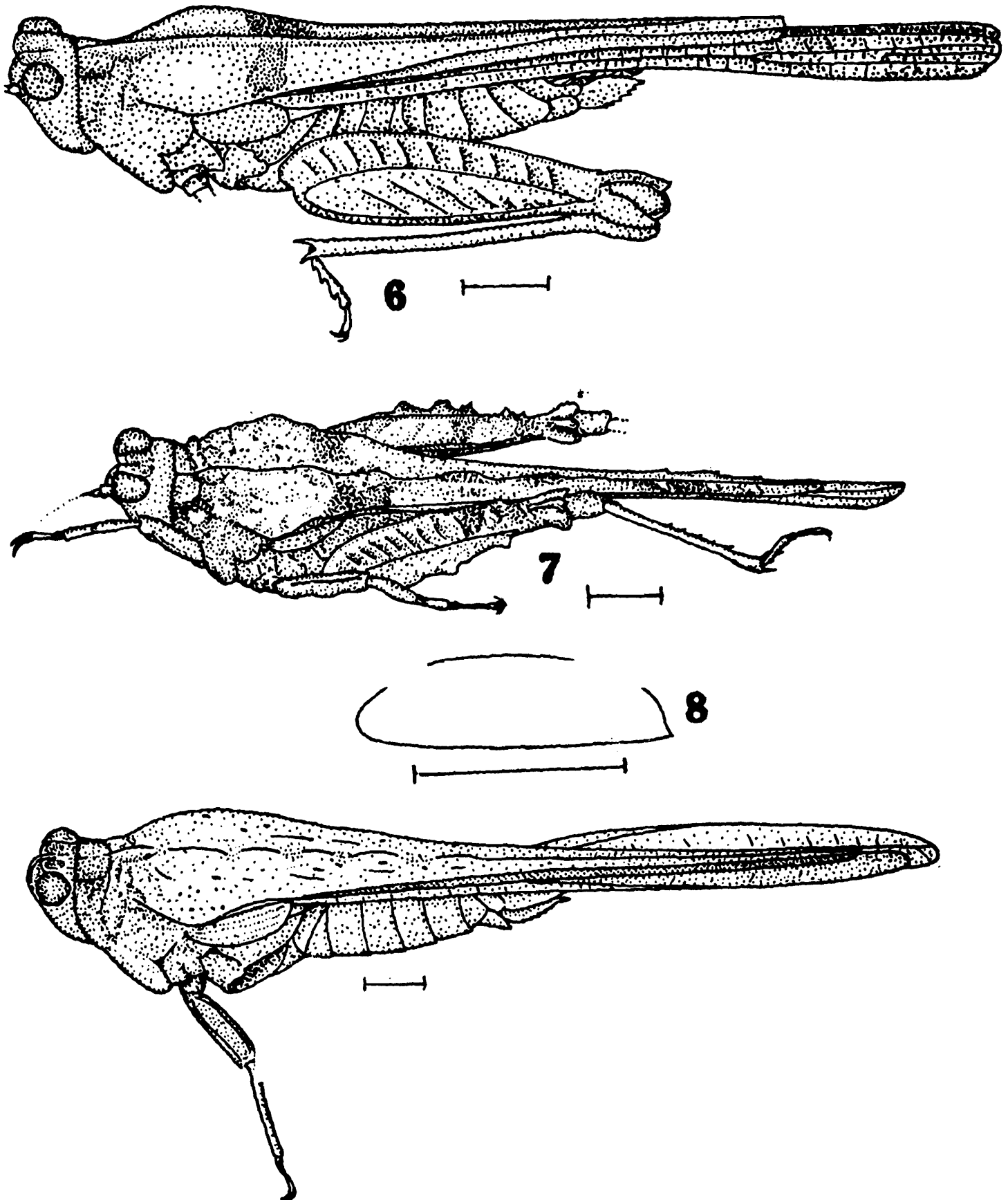


Fig. 6. Dorso-lateral view of *Paratettix cingalensis* (Walker); Fig. 7. Dorso-lateral view of *Ergatettix güntheri* Steinmann; Fig. 8. Tegmen of *Ergatettix güntheri* Steinmann; Fig. 9. Dorso-lateral view of *Coptotettix conspersus* Hancock.

- Pronotum without very distinct crest; median carina of pronotum indistinctly interrupted by the transverse grooves, not bidentate in the prozona; occiput without a pair of tubercles between the eyes; wings with dark band in the middle. *Acrotylus* Fieber

Genus *Aiolopus* Fieber, 1853

26. **Aiolopus thalassinus tamulus* (Fabricius)

1798. *Gryllus tamulus* Fabricius, *Ent. Sys.*, Suppl. : 195.

1968. *Aiolopus thalassinus tamulus* : Hollis, *Bull. Br. Mus. nat. Hist. (Ent.)*, 22 (7) : 347.

Material examined : 1♂, 3♀, Kachauri village, Jagdalpur, 11.xii.1978; 1♀ Kanker, 1.i.1979; 2♀, Bhanpuri, 16.xii.1980; 1♀, Tumnar, 27.xii.1980; 1♂, 1♀, Dhaudi, 2.i.1981.

Diagnosis : Fastigium with front angle more acute; foveolae narrowly trapezoid, about twice as long as wide; frontal ridge gradually narrowing and almost angular towards fastigial end, sparsely punctured; pronotum somewhat saddle-shaped, posterior margin rounded; posterior tibiae usually with red colouration in apical fourth and broadly separated from black band by a wide bluish grey band.

Measurements (in mm.) : Body length ♂ 17.5-18.5, ♀ 23-25.0; pronotum length ♂ 3-3.5, ♀ 4.6-5; tegmen length ♂ 15.5-18.5, ♀ 21.5-23.0; hind femur length ♂ 10.5-11, ♀ 11.5-13; hind tibia ♂ missing, ♀ 9.5-10.5.

Distribution : India (Andaman & Nicobar Islands, Bihar, Delhi, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu, West Bengal), Australia, Bangladesh, Borneo, Celebes, China, Hainan, Hong Kong, Japan, Java, Lombok, Malaya, Myanmar, New Guinea, Papua, Philippines, Singapore, Sri Lanka, Sumatra, Taiwan, Thailand and Timor.

Genus *Acrotylus* Fieber, 1853

27. **Acrotylus humbertianus* Saussure

1884. *Acrotylus humbertianus* Saussure, *Mem. Soc. Phys. Hist. nat. Geneva*, 28 (9) : 189.

1914. *Acrotylus humbertianus* : Kirby, *Fauna Brit. India*, Orthopt. : 153.

Material examined : 1♀, Dongaghat, Jagdalpur, 12.xii.1978; 1♂, 1 (nymph), 1♀, Geedam, 20.xii.1978; 3♂, 2♀, Perambada, Kondagaon, 28.xii.1978; 3♂, 2♀, Mankeshari, Kanker, 1.i.1979; 4♂, 5♀, Dumarpara, Kanker, 3.i.1979; 1♀, Gudiras, 22.xii.1980.

Measurements (in mm.) : Body length ♂ 14.5, ♀ 20-21.0; pronotum ♂ 2.0, ♀ 3.2; tegmen ♂ 14.0, ♀ 19.0; hind femur ♂ 8.5, ♀ 10.5; hind tibia ♂ 6.5, ♀ 8.5.

Diagnosis : Body pilose; antennae longer than head and pronotum together; the tip of vertex conical, concave, with a carina on each side; prozona with two fuscous fascia, lateral margin white below; tegmina with two oblique white spots or fascia; posterior intercalate space with a line of fuscous spots; wings hyaline, yellow at base; radial area with a semilunar fuscous fascia.

Distribution : India (Andhra Pradesh, Assam, Bihar, Delhi, Goa, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, West Bengal), Afghanistan, Bangladesh, Nepal, Pakistan and Sri Lanka.

Genus *Morphacris* Walker, 1870

28. **Morphacris fasciata sulcata* (Thunberg)

1815. *Gryllus fasciatus* Thunberg, *Mem. Acad. Sci. St.-Petersb.*, 5 : 230.

1929. *Morphacris fasciata sulcata* : Uvarov, *Revue suisse Zool.*, 36 : 546.

Material examined : 2♂, Dongaghat, Jagdalpur, 12.xii.1978; 1♂, 1♀, Way to Gollapalli, Konta, 16.xii.1978; 1♀, Farasgaon, 29.xii.1978; 4♂, 1♀, Pandripani, Kanker, 2.i.1979; 1♂, Chitrakut, 2.xi.1979, S. Ahmad coll.

Diagnosis : Antennae filiform, longer than head and pronotum together; pronotum tectiform, without lateral carinae; median carina of pronotum sharp and high; dorsum covered with parallel sharp longitudinal ridges; wings light yellow at base, and with dark transverse fascia.

Measurements (in mm.) : Body length ♂ 14.8-16.0, ♀ 22.5-23.5; pronotum ♂ 2.8-3.0, ♀ 4.5-5.0; tegmen ♂ 15-16.0, ♀ 21.5-22.8; hind femur ♂ 10-10.5, ♀ 13-13.5; hind tibia ♂ 8-8.5, ♀ 11-11.5.

Distribution : India (Andhra Pradesh, Bihar, Goa, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu), Africa, S. W. Asia and Sri Lanka.

Genus *Dittopternis* Saussure, 1884

29. **Dittopternis venusta* (Walker)

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

1914. *Dittopternis venusta* : Kirby, *Fauna Brit. India. Orthopt.*, : 140.

Material examined : 2♂, 1♀, Way to Gollapalli, on, 16.xii.1978; 2♂, 3♀, Geedam, 22,24.xii.1978; 1♂, Perambada, Kondagaon, 28.xii.1978; 4♀, Farasgaon, 29.xii.1978; Dumarpara, Kanker, 3.i.1979.

Diagnosis : Pronotum rugose, granulated and strongly carinated, cut by the principal sulcus before the middle, obtusely angulated behind; tegmina with the basal half brown and with a large yellow blotch; wings yellow at base, with a broad suffused blackish band behind; hind tibiae black at base, followed by a light yellow band, then blue.

Measurements (in mm.) : Body length ♂ 17.0, ♀ 22-23; pronotum ♂ 3.5-4, ♀ 5.0; tegmen ♂ 17-17.5, ♀ 21-23; hind femur ♂ 11.0, ♀ 13-14; hind tibia ♂ 8.5-10, ♀ 11-12.

Distribution : India (Karnataka, Madhya Pradesh, Meghalaya, Orissa, Tamil Nadu, West Bengal), Sri Lanka.

Genus *Gastrimargus* Saussure, 188430. **Gastrimargus africanus africanus* (Saussure)

1888. *Oedaleus (Gastrimargus) marmoratus* var. *africana* Saussure, *Mem. Soc. Phys. Hist. nat. Geneve*, **30** (1) : 39.

1982. *Gastrimargus africanus africanus* : Ritchie, *Bull. Br. Mus. nat. Hist. (Ent.)*, **44** (4) : 248.

Material examined : 2♂, 1♀, Dongaghat, Jagdalpur, 12.xii.1978; 1♂, 4♀, Way to Gollapalli, Konta, 16.xii.1978; 4♂, 4♀, Geedam, 22,24.xii.1978; 2♂, 2♀, Perambada, Kondagaon, 28.xii.1978; 3♂, Keskhal, 29.xii.1978; 1♂, 2♀, Mankeshari, Kanker, 1.i.1979; 2♂, Talkabad, 4.i.1979; 7♂, 2♀ Sukma, 19.xii.1980; 2♀, Nelasnar, 29.xii.1980; 4♂, 4♀, Sonpur, 1.i.1981.

Diagnosis : Pronotum tectiform with high sharp median carina; metazona of pronotum with X-marking usually effaced and without pale striae; tegmen surpassing hind knee by one-quarter to one-half of hind femur length, basal pale transverse band sometimes reduced or absent; wings with complete fascia, basal area usually bright yellow, apex variable infumate.

Measurements (in mm.) : Body length ♂22-24, ♀33-38; pronotum ♂5.5-6.0, ♀8.5-9.5; tegmen ♂24.0, ♀33-37.0; hind femur ♂13.5-15.0, ♀19-22.5; hind tibia ♂12-13, ♀17-20.

Distribution : India (Andhra Pradesh, Bihar, Delhi, Goa, Himachal Pradesh, Madhya Pradesh, Orissa, Sikkim, Uttar Pradesh, West Bengal), Nepal, Saudi Arabia, Sri Lanka, Thailand, Tibet and Yemen A. R.

Genus *Oedaleus* Fieber, 185331. **Oedaleus abruptus* (Thunberg)

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

1981. *Oedaleus abruptus* : Ritchie, *Bull. Br. Mus. nat. Hist. (Ent.)*, **42** (3) : 104-107.

Material examined : 3♂, 2♀, Kachauri village, Jagdalpur, 11.xii.1978; 1♂, Way to Gollapalli, Konta, 16.xii.1978; 10♂, 5♀, Geedam, 20,22,24.xii.1978; 2♂, 2♀, Bhairamgarh, 21.xii.1978; 3♂, 3♀, Bailadila, 23.xii.1978; 2♂, 2♀, Perambada, Kondagaon, 28.xii.1978; 6♂, 3♀, Farasgaon, 29.xii.1978; 2♀, Mankeshari, Kanker, 1.i.1979; 1♀, Narayanpur, 24.x.1979, S. Ahmad coll.; 1♂, Bhanpuri, 16.xii.1980; 1♂, Tirathgarh, 17.xii.1980; 1♂, 4♀, Sukma, 19.xii.1980; 1♂, Tongpal, 21.xii.1980; 1♂, Gudiras, 22.xii.1980; 2♂, Malyawada, 24.xii.1980; 1♀, Barsoor, 26.xii.1980; 1♀, Nelasnar, 29.xii.1980.

Diagnosis : Pronotum low tectiform, median carina low arcuate, not intersected by posterior sulcus; hind margin obtusely angular; pronotal X-marking always with anterior and posterior arms separate; hind tibiae with 13 inner and 12 outer spines, straw or red coloured with dark basal ring and thicker subbasal pale ring.

Measurements (in mm.) : Body length ♂14-14.5, ♀21.0; pronotum ♂3.0, ♀4.0; tegmen ♂14-14.5, ♀20-21; hind femur ♂10.0, ♀12.0; hind tibia ♂8.0, ♀10.0.

Distribution : India (Andhra Pradesh, Bihar, Goa, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal). Afghanistan, Bangladesh, China, Indo-China, Myanmar, Nepal, Pakistan, Sri Lanka and Thailand.

Genus *Trilophidia* Stål, 1873

32. **Trilophidia annulata* (Thunberg)

1815. *Gryllus annulatus* Thunberg, *Mem. Acad. Sci. St.-Petersb.*, 5 : 234.

1965. *Trilophidia annulata* : Hollis, *Trans. R. ent. Soc. Lond.*, 117 (8) : 251.

Material examined : 2♂, 1♀, Dharampur, Jagdalpur, 10.xii.1978; 1♂, 1♀, Sabri river bed, Konta, 15.xii.1978; 5♂, 9♀, Geedam, 20,22,24.xii.1978 and 25.xii.1980; 1♂, 2♀, Bailadila, 23.xii.1978; 1♂, 1♀, Narayanpur, 27.xii.1978; 1♂, 1♀, Benur, 27.xii.1978; 1♂, Perambada, Kondagaon, 28.xii.1978; 3♂, 4♀, Kanker, 1.i.1978; 1♀, Chitrakut, 14.xii.1980; 1♂, Bhanpuri, 16.xii.1980; 2♀, Tirathgarh, 17.xii.1980; 1♂, 2♀, Tongpal, 21.xii.1980; 1♂, Malyawada, 24.xii.1980; 3♀, Barsoor, 26.xii.1980; 2♂, 2♀, Dhaudi, 2.i.1981.

Diagnosis : Brown or grey with black markings, pubescent beneath; pronotum rugose, with a high median carina, forming two teeth in front, and with lateral carinae; tegmina grey, some times with two indistinct brown bands; hind tibiae with a pale band towards the base and with a slight pale band beyond the middle.

Measurements (in mm.) : Body length ♂ 12.3-13.5, ♀ 15-16; pronotum ♂ 3.0, ♀ 3.5-4; tegmen ♂ 13.0, ♀ 14.5-15.5; hind femur ♂ 7.0, ♀ 8-9; hind tibia ♂ 5.0, ♀ 6.0.

Distribution : India (Widely distributed), Bangladesh, Borneo, Japan, Java, Korea, Malaya, Mongolia, Myanmar, Pakistan, Philippines, Sarawak, Singapore, Sri Lanka, Sumatra, Taiwan and Thailand.

Subfamily ROMALEINAE

Genus *Teratodes* Brullé, 1835

33. **Teratodes monticollis* (Gray)

1832. *Gryllus monticollis* Gray, *Griffith's Anim. Kingd.*, 5 : 215.

1914. *Teratodes monticollis* : Kirby, *Fauna Brit. India*, Orthopt., : 235.

Material examined : 3 nymphs, Kachauri village, Jagdalpur, 11.xii.1978; 6 nymphs, Bodhghat, Jagdalpur, 13.xii.1978; 1 nymph, Geedam, 22.xii.1978; 8 nymphs, Kondagaon, 26,30.xii.1978; 2 nymphs, Farasgaon, 29.xii.1978; 3 nymphs, Kanker, 1,3,4.i.1979.

Diagnosis : Body stout; head broad, rounded, face vertical; antennae short and filiform; pronotum raised, large, sublaminately compressed, the front arched above the head in a point, the middle forming a high crest, denticulated, specially behind, and covering half the length of abdomen; legs short, tegmina opaque.

All the specimens are in nymphal stage and are collected from the out skirt of forest. It appears that these nymphs were hatched either in the first week of December or the last week of November.

Measurements (in mm.) : Body length 38.0; pronotum length 20.0; tegman 8.0; hind femur 14.0; hind tibia 11.0.

Distribution : India (Andhra Pradesh, Madhya Pradesh and Maharashtra). It is also studied somewhere else from Bihar.

Subfamily HEMIACRIDINAE

Key to genera

1. Prosternal process conical; fastigium of vertex elongate, projecting far in front of eyes; pronotum not distinctly tricarinate. *Gesonula* Uvarov
- Prosternal tubercle or process spatulate; fastigium of vertex not much produced before the eyes, parabolic or obtusely angular; pronotum distinctly tricarinate. . *Spathosternum* Krauss

Genus *Gesonula* Uvarov, 1940

34. **Gesonula punctifrons* (Stål)

1860. *Acridium (Oxya) punctifrons* Stål, Kong. Sven. Fragattan Eug. Resa Omkring Jorden, 3 : 336.

1963. *Gesonula punctifrons* : Mishchenko, *Locusts and grasshoppers of U.S.S.R. and adjacent countries*, Catantopinae, Leningrad : 172.

Material examined : 1 ♀, Bhairamgarh, 21.xii.1978; 1 ♂, Sonpur, 1.i.1981; 1 ♀, Dhaudi, 2.i.1981.

Diagnosis : Eyes large; antennae longer than head and pronotum together; pronotum long, narrow and rugose; supra-anal plate spoon-shaped, wide basally, with wide longitudinal median groove; apical part of hind tibiae modified for swimming.

It is generally found adjacent to paddy fields, ponds etc. and damage water-hyacinth in India.

Measurements (in mm.) : Body length ♂ 19.0, ♀ 19.0; pronotum ♂ 4.0, ♀ 4.0; tegmen ♂ 18.5, ♀ 20.0; hind femur ♂ 10.5, ♀ 11.5; hind tibia ♂ 8.5, ♀ 9.0.

Distribution : India (Arunachal Pradesh, Assam, Delhi, Goa, Kerala, Maharashtra, Manipur, Meghalaya, Punjab, Tamil Nadu, West Bengal), Bangladesh, Borneo, China, Japan, Java, Malacca, Myanmar, Philippines, Sri Lanka, Taiwan, Thailand and Tonking.

Genus *Spathosternum* Krauss, 1877

35. *Spathosternum prasiniferum prasiniferum* (Walker)

1871. *Heteracris prasinifera* Walker, *Cat. Derm. Salt. Brit. Mus.*, 5 Suppl. : 65.

1936. *Spathosternum prasiniferum prasiniferum* : Tinkham, *Lingnan. Sci. Journ.*, Canton, 15 : 51.

Material examined : 2♂, 1♀, kachauri village, Jagdalpur, 11.xii.1978; 3♂, 6♀, Konta, 15.xii.1978; 5♂, 5♀, Geedam, 20,22.xii.1978; 2♂, 2♀, Bhairamgarh, 21.xii.1978; 2♂, 1♀, Bailadila, 23.xii.1978; 3♂, 3♀, Narayanpur, 27.xii.1978; 5♂, 4♀, Perambada, Kondagaon, 28.xii.1978; 4♂, 4♀, Farasgaon, 29.xii.1978; 4♂, 4♀, Mankeshari, Kanker, 1.i.1979; 1♀, Dharampur, 18.x.1979, S. Ahmed coll.; 1♀, Bhanpuri, 16.xii.1980; 1♀, Tirathgarh, 17.xii.1980; 1♀, Sukma, 19.xii.1980; 3♂, 5♀, Tongpal, 21.xii.1980; 2♂, Gudiras, 22.xii.1980, 3♂, 1♀, Barsoor, 26.xii.1980; 1♂, Tumnar, 27.xii.1980; 1♀, Nelasnar, 29.xii.1980; 1♂, Sonpur, 1.i.1981; 1♂, 4♀, Dhaudi, 2.i.1981.

Diagnosis : Broad blackish or dark-green stripe runs behind the lower part of the eyes and below the lateral carinae of the pronotum; central area of tegmen with a longitudinal black streak which is well marked in female and almost obsolete in male; tegmina and wings well developed.

Measurements (in mm.) : Body length ♂13.0, ♀18.0; pronotum ♂3.0, ♀4.0; tegmen ♂12.0, ♀14.0; hind femur ♂7.5-8, ♀10.0; hind tibia ♂6-6.5, ♀8.0.

Distribution : India (Widely distributed), Bangladesh, China, Indo-China, Myanmar, Sri Lanka, Thailand and Vietnam.

Subfamily OXYINAE

Genus *Oxya* Serville, 1831

Key to species (Male)

1. Supra-anal plate with a tubercle on each side of a median apical process.2
- Supra-anal plate without lateral tubercle. *nitidula* (Walker)
2. Cercus laterally compressed, hardly narrowing towards apex, weakly bifurcate at apex.
- *fuscovittata* (Marschall)
- Cercus conical, narrowing towards apex and obtuse or truncate apically. *hyla* Serville

Key to species (Female)

1. Anterior margin of tegmen with a dense row of short bristles extending from costal bulge to apex; ovipositor valves with long teeth, the apical one curved.2
- Anterior margin of tegmen weakly or not at all spined; valves of ovipositor with short teeth.
- *nitidula* (Walker)
2. Ventral surface of subgenital plate almost completely flat or weakly concave, appearing widen posteriorly.
- *fuscovittata* (Marschall)
- Ventral surface of subgenital plate flat or concave only in median posterior half, not widening posteriorly.
- *hyla* Serville

36. *Oxya hyla hyla* Serville

1831. *Oxya hyla* Serville, *Ann. Sci. nat. (Zool.)*, **22** : 287.

1971. *Oxya hyla hyla* : Hollis, *Bull. Br. Mus. nat. Hist. (Ent.)*, **26** (7) : 282.

Material examined : 1♂, 2♀, Kachauri village, Jagdalpur, 11.xii.1978; 6♂, 6♀, Geedam, 20,22.xii.1978 and 25.xii.1980; 1♂, Bhairamgarh, 21.xii.1978; 9♂, 9♀, Benur, 27.xii.1978; 5♂, Perambada, Kondagaon, 28.xii.1978; 1♂, Farasgaon, 29.xii.1978; 2♂, 2♀, Mankeshari, Kanker, 1.i.1979; 1♂, Chitrakut, 14.xii.1980; 1♂, 1♀, Tirathgarh, 17.xii.1980; 2♂, 1♀, Gudiras, 22.xii.1980; 2♂, 1♀, Tumnar, 27.xii.1980.

Diagnosis : Body finely rugose; supr-anal plate trapezoidal with triangular apical projection and a tubercle on each side of a median apical process; cercus with aubacuate apex; inner pair of lophi usually well-developed; subgenital plate of female with two longitudinal ridges extending forwards from posterior margin.

Measurements (in mm.) : Body length ♂17.0, ♀21-22; pronotum ♂4.0, ♀5.0; tegmen ♂16.0, ♀19-21; hind femur ♂10.0, ♀12-13; hind tibia ♂8.1, ♀10-11.

Distribution : India (Arunachal Pradesh, Assam, Goa, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Afghanistan, Africa, Bangladesh, Iran, Madagascar, Maldiv Island, Nepal, Pakistan.

37. **Oxya fuscovittata* (Marschall)

1836. *Gryllus fuscovittatus* Marschall, *Ann. Wien. Mus. Vienna*, **1** (2) : 211.

1971. *Oxya fuscovittata* : Hollis, *Bull. Br. Mus. nat. Hist. (Ent.)*, **26** (7) : 289.

Material examined : 1♂, Tirathgarh, 17.xii.1980; 2♂, Perambada, Kondagaon, 28.xii.1978.

Diagnosis : Integument finely pitted and shiny; cercus of male compressed and weakly bifurcate at apex; ventral surface of subgenital plate of female almost completely flat or weakly concave.

Measurements (in mm.) : Body length ♂ 18.5-21; pronotum length 4.0; tegmen length 15-18; hind femur length 12.0; hind tibia length 10.0.

Distribution : India (Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Goa, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Rajasthan, Uttar Pradesh, West Bengal), Afghanistan, Bangladesh, Pakistan and U.S.S.R. (South West).

Remarks : This species is associated with paddy and grasses adjoining cultivated fields.

38. **Oxya nitidula* (Walker)

1870. *Acridium nitidula* Walker, *Cat. Derm. Salt. Brit. Mus.*, **4** : 631.

1971. *Oxya nitidula* : Hollis, *Bull. Br. Mus. nat. Hist. (Ent.)*, **26** (7) : 315.

Material examined : 1 ♀, Kachauri village, Jagdalpur, 11.xii.1978; 1 ♀, Bhairamgarh, 21.xii.1978; 1 ♂, Haram, Geedam, 22.xii.1978; 1 ♂, 1 ♀, Bandapara, Kondagaon, 30.xii.1978; 1 ♂, 2 ♀, Pandripani, Kanker, 2.i.1979.

Measurements (in mm.) : Body length ♂ 17.5-18.3, ♀ 23-25; pronotum ♂ 4-4.5, ♀ 6.0; tegmen ♂ 13-14, ♀ 21-22; hind femur ♂ 10.0, ♀ 14-15; hind tibia ♂ 8.0, ♀ 11-12.0.

Diagnosis : Supra-anal plate roundly triangular; cercus conical, with acutely truncate apex; outer lophi relatively straight, inner lophi small and slender; ventral surface of subgenital plate of female, with a subapical tooth on each side of a median apical spine.

Distribution : India (Andhra Pradesh, Goa, Karnataka, Orissa, Rajasthan, Tamil Nadu, West Bengal) and Sri Lanka.

Subfamily COPTACRIDINAE

Key to genera

1. Frontal costa parallel-sided, not wider between antennae than vertex. *Coptacra* Stål
- Frontal costa distinctly widened between antennae and wider than vertex between eyes.
..... *Eucoptacra* Bolivar

Genus *Coptacra* Stål, 1873

39. **Coptacra punctaria* (Walker)

1870. *Acridium punctarium* Walker, Cat. Derm. Salt. Brit. Mus., 4 : 630.

1929. *Coptacra punctaria* : Uvarov, Revue suisse Zool., 36 : 561.

Material examined : 1 ♀, Geedam, 22.xii.1978; 1 ♂, Perambada, Kondagaon, 28.xii.1978; 1 ♀, Farasgaon, 29.xii.1978.

Diagnosis : Head rugosely punctate; antennae brown at base, dark at apex, basal segments flattened; interocular space narrower than the width of eyes; fastigium of vertex extend beyond the eyes (.75mm.), bounded by lateral carinulae, fossulate in the middle, open in front and ampliate behind; eyes oblong in profile; frontal costa between antennae equal to interocular space, punctate, parallel-sided throughout, sulcate between and below the median ocellus; pronotum rugosely punctate with raised granulate and crassate, subtransverse in front and sharply angulate behind; median carina tectiform, raised, cut by all the sulci, the hind sulcus placed behind the middle; prosternal tubercle stumpy and obtusely pointed at apex; mesosternal lobes transverse and separated from each other by their equal size distance; mesosternal lobes also distinctly separated; tegmen equal or longer than abdomen, expanded at costal area, obliquely truncate at apex; hind femur with a distinct or indistinct black spot on the superio-external face, just before the middle; hind tibiae red.

Measurements (in mm.) : Body length 16.5-18; pronotum 4.5-5; tegmen 17-19; hind femur 12; hind tibia 9-10.

Distribution : India (S. India).

Remarks : Walker (1870) recorded this species from S. India. Since then it has not been further reported. After nearly more than hundred years the author is recording it now from Bastar.

Genus *Eucoptacra* Bolivar, 1902

40. *Eucoptacra saturata* (Walker)

1870. *Acridium saturatum* Walker, *Cat. Derm. Salt, Brit. Mus.*, 4 : 628.

1921. *Eucoptacra saturata* : Uvarov, *Ann. Mag. nat. Hist.*, (9) 7 : 503.

Material examined : 1♂, Kachauri village, Jagdalpur, 11.xii.1978. 2♂, 3♀, Geedam, 20,22.xii.1978; 4♀, Bailadila, 23.xii.1978; 5♂, 4♀, Kondagaon, 26.xii.1978; 3♂, 2♀, Farasgaon, 29.xii.1978; 3♀, Mankeshari, Kanker, 1.i.1979; 2♂, 1♀, Kutumswar, 17.xii.1980; 1♀, Gudiras, 22.xii.1980; 1♀, Nelasnar, 29.xii.1980; 1♀, Sonpur, 1.i.1981; 3♂, 2♀, Dhaudi, 2.i.1981.

Diagnosis : Ferruginous in colour; prosternal tubercle stout and slightly acute; hind femora black beneath, as long as the abdomen; hind tibiae red; tegmina with numerous small marks; hind wings hyaline or grey, tinged with blackish.

Measurements (in mm.) : Body length ♂15-15.5, ♀21-22; pronotum ♂3.5-4, ♀5; tegmen ♂16, ♀21-22; hind femur ♂10-11, ♀13; hind tibia ♂8-9, ♀11.0.

Distribution : India (S. India, Assam, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal).

Subfamily TROPIDOPOLINAE

Genus *Tristria* Stål, 1873

41. **Tristria* sp.

Material examined : 1 nymph, Geedam, 20.xii.1978.

Diagnosis : Fastigium of vertex parabolic; antennae filiform; prosternal tubercle curved backwards, almost square in cross section, strongly widened apically, with slightly concave apical surface.

Measurements (in mm.) : Body length 31.0; pronotum 6.0; tegmen 6.0; hind femur 14.5; hind tibia 11.0.

Distribution : C. Africa, China, Hong Kong, India, Java and Thailand.

Subfamily CYRTACANTHACRIDINAE

Key to genera

1. Prosternal tubercle strongly curved backward, touching or almost touching mesosternum, inflated in middle, with conical apex. *Cyrtacanthacris* (Walker)
- Prosternal tubercle straight or slightly incurved backward, far from reaching mesosternum, conical or compressed. 2
2. Tegmina with oblique venation in apical part; prosternal tubercle conical. *Pachyacris* Uvarov
- Tegmina with straight venation in apical part; prosternal tubercle almost cylindrical with rounded apex. *Patanga* Uvarov

Genus *Cyrtacanthacris* Walker, 187042. **Cyrtacanthacris tatarica* (Linnaeus)

1758. *Gryllus Locusta tataricus* Linnaeus, *Systema Naturae* (10th ed.). : 432.

1923. *Cyrtacanthacris tatarica* : Uvarov, *Bull. Ent. Res.*, 14 : 39.

Material examined : 1 ♂, 1 ♀, Kachauri village, Jagdalpur, 11.xii.1978; 2 ♂, Way to Gollapalli, Konda, 16.xii.1978; 1 ♂, Bhairamgarh, 21.xii.1978; 1 ♂, 2 ♀, Geedam, 22,24.xii.1978 and 25.xii.1980; 7 ♂, 8 ♀, Bailadila, 23.xii.1978; 1 ♂, Dumarpara, Kankar, 3.i.1979; 1 ♂, Narayanpur, 27.x.1979, S. Ahmad coll.

Diagnosis : Size large; pronotum on both sides above with a broad velvety blackish brown band; tegmina with dense and thick reticulation and transverse oblique fasciae or irregular spots; wings hyaline or sometimes yellowish at base; hind tibiae bluish or brown with yellow or brown spines, tips black.

Measurements (in mm.) : Body length ♂32.0, ♀40-42; pronotum ♂8.0, ♀11.0; tegmen ♂27-29, ♀38-39; hind femur ♂18.0, ♀24-25; hind tibia ♂16.0, ♀22-23.0.

Distribution : India (Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Africa (except N. Africa) and Sahara, Hainan, Madagascar, Philippines, Seychelles, Sri Lanka, Sumatra and Thailand.

Genus *Pachyacris* Uvarov, 192343. **Pachyacris vinosa* (Walker)

1870. *Acridium vinosum* Walker, *Cat. Derm. Salt, Brit. Mus.*, 3 : 588.

1923. *Pachyacris vinosa* : Uvarov, *Ann. Mag. nat. Hist.*, (9) 11 : 478.

Material examined : 1 ♂, Atapura, Narayanpur, 31.x.1979, S. Ahmad coll.

Diagnosis : No pale yellow mark behind the eyes and the lateral sides of the pronotum; antennae dark at base, reddish-brown beyond; tegmina with oblique venation in apical part; male cercus elongate, conical with acuminate apex.

Measurements (in mm.) : Body length 33.0; pronotum 9.0; tegmen 33.5; hind femur 20.0; hind tibia 17.0

Distribution : India (Assam, Bihar, Goa, Himachal Pradesh, Karnataka, Meghalaya, Mizoram, Orissa, Uttar Pradesh, West Bengal), China, Myanmar, Nepal, Thailand and Tongking.

Genus *Patanga* Uvarov, 1923

44. * *Patanga succincta* (Johansson)

1763. *Gryllus Locusta succinctus* Johansson, *Amoen. Acad.*, 4 : 398.

1923. *Patanga succincta* : Uvarov, *Ann. Mag. nat. Hist.*, (9) 12 : 364.

Material examined : 1 ♀, Dongaghat, Jagdalpur, 12.xii.1978; 1 ♀, Benur, 27.xii.1978.

Diagnosis : Tegmina with straight venation in apical part, transverse veins forming almost right angle with principal veins; wings base tinge with pink colour; male subgenital plate long, curved upwards, apex pointed.

Measurements (in mm.) : Body length 58-61; pronotum 12.0; tegmen 61-63; hind femur 34-35; hind tibia 30-31.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Delhi, Goa, Himachal Pradesh, Jammu & Kashmir, Laccadive Island, Maharashtra, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), S. Arabia, Borneo, China, Hainan, Japan, Java, Malaya, Myanmar, Philippines, Sri Lanka, Sumatra, Taiwan and Tonkin.

Remarks : In the past, this species was a major pest of many crops in swarming phase but now it is found in solitary phase or non-swarming phase and is less harmful. Adults and nymphs feed on a very great variety of plants.

Subfamily EYPREPOCNEMIDINAE

Key to genera

1. Posterior femur moderately long, produced beyond abdomen, neither inflated basally nor strongly narrowing on apical half; prosternal tubercle with rounded or inflated apex.....
..... *Eyprepocnemis* Fieber
- Posterior femur long, produced far beyond apex of abdomen, inflated basally and strongly narrowing at apical half; prosternal tubercle almost spatulate, with rounded, sometimes slightly inflated apex. *Tylotropidius* Stål

Genus *Eyprepocnemis* Fieber, 185345. **Eyprepocnemis alacris alacris* (Serville)

1839. *Acridum alacre* Serville, *Hist. nat. Ins. Orth.*, : 682.

1958. *Eyprepocnemis alacris alacris* : Dirsh, *Proc. R. Ent. Soc. Lond.*, (B) 27 (3-4) : 40.

Material examined : 1 ♂ (nymph), Geedam, 22.xii.1979; 1 ♀, Narayanpur, 27.xii.1978; 5 ♂, 2 ♀, Mankeshari, Kanker, 1.i.1979; 2 ♂, Pandripani, Kanker, 2.i.1979.

Diagnosis : Concavity of fastigium of vertex distinct, with a low apical carinula, separating it from frontal ridge; pronotum above with a characteristic narrow dark spot; lateral carinae converging forwards; hind tibiae bluish grey with two whitish ring at the base and reddish at apex; male cercus gradually narrowing towards apex, incurved and down curved.

Measurements (in mm.) Body length ♂ 22-22.5, ♀ 29.0; pronotum ♂ 4.0, ♀ 6.0; tegmen ♂ 18-22; ♀ 25.0; hind femur ♂ 13.0, ♀ 17.0; hind tibia ♂ 11.0, ♀ 15.0.

Distribution : India (Andhra Pradesh, Bihar, Delhi, Goa, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Tamil Nadu, West Bengal), Afghanistan, Bangladesh, E. Iran, Pakistan and Sri Lanka.

Genus *Tylotropidius* Stål, 187346. **Tylotropidius varicornis* (Walker)

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

1914. *Tylotropidius varicornis* : Kirby, *Fauna. Brit. India. Orth.* : 265.

Material examined : 1 ♂, 3 ♀, Geedam, 25.xii.1980.

Diagnosis : Pronotum brown with lateral carinae of pale colour; prosternal tubercle compressed, bituberculate at apex; hind femora thickened at the base, very slender towards the tip; hind tibiae and tarsi dull blue; supra-anal plate of male elongato-triangular and sulcated; cerci straight, slightly compressed and acuminate.

Measurements (in mm.) : Body length ♂ 29.0, ♀ 40.0; pronotum ♂ 5.0, ♀ 7.5; tegmen ♂ 26.0, ♀ 32.5; hind femur ♂ 20.0, ♀ 26.0; hind tibia ♂ 17.0, ♀ 22.0.

Distribution : India (Andhra Pradesh, Goa, Himachal Pradesh, Maharashtra, Meghalaya, Orissa, Rajasthan, Tamil Nadu, West Bengal), Myanmar and Sri Lanka.

Subfamily CATANTOPINAE

Key to genera

1. Pronotum subcylindrical, slightly narrowing forwards; prosternal tubercle thick, cylindrical or slightly antero-posteriorly compressed with rounded apex. *Catantops* Schaum

- Pronotum not subcylindrical; prosternal tubercle not cylindrical and never with rounded apex...
.....2
- 2. Pronotum constricted in the middle; prosternal tubercle conical.
..... *Xenocatantops* Dirsh & Uvarov
- Pronotal disc not constricted; prosternal tubercle laterally compressed.
..... *Stenocatantops* Dirsh & Uvarov

Genus *Catantops* Schaum, 1853

Key to species

- 1. Male cercus simple, with rounded apex. *pulchellus* (Walker)
- Male cercus with widened, slightly hammer-shaped apex. *pinguis innotabilis* (Walker)

47. **Catantops pinguis innotabilis* (Walker)

1870. *Acridium innotabile* Walker, *Cat. Derm. Salt. Br. Mus.*, 4 : 629.

1953. *Catantops pinguis innotabilis* : Dirsh & Uvarov, *Tijdschr. Ent.*, 96(3) : 233.

Material examined : 1 ♂, Tirathgarh, 17.xii.1980; 1 ♂, Sukma, 18.xii.1980; 1 ♀, Nelasnar, 29.xii.1980.

Diagnosis : Lateral lobe of pronotum without coloured pattern; external disc of hind femur without the black median spot below the upper carinula; male cercus more upcurved, with more broadened apex and more projecting upper apical angle.

Measurements (in mm.) : Body length ♂23-24, ♀33-35; pronotum ♂5.0, ♀7-7.5; tegmen ♂21-22, ♀30.0; hind femur ♂12.5, ♀18-19; hind tibia ♂10-10.2, ♀15-16.0.

Distribution : India (Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Goa and Laccadive Islands, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Meghalaya, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Afghanistan, Bangladesh, Borneo, China, Hong Kong, Indo-China, Japan, Java, Kambodia, Korea, Malaya, Maldive Islands, Myanmar, Nepal, New Guinea, Pakistan, Philippines, Sumatra, Thailand, Tibet and Yunnan.

Remarks : It is common in the plains of India and damage millet, cotton, maize, rice, tea, teak etc.

48. **Catantops pulchellus* (Walker)

1870 *Cyrtacanthacris pulchella* Walker, *Cat. Derm. Salt. Br. Mus.*, 3 : 574.

1943 *Catantops pulchellus* : Uvarov, *Ann. Mag. nat. Hist.*, (11) 10 (62) : 127.

Material examined : 2 ♀, Chingrigarh, Narayanpur, 25.x.1979. S. Ahmad coll.

Diagnosis : Prosternal tubercle subcylindrical, inclined backwards, with rounded and slightly broadened apex; external disc of hind femur buff with two longitudinal black stripes below the upper carinula, one in the middle, and another on the apical third.

Measurements (in mm.) : Body length ♀ 23.0; pronotum length 5.0; tegmen length 20.0; hind femur 12.0; hind tibia 10.0.

Distribution : India (Andaman Islands, Karnataka, Manipur, Sikkim), Bangladesh and Pakistan.

Genus *Xenocatantops* Dirsh & Uvarov, 1953

Key to species

1. Male cercus showing no clear apical bifurcation, but apically bilaterally compressed and slightly upcurved. *humilis humilis* (Serville)
- Male cercus clearly bifurcate apically..... *karnyi* (Kirby)

49. **Xenocatantops humilis humilis* (Serville)

1839. *Acridium humile* Serville, *Ins. Orth.*, : 662.

1953. *Xenocatantops humilis humilis* : Dirsh & Uvarov, *Tijdschr. Ent.*, **96** : 237.

Material examined : 2♂, 1♀, Tirathgarh, 17.xii.1980.

Diagnosis : Pronotal and thoracic markings much lighter with proportionately broader light oblique band on episternum III. Ratio of length to depth of hind femur never less than 3.45. Dark markings of outer side of hind femur resemble with that of *Xenocatantops brachycerus*. Male cercus with rounded apex.

Measurements (in mm.) : Body length ♂20-21, ♀27.0; pronotum ♂4.5-5, ♀7.0; tegmen ♂18-19, ♀23.5; hind femur ♂12.0, ♀16.0; hind tibia ♂10.0, ♀13.0.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Tamil Nadu, Uttar Pradesh, West Bengal), Bangladesh, Borneo, Indo-China, Java, Lombok, Malaya, Myanmar, New Guinea, Philippines, Sri Lanka, Sumatra, Thailand, S. Tibet, Vietnam and Yunnan.

50. **Xenocatantops karnyi* (Kirby)

1910. *Catantops karnyi* Kirby, *Syn. Cat. Orthopt.*, **3** : 483.

1982. *Xenocatantops karnyi* : Jago, *Trans. Am. ent. Soc.*, **108** (3) : 455.

Material examined : 1♀, Haram, Geedam, 22.xii.1978; 1♀, Bailadila, 23.xii.1978; 1♀, Kondagaon, 26.xii.1978; 1♂, Farasgaon, 29.xii.1978; 2♂, 1♀, Dhaudi, 2.i.1981.

Diagnosis : Apical bifurcation of cercus bluntly pointed and subequal. This species closely resembles with *X. zernyi* (African species) though lateral pattern of head and thorax differ from the latter. Epiphallus distinctive with lophi almost square in plane view.

Measurements (in mm.) : Body length ♂15.5, ♀20-21.5; pronotum ♂4.0, ♀4.5-5; tegmen ♀13-15, ♀17-18; hind femur ♂9-9.5, ♀12-12.5; hind tibia ♂7.0, ♀10-10.5.

Distribution : India (Andhra Pradesh, Delhi, Himachal Pradesh, Tamil Nadu and Uttar Pradesh).

Genus *Stenocatantops* Dirsh & Uvarov, 1953

51. **Stenocatantops splendens* (Thunberg)

1815 *Gryllus splendens* Thunberg, *Mem. Acad. Sci. St.-Petersb.*, 5 : 236.

1953 *Stenocatantops splendens* : Dirsh & Uvarov, *Tijdschr. Ent.*, 96 (3) : 237.

Material examined : 1♂, 2♀, Kachauri village, Jagdalpur, 11.xii.1978; 2♂, 1♀, Geedam, 20,24.xii.1978; 1♀, Bhairamgarh, 21.xii.1978; 4♀, Chingrigarh, Narayanpur, 31.x.1979. S. Ahmad coll.; 2♂, 1♀, near Kutumswar cave, 17.xii.1980; 6♂, 1♀, Sonpur, 1.i.1981.

Diagnosis : Colour brown or brownish testaceous; body elongated; middle joints of antennae about twice or three times as long as broad; prosternal tubercle strongly curved and inclined backwards in profile.

Measurements (in mm.) : Body length ♂30.5-33, ♀37-38; pronotum ♂6-7, ♀8-9; tegmen ♂28-29, ♀35.0; hind femur ♂14.5-17, ♀19-20; hind tibia ♂12-14, ♀16-17.0.

Distribution : India (Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Madhya Pradesh, Meghalaya, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal), Borneo, Celebes, China, Hainan, Java, Korea, Malaya, Moluccas Island, Myanmar, Philippines, Sri Lanka, Sumatra and Thailand.

Remarks : It is found in open places on the outskirts of forest, grassland or fallow fields of crops, on road side vegetation and in gardens. This species is a minor pest.

Superfamily GRYLLOIDEA

The superfamily is characterized by long, slender antennae with numerous segments, by a large ovipositor, usually extending far beyond the abdominal extremity, by the auditory organs placed in the anterior tibiae, by a large part of the male tegmen transformed into a stridulatory organ, and by 3-segmented tarsi.

Key to families

1. Anterior legs short, presenting a special conformation for digging. GRYLLOTALPIDAE
- Anterior legs normally formed. 2
2. Second segment of tarsi compressed, minute. 3

- Second segment of tarsi depressed. TRIGONIDIIDAE
- 3. Posterior tibiae without denticles between the spines. GRYLLIDAE
- Posterior tibiae serrulated at base and between the spines. 4
- 4. Head lengthened, horizontal; slender insects with feebly swollen posterior femora; tegmina transparent. OECANTHIDAE
- Head short, vertical, more robust insects with usually long legs but posterior femora strongly swollen at base; tegmina, when present, coloured. PHALANGOPSIDAE

Family GRYLLOTALPIDAE

Genus *Gryllotalpa* Latreille, 1802

52. **Gryllotalpa africana* Beauvois

1905. *Gryllotalpa africana* Beauvois, *Ins. Afr. Amer.*, : 229.

1967. *Gryllotalpa africana* : Chopard, *Orthopt. Cat.*, Part 12 : 449.

Material examined : 1♂, Kutru, 1.ii.1990, R.K. Ghosh coll.

Diagnosis : Colour light brown; shape stout; mirror of male wider; anterior tibiae armed with four dactyls and pseudepiphallus is narrowly cordiform and the hooks rather short, acute.

It is reported to damage the crops.

Measurements (in mm.) : Body length 24-25; pronotum 8.0; tegmen 10.0; hind femur 7.0; hind tibia 4.5.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Meghalaya, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal), Africa, Australia, Bhutan, Iran, Madagascar, Malaya, Myanmar, Nepal, Pakistan, Singapore, S.Spain and Sri Lanka.

Family GRYLLIDAE

Key to subfamilies

- 1. Spines of the posterior tibiae immovable, without hairs. GRYLLINAE
- Spines of posterior tibiae movable, pubescent. NEMOBIINE

Subfamily GRYLLINAE

Key to genera

- 1. Posterior femora long, usually as long as tibia and tarsus together; ocelli disposed in a straight line; body almost glabrous. *Gymnogryllus* Saussure

- Posterior femora no longer than tibia and metatarsus together; body usually more or less pubescent. 2
- 2. Head with narrow frontal rostrum. *Grylloides* Saussure
- Head with wide frontal rostrum. 3
- 3. Head with a transverse yellow band between the ocelli; epiphallus deeply emarginate posteriorly forming H-shaped structure. *Modicogryllus* Chopard
- Head without a transverse yellow band between the ocelli; epiphallus of different structure. 4
- 4. Anterior projections of the ectoparamere approximately equal. *Gryllus* Linnaeus
- Internal anterior projection of the ectoparamere much longer than the external anterior projection. 5
- 5. Posterior femora short and thick; mesal lobes with their apices between the bases of the ectoparameres; endoparameres J-shaped. *Plebeiogryllus* Chopard
- Posterior femora normal; mesal lobes with their apices between the apices of the ectoparameres; endoparameres C-shaped. *Teleogryllus* Chopard

Genus *Gymnogryllus* Saussure, 1877

1877. *Gymnogryllus* Saussure, *Mem. Soc. Geneva.*, 25 : 123.

1969. *Gymnogryllus* : Chopard, *Fauna of India*, Orthopt., 2 Grylloidea : 20-21.

53. **Gymnogryllus* sp.

Material examined : 1 ♀, Dharampur, Kanker, 10.x.1979, S. Ahmad coll.

Diagnosis : This species is nearer to *G. minor*, but differs from it in ovipositor, being smaller in size, and in colour of cerci which is yellow at base and black at apex. It also resembles with *G. fascipes* in genitalia.

Measurements (in mm.) : Body length 13.0; head length 2.0; head width 4.0; pronotum length 2.0, pronotum width 4.0; tegmen 8.0; hind femur length 7.0; hind tibia 4.5; body length with wings 22.0; ovipositor length 4.0.

Distribution : The genus is distributed in Tropical Asia, Africa south of the Sahara.

Genus *Gryllus* Linnaeus. 1758

54. **Gryllus bimaculatus* De Geer

1773. *Gryllus bimaculatus* De Geer, *Mem. Ins.*, 3 : 531.

1936. *Gryllus bimaculatus* : Chopard, *Ceylon J. Sci. (B)* 20 : 22.

Material examined : 1 ♂, 1 ♀, Narayanpur, 1.i.1981.

Diagnosis : Body and legs almost glabrous; body typically black with a yellow spot at base of each tegmen. It is known to damage potato plants.

Measurements (in mm.) : Body length 21-30; pronotum 4-4.5; hind femur 12-14.5; tegmen 13-20; ovipositor 18.0.

Distribution : India (Andaman Islands, Andhra Pradesh, Arunachal Pradesh, Bihar, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Africa, Malaya, Mediterranean region, Myanmar, Pakistan, Singapore and Sri Lanka.

Genus *Teleogryllus* Chopard, 1961

55. **Teleogryllus occipitalis* (Serville)

1838. *Gryllus occipitalis* Serville, *Handb. Ent.*, : 339.

1980. *Teleogryllus occipitalis* : Townsend, *J. nat. Hist.*, 14 : 154.

Material examined : 1 ♂, Narayanpur, 1.i.1981.

Diagnosis : Head with a yellow band along the internal margin of eyes; mirror broader than long, divided in the middle by a curved vein, 4 oblique veins; genitalia with large superior part, sinuated sides, and feebly acute at apex.

Measurements (in mm.) : Body length 20.0; pronotum 3.5; tegmen 14.0; hind femur 12.5.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Karnataka, Madhya Pradesh, Manipur, Meghalaya, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Bhutan, Japan, Laccadive Archipelagoes, Maldives, Sri Lanka, Philippines and Tibet.

Genus *Plebeiogryllus* Randell, 1954

56. *Plebeiogryllus guttiventris* (Walker)

1871. *Gryllus guttiventris* Walker, *Cat. Derm. Salt. Brit. Mus.*, Suppl. : 6.

1964. *Plebeiogryllus guttiventris* : Randell, *Can. Ent.*, 96(12) : 1598.

Material examined : 2 ♂, 1 ♀, Jagdalpur, 10.xii.1978; 1 ♂, Konta, 16.xii.1978; 2 ♂, 1 ♀, Geedam, 20,24.xii.1978; 1 ♀, Benur, 27.xii.1978; 1 ♂, Perambada, Kondagaon, 28.xii.1978; 1 ♂, 2 ♀, Kanker, 2.i.1979; 1 ♀, Barsoor, 25.xii.1980; 1 ♀, Kutru, 2.ii.1990, R. K. Ghosh coll.

Distribution : India (Bihar, Delhi, Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Orissa, Pondicherry, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Myanmar and Sri Lanka.

Genus *Modicogryllus* Chopard, 196157. **Modicogryllus confirmatus* (Walker)

1859. *Acheta confirmata* Walker, *Ann. Mag. nat. Hist.*, (3) 4 : 221.

1964. *Modicogryllus confirmatus* : Randell, *Can. Ent.*, 96(12) : 1584.

Material examined : 1 ♂, Konta, 16.xii.1978 (at light); 1 ♂, Geedam, 27.xii.1980 (at light); 1 ♂, Pandripani, Kanker, 2.i.1979.

Diagnosis : Head brown with narrow yellow band connecting the lateral ocelli; occiput with 6 short yellowish lines; mirror longer than wide, divided by a curved vein; 2 oblique veins; lateral field transparent, two anterior veins strongly curved and separated from other posterior veins.

Measurements (in mm.) : Body length 10.5-11; tegmen 6.5-7.5; hind femur 7.5-8.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Delhi, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Bangladesh, Indo-China, Israel, Malaya, Myanmar, Nepal, Sri Lanka and Thailand.

Genus *Grylloides* Saussure, 187458. **Grylloides sigillatus* (Walker)

1869. *Gryllus sigillatus* Walker, *Cat. Derm. Salt. Brit. Mus.*, 1 : 46.

1877. *Grylloides sigillatus* : Saussure, *Mem. Soc. Phys. Geneva*, 25 : 216.

1969. *Grylloides sigillatus* : Chopard, *Fauna of India*, Orthopt., 2 Grylloidea : 85.

Material examined : 1 ♀, Govindpur, Kanker, 21.x.1979, S. Ahmed coll.

Diagnosis : Head small, a little flattened; frontal rostrum much narrower; tegmina of female very short and widely separated; wings absent.

Measurements (in mm.) : Body length 17.5; tegmen 1.5; ovipositor 12.5.

Distribution : This species occurs in all tropical countries. In India it is reported from Andaman Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.

Subfamily NEMOBIINAE

Key to genera

1. Tegmina of male provided with a distinct mirror; legs normal.
..... *Pteronemobius* Jac. & Bian.

- Tegminal venation similar in both sexes; legs very long. *Paranemobius* Saussure

Genus *Pteronemobius* Jacobson & Bianchi, 1905

Key to species

1. Posterior femora adorned with blackish bands. 2
 - Posterior femora unicolorous. 3
2. Maxillary palpi very dark at base, with 4th and 5th joints nearly white; lateral lobes of pronotum blackish. *fascipes* (Walker)
 - Maxillary palpi testaceous, a little darkened at apex; lateral lobes of pronotum for the most part rufotestaceous. *csikii* (Bolivar)
3. Lateral lobes of pronotum and lateral field of tegmina blackish, contrasting with the upper part which is testaceous. *taprobanensis* (Walker)
 - Lateral lobes of pronotum and lateral field of tegmina of the same colour as the upper part. 4
4. Posterior tibiae with 3 spines on each margin in the female sex. *rufipes* Chopard
 - Posterior tibiae with 4 spines on each margin. *concolor* (Walker)

59. *Pteronemobius taprobanensis* (Walker)

1869. *Trigonidium taprobanensis* Walker, *Cat. Derm. Salt. Brit. Mus.*, 1 : 102.

1925. *Pteronemobius taprobanensis* : Chopard, *Ann. Mag. nat. Hist.*, (9) 15 : 507.

Material examined : 2♂, 2♀, Konta, 17.xii.1978; 1♂, Mankeshari, Kanker, 1.i.1979; 6♂, 7♀, Geedam, 24,27,29.xii.1980; 3♀, Kutru, 1.ii.1990, R.K. Ghosh coll.

Diagnosis : Colour greyish testaceous above, dark brown on the sides of the pronotum and the lateral field of the tegmina; tegmina extending to the apex of abdomen, spotted with brown above; posterior tibiae provided with 3 external and 4 internal spines in male, 3 on each margin in female.

Measurements (in mm.) : Body length 5-5.4; pronotum length 1.2; tegmen 3-3.5; hind femur 3.9; ovipositor 2.5-3.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), China, Malaya, Malacca, Myanmar, Sri Lanka and Vietnam.

60. *Pteronemobius fascipes* (Walker)

1869. *Eneoptera fascipes* Walker, *Cat. Derm. Salt. Brit. Mus.*, 1 : 67.

1931. *Pteronemobius fascipes* : Chopard, Bull. Raffles Mus., No. 6 : 134.

Material examined : 1 ♂, 1 ♀, Jagdalpur, 10.xii.1978 (at light); 6 ♂, 9 ♀, Konta, 15,16,17.xii.1978 (at light); 2 ♂, 1 ♀, Sabri River bed, Konta, 15.xii.1978; 3 ♂, 1 ♀, Geedam, 24,27,29.xii.1980; 1 ♂, 1 ♀, Kutru, 2.ii.1990. R.K. Ghosh coll.

Diagnosis : Head blackish with four pale lines on the occiput; palpi blackish at base, with 4th and 5th joints white; pronotum brownish above; posterior tibiae with 3 external and 4 internal spines in male.

Measurements (in mm.) : Body length 5.0; tegmen 3.5; hind femur 3-3.5; ovipositor 2.5.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Delhi, Goa, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), China, Malaya, Myanmar, Philippines, Sri Lanka and Taiwan.

61. **Pteronemobius csikii* (Bolivar)

1901. *Nemobius csikii* Bolivar, Zichy zool. Ergebn., 2 : 243.

1925. *Pteronemobius csikii* : Chopard, Ann. Mag. nat. Hist. (9) 15 : 507.

Material examined : 2 ♂; 1 ♀, Dongaghat, Jagdalpur, 12.xii.1978; 3 ♂, 1 ♀, Bandapara, Kondagaon, 30.xii.1978.

Diagnosis : Lateral lobes of pronotum dark brown in colour; 4th and 5th joints of maxillary palpi testaceous.

Measurements (in mm.) : Body length 6.5; tegmen 3.1; hind femur 4.5; ovipositor 4.0.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Haryana, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh), Bhutan, China, Myanmar, Siberia and Sri Lanka.

62. **Pteronemobius concolor* (Walker)

1871. *Eneoptera concolor* Walker, Cat. Derm. Salt. Brit. Mus., 5 Suppl. : 10.

1931. *Pteronemobius concolor* : Chopard, Bull. Raffles Mus., No. 6 : 134.

Material examined : 1 ♂, Geedam, 22.xii.1978, 1 ♂, 2 ♀, Malayawada, 24.xii.1978; 2 ♀, Kanker, 2.i.1979.

Diagnosis : General shape more elongated; last two joints of maxillary palpi concolorous; lateral lobes of pronotum and lateral field of tegmina of the same colour as the upper part; tegmina and wings well developed; ovipositor short and gently curved.

Measurements (in mm.) : Body length 6-7; tegmen 3.5-4; hind femur 4-4.5; hind tibia 3.4-4; ovipositor 2.5-2.7.

Distribution : India (Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Goa, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Afghanistan, Malaya, Myanmar, Sri Lanka and Turkistan.

63. **Pteronemobius rufipes* Chopard

1969. *Pteronemobius rufipes* Chopard. *Fauna of India*, Orthopt., 2 Grylloidea : 163.

Material examined : 1 ♂, Mankeshari, Kanker, 1.i.1979.

Diagnosis : Body blackish-brown with light rufous legs; head blackish; 4th and 5th joints of maxillary palpi white; abdomen blackish; wings absent.

Measurements (in mm.) : Body length 5.0; tegmen 3.2; hind femur 3.5; hind tibia 2.8.

Distribution : India (Assam and West Bengal).

Genus *Paranemobius* Saussure, 1877

64. **Paranemobius pictus* (Saussure)

1877. *Pseudonemobius pictus* Saussure, *Mem. Soc. Phys. Geneva*, 25 : 67.

1925. *Paranemobius pictus* : Chopard, *Ann. Mag. nat. Hist.*, (9) 15 : 506.

Material examined : 1 ♀, Konta, 17.xii.1978 (at light).

Diagnosis : Tegmina over-lapping with each other on the median line of abdomen. The internal margin of left tegmen transparent, and its apical part a little truncated.

Measurements (in mm.) : Body length 10.0; pronotum length 2.0; tegmen 2.1; hind femur 8.0; ovipositor 11.5.

Distribution : India (Bihar, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu) and Sri Lanka.

Family PHALANGOPSIDAE

Genus *Arachnomimus* Saussure, 1876

65. *Arachnomimus subalatus* Chopard
(Figs. 10-14)

1970. *Arachnomimus subalatus* Chopard, *Bull. Soc. ent. Fr.* 75 : 122.

Material examined 3 ♀, Kutumswar cave, Jagdalpur, 17.xii.1980.

Diagnosis Size medium; colour testaceous; head small, with ornamentation; frontal rostrum a little narrower than the first antennal joint; antennae very long; palpi very long, 3rd & 4th joints more or less equal in length, 5th a little more longer and widened at apex.

Pronotum slightly wider at anterior margin; cerci very long; legs very long and slender; anterior tibiae with small tympanum, armed with two long, fine spurs; tarsi and metatarsi long; hind femora thick at base, slender apically; hind tibiae armed with three very fine spines (fig. 13) on either side; metatarsi very long; tegmina and wings absent; ovipositor very long and lanceolate.

Measurements (in mm.) : Body length 14.0; pronotum length 3.0; anterior femora 12.5; posterior femora 20.0; posterior tibiae 22.5; ovipositor 17.9.

Distribution : India (M.P.).

Remarks : This species was described by Chopard (1970) on a single male specimen collected from a place near to Jagdalpur (M.P.). Sinha & Agarwal (1973) described another species *Kempiella shankari* from Kutumswar cave, near to Jagdalpur. They have studied both male and female specimens. Female specimens of *Kempiella shankari* are apterous. The measurements of the present specimens and both *A. subalatus* and *K. shankari* are approximately equal. Therefore, it is possible that both species stated above are same. However, in absence of Type specimens of both species, it is not possible to synonymised *K. Shankari* with *A. subalatus* at present.

Family OECANTHIDAE

Genus *Oecanthus* Serville, 1831

66. * *Oecanthus indicus* Saussure

1878. *Oecanthus indicus* Saussure, *Mem. Soc. Phys. Genève*, 25 : 454.

1969. *Oecanthus indicus* : Chopard, *Fauna of India, Orthopt.*, 2 Grylloidea : 267.

Material examined : 1 ♀, On way to Gollapalli, Konta, 16.xii.1978.

Diagnosis : First two antennal joints without black markings; anterior tibiae more strongly dilated at base; tympanum not narrow; posterior tibiae serrulated and armed with spines.

Measurements (in mm.) : Body length 14.0; pronotum length 2.1; tegmen 11.5; hind femur 7.1; ovipositor 4.6.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Tamil Nadu, Tripura, West Bengal), China, Japan, Malaya, Philippines, Sri Lanka, Sumatra and Sumba.

Family TRIGONIDIIDAE

Key to genera

1. Tegmina glabrous or almost glabrous. 2
- Tegmina covered with an abundant fine pubescence. *Amusurgus* Brunner
2. Tegminal venation quite different in both sexes, showing always in male a very neat anal field and mirror. *Homoeoxipha* Saussure

PLATE 3

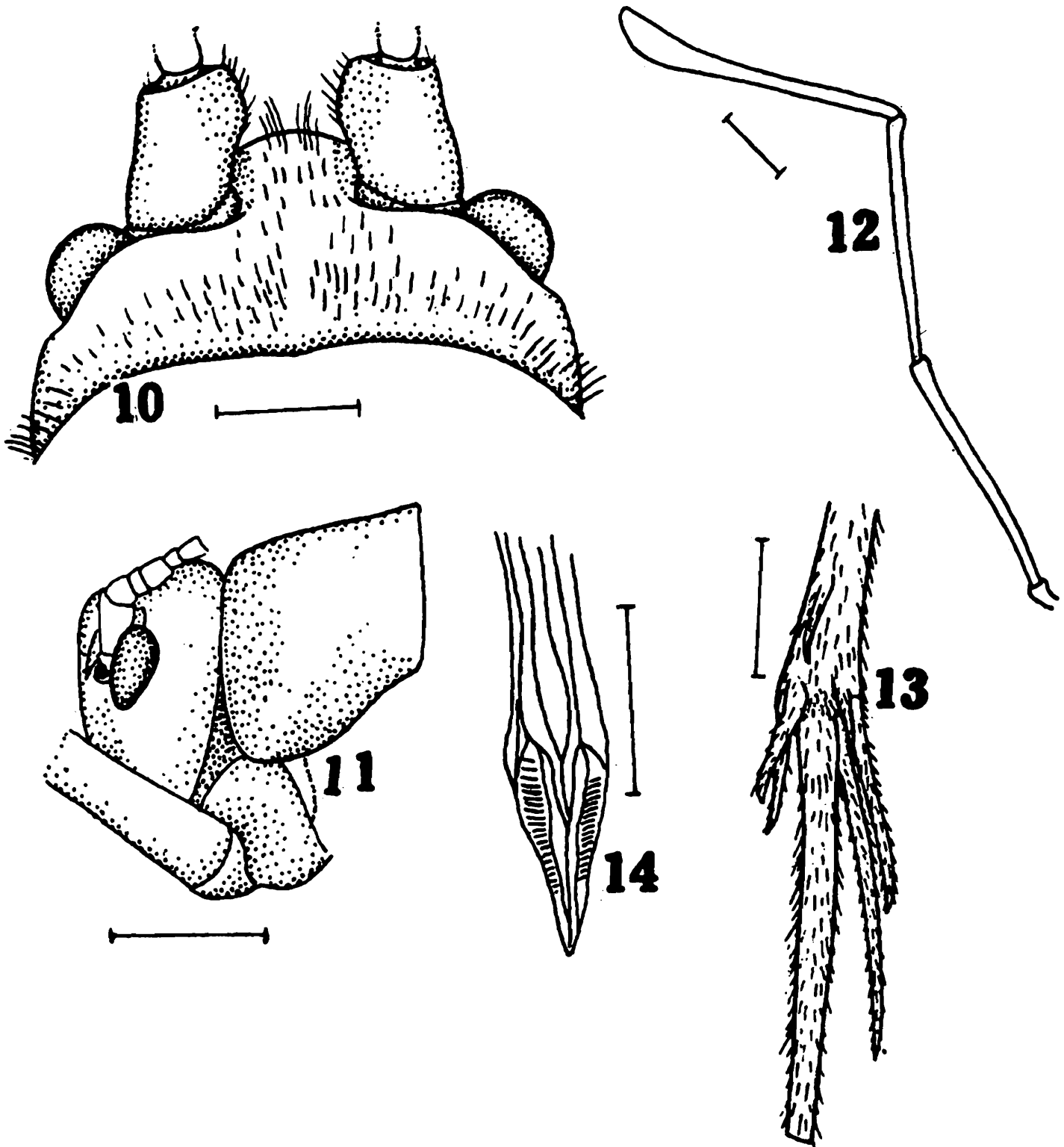


Fig. 10. Dorsal view of head of *Arachnomimus subalatus* Chopard; Fig. 11. Dorso-lateral view of head and pronotum of *Arachnomimus subalatus* Chopard; Fig. 12. Maxillary palpi of *A. subalatus* Chopard; Fig. 13. Hind tibia of *A. subalatus* Chopard; Fig. 14. Ovipositor valves of *A. subalatus* Chopard.

- Tegminal venation similar or almost similar in both sexes. 3
- 3. Tegmina presenting false veins between the principal veins which make them appear finely striated. *Trigonidium* Rambur
- Tegmina without false veins between the principal veins. *Metioche* Stål

Genus *Amusurgus* Brunner, 189367. **Amusurgus* sp.

Material examined : 1 ♀, Benur, 27.xii.1978.

Measurements (in mm.) : Body length 6.0; tegmen 5.0; hind femur 5.0; ovipositor 2.1.

Distribution : The genus is distributed in India, North Australia, Malaya, Myanmar, New Guinea and Sri Lanka.

Remarks : In absence of male the specimen could not be identified upto specific level.

Genus *Homoeoxipha* Saussure, 187468. **Homoeoxipha lycoides* (Walker)

1869. *Phyllopopus lycoides* Walker, *Cat. Derm. Salt. Brit. Mus.*, 1 : 71.

1925. *Homoeoxipha lycoides* : Chopard, *Ann. Mag. nat. Hist.*, (9) 15 : 532.

Material examined : 1 ♂, Geedam, 29.xii.1980.

Diagnosis : Pronotum narrowing and rounded in front; right anterior tibia without tympana and not swollen but the left anterior tibia has tympana and swollen; anterior ad middle femora dark brown with yellowish ring at apex; posterior tibia and tarsi with a tinge of dark brown colour; tegmina with 4 indistinct black spots.

Measurements (in mm.) : Body length ♂ 4.0; pronotum 1.3; body length with wings 9.8; tegmen 4.5; posterior femora 3.7.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Karnataka, Lakshadweep Island, Meghalaya, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Bangladesh, China, Malaya, Maldiv Island, Myanmar, Queensland, Singapore, Sri Lanka and Taiwan.

Genus *Trigonidium* Rambur, 1839

Key to species

- 1. Tegmina strongly convex; wings short; anterior tibiae unperforated. ... *cicindeloides* Rambur
- Tegmina longer and less convex; wings usually caudate; anterior tibiae perforated.
..... *humbertianus* (Saussure)

69. **Trigonidium cicindeloides* Rambur

1839. *Trigonidium cicindeloides* Rambur, *Faune Andal.*, 2 : 39.

1969. *Trigonidium cicindeloides* : Chopard, *Fauna of India, Orthopt.* 2 Grylloidea : 304.

Material examined : 1 ♂, 1 ♀, Jagdalpur, 10.xii.1978; 1 ♂, Sabari river bed, Konta, 15.xii.1978; 1 ♂, 1 ♀, Perambada, Kondagaon, 28.xii.1978; 1 ♂, Mankeshari, Kanker, 1.i.1979; 2 ♂, Dumarpara, 3.i.1979.

Diagnosis : Colouration black, shining, with posterior legs light yellowish; subgenital plate of male conical, feebly notched at apex; ovipositor compressed, curved, acute at apex.

Measurements (in mm.) : Body length 4-5.5; tegmina 3-3.5; hind femur 4.0; ovipositor 2.1.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Delhi, Goa, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Orissa, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Africa, Madagascar, Malaya, Mauritius Island, Mediterranean region, Myanmar and Sri Lanka.

70. *Trigonidium humbertianum* (Saussure)

1878. *Homoeoxiphus humbertianus* Saussure, *Mem. Soc. Phys. Genève*, 25 : 468.

1925. *Trigonidium humbertianum* : Chopard, *Ann. Mag. nat. Hist.* (9) 15 : 525.

Material examined : 1 ♂, Kachauri village, Jagdalpur, 11.xii.1978; 2 ♂, 2 ♀, Sabari river bed, Konta, 15.xii.1978; 1 ♂, 2 ♀, Geedam, 24.xii.1978; 1 ♂, 1 ♀, Bandapara, Kondagaon, 30.xii.1978; 1 ♂, 3 ♀, Mankeshari, Kanker, 1.i.1979.

Diagnosis : This species is very similar to the preceding species, except the characters which are stated in the key given above.

Measurements (in mm.) : Body length 4.5-5; tegmen 3-3.5; hind femur 4-4.3; ovipositor 2.1.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Tamil Nadu, Tripura, West Bengal), Malaya and Sri Lanka.

Genus *Metioche* Stål, 187771. **Metioche* sp.

Material examined : 1 ♀, Kachauri village, Jagdalpur, 11.xii.1978; 2 ♀, Dongaghat, Jagdalpur, 12.xii.1978; 2 ♀, Konta, 15,16.xii.1978; 1 ♀, Benur, 27.xii.1978.

Diagnosis : Tegmine without or very feebly pubescent; the veins somewhat irregular; transverse veinlets numerous.

Measurements (in mm.) : Body length 4-5.1; hind femur 4.3.

Distribution : The genus is distributed in Indo-Australian region and Philippines Islands.

Remarks : In absence of male specimens this material could not be identified upto specific level.

Superfamily TETTIGONIOIDEA

Key to families

1. Head subconical to strongly conical. CONOCEPHALIDAE
- Head usually short and rounded. 2
2. Prosternum lacks spine. (Auditory organ generally covered; 1st and 2nd tarsal segments not laterally grooved). PHANEROPTERIDAE
- Prosternum with a pair of spines. (Auditory organ developed in male only; prothoracic spiracles small, not hidden by pronotum). PSEUDOPHYLLIDAE

Family CONOCEPHALIDAE

Key to tribes

1. Small species with a short rounded rostrum; fore and middle femora unarmed; fastigium of vertex broad, obtuse, cephalic ventral portion not produced or forming a hook. CONOCEPHALINI
- Large species with more acute rostrum which is notched below at base; fore and middle femora armed, often the teeth quite large; fastigium of vertex conical, often forming an elongate cone with a tubercle at its base. COPIPHORINI

Tribe CONOCEPHALINI

Genus *Conocephalus* Thunberg, 1815

72. **Conocephalus maculatus* (Le Guillou)

1841. *Xiphidion maculatum* Le Guillou, *Revue suisse Zool.*, 4 : 294.

1980. *Conocephalus maculatus* : Pitkin, *Bull. Br. Mus. nat. Hist. (Ent.)*, 41 (5) : 344.

Material examined : 2♂, 1♀, East of Geedam, 20.xii.1978; 1♀, Bhairamgarh, 21.xii.1978; 1♀, East of Kondagaon, 26.xii.1978; 1♀, Benur, 27.xii.1978.

Diagnosis : Fastigium of vertex moderately wide, pronotum bispinose; tegmina pigmented with comparatively large dark spots; hind femora unarmed ventrally; ovipositor very short, relatively straight.

Measurements (in mm.) Body length ♂ 12-13, ♀ 14-15; tegmen ♂ 14-16, ♀ 15-17; hind femur ♂ 11-11.5, ♀ 11.5-12.8; hind tibia ♂ 10.5-11, ♀ 11-11.5; ovipositor 8.0.

Distribution : India (Throughout), Australia, Cameroon, Indonesia, Java, W.Malaysia, Philippines and Sierra Leone.

Tribe COPIPHORINI

Genus *Euconocephalus* Karny, 1907

73. **Euconocephalus incertus* (Walker)

1869. *Conocephalus incertus* Walker, *Cat. Derm. Salt. Brit. Mus.*, 2 : 320.

1912. *Euconocephalus incertus* : Karny, *Gen. Insect.*, 2 (139) : 35.

Material examined : 1 nymph, Dongaghat, Jagdalpur, 12.xii.1978; 2 ♀, Geedam, 22.xii.1978.

Diagnosis : Fastigium of vertex produced conically in front; radius sector 2 arises much before the middle of wing; ovipositor subequal to the length of body.

Measurements (in mm.) Body length ♀ 25.0; head ♀ 3.0; pronotum 8.0; tegmen 41.0; hind femur 14.5; hind tibia 14.0; ovipositor 21.5.

Distribution : India (Andaman & Nicobar Islands, Madhya Pradesh, Meghalaya, Orissa, Sikkim, Tripura and West Bengal), Australia, Borneo, China, Java, Myanmar, Panang, Sri Lanka, Sumatra etc.

Family PHANEROPTERIDAE

Key to genera

1. Subgenital plate of male, divided almost from the base, bowed down in 45° to 90° angle; female subgenital plate obtuse-triangular; cerci long, curved to almost straight. *Letana* Walker
- Subgenital plate of male contiguous from base, not curved, female subgenital plate bilobed, cerci of male, acuminate, latero-internally sulcated. *Himertula* Uvarov

Genus *Himertula* Uvarov, 1940

74. **Himertula kinneari* (Uvarov)

1923. *Himerta kinneari* Uvarov, *J. Bombay nat. Hist. Soc.*, 29 : 651.

1990. *Himertula kinneari* : Ingrisich, *Spixiana*, 13 (2) : 157.

Material examined : 1 ♂, Bijapur, 8.ii.1990, R.K. Ghosh coll.

Diagnosis : Last tergite large, narrowly sulcate along the middle, with the hind margin almost

straight, very feebly and broadly sinuate, not obtusely excised; cerci with their apices compressed portion straight, forming an obtuse rounded angle with the base; subgenital plate with the lobes very long, strongly compressed and recurved, with the apices acute and turned outwards.

Measurements (in mm.) : Body length 12.0; tegmen 21.5; hind femur 18.0; hind tibia 16.0.

Distribution : India (Bihar-Palamau, Maharashtra-Surat) and Nepal.

Genus *Letana* Walker, 1869

75. **Letana megastridula* Ingrisch

1990. *Letana megastridula* Ingrisch, *Ent. Scand.*, 21 (3) : 258.

Material examined : 1 ♂, Haram, Geedam, 22.xii.1978.

Diagnosis : Body and legs with black or reddish dots; stridulatory field larger than broad; supra-anal plate with an almost circular, shallow depression in the middle; cerci with a weak baso-internal swelling; subgenital plate lateral lobes with apical part widening; subgenital plate of female long than broad; ovipositor short, curved in middle, apex turned upwards, finely serrulate from middle to apex.

Measurements (in mm.) : Body length 13.0; pronotum 4.5; tegmen 22.0; hind femur 14.5; hind tibia 14.5.

Distribution : India (S.India, Bihar and Maharashtra).

76. *Letana* sp.

Material examined : 1 ♀, Bijapur, 23.i.1990, R.K. Ghosh coll.

Diagnosis : Body with dark-brown or chocolate colour spots; antennae annulated with dark-brown rings; tegmina surpass the tip of hind femora, radial sector forked; ovipositor short, dorsal and ventral margins of apical part with big spines, space between two spines more, apex curved.

Measurements (in mm.) : Body length 13.0; pronotum 4.5; tegmen 25.0; hind femur 14.0; ovipositor 5.5.

Distribution : The genus *Letana* is Indian and Himalayan in origin, from where it spread over upto Indo-China.

Family PSEUDOPHYLLIDAE

Genus *Onomarchus* Stål, 1874

77. **Onomarchus* sp.

Material examined : 1 ♂, Bijapur, 23.i.1990, R.K. Ghosh coll.

Diagnosis : Head and fastigium of vertex small; fastigium medially grooved; pronotum granular, intersected by two grooves dorsally, median carina absent, anterior and posterior margin angularly rounded; anterior tibiae with tympanum mostly covered; middle femora with small spines on internal margin ventrally; hind tibiae with very small spines on both margins ventrally, and not compressed; hind femora with spines on both margins ventrally; anal field of tegmina not widened; 9th terga of abdomen concave; supra-anal plate triangular; subgenital plate broad basally, narrow beyond, bifurcated apically, the two lamina slightly curved towards apex, apex obtuse and with small spine.

Measurements (in mm.) Body length 24.0; pronotum 5.0; tegmen; 38.0; hind femur 12.0 and hind tibia 11.0.

Distribution : Tropical East Asia.

SUMMARY

Seventy-seven species and subspecies of grasshoppers and crickets have been reported from Bastar District of Madhya Pradesh, India. They belong to 61 genera and 12 families. Of these, 61 species and subspecies are new locality records. Keys to superfamilies, families, genera and species have been provided. Distribution of each species has also been shown.

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