



IDENTIFICATION OF UNNAMED COLLECTION OF ACRIDIDAE (INSECTA: ORTHOPTERA) FROM KARNATAKA PRESENT IN WRC, PUNE

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INTRODUCTION

Karnataka is one of India's larger states in the southern region. The studies on Acrididae are of significance as they are one of the largest group of plant feeding insects and are also a prey base for many of the vertebrates e.g amphibian, reptilian and birds because of their exoskeleton having rich protein content. Along with this, some of the acrididae are also pests of economic significance.

Acridids have short antennae, tympanum on their first abdominal segment and three segmented tarsi. Stal (1873) started the studies on Indian Acrididae followed by Kirby (1914) (Fauna of British India). Ander in 1939 (a,b) splitted the order Orthoptera into two suborders called - Caelifera and Ensifera. The former are short-horned grasshoppers. The family Acrididae has been further classified into 23 sub-families of which 14 sub-families, 138 genera and 310 species have been reported from India (Tandon *et. al.*, 1991). Some of the later authors also used the term "subfamily Pyrgomorphinae" of the family Acrididae or Acridiidae (Rehn, 1904). Bolivar (1902) and Fletcher (1914) worked on Indian Pyrgomorphids. Few years ago, Hazra *et. al.*, (1984) studied population ecology of grasslands and cultivated fields, and Schmidt (2004) recorded new species from South India. Bhowmik *et. al.*, (1990) have contributed on the taxonomy as well as on the ecology of Acrididae. Shishodia *et. al.*, (2010) have published an annotated checklist of Orthoptera (insecta) from India which

includes 362 species of Acrididae. Usman and Pattarudraiah (1955) collected the material from erstwhile Mysore state, Maaya *et. al.*, (2005) collected the material from Dakshina Kannada district, Nishitha and Rai (1999) collected material from Mangalore University Campus and Kumar, Prasad (1986) surveyed Bangalore district for these insects.

The present study was an attempt to identify the accumulated unidentified collections of Acrididae of Karnataka State, present at Western Regional Centre of Zoological Survey of India, Pune. Out of 30 districts of Karnataka, the available unidentified collections cover only six districts of Karnataka (Uttar Kannada, South Kannada, Mysore, Karwar, Kolar, and Mangalore) besides two National Parks, Bandipur and Nagarhole.

SYSTEMATIC ACCOUNT

Class INSECTA

Order ORTHOPTERA

Family ACRIDIDAE

Sub-family ACRIDINAE

Genus *Acrida* Linnaeus, 1758

1. *Acrida exaltata* (Walker, 1859)

1914. *Acrida exaltata*, Kirby, *Fauna Brit. India*, Orth.: 99.

Diagnosics: Head conically ascending, basal part narrow, fastigium of vertex broad, laminate and truncate at extremity; transverse sulcus of pronotum placed close to the middle of disc, hind femora without any peg-like structure on internal surface, tegmina without pointed apex, a little

produced beyond the hind knees, wings shorter than the tegmina, male subgenital plate long.

Material Examined: 1♂, Avulakuppam, Dist. Kolar, Coll. M.B. Rao & Pty, 14/03/1978 (Ent-5/1185); 1♀, Manchanpani Tank, Chikkaballapur, Dist. Kolar, Coll. M. B. Rao & Pty, 18/03/1978 (Ent-5/1186); 1♂, Gopal Tank, Chikkaballapur, Dist. Kolar, 19/03/1978 (Ent-5/1187); 1♀ 1♂, Farm near Gauri Bidanur, Dist. Kolar, Coll. M.B. Rao & Pty, 20/03/1978 (Ent-5/1188); 1♀, Mashid Basalguntha pond, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty, 08/03/1978 (Ent-5/1189); 1♀, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1191); 1♂, Bada Talab, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty, 09/03/1978 (Ent-5/1192); 1♀, Fatli, Dist. Kolar, Coll. M.B. Rao & Pty, 04/03/1978 (Ent-5/1273); 1♀, Kukkata, Dist. Kolar, Coll. M.B. Rao & Pty, 03/03/1978 (Ent-5/1275); 2♀, Hanuman Temple, Malur, Dist. Kolar, Coll. M.B. Rao & Pty, 05/03/1978 (Ent-5/1276).

Distribution : India (Andaman & Nicobar Islands, Andhra Pradesh, Assam, Arunachal Pradesh, Himachal Pradesh, Karnataka, Maharashtra, Meghalaya, Orissa, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal).

Elsewhere : China, Australia, Celees, Aru Island, Buru Island, Japan, Malacca, New Moluccas, Guinea, Philippines, Sunda Islands, Taiwan and Tonkin.

Genus *Phlaeoba* Stal, 1860

2. *Phlaeoba infumata* Brunner von Wattenwyl, 1893

1893. *Phlaeoba infumata*, Brunner von Wattenwyl, *Ann. Mus. Genova*, 33 (2): 124.

Diagnostics : Uniformly brown and testaceous; antennae nicolorous; fastigium of vertex rather short and obtuse, concave above, with a continuous median carina extending along the head and pronotum; antennae ensiform; pronotum rugose with a rudimentary carina on either side between the median and lateral carinae; tegmina and wings longer than the abdomen; wings fusco-hyaline; hind femora

dotted with black on outer carinae; wings more or less fuscous at the apex.

Material Examined : 1♂, Anuru Chintamani, Dist. Kolar, Coll. MB. Rao & Pty, 15/03/1978 (Ent-5/1205); 1♂, Abdul Ali Garden Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1206).

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Haryana, Himachal Pradesh, Madhya Pradesh, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, East Nepal, Hainan Islands, Myanmar, South & North Malacca, South China, Tennasserim and Yunnan.

Sub-family CALLIPTAMINAE
Genus *Acorypha* Krauss, 1877

3. *Acorypha glaucopsis* (Walker, 1870)

1870. *Caloptenus glaucopsis*, Walker, *Cat. Derm. Salt. Brit. Mus.*, 4: 702.

2009. *Acorypha glaucopsis*, Hemp, *Jour. Orth. Res.*, 18(2): 197.

Diagnostics : Eyes brown with black markings. Fastigium of vertex elongated longer than its width; dorsum of pronotum crossed by three sulci, anterior and posterior sulci crossing median carina metazona longer than prozona and its posterior end obtusely angular; prosternal process thick, spatulate having rounded apex; mesosternal space wider than its length and metasternal interspace open; hind femur with white or light coloured markings and lobes having margins with black serration on outside and three black bands on upper carina; hind tibia yellowish having spines with black tips; hind femur with expanded marginal area, and dorsal margins having serrations.

Material Examined : 2♀, Near Kulai Tank, Chintamani, Dist. Kolar, Coll. M.B. Rao and Pty, 13/03/1978 (Ent-5/1224); 1♀, Hanuman Temple, Malur, Dist. Coll. M.B. Rao and Pty, 13/03/1978 (Ent-5/1226); 1♂, Hanuman temple, Malur, Dist. Kolar, Coll. M.B. Rao & Pty, 05/03/1978 (Ent-

5/1208); 7♀, Kukkata, Dist. Kolar, Coll. M.B. Rao & Pty, 03/03/1978 (Ent-5/1214).

Distribution : India: Andhra Pradesh, Bihar, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamai Nadu and Uttarakhand.

Elsewhere : Iran and Saudi Arabia.

Sub-family TRUXALINAE
Genus *Truxalis* Fabricius, 1775

4. *Truxalis indica* (Bolivar, 1902)

1914. *Acridella nasuta*, Kirby, *Fauna Brit. India*, Orth., : 100.

2000. *Truxalis indica*, Sishodia, *Rec. zool. Surv. India*, 98 (Part-1):44.

Diagnostics : Head as long as or longer than pronotum; fastigium of vertex broad, apex truncate; antennae broadly flattened, tapering at the extremity; hind femora with articulated pegs on internal surface, basal part of wings intensely bright pink; tegmina narrow, pointed, longer than the wings.

Material Examined : 1♂, Gudebande Tank, Dist. Kolar, Coll. M.B. Rao & Pty, 22/03/1978 (Ent-5/1196); 1♂, Gopal Tank, Chikkaballapur, Dist. Kolar. Coll. M.B. Rao & Pty, 19/03/1978 (Ent-5/1198).

Distribution : Arunachal Pradesh, Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra and Pondicherry.

Elsewhere : Afghanistan, Arabia, South East Iran, South East Tibet, West Aden and Yemen.

Sub-family OEDIPODINAE

Genus *Gastrimargus* Saussure, 1884

5. *Gastrimargus africanus africanus* (Saussure, 1888)

2000. *Gastrimargus africanus africanus*, Shishodia, *Rec. zool. Surv. India*, 98 (1):51.

Diagnostics: Fastigium of vertex narrowing forwards, with truncated apex; pronotum tectiform with high sharp median carina, prozona shorter than metazona, posterior margin of metazona acute with X- marking usually effaced

and without striae; tegmina and wings well developed, tegmina 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; cerci conical, inner position slightly blunt.

Material Examined: 1♀, Dist Uttar Kannada, Coll. M.B. Rao & Pty and P.D. Rane & Pty, 25/04/1992 (Ent-5/1114); 1♀, Tygli, Dist. Uttar Karnataka, Coll. P. D. Rane & Pty, 24/04/1992 (Ent-5/1119); 1♂, Kali river 4 km from Ganeshgudi Supa dam, Dist. South Kanara, Coll. R.M. Sharma & Pty, 15/09/1991 (Ent-5/1260); 1♂, Bandipur National Park, Coll. A. S. Mahabal & Pty, 14/1/1978 (Ent-5/1282); 1♀, Banwasi, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 23/04/1992 (Ent-5/1178).

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Delhi, Goa, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Orissa, Rajasthan Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Africa, Myanmar, Nepal, Pakistan, Saudi Arabia, Sri Lanka, Thailand, Tibet and Yemen.

Genus : *Trilophidia* Stal, 1873

6. *Trilophidia annulata* (Thunberg, 1815)

1914. *Trilophidia annulata*, Kirby, *Fauna Brit. India*, Orth., :149.

Diagnostics: Body size small; vertex behind eyes with a pair of tubercles; fastigium of vertex elongate-trapezoid; antennae longer than head and pronotum together; pronotum rugose with a high median carina, forming two teeth in front and with lateral carinae; hind tibiae narrow with a faint narrow pale band beyond the middle.

Material Examined: 6♀, Jog Falls & around, Dist. North Kanara, Coll. R.M. Sharma & Pty, 19/09/1991 (Ent-5/509); 2♂2♀, Jalsar Village, Tal: Sullia Karnataka, Coll. P.P. Kulkarni & Pty, 10/02/1992 (Ent-5/1110); 5♀, Stream 10 kms from Honnavar on Jag Fall Road, Dist. North

Kanara Coll. R.M. Sharma & Pty, 24/09/1991 (Ent-5/1179); 2♀, Kukkata, Dist Kolar, Coll. M.B. Rao & Pty, 03/03/1978 (Ent-5/1231); 1♂ 1♀, Manchanpalli, Dist. Coll. M.B. Rao & Pty, 20/03/1978 (Ent-5/1240); 1♂, Anuru Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1241); 1♀, Abdul Ali Garden, Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1242); 1♀, Mashid Basalguntha pond, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty, 08/03/1978 (Ent-5/1243); 6♂ 2♀, Fatli Kolar, Coll. M.B. Rao & Pty, 04/03/1978 (Ent-5/1244); 1♂, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1245); 1♂, Gudebande Tank, Dist. Kolar, Coll. M.B. Rao & Pty, 22/03/1978 (Ent-5/1246); 1♀, Gopal Tank, Chikkaballapur, Dist. Kolar, Coll. M.B. Rao & Pty, 19/03/1978 (Ent-5/1247); 1♀, Kondanajan Nalli, Dist. Kolar, Coll. M.B. Rao & Pty, 11/03/1978 (Ent-5/1250); 1♂, Tyagli, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 24/04/1992 (Ent-5/1174); 1♀, Sunker, Dist. Karwar, Coll. G.M. Yazdani & Pty, 25/12/1975 (Ent-5/1308); 1♀, Cashew Research Center, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 03/01/1976 (Ent-5/1309); 1♀, Magod Falls, Dist. Mysore, Coll. B.S. Lamba & Pty, 25/02/1971 (Ent-5/1310).

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhatisgarh, Delhi, Goa, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Afghanistan, Bangladesh, Borneo, China, Hong Kong, Japan, Java, Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sarawak, Singapore, Sri Lanka, Sumatra, Taiwan, Thailand and Vietnam.

Genus *Dittopternis* Saussure, 1884

7. *Dittopternis venusta* (Walker, 1870)

1914. *Dittopternis venusta*, Kirby, *Fauna Brit. India*, Orth., :156.

Diagnostics: Body small size; vertex with diverging rows of pale granules running backwards between the eyes; pronotum rugose, granulated and strongly carinated, cut by the principal sulcus, before the middle, obtusely angulated behind; hind tibiae black at base, followed by a light yellow band; tegmina with the basal half brown and with a large yellow blotch; wings yellow at base, with a broad suffused blackish band.

Material Examined: 1♂, Uttar Kannada, Coll.P.D.Rane & Pty, 25/04/1992 (Ent-5/1115); 1♀, Banwasi, Dist.Uttar Kannada, Coll. P.D. Rane & Pty, 23/04/1992 (Ent-5/1171); 2♂, Bellari Forest Range, Tal : Puttur, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 09/02/1992 (Ent-5/1176); 1♀, Avulakuppam, Dist. Kolar, Coll.M.B.Rao & Pty, 19/03/1978 (Ent-5/1248).

Distribution: India: Andhra Pradesh, Chhattisgarh, Karnataka, Madhya Pradesh, Manipur, Meghalaya, Orissa, Tamil Nadu, Tripura and West Bengal.

Elsewhere : Sri Lanka

Genus *Aiolopus* Fieber, 1853

8. *Aiolopus thalassinus* (Fabricius, 1798)

1914. *Aiolopus tamulus*, Kirby, *Fauna Brit. India*, Orth., : 122.

1990. *Aiolopus thalassinus tamulus*, Bhowmik, *Rec. zool. Surv. India*, 86 (2): 219

Diagnostics: Body medium size; antennae longer than head and pronotum together; fastigium of vertex pentagonal; frontal ridge flat, gradually narrowing towards fastigial end; pronotum slightly constricted between prozona and metazoan; two brown stripes present on middle part of the eyes and running up to the metazoan; posterior tibiae usually with red colored in apical fourth and broadly separated from black band by a wide blue grayish band; cerci rounded and conical.

Material Examined: 1♀, Mavinakatte, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 18/04/1992 (Ent-5/1172); 1♂, Mashid Basalguntha pond, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty,

08/03/1978 (Ent-5/1197); 1♀, Bada Talab, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty, 09/03/1978 (Ent-5/1199); 1♀, Fatli Kolar, Dist. Kolar, Coll. M.B. Rao & Pty, 04/03/1978 (Ent-5/1307); 1♀, Bandipur National Park, Coll. A.S. Mahabal & Pty, 14/01/1978 (Ent-5/1311).

Distribution: India: Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Bihar, Chhatisgarh, Delhi, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere: Australia, Bangladesh, Borneo, Brunei, Celebes, China, Hainan, Hong Kong, Indonesia, Japan, Java, Lombok, Malaysia, Malaysia, Myanmar, New Guinea, Pakistan, Papua, Philippines, Singapore, Sri Lanka, Sumatra, Taiwan, Thailand and Timor.

Genus *Morphacris*, Walker, 1870

9. *Morphacris citrina* Kirby, 1910

1910. *Morphacris citrina*, Kirby, *Syn. Cat. Orth.*, :219

Diagnostics : Pronotum brown with a black band on the lateral sides; abdomen whitish; hind femur with three bands on inner side; hind tibia yellow with a dark band near base, apical half blue; wings yellow at base having a border of a broad blackish band, clouded towards extremity .

Material Examined : 1♀, Mavinakatte, Dist., Uttar Kannada, Coll. P.D. Rane & Pty, 18/04/1992 (Ent-5/1168); 1♀, Chintamani Road, Dist Kolar, Karnataka, Coll. M.B. Rao & Pty, 24/03/1978 (Ent-5/1209).

Distribution: India : Andhra Pradesh, Goa.

Elsewhere: Sri Lanka.

Sub-family TERATODINAE

Genus *Teratodes* Brulle, 1835

10. *Teratodes monticollis* (Gray, 1832)

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

Diagnostics: Head broad, rounded, face vertical; antenna shorter than head and pronotum; pronotum raised, the front arched above the head in a point, the middle forming a

high crest, denticulated, pronotum cover the half of the length of abdomen; legs short; tegmina opaque.

Material Examined: 1♂, Farm near Gauribidanur, Dist. Kolar, Coll. M.B. Rao & Pty, 20/03/1978 (Ent-5/1105); 1♀, Bandipur National Park, Karnataka, Coll. A.S. Mahabal & Pty, 14/01/1978 (Ent-5/1111); 1♀, Bandipur National Park, Karnataka, Coll. A.S. Mahabal & Pty, 19/01/1978 (Ent-5/1286).

Distribution: India : Andhra Pradesh, Bihar, Chhatisgarh, Jharkhand, Madhya Pradesh and Maharashtra.

Elsewhere: Sri Lanka.

Sub-family HEMIACRIDINAE

Genus *Hieroglyphus* Krauss, 1877

11. *Hieroglyphus banian* (Fabricius, 1798)

1914. *Hieroglyphus banian*, Kirby, *Fauna Brit. India*, *Orth.*, :204.

Diagnostics: Fastigium of vertex broad; pronotum black with four black coloured sulci, narrowly lined, first sulci present only laterally, second present on medially and the last two continuous; hind tibiae blue, with black tipped spines; tegmina and wings are shorter or longer than abdomen; supra anal plate longer than wide in apical area with two ridge like elevation

Material Examined: 4♂, Field near Edrebelle Village, Banwasi, Dist. North Kanara, Coll. R.M. Sharma & Pty, 19/09/1991 (Ent-5/508).

Distribution: India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Afghanistan, Bangladesh, Bhutan, China, Myanmar, Nepal, Thailand and Vietnam.

Sub-family OXYINAE

Genus *Oxya*, Serville 1831

12. *Oxya hyla* Serville 1831

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

Diagnostics: Body medium size, finely rugose in male; supra anal plate trapezoidal, with triangular apical projection; small tubercle present in both side of supra anal plate; cercus conical or compressed rounded with acute or sub acute apex; inner pair of lophi well developed; in subgenital plate with two longitudinal ridges extending forwards from posterior margin.

Material examined: 2 ♀, Bachanki village and around, Tal : Mundgod, Dist. North Kanara, Coll. R.M. Sharma & Pty, 21/09/1991 (Ent-5/1117); 1♀, Abdul Ali Garden, Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1200); 2♀, Abdul Ali Garden, Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1203); 1♀, Jalasar Village, Tal: Sullia, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 10/02/1992 (Ent-5/1257); 1♀, Abdul Ali Garden, Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1264); 7♂, Field Near Guruyankare village, Tal: Belthangady, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 11/02/1992 (Ent-5/1269).

Distribution: India : Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere: Afghanistan, Africa, Angola, Bangladesh, Benin, Cameroun, Chad, Central African Republic, Cote d'Ivoire, Iran, Fernandopo, Gabon, Gambia, Ghana, Guinea, Iran, Kenya, Liberia, Madagascar, Maldive Island, Mali, Lalawi, Nepal, Niger, Nigeria, Pakistan, Sao Thome, Senegal, Sierra Leopne, Sudan, Sri Lanka, Tanzania, Uganda, Zaire and Zambia.

13. *Oxya velox* (Fabricius, 1787)

1787. *Gryllus velox* Fabricius, Mantisa Insectorum stens eorum species nuper detectas adjectis caracteribus genericis, differentiis specificis, emendationibus, observationibus, 2 (1) : 239

2007. *Oxya velox*. Chandra *et al.*, zoos' Print Journal, 22 (5) : 2686

Diagnostics : Antenna as long as head and pronotum together; interocular distance as wide as or slightly wider than frontal ridge near median ocellus; prozona is longer as compared to metazoan, latter with posterior margin widely obtuse-angular; posterior tibia modified for swimming with 8 external and 9 internal yellowish black tipped spines; females are larger and more robustly built than males.

Material Examined: 2♂3♀, Village Balval 10 km from Karkala on Mordibidri Road, Tal: Karkala, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 16/02/1992 (Ent-5/1163); 1♂, Manchanhalli, Dist Kolar, Coll. M.B. Rao & Pty, 20/03/1978 (Ent-5/1202).

Distribution: India : Andhra Pradesh, Arunachal Pradesh, Bihar, Assam, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Manipur, Maharashtra, Meghalaya, Nagaland, Orissa, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, China, Myanmar, Pakistan, Singapore, Sri Lanka and Thailand.

Genus : *Gesonula* Uvarov, 1940

14. *Gesonula punctifrons* (Stal, 1861)

1861. *Acridium (Oxya) punctifrons* Stal, Kongl. Svensk. Fregat Eugen. Res. Omkring, Jordan, 3:336

1870. *Heteracris tenuis* Walker, Cat. Derm. Satt. Brit. Mus., 4:647, 668

1910. *Racilia okinawaensis* Shiraki, Acrididen Japans, : 58.

2007. *Gesonula punctifrons*, Mandal *et al.*, Pictorial handbook on Indian short-horned grasshopper pests (Acridoidea: Orthoptera) (Zool. Surv. India), :22.

Diagnostics : A broad dark band running from behind the eyes on head to tympanum; fastigium of vertex from above parabolic, slightly longer than the width at base; dorsum of pronotum shallowly sulcate crossed by three transverse sulci; prosternal process conical and its apex is rounded; mesosternal interspace squarish and metasternal interspace closed; tegmina extending beyond tip of abdomen and hind knee; arolium large, equal in length to claws.

Material Examined : 1♂, Near Srinivasapur Tank, Dist. Kolar, Coll. M.B. Rao & Pty, 14/03/1978 (Ent-5/1249); 1♂, Near Srinivasapur Tank, Dist. Kolar, Coll. M.B. Rao & Pty, 14/03/1978 (Ent-5/1252); 1♂, Kahiga, Kanwar Tehsil, Dist. North Kannada, Coll. P.D. Rane & Pty, 14/04/1992 (Ent-5/1256); 1♂, Kali river 4 km from Ganeshgudi Supa dam, Dist. South Kanara, Coll. R.M. Sharma & Pty, 15/09/1991 (Ent-5/1263); 6♂ 1♀, Field Near Guruyankare village, Tal : Belthangady, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 11/02/1992 (Ent-5/1270); 2♀ 3♂, Bandipur National Park, 19/01/1978 (Ent-5/1284); 1♀, Bandipur National Park, 14/01/1978 (Ent-5/1285); 1♂ 1♀, Ranipura, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 02/01/1976 (Ent-5/1294); 1♂ 1♀, Kadekar, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 30/12/1975 (Ent-5/1295); 1♂ 1♀, Cashew Research Center, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 03/01/1976 (Ent-5/1296); 1♂, Sunkeri, Dist. Karwar, Coll. G.M. Yazdani & Pty, 25/12/1975 (Ent-5/1297); 1♂, Chruch Road, Dist. Karwar, Coll. G.M. Yazdani & Pty, 23/12/1975 (Ent-5/1303).

Distribution: India : Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, Borneo, China, Hainan, Japan, Java, Kalimantan, Malacca, Myanmar, North Vietnam, Philippines, Sri Lanka, Taiwan and Thailand.

Sub-family CYRTACANTHACRIDINAE
Genus *Cyrtacanthacris* Walker, 1870

15. *Cyrtacanthacris tatarica* (Linnaeus, 1758)

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

2008. *Cyrtacanthacris tatarica*, Gupta et. al., Natl. J. Life Sci., 5 (1): 124.

Diagnostics: Body large size; pronotum on both sides above with a broad velvety blackish brown band; hind tibiae bluish or brown with

black tipped yellow or brown spines present; tegmina with dense and thick reticulation or irregular spots.

Material Examined: 1♂, Anuru chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1104); 1♂, Basantola village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1104); 1♂, Basantola village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1165); 2♀, Kane Palli Tank, Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 13/03/1978 (Ent-5/1190); 1♂, Gudebande Tank, Dist. Kolar, Coll. M.B. Rao & Pty, 22/03/1978 (Ent-5/1204).

Distribution: India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Africa, Bangladesh, Central America, Hainan, Indonesia, Madagascar, Mediterranean Region, Myanmar, Nepal, Pakistan, Philippines, Red-Sea, Sahara, Saudi Arabia, Seychelles, Sri Lanka, South West Asia, Sumatra and Thailand.

Sub-family CATANTOPINAE
Genus *Diaboloc* *tantops*, Jago, 1984

16. *Diabolocatantops pinguis* (Stal, 1860)

1860. *Acridium (Catantops) pingue* Stal, Kongl. Svensk. Fregat Eugen. Res., Omkring, Jorden, 3: 330.

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

1914. *Catantops pinguis*, Kirby, Fauna Brit, India, Orth., : 252.

1984. *Diabolocatantops pinguis* Jago, Trans. Amer. Ent. Soc., 110 (3): 370.

2004. *Catantops pinguis* Shishodia & Tandon, Fauna of Manipur, State Fauna Series, 10: Zool. Surv. India : 130.

Diagnostics: Body size medium; antennae shorter than head and pronotum together; lateral lobe of pronotum without colour pattern, hind femur broad and thick without black median spot,

external disc of the hind femur with a small black median spot, below upper carinula on external disc, small four black spots on internal disc, hind tibiae red; basal disc of wings colourless to weakly greenish.

Material Examined: 1♀, Kahiga, Kanwar Tehsil, Dist. North Kannada, Coll. P.D. Rane & Pty, 14/04/1992 (Ent-5/1255); 2♀, Kali river 4 km from Ganeshgudi Supa dam, Dist. South Kanara, Coll. R.M. Sharma & Pty, 15/09/1991 (Ent-5/1261); 1♀, Bhatkal, Dist. Uttar Kannada; Coll. P.D. Rane & Pty, 14/04/1992 (Ent-5/1265); 1♂, Rest House and around, Dist. Mangalore, Coll. S.S. Kamble & Pty, 29/08/1991 (Ent-5/1268); 1♀, Ullal, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 29/12/1975 (Ent-5/1304).

Distribution : India : Kerala, Manipur, Sikkim and Tamil Nadu.

Elsewhere : Cambodia, China, Hainan, Japan, Myanmar, Sri Lanka and Taiwan

Genus *Xenocatantops* Dirsh & Uvarov, 1953

17. *Xenocatantops humilis humilis*
(Serville, 1839)

1914. *Catantops humilis*, Kirby, *Fauna Brit. India*, Orth., : 250.

1985. *Xenocatantops humilis humilis*, Shishodia, *Rec. zool. Surv. India*, 82 (1-4): 21.

Diagnostics: Body medium size; antennae longer than the head and pronotum together; pronotum constricted in the middle, pronotal and thoracic markings much lighter with proportionately broader light oblique band on episternum III; hind femora with two blackish bands above; hind tibiae and tarsi red, tibiae with black tipped spines; male circus with rounded apex.

Material Examined: 2♂, Banwasi, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 23/04/1992 (Ent-5/1169); 5♀, Laar Siddhapur, Dist. Uttar Kannada, Dr. P.D. Rane & Pty, 20/04/1992 (Ent-5/1181).

Distribution : India : Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur,

Meghalaya, Mizoram, Nagaland, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, Borneo, Indo-China, Java, Lombok, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sumatra, Sri Lanka, Thailand, Tibet, Vietnam and Yunan.

Sub-family SPATHOSTERNINAE
Genus *Spathosternum* (Walker, 1871)

18. *Spathosternum prasiniferum prasiniferum*
(Walker, 1871)

1914. *Spathosternum prasiniferum*, Kirby, *Fauna Brit. India*, Orth., : 208.

1985. *Spathosternum prasiniferum prasiniferum*, Shishodia, *Rec. zool. Surv. India*, 82 (1-4): 20.

Diagnostics: Body size small; broad blackish or dark green stripe runs behind the lower part of the eyes and below the lateral carinae of the pronotum; spathulated prosternum tubercle; central area of tegmen with a longitudinal black streak which is well marked in females and almost obsolete in males; tegmina and wings well developed.

Material Examined: 1♀, Mavinakatte, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 18/04/1992 (Ent-5/1173); 3♀, Bellari forest Range, Tal : Puttur, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 09/02/1992 (Ent-5/1175); 1♂, Jalasar Village, Tal : Sullia, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 10/02/1992 (Ent-5/1258); 4♂, Field Near Guruyankare village, Tal : Belthangady, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 11/02/1992 (Ent-5/1272); 1♂ 1♀, Ullal, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 29/12/1975 (Ent-5/1302).

Distribution : India : Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, Hainan, Myanmar, Nepal, Pakistan, South & East China, Sri Lanka, Thailand, Vietnam and West Malaysia.

Sub-family GOMPHOCERINAE
Genus *Aulacobothrus* Bolivar, 1902

19. *Aulacobothrus luteipes luteipes*
(Walker, 1871)

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

1983. *Dnopherula (Aulacobothrus) luteipes* Bhowmik & Halder, *Rec. zool. Surv. India*, 81(1-2) ; 171.

1993. *Aulacobothrus luteipes luteipes* Ingrisch, *Ent. Scand.*, 24(3): 321.

Diagnostics: Fastigium of vertex nearly trapezoidal with truncate apex; fastigial foveolae not visible from above; pronotum with nearly lateral carinae which are weakly concave in the middle; disc of pronotum with principal sulcus distinctly behind the middle.

Material Examined: 1♀, Field near Edvabelle village, Banswasi, North Kanara, Coll. R.M. Sharma & Pty, 27/09/2011 (Ent-5/460); 1♀, Stream 10 kms from Honnavar on Jag Fall Road, Dist. North Kanara, Coll. R.M. Sharma & Pty, 24/09/1991 (Ent-5/1180); 1♀, Field Near Guruyankare village, Tal : Belthangady, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 11/02/1992 (Ent-5/1271); 4♂, Cashew Research Center Mangalore, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 03/01/1976 (Ent-5/1277); 1♂, Sadashivgarh, Dist. Karwar, Coll. G.M. Yazdani & Pty, 24/12/1975 (Ent-5/1278); 4♂, Ullal, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 29/12/1975 (Ent-5/1279); 1♂, Chru Road, Dist. Karwar, Coll. G.M. Yazdani & Pty, 23/12/1975 (Ent-5/1280); 3♂, Bandipur National Park, Coll. A.S. Mahabal & Pty, 14/1/1978 (Ent-5/1281); 2♂, Ranipura, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 02/01/1976 (Ent-5/1293).

Distribution : India : Andaman & Nicobar Islands, Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand and West Bengal.

Elsewhere : Bangladesh, China, Europe, Japan, Myanmar, Nepal, North America, Pakistan, Sri Lanka, Taiwan and Thailand.

Genus *Gelastorhinus*, Brunner von
Wattenwyl, 1893

20. *Gelastorhinus semipictus* (Walker, 1870)

1870. *Opomala semipictus* Walker, *Cat. Derm. Salt. Brit. Mus.*, 4: 512

1910. *Gelastorhinus semipictus*, Kirby, *Syn. Cat. Orth.*, 3(2): 409

Diagnostics : Antenna ensiform; head elongated, conical; fastigium of vertex long, with widely obtuse angular apex; fastigial foveolae absent; pronotum elongate with well developed median and lateral carinae; metazona shorter than prozona and its posterior margin is rounded, prosternal process short, acutely conical with broad basal part, metasternal interspace closed behind; intercalary vein of medial area of tegmina present; hind tibia bluish with brown tipped spines.

Material examined: 8♂ 14♀, Field near Edvabelle village Banswasi, Dist. North Karnataka, Coll. R.M. Sharma & Pty, 27/09/2011 (Ent-5/461); 4♂, Bachanki village and around, Tal : Mundgod, Dist. North Kanara, Coll. R.M. Sharma & Pty, 21/09/1991 (Ent-5/1118); 1♀, Anuru Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1251).

Distribution : South India.

Sub-family EYPREPOCNEMIDINAE
Genus *Eyprepocnemis* Fieber, 1853

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

1914. *Eyprepocnemis alacris*, Kirby, *Fauna Brit. India, Orth.*, : 267.

1990 *Eyprepocnemis alacris alacris*, Bhowmik, *Rec. zool. Surv. India*, 86(2): 222.

Diagnostics: Body size medium; concavity of fastigium of vertex distinct, a broad velvety black subparallel – sided stripe runs over the vertex and pronotum; tegmina subhyaline; hind tibiae bluish grey with two whitish rings at base, reddish tarsus.

Material Examined: 1♀, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1184).

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Manipur, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Afghanistan, Bangladesh, Iran, Iraq, Pakistan and Sri Lanka.

Sub-family TROPIDOPOLINAE

Genus *Tristria* Stal, 1873

22. *Tristria pulvinata* (Uvarov, 1921)

1921. *Tapiophyma pulvinata* Uvarov, *Ann. Mag. Nat. Hist. London.*, 7(9) :497.

1929. *Tristria pulvinata* Uvarov, *Rev. Suisse Zool.*, 36 :559.

Diagnostics: Medium in size; fastigium of vertex parabolic; prosternal tubercle curved backwards, strongly widened and concave apically, circus at apical third incurved, downcurved, and laterally flattened, in male subgenital plate almost linear, compressed, knife like, in female it is on the posterior margin on either side of mid line.

Material Examined: 6♂, Bellari Forest Range, Tal : Puttur, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 09/02/1992 (Ent-5/1177); 2♂, Fields near village Ujire, Tal : Belthangady, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 12/02/1992 (Ent-5/1182); 1♂, Gopal Tank, Chikkaballapur, Dist. Kolar, Coll. M.B. Rao & Pty, 19/03/1978 (Ent-5/1193); 1♀, Farm near Gauri Bidanur, Dist. Kolar, Coll. M.B. Rao & Pty, 20/03/1978 (Ent-5/1194); 1♂, Abdul Ali Garden, Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1195); 1♂, Abdul Ali Garden, Bangarpet, Karnataka Dist. Kolar, Coll. M.B. Rao & Pty, 06/03/1978 (Ent-5/1201); 2♀, Kali river 4 km from Ganeshgudi Supa dam, Dist. South Kanara, Coll. R.M. Sharma & Pty, 15/09/1991 (Ent-5/1262); 5♀, Field Near Guruyankare village, Tal : Belthangady, Dist. South Kanara,

Coll. P.P. Kulkarni & Pty, 11/02/1992 (Ent-5/1274); 1♀, Ullal, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 29/12/1975 (Ent-5/1298); 1♀, Sadashivgarh, Dist. Karwar, Coll. G.M. Yazdani & Pty, 24/12/1975 (Ent-5/1299); 2♀, Cashew Research Center, Mangalore, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 03/01/1976 (Ent-5/1300); 2♀, Church Road, Dist. Karwar, Coll. G.M. Yazdani & Pty, 23/12/1975 (Ent-5/1301).

Distribution : India : Andhra Pradesh, Assam, Bihar, Delhi, Haryana, Karnataka, Kerala, Maharashtra, Meghalaya, Orissa, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Sri Lanka.

Family PYRGOMORPHIDAE

Sub-family PYRGOMORPHINAE

Genus *Atractomorpha* Saussure, 1862

23. *Atractomorpha crenulata* (Fabricius, 1793)

1914. *Atractomorpha crenulata*, Kirby, *Fauna Brit. India*, Orth.,:181.

1960. *Atractomorpha crenulata*, Banerjee & Kevan, *Trenbia*, 25:184.

Diagnostics: Body medium, narrow and slender; antennae short and stout, sub-filiform; head conical; fastigium of vertex short; eye oval; pronotum submarginate in front and unguled behind; tegminal pointed, extended for one-fourth of their length beyond the hind femora; hind wings normally tyrian pink to light mallow purple at base.

Material Examined: 1♂, Chintamani Road, Dist. Kolar, Coll. M.B. Rao & Pty, 24/03/1978 (Ent-5/1109); 1♂, Village Balval, 10 km from Karkala on Mordibidri Road, Tal : Karkala, Dist. South Kanara, Coll. P.P. Kulkarni & Pty, 16/02/1992 (Ent-5/1164), 2♀, Near Srinivasapur Tank, Dist. Kolar, Coll. M.B. Rao & Pty, 14/03/1978 (Ent-5/1227); 1♀, Farm near Gauri Bidanur, Dist. Kolar, Coll. M.B. Rao & Pty, 20/03/1978 (Ent-5/1228); 1♀, Mashid Basalguntha pond, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty, 08/03/1978 (Ent-5/1229); 1♀, Gopal Tank, Chikkaballapur, Dist. Kolar, Coll. M.B. Rao & Pty, 19/03/1978 (Ent-5/1230); 1♀,

Kali river 4 km from Ganeshgudi Supa dam, Dist. South Kanara, Coll. R.M. Sharma & Pty, 15/09/1991 (Ent-5/1259); 1♂, Bazarka Amanai Bagepali, Dist. Kolar, Coll. M.B. Rao & Pty, 16/3/1978 (Ent-5/1289); 1♂, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1290); 1♂, Anuru Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1291), 1♀, Cashew Research Center, Dist. Mangalore, Coll. G.M. Yazdani & Pty, 03/01/1976 (Ent-5/1306).

Distribution : India : Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Lakshadweep Island, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Elsewhere : Bangladesh, Cambodia, Laos, Maldiv Island, Malaya, Myanmar, Nepal, Pakistan, Sri Lanka, Sumatra, South Vietnam and Thailand.

Genus *Chrotogonus* Serville, 1838

24. *Chrotogonus (Chrotogonus) trachypterus*
(Blanchard, 1836)

1836. *Ommexecha trachypterus*, Blanchard, *Ann. Soc. Ent. France*, 5 : 618

1914. *Chrotogonus incertus*, Kirby, *Brit. India, Orth.*, :163.

2007. *Chrotogonus (Chrotogonus) trachypterus trachypterus*, Mandal *et al.*, Pictorial

Handbook on Indian Short horned grasshopper pests (Acridoidea: Orthoptera). *Rec. zool. Surv. India*: 10

Diagnostics: Body medium size, dorsoventrally flattened; hind wings hyaline or occasionally with faintly tinged yellowish brown but never infumated or infuscated apparently always at least two third as long as tegmina.

Material examined: 1♀ 2♂, Gopaltank, Chikka Belapur, Dist. Kolar, Coll. M.B. Rao & Pty, 19/03/1978 (Ent-5/1107); 1♂, Near Kuppam Tank, Bangarpet, Dist. Kolar, Coll. M.B. Rao & Pty,

0603/1978 (Ent-5/1108); 1♀, Fatli, Dist. Kolar, Coll. M.B. Rao & Pty, 04/03/1978 (Ent-5/1113); 2♀, Tyagli, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 24/04/1992 (Ent-5/1116); 8♂, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 19/04/1992 (Ent-5/1166); 1♀, Bhatkal, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 18/04/1992 (Ent-5/1167); 2♂ 2♀, Mavinakatte, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 18/04/1992 (Ent-5/1170); 1♂, Kahiga, Kanwar Tehsil, Dist. North Kannada, Coll. P.D. Rane & Pty, 14/04/1992 (Ent-5/1254); 2♀, Bhatkal, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 14/04/1992 (Ent-5/1266); 1♂ 1♀, Anuru chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1287); 1♀, Manchanpani tank, Chikkaballapur, Dist. Kolar, Coll. M.B. Rao & Pty, 18/03/1978 (Ent-5/1292); 2♂ 4♀, Kukkata, Dist. Kolar, Coll. M.B. Rao & Pty, 03/03/1978 (Ent-5/1223); 1♀, Hanuman Temple, Malur, Dist. Kolar, Coll. M.B. Rao & Pty, 05/03/1978 (Ent-5/1225).

Distribution: India : Andhra Pradesh, Assam, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere : Afghanistan, Bangladesh, Iran, Nepal and Pakistan.

25. *Chrotogonus (Chrotogonus) oxypterus*
(Blanchard, 1863)

1798. *Gryllus scaber* [nec. Gmelin] Fabricius, *Entomologia systematica Suppl.*, :196

2008. *Chrotogonus oxypterus*, Shishodia, Faunal Diversity of Jabalpur district, M.P. (*Zool. Surv. India*), :101

Diagnostics : Wings piceous, not extending beyond fifth abdominal segment. Tegmina reaching fourth segment.

Material examined : 2♀, Fatli, Dist. Kolar Coll. M.B. Rao & Pty, 4/03/1978 (Ent-5/1112); 2♀, Bazarka Amanai, Bagepali, Dist. Kolar, Coll. M.B. Rao & Pty, 16/03/1978 (Ent-5/1236); 1♀, Vijayapura Tank, Dist. Kolar, Coll. M.B. Rao &

Pty, 19/03/1978 (Ent-5/1237); 1♀, Anuru Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 15/03/1978 (Ent-5/1238); 1♀, Bhatkal, Dist. Uttar Kannada, Coll. P.D. Rane & Pty, 14/04/1992 (Ent-5/1267); 4♂ 3♀, Kukkata, Dist. Kolar, Coll. M.B. Rao & Pty, 03/03/1978 (Ent-5/1221); 8♂ 4♀, Fatli, Dist. Kolar, Coll. M.B. Rao & Pty, 04/03/1978 (Ent-5/1222).

Distribution : India : Andhra Pradesh, Bihar, Chhattisgarh, Goa, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh and Sri Lanka.

Genus : Pyrgomorpha Serville, 1838

26. *Pyrgomorpha bispinosa* Walker, 1870

1870. *Opomala cingulata* Walker, *Cat. Derm. Salt. Brit. Mus.*, 3 : 517

2007. *Prygmorpha bispinosa bispinosa*, Mandal & Yadav, *Fauna of Andhra Pradesh, State Fauna Series*, 5 : (Part-3), *Zool. Surv. India*, : 191.

Diagnostics: Integument rugose; head and pronotum with tubercles; fastigium of vertex convex with rounded apex, frons strongly oblique and incurved; dorsum of pronotum crossed by two sulci; hind wings rosy at base; prosternal process very short almost collar like with broad base mesosternal lobe longer than broad.

Material Examined : 1♂, Konda rajan Nalli, Dist. Kolar, Coll. M.B. Rao & Pty, 11/03/1978 (Ent-5/1232); 1♂, Mashid Basalguntha pond, Mulbagal, Dist. Kolar, Coll. M.B. Rao & Pty, 08/03/1978 (Ent-5/1233); 1♂, Gopal Tank, Chikkaballapur, Dist. Kolar, Coll. M.B. Rao & Pty, 19/03/1978 (Ent-5/1234); 1♂, Kanepalli Tank, Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 13/03/1978 (Ent-5/1235); 1♀, Fatli, Kolar, Dist. Kolar, Coll. M.B. Rao & Pty, 04/03/1978 (Ent-5/1215); 1♀, Kadekar, Dist. Mangalore, West coast survey 1975-76, Coll. G.M. Yazdani & Pty, 30/12/1976 (Ent-5/1305).

Distribution : India : Andhra Pradesh : Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Orissa and Tamil Nadu.

Sub-family ORTHACRIDINAE Bolivar, 1905
Genus *Neorthacris* Kevan & Singh, 1964

27. *Neorthacris acuticeps acuticeps* (Bolivar, 1902)

1902. *Orthacris acuticeps* Bolivar, I., *Ann. Soc. Ent. Fr. Paris*, 70 : 608

2007. *Neorthacris acuticeps acuticeps*, Mandal & Yadav, *Fauna of Andhra Pradesh, State Fauna Series*, 5 : (Part-3), *Zool. Surv. India*, : 192.

Diagnostics: A black band runs from eyes to the middle of the abdominal segments on the lateral side ; fastigium of vertex long , apex rounded with a median carina pronotum with red lateral stripe and scattered white tubercles; dorsum of pronotum and median carina crossed by two sulci, metazona shorter than prozona with rounded posterior margin; prosternal process short, conical with broad base; last abdominal segment emarginated in middle forming triangular lobes.

Material Examined : 1♀, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1207); 1♀, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1208); 1♀, Kanepalli Tank, Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 13/03/1978 (Ent-5/1210); 1♂, Kulai tank, Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 13/03/1978 (Ent-5/1211); 1♀, Manchanpani Tank, Chikkaballapur, Dist. Kolar, Coll. M.B. Rao & Pty, 18/03/1978 (Ent-5/1212); 5♂, Basanotta village, Dist. Kolar, Coll. M.B. Rao & Pty, 10/03/1978 (Ent-5/1213); 3♂, Kanepalli Tank, Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 13/03/1978 (Ent-5/1216); 2♂, Bazar ka Amarai, Basepalli, Dist. Kolar, Coll. M.B. Rao & Pty, 16/03/1978 (Ent-5/1218); 1♂, Near Kulla Tank, Chintamani, Dist. Kolar, Coll. M.B. Rao & Pty, 13/03/1978 (Ent-5/1219); 10♂ 1♀, Nagarhole National Park, Karnataka Murkul Forest, Coll. S.G. Patil & Pty, 24/09/1990 (Ent-5/1253); 1♂/♀?, Nagarhole National Park, Karnataka Murkul Forest, Coll. S.G. Patil & Pty, 24/09/1990 (Ent-5/1253); 2♂, Bandipur National Park, Coll. A.S. Mahabal & Pty, 14/1/1978 (Ent-5/1283); 4♂, Kukkata, Dist. Kolar, Coll. M.B. Rao & Pty, 03/03/1978 (Ent-5/1220).

Distribution : India : Andhra Pradesh and Tamil Nadu.

SUMMARY

The systematic account of 27 species belonging to 25 genera under family Acrididae and Pyrgomorphidae covering over 340 examples from Karnataka State is provided here. The study material is based on the collection present in Western Regional Centre, Pune, Maharashtra.

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REFERENCES

- Ander, K. 1939 a. Systematic Einteilung Und phylongenie der Ensiferen (Saltatoria) auf Grund von Vergleichend anatomischen Utersuchungen. *Verh. 7th Intern. Kongr. Ent. Berlin*, 2:306.
- Ander, K. 1939 b. Vergleichend-anatomischen und Phylongenetische Studien Uber die Ensifera (Saltatoria). *Opusc. Ent. Lund.*, 2:306.
- Bhowmik, M.K., Saha, B.C. and Bhargava, R.N. 1990. Contribution to the Acridid fauna (Orthoptera) of N.E. States of India. *Rec. zool. Surv. India*, 86 (2):217-227.
- Bolivar, I. 1902. Les Orthopteres de St. Joseph's College a Trichinopoly (Sud de l'Inde), 2e Partie. *Annls. Soc. Ent. Fr.*, 68:761-812, pls. 11-12, Paris (1899).
- Fletcher, T.B. 1914. Some South Indian Insects and other animals of importance, considered especially from an economic point of view, 565 pp. Madras.
- Hazra, A.K., Shishodia, M.S., Barman and Mukherjee, T.K. 1984. Population ecology of some grasshoppers in cultivated and natural grassland ecosystems in West Bengal. *Environment and Ecology (Kalyani)*, 2(4) : 319-322.
- Kirby, W. F. 1914. The Fauna of British India, including Ceylon & Burma. Orthoptera Vol. 1 (Acrididae) Taylor & Francis, London, U. K.
- Mayya, S.; Sreepada, K.S. and Hegde, M.J. 2005. Survey of short-horned grasshoppers (Acrididae) from Dakshina Kannada district, Karnataka. *Zoos' Print Journal.*, 20(9):1977-1979.
- Nishitha and Rai, Yogitha. 1999. studies on grasshopper species collected from Mangalore University Campus. M.Sc Dissertation. Mangalore University. Kumar, Prasad. 1986. Faunistic studies on short-horned grasshoppers (Orthoptera : Acridoidea) of Bangalore district. MSc Thesis. University of Agricultural Sciences, Bangalore. Rehn, J.A.G. 1904. Studies in the Orthopterous subfamilies Acrydinae (Tettiginae) Euasticinae and Proscopinae. *Proc. Acad. National sci. Philad.*, 16 : 658-683.
- Schmidt, G.H. 2004. A new species of *Plerisca* from South India (Orthoptera, Pyrgomorphidae). *Fragm. Entomol.*, 36(1) : 17-24.
- Shishodia, M.S.; Chandra, K. and Gupta, S.K. 2010. An annotated checklist of Orthoptera (Insecta) from India. *Rec. Zool. Surv. India, Occ. Paper No. 314*: 1-366.
- Stal, C. 1873. Orthoptera nova descriptis. *Ofevers K. Vetensk Akad. Forh., Stockh.* 30(4) : 39-53.
- Tandon, S. K. , Hazra, A.K. and Shishodia. M. S. 1991. Orthoptera : Acrididae. Animal Resources of India. *Pub. : zool. Surv. India* : 271-273.