

REPORT ON A COLLECTION OF ORTHOPTERA (INSECTA) FROM THE DISTRICTS  
OF PURULIA AND BANKURA, WEST BENGAL, INDIA

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ABSTRACT

17 species and subspecies of grasshoppers and crickets (Orthoptera) have been recorded and reported for the first time from the districts of Purulia and Bankura, West Bengal, India. Zoogeographical data of all species are provided ; additional taxonomical characters and measurements have been given whenever needed.

INTRODUCTION

For no apparent reason, the Orthopteran fauna of Purulia and Bankura districts of West Bengal is meagrely known. The present communication fills up the lacunae of our knowledge about the faunal composition of the districts.

The districts of Purulia and Bankura are the easternmost limit of the Chottanagpur plateau of Bihar. Both the districts are the hottest and driest regions of W. B. In winter, the average annual rainfall is less than 5 cm and temperature lows down up to 10°C. In summer, the average annual rainfall is 110 cm to 130 cm and average temperature rises up to 46°C. The vegetation of the districts is of monsoon forest or moist deciduous forest, as December to May is the dry period. But most of the area is now denuded or deforested for agriculture (mostly paddy).

All the 17 species and subspecies dealt here with are new records from the districts and definitely extend their biogeography. Further, data have been furnished in respect of the zoogeographical distribution of all species and subspecies ; additional characters

of taxonomical importance and measurements have been provided, wherever necessary.

All collections were, unless stated otherwise, done by the author. All the measurements are given in millimetre.

W. B. stands for West Bengal.

SYSTEMATIC ACCOUNT

Order : ORTHOPTERA

Family : ACRIDIDAE

1. Subfamily : ACRIDINAE

Genus (1) *Acrida* Linnaeus, 1758

1. *Acrida exaltata* (Walker, 1859)

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

*Material* : W. B. : 1 ♂ ; Raghunathpur Mulbery moth seed farm, Purulia ; 18.9.81. Other localities : Himachal Pradesh : 1 ♂ ; Paota ; 10.6.1970 ; *M. M. Chandra* coll. 2 ♂ ; Rajgarh Road ; 5.7.1971 ; *H. P. Agrawal* coll. Sikkim ; 1 ♂ , (1 nymph) ; Khanikhola, Rangpo ; 6.7.1979 ; *P. Halder* coll.

*Remarks* : The species (♂ 26-35, ♀ 44-54) is predominantly distributed in India, Pakistan, Bangladesh, Sri Lanka, Afghanistan, S. E.

Tibet, S. E. Persia and Arabia (Yemen). It is available both in open grasslands including agricultural fields (paddy) as well as in moist, deep tropical woods.

## II. Subfamily GOMPHOCERINAE

Genus (2) *Dnopherula* Karsch, 1896

### 2. *Dnopherula (Aulacobothrus) luteipes* (Walker, 1871)

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

*Material* : W. B. : 1 ♂, 1 ♀ ; Mukutmanipur, Bankura ; 22.9.81.

*Remarks* : The species (♂ 14.5, ♀ 21) is very common in oriental region.

Genus (3) *Leva* Bolivar, 1909

### 3. *Leva apicalis* (Walker, 1871)

*Stenobothrus apicalis* Walker, 1871. *Cat. Derm. Salt Br. Mus.* 5 (suppl.) : 81.

*Material* W. B. : 1 ♂, 2 ♀ ; Baram, Purulia ; 12.9.81. 1 ♀ ; Sirkabad, Purulia ; 14.9.81. 1 ♂ ; Ajadhya Hill, Purulia ; 15.9.81. 1 ♂ ; Mukutmanipur, Bankura ; 23.9.81.

*Remarks* : This species (♂ 12, ♀ 14-17) was described from Bombay. It is recorded here for the first time from a place other than its type locality. The specimens were collected from growing paddy fields and its surrounding places.

## III. Subfamily OEDIPODINAE

Genus (4) *Aiolopus* Fieber, 1853

### 4. *Aiolopus thalassinus tamulus* (Fabricius, 1798)

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

*Material* : W. B. : 1 ♂, 1 ♀ ; Sirkabad, (Paddy field) Purulia ; 14.9.81.

*Remarks* : This subspecies is common in Oriental region, Far east Asian Islands, China, Japan, Philippine isle and Australian regions. It is a serious pest of agricultural fields specially of paddy fields.

Genus (5) *Acrotylus* Fieber, 1853

### 5. *Acrotylus humbertianus* Saussure, 1884

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

*Material* : W. B. : 2 ♂ ; Ajadhya Hill foothill, Purulia ; 15.9.81. 1 ♀ ; Sevok, Darjeeling ; 22.11.74. 2 ♂, 1 ♀ ; Mongpong, Darjeeling ; 15.11.74. Assam : 1 ♀ ; Raimona Forest, Goalpara ; 27.1.73.

*Remarks* : The species is distributed over India, Sri Lanka, Afganistan and Pakistan. In India, it was so far known from Pusa, Chapra, Keitni (M. P.) Shevaroy (Tamil Nadu) and Bulsar (Bombay). It is recorded here for the first time from the state of W. B.

*Measurements* : Length of body 17-18 ; length of tegmeng 18-19.5 ; posterior femur 10.5-11 ; posterior tibia 8.5-9 (measured 3 ♀).

Genus (6) *Oedaleus* Fieber, 1853

### 6. *Oedaleus abruptus* (Thunberg, 1815)

*Gryllus abruptus* Thunberg, 1815. *Mem. Acad. Sci. St-Petersb.* 5 : 238.

*Material* : W.B. : 1 ♂, 3 ♀ ; Baram, Purulia ; 12.9.81. 2 ♂, 1 ♀ ; Arsha, Purulia ; 11.9.81. 1 ♂ ; Raghunathpur Mulberry moth seed farm, Purulia ; 18.9.81.

*Remarks* : The species is distributed over Afganistan, Burma, China, India, Nepal, Sri Lanka and Thailand. It is very common in India and is a pest on our agricultural crops.

Genus (7) **Pternoscirta** Saussure, 18847. **Pternoscirta bimaculata** (Thunberg, 1815)

*Gryllus bimaculatus* Thunberg, 1815. *Mem. Acad. Sci. St-Petersb.* 5 : 239.

*Material* : W. B. : 1 ♂ (and 2 nymphs) ; Mukumanipur, Bankura ; 22.9.81. 1 ♂ ; Ajadhya Hill, Purulia ; 15.9.81.

*Remarks* : Additional description : Antennae much longer than head and pronotum taken together, mostly with elongated segments, roughly 3 times longer than width, first six segments smaller than rest and almost of equal length and breadth. Metazona longer than prozona. Mesosternal plates wider than long (about half) ; their interspace a little wider than width of one of its plate. Metasternal plates contiguous. Male anal cerci conical, shorter than subgenital plate, and slightly up turned.

Nymphs (9.5-16.5) more reddish and possess more granules on body parts. Tegmina etc. not yet grown up.

*Measurements* : Length of body 16.5-16.75 ; length of prozona 1.5-1.75 ; length of metazona 3-3.25 ; tegmen 18.5-19 ; wing 17-17.5 ; posterior femur 11.5-12 ; posterior tibia 9.25-9.5 (measured 2 ♂).

Genus (8) **Trilophidia** Stal, 18738. **Trilophidea annulata** (Thunberg, 1815)

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

*Material* : W. B. : 1 ♂ ; Arsha, Purulia ; 11.9.81. 1 ♀ ; Baram ; Purulia ; 12.9.81. 1 ♂ , 1 ♀ ; Mukutmanipur, Bankura ; 23.9.81.

*Remarks* : This is a widespread and variable species (♂ 12.5-15.5, ♀ 16-22) of the Oriental region.

## IV. Subfamily COPTACRIDINAE

Genus (9) **Eucoptacra** Bolivar, 19029. **Eucoptacra praemorsa** (Stal, 1860)

*Acridium catantops* (?) *praemorsum* Stal, 1860. *Eugenie's Resa, Orth.* 3 : 330.

*Material* : W. B. : 2 ♂ (and 2 ♀ advanced nymphs) ; Mukutmanipur, Bankura ; 22.9.81.

*Remarks* : It is one of the little known grasshoppers in India.

Genus (10) **Epistaurus** Bolivar, 188910. **Epistaurus sinetyi** Bolivar, 1902

*Epistaurus sinetyi* Bolivar, 1902. *Annls Soc. ent. Fr.* 70 : 623.

*Material* : W. B. : 2 ♂, 3 ♀ ; Mukutmanipur, Bankura, 22-23.9.81.

*Remarks* : The species was so far known from South India (Trichinopoly) ; Howrah (Botanical Garden) and Sri Lanka.

## V. Subfamily CATANTOPINAE

Genus (10) **Catantops** Schaum, 185310. **Catantops pinguis innotabilis** (Walker, 1870)

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

*Material* : W. B. : 1 ♂ ; Mukutmanipur, Bankura ; 23.9.81.

*Remarks* : This subspecies is rather less common in India.

## VI. Subfamily OXYINAE

Genus (11) **Oxya** Serville, 183111. **Oxya velox** (Fabricius, 1787)

*Gryllus velox* Fabricius, 1787. *Mant. Ins.* 2 : 239.

*Material* : W. B. : 1 ♀ ; Mukutmanipur, Bankura ; 24.9.81. Other localities : West

Bengal, Sikkim and H. P. : Numerous examples from different localities.

*Remarks* : The species is very common in our agricultural fields during rainy season.

#### VII. Subfamily HEMIACRIDINAE

Genus (12) *Spathosternum* Karsch, 1877

#### 12. *Spathosternum prasiniferum prasiniferum* (Walker, 1871)

*Heteracris* (?) *prasiniferum* Walker, 1871. *Cat. Derm. Salt. Br. Mus.* 5 (suppl.) : 65.

*Material* : W. B. : 1 ♂, 3 ♀ ; Mukutmanipur, Bankura ; 21.9.81.

*Remarks* : This subspecies is one of the commonest grasshoppers (♂ 14-16.5, ♀ 19-22) of India, to be met with in open grass fields.

#### VIII. Subfamily CYRTACANTHACRIDINAE

Genus (13) *Cyrtacanthacris* Walker, 1870

#### 13. *Cyrtacanthacris tatarica* (Linne, 1758)

*Gryllus locusta tataricus* Linnaeus, 1758. *Syst. Nat.* (10th ed) : 492.

*Material* : W. B. : 1 ♂, 2 ♀ ; Mukutmanipur, Bankura ; 23.9.81.

*Remarks* : The species (♂ 44-46, ♀ 58-60) is distributed over Africa and Oriental region. In India it was so far known from Andhra Pradesh (Nagarjun Sagar), Tamil Nadu (Nilgiri), Orissa (Chilka and Barkuda) and W. B. (Calcutta).

#### Family PYRGOMORPHIDAE

Genus (14) *Chrotogonus* Serville, 1838

#### 14. *Chrotogonus trachypterus trachypterus* (Blanchard, 1836)

*Ommexycha trachypterus* Blanchard, 1836. *Annls Soc. ent. Fr.* 5 : 618, pl. 22, fig. 6.

*Material* : W. B. : 2 ♂ ; Baram, Purulia ; 12.9.81. 1 ♀ ; Sirkabad, Purulia ; 14.9.81. 6

nymphs (of different stages) ; Mukutmanipur, Bankura ; 20-21.9.81. 1 ♂ ; Bamanpockri, Darjeeling (Tarai) ; 22.8.75. Orissa : 1 ♀ (and 1 nymph (♀)) ; Barkuda Is., Chilka Lake, Ganjum dist., IX-1920 ; N. A. coll. Sikkim : 3 ♂, 4 ♀, (and 4 nymphs) ; Rangpo ; 2-7.7.-1979 ; P. Haldar and party coll.

*Remarks* : The subspecies (♂ 12-16, ♀ 20-23) has a rather restricted distribution to North eastern India (Kevan, 1968 p. 153).

The sub-species is, however, here reported for the first time from the state of W. B. The availability of nymphs in September indicates that the generation starts after monsoon.

*Measurements* : Length of body ♂ 12-16, ♀ 20-23 ; antennal length ♂ 5-6.5, ♀ 6-8 ; head length ♂ 2.2-2.8, ♀ 3-3.6 ; maximum width of head ♂ 1.1-1.6, ♀ 1.6-2.2 ; maximum width of face ♂ 2.4-2.7, ♀ 3.8-4.2 ; minimum width of interocular distance ♂ .7-.9, ♀ 1-1.1 ; width of frontal ridge at median ocellus ♂ .3-.5, ♀ .4-.5 ; pronotal length ♂ 2.9-3.9, ♀ 4.2-5.2 ; length of prozona ♂ 1.4-1.7, ♀ 2-2.3 ; length of metazona ♂ 1.5-2.2, ♀ 2.2-2.5 ; maximum width of pronotum ♂ 4.2-5.2, ♀ 6.3-7 ; minimum width of pronotum ♂ 2-3.1, ♀ 3.2-4.5 ; length of tegmen ♂ 9-15, ♀ 14-19 ; maximum width of tegmen ♂ 1.6-2.5, ♀ 3.3-3.7 ; length of post. femur ♀ 7-9, ♀ 9.5-10.5 ; maximum width of post. femur ♂ 2.1-2.7, ♀ 3-3.3 ; length of post. tibia ♂ 6-7, ♀ 8-8.5.

Genus (15) *Atractomorpha* Saussure, 1861

#### 15. *Atractomorpha crenulata* (Fabricius, 1793)

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

*Material* : W. B. : 1 ♂, 2 ♀ ; Raghunathpur, Purulia ; 18.9.81. 1 ♀ ; Panitanki, Darjeeling ; 12.9.1974. 1 ♀ ; Sukha, Adalpur, Darjeeling ; 15.7.1974. 1 ♂ ; Raimona forest,

Darjeeling ; 27.1.1973. 1 ♂, 1 ♀ ; Mirik, Darjeeling ; 17.9.1974. 2 ♂ ; Saurini lower Basti area, Darjeeling ; 22-25.6. 1979. 1 ♂ ; Mirik Lake area, Darjeeling ; 22.6.1979. 1 ♂, 1 ♀ ; Sevok, Darjeeling ; 22-24. 11. 1974. 1 ♂ ; Sundarinala, Jamduar, Darjeeling ; 2.11.1973. 1 ♀ ; Murti Rivulet, Samsing, Darjeeling ; 6.3.1974. 1 ♂, 3 ♀ (and 1 nymph) ; Garia, 24-Parganas, 13.7.1974. 1 ♂, 2 ♀ ; Raghunathpur, 24-Parganas ; 17.7.1974. 2 ♂, (and 1 nymph) ; Singur, Hooghly ; 30.3.1978. 2 ♂, 1 ♀ ; Chandannagar, Hooghly ; 8.9.1979. 1 ♂, 1 ♀ (and 1 nymph) ; Andul, Howrah ; 12.9.-1978. 1 ♂, 1 ♀ (and 1 nymph) ; Botanical Garden, Howrah ; 17.3.1978 and 16.5.1978. Himachal Pradesh : 2 ♂ ; Renuka Lake, Sirmipur ; 11. 4. 1974 ; Orissa : 2 ♀ ; Barkuda, Chilka ; 9.11.1920 ; N. A. coll. 1 ♂ ; Saproon ; 9. 10. 1975. Assam : 1 ♂, 1 ♀ ; Kachugram forest ; 22.1.1973. Sikkim : 3 ♂, 1 ♀ ; Rangpo ; 2, 3, 5.7.1979 ; *P. Haldar & party* coll.

*Remarks* : The species is generally distributed over Laccadive and Maldiva Isle, Sri Lanka, India (except far north), Bangladesh and South-eastwards to South Vietnam.

The collection contains a female nymph (19). Antennae, tegmina (5.5) and genital parts of the specimen not complete but its median carina of pronotal disc more prominent and tectiform, with lateral carinae well impressed. The membranous area of pronotal lobe not yet detectable. Fastigium of vertex more concave and marginated than in adults.

This species is commonly found on two plants viz. *Tephrosia* sp. and *Crotalaria* sp.

*Measurements* : Length of body ♂ 17-20, ♀ 26-31 ; antennal length ♂ 5.5-6, ♀ 5.5-6.5 ; head length ♂ 3.1-4.1, ♀ 4.6-4.7 ; maximum width of head ♂ 1-1.2, ♀ 1.4-1.7 ; maximum width of face ♂ 1.5-2, ♀ 2.8-3 ; minimum width of interocular distance ♂

.5-7, ♀ .8-1 ; width of frontal ridge at median ocellus ♂ .2-3, ♀ .3-4 ; pronotal length ♂ 3.4-4.4, ♀ 5.9-6.9 ; length of prozona ♂ 1.8-2.4, ♀ 3.1-3.6 ; length of metazona ♂ 1.6-2, ♀ 2.8-3.4 ; maximum width of pronotum ♂ 1.8-2.3, ♀ 3-3.4 ; minimum width of pronotum ♂ 1.2-1.4, ♀ 1.9-2.2 ; length of tegmen ♂ 14.5-18, ♀ 20-23 ; maximum width of tegmen ♂ 1.9-2, ♀ 3.3-3.5 ; length of post femur ♂ 7-9.5, ♀ 12-13 ; maximum width of post. femur ♂ 1.4-1.7, ♀ 1.8-2 ; length of post. tibia ♂ 6.5-8, ♀ 10-11.

#### Family GRILLIDAE

Genus (16) *Paranemobius* Saussure, 1877

#### 16. *Paranemobius pictus* (Saussure, 1877)

*Pseudonemobius pictus* Saussure, 1877. *Mem. Soc. Phys. Hist. nat. Geneve*, 25 : 235-236.

*Material* : W. B. : 1 ♀ ; Baram, Purulia ; 12.9.81.

*Remarks* : The species was described from Kashmir and now known from Bombay, Nagpur, Chotanagpur, Karnataka, Kerala and Sri Lanka. The availability of the species in Purulia indicates its easternmost limit and is a new record from W. B.

Genus (17) *Acanthoplistus* Saussure, 1877

#### 17. *Acanthoplistus birmanus* Saussure, 1877

*Acanthoplistus birmanus* Saussure, 1877. *Mem. Soc. Phys. Hist. nat. Geneve*. 25 : 490, pt. 15, fig. 2.

*Material* : W. B. : 1 ♂ ; Arsha, (on embarkment of paddy field) Purulia ; 11.9.81.

*Remarks* : The species was so far known from Himachal Pradesh, Uttar Pradesh, Karnataka and Tamil Nadu. Its availability in Purulia district indicates its discontinuous distribution in India. The specimen (7 mm.) studied is a little smaller in size.

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## REFERENCE

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