

ON THE CRICKETS (ORTHOPTERA : GRYLLIDAE) OF
DHARMAPURI DISTRICT, TAMILNADU, INDIA

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INTRODUCTION

Dharmapuri District of Tamilnadu was selected by Zoological Survey of India for faunistic surveys during 1985 and 1986. The district was surveyed twice by the Southern Regional Station of Zoological Survey of India—once in April 1985 and again in February-March 1986. The first survey focussed on the northwestern, western and southwestern areas, while the second was devoted to the southern and southeastern areas. As a member of both the survey teams, the present author was able to collect, observe and examine a considerable number of gryllids. The present paper deals with this material, totalling 212 specimens, belonging to 28 species under subfamilies of Family Gryllidae.

SYSTEMATIC ACCOUNT

I. Subfamily : GRYLLINAE

1. *Gymnogryllus kashmirensis* Bhowmik

1967. *Gymnogryllus kashmirensis* Bhowmik, *Sci. Cult.*, 33 : 244.

Material examined : Dharmapuri dist. : 1 ♀, Denkanikotta-Keesan Kuppam (Thalli), 09.iv.1985, Regd. No. SRS/ZSI/I/Or/87 ; 1 ♂, 3 ♀, Denkanikotta Forest RH, 07.iv.1985, Regd. No. SRS/ZSI/Or/86 (Koshy Mathew & pty. coll.).

Distribution : Assam and Meghalaya west to UP, Jammu, Rajasthan, MP,

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Goa and South India except Andhra Pradesh ; Burma ; Indonesia ; S. Vietnam.

Remarks : As mentioned by Vasanth (1982), the opinion of Bhowmik (1977) that *G. minor* Chopard, 1969 is a synonym of the present species, appears to be highly improbable. *G. kashmirensis*, as such, has not been recorded earlier from Tamilnadu. Chopard (1969) recorded *G. minor* from Coimbatore, Tamilnadu. The present record is the second from the state of Tamilnadu, and the first from Dharmapuri district.

The lone male and two female specimens examined have a rufous head, while the rest have a black head. The yellow colour at the apical part of the posterior femora is more marked in the specimens with the rufous head.

2. *Gryllus bimaculatus* De Geer

1773. *Gryllus bimaculatus* De Geer, *Mem. Ins.*, 3 : 521.

Material examined : Dharmapuri dist. : 3 ♂, 3 ♀, 4 nymphs, Denkanikotta-Sameri, 08.iv.1985, Regd. No. SRS/ZSI/I/Or/96 & 97 ; 1 ♂, Hogenekal, along R. Cauvery, c. 225m, 16.iv.1985, Regd. No. SRS/ZSI/I/Or/95 ; 1 ♂, Denkanikotta-Keesan Kuppam, 09.iv.1985, Regd. No. SRS/ZSI/I/Or/93 ; 1 ♀, 1 nymph, Denkanikotta-Ayyur RF, c. 850 m, 06.iv.1985, Regd. No. SRS/ZSI/I/Or/94 ; 1 ♂, Kottapatti Forest RH compound, 25.ii.1986, Regd. No. SRS/ZSI/I/Or/98 (Koshy Mathew & pty. coll.).

Distribution : Broadly distributed throughout India. Also Pakistan, Sri Lanka, Burma, Malaysia, Singapore, Nepal, Africa and Mediterranean Region.

Remarks : Two males show tegmina of light colouration which contrast with the shiny black pronotum. This lighter colour is, perhaps, the colour of the wings seen through the tegmina.

The earlier records of this widely dispersed species from Tamilnadu are from Coimbatore, Coonoor in the Nilgiri Hills, Kodaikanal in the Palani Hills, Yercaud in the Shevroy Hills and Tiruchirapalli. Vasanth & Shrinivasan (1986) and Vasanth (*in press-1*) have recorded this species from Javadi Hills.

Key to species of *Teleogryllus* from Dharmapuri district

Head with or without faint yellow band along internal margin of eyes ; all veins of lateral field of tegmina equally distant ; ovipositor subequal to body length
 *mitratus* (Burmeister)

Head with a prominent yellow band along internal margin of each eye ; veins of lateral field of tegmina divided into two groups by a space ; ovipositor generally shorter than body length
 *occipitalis* (Serville)

3. *Teleogryllus mitratus* (Burmeister)

1838. *Gryllus mitratus* Burmeister, *Handb. Ent.*, 2 : 34.

Material examined : Dharmapuri dist. : 7 ♂, 6 ♀, Hogenekal, along R. Chinnar, c. 225m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/83, 84, 85 ; 8 ♂, 3 ♀, Denkanikotta-Sameri, 08.iv.1985, Regd. No. SRS/ZSI/I/Or/78, 79, 80 ; 1 ♂, Hosur-Perhandipalli, c. 800m, 03.iv.1985, Regd. No. SRS/ZSI/I/Or/82 ; 1 ♂, Kottapatti : Chettigutta-Ammapeta aru, c. 330m, 26.ii.1986, Regd. No. SRS/ZSI/I/Or/133 ; 1 ♀, Shevroy Hills (Bommidi Section), c. 450m, 08.iii.1986, Regd. No. SRS/ZSI/I/Or/81 (Koshy Mathew & pty. coll.).

Distribution : Distributed widely in India including the Andaman and Nicobar Islands. Also in Sri Lanka, Nepal, Burma, Malaysia, Singapore, Indonesia, Thailand, Borneo, Indochina, Philippines, Tenasserim, China, Vietnam.

Remarks : This species was found to be abundant under stones in the bank of a *jheel* at Sameri.

4. *Teleogryllus occipitalis* (Serville)

1838. *Gryllus occipitalis* Serville, *Ins. Orthopt.*, 339.

Material examined : Dharmapuri dist. : 1 ♂, 1 ♀, Denkanikotta-Sameri, 08.iv.1985, Regd. No. SRS/ZSI/I/Or/77 ; 1 ♂, Denkanikotta-Keesan Kuppam (Thalli), 09.iv.1985, Regd. No. SRS/ZSI/I/Or/76 (Koshy Mathew pty. & coll.).

Distribution : Distributed over most Indian states. Also Bhutan, Nepal, Tibet,

Bangladesh, Sri Lanka, Malaysia, Japan, Philippines, Vietnam, Thailand, Indonesia, Borneo, Celebes.

Remarks : This is the first record of this species from Dharmapuri district and the third from Tamilnadu, the earlier ones being from Madurai and Valparai (Coimbatore district). Vasanth (*in press-2*) recorded it for the first time from Kerala.

5. *Plebeigryllus guttiventris* (Walker)

1871. *Gryllus guttiventris* Walker, *Cat. Derm. Salt. Br. Mus.*, 5, (suppl.) : 6.

Material examined : Dharmapuri Dist. : 8 ♂, 17 ♀, Hogenekal, along R. Chinnar, c. 225m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/117, 118, 121, 122, 123, 124; 1 ♂, Denkanikotta-Keesan Kuppam (Thalli), 09.iv.1985, Regd. No. SRS/ZSI/I/Or/120; 1 ♂, Anchetty Forest RH compound, c. 525m, 13.iv.1985, Regd. No. SRS/ZSI/I/Or/119; 1 ♀, Denkanikotta, Ayyur RF, c. 525m, 06.iv.1985, Regd. No. SRS/ZSI/I/Or/116 (Koshy Mathew & pty. coll.).

Distribution : Manipur, eastern India to UP south to Kerala with the absence of Andhra Pradesh. Also reported from Sri Lanka, Burma and Sudan (?).

Remarks : As far as is known at present, this species has a wider distribution in South India than in the northern, northwestern and northeastern parts of India. The present record extends its known range within Tamilnadu. Although Bhowmik (1985) included this species in his checklist of Gryllidae from the Eastern Himalaya, there is no record of it so far from that region.

6. *Platygryllus brunneri* (Saussure)

1877. *Gryllus brunneri* Saussure, *Mem. Soc. Geneve*, 25 : 170.

Material examined : Dharmapuri dist. : 1 ♂, 1 ♀, Hogenekal, along R. Chinnar, c. 225, 17.iv.1985. Regd. No. SRS/ZSI/I/Or/99; 1 ♀, Denkanikotta-Keesan Kuppam (Thalli), 09.iv.1985, Regd. No. SRS/ZSI/I/Or/101; 1 ♂, Kottapatti Forest RH compound, c. 325m, (night collection), 25.ii.1986; 1 ♂, Pudur & vicinity, c. 760m, 05.iii.1986, Regd. No. SRS/ZSI/I/Or/135.

Distribution : Limited in India to Bihar, Orissa, UP, HP, Rajasthan, MP and Tamilnadu. Also recorded from Bangladesh and Morocco.

Remarks : The present record is the third of this species from Tamilnadu, the earlier ones being from Coimbatore, and from the Javadi Hills (Vasanth, *in press-1*).

Key to the species of *Modicogryllus* from Dharmapuri district

1. Colouration blackish, with rufous or rufous-yellow legs ; head without ornamentation ; posterior emargination of epiphallus of male genitalia with a median projection *blennus* (Saussure)
- Colouration paler, without contrasting legs ; head ornamented with short yellow lines ; posterior emargination of epiphallus without median projection ... 2
2. Veins or lateral field of tegmina separated from one another and strongly curved ; epiphallus of male genitalia dorsoventrally broader apically, and ectoparameres posteriorly slender *confirmatus* (Walker)
- Veins of lateral field closer and straight ; in lateral view, epiphallus apically more slender and ectoparameres slender only at apex *ehsani* (Chopard)

7. *Modicogryllus blennus* (Saussure)

1877. *Gryllodes blennus* Saussure, *Mem. Soc. Geneve.*, 25 : 215.

Material examined : Dharmapuri dist. : 1 ♂, Bommidi, c. 440m, 08.iii.1986, Regd. No. SRS/ZSI/I/Or/147 ; 2 ♀, Bommidi, c. 440m, 11.iii.1986, Regd. No. SRS/ZSI/I/Or/158 & 159 (Koshy Mathew & pty. coll.).

Distribution : Assam (?), W. Bengal, UP, Rajasthan, Tamilnadu. Also recorded from Burma, Sri Lanka, Malaysia, Indonesia (Java), Australia, Solomon Islands.

Remarks : All the specimens studied show concave anterior margin of pronotum and completely rufous to yellow-rufous legs. Posterior tibiae of male with 5 internal and 6 external spines, those of females with 5 spines on both margins. Apical field of male tegmina with 4 regular veins. Ovipositor of females with apical valves blunt, not acute as described by Chopard (1969). Subgenital plate of male broad anteriorly, notched apically.

Although the male specimen appears to be quite definitely of the genus *Modicogryllus* Chopard, on the basis of its external features, its genitalia does not key down to this genus in Randell (1964) ; it differs in (1) having quite conspicuous transverse parameral

muscle apodeme in endoparameres, and (2) the absence of expanded parameral muscle insertion in endoparameres.

This is the second record of this species from South India, the first being from Madurai in Tamilnadu. Vasanth (1982) expressed doubts about the record of this species from Assam because he examined a female specimen in the collection of the Academy of Natural Sciences of Philadelphia (ANSP), USA, identified as *blennus* by Chopard, which he actually found to be a female of *Stephoblemmus humbertiellus* Saussure. Since Chopard (1969) mentions the repository of the specimen from Assam as ANSP, if this is the only specimen from Assam identified as *blennus* (Sauss.) in the ANSP collection, the specimen remains unknown from Assam. Hence, the query mark after 'Assam' under 'Distribution'.

8. *Modicogryllus confirmatus* (Walker)

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

Material examined : Dharmapuri dist. : 12 ♂, 1 ♀, Hogenekal, along R. Chinnar, c. 225m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/72, 104, 156 ; 1 ♀, Denkanikotta-Keesan Kuppam (Thalli), 09.iv.1985, Regd. No. SRS/ZSI/I/Or/66 ; 1 ♂, Lake near Anchetty Forest RH, c. 525m, 12.iv.1985, Regd. No. SRS/ZSI/I/Or/157 ; 3 ♀. Anchetty Forest RH, c. 525m, 10.iv.1985, Regd. No. SRS/ZSI/I/Or/154 ; 1 ♂, 2 Km. on Hogenekal-Dharmapuri Road, c. 220m, 18.iv.1985, Regd. No. SRS/ZSI/I/Or/152 ; 1 ♀, Hogenekal Forest RH, 18.iv.1985, Regd. No. SRS/ZSI/I/Or/153 ; 1 ♀, Kottapatti-Singleri and vicinity, c. 290m, 28.ii.1986, Regd. No. SRS/ZSI/I/Or/151 (Koshy Mathew & pty. coll.).

Distribution : Northeastern India west to Haryana and Rajasthan, south to Karnataka and Tamilnadu, Andaman Islands. Also known from Nepal, Bangladesh, Burma, Sri Lanka, Pakistan, Malaysia, Thailand, China and Iran.

Remarks : The earlier records of this species in Tamilnadu are from Masinagudi (Nilgiri Hills), Madurai, and Javadi Hills (Vasanth, *in press-1*).

A few of the specimens examined show a horizontal yellow band across the occiput connecting the short vertical lines. This may be distinct in some, indistinct in others,

9. *Modicogryllus ehsani* (Chopard)

1961. *Modicogryllus ehsani* Chopard, *Eos*, 37 : 273.

1969. *Gryllus ehsani*, Chopard, *Fauna Ind. Grylloidea*, 2 : 64.

Material examined : Dharmapuri dist. : 1 ♂, 6 ♀, Denkanikotta-Sameri, 08.iv.1985, Regd. No. SRS/ZSI/I/Or/105, 106, 113, 115 ; 4 ♂, 2 ♀, Hogenekal, along R. Chinnar, c. 225m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/109, 111, 112 ; 1 ♂, Anchetty Forest RH, c. 525m, 10.iv.1985, Regd. No. SRS/ZSI/I/Or/114 ; 1 ♀, Hogenekal, along R. Cauvery, c. 225m, 16.iv.1985, Regd. No. SRS/ZSI/I/Or/107 ; 1 ♂, Kottapatti-Singleri and vicinity, c. 290m, 20.ii.1986, Regd. No. SRS/ZSI/I/Or/108 ; 1 ♂, Bommidi, c. 440m, 11.ii.1986, Regd. No. SRS/ZSI/I/Or/110 (Koshy Mathew & pty. coll.).

Distribution : Very restricted distribution in India ; so far known only from Assam, Karnataka and Tamilnadu. Also recorded from Pakistan.

Remarks : One male and two female specimens examined are longer than mentioned by Chopard (1969), viz., 11.5, 11.0 and 12.0 mm respectively. In one male and female the veins in the lateral field of tegmina are more or less separated as in *M. confirmatus*.

The present record is the first of this species from Dharmapuri district, where it appears to be widely distributed.

10. *Turanogryllus maculithorax* (Chopard)

1969. *Gryllopsis maculithorax* Chopard, *Fauna Ind. Grylloidea*, 2 : 73.

Material examined : Dharmapuri dist. : 4 ♀, 1 nymph, Anchetty-Kulumuru pallam, c. 475m, 12.iv.1985, Regd. No. SRS/ZSI/I/Or/58 (Koshy Mathew & pty. coll.).

Distribution : So far confined to Karnataka and Tamilnadu in India.

Remarks : This is the first record of this species from Tamilnadu. The only other record in the country is from its type-locality in the western ghats in Karnataka.

The specimens examined have brown maxillary palpi, dark brown legs, and sometimes, 6-7 external spines on posterior tibiae.

11. *Gryllopsis furcata* (Saussure)

1877. *Grylloides furcatus* Saussure, *Mem. Soc. Geneve*, 25 : 231.

Material examined : Dharmapuri dist. : 1 ♂, Denkanikotta-Noganoor RF, c. 800m, 07.iv.1985, Regd. No. SRS/ZSI/I/Or/161 (Koshy Mathew & pty. coll.).

Distribution : Recorded so far only from MP (?), Karnataka and Tamilnadu in India. Also Burma.

Remarks : The type in Saussure's collection is from Central India. In India, this species has also been recorded from Shimoga in the western ghats and Shevroy Hills in the eastern ghats (Chopard, 1969). Its known range is now extended in South India.

The male specimen examined has the following measurements : body length 20.5 mm ; pronotal length 4 mm ; pronotal width 6.5 mm ; tegminal length 6 mm ; posterior femoral length 14 mm, posterior tibial length 8.5 mm.

12. *Grylloides sigillatus* (Walker)

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

Material examined : Dharmapuri dist. : 1 ♂, Anchetty Forest RH, c. 525 m, 10.iv.1985, Regd. No. SRS/ZSI/I/Or/91 ; 1 ♂, 2 nymphs, Hogenekal, along R. Cauvery, c. 225m, 16.iv.1985, Regd. No. SRS/ZSI/I/Or/88 ; 1 ♀, Hogenekal, along R. Chinnar, c. 225m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/90 ; 1 nymph, Denkanikotta-Noganoor RF, c. 800m, 07.iv.1985, Regd. No. SRS/ZSI/I/Or/148 ; 1 ♂, Kottapatti-Singleri and vicinity, c. 290m, 28.ii.1986, Regd. No. SRS/ZSI/I/Or/91a ; 1 ♂, 1 ♀, Bommidi-Mookanur RF (south), c. 460m, 10.iii.1986, Regd. No. SRS/ZSI/I/Or/89 ; 1 ♀, Kottapatti-Vannathipaarai, R. Chinnar, c. 337 m, 25.ii.1986, Regd. No. SRS/ZSI/I/Or/92 (Koshy Mathew & pty. coll.).

Distribution : Distributed virtually throughout India and the Andaman and Nicobar Islands. Also recorded from Sri Lanka, Pakistan and Malaysia.

Remarks : Vasanth (in press-1) recorded this species from Javadi Hills in Tamilnadu. Its known range in that state is further extended by the present record.

One female specimen examined is macropterous, with tegmina 7.5 mm long, and

extending almost up to end of 5th abdominal tergite ; wings short, not extending beyond tegmina.

Although Chopard (1967) placed *G. supplicans* (Walker) as a synonym of *G. sigillatus* (Walker), Chopard (1969), which went to press earlier than the former but was published later, regarded *G. supplicans* as a separate species. It is the opinion of the present author that synonymising *supplicans* (Walker) with *sigillatus* (Walker) is justified. This is because macroptery appears to be the primary characteristic which distinguishes *supplicans* from *sigillatus*, and macropterous forms of *sigillatus* have been bred in the laboratory.

It is interesting to note that the genitalia of one male specimen from Kottapatti differs from Randell (1964) in one important feature, viz., presence of transverse parameral muscle apodeme on endoparameres. Additional differences are the absence of large U-shaped posterior emargination and a small V-shaped emargination.

13. *Cophogryllus martini* (Bolivar) ?

1899 (1900). *Cophogryllus martini* Bolivar, *Ann. Soc. ent. Fr.*, 68 : 798.

Material examined : Dharmapuri dist. : 1 ♀, Hogenekal, along R. Chinnar, c. 225m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/140 (Koshy Mathew & pty. coll.).

Distribution : India : Tamilnadu ; Sri Lanka.

Remarks : Although the specimen examined agrees reasonable well with Chopard's (1969) description, its shorter ovipositor (9mm), as compared with the length (12.5mm) given by Chopard (op. cit.) is remarkable.

C. martini is so far known to be restricted to Tamilnadu and Sri Lanka. The present specimen is the northernmost record for the species.

Key to the species of *Velarifictorus* from Dharmapuri district

Lateral ocelli connected by transverse yellow band ; face of male highly concave ; mandibles of male greatly elongated and excavated ; postero-median projection of epiphallus of male genitalia not deeply notched ... *aspersus* (Walker)

Lateral ocelli not connected by a band; face of male not concave; mandibles of male neither greatly elongated nor excavated; postero-median projection of epiphallus deeply notched to form two lobes ... *fallax* (Chopard)

14. *Velarifictorus aspersus* (Walker)

1869. *Gryllus aspersus* Walker, *Cat. Derm. Salt. Br. Mus.*, 1 : 39.

Material examined : Dharmapuri dist. : 1 ♂, Pudur & vicinity (Chitteri Hills), c. 760 m, 05.iii.1986, Regd. No. SRS/ZSI/I/Or/160 (Koshy Mathew & pty. coll.).

Distribution : Arunachal Pradesh and Meghalaya in Northeast India, W. Bengal, UP, Jammu & Kashmir, Maharashtra and South India. Also recorded from Sri Lanka, Burma, Malaysia, Singapore, Indonesia (Java), Borneo, Annam, Hong Kong, China.

Remarks : Chopard (1969) has mistakenly included Valparai in Karnataka state (erstwhile Mysore state) in the 'Range' of the present species. In fact, Valparai is in the state of Tamilnadu. This is the reason for Vasanth's (in press-1) mistaken opinion that his was the first record of this species from Tamilnadu (viz., Javadi Hills). Vasanth (1982) had earlier recorded it for the first time from Arunachal Pradesh. Further, the first report from Kerala was by Vasanth (in press-2). The present record is an extension of its range in Tamilnadu. Interestingly in that state the records of this species, so far, have only been from hilly regions.

15. *Velarifictorus fallax* (Chopard)

1969. *Scapsipedus fallax* Chopard, *Fauna Ind. Grylloidea*, 2 : 117.

Material examined : Dharmapuri dist. : 1 ♂, Kottapatti Forest RH compound, c. 325m (night collection), 25.ii.1986, Regd. No. SRS/ZSI/I/Or/162 (Koshy Mathew & pty. coll.).

Distribution : Restricted the following states in South India : Karnataka, Kerala, Tamilnadu.

Remarks : The tegmina of the specimen extend up to the 7th abdominal tergite.

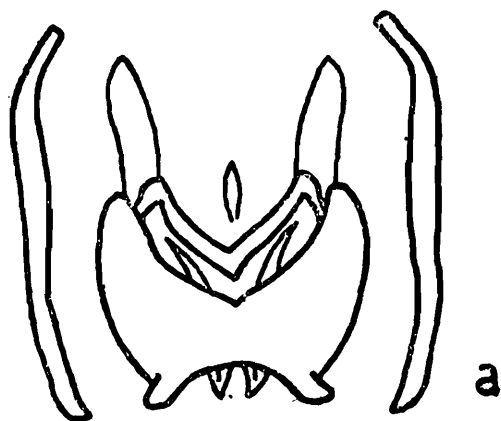
The present record from Tamilnadu is the first from that state.

16. *Loxoblemmus cavifrons* Chopard

(Fig. 1)

1928. *Loxoblemmus cavifrons* Chopard, *Rec. Ind. Mus.*, 30 : 20.

Material examined: Dharmapuri dist. : 1 ♂, Denkanikotta-Noganoor RF, c. 800m, 07.iv.1985, Regd. No. SRS/ZSI/I/Or/138 (Koshy Mathew & pty. coll.).



0.5 mm

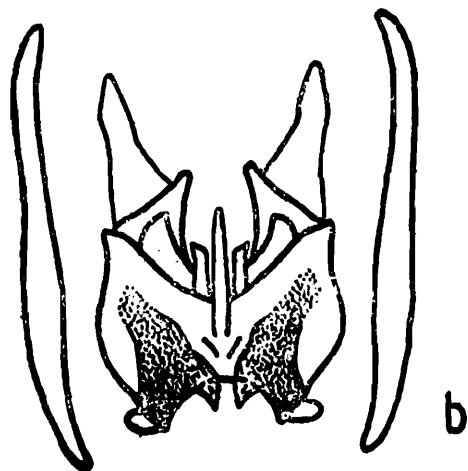


Fig. 1

Fig. 1 : Genitalia of the male of *Loxoblemmus cavifrons*.

a. Front view ; b. Back view.

Distribution : India : Pondicherry (type-locality), Tamilnadu.

Remarks : Since its description in 1928 this species is, so far, known only

from the type locality—Pondicherry. The specimen before the present author is the second record of the species, and the first from Tamilnadu.

Chopard (1928, 1969) has given only the body length as 8.5mm. The measurements of the specimen examined are as follows: Body 9 mm; pronotum 1.3mm; width of pronotum 2 mm; tegmina 4.2 mm; posterior femur 5 mm; posterior tibia 3 mm.

The genitalia of the male is figured here for the first time.

17. *Coiblemmus compactus* (Chopard)

1928. *Homaloblemmus compactus* Chopard, *Spol. Zeyl.*, 14 : 201.

Material examined: Dharmapuri dist. : 2 ♂, Hosur Cattle Farm campus, c. 860m, 04.iv.1985, Regd. No. SRS/ZSI/I/Or/28, 128, ; 1 ♂, 2 ♀, 1 nymph, Denkanikotta-Noganoor RF, c. 800m, 07.iv.1985, Regd. No. SRS/ZSI/I/Or/129 ; 1 ♂, Denkanikotta-Sameri, 08.iv.1985, Regd. No. SRS/ZSI/I/Or/134 (Koshy Mathew & pty. coll.).

Distribution: Limited to South India: Karnataka and Tamilnadu. Also Sri Lanka.

Remarks: The specimens were of smaller size (13-15 mm) than given by Chopard (1969).

This species, the only one described in the genus *Coiblemmus*, also has restricted range within India, like the previous species.

II. Subfamily : NEMOBIINAE

Key to Genera of subfamily Nemobiinae from Dharmapuri district

Tegminal venation different in the sexes, with males showing well-developed mirror; posterior legs shorter in relation to body size ... *Pteronemobius* Jacobson & Bianchi

Tegminal venation similar in the sexes, that of male without mirror; posterior legs longer in relation to body size ... *Paranemobius* Saussure

Key to species of *Pteronemobius* from Dharmapuri district

1. Posterior femora presenting blackish bands 2
 — Posterior femora without blackish bands 3
2. Maxillary palpi with 4th and 5th segments white, contrasting with other dark segments; posterior tibia of male with 4 internal spines, that of female with 3; epiphallus of male genitalia postero-medially not notched ... *fascipes* (Walker)
 — Maxillary palpi dull yellowish; posterior tibia of both sexes with 4 spines on internal margin; epiphallus postero-medially notched ... *csikii* (Bolivar)
3. Body of uniform colouration; posterior tibia of both sexes with 4 spines on each margin *concolor* (Walker)
 — Colour of tegmina yellowish, contrasting with dark head; posterior tibia of male with 3 external, 4 internal spines; that of female with 3 spines on each margin *bicolor* (Saussure)

18. *Pteronemobius concolor* (Walker)

1871. *Eneoptera concolor* Walker, *Cat. Derm. Salt. Br. Mus.*, 5 (suppl.): 10.

Material examined: Dharmapuri dist.: 1 ♀, Sitteri Forest RH (on ceiling), c. 920m, 03.iii.1986, Regd. No. SRS/ZZI/I/Or/64; 1 ♂, 1 ♀, Hosur-Muniyamma bridge (Teertham), c. 700m, 04.iv.1985; 1 ♂, Kottapatti Forest RH compound, c. 325 m, (night collection), 26.ii.1986, Regd. No. SRS/ZSI/I/Or/65 (Koshy Mathew & pty. coll.).

Distribution: Distributed over much of India and the Great Nicobar Island. Also Burma, Sri Lanka and Malaysia.

Remarks: A fairly common species but so far known in Tamilnadu from only one locality, viz., Coimbatore.

19. *Pteronemobius fascipes* (Walker)

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

Material examined: Dharmapuri dist.: 2 ♀, Perhandipalli, c. 800 m, 03.iv.1985,

Regd. No. SRS/ZSI/I/Or/61 ; 1 ♂, 1 ♀, Hosur-Muniyamma bridge (Teertham), c. 700 m, 04.iv.1985, Regd. No. SRS/ZSI/I/Or/60 ; 1 ♂, 1 ♀, Hogenekal, along R. Chinnar, c. 225 m, 17.iv.1985, Regd. No. SRS/ZSI/I/Or/59 ; 1 ♂, Kottapatti-Chettigutta, Ammapeta aru, c. 330 m, 26.ii.1986, Regd. No. SRS/ZSI/I/Or/126 ; 1 ♂, 4 ♀, Sitteri, around Thombakkal river, c. 760 m, 02.iii.1986, Regd. No. SRS/ZSI/I/Or/74 ; 1 nymph, Sitteri-Harur Road-around Maamarathu odai, c. 430-620 m, 04.iii.1986, Regd. No. SRS/ZSI/I/Or/150 (Koshy Mathew & pty. coll.).

Distribution : Distributed over much of the Indian mainland. Also Burma, Sri Lanka, Malaysia, Singapore, Indonesia (Java), China, Formosa and Philippines.

Remarks : A very widely distributed species. The previous records in Tamilnadu are from Tindivanam and Tiruchirapalli (Chopard, 1969), and the Javadi Hills (Vasanth, *in press-1*).

20. *Pteronemobius csikii* (Bolivar)

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

Material examined : Dharmapuri dist. : 2 ♂, 3 ♀, Kottapatti-Vannathipaarai, R. Chinnar, c. 335 m, 25.ii.1986, Regd. No. SRS/ZSI/I/Or/69 ; 1 ♂, 6 ♀, Kottapatti Forest RH compound, c. 325 m, (night collection), 25.ii.1986, Regd. No. SRS/ZSI/I/Or/125 ; 1 ♀, Kottapatti-Singleri & around, c. 290m, 28.ii.1986, Regd. No. SRS/ZSI/I/Or/71 ; 1 ♀, Sitteri, around R. Thombakkal, c. 760 m, 02.iii.1986, Regd. No. SRS/ZSI/I/Or/73 (Koshy Mathew & pty. coll.).

Distribution : Arunachal Pradesh and Assam, Bihar to Haryana and Rajasthan, and Karnataka and Tamilnadu. Also Sri Lanka, Burma, China, Siberia.

Remarks : This species, which is likely to be confused with *fascipes* (Walker) because of its similar colouration, was seen in substantial numbers on the sandy banks of the R. Chinnar at Vannathipaarai.

21. *Pteronemobius bicolor* (Saussure)

1877. *Nemobius bicolor* Saussure, *Mem. Soc. Geneve*, 25 : 98.

Material examined : Dharmapuri dist. : 1 ♀, Kottapatti Forest RH compound,

at 325 m, (night collection), 25.ii.1986, Regd. No. SRS/ZSI/I/Or/62 (Koshy Mathew & pty. coll.).

Distribution : India : W. Bengal, Bihar, MP, Karnataka, Tamilnadu. Also Burma, Sri Lanka and Thailand.

Remarks : The distribution of this species, as currently known, is rather patchy, with wide gaps in the northern, northeastern and western parts of India. There are only three records from Tamilnadu, including the present one from Dharmapuri district ; the other two are from Coimbatore and Tiruchirapalli.

The tegmina of the specimen show 2 or 3 large cells towards the rounded apex.

22. *Paranemobius pictus* (Saussure)

1877. *Paranemobius pictus* Saussure, *Mem. Soc. Geneve*, 25 : 67.

Material examined : Dharmapuri dist. : 1 ♂, 1 ♀, Anchetty RF—Todehalla river, c. 500 m, 11.iv.1895, Regd. No. SRS/ZSI/I/Or/127 ; 4 ♂, 2 ♀, 7 nymphs, Doddahalla river, south of Anchetty, c. 500 m, 14.iv.1985 (Koshy Mathew & pty. coll.).

Distribution : India : Bihar, Karnataka, Kashmir, Kerala, MP, Maharashtra. Also Sri Lanka.

Remarks : The present record extends the known range of this species within Tamilnadu,

III. Subfamily : PHALANGOPSINAE

23. *Arachnomimus annulicornis* Chopard

1936. *Arachnomimus annulicornis* Chopard, *Ceyl. J. Sc. (B)* 20 : 67.

Material examined : Dharmapuri dist. : 2 ♂ ♀ nymphs, Sitteri Forest RH (on ceiling), c. 920 m, 03.iii.1986, Regd. No. SRS/ZSI/I/Or/139 (Koshy Mathew & pty. coll.).

Distribution : Restricted to Tamilnadu. Also known from Sri Lanka,

Remarks: This species is reported here for the first time from India, the earlier record being from Sri Lanka. The only other species of the genus *Arachnomimus* known so far from Tamilnadu is *A. lepidus* Chopard. Further, *A. nietneri* (Saussure) is known from Kerala and W. Bengal.

IV. Subfamily : OECANTHINAE

24. *Oecanthus indicus* Saussure

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

Material examined: Dharmapuri dist.: 1 ♀, Kottapatti-Vannathipaarai, R. Chinnar, c. 335, 25.ii.1986, Regd. No. SRS/ZSI/I/Or/141; 1 ♀, Pudur & vicinity (Chitteri Hills) c. 760 m, 05.iii.1986, Regd. No. SRS/ZSI/I/Or/145; 1 ♀, Bommidi, c. 440 m, 11.iii.1986, Regd. No. SRS/ZSI/I/146 (Koshy Mathew & pty. coll).

Distribution: Eastern, northeastern and central India and parts of South India. Also Sri Lanka, Philippines, China and Japan.

Remarks: The known distributional range of this species in Tamilnadu is extended to the Dharmapuri district. Previous records are from coimbatore, Nilgiri Hills, Palni Hills (Kodaikanal), and the Javadi Hills (Vasanth, *in press-1*).

V. Subfamily : TRIGONIDIINAE

Key to genera of subfamily Trigonidiinae from Dharmapuri district

1. Tegmina quite different in the sexes, that of male always showing distinct mirror and anal field ; no finely striated appearance 2
- Tegmina quite similar in the two sexes, showing a finely striated appearance *Trigonidium* Rambur
2. Tegmina of female with false veins between principal veins ; pronotum rounded in front *Homoeoxipha* Saussure
- Tegmina of female without false veins ; pronotum not rounded in front, only a little convex *Anaxipha* Saussure

25. *Homoeoxipha lycoides* (Walker)

1869. *Phyllopalpus lycoides* Walker, *Cat. Derm. Salt. Br. Mus.*, 1 : 71.

Material examined : Dharmapuri dist. : 1 ♀, Kottapatti-Chettigutta, Ammapeta aru, c. 330m, 26.ii.1986, Regd. No. SRS/ZSI/I/Or/63 (Koshy Mathew & pty. coll.).

Distribution : Northeastern, eastern and northern India west up to UP ; Karnataka and Tamilnadu in the south ; Andaman Islands. Also Sri Lanka, Burma, Bangladesh, Singapore, Malaysia, Formosa, China, Australia.

Remarks : The known distributional range of this species in Tamilnadu is extended to Dharmapuri district.

26. *Anaxipha longipennis* (Serville)

1839. *Trigonidium longipenne* Serville, *Ins. Orthopt.*, 351.

Material examined : Dharmapuri dist. : 1 ♀, Anchetty Forest RH, c. 525 m, 10.iv.1985, Regd. No. SRS/ZSI/I/Or/147 (Koshy Mathew & pty. coll.).

Distribution : Parts of northeastern and eastern India, and Karnataka and Tamilnadu in the south ; Andaman Islands ; Also recorded from Sri Lanka, Malaysia, Burma ; Mauritius, East Africa, Australia.

Remarks : This species was known in Tamilnadu from Coimbatore only, until Vasanth (in *press-1*) recorded it from the Javadi Hills.

Key to species of *Trigonidium* from Dharmapuri district

Tegmina more convex ; wings not extending beyond tegmina ; anterior tibiae not perforated *cicindeloides* Rambur

Tegmina longer and less convex ; wings long, extending well beyond tegmina ; anterior tibiae perforated *humbertianum* (Saussure)

27. *Trigonidium cicinideloides* Rambur

1839. *Trigonidium cicinideloides* Rambur, *Faune Andalous.*, 2 : 39.

Material examined : Dharmapuri dist. : 1 ♂, Lake near Anchetty Forest RH, c. 525 m, 12.iv.1985, Regd. No. SRS/ZSI/I/Or/136 ; 2 ♂, Sitteri-Harur Road, around Maamarathu Odai, c. 430-620 m, 04.iii.1986 (Koshy Mathew & pty. coll.).

Distribution : Northeastern and eastern India, HP, western India, and Karnataka and Tamilnadu in South India, and the Andaman Islands. Also recorded from Sri Lanka, Nepal, Burma, Malaysia ; widely distributed from South Europe to South Asia and all over Africa.

28. *Trigonidium humbertianum* (Saussure)

1878. *Homoeoxiphus humbertianum* Saussure, *Mem. Soc. Geneve*, 25 : 468.

Material examined : Dharmapuri dist. : 2 ♂, 2 ♀, Sitteri—around R. Thomabakkal, c. 760 m, 02.iii.1986, Regd. No. SRS/ZSI/I/Or/70 ; 2 ♀, Kottapatti Forest RH compound, c. 325 m, (night collection), 26.ii.1986 ; 1 ♀, Sitteri, c. 920 m, 04.ii.1986, Regd. No. SRS/ZSI/I/Or/132 ; 1 ♂, 1 ♀, Bommidi-Mookanur RF (north), c. 420 m, 09.iii.1986, Regd. No. SRS/ZSI/I/OR/131 (Koshy Mathew & pty. coll.).

Distribution : Widely distributed over much of the Indian mainland. Also known from Sri Lanka, Malaysia, Iran, Africa ; widely distributed in the Oriental Region.

Remarks : There is a difference of opinion among gryllid taxonomists regarding the actual status of this species (Vasanth, 1982).

ACKNOWLEDGEMENTS

The author is thankful to the Director, Zoological Survey of India, Calcutta, for giving him an opportunity to carry out this work. He is grateful to Dr. R. S. Pillai, Joint-Director (Retd.) and former Officer-in-Charge, Southern Regional Station, Zoological Survey of India, Madras, for permitting him to participate in both the survey tours to Dharmapuri district. He is also indebted to Dr. Koshy Mathew, Scientist 'SD' (Retd.), Leader, and other members of the survey teams for their help in various ways. The

author also wishes to thank Dr. K. V. Lakshminarayana, Officer-in-Charge, Southern Regional Station, Zoological Survey of India, Madras, for furnishing him with the registration numbers of the specimens studied.

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