

RESULTS OF THE AUSTRIAN-CEYLONESE HYDROBIOLOGICAL MISSION 1970 1<sup>ST</sup> ZOOLOGICAL INSTITUTE OF THE UNIVERSITY OF VIENNA (AUSTRIA) AND THE DEPARTMENT OF ZOOLOGY OF THE UNIVERSITY OF CEYLON, VIDYALANKARA CAMPUS, KELANIYA

## Part XIII Some Remarkable Ripicol Insects of the Ceylonese Fauna

by

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**ABSTRACT :** New Ceylonese records namely, *Euscelimena gavialis* (SAUSS.), *Paranemobius pictus* SAUSS. and semiaquatic cockroaches of the genus *Rhabdoblatta* were found in the collection of Saltatorid and Dictyopterid insects.

Professor Dr. F. STARMUHLNER (University of Vienna) and Professor Dr. H. H. COSTA, (University of Ceylon, Vidyalkara Campus, Kelaniya) have collected three species of insects of the terrestrial orders Saltatoria and Dictyoptera, which are very interesting with regard to their adaptations to ripicol or even semiaquatic conditions. These animals do not belong to new species. Their habits have been well known to the Orthopterist and these uncommon habits have always attracted the attention of many who are not familiar with the behaviour of these groups. Some ecological notes pertaining to the new Ceylonese records are included.

*Euscelimena gavialis* (SAUSS)

*Euscelimena gavialis* (SAUSS.) (Fig. 1, 2, 6).

*Scelymena gavialis* SAUSSURE 1861, Ann. Soc. ent. France (4), I, p. 485–487, ♂♀

*Scelimena gavialis*, HANCOCK 1804, Spolia Zeylanica 2f7, p. 117–120, plate 1, fig. 4–4c.

*Eusclimena gavialis*, GUNTHER, 1938, Mitt. Zool. Mus. Berlin 23, p. 363, 365

**Material examined :** REGION DENIYAYA : 1♀, 2♀♀, 1 larv. sp. Hola-Dola, 700 m, 10.XI.1970 (FC 3/b) ; 1♂ Thanipita-Dola, 600 m, 12.XI.1970 (FC 7/c).—REGION RATNAPURA : 1♂ Bodathpitiya-Ela, 17.XI.1970 (FC 9/c) ; 2♂♂, 5♀♀, 2 larv. sp. Katugas-Ela, 500 m, 18.XI.1970 (FC 10/c) ; 1 larv. sp. ibid. (FC 10/b) ; 1♀ Ira-Handha-Pana-Ela, 100 m, 23.XI.1970 (FC 15/b).—REGION MASKELIYA : 1♂, 1 larv. sp. Mocha-Dola, 1800 m, 28.XI.1970 (FC 16/c) ; 1♂ Dick-Oya, 1800m, 3.XII. 1970 (FC 23/a). REGION BELIHUL-OYA : 1♂ 2♀♀, 1 larv. sp. Belihul-Oya, 650m, 7.XII,1970 (FC 24/a). REGION KITULGALA 1 larv. sp. Bibili-Oya, 26.XII.1970 (FC 34/a) ; 1♂, 1♀ Hal-Oya, 700 m, 27.XII.1970 (FC 35/b). Vienna Mus. Coll. : 1♀ Ratnapura (LÖBEL).

This is a common species found abundantly in Southern and Central parts of Ceylon. Specimens preserved in alcohol show a very faded red border of the front margin of pronotum. Sometimes his characteristic color mark is hardly visible.

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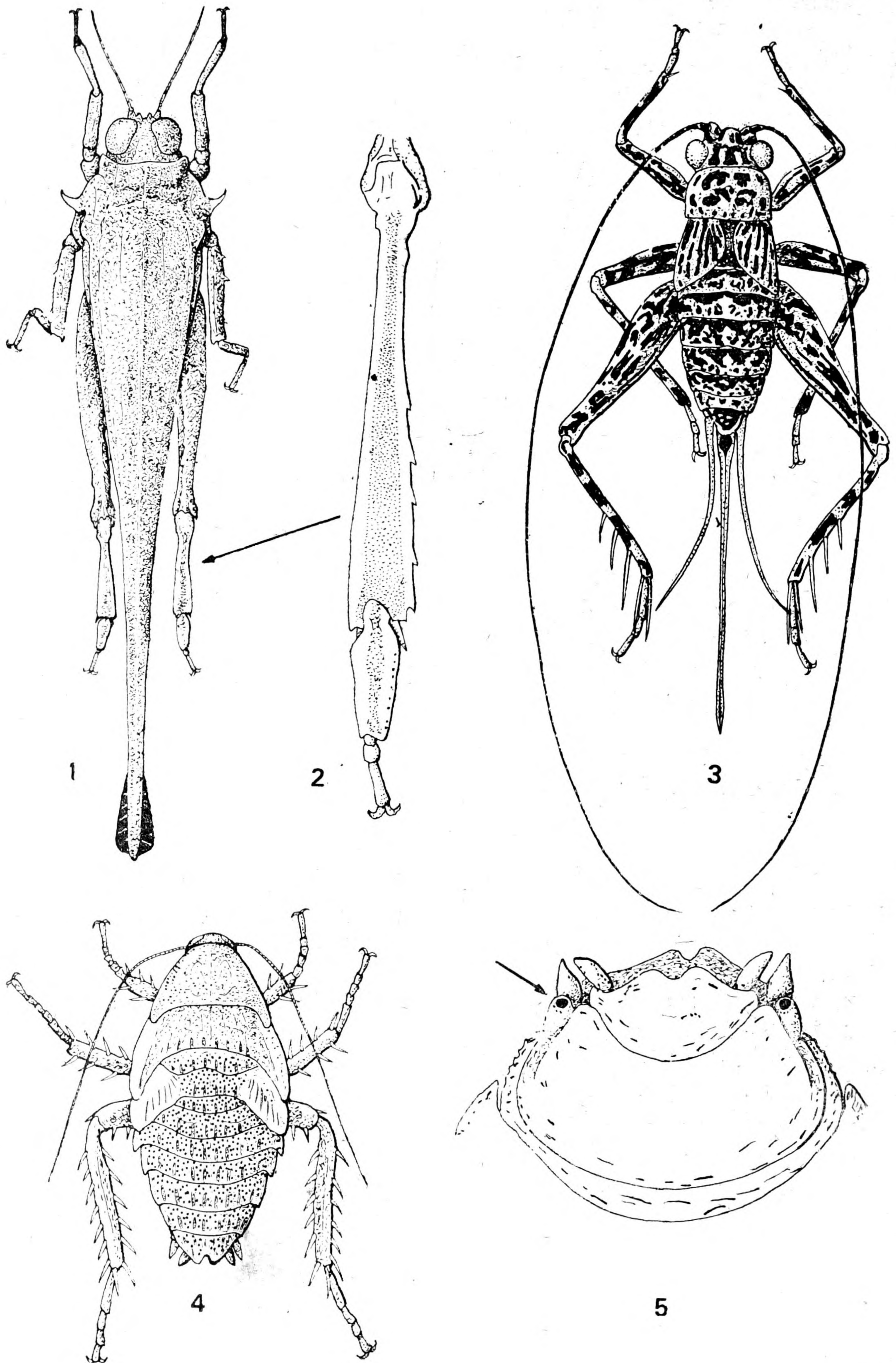


Fig. 1. *Euscelimena grivialis* (Sauss.) ♂ (adult). Fig. 2. *E. grivialis*—tibia and tarsus of hind leg.  
 Fig. 3. *Paranemobius pictus* (Sauss.) ♀ adult. Fig. 4. *Rhabdoblatta* sp., larva.  
 Fig. 5. *R* sp. tip of laval abdomen showing the spiracular tubes of the seventh tergite (ventral view).

*Ecological remarks.*—This rather large Tetrigid lives (like some related Ceylonese members of the family) on large stones and wet rocks on the banks or even on rocks in mid stream of the mountain rivers. Specimens, which generally rest on the stones, jump immediately into the water, if disturbed and swim to the next rock or dive to the bottom of the river. Frequently they remain submerged for a considerable time. Imagines and immature instars are excellently adapted to the aquatic conditions by their distal enlarged hind tibia and their likewise enlarged hind metatarsus (Fig. 2). So the hind legs represents very useful rudders for swimming and diving. The adult forms of course may also escape by taking to their wings.

*Paranemobius pictus* (SAUSS) (Fig. 3, 7)

*Paranemobius pictus* (SAUSS).

*Pseudonemobius pictus* SAUSSURE 1877, Mem. Soc. Genève, **25**, p. 67, ♂♀.

*Paranemobius pictus* CHOPARD 1925, Ann. Mag. Nat. Hist. (9), **15**, p. 506.

*Paranemobius pictus*, CHOPARD 1936, Ceylon J. Sci. (B) Zool. Geol. **20**, p. 41.

*Paranemobius pictus*, CHOPARD 1967, Orthopt. Cat., Ś-Gravenshage, pars 10, p. 159.

*Material examined:* REGION DENIYAYA : 2♀ Thanipita-Dola, 600 m, 12.XI.1970 (FC 7/c. REGION RATNAPURA : 1♀ Katugas-Ela, 500m. 18.XI.1970 (FC 10/c) REIGON MASKELIYA : 1 larv. sp. Mocha-Dola, 1800 m, 28.XI.1970 (FC 16/a) ; 1 larv. sp. nr. Manager Bungalow/Gartmore-Estate, 1800 m, 30.XI.1970 (FC 19/a). Vienna Mus. Coll. 2♂♂, 1♀ Kashmir (HÜGEL 1839), type specimens.

Widely distributed in Ceylon. CHOPARD (1936) reports on very scarcely occurring macropterous specimens, which were found with the typical wing-less form.



Fig. 6. *Euscelimena gavialis* (Sauss.) ♀.

Fig. 7. *Paranemobius pictus* (Sauss.) ♀

*Ecological remarks.*—This little cricket lives on rocks and stones near the brooks and rivers. When disturbed it tends to hide behind the stones of the banks, but Prof. STARMUHLNERV and Prof. COSTA have never observed it escaping into the water. Nevertheless it is very probable that this

species enters the water occasionally. Its very long hind tibia, provided with large spines (Fig. 4), render possible a type of locomotion on the surface of water as it has been recorded for some other Nemobiinae. Distribution :

Kashmir, India, Ceylon.

*Rhabdoblatta* sp. (Fig. 4, 5)

*Epilampra* auct. (nec. BURMEISTER)

*Material examined.*—REGION DENIYAYA : 1 larv. sp. (♂ subadult) Mada-Dola, 1000 m., 9.XI.1970 (FC 1/b). REGION RATNAPURA : 1 larv. sp. (♀) Katugas-Ela, 500 m. 18.XI.1970 (FC 10/c)

*R. terranea* WALK. and *R. subsparsa* WALK. were recorded from Ceylon.

*Ecological remarks.*—The larvae of *Rhabdoblatta* and other Epilampridae live in jungle rivers and mountain streams. Their bodies remain submerged and only the tips of their abdomens are not covered by the water. The terminal spiracles are situated at the base of tubes projecting from beneath the seventh abdominal tergite (Fig. 5) and so enable larvae to receive atmospheric oxygen without emerging. When pursued these cockroaches hide under stones in the stream for a short time. The long-winged adult forms of *Rhabdoblatta* are ripicol and take refuge into the water, when disturbed, like many other ripicol insects, but they remain swimming on the surface. Particular modifications of the legs are not shown either by the larval forms or the adults. Distribution of the genus : Paletropics, Eastern Asia.